ポスター　Poster

第1 日目（11 月25 日（金））／Day 1（Nov. 25 Fri.）大会議室 101 ＋102、多目的ホール／Conference Room 101+102, Multi-Purpose Hall

蛋白質：構造 / Protein: Structure

1Pos001 **Crystal structure of the 11-cis isomer of Pharaonis Halorhodopsin**
Siu Kit Chan[1], Haruki Kawaguchi[1], Hiroki Kubo[1], Kunio Ihara[3], Kosuke Maki[1], Tsutomu Kouyama[1,2] ([1]*Grad. Sch. of Sci., Nagoya Univ.*, [2]*RIKEN Harima Branch*, [3]*Center for Gene Research, Nagoya Univ.*)

1Pos002 **結晶構造から明らかになった、エンドセリン-1 によるエンドセリン受容体 B 型の活性化機構**
Crystal structures of the endothelin receptor type B reveal activation mechanism by endothelin-1
Wataru Shihoya[1,2], Tomohiro Nishizawa[3,4], Akiko Okuta[2], Kazutoshi Tani[2], Yoshinori Fujiyoshi[1,2], Osamu Nureki[3], Tomoko Doi[5] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Cellular and Structural Physiology Institute., Nagoya Univ.*, [3]*Grad. Sch. Sci., Univ. Tokyo*, [4]*JST PRESTO*, [5]*Grad. Sch. Sci., Kyoto Univ.*)

1Pos003* **X 線結晶構造解析による軸糸ダイニン軽鎖 1 の構造評価**
X-ray crystallographic characterization of the axonemal dynein light chain-1
Akiyuki Toda[1], Hideaki Tanaka[2], Yosuke Nishikawa[2], Toshiki Yagi[3], Genji Kurisu[2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Institute for Protein Research*, [3]*Facult. Life Environ., Pref. Univ. Hiroshsima*)

1Pos004 **固定子に作用するべん毛内膜蛋白質 FliL の構造解析**
Structural analysis of the Stator Associated Inner Membrane Protein FliL from Vibrio alginolyticus
Miyu Isumi[1], Yuuki Nishino[2], Mayuko Sakuma[2,3], Seiji Kojima[2], Michio Homma[2], Katsumi Imada[1] ([1]*Grad. Sch. of Sci., Osaka Univ.*, [2]*Grad. Sch. of Sci., Nagoya Univ.*, [3]*Radioisotpe Res. Cent.*)

1Pos005 **Oligomeric structure of the ExbB-ExbD complex revealed by X-ray crystallography and cryo-EM**
Saori Maki-Yonekura, Yoshiki Yamashita, Rei Matsuoka, Maiko Tanaka, Fumie Iwabuki, Koji Yonekura (*RIKEN SPring-8 center*)

1Pos006 **赤痢菌ニードル複合体の極低温電子顕微鏡による構造解析**
Structural analysis of needle complex from *shigella flexneri* by cryo electron microscopy
Naoko Kajimura[1,2], Takayuki Kato[1], Ariel J Blocker[3], Kei-ichi Namba[1,4] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*Res., Center for UHVEM, Osaka Univ.*, [3]*Sch. of Cell. & Mol. Med., Univ. of Bristol*, [4]*RIKEN, QBiC*)

1Pos007 **単一ミオシン結合状態のアクトミオシンの高分解能化**
F-actin structural changes induced by a single myosin head
Takahiro Namise, Kazuaki Yoshida, Takuo Yasunaga (*Kyushu Institue of Technology*)

1Pos008* **NMR analysis of C-terminal periplasmic domain of flagellar motor protein MotB and its active mutant L119P**
Gaby Almira[1], Ikumi Kawahara[1], Seiji Kojima[2], Katsumi Imada[3], Toshimichi Fujiwara[1], Michio Homma[2], Chojiro Kojima[1,4] ([1]*Inst. for Prot. Res., Osaka Univ.*, [2]*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*, [3]*Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.*, [4]*Grad. Sch. of Eng., Yokohama National Univ.*)

1Pos009 **CS-Rosetta 法によるヒストン H2A-H2B ヘテロ二量体の溶液構造解析**
Determination of the solution structure of isolated histone H2A-H2B heterodimer by using CS-Rosetta
Tsutomu Yamane, Yoshihito Moriwaki, Hideaki Ohtomo, Mitsunori Ikeguchi, Jun-ichi Kurita, Masahiko Sato, Aritaka Nagadoi, Hideaki Shimojo, Yoshifumi Nishimura (*Graduate School of Medical Life Science, Yokohama City University*)

1Pos010 **時間分解 EPR 法によるヒトインスリンのアミロイド線維化による構造変化の観測**
Effects of amyloid fibrillations on geometries of human insulin as studied by time-resolved EPR spectroscopy
Tomoka Abe[1], Takashi Tachikawa[1], Eri Chatani[1], Paul Zierep[2], Stefan Weber[2], Toshifumi Mori[3], Shinji Saito[3], Yasuhiro Kobori[1] ([1]*Grad. Sch. Sci., Kobe Univ.*, [2]*Freiburg Univ.*, [3]*IMS*)

1Pos011 **溶液 NMR 法を用いた長距離情報の取得による Nrd1 のドメイン間配向の決定**
Structural analysis of a multi-domain protein using long-range distance information derived by solution NMR
Kan Nagai, Ayaho Kobayashi, Yutaka Ito, Masaki Mishima (*Graduate School of Science and Engineering, Tokyo Metropolitan University*)

1Pos012 **サイズ排除クロマトグラフィー／X 線小角散乱法に基づいたニトリラーゼ会合体プロトマーの構造特性**
Structural characterization on nitrilase protomers analyzed by size-exclusion chromatography/small-angle X-ray scattering (SEC-SAXS)
Masatoshi Usui[1,2], Ryo Ishiguro[1,2], Homare Yokota[1,2], Yusuke Takeda[1,2], Takaaki Hikima[2], Tetsuro Fujisawa[1,2] ([1]*Grad. Sch. Eng., Gifu Univ.*, [2]*SPring-8 Center, Harima Inst., RIKEN*)

1Pos013* **様々な炎症物質を認識する NLRP3-LRR ドメインの構造基盤の解明**
Investigation of molecular basis underlying the recognition of various inflammatory substances by NLRP3-LRR domain
Ryota Yamamoto[1], Kazuto Yamashita[1], Hiroshi Imamura[2], Motonari Tsubaki[1], Eri Chatani[1] ([1]*Grad. Sch. Sci., Univ. Kobe.*, [2]*AIST*)

1Pos014 **PRP の匂い分子結合における構造変化**
The structural changes of the peri-receptor protein (PRP) on the odorant-binding process
Xing Li[1], Durige Wen[1], Mitsuhiro Hirai[2], Noboru Ohta[3], Masaru Hojo[4], Mamiko Ozaki[4], Tatsuo Iwasa[1,5] ([1]*Div. Eng., Muroran Ins. of Tech.*, [2]*Dept. Phys., Gunma Univ.*, [3]*JASRI*, [4]*Dept. Biol., Grad. School Sci., Kobe Univ.*, [5]*Cen. Env. Sci. Dis. Mit. Adv. Res., Muroran Ins. of Tech.*)

1Pos015 **放射光小角散乱データに基づく対称性を考慮したニトリラーゼオリゴマーのモデリング**
Modeling of Nitrilase oligomer with flexible symmetry based on synchrotron small-angle scattering data
Tetsuro Fujisawa[1,2,3], Keiichi Kameyama[1], Ryo Ishiguro[1,2] ([1]*Dep. Chem. & Biomol. Sci., Fac. Eng., Gifu Univ.*, [2]*Spring-8 Center, RIKEN Hrima Inst.*, [3]*Synchro. Center, Nagoya Univ.*)

1Pos016 **β-シート中におけるアミノ酸トリプレットパターンの解析**
Analysis of amino acid triplet patterns in β-sheets
Hiromi Suzuki (*School of Agri., Meiji Univ.*)

1Pos017 **タンパク質の構造コンプライアンス特性とドメイン間運動の関係性解析**
Analysis of the Relationship Between Structural Compliance Properties and Inter-domain Motion of Proteins
Keisuke Arikawa (*Fcl. Eng., Kanagawa Inst. of Tech.*)

1Pos018 **自由エネルギー変分原理に基づく Pim-1 キナーゼ阻害剤系の相対的結合自由エネルギーの予測**
Prediction of the relative binding free energies for Pim-1 kinase - inhibitor systems based on the free energy variational principle
Anna Hirai (*Dept. of Bioinfo., Col. Life., Ritsumeikan Univ.*)

1Pos019 **Flexible docking between cyclin-dependent kinase 2 and its inhibitor using multicanonical MD**
Gert-Jan Bekker[1], Narutoshi Kamiya[2], Mitsugu Araki[3], Yasushi Okuno[4], Haruki Nakamura[1] ([1]*IPR, Osaka Univ.*, [2]*Grd. Sch. SS, Univ. Hyogo*, [3]*AICS, RIKEN*, [4]*Grd. Sch. Med., Kyoto Univ.*)

1Pos020* **高濃度リガンド条件による蛋白質-リガンド結合部位および経路の効率的探索**
Accurate and efficient protein-ligand docking method using all-atom molecular dynamics at high concentration of ligands
Chika Sato[1], Akio Kitao[1,2] ([1]*Grad. Sch. Front. Sci., Univ. Tokyo*, [2]*IMCB, Univ. Tokyo*)

1Pos021 **自由エネルギー変分原理を用いたタンパク - リガンド間相対的結合自由エネルギー計算の DHFR-TMP 系への応用**
Calculation of relative binding free energy between DHFR-TMP system on the basis of free energy variational principle
Naoto Nishimura (*Grad. Sch. bioinfo., Univ. Ritsumeikan*)

蛋白質：構造機能相関 / Protein: Structure & Function

1Pos022 **巨大ヘモグロビン酸素解離中間体の X 線結晶構造と分光学的解析**
Crystallographic and spectroscopic analysis of the oxygen-dissociation intermediate of the giant hemoglobin
Nobutaka Numoto[1], Taro Nakagawa[2], Nobutoshi Ito[1], Yoshihiro Fukumori[3], Kunio Miki[4] ([1]*Med. Res. Inst., Tokyo Med. & Dent. Univ.*, [2]*Nagahama Inst. of Bio-Sci. & Tech.*, [3]*Coll. of Sci. & Eng., Kanazawa Univ.*, [4]*Grad. Sch. of Sci., Kyoto Univ.*)

1Pos023 **Structural analysis of Calredoxin from *Chlamydomonas reinhardtii***
Ratana Charoenwattanasatien[1,2], Risa Mutoh[2], Hideaki Tanaka[2], Takashi Matsumoto[3], Takashi Oda[4], Mamoru Sato[4], Michael Hippler[5], Genji Kurisu[1,2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Inst. Protein Res, Osaka Univ.*, [3]*Rigaku*, [4]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [5]*Inst. Plant Biol. and Biotech., Univ. of Munster*)

1Pos024 **分子動力学による溶液中 *Agaricus brasiliensis* 由来 β-グルカンの構造解析**
Conformational analysis of β-glucans from *Agaricus brasiliensis* revealed by molecular dynamics in solution
Yoshitaka Matsumura[1], Kodai Inoue[1], Makoto Suminokura[1], Mikako Kubo[1], Mariko Demura[1], Takayuki Ichioka[1], Yasumasa Morimoto[1], Mitsuru Tashiro[2], Ken-ichi Ishibashi[3], Naohito Ohno[3], Masaki Kojima[1] ([1]*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*, [2]*Dept. of Chem., Coll. of Sci. and Tech., Meisei Univ.*, [3]*Sch. of Pharm., Tokyo Univ. of Pharm. and Life Sci.*)

1Pos025 **Aβ conformation on a hydrophilic/hydrophobic interface by molecular dynamics simulations**
Satoru Itoh[1,2], Hisashi Okumura[1,2] ([1]*IMS*, [2]*Sokendai*)

1Pos026 **分子動力学シミュレーションを用いた四量体型サルコシン酸化酵素における生成物の選択的移動の解明**
Selective transport of product in heterotetrameric sarcosine oxidase by molecular dynamics simulation
Go Watanabe[1], Takami Saito[2], Daisuke Nakajima[1], Akinori Hiroshima[1], Haruo Suzuki[1], Shigetaka Yoneda[1] ([1]*Sch. Sci., Kitasato Univ.*, [2]*Grad. Sch. Sci., Kitasato Univ.*)

1Pos027 **レオニン合成酵素における生成物支援機構の理論的解明**
Theoretical elucidation on the product assisted catalysis of threonine synthase
Yuzuru Ujiie[1], **Mitsuo Shoji**[1], Ryuhei Harada[1], Takeshi Murakawa[2], Yasuteru Shigeta[1], Hideyuki Hayashi[2] ([1]*Univ. of Tsukuba*, [2]*Osaka Medical College*)

1Pos028 **Hybrid ab initio molecular dynamical simulation of cytochrome c oxidase: Mechanisms of structural changes by dynamical ligand recognition**
Ryuichiro Terada, Kang Jiyoung, Masaru Tateno (*Grad. Sch. Sci., Univ. Hyogo*)

1Pos029 **スレオニル tRNA 合成酵素におけるアミノ酸選択機構の理論的研究**
Theoretical study on the molecular mechanism of amino-acid selection in threonyl-tRNA synthetase
Yoshiharu Mori[1], Hisashi Okumura[1,2] ([1]*IMS*, [2]*SOKENDAI*)

1Pos030 **量子化学計算ソフトウェアへのレプリカ交換法の導入**
The implementation the Replica-Exchange Umbrella Sampling in the quantum mechanical simulation packages
Shingo Ito[1], Yuko Okamoto[3], Stephan Irle[1,2] ([1]*Department of Chemistry, Graduate School of Science, Nagoya University*, [2]*Institute of Transformative Bio-Molecules (WPI-ITbM), Nagoya University*, [3]*Department of Physics, Graduate School of Science, Nagoya University*)

1Pos031 **Hydrogenase : ab initio quantum mechanics study of oxygen-tolerance mechanism**
Jae Hyun Kim, Jiyoung Kang, Masaru Tateno (*Graduate school of Life Science,University of Hyogo*)

1Pos032*　アルカン合成酵素 AD の NMR と分子動力学シミュレーションによるダイナミクス解析

Structural dynamics of an alkae synthase, AD, studied by NMR and molecular dynamics simulations

Yuma Suematsu[1], Yuji O. Kamatari[2], Yuuki Hayashi[1], Munehito Arai[1] ([1]*Dept. of Life Sci., Univ. of Tokyo*, [2]*Life Sci. Res. Center, Gifu Univ.*)

1Pos033*　エンド-1,3-β-グルカナーゼ触媒ドメインの構造ダイナミクス解析

Structural dynamics analysis of catalytic domain of endo-1,3-β-glucanase

Ayako Miki[1], Satomi Inaba[1], Kazumasa Sakurai[2], Masayuki Oda[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*High Pressure Protein Res. Center, Kindai Univ.*)

1Pos034　カルモジュリン結合ペプチドはミッドカインに親和性を示し、その一アミノ酸変異による立体構造変化が結合親和性の向上に寄与する

Secondary structure change by single alanine substitution in Calmodulin-binding peptide improved the binding affinity with Midkine

Hidenao Arai, Koji Matsuoka, Naoto Nemoto (*Grad. Sch. Sci. Eng., Saitama Univ.*)

1Pos035　ラン藻由来アルカン合成酵素のアラニンスキャン変異解析

Alanine scanning mutagenesis of a cyanobacterial alkane synthase

Keigo Shimba, Fumitaka Yasugi, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos036*　複数のエピトープを認識する G2 の 1 本鎖抗体の構造解析

Structural analysis of a single-chain Fv antibody of G2 that recognizes multiple epitopes

Daiki Usui[1], Yuji O. Kamatari[2], Satomi Inaba[1], Masayuki Oda[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Life Sci. Res. Ctr., Gifu Univ.*)

1Pos037　複数の抗原を特異的に認識する抗体 G2 の 3 つめのエピトープの同定

Identification of the third epitope recognized by multispecific antibody G2

Md. Nuruddin Mahmud[1], Yasuo Inoshima[1], Naotaka Ishiguro[1], Yuji O. Kamatari[2] ([1]*United Grad. Sch. Veterinary Sci., Gifu Univ.*, [2]*Life Sci. Res. Ctr, Gifu Univ.*)

1Pos038*　ラン藻でのアルカン合成に必要な 2 つの酵素間の結合部位の探索

Search for the binding sites between two enzymes essential for cyanobacterial alkane biosynthesis

Mari Chang[1], Keigo Shimba[2], Yuuki Hayashi[2], Munehito Arai[1,2] ([1]*Department of Physics, University of Tokyo*, [2]*Department of Life Sciences, University of Tokyo*)

1Pos039*　ケモカイン受容体制御因子 FROUNTー制御化合物間の立体構造情報に基づく相互作用解析

Structure-based analyses of the interaction between the chemokine receptor-regulator FROUNT and anti-inflammatory compounds

Soichiro Ezaki[1], Sosuke Yoshinaga[1], Norihito Ishida[1], Mitsuhiro Takeda[1], Kaori Yunoki[1], Yuya Terashima[2], Etsuko Toda[2], Kouji Matsushima[2], Hiroaki Terasawa[1] ([1]*Faculty of Life Sciences, Kumamoto University*, [2]*Graduate School of Medicine, The University of Tokyo*)

1Pos040　CD28 と SH2 ドメインとの相互作用における構造熱力学的解析

Structural and thermodynamic analysis of interactions between CD28 and SH2 domains

Satomi Inaba[1], Nobutaka Numoto[2], Shuhei Ogawa[3], Hisayuki Morii[4], Teikichi Ikura[2], Ryo Abe[3], Nobutoshi Ito[2], Masayuki Oda[1] ([1]*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, [2]*Med. Res. Inst., Tokyo Med. Dent. Univ. (TMDU)*, [3]*Res. Inst. Biomed. Sci., Tokyo Univ. Sci.*, [4]*College Liberal Arts Sci., Tokyo Med. Dent. Univ.*)

1Pos041　T 細胞受容体による特異的および交差反応的な抗原認識機構の解明

Analyses of the structural mechanisms of specific and crossreactive recognitions of peptide-MHC by TCRs

Yuko Tsuchiya[1], Yoshiki Namiuchi[2], Hiroshi Wako[3], Hiromichi Tsurui[4] ([1]*IPR, Osaka Univ.*, [2]*QBiC, RIKEN*, [3]*Sch. of Social Sci., Waseda Univ.*, [4]*Sch. of Med., Juntendo Univ.*)

1Pos042　レプリカ交換分子動力学シミュレーションによって明らかになった HP1αCD/histone H3 tail 複合体形成の仕組み

Mechanism of the complex formation of HP1αCD/histone H3 tail revealed by the replica-exchange molecular dynamics simulations

Satoshi Omori[1], Nobuto Hashiguchi[2], Kei Moritsugu[2], Yoshifumi Nishimura[2], Akinori Kidera[2] ([1]*GSIS, Tohoku Univ.*, [2]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*)

1Pos043　Go-like モデルを用いたプラストシアニンとシトクロム f 複合体の構造安定性に関する理論的研究

Theoretical study on the structural stability of plastocyanin and cytochrome f complex by using Go-like model

Satoshi Nakagawa, Shogo Kinoshita, Makoto Wada, Kazutomo Kawaguchi, Hidemi Nagao (*Grad. Sch. Nat. Sci. Tech., Kanazawa Univ.*)

1Pos044　粗視化分子動力学シミュレーションを用いた MVM の生物物理学的特性の解明

Elucidating biophysical properties of the Minute Virus of Mice capsid: Coarse-Grained Molecular simulation

Koji Ono, Shoji Takada (*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*)

1Pos045　粗視化力場を用いたタンパク質-リガンド結合シミュレーション：結合経路上の変異がリガンド結合に及ぼす影響の解析

Coarse-grained simulations of protein-ligand binding: effect of mutations near the ligand-binding pathways

Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Grad. Sch. of Agri. and Life. Sci., The Univ. of Tokyo*)

1Pos046　タンパク質-リガンドドッキング計算における最適パラメータの同定による分子設計の拡張

Identification of optimal parameter values in ligand-receptor docking calculation to extend applicability

Takuya Sumi[1], Hiroshi Yamaguchi[2], Ryuichiro Terada[1], Jiyoung Kang[1], Masaru Tateno[1] ([1]*Grad. Sch. Sci., Univ. of Hyogo*, [2]*Grad. Sch. Med., Nagoya Univ.*)

1Pos047　Analysis of protein complexes structures towards rational design of inhibitors of Protein-protein interactions (PPIs)

Daisuke Kobayashi, George Chikenji (*Nagoya Univ.*)

蛋白質：物性 / Protein: Property

1Pos048* **天然タンパク質の立体構造物性に関する統計解析**
Statistical analysis on the structural properties of native proteins
Hidenobu Kawai, Daisuke Takahashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos049 **膜貫通βバレルにおけるβストランドのねじれと曲りに関する解析**
Twisting and bending of β-strand in the transmembrane β-barrel
Nobuaki Kikuchi, Shinichi Ebisawa, Yuka Watanabe, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. Bioinfo., Grad. Sch. Eng., Soka Univ.*)

1Pos050 **球状蛋白質の構造的性質とフォールディング速度との相関**
Relationship between the Folding Rate and Structure-based Properties of Globular Proteins
Balachandran Manavalan[2,3], **Kunihiro Kuwajima**[1,2], Jooyoung Lee[2,3] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Comput. Sci., KIAS*, [3]*Center In-Silico Protein Sci., KIAS*)

1Pos051* **金属イオンがα-ラクトアルブミンのフォールディング中間体の熱力学的安定性に与える影響**
Effects of metal ions on thermodynamic stability of folding intermediates of α-lactalbumin
Reina Shinozaki, Michio Iwaoka (*Dep. Chem., Sch. Sci., Tokai Univ.*)

1Pos052 **ウマアポミオグロビンの pH によるフォールディング機構**
Mechanism of pH-induced folding of horse apomyoglobin studied by a statistical mechanical model
Takuya Mizukami, Yosuke Sakuma, **Kosuke Maki** (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos053 **SWAXS 解析によるトレハロースがミオグロビン構造へ与える効果の解明**
SWAXS analysis on effect of trehalose on myoglobin structure
Satoshi Ajito, Mitsuhiro Hirai (*Grad. Sch. Sci., Univ. Gunma*)

1Pos054* **Conformational Diversity in the Intrinsically Disordered HIV-1 Tat Protein induced by Zinc and pH**
Tomoko Kunihara, Yuuki Hayashi, Hisashi Kudo, Hidenobu Kawai, Yoshiki Oka, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos055 **ＮＭＲ測定と同期したアゾベンゼン架橋剤の光異性化反応によるＧＢ１タンパク質のフォールディング操作**
Manipulating Protein GB1 Folding Using Photoisomerization of an Azobenzene Cross-Linker Synchronously with NMR Observation
Toshio Nagashima, Keisuke Ueda, Toshio Yamazaki (*RIKEN CLST*)

1Pos056 **レプリカ交換分子動力学シミュレーションによる pH に依存したポリグルタミン酸の構造変化の研究**
Replica-exchange molecular dynamics study of pH dependent structural changes of polyglutamic acids
Ryosuke Iwai[1], Tetsuro Nagai[2], Kota Kasahara[3], Takuya Takahashi[3] ([1]*Grad. Sci. Life Sci., Ritsumeikan Univ.*, [2]*Dept. of Phys., Nagoya Univ.*, [3]*Coll. Life. Sci., Ritsumeikan Univ.*)

1Pos057* **Secondary structural change of glucagon during fibril formation process with DMPC lipid bilayers as revealed by ^{13}C solid-state NMR**
Kazumi Haya, Izuru Kawamura, Akira Naito (*Grad. Sch. Eng., Yokohama Natl. Univ.*)

1Pos058 **天然変性タンパク質 c-Jun と転写コアクチベータ CBP の KIX ドメインの相互作用**
Interaction of the intrinsically disordered c-Jun with the KIX domain of the transcriptional coactivator CBP
Satoru Yoshizaki[1], Tomoko Kunihara[2], Yuuki Hayashi[1,2], Munehito Arai[1,2] ([1]*Dept. Integrated Sci., Univ. Tokyo*, [2]*Dept. Life Sci., Univ. Tokyo*)

1Pos059 **ヒトα-シヌクレインのダイナミクスとアミロイド線維形成のしやすさの関係**
Relationship between the dynamics of human α-synuclein and its propensity to form amyloid fibrils
Fumiaki Kono[1], Tatsuhito Matsuo[1], Taiki Tominaga[2], Kaoru Shibata[3], Katsuya Araki[4], Hideki Mochizuki[4], Satoru Fujiwara[1] ([1]*QuBS, QST*, [2]*CROSS-Tokai*, [3]*J-PARC Center*, [4]*Osaka Univ. Grad. Sch. Med.*)

1Pos060* **中間状態で阻害するフィブリノーゲンのアミロイド線維化抑制効果**
Fibrinogen inhibits amyloid fibrillation by stopping at the stage of intermediates
Taiki Akai (*Grad. Sch. of Sci., Kobe Univ.*)

1Pos061 **ポリグルタミン酸の構造特性に関する陽溶媒における効率的な分子動力学による研究**
Structural feature of polyglutamic acids studied by enhanced molecular dynamics with explicit solvent
Tetsuro Nagai[1], Ryosuke Iwai[2] ([1]*Dept. of Phys., Nagoya Univ.*, [2]*Grad. Sci. Life Sci., Ritsumeikan Univ.*)

1Pos062 **Control and biophysical characterization of soluble protein oligomers using short peptide tags**
Md. Golam Kabir[1], Mohammad Monirul Islam[2], Tomonori Saotome[1], Yutaka Kuroda[1] ([1]*Tokyo Univ. Agri. Eng. Kuroda lab Biotechnology and Life science*, [2]*University of Chittagong, BANGLADESH*)

1Pos063* **複数のアミロイド性ペプチドを含む複雑な系におけるアミロイド線維形成**
Amyloid Fibrillation in Promiscuous Systems Containing Various Amyloidogenic Peptides
Hiroya Muta[1], Masatomo So[1], Kazumasa Sakurai[2], Yuji Goto[1] ([1]*IPR, Osaka Univ.*, [2]*High Pressure Protein Res. Cent., Inst. for Advanced Tech., Kinki Univ.*)

蛋白質：機能 / Protein: Function

1Pos064 **光合成生物及び非光合成生物由来 ferredoxin-NADPH 酸化還元酵素触媒反応の可逆性**
Reversibility of the redox reactions catalyzed by ferredoxin-NADPH oxidoreductases from phototroph and heterotroph
Daisuke Seo (*Nat. Sci. Tec., Kanazawa Univ.*)

1Pos065　高活性型 CaMKIδ(1-299)のキナーゼ研究への活用
Application of high active form CaMKIδ(1-299) for the study of protein kinase
Yukako Senga[1], Kazutoshi Akizuki[2], Syouichi Katayama[3], Yasushi Shigeri[4], Isamu Kameshita[2], Atsuhiko Ishida[5], Noriyuki Sueyoshi[2] ([1]*BMRI, AIST*, [2]*Dept. Appl. Biol. Sci., Fac. Agr., Kagawa Univ.*, [3]*Dept. of Pharm., Coll. of Pharm., Ritsumeikan Univ.*, [4]*HRI, AIST*, [5]*Grad. Sch. Integr. Arts Sci., Hiroshima Univ.*)

1Pos066　システイン残基修飾によるピルビン酸デヒドロゲナーゼキナーゼ 2 の動的構造変化
Dynamical structural changes of pyruvate dehydrogenase kinase 2 by modification of cysteine
Kyoka Kaiya[1], Yasuhiro Fuzino[2], Katumi Doi[3], Etuko Nishimoto[3], Yasuaki Hiromasa[3] ([1]*Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ.*, [2]*Div. Arts and Science, Kyushu Univ.*, [3]*Fac. Agr., Kyushu Univ.*)

1Pos067　光照射を利用した硫酸還元菌由来[NiFe]ヒドロゲナーゼの活性化機構の FT-IR 研究
FT-IR studies on the activation mechanism of [NiFe] hydrogenase from *Desulfovibrio vulgaris* Miyazaki F using light irradiation
Hulin Tai[1,2], Liyang Xu[1], Seiya Inoue[3], Koji Nishikawa[3], Yoshiki Higuchi[2,3], Shun Hirota[1,2] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*CREST, JST*, [3]*Grad. Sch. Life Sci., Univ. Hyogo*)

1Pos068　アフリカツメガエル由来(6–4)光回復酵素の 4 番目の電子移動トリプトファンの解析
Analysis of the fourth electron-transferring tryptophan in Xenopus laevis (6-4) photolyase
Takahiro Kanda, Junpei Yamamoto, Shigenori Iwai (*Grad. Sch. Eng of Sci., Univ., Osaka*)

1Pos069　分子シミュレーションによるエピジェネティックな酵素に対する基質の結合選択性の研究
Study for the Ligand Binding Selectivity of Epigenetic Enzymes by using Molecular Simulations
Shuichiro Tsukamoto[1,3], Yoshitake Sakae[1], Yukihiro Itoh[2,3], Takayoshi Suzuki[2,3], Yuko Okamoto[1,3,4,5,6] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Med. Sci., Kyoto Pref. Univ. Med.*, [3]*JST-CREST*, [4]*Struc. Bio. Res. Cen., Grad. Sch. Sci., Nagoya Univ.*, [5]*Cen. Comput. Sci., Grad. Sch. Eng., Nagoya Univ.*, [6]*Info. Tech. Cen., Nagoya Univ.*)

1Pos070　分子動力学シミュレーションによる MutS の homoduplex DNA と mismatch DNA の認識メカニズム解析
Analysis of recognition of homoduplex and mismatched DNA by MutS by MD simulations
Hisashi Ishida, Atsushi Matsumoto (*National Institutes for Quantum and Radiological Science and Technology, Molecular Modeling and Simulation Group*)

1Pos071　ONIOM 法を用いたアデニル酸キナーゼ反応機構に関する計算化学的研究
Computational Study on the Reaction Mechanism of Adenylate Kinase with ONIOM method
Kenshu Kamiya (*Dept. of Phys., Sch. of Sci., Kitasato Univ.*)

1Pos072　Evolutionary optimisation of elastic network structures: Models of allosteric proteins
Holger Flechsig (*Hiroshima University*)

蛋白質工学 / Protein: Engineering

1Pos073　バクテリオロドプシンの構造・機能特性に対する物理架橋 PVA ハイドロゲル中への固定の影響
Effects of Immobilization of Bacteriorhodopsin with Poly(Vinyl Alcohol) Hydrogels on Its Structural and Functional Properties
Hikaru Tanaka[1], Yasunori Yokoyama[1], Hiroshi Takahashi[2], Takashi Kikukawa[3], Masashi Sonoyama[2], Koshi Takenaka[1] ([1]*Grad. Sch. Eng., Nagoya Univ.*, [2]*Grad. Sch. Sci. & Tech., Gunma Univ.*, [3]*Grad. Sch. Life. Sci., Hokkaido Univ.*)

1Pos074　Thermo-induced phase separation dynamics of a biopolymer model on water-in-oil droplets
Keitaro Horii[1], Kazunari Yoshida[2], Azusa Saito[3], Akito Takashima[1], Izumi Nishio[1] ([1]*Grad. Sch. of Sci. & Eng., Univ. of Aoyama*, [2]*Grad. Sch. of Med., Univ. of Tokyo*, [3]*Grad. Sch. of Sci. & Eng., Univ. of Yamagata*)

1Pos075　タンパク質中に生成した金ナノクラスターの発光特性
Emission property of Au Nanoclusters Formed in Protein
Takuma Dezawa[1], Hamza Al-kindi[1], Izabela Rzeznicka[2], Hiroshi Fukumura[1], Yutaka Shibata[1] ([1]*Grad. Sch. Sci., Univ. Tohoku*, [2]*Grad. Sch. Eng. & Sci., ShibauraInst Tech.*)

1Pos076　青色光によるバクテリオロドプシン色素再生に対する脂質膜相転移の影響
Effects of Lipid Phase Transition on Chromophore Regeneration of Bleached Bacteriorhodopsin in Bilayer Vesicles by Blue Light Irradiation
Shunsuke Yano[1], Kentarou Motegi[1], Hikaru Tanaka[1], Yasunori Yokoyama[1], Masashi Sonoyama[2], Koshi Takenaka[1] ([1]*Grad. Sch. Eng., Nagoya Univ.*, [2]*Grad. Sch. Sci. & Tech., Gunma Univ.*)

1Pos077　ATP 結合タンパクのゼロからのデザイン
Design of ATP-binding protein from scratch
Kengo Nakamura[1,2], Takahiro Kosugi[1,2], Nobuyasu Koga[1,2,3] ([1]*IMS CIMoS*, [2]*SOKENDAI*, [3]*JST PRESTO*)

1Pos078*　合理的設計による抗体精製用リガンド FPA の開発
Rational design of FPA, a ligand for antibody purification
Yoshiki Oka[1], Taihei Sawada[1], Takahiro Watanabe[1], Hisashi Kudo[1], Manami Wada[1], Hidenobu Kawai[1], Mari Chang[2], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*Dept. Phys., Univ. Tokyo*)

1Pos079　新規酸化還元応答蛍光タンパク質の作成
New design of redox sensitive fluorescence proteins
Kazunori Sugiura[1,2], Akiyoshi Higo[1,2], Toru Hisabori[1,2] ([1]*CLS, Tokyo Tech.*, [2]*CREST, JST*)

1Pos080　自然界のタンパク質を大きく改造して創るヘム結合タンパク質
Computational design of heme-binding proteins by largely remodeling naturally occurring proteins
Yoshitaka Moriwaki[1], Nobuyasu Koga[1,2] ([1]*CiMoS, IMS*, [2]*JST, PRESTO*)

1Pos081　Selection of Ru(bpy)32+ motifs from a randomized peptide library
Marziyeh Karimiavargani[1], Seiichi Tada[2], Noriko Minagawa[2], Takuji Hirose[2], Yoshihiro Ito[2], Takanori Uzawa[2] ([1]*Graduate school of Science and Engineering, Saitama University*, [2]*Nano Medical Engineering Laboratory, RIKEN*)

1Pos082　複数の遺伝子群の共進化を可能とする完全試験管内選択系の開発
Development of a totally in vitro selection system for co-evolution of plural genes
Asuka Ueki, Kei Fujiwara, Nobuhide Doi (*Grad. Sch. Sci. Tech., Keio Univ.*)

1Pos083*　ファージディスプレイ法を用いたタンパク質デザインへの応用を目指した蛍光一分子ソーターの開発
Development of a single-molecular sorting system based on fluorescence detection for protein design using phage display method
Yuki Shimizu[1,2], Naoki Mikoshiba[1,3], Seiji Sakamoto[1,2], Hiroyuki Oikawa[1,2,3], Kiyoto Kamagata[1,2,3], Takehiko Wada[1,2], Satoshi Takahashi[1,2,3] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Sci., Tohoku Univ.*, [3]*Grad. Sch. Life Sci., Tohoku Univ.*)

1Pos084　進化分子工学に向けたスクリーニングシステムの開発
Development of an integrated femtoliter chamber array system for directed evolution of protein molecules
Yi Zhang, Hiroto Kizoe, Yoshihiro Minagawa, Kazuhito Tabata, Hiroyuki Noji (*Grad. Sch. Eng., Univ. Tokyo*)

ヘム蛋白質 / Heme proteins

1Pos085　チトクロム *c* とチトクロム酸化酵素の複合体構造が示す新しいタンパク質間相互作用様式
Complex structure of cytochrome *c* and cytochrome *c* oxidase shows a novel inter-protein interaction mode
Satoru Shimada[1], Kyoko Shinzawa-Itoh[1], Junpei Baba[1], Shimpei Aoe[1], Atsuhiro Shimada[1], Eiki Yamashita[2], Jiyoung Kang[1], Masaru Tateno[1], Shinya Yoshikawa[1], Tomitake Tsukihara[1,2] ([1]*Picobiology Inst., Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Protein Res., Osaka Univ.*)

1Pos086　蛍光偏光解消度を利用したシトクロム c-シトクロム c 酸化酵素間電子伝達複合体形成における相互作用解析
Interaction analysis of electron transfer complex formation between cytochrome c-cytochrome c oxidase using fluorescence anisotropy
Hiroshi Kagaya[1], Wataru Sato[1], Takeshi Uchida[1,2], Kyoko Itoh－Shinzawa[3], Shinya Yoshikawa[3], Koichiro Ishimori[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*, [3]*Grad. Sch. of Life Sci., Univ. of Hyogo*)

1Pos087　チトクロム c 酸化酵素の水素結合状態変化の酸素還元反応への影響
The effect of the hydrogen bond network on the oxygen reduction of cytochrome c oxidase
Yudai Aoyagi, Tatsuhito Nishiguchi, Kyoko Shinzawa-Itoh, Shinya Yoshikawa, Satoru Nakashima, Takashi Ogura (*Grad. Sch. Lif. Sci., Univ. Hyogo*)

1Pos088　時間分解共鳴ラマン分光法によるチトクローム酸化酵素の共役機構
Coupling mechanism of Cytochrome c oxidase studied by time-resolved resonance Raman spectroscopy
Satoru Nakashima, Yoshiyuki Nakagawa, Kyoko Itoh-Shinzawa, Shinya Yoshikawa, Takashi Ogura (*Grad. Sch. Sci., Univ. Hyogo*)

1Pos089*　シトクロム c–シトクロム c 酸化酵素間の電子伝達複合体形成における脱水和の機能的意義
Functional significance of dehydration for formation of electron transfer complex between cytochrome c and cytochrome c oxidase
Wataru Sato[1], Kyoko Shinzawa-Itoh[3], Takeshi Uchida[2], Peter Brzezinski[4], Shinya Yoshikawa[3], Koichiro Ishimori[2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*, [3]*Grad. Sch. of Life Sci., Hyogo Univ.*, [4]*Dept. of Biochem. and Biophys., Stockholm Univ.*)

1Pos090　呼吸鎖ヘム・銅酸素還元酵素スーパーファミリーのプロトン輸送経路の構造解析
Structural analysis of the proton transfer pathway in respiratory heme-copper oxygen reductase superfamily
Kazumasa Muramoto (*Grad. Sch. of Life Sci., Univ. of Hyogo*)

1Pos091　ナノリットルフロー時間分解可視・赤外分光法を用いた一酸化窒素還元酵素の短寿命反応過渡種の計測
Detection of Short-Lived Reaction Species of Nitric Oxide Reductase Using Nanoliter-Flow Time-Resolved Visible/IR Spectroscopy
Hanae Takeda[1], Tetsunari Kimura[2], Shoko Ishii[1], Takehiko Tosha[3], Yoshitsugu Shiro[1,3], Minoru Kubo[3,4] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Grad. Sch. Sci., Kobe Univ.*, [3]*SPring-8 Center, RIKEN*, [4]*JST PRESTO*)

1Pos092　金電極上に固定化した一酸化窒素還元酵素の電気化学的還元活性
Electrochemical reduction activity of nitric oxide reductase immobilized on Au electrodes
Shogo Nakagawa[1], Masaru Kato[1,2], Takehiko Tosya[3], Ichizo Yagi[1,2] ([1]*Grad. Sch. Environ. Sci., Hokkaido Univ.*, [2]*Faculty of Environ. Earth Sci., Hokkaido Univ.*, [3]*RIKEN*)

1Pos093　ナノディスクに再構成した Vibrio cholerae 由来シトクロム cbb3 の構造，機能的評価
Structural and functional characterization of nanodisc-reconstituted cytochrome cbb3 oxidase from Vibrio cholerae
Masanao Inoue[1], Akihiro Shibata[1], Mizue Imai[1], Takeshi Uchida[2], Kazumasa Muramoto[3], Noritsugu Shiro[3], Shinya Furukawa[3], Koichiro Ishimori[2] ([1]*Graduate School of Science, Hokkaido University*, [2]*Graduate School of Science, Hokkaido University*, [3]*Graduate School of Life Science, Hyogo University*)

1Pos094*　シトクロム *c* とカルジオリピン含有バイセルの相互作用の溶液 NMR 解析
Solution NMR characterization of the interaction between cyt *c* and cardiolipin-incorporated bicelles
Hisashi Kobayashi, Satoshi Nagao, Shun Hirota (*Grad. Sch. Mat. Sci., Nara Inst. Sci. Tech.*)

膜蛋白質 / Membrane proteins

1Pos095* **Molecular mechanism of the ATP-dependent modulation of the Mg^{2+} channel MgtE for Mg^{2+} homeositasis**
Atsuhiro Tomita[1], Mingfeng Zhang[2], Hironori Takeda[3], Fei Jin[2], Tatsuro Maruyama[4], Masanori Osawa[4], Ryuichiro Ishitani[1], Ichio Shimada[4], Zhiqiang Yan[2], Motoyuki Hattori[2], Osamu Nureki[1] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Sch. Life Sci., Fudan Univ.*, [3]*Fac. Life Sci., Kyoto Sangyo Univ.*, [4]*Grad. Sch. Pharm., Univ. Tokyo*)

1Pos096 **チトクロム酸化酵素の高分解能結晶構造から明らかとなった高効率プロトンポンプ機構**
High-resolution crystal structure of cytochrome c oxidase reveals the mechanism of highly efficient proton pumping
Atsuhiro Shimada[1], Naomine Yano[1], Kazumasa Muramoto[1], Eiki Yamashita[2,3], Kyoko Shinzawa-Itoh[1], Tomitake Tsukihara[1,2], Shinya Yoshikawa[1] ([1]*Picobiol. Inst., Univ. Hyogo*, [2]*Inst. Protein Res., Osaka Univ.*, [3]*SPring-8, RIKEN*)

1Pos097 **立体構造に基づいた原核生物由来ナトリウムチャネルにおける選択性フィルターの変異体解析**
Structural and mutational analysis of the selectivity filter of prokaryotic sodium channel
Katsumasa Irie[1,2], Yukari Haga[2], Shun Nakamura[2], Yoshinori Fujiyoshi[1,2] ([1]*CeSPI, Nagoya Univ.*, [2]*Grad. Sch. Pharm. Nagoya Univ.*)

1Pos098 **X 線 1 分子動態計測法への試料温度ジャンプシステムの導入**
The introduction of temperature-jump system to the Diffracted X-ray Tracking (DXT)
Hirofumi Shimizu, Masayuki Iwamoto (*Univ. Fukui. Fac. Med. Sci.*)

1Pos099 **原子分解能のシミュレーションによって明らかになった ADP/ATP 膜輸送体の交互アクセス機構**
Deciphering Alternating Access Mechanism of a Mitochondrial ADP/ATP Membrane Transporter with Atomistic Simulations
Koichi Tamura[1], Shigehiko Hayashi[2] ([1]*RIKEN AICS*, [2]*Grad. Sch. Sci., Kyoto Univ.*)

1Pos100 **サーモフィリックロドプシンの極めて高い熱安定性に対する統計熱力学**
Statistical Thermodynamics for Remarkably High Thermal Stability of Thermophilic Rhodopsin
Satoshi Yasuda[1,2,3], Yuta Kajiwara[4], Takeshi Murata[1,2,5], Masahiro Kinoshita[3] ([1]*Grad. Sch. Sci., Chiba Univ.*, [2]*MCRC, Chiba Univ.*, [3]*IAE, Kyoto Univ.*, [4]*Grad. Sch. Ener. Sci., Kyoto Univ.*, [5]*PRESTO*)

1Pos101* **脂質二分子膜中におけるポア形成ペプチドの分子メカニズム解明に向けたモデルペプチドのチャネル電流測定**
Systematically designed model pore-forming peptides study on molecular mechanism in lipid bilayers using channel current recording
Yusuke Sekiya[1], Hirokazu Watanabe[1], Kenji Usui[2], Ryuji Kawano[1] ([1]*Tokyo Univ. Agr. Tech.*, [2]*Konan Univ.*)

1Pos102* **補酵素フラビンの置換による微生物外膜シトクロムのプロトン移動の発見**
Proton transfer reaction in outer-membrane flavocytochromes revealed by replacement of flavin cofactor
Yoshihide Tokunou[1], Kazuhito Hashimoto[2], Akihiro Okamoto[2] ([1]*Dept. of Appl. Chem., Univ. Tokyo*, [2]*Natl. Inst. for Mater. Sci.*)

1Pos103 **Toward the elucidation of structure/function relationship of transport proteins**
Naoki Soga[1], Rikiya Watanabe[1,2], Hiroyuki Noji[1] ([1]*Dept. of App. Chem., The University of Tokyo*, [2]*PRESTO, JST*)

1Pos104 **生細胞における G タンパク質共役型受容体の拡散・機能連関の比較解析**
Comparative analysis of diffusion-function relationship of G protein-coupled receptors on the living cell surface
Masataka Yanagawa[1], Michio Hiroshima[1,2], Yuichi Togashi[3], Takahiro Yamashita[4], Yoshinori Shichida[4], Masayuki Murata[5], Masahiro Ueda[2,6], Yasushi Sako[1] ([1]*Cellular Informatics Lab., RIKEN*, [2]*QBiC, RIKEN*, [3]*RcMcD, Hiroshima Univ.*, [4]*Dept. Biophys., Grad. Sci., Kyoto Univ.*, [5]*Dept. Life Sci., Grad. Arts and Sci., Univ. Tokyo*, [6]*Grad. Frontier Biosci., Osaka Univ.*)

1Pos105 **Trafficking of endocytic PAR-1 carrier vesicles in cancer cell**
Seohyun Lee[1], Kohsuke Gonda[2], Hideo Higuchi[1] ([1]*Graduate school of science, University of Tokyo*, [2]*Graduate school of medicine, Tohoku university*)

1Pos106 **ミトコンドリア内膜タンパク質のマイクロ流路デバイスによる実時間解析**
The real-time analysis of respiratory chain complex I on mitochondrial inner membrane by using microfluidic device
Yuji Kimura, Sayaka Kazami, Yu Hashimoto, Hiroyasu Itoh (*Tsukuba Research Center, Hamamatsu Photonics KK*)

1Pos107 **細胞シグナリングに関与する上皮成長因子受容体クラスターのコレステロールを介した形成メカニズム**
Cholesterol Mediated Mechanism for Signaling Cluster Formation of Epidmal Growth Factor Receptorer
Michio Hiroshima[1,2], Masahiro Ueda[1], Yasushi Sako[2] ([1]*RIKEN QBiC*, [2]*RIKEN Cellular Informatics Laboratory*)

1Pos108 **ヨクトリットルスケール空間において粘性が DNA の運動に与える影響の評価**
Evaluation of viscosity effect on DNA movement in yocto (10^{-24}) liter space
Masaki Matsushita, Hirokazu Watanabe, Masayuki Ohara, Ryuji Kawano (*Life Sci. Biotech., Tokyo Univ. Agri. Tech.*)

核酸結合蛋白質 / Nucleic acid binding proteins

1Pos109 **ヌクレオソームスライディングの分子機構に関する分子シミュレーション研究**
Molecular Mechanisms of Nucleosome Sliding Revealed by Coarse-Grained Molecular Dynamics Simulation
Toru Niina, Shoji Takada (*Graduate School of Science, Kyoto Univ.*)

1Pos110* **多分子及び一分子測定により解明されたがん抑制タンパク質 p53 の超高速セグメント間移動**
Ultrafast intersegmental transfer of a tumor suppressor p53 investigated by ensemble and single-molecule measurements
Yuji Itoh[1,2], Agato Murata[1,2], Satoshi Takahashi[1,2], Kiyoto Kamagata[1,2] ([1]*IMRAM, Univ. Tohoku*, [2]*Grad. Sch. Sci., Univ. Tohoku*)

1Pos111 **大腸菌非六量体型 DNA ヘリカーゼ UvrD 多量体の 1 分子 FRET イメージング**
Single-molecule FRET imaging of the oligomeric form of the non-hexameric *Escherichia coli* helicase UvrD
Hiroaki Yokota (*Biophotonics lab, GPI*)

1Pos112 **Identification of initial ES complex of topoisomerase IIβ and target DNA employing molecular dynamics docking simulation**
Kakeru Sakabe, Hiroshi Nisihigami, Jiyoung Kan, Masaru Tateno (*Grad. Sch. Sci., Univ. Hyogo*)

1Pos113* **Elongation of Intrinsically Disordered Linker in p53 and the Effects on DNA Binding and Sliding Ability**
Dwiky Rendra Graha Subekti[1,2], Agato Murata[1,2], Yuji Ito[1,2], Satoshi Takahashi[1], Kiyoto Kamagata[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Sci., Tohoku Univ.*)

1Pos114 **Nucleoprotein Filament Assembly Dynamics of Dmc1 and Rad51 Recombinases**
Sheng-Yao Lin[1], Wen-Hsuan Chang[1], Chih-Yuan Kao[2], Hung-Yuan Chi[2], Hung-Wen Li[1] ([1]*Department of Chemistry, National Taiwan University, Taipei, Taiwan*, [2]*Institute of Biochemical Sciences, National Taiwan University, Taipei, Taiwan*)

1Pos115 **リバースジャイレースによるバブル DNA 超らせん導入の物理機構**
Physical mechanism of introducing positive supercoils into bubble DNA by reverse gyrase
Ryota Moritake, Takato Sato, Yuta Suzuki, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

1Pos116 **Single molecule FRET measurements of Cas9 conformation change**
Kazushi Isomura[1], Shohei Kajimoto[2], Saki Osuka[3], Hiroshi Nishimasu[2], Tomohiro Shima[1], Tomotaka Komori[1], Osamu Nureki[2], Sotaro Uemura[1] ([1]*Uemura lab., Grad. Sch. Sci., Univ. Tokyo*, [2]*Nureki lab., Grad. Sch. Sci., Univ. Tokyo*, [3]*Dep. Bio., Sci., Univ. Tokyo*)

1Pos117* **Investigate how mSWI5-SFR1 complex facilitates mRAD51 presynaptic filament formation using single-molecule approaches**
Chih-Hao Lu[1], Guan-Chin Su[2], Peter Chi[2], Hung-Wen Li[1] ([1]*Dept. of Chemistry, Nat'l Taiwan Univ.*, [2]*Institute of Biochemical Science, Nat'l Taiwan Univ.*)

1Pos118 **粗視化シミュレーションによる障害物存在下での DNA 結合タンパク質挙動研究**
The movement of DNA binding protein including obstacles along DNA
Mami Saito[1], Shoji Takada[1], Tsuyoshi Terakawa[2] ([1]*Grad. Sch. Sci., Uni. Kyoto*, [2]*Medical Center, Uni. Columbia*)

核酸：構造・物性 / Nucleic acid: Structure & Property

1Pos119 **結晶構造中で観察される DNA 構造ゆらぎの網羅解析**
DNA conformational transition inferred from re-evaluation of m|Fo|-D|Fc| electron density maps
Tomoko Sunami[1], Toshiyuki Chatake[2], Hidetoshi Kono[1] ([1]*National Institutes for Quantum and Radiological Science and Technology*, [2]*Kyoto University Research Reactor Institute*)

1Pos120 **ＤＮＡ高次構造の捩じれ速度依存性**
Dependence of twisting velocity on higher order structure of DNA
Kotaro Yoshida, Yoshihiro Murayama (*Tokyo Univ. of Agri. and Tech.*)

1Pos121 **マイクロ液滴界面を利用した RNA 転写配列を有する DNA マイクロ構造体の構築**
Construction of DNA micro-structures with RNA transcription sequences using the interface of microdroplets
Risa Watanabe[1], Masamune Morita[1], Miho Yanagisawa[2], Masahiro Takinoue[1] ([1]*Dept. Comput. Sci., Tokyo Tech.*, [2]*Dept. Appl. Phys., Tokyo Univ. Agri. Tech.*)

1Pos122 **Phase transition of genomic DNA molecules in solutions with different concentration of propanol**
Yue Ma[1], Yuko Yoshikawa[2], Koichiro Sadakane[1], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*)

1Pos123 **Nucleic Acid Folding Revealed From Replica Exchange Molecular Dynamics**
Jacob Swadling (*University of Tokyo*)

1Pos124 **荷電脂質膜表面上での自己組織化 DNA マイクロ構造の形成**
Formation of self-assembled DNA microarchitectures on a cationic lipid membrane surface
Masamune Morita[1], M. Shin-ichiro Nomura[2], Satoshi Murata[2], Miho Yanagisawa[3], Masahiro Takinoue[1] ([1]*Dept. Comput. Sci., Tokyo Tech.*, [2]*Dept. Robotics, Tohoku University*, [3]*Dept. Appl. Phys., Tokyo Univ. Agri. Tech.*)

1Pos125 **DNA 光修復活性を有する DNA 酵素の赤外分光解析**
FTIR spectroscopic analysis of a DNAzyme possessing DNA photorepair activity
Yuhi Kurahashi, Wijaya I M. Mahaputra, Tatsuya Iwata, Hideki Kandori (*Nagoya Institute of Technology*)

1Pos126 **Sub-millisecond folding dynamics of preQ$_1$ riboswitch studied by two-dimensional fluorescence lifetime correlation spectroscopy (2D FLCS)**
Bidyut Sarkar[1], Kunihiko Ishii[1,2], Tahei Tahara[1,2] ([1]*Molecular Spectroscopy Laboratory, RIKEN*, [2]*RIKEN Center for Advanced Photonics*)

分子モーター / Molecular motor

1Pos127 **F_1-ATPase の回転における加水分解待ち状態から ATP 結合待ち状態への構造遷移**
Conformational transition from catalytic dwell to ATP-binding dwell in F_1-ATPase rotation
Kei-ichi Okazaki[1,2], Mitsuhiro Sugawa[3], Gerhard Hummer[2] ([1]*IMS*, [2]*MPI Biophysics*, [3]*Univ. of Tokyo*)

1Pos128 **a-subunit ヘリックスが傾いた新構造における FO 回転分子モーターのイオン伝導経路解析**
Analysis of the ion pathway of FO molecular motor using the revised structure with tilted a-subunit helices
Kota Tezuka, Ryoichi Kiyama, Daiki Yamakoshi, Dan Parkin, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

1Pos129 **好熱菌由来の回転モーター F_1 の燐酸解離のタイミング**
Timing of Pi release in the rotary motor thermophilic F_1 (TF_1)
Kengo Adachi[1], Kazuhiro Oiwa[2], Masasuke Yoshida[3], Taro Uyeda[1], Kazuhiko Kinosita, Jr.[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Adv. ICT Res. Inst., NICT*, [3]*Dept. Mol. Biosci., Kyoto Sangyo Univ.*)

1Pos130* **F1-ATPase の制御因子としての ε サブユニットの ATP 解離反応における役割**

Role of ε subunit on ATP dissociation as a regulator for F1-ATPase

Makoto Genda[1], Rikiya Watanabe[1], Yasuyuki Yamada[2], Hiroyuki Noji[1] ([1]*Graduate School of Engineering, University of Tokyo*, [2]*Department of Life Science, Rikkyo University*)

1Pos131 **F1-ATPase の P-loop 変異体におけるリン酸解離の機構**

The kinetics of Pi release in F1-ATPase investigated with P-loop mutations

Hiroka Narita[1], Hitoshi Hoshina[1], Hikaru Yoshida[1], Yohei Nakayama[1], Shoichi Toyabe[2], Hiroshi Ueno[3], Eiro Muneyuki[1] ([1]*Dept. of Phys., Chuo Univ.*, [2]*Dept. Appl. Phys., Tohoku Univ.*, [3]*Dept. Appl. Chem., Tokyo Univ.*)

1Pos132* **腸球菌 V-ATPase の Na^+濃度依存 ATPase 活性を促進する化合物の同定**

Identification of accelerators on Na^+-depending ATPase activity of Enterococcus hirae V-ATPase

Senka Gi[1], Lica Fabiana Yakushiji[1], Hiroshi Ueno[2], Hiroyuki Noji[2], Takayoshi Arai[1], Katsuhiko Moriyama[1], Hideo Togo[1], Takeshi Murata[1,3] ([1]*Grad. Sch. Sci., Univ. Chiba*, [2]*Grad. Sch. Eng., Univ. Tokyo*, [3]*PRESTO, JST*)

1Pos133 **キネシンによる微小管の構造変化**

A novel function of kinesin-1: changing microtubule conformation that accelerates successive kinesin binding

Tomohiro Shima[1,2], Manatsu Morikawa[3], Junichi Kaneshiro[1], Taketoshi Kambara[1], Shinji Kamimura[4], Toshiki Yagi[5], Hiroyuki Iwamoto[6], Taro Ichimura[1], Tomonobu Watanabe[1], Sotaro Uemura[2], Ryo Nitta[7], Yasushi Okada[1,2], Nobutaka Hirokawa[3] ([1]*RIKEN QBiC*, [2]*Grad. Sch. Sci., Univ. Tokyo*, [3]*Grad. Sch. Med., Univ. Tokyo*, [4]*Dept. Biol. Sci., Chuo Univ.*, [5]*Dept. Life Sci., Pref. Univ. Hiroshima*, [6]*SPring-8, JASRI*, [7]*RIKEN CLST*)

1Pos134 **二量体分子モーターの歩行に関する統一モデル**

A unified walking model for dimeric motor proteins

Kazuo Sasaki[1], Motoshi Kaya[2], Hideo Higuchi[2] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Sci., Univ. Tokyo*)

1Pos135 **タンデムに２つの頭部をつないだキネシンを用いた選択的な前方へのステップの研究**

Preferential forward stepping mechanism of kinesin-1 studied using tandemly joined two-headed monomer

Kohei Matsuzaki[1], Hiroshi Isojima[1], Sawako Enoki[2], Hiroyuki Noji[2], Michio Tomishige[1] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*, [2]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*)

1Pos136 **光応答性蛋白質 Dronpa を利用したキネシン運動活性の光可逆的阻害**

Photo-reversible inhibition of kinesin motor activity utilizing photochromic protein Dronpa

Kohei Uchida, Shinsaku Maruta, Kazunori Kondo (*Grad. Sch. Bioinfo., Univ. Soka*)

1Pos137* **ゆらぎの定理を用いた非侵襲な力測定によるメラニン色素顆粒輸送のメカニズムの解明**

Application of the fluctuation theorem for the non-invasive measurement of force to pigment transport in melanophores

Shin Hasegawa[1], Kazuho Ikeda[2], Takashi Sagawa[3], Yasushi Okada[2,4], Kumiko Hayashi[1,5] ([1]*Sch. Eng., Tohoku Univ.*, [2]*QBiC, RIKEN*, [3]*NICT*, [4]*Sch. Sci., Univ. Tokyo*, [5]*AMED, PRIME*)

1Pos138 **DNA オリガミを用いた速度の異なるキネシンによる協調運動の観察**

Cooperative transport by two kinesin motors with different velocities studied using programmable DNA origami

Ryosuke Masuda[1], Tsuyoshi Omi[1], Yamato Niitani[1], Mitsuhiro Iwaki[2], Michio Tomishige[1] ([1]*Department of Applied Physics, Univ. of Tokyo*, [2]*QBiC, RIKEN*)

1Pos139 **Inhibitory mechanism for photochromic kinesin Eg5 inhibitor composed of spiropyran derivative**

Ryoma Yamamoto, Kei Sadakane, Shinsaku Maruta (*Grad. Sch. Bioinfo., Univ. Soka*)

1Pos140 **1 分子 FRET 観察による細胞質ダイニンの構造変化の計測**

Single molecule FRET observation of cytoplasmic dynein's conformational change

Mikiya Sakata[1], Takuya Kobayashi[1], Mitsuhiro Sugawa[1], Tomohiro Shima[2], Junichiro Yajima[1], Yoko Y. Toyoshima[1] ([1]*Grad. Sch. Arts and Sci., Univ. of Tokyo*, [2]*Grad. Sch. Sci., Univ. of Tokyo*)

1Pos141 **微小管系モーターダイニンを基に新規アクチン系モーターをエンジニアリングする**

Engineering Novel Actin-Based Molecular Motors from the Microtubule-based Motor Dynein

Akane Furuta, Kazuhiro Oiwa, Hiroaki Kojima, Ken'ya Furuta (*Frontier Research Lab, NICT*)

1Pos142* **細胞質ダイニンのマルチスケールシミュレーション:全原子から連続体へ**

Multiscale Simulations of Cytoplasmic Dynein: From All-atom to Continuum Mechanics

Shinji Iida[1,3], Benjamin Hanson[4], Narutoshi Kamiya[2], Genji Kurisu[1], Takahide Kon[3], Haruki Nakamura[1], Sarah Harris[4] ([1]*IPR, Osaka Univ.*, [2]*Grad. Sch. SS, Univ. Hyogo*, [3]*Grad. Sch. Sci., Osaka Univ.*, [4]*Sch. Phys. Astro., Univ. Leeds*)

1Pos143 **Diffusive Component in Directed Movements of Cytoplasmic Dynein**

Takayuki Torisawa, Ken'ya Furuta, Kazuhiro Oiwa, Hiroaki Kojima (*NICT, Advanced ICT Research Institute*)

1Pos144 **細胞質ダイニンの構造変化を伴う運動メカニズムに関する分子シミュレーション研究**

Molecular simulation study on the working mechanism with structural changes of cytoplasmic dynein

Shintaroh Kubo, Shoji Takada (*Grad. Sci., Univ. Kyoto*)

1Pos145* **ヒト細胞質ダイニン１分子のパワーストローク運動距離の測定**

Measurement of the power stroke distance of cytoplasmic dynein motor

Yoshimi Kinoshita[1], Taketoshi Kambara[1,2], Kaori Nishikawa[1], Motoshi Kaya[1], Hideo Higuchi[1] ([1]*The University of Tokyo*, [2]*QBiC, Riken*)

1Pos146 **ミオシン S1 によって誘起されるアクチンフィラメントの協同的構造変化の高速 AFM による観察と、その生理的意義**

High-speed AFM demonstration of cooperative structural changes in actin filaments induced by myosin S1 and physiological implication

Kien Xuan Ngo[1,2], Noriyuki Kodera[3], Toshio Ando[3], Taro Ueda[1,2] ([1]*Biomed. Res. Inst., AIST*, [2]*Dept. Phys., Waseda Univ.*, [3]*Dept. Phys., & Bio-AFM FRC, Kanazawa Univ.*)

1Pos147　単一フィラメントにおけるアクチン重合・脱重合ダイナミクスの力学的制御
Mechanical manipulation of polymerization dynamics of individual actin filaments
Hiroaki Kubota[1], Makito Miyazaki[1,2], Taisaku Ogawa[3], Togo Shimozawa[4], Kazuhiko Kinosita Jr.[1], Shin'ichi Ishiwata[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Waseda Bioscience Research Institute in Singapore, Waseda Univ.*, [3]*QBiC, Riken*, [4]*Dept. Life Sci. Med. Biosci., Waseda Univ.*)

1Pos148　Actomyosin contraction with a contractile ring related cross-linker in an *in vitro* active gel model system
Kyohei Matsuda, Takuya Kobayashi, Mitsuhiro Sugawa, Yoko Y. Toyoshima, Junichiro Yajima (*Department of Life Sciences, Graduate School of Arts & Sciences, The University of Tokyo*)

1Pos149　混み合い環境でのアクチン線維の集団運動による秩序構造の出現
Appearance of ordered structure by collective motion of actin filaments in crowded environments
Takahiro Iwase, Yasuhiko Sasaki, Kuniyuki Hatori (*Dept. Bio-Systems Eng., Yamagata Univ.*)

1Pos150　Self-organizations of actin filament networks in confined spaces: A simulation study
Takahiro Nitta (*Gifu Univ.*)

1Pos151　蛍光顕微鏡および高速 AFM によるミオシンと F-アクチン間の協同的結合の経時的観察
Real-time observation of cooperative binding between myosin and F-actin by fluorescence microscopy and high-speed atomic force microscopy
Rika Hirakawa[1], Hiroaki Ueno[1], Noriyuki Kodera[2], Taro Q.P. Uyeda[3], Kiyotaka Tokuraku[1] ([1]*Muroran Inst. Tech.*, [2]*Bio-AFM FRC, Inst. Sci. &Eng., Kanazawa Univ.*, [3]*Waseda Univ.*)

1Pos152*　枯渇力が誘起する微小管集団運動に関する研究
Study of the collective motion of microtubules induced by depletion force
Ai Saito[1], Ryuhei Suzuki[1], Tamanna Ishrat Fahana[1], Arif Md. Rashedul Kabir[2], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*)

細胞生物学 / Cell biology

1Pos153　神経細胞における細胞骨格アクチンの修復の分子メカニズム
Molecular mechanism of cytoskeletal Actin repairing in nerve cells
Tomboy Higo[1], Ayumi Ishihara[2], Shinji Aramaki[1], Yoshiko Itou[2], Takuo Yasunaga[1] ([1]*Kyushu Institute of Technology*, [2]*Leica Microsystems*)

1Pos154　超解像光学顕微鏡で観察した収縮環の計測と解析
Measurement and analysis of contractile ring observed with STED and Sim
Kaoru Katoh[1,2], Keijyu Kamijo[3], Minami Tanaka[2], Masayuki Takahashi[4], Issei Mabuchi[5], Hiroshi Hosoya[6] ([1]*BioMed. Res. Inst., AIST*, [2]*Gad. Sch. of Life & Environ. Sci., Univ. Tsukuba*, [3]*Sch. of Med., Tohoku Med. Pharm. Univ.*, [4]*Dept. of Chem, Fac. of Sci., Hokkaido Univ.*, [5]*Dept. of Life Sci. Gakushuin Univ.*, [6]*Dept. of Biol., Fac. of Sci., Kanagawa Univ.*)

1Pos155　アクチンフィラメントの協同的構造変化を阻害するアクチン変異の遺伝子内サプレッサー解析
Intragenic suppressor analysis of actin mutation that impairs cooperative conformational change of actin filament
Tenji Yumoto[1,4], Takehiko Yoko-o[2], Keiko Hirose[3], Taro Uyeda[4] ([1]*Grad. Sch. Life & Env. Sci., Univ. of Tsukuba*, [2]*Bioprod. Res. Inst., AIST*, [3]*Biomed. Res. Inst., AIST*, [4]*Dept. Phys., Waseda Univ.*)

1Pos156　クライオ電子線トモグラフィ法で明らかにした，フィロポディア内におけるファシンによるアクチンフィラメント束化メカニズム
F-actin bundling mechanisms by fascin in filopodia was revealed by cryo-ET
Shinji Aramaki[1], Kouta Mayanagi[2], Kazuhiro Aoyama[3,4], Takuo Yasunaga[1] ([1]*Department of Bioscience and Bioinformatics*, [2]*Medical Institute of Bioregulation, Kyushu University*, [3]*FEI Japan*, [4]*Research Centre for Ultra-High Voltage Electron Microscopy, Osaka University*)

1Pos157　MEA システムを用いたニワトリ胚由来心臓組織片の薬剤応答
Drug response of embryonic chick heart tissue pieces using multi electrode array system
Yosuke Kamei[1], Toshiyuki Mitsui[2], Tomoyuki Kaneko[1] ([1]*LaRC,Grad. Sci. Eng., Hosei Univ.*, [2]*Dept. Math. Phys., Col. Sci. Eng., Aoyama Univ.*)

1Pos158　心筋細胞の集合体に対する機械的刺激の影響
Influence of mechanical stimulus on embryonic chick heart cell aggregates
Shin Arai, Ayaha Tsuyuki, Takahiro Uehara, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

1Pos159　フィードバックマイクロレオロジーによる細胞骨格の非線形力学挙動計測
Nonlinear mechanical properties of Cytoskeletons measured with Dual-Feedback Microrheology
Natsuki Honda, Kenji Nishizawa, Takayuki Ariga, Daisuke Mizuno (*Kyushu University, Department of Physics*)

1Pos160　ケラトサイトの運動方向を決定する２つのメカノセンシング機構
Keratocytes have hybrid mechanosensing system to decide their migration direction
Chika Okimura, Yoshiaki Iwadate (*Fac. Sci., Yamaguchi Univ.*)

1Pos161*　非熱的な力に駆動された細胞内部の混み合い状態
Intracellular crowding mechanics driven by athermal force
Kenji Nishizawa, Daisuke Mizuno (*Grad. Sch. Sci., Kyushu Univ.*)

1Pos162　心筋細胞の集合体群に与えるマルチプローブ機械的刺激の影響
Effect of Multi-probe stimuli on cardiac cell aggregates with spontaneous beat
Ayaha Tsuyuki, Shin Arai, Takahiro Uehara, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

1Pos163　魚類表皮細胞ケラトサイトのかたち・サイズと牽引力
Relationship between traction forces, and shape and size of keratocytes
Ayane Sonoda, Chika Okimura, **Yoshiaki Iwadate** (*Fac. Sci., Yamaguchi Univ.*)

1Pos164　アメーバ運動する線虫精子の牽引力測定

Measurement of Traction Force generated by Amoeboid Sperm of C. elegans

Midori Yoshimura[1], Hikaru Emoto[1], Chika Okimura[2], Yoshiaki Iwadate[2], Katsuya Shimabukuro[1] ([1]*Dep. of Chem. and Bio. Eng., NIT, Ube College*, [2]*Faculty of Sci., Yamaguchi University*)

1Pos165　細胞周期進行に伴う細胞内部環境のダイナミクス

The dynamics of Intracellular Environments during Cell-cycle progression

Katsuhiro Umeda, Kenji Nishizawa, Daisuke Mizuno (*Grad. Sci., Univ. Kyushu*)

1Pos166*　Actin Cytoskeleton Remodeling Dynamics of Adherent Cells Under Mechanical Strain of Gelatin Substrate

Kwokhoi Ng[1], Kentaro Iketaki[1], Ryuzo Kawamura[1], Seiichiro Nakabayashi[1], Yosuke Yoneyama[3], Fumihiko Hakuno[3], Shin-Ichiro Takahashi[3], Fumiki Yanagawa[2], Toshiyuki Takagi[2], Shinji Sugiura[2], Toshiyuki Kanamori[2], Hiroshi Yoshikawa[1] ([1]*Dept. Chem.,Saitama Univ.*, [2]*BRD.,AIST.*, [3]*GASLS., The Univ. of Tokyo*)

1Pos167　血管壁内力学環境を考慮したコラーゲン微細溝基質による血管平滑筋細胞の分化制御

Control of vascular smooth muscle cell differentiation using a novel micro-grooved collagen substrate

Kazuaki Nagayama, Keiichi Uchida, Saki Takeuchi (*Micro-Nano Biomechanics Laboratory, Department of Intelligent Systems Engineering, Ibaraki University*)

1Pos168　力学的強度の制御を可能とする光架橋性コラーゲンゲルの開発

Development of photo-cross-linked collagen gels with tunable mechanical property

Takahiro Fujisawa[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Kyushu Univ.*, [2]*IMCE, Kyushu Univ.*)

1Pos169　組織切片の伸展性応答: ひび割れパターンと病態

Response of Tissue Slice to Mechanical Stretching: Characteristic Cracking Pattern Reflecting Disease State

Keisuke Danno[1], Takuto Nakamura[1], Naohiko Nakamura[2], Kota Iguchi[2], Masaya Ikegawa[3], Kenichi Yoshikawa[3] ([1]*Doshisha Univ.*, [2]*Kyoto Univ.*, [3]*Doshisha Univ.*)

1Pos170　タリンとビンキュリンによる力と硬さの感知

Force- and rigidity-sensing by talin and vinculin

Hiroaki Hirata[1,2,3], Keng-Hwee Chiam[3], Hitoshi Tatsumi[4], Chwee Teck Lim[3], Masahiro Sokabe[1,3] ([1]*Nagoya Univ. Grad. Sch. Med., Mechanobiology Lab*, [2]*R-Pharm Japan*, [3]*Mechanobiology Inst., Natl. Univ. Singapore*, [4]*Kanazawa Inst. Tech.*)

1Pos171　マイクロメートルスケールの足場構造に依存した細胞性粘菌の細胞遊走

Migration of Dictyostelium cells on micro-scale ridge structures

Gen Honda[1], Akihiko Nakajima[2], Satoshi Sawai[1,2,3] ([1]*Graduate School of Arts and Sciences, University of Tokyo*, [2]*Research Center for Complex Systems Biology*, [3]*PRESTO, JST*)

1Pos172*　膜タンパク質による細胞間相互作用の定量的解析

The quantitative analysis of the intercellular interaction by membrane proteins

Takumi Miyatake[1,2], Yoshihisa Kaizuka[2] ([1]*Graduate School of Pure and Applied Sciences, University of Tsukuba*, [2]*National Institute for Materials Science*)

1Pos173　重力下での形態形成・維持に対するアクトミオ シンネットワークの寄与

Teoretical study of contribution of YAP-dependent actomysin network to morphogenesis under gravity

Kazunori Takamiya[1], Hiraku Nishimori[1,2], Akinori Awazu[1,2] ([1]*Grad. Sch. Sci., Univ. Hiroshima*, [2]*RcMcD*)

1Pos174　Divergence of structural strategies for E-cadherin homophilic binding among bilaterians

Shigetaka Nishiguchi[1,2,3], Akira Yagi[3], Nobuaki Sakai[3], Hiroki Oda[1,2] ([1]*JT BRH*, [2]*Osaka Univ.*, [3]*Olympus Co.*)

1Pos175*　DNA hybridization を介した細胞-細胞間接着ダイナミクスの解明

Dynamics of cell-cell adhesion via DNA hybridization

Ken Sato[1], Yuji Teramura[2], Ryuzo Kawamura[1], Naritaka Kobayashi[1], Seiichiro Nakabayashi[1], Hiroshi Yoshikawa[1] ([1]*Dept. Chem., Saitama Univ.*, [2]*Dept. Bioeng., Tokyo Univ.*)

1Pos176　膵島 α 細胞の分泌顆粒動態に及ぼす接着分子 CADM1 の影響

Effect of cell adhesion molecule 1 expression on intracellular granule movement in pancreatic α cells

Tadahide Furuno[1], Satoru Yokawa[1,2], Takanari Ikeda[1], Yoshikazu Inoh[1], Ryo Suzuki[2], Takahiro Suzuki[3], Naohide Hirashima[2] ([1]*Sch. Pharm., Aichi Gakuin Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*Sch. Dent., Aichi Gakuin Univ.*)

1Pos177　分散培養 iPS 細胞の増殖応答性に対するハイドロゲル表面へのラミニン修飾状態の本質的効果

Essential role of mannter of laminin-modification for hydrogel surface on the prolifelation activity of dissociated iPS cells

Kenta Mizumoto[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE., Univ. Kyushu*)

1Pos178　細胞内ナノ粒子導入・細胞間相互作用制御のための材料工学

Materials engineering approaches to modulate cell membrane structures for nanoparticles delivery and regulation of cell-cell interactions

Yoshihisa Kaizuka, Tomoto Ura, Hidenobu Nakao (*NIMS*)

1Pos179*　脂質膜に覆われた細胞サイズ生体高分子ゲルの弾性率

Elasticity of biopolymer gel in cell-sized droplet covered with a lipid membrane

Atsushi Sakai, Yoshihiro Murayama, Miho Yanagisawa (*Tokyo university of Agriculture and Technology*)

1Pos180　原始真核生物の細胞内小器官の 3D 構造モデルから得られる生物の新たな情報

New obvious information obtained from cell organelle 3D-structural models of primitive eukaryote

Atsuko H. Iwane[1,2], Rina Nagai[1,2], Hikari Mori[1], Takako Ichinose[1,2] ([1]*Cell Field Struc., QBiC, Riken*, [2]*Grad. Sch. Fronti., Biosci., Osaka Univ.*)

1Pos181 **Accumulation of cargo proteins can physically trigger vesiculation in membrane trafficking system**
Masashi Tachikawa (*RIKEN*)

1Pos182 **多突起型チューブリン封入リポソームの形態形成メカニズム**
Morphogenetic mechanism of tubulin-encapsulating giant liposomes with a hundred of membrane spines
Masahito Hayashi, Kingo Takiguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos183 **アクトミオシンネットワークの収縮による細胞サイズ液滴の運動**
Directed motion of cell-sized droplets driven by actomyosin network contraction
Yuto Sano[1], Makito Miyazaki[1,2], Kozue Hamao[3], Shin'ichi Ishiwata[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Waseda Bioscience Research Institute in Singapore, Waseda Univ.*, [3]*Dept. Bio. Sci., Hiroshima Univ.*)

1Pos184 **高濃度アクチン繊維が引き起こす立体的集団運動**
The collective motion and band pattern formations of sliding actin filaments driven by HMM
Yuuji Setoguchi, Hirotaka Taomori, Masayuki Hoshida, Yu Ichinose, Hajime Honda (*Dept. Bioeng., Nagaoka Univ. Tech.*)

1Pos185 **細胞に優しい三次元組織体の構築：レーザートラップと高分子の混雑効果の活用**
Constructing stable cellular assembly in the absence of artificial scaffold by use of laser tweezers
Shoto Tsuji, Aoi Yoshida, Taeko Ohta, Hiroaki Taniguchi, Kenichi Yoshikawa (*Doshisha University*)

1Pos186 **ヒト疾患診断マーカーとして有用なエキソソームの生物物理解析に適した新規分離調製法の開発**
A novel isolation and preparation method for the biophysical analyses of useful exosomes as diagnostic markers for human diseases
Noriyuki Ishii, Mitsushi J. Ikemoto, Takayuki Odahara (*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*)

1Pos188* **アクチンの示すミクロ顆粒系での局在性転移：細胞の混雑環境モデリング**
Selective Localization of Actin in Micro-Domains under Molecular Crowding: Difference among Monomeric, Linear-Polymeric and Bundling State
Naoki Nakatani[1], Chen-Yang Shew[2], Kanta Tsumoto[3], Kingo Takiguchi[4], Masahito Hayashi[4], Shunsuke Tanaka[4], Kenichi Yoshikawa[1] ([1]*Grad. Sch. Life and Medical Sciences, Doshisha Univ.*, [2]*Division of Science & Technology, College of Staten Island, New York City Univ.*, [3]*Grad. Sch. Engineering, Mie Univ.*, [4]*Grad. Sch. Science, Nagoya Univ.*)

生体膜・人工膜：ダイナミクス / Biological & Artificial membrane: Dynamics

1Pos189 **ジャイアントベシクルにおけるアミロイド繊維の形成**
Amyloid fibril formation in giant vesicle
Tong Zhu[1], Kensuke Kurihara[1,2,3] ([1]*Okazaki Institute for Integrative Bioscience*, [2]*Institute for Molecular Science*, [3]*Research Center for Complex Systems Biology, The Univ. of Tokyo*)

1Pos190* **人工細胞モデルを用いた生体膜融合機構の解明**
Biophysical principle of membrane fusion revealed by artificial lipid vesicles
Yui Suzuki[1], Ken Nagai[1], Anatoly Zinchenko[2], Tsutomu Hamada[1] ([1]*JAIST*, [2]*Grad. Sch. of Environmental Studies, Nagoya Univ.*)

1Pos191 ***in vitro* １分子イメージング解析により明らかになった PI(4,5)P2 依存的な PTEN の膜結合の促進・安定化**
Phosphatidylinositol lipid PI(4,5)P2 enhances membrane binding of PTEN revealed by *in vitro* single-molecule imaging analysis
Daisuke Yoshioka[1], Seiya Fukushima[1,3], Daichi Okuno[3], Satomi Matsuoka[3], Toru Ide[4], Masahiro Ueda[2,3] ([1]*Dep. Biol. Sci., Grad. Sch. of Sci., Osaka Univ.*, [2]*Grad. Sch. of Front. Biosci., Osaka Univ.*, [3]*RIKEN QBiC*, [4]*Grad. Sch. of Nat. Sci. and Tech., Okayama Univ.*)

1Pos192 **Measurements of mitochondrial motility in cell body**
Hyunjin Choi, Yuki Sugimoto, Yoshihiro Ohta (*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*)

1Pos193 **人工脂質膜小胞内における PIP3/PTEN traveling wave の再構成**
Reconstitution of traveling wave of PIP3/PTEN on membrane in GUVs
Hitomi Matsubara (*Lab. Single Molecule Biology, Grad. FBS., Osaka Univ.*)

1Pos194 **細胞透過ペプチド・オリゴアルギニンの単一ベシクルへの侵入に対する脂質組成の効果**
Effects of lipid compositions on the entry of cell-penetrating peptide oligoarginine into single vesicles
Sabrina Sharmin[1], Md Zahidul Islam[1], Mohammad Abu Sayem Karal[1], Sayed Ul Alam Shibly[1], Hideo Dohra[2], Masahito Yamazaki[1,3,4] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Green Sci. Tech., Shizuoka University*, [3]*Res. Inst. Ele., Shizuoka Univ.*, [4]*Grad. Sch. Sci., Shizuoka Univ.*)

1Pos195 **Functional significance of trimerization in Cl^- pumping properties of halorhodopsin examined by nanodisc reconstitution**
Eri Hashimoto[1], Kenshiro Suzuki[1], Ayumi Yamamoto[1], Takashi Tsukamoto[2], Takeshi Uchida[1,3], Takashi Kikukawa[2], Makoto Demura[2], Koichiro Ishimori[1,3] ([1]*Grad. Sch. of Chem. Sci. and Eng. Hokkaido Univ.*, [2]*Grad. Sch. of Life Sci. Hokkaido Univ.*, [3]*Fac. of Sci. Hokkaido Univ.*)

1Pos196 **脂質膜の伸展の分光学的研究**
Spectroscopic Investigation of Osmotic Pressure-Induced Membrane Stretching
Chiranjib Ghatak[1], Sayed Ul Alam Shibly[2], Masahito Yamazaki[1,2,3] ([1]*Res. Inst. Ele., Shizuoka Univ.*, [2]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [3]*Grad. Sch. Sci., Shizuoka Univ.*)

1Pos197 **細菌-膜小胞間相互作用の動態と情報伝達機構の解析**
Dynamics and signal transduction of the interaction between bacteria and membrane vesicles
Yosuke Tashiro, Yusuke Hasegawa, Kotaro Takaki, Hiroyuki Futamata (*Dept. of Eng., Shizuoka Univ.*)

1Pos198 マガイニン２が誘起する脂質膜中のポア形成に対する抗菌ペプチド・PGLa の効果

Effect of Antimicrobial Peptide PGLa on Magainin 2-Induced Pore Formation in Lipid Membranes

Farliza Parvez[1], Md Jahangir Alam[2], Hideo Dohra[3], Masahito Yamazaki[1,2,4] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Ele., Shizuoka Univ.*, [3]*Res. Inst. Green Sci. Tech., Shizuoka Univ.*, [4]*Grad. Sch. Sci., Shizuoka Univ.*)

生体膜･人工膜：輸送 / Biological & Artificial membrane: Transport

1Pos199 大腸菌異物排出系トランスポーター MdtB, MdtC 会合の可視化

Assembly of the xenobiotic efflux transporters MdtB and MdtC of *Escherichia coli*

Megumi Yamazaki[1], Kentaro Yamamoto[1], Masatoshi Nishikawa[1], Yoshiyuki Sowa[1,2], **Ikuro Kawagishi**[1,2] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Res. Cen. Micro-Nano Tech., Hosei Univ.*)

1Pos200 外部環境を感知する磁場駆動型リポソームの創製

Magnetically-driven moving liposomes that sense environmental information

Mika Ebihara[1], Taro Toyota[2], Naoto Nemoto[1] ([1]*Grad. Sch. Sci. Eng., Saitama Univ.*, [2]*Grad. Sch. Arts Sci., Univ. of Tokyo*)

1Pos201 ミトコンドリア密集による ATP 産生の効率化

Effective ATP generation by closely located mitochondria

Yusho Kuraoka[1], Daiki Yoshimatu[1], Takuya Takahashi[2], Yoshihiro Ohta[1] ([1]*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*, [2]*Dept. of Biosci. and Bioinformatics, Ritsumeikan Univ.*)

生体膜・人工膜：構造・物性 / Biological & Artificial membrane: Structure & Property

1Pos202 高いトポロジー種数を持つベシクルの形態：核膜形状の形成

Morphology of high-genus vesicles under pore-size constraint: Construction of nuclear envelope shape

Hiroshi Noguchi (*ISSP, Univ. Tokyo*)

1Pos203 両親媒性 DNA オリガミによる W/O マイクロエマルションの光応答性観察

Photo-responsive water-in-oil microemulsion made of amphiphilic DNA origami

Misato Tsuchiya[1], Daisuke Ishikawa[1], Yuki Suzuki[2], Masayuki Endo[3], Masahiro Takinoue[1] ([1]*Dept. Comput. Sci., Tokyo Tech.*, [2]*Fronti. Res. Inst. Interdiscip. Sci., Tohoku Univ.*, [3]*WPI-iCeMS., Kyoto Univ.*)

1Pos204 合成高分子による膜曲率の認識

Recognition of membrane curvature by synthetic amphiphilic polymers

Naho Sunagawa[1], Manami Tsukamoto[1], Kenichi Kuroda[2], Jun-ichi Kikuchi[1], Kazuma Yasuhara[1] ([1]*Grad. Sch. Mat. Sci., Nara Inst. Sci. Tech.*, [2]*Sch. Dentistry Univ. Michigan*)

1Pos205 膜貫通タンパク質の細胞膜上二次元拡散における二段階緩和の理論解析

Theoretical analysis of a two-step relaxation on protein diffusion in the plasma membranes

Tomonari Sumi[1], Atsushi Okumoto[2], Hitoshi Goto[2], Hideo Sekino[2] ([1]*Res. Inst. Interdisciplinary Sci., Okayama Univ.*, [2]*Toyohashi Univ. Tech.*)

1Pos206 肺サーファクタントタンパク質 B の N 末端による脂質単分子膜の構造変化

Morphology changes in lipid monolayers induced by the N-terminal segments of surfactant protein B

Hideyuki Nagatsuka, Masahiro Hibino (*Div. Sust. Enviro. Eng., Muroran Inst. Tech.*)

1Pos207 シトクロム P450 基質薬剤クロルゾキサゾンとホスファチジルエタノールアミン・モデル膜との相互作用

Interaction between cytochrome P450 substrate drug chlorzoxazone and phosphatidylethanolamine model membranes

Hiroshi Takahashi (*Grad. Sch. Sci. Tech., Gunma Univ.*)

1Pos208 脂質キュービック相間の相転移における方位関係

Orientational Relationships In Transformations Between Three Inverse Bicontinuous Cubic Phases of a Lipid

Toshihiko Oka[1,2] ([1]*Faculty of Science, Shizuoka University*, [2]*Research Institute of Electronics, Shizuoka University*)

1Pos209 ジミリストイルホスファチジルコリン–コレステロール二成分二分子膜中における構成脂質の部分モル体積

Partial molar volumes of constituent lipids in the binary bilayer of dimyristoylphosphatidylcholine and cholesterol

Nobutake Tamai[1], Naohiro Takeshita[2], Masaki Goto[1], Hitoshi Matsuki[1] ([1]*Grad. Sch. Biosci. Bioind., Tokushima Univ.*, [2]*Grad. Sch. Adv. Tech. Sci., Tokushima Univ.*)

1Pos210 部分フッ素化リン脂質と DMPC の二成分系混合膜物性に関する系統的研究

Mixing behaviors in the binary membrane of DMPC and its partially fluorinated analogues with different perfluoroalkyl chain lengths

Miki Horikoshi[1], Kohei Morita[1], Toshinori Motegi[1], Hiroshi Takahashi[1], Hideki Amii[1], Toshiyuki Takagi[2], Toshiyuki Kanamori[2], Masashi Sonoyama[1] ([1]*Div. Mol. Sci., Gunma Univ.*, [2]*AIST*)

1Pos211 多電極アレイ上でのエレクトロフォーメーション法によるリポソームの作製

Preparation of liposomes by electro formation method on multi electrode array

Hayato Akizuki, Tomoyuki Kaneko (*LaRC, Grad. Sci. Eng., Hosei Univ.*)

1Pos212 PEG 脂質を導入した支持脂質二重膜の拡散特性

Effect of PEG-lipid on diffusion properties of supported lipid bilayer

Moeko Saruta, Takuhiro Otosu, Shoichi Yamaguchi (*Grad. Sch. Sci. Eng., Saitama Univ.*)

1Pos213　プログラマブルな性質を有する DNA ナノプレートからなるマイクロカプセルの形成

Microcapsular compartments composed of programmable DNA nanoplates

Daisuke Ishikawa[1], Yuki Suzuki[2], Chikako Kurokawa[3], Masayuki Ohara[4], Masamune Morita[1], Miho Yanagisawa[3], Ryuji Kawano[4], Masayuki Endo[5], Masahiro Takinoue[1] ([1]*Sch. Comput., Tokyo Tech.*, [2]*FRIS, Tohoku Univ.*, [3]*Dept. Appl. Phys., Tokyo Univ. of Agri. and Tech.*, [4]*Dept. Life Sci. and Biotech., Tokyo Univ. of Agri. and Tech.*, [5]*WPI-iCeMS, Kyoto Univ.*)

生体膜･人工膜：興奮・チャネル / Biological & Artificial membrane: Excitation & Channels

1Pos215　コリネ細菌の機械受容チャネルによる細胞力覚とグルタミン酸放出機構

Bacterial mechanosensation and glutamate export by mechanosensitive channels in Corynebacterium glutamicum

Yoshitaka Nakayama[1], Kosuke Komazawa[2], Navid Bavi[1,3], Ken-ichi Hashimoto[2], Hisashi Kawasaki[2], Boris Martinac[1,3] ([1]*Victor Chang Cardiac Research Institute*, [2]*Tokyo Denki University*, [3]*University of New South Wales*)

1Pos216　全反射赤外分光で見る電位依存性プロトンチャネル VSOP への金属結合

Metal binding to the voltage-gated proton channel VSOP studied by ATR-FTIR

Masayo Iwaki[1], Kohei Takeshita[2,3,4], Yasushi Okamura[5], Atushi Nakagawa[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Inst. Protein Res., Osaka Univ.*, [3]*Inst. Acad. Initiat., Osaka Univ.*, [4]*JST-PRESTO*, [5]*Grad. Sch. Med., Osaka Univ.*)

1Pos217　ナノキャビティでの K^+ の占有が Kv1.2 チャネルを通る K^+ の滑走を引き起こす

Occupancy of a K^+ in the nanocavity induces K^+ ions' run through the Kv1.2 channel

Takashi Sumikama, Shigetoshi Oiki (*Univ. of Fukui*)

1Pos218　KcsA チャネルの細胞内領域の荷電状態がチャネル開閉に与える影響

Effects of the electrostatic state of the cytoplasmic domain in the KcsA channel on its gating

Minako Hirano[1], Toru Ide[2] ([1]*GPI*, [2]*Okayama Univ.*)

1Pos219　Discrimination between mitochondrial rounding and permeability transition

Takahiro Shibata, Yoshihiro Ohta (*Grad. Sch. Life Sci. & Bio Tech., TUAT*)

1Pos223　Artificial bilayers formed on a solid substrate for ion-channel recordings

Toru Ide[1,2], Saki Nomura[1], Minako Hirano[2], Junnya Ichinose[1], Hiroaki Yokota[2] ([1]*Grad. Schl Sci. Tech., Okayama Univ.*, [2]*GPI*)

1Pos224　電位依存性ホスファターゼ VSP の酵素ドメインにおける膜相互作用部位の役割

The role of membrane interacting region of phosphatase domain in voltage-sensing phosphatase (VSP)

Akira Kawanabe[1], Masaki Hashimoto[1], Tomoko Yonezawa[1], Yuka Jinno[2], Souhei Sakata[2], Yasushi Okamura[1] ([1]*Osaka Univ.*, [2]*Osaka Med. Col.*)

1Pos225　イオンチャネル機能に対する膜脂質効果の解析に向けた脂質二重膜組成の迅速変更法

Rapid replacement of the lipid bilayer composition for the analysis of the lipid-effect on the ion channel function

Masayuki Iwamoto, Shigetoshi Oiki (*Dept. Mol. Physiol. & Biophys., Univ. Fukui Facult. Med. Sci.*)

1Pos226　高速原子間力顕微鏡による K^+ チャネル KcsA とポア結合性サソリ毒アジトキシン-2 の結合ダイナミクスの一分子解析

Single-molecule blocking dynamics of a scorpion toxin on the KcsA potassium channel revealed by HS-AFM

Ayumi Sumino[1,2], Takayuki Uchihashi[3], Takashi Sumikama[2], Shigetoshi Oiki[2] ([1]*JST/PRESTO*, [2]*Facult. Med. Sci., Univ. Fukui*, [3]*Depart. Phys., Kanazawa Univ.*)

神経科学･感覚 / Neuroscience & Sensory systems

1Pos227*　線虫（C. elegans）嗅覚感覚神経細胞内の領域特異的なにおいに対する cGMP 応答

Compartmentalized cGMP responses to odor in Caenorhabditis elegans' olfactory sensory neurons

Hisashi Shidara, Keita Ashida, Kohji Hotta, Kotaro Oka (*Grad. Sch. Sci. and Tech., Keio Univ.*)

1Pos228*　*C. elegans* の低温適応における温度情報伝達の分子ロジック

Molecular logic for temperature signaling in cold tolerance of *C. elegans*

Tomoyo Ujisawa[1], Misato Uda[1], Akane Ohta[1], Katsushi Arisaka[2], Atsushi Kuhara[1] ([1]*Inst. for Integrative Neurobiology, Konan University.*, [2]*Dept. of Physics and Astronomy, UCLA, U.S.A.*)

1Pos229　蛍光温度計シートを用いた神経細胞の熱発生計測

Detection of Neural Thermogenesis with Fluorescent Thermometer Sheet

Mizuho Gotoh[1,2,3], Kotaro Oyama[1,4], Yuki Kawamura[1], Hideki Itoh[1,5], Shin'ichi Ishiwata[1,6] ([1]*Sch. Adv. Sci. Eng., Waseda Univ.*, [2]*Grad. Sch. Comp. Human Sci., Tsukuba Univ.*, [3]*HIRI, AIST*, [4]*Cell Physiol., Jikei Univ.*, [5]*Inst. Med. Biol., A*STAR, Singapore*, [6]*WABIOS, Waseda Univ., Singapore*)

1Pos230*　線虫の早期嗅覚順応における感覚・介在神経細胞の部分特異的可塑性

Compartmentalized modulations of sensory and interneurons for early adaptation in C. elegans

Keita Ashida, Hisashi Shidara, Kohji Hotta, Kotaro Oka (*Keio University*)

1Pos231*　イベルメクチンによる α7 ニコチン性アセチルコリン受容体の分子内動態増大の発見

Discovery of the internal motion enhancement of α7 nAChR with Ivermectin

Tomoyuki Baba[1], Keigo Ikezaki[1], Hiroshi Sekiguchi[2], Tai Kubo[3], Yuji C. Sasaki[1,2] ([1]*Grad. Sch. Front. Sci., Univ. Tokyo*, [2]*JASRI/SPring-8*, [3]*MolprofRC/AIST*)

1Pos232　ミミズ体壁刺激に関する慣れとその回復

Establishment and recovery of habituation by repeated tactile stimulus in earthworm

Yoshiichiro Kitamura[1], Hitoshi Aonuma[2], Hiroto Ogawa[3], Kotaro Oka[4] ([1]*Dept. Math Sci. Phys, Kanto Gakuin Univ.*, [2]*Res Inst Elect Sci., Hokkaido Univ.*, [3]*Dept. Biol. Sci., Hokkaido Univ.*, [4]*Dept. Biosci Info, Keio Univ.*)

1Pos233 シャルコマリートゥース病の原因遺伝子の一つであるダイナミン２の変異は細胞の異常なアクチン動態とラメリポディア形成の減少をもたらす

Expression of a dynamin 2 mutant associated with Charcot-Marie-Tooth disease leads to aberrant actin dynamics and lamellipodia formation

Hiroshi Yamada, Kinue Kobayashi, Yubai Zhang, Tetsuya Takeda, Kohji Takei (*Dep. of Neurosci., Grad. Sch. of Med., Dent., and Pharm. Sci., Okayama Univ.*)

1Pos234 ヒト苦味受容体の基質認識の分子機構研究

Ligand-induced structural changes of human bitter taste receptor

Mayu Hioki[1], Masayo Iwaki[1], Rei Abe-Yoshizumi[1], Hiroo Imai[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Primate Res. Inst.*)

1Pos235 性ホルモンによる海馬神経シナプスの制御：オスとメスの性差

Effect of estrogen and androgen on hippocampal synapses : gender difference of male and female

Asami Kato[1], Yasushi Hojo[2], Yoshitaka Hasegawa[1], Yusuke Hatanaka[1], Suguru Kawato[1,3,4] ([1]*Grad. Sch. Univ. of Tokyo.*, [2]*Dept. Biochem.,Saitama-Med. Univ.*, [3]*Dept. of Urology, Juntendo Univ.*, [4]*Dept. of Urology, Teikyo Univ.*)

光生物：視覚･光受容 / Photobiology: Vision & Photoreception

1Pos236 ナトリウムポンプ型ロドプシンの光反応中間体の発色団構造

Structure of retinal chromophore of the photointermediates in sodium ion pump rhodopsin

Nao Nishimura[1], Misao Mizuno[1], Hideki Kandori[2], Yasuhisa Mizutani[1] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Eng., Nagoya Inst. Tech.*)

1Pos237 固体 NMR を用いたミドルロドプシンのレチナール結合ポケットの構造解析

Solid-state NMR structural study of retinal-binding pocket in middle rhodopsin

Izuru Kawamura[1], Hayato Seki[1], Arisu Shigeta[1], Yoshiteru Makino[1], Takashi Okitsu[2], Akimori Wada[2], Yuki Sudo[3] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Okayama Univ.*)

1Pos238* 酸性及び中性におけるナトリウムイオンポンプ KR2 のレチナール結合ポケットの固体 NMR 構造解析

Solid-state NMR analysis of retinal binding pocket structure of sodium ion pump, KR2, at acidic and neutral pH

Arisu Shigeta[1], Shota Ito[2], Takashi Okitsu[3], Akimori Wada[3], Keiichi Inoue[2,4], Hideki Kandori[2], Izuru Kawamura[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Nagoya Institute of Technology*, [3]*Kobe Pharmaceutical University*, [4]*JST PRESTO*)

1Pos239 Na+/H+ハイブリッドポンプロドプシン KR2 における His30 の役割

Role of His30 in Na+/H+ Hybrid Pumping Rhodopsin KR2

Sahoko Tomida[1], Shota Ito[1], Rei Abe-Yoshizumi[1], Keiichi Inoue[1,2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech. Kandori Laboratory*, [2]*PRESTO, JST*)

1Pos240* FTIR 分光法によって明らかになった光駆動内向きプロトンポンプの輸送機構

Transport mechanism of light-driven inward proton pump revealed by FTIR spectroscopy

Shota Ito[1], Sahoko Tomida[1], Yoshitaka Kato[1], Yurika Nomura[1], Satoshi Tsunoda[1], Keiichi Inoue[1,2], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*PRESTO, JST*)

1Pos241 H^+ポンプ型ロドプシンの比較研究：H^+ donor 残基の相互置換による検討

Replacements of “donor” residues in the light-driven H^+-pump rhodopsins

Koki Nishiya[1], Syogo Sasaki[2], Jun Tamogami[3], Takashi Kikukawa[2], Tomoyasu Aizawa[2], Naoki Kamo[2], Makoto Demura[2] ([1]*Facu. Sci., Univ. Hokkaido*, [2]*Grad. Sch. Life Sci., Univ. Hokkaido*, [3]*Facu. Phar., Univ. Matsuyama*)

1Pos242 アセタブラリアロドプシン II のプロトン移動における D92 および C218 残基間の相互作用の役割

Role of the interaction between D92 and C218 in the proton transfer reaction in *Acetabularia* rhodopsin II

Jun Tamogami[1], Takashi Kikukawa[2], Keisuke Okawa[1], Noboru Ohsawa[3,4], Kohei Date[1], Toshifumi Nara[1], Makoto Demura[2], Tomomi Kimura-Someya[3,4], Mikako Shirouzu[3,4], Shigeyuki Yokoyama[3,5], Seiji Miyauchi[6], Kazumi Shimono[6], Naoki Kamo[2] ([1]*College Pharm. Sci., Matsuyama Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*RIKEN SSBC*, [4]*RIKEN CLST*, [5]*RIKEN Structural Biology Laboratory*, [6]*Fac. Pharm. Sci., Toho Univ.*)

1Pos243* 固体 NMR によるバクテリオロドプシンの暗順応状態における Tyr185 の構造解析

Structure of Tyr185 in dark-adapted bacteriorhodopsin as studied by solid-state NMR

Yuto Otani[1], Arisu Shigeta[1], Yoko Kebukawa[1], Kensei Kobayashi[1], Takashi Okitsu[2], Akimori Wada[2], Satoru Tuzi[3], Akira Naito[1,3], Izuru Kawamura[1] ([1]*Grad. Sch. Eng, Yokohama Natl Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Univ. of Hyogo*)

1Pos244 光駆動ナトリウムポンプ KR2 の多量体形成に重要なアミノ酸残基

Oligomerization of light-driven sodium pump KR2 is important for ion transport activity

Rei Abe-Yoshizumi[1], Shota Ito[1], Mikihiro Shibata[3], Keiichi Inoue[1,2], Takayuki Uchihashi[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*JST PRESTO*, [3]*Dept. Physics, Kanazawa Univ.*)

1Pos245* **Theoretical study on molecular mechanism of a light-driven ion transport of Halorhodopsin**

Ryo Oyama, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)

1Pos246 **Rhodobacter capsulatus PYP の複合体形成に伴う構造変化**

Complex induced structural changes of Rhodobacter capsulatus Photoactive Yellow Protein

Yoichi Yamazaki, Yohei Shibata, Hironari Kamikubo (*Grad. Sch. Mat. Sci. NAIST*)

1Pos247 **Rc-PYP の光依存的に形成する複数種の複合体解析**

Analysis of light dependent multiple complex formation of Rc-PYP

Yohei Shibata, Yoichi Yamazaki, Keito Yoshida, Shoki Nakata, Hironari Kamikubo (*Analysis of light dependent multiple complex formation of Rc-PYP*)

1Pos248* **同位体標識試料を用いた BLUF ドメインの水素結合環境の解明**
Analysis of a hydrogen bonding network of the BLUF domain using isotope-labeled samples
Takashi Nagai[1], Tatsuya Iwata[1], Shota Ito[1], Mineo Iseki[2], Masakatsu Watanabe[3], Masashi Unno[4], Shinya Kitagawa[1], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*Dept. Pharmacol., Toho Univ.*, [3]*Grad. Sch. for Creation of Photonics Indust.*, [4]*Dept. of Chem. and Applied Chem. Saga Univ.*)

1Pos249 **ホタルオキシルシフェリン吸収・蛍光スペクトルにおける水和効果**
Hydration effects on absorption and fluorescence spectra of firefly oxyluciferin
Miyabi Hiyama[1], Yoshifumi Noguchi[1], Hidefumi Akiyama[1], Kenta Yamada[2], Nobuaki Koga[2] ([1]*ISSP, Univ. Tokyo*, [2]*Grad. Sch. Info. Sci., Nagoya Univ.*)

光生物：光合成 / Photobiology: Photosynthesis

1Pos250 **光化学系 II におけるクロロフィル励起三重項状態の赤外分光解析**
FTIR analysis on the localization of the excited triplet state of chlorophyll in photosystem II
Tatsuya Mitomi, Ryo Nagao, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos251 **光合成水分解反応におけるメタノール阻害機構の赤外分光解析**
FTIR study on the mechanism of methanol inhibition in the S-state cycle of photosynthetic water oxidation
Haruna Yata, Tatsuki Shimizu, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos252* **Structure and Function of Novel Carbonyl-Carotenoid bound to Light-Harvesting Complex II from Transplastomic Lettuce**
Nami Yamano[1], Kentaro Ifuku[2], Hideki Hashimoto[1,3,5], Norihiko Misawa[4], Ritsuko Fujii[1,5] ([1]*Grad. Sch. Sci., Osaka City Univ.*, [2]*Grad. Sch. Biostudy, Kyoto Univ.*, [3]*Sch. Sci. Tech., Kwansei Gakuin Univ.*, [4]*Res. Inst. Biores. Biotech., Ishikawa prefectural Univ.*, [5]*OCARINA, Osaka City Univ.*)

1Pos253 **偏光全反射赤外分光法による光合成水分解 Mn クラスター周辺のプロトン化構造の解析**
Protonation structure around the water-oxidizing Mn cluster in photosystem II revealed by polarized ATR-FTIR spectroscopy
Shin Nakamura, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos254 **酸素発生系マンガンクラスターの配位水分子の化学的性質**
Chemical properties of terminal water ligands of the Mn cluster
Hiroki Nagashima, Hiroyuki Mino (*Grad. Sch. Sci. Nagoya Univ.*)

1Pos255* **光化学系 II と阻害剤アジ化物イオンとの共結晶化と X 線結晶構造解析**
Co-crystallization of photosystem II with an inhibitor NaN_3, and its structural analysis
Shoya Tamaru[1], Yasufumi Umena[2], Jian-Ren Shen[2] ([1]*Graduate School of Natural Science and Technology, Okayama University.*, [2]*Reseach Institute for Interdisciplinary Science, Okayama University.*)

1Pos256 **時間分解 EPR 法を用いた PSII 反応中心に生成する初期電荷分離構造・電子的相互作用の解析**
Time resolved EPR study on orientations and electronic couplings of the primary charge-separated state in the PSII reaction center
Reina Minobe[1], Masashi Hasegawa[1], Shusuke Katagiri[3], Takahiro Sakai[2], Hiroki Nagashima[2], Takashi Tachikawa[1], Hiroyuki Mino[2], Yasuhiro Kobori[1] ([1]*Graduate School of Science, Kobe Univ.*, [2]*Graduate School of Science, Nagoya Univ.*, [3]*Graduate School of Science, Shizuoka Univ.*)

1Pos257 **FTIR 分光電気化学法を用いた光化学系 II における第一キノン電子受容体 Q_A の酸化還元電位計測**
Measurement of the redox potential of the primary quinone electron accepter Q_A in photosystem II by FTIR spectroelectrochemistry
Ayaka Ohira, Ryo Nagao, Takumi Noguchi, Yuki Kato (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos258 **光化学系 II におけるキノン電子受容体の電子移動制御機構**
Regulation mechanism of electron transfer between quinone electron acceptors in Photosystem II
Yosuke Nozawa, Takumi Noguchi (*Division of Material Science, Graduate School of Science, Nagoya University*)

1Pos259 **Energy gap dependence for the exciton relaxation rate using Time-dependent renormalized Redfield theory**
Akihiro Kimura (*Graduate School of Science, Nagoya Univeristy*)

光生物：光遺伝学･光制御 / Photobiology: Optogenetics & Optical Control

1Pos260 **Photozipper-DNA 複合体平衡の定量的モデル**
Quantitative modeling of the equilibria among Photozipper-DNA complexes
Yoichi Nakatani, Osamu Hisatomi (*Grad. Sch. Sci., Osaka Univ.*)

1Pos261 **光制御型 bZIP モジュール Photozipper の構造変化の変異体解析**
Mutational analyses of the conformational switching of a light-regulated bZIP module, Photozipper
Osamu Hisatomi (*Graduate School of Science, Osaka University*)

1Pos262 **水晶微量天秤による光制御型 bZip モジュール photozipper の DNA 結合の解析**
The DNA-binding of a light-regulated bZIP module, photozipper, analyzed by quartz crystal microbalance
Samu Tateyama, Osamu Hisatomi (*Grad. Sch. Sci., Univ. Osaka*)

1Pos263* **真正細菌のポンプ型ロドプシンの機能転換およびその分子メカニズムについての研究**
Functional conversion of eubacterial pump rhodopsins and the investigation of the molecular mechanism
Yurika Nomura[1], Keiichi Inoue[1,2], Shota Ito[1], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*JST PRESTO*)

1Pos264 **光駆動内向きプロトンポンプの発見**

Natural light-driven inward proton pump

Keiichi Inoue[1,2], Shota Ito[1], Yoshitaka Kato[1], Yurika Nomura[1], Mikihiro Shibata[3,4], Takayuki Uchihashi[3,4], Satoshi Tsunoda[1], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*JST PRESTO*, [3]*Faculty Sci., Kanazawa Univ.*, [4]*Bio-AFM Frontier Research Center, Kanazawa Univ.*)

1Pos265 **電気生理実験により解析した光駆動型ナトリウムポンプの輸送機構**

Transport mechanism of NaRs studied by electrophysiology measurement

Yuko Kozaki[1], Satoshi Tsunoda[1], Keiichi Inoue[1,2], Rei Abe-Yoshizumi[1], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*JST PRESTO*)

バイオインフォマティクス：構造ゲノミクス / Bioinformatics: Structural genomics

1Pos266 **An index to select homologous sequences with the same functional region**

Shoichiro Kato[1], Hiroyuki Toh[2], Wataru Nemoto[1] ([1]*Life Sci. & Eng., Grad. Sch. of Sci. & Eng*, [2]*Dept. Biomed. Chem., Scl. of Sci. & Tech., Kwansei Gakuin Univ.*)

1Pos267 **GWAS データによる疾患関連複合体モデルの予測**

Prediction of disease related supramolecule models using GWAS data

Toshiyuki Tsuji[1,2], Atsushi Hijikata[1], Takao Yoda[1], Tsuyoshi Shirai[1] ([1]*Nagahama Institute of Bio-Science and Technology*, [2]*MITA International School*)

1Pos268 **Predictions of cancer causing mutations that potentially affect GPCR-GPCR interaction**

Shunsuke Fujishiro[1], Vachiranee Limviphuvadh[2], Sebastian Maurer-Stroh[2], Yoshihiro Yamanishi[3], Hiroyuki Toh[4], Wataru Nemoto[1] ([1]*Life Sci. & Eng., Grad. Sch. of Sci. & Eng., Tokyo Denki Univ.*, [2]*BII, A*STAR.*, [3]*Med. Ins. of Bioreg., Kyushu Univ.*, [4]*Dept. Biomed. Chem., Sci. & Tech., Kwansei Gakuin Univ.*)

1Pos269 **ベクトル表現化したアミノ酸残基のマッチングによるタンパク質ーリガンド結合予測**

A new approach for protein-ligand binding predictions based on matching of vector-represented amino acid residues

Atsushi Hijikata, Masafumi Shionyu, Tsuyoshi Shirai (*Nagahama Inst. Bio-Sci. Tech.*)

1Pos270 **β-Trefoil タンパクのフォールディングに重要な残基に関する残基間平均距離統計に基づく解析**

Analysis of residues significant for folding of beta-trefoil proteins based on the inter-residue average distance statistics

Takuya Kirioka, Takeshi Kikuchi (*Dept. of Bioinfo., Col. Life Sci., Ritsumeikan Univ.*)

1Pos271* **多剤認識転写因子 LmrR における薬剤分子認識機構の計算化学的解析**

Computational study on the mechanism of multidrug recognition by a transcriptional repressor LmrR

Kazuho Cryershinozuka, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech.*)

1Pos272 **Lysozyme superfamily のアミノ酸配列解析によるフォールディング領域予測**

Folding region predictions by amino acid analysis of lysozyme superfamily proteins

Takuto Nakashima, Michiro Kabata, Takeshi Kikuchi (*Dept. of Bioinfo., Col. Life Sci., Ritsumeikan Univ.*)

1Pos273 **二次構造順序の変化によって起こる蛋白質フォールドの多様化**

Loop connectivity change drives protein fold divergence

Shintaro Minami[1], George Chikenji[2], Motonori Ota[1] ([1]*Grad. Sch. of Comput. Sci., Nagoya Univ.*, [2]*Grad. Sch. of Eng., Nagoya Univ.*)

1Pos274 **タンパク質の立体構造とアミノ酸配列間の疎水性の関係**

The relationship between hydrophobicity in amino acid sequence and three-dimensional structure of a protein

Kohei Ohnishi, Takeshi Kikuchi (*Dept. of Bioinf., Col. of Life Sci., Ritsumeikan Univ.*)

数理生物学 / Mathematical biology

1Pos275 **Role of interdomain communication in pacemaking circadian rhythm studied by a single molecule model of KaiC**

Shota Hashimoto, Sumita Das, Masaki Sasai, Tomoki P. Terada (*Dept. Comput. Sci. Eng., Grad. Sch. Eng., Nagoya Univ.*)

1Pos276* **A stochastic simulation study on the correlation between circadian oscillation and ATPase activity of KaiC hexamer**

Sumita Das, Shota Hashimoto, Tomoki P. Terada, Masaki Sasai (*Department of Computational Science and Engineering, Nagoya University,Nagoya*)

1Pos277 **数理モデルによる心筋細胞の集団効果の解析**

Community effect of cardiomyocytes in beating rhythms is ruled by stable cells

Tatsuya Hayashi[1], Tetsuji Tokihiro[1,2], Hiroki Kurihara[2,3], Fumimasa Nomura[4], Kenji Yasuda[2,5] ([1]*Grad. Sch. Math. Sci., The Univ. of Tokyo*, [2]*JST, CREST*, [3]*Grad. Sch. Med., The Univ. of Tokyo*, [4]*Inst. Biomat. Bioeng., Tokyo Medical and Dental Univ.*, [5]*Fac. Sci. Eng., Waseda Univ.*)

1Pos278 **Discreteness-induced transition in multi-body reaction systems**

Yohei Saito, Yuki Sughiyama, Tetsuya Kobayashi (*IIS, Univ. Tokyo*)

1Pos279 **Probability Eddy currents in stochastic gene expression dynamics in eukaryotes**

Bhaswati Bhattacharyya[1], Masaki Sasai[1,2] ([1]*Department of Computational science and engineering, Nagoya University*, [2]*Department of Applied Physics, Nagoya University*)

1Pos280 **集団増殖系における定常状態熱力学**

Steady State Thermodynamics in Population Dynamics

Yuki Sughiyama, Tetsuya J. Kobayashi (*IIS, Univ. Tokyo*)

1Pos281 **上皮陥入過程における三次元多細胞動態の力学制御機構**
Mechanical regulatory mechanism of 3D multicellular dynamics during epithelial invagination
Satoru Okuda, Mototsugu Eiraku (*RIKEN Center for Developmental Biology*)

1Pos282 **Modeling folding of epithelial cell sheets**
FuLai Wen[1], YuChiun Wang[2], Tatsuo Shibata[1] ([1]*RIKEN Quantitative Biology Center*, [2]*RIKEN Center for Developmental Biology*)

1Pos283 **等方的なアクチンミオシン細胞骨格におけるモーター誘起応力に関する理論**
Theory on motor-induced stress in an isotropic actomyosin cytoskeleton
Tetsuya Hiraiwa (*Dept. Sci., Univ. Tokyo*)

1Pos284 **Phase-field simulations of the basic cell-cell effects of adhesion and chemoattractant on multi-cellular interaction**
Daisuke Imoto[1,5], Satoshi Sawai[1,2,3], Shuji Ishihara[4] ([1]*Dept. Basic Sci., Grad. School of Arts and Sci., Univ. of Tokyo*, [2]*Research Ctr for Complex Systems Biology, Univ. of Tokyo*, [3]*JST PRESTO*, [4]*School of Sci. Eng., Meiji Univ.*, [5]*National Research Institute of Police Science*)

1Pos285 **様々な回転する自走粒子の集団運動**
Collective motion of various kinds of rotating self-propelled particle
Ken Nagai[1], Yutaka Sumino[2], Chate Hugues[3,4], Kazuhiro Oiwa[5,6], Takuma Sugi[7], Hideo Iwasaki[8] ([1]*Sch. Mater. Sci., JAIST*, [2]*Dep. Appl. Phys., Tokyo Univ. Sci.*, [3]*CEA-Saclay*, [4]*Beijing Comp. Sci. Res. Ctr.*, [5]*Adv. ICT Res. Inst., NICT*, [6]*Grad. Sch. Sci., Univ. Hyogo*, [7]*Mol. Neurosci. Res. Ctr., Shiga Univ. of Med. Sci.*, [8]*Sch. Adv. Sci. Eng., Waseda Univ.*)

非平衡･生体リズム / Nonequilibrium state & Biological rhythm

1Pos286 **蛍光分光法による時計タンパク質 KaiC の動的構造変化の解析**
Spectroscopic characterization of the conformational change of the cyanobacterial clock protein KaiC
Atsushi Mukaiyama[1,2], Jun Abe[1], Yoshihiko Furuike[1,2], Eiki Yamashita[3], Takao Kondo[4], Shuji Akiyama[1,2] ([1]*IMS, CIMoS*, [2]*SOKENDAI*, [3]*IPR*, [4]*Naogya Univ.*)

1Pos287* **高速原子間力顕微鏡によって明らかにする Kai タンパク質間の動的相互作用のリン酸化状態依存性**
HS-AFM images reveal dynamic interaction between Kai proteins dependent on phosphorylation states of KaiC
Shogo Sugiyama[1], Tetsuya Mori[2], Takayuki Uchihashi[1,3], Johnson Carl H.[2], Toshio Ando[1,3] ([1]*Dept. of phys., Kanazawa Univ.*, [2]*Dept. of Biol. Sci., Univ. Vanderbilt*, [3]*Bio-AFM FRC., Kanazawa Univ.*)

1Pos288 **生命システムの振動現象における頑健性と可塑性の互恵的関係**
Reciprocity between robustness and plasticity in biological oscillators
Tetsuhiro S. Hatakeyama, Kunihiko Kaneko (*Department of Basic Science, The University of Tokyo*)

1Pos289* **自律的な振動運動を示す微小管リング状集合体**
Mechanical Oscillation of Dynamic Microtubule Rings
Masaki Ito[1], Kabir Arif Md. Rashedul[2], Md. Sirajul Islam[1], Daisuke Inoue[2], Shoki Wada[1], Kazuki Sada[1,2], Akihiko Konagaya[3], Akira Kakugo[1,2] ([1]*Grad. of CSE, Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*, [3]*DIS, TITECH*)

1Pos290* **キネシン駆動微小管のパターン形成と局所相互作用**
Configuring Dynamic Patterns of Microtubules Driven by Kinesins
Sakurako Tanida[1], Ken'ya Furuta[2], Kaori Nishikawa[1], Hiroaki Kojima[2], Masaki Sano[1] ([1]*Graduate School of Science, The University of Tokyo*, [2]*National Institute of Information and Communications Technology*)

1Pos291* **離散的な相互作用を行う振動子ネットワークの解析**
Analysis of nonlinear oscillator network with discrete interactions
Manami Ito[1], Masahiro Takinoue[1,2] ([1]*Dept. Comput. Intell. Syst. Sci., Tokyo Tech.*, [2]*Dept. Comput. Sci., Tokyo Tech.*)

1Pos292* **混み合い状況下におけるマイクロ粒子のラチェット輸送**
Ratchet transport of microparticles in crowded conditions
Masayuki Hayakawa[1], Yusuke Kishino[2], Masahiro Takinoue[1,2,3] ([1]*Dept. of Comput. Intell. and Syst. Sci., Tokyo Tech.*, [2]*Dept. of Engineering, Tokyo Tech.*, [3]*Dept. of Computer Science, Tokyo Tech.*)

1Pos293 **「ゆらぎ」が創り出す「秩序構造」：細胞の混雑環境のモデリング**
Fluctuation Creates Exotic Spatial-Order: Verification with a Simple Crowding Cellular-Model
Soutaro Oda[1], Chwen-Yang Shew[2], Kenichi Yoshikawa[1] ([1]*Faculty of Life and Medical Sciences, Doshisha University*, [2]*Department of Chemistry, CSI, City University of New York*)

1Pos294 **置かれた環境を感応する自発運動系：化学的非平衡性により駆動する生物らしさを示す実空間モデル**
Smart response of chemically driven self-motile object: Real-world modeling
Shiho Sato[1], Hiroki Sakuta[2], Kenichi Yoshikawa[1,2] ([1]*Facul. Life Med. Sci., Univ. Doshisha*, [2]*Grad. Sch. Life Med. Sci., Univ. Doshisha*)

計測 / Measurements

1Pos295 **Shot noise free number and brightness 解析法による生細胞内グルココルチコイド受容体二量体化過程の時空間分布解析**
Spatio-temporal distribution analysis of glucocorticoid receptor dimerization in cells by shot noise free number and brightness analysis
Ryosuke Fukushima[1], Jotaro Yamamoto[2], Masataka Kinjo[2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Faculty of Adv. Life Sci., Hokkaido Univ.*)

1Pos296 **蛍光異方性を用いた免疫センサの試作**
Development of Fluorescence Anisotropy Immunosensor
Seiichi Suzuki, Sena Hasegawa, Maki Takagi, Takuya Ito, Toshinori Kojima (*Faculty Sci. Tech., Seikei Univ.*)

1Pos297*　実時間選択的回収による免疫細胞の１細胞遺伝子発現解析

Single cell gene expression analysis of stimulated immune cells with real-time selection

Yumiko Tanaka[1], Yoshitaka Shirasaki[1,2], Mai Yamagishi[1,2], Kaede Miyata[1], Nobutake Suzuki[1], Osamu Ohara[2], Kazuyo Moro[2], Sotaro Uemura[1] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*IMS., Riken*)

1Pos298　カップ形状 AFM チップを用いた簡便な細胞間相互作用計測法の開発

Easy Measurement of Cell-Cell Interactions Using Cup-Shaped AFM Chip

Hyonchol Kim[1], Ayana Yamagishi[1], Miku Imaizumi[2], Chikashi Nakamura[1,2] ([1]*Biomed. Res. Inst., AIST*, [2]*Grad. Sch. Eng., Tokyo Univ. Agric. Technol.*)

1Pos299　アンルーフ法を用いた水溶液環境下における細胞内骨格のＡＦＭイメージング

An Unroofing Method to Observe the Cytoskeleton Directly at Molecular Resolution Using Atomic Force Microscopy

Eiji Usukura[1], Akihiro Narita[1], Akira Yagi[2], Shuichi Ito[2], Jiro Usukura[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Olympus Co., Ltd.*)

1Pos300　原子間力顕微鏡による細胞機能と力学特性の単一細胞相関解析法

Atomic force microscopy for single-cell correlation analysis between cellular function and cell mechanical property

Ryosuke Tanaka[1], Yoshikatsu Akiyama[2], Jun Kobayashi[2], Masayuki Yamato[2], Okajima Takaharu[1] ([1]*Grad. Sch. Info. Tech. Univ. Hokkaido*, [2]*Inst. Adv. BioMed. Eng. Sci. Univ. Tokyo Women's Med.*)

1Pos301　デジタルマイクロ流体技術によるデジタルバイオアッセイ

Digital bioassay in digital microfluidic platform

Ryohei Kobayashi[1], Sadao Ota[1,2], Hiroyuki Noji[1,3] ([1]*Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, [2]*JST, PRESTO*, [3]*ImPACT, JST*)

1Pos302　左右両耳内部における脈波計測

Measurements of Pulse Waves in the Both Ears

Yoshitomi Morikawa (*AIST*)

1Pos303　ラボＸ線光源を用いたＸ線１分子動態観察

X-ray Single Molecule Observations using Laboratory X-ray Generator

Keigo Ikezaki[1], Ken Matsubara[1], Yuhuku Matsushita[1], Jae-won Chang[1], Hiroshi Sekiguchi[2], Yuji Sasaki[1] ([1]*University of Tokyo*, [2]*Spring-8/JASRI*)

1Pos304　MALDI 法におけるマトリクスの分光学的解析

Spectroscopic analysis of matrices in ionization process of matrix-assisted laser desorption/ionization

Noritaka Masaki, Shigetoshi Okazaki (*Dept. Med. Spec., Hamamatsu Univ. Sch. Med.*)

1Pos305　HbA1c の蛍光相関分析に及ぼすヘモグロビン光吸収の影響

Effects of hemoglobin absorption on fluorescence correlation analysis for HbA1c

Atsushi Matsuo, Yasutomo Nomura, Mayuka Chiba, Misaki Naraoka (*Maebashi Institute of technology*)

バイオイメージング / Bioimaging

1Pos306*　高速原子間力顕微鏡を用いた癌細胞の核膜孔動態の可視化

High-speed atomic force microscopy visualization of the nuclear pores dynamics in cancer cells

Mahmoud Shaaban Mohamed[1,2,3], Yosuke Kikuchi[4], Watanabe-Nakayama Takahiro[2], Azuma Taoka[4], Akiko Kobayashi[1,2,3], Masaharu Hazawa[1,2,3], Noriyuki Kodera[2], Takayuki Uchihashi[2], Yoshihiro Fukumori[4], Toshio Ando[2], Richard Wong[1,2,3] ([1]*Cell-Bionomics Research Unit, Kanazawa University*, [2]*Bio-AFM Frontier Research Center, Kanazawa University*, [3]*Lab of Mol. Cell Biol. Institute of Science and Engineering, Kanazawa University*, [4]*Institute of Science and Engineering, Kanazawa University*)

1Pos307　高速 AFM による抗体分子の動的観察

The dynamic behaviors of antibody molecules

Yoko Kawamoto-Ozaki, Norito Kotani, Kumaresan Ramanujam, Aya Murakami, Takashi Morii, Takao Okada (*Research Institute of Biomolecule Metrology Co.,Ltd.*)

1Pos308　高速 AFM によるタンパク質の動的観察に向けた立体パターン基板の作製

Fabrication of 3D-patterned Substrate as a Platform for HS-AFM Observation of Protein Dynamics

Akane Goto[1], Shin'nosuke Yamanaka[1], Mikihiro Shibata[1,2], Takayuki Uchihashi[1,2], Noriyuki Kodera[1,2], Toshio Ando[2] ([1]*Dept. of phys., Kanazawa Univ.*, [2]*Bio-AFM FRC*)

1Pos309　高速スイッチング蛍光タンパク質と改良された SPoD-ExPAN による超解像イメージング

Superresolution imaging of live cells by fast photoswitching fluorescent protein and improved SPoD-ExPAN microscopy

Tetsuichi Wazawa[1,2], Yoshiyuki Arai[1,2], Tomoki Matsuda[1,2], Hiroki Takauchi[1], Yoshinobu Kawahara[1,2], Takashi Washio[1,2], Takeharu Nagai[1,2] ([1]*ISIR, Osaka Univ.*, [2]*CREST, JST*)

1Pos310　生細胞核内における INO80 クロマチン再構成複合体の 1 分子イメージング

Single-molecule imaging of the INO80 chromatin remodeling complex in the living cell nucleus

Yuma Ito[1], Masahiko Harata[2], Kumiko Sakata-Sogawa[1], Makio Tokunaga[1] ([1]*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, [2]*Grad. Sch. Agr. Sci., Tohoku Univ.*)

1Pos311*　アロディニア特異的な痛みに対する鎮痛薬評価系の確立に関する fMRI 研究

An fMRI study to establish an evaluation system of analgesic agents on allodynia-specific pain

Naoya Yuzuriha[1], Sosuke Yoshinaga[1], Mitsuhiro Takeda[1], Hiroshi Sato[2], Hiroaki Terasawa[1] ([1]*Fac. Life Sci., Kumamoto Univ.*, [2]*Bruker Biospin K.K.*)

1Pos312 **CLIP-170 phosphorylation mediates repositioning of microtubule-organizing center during T cell activation**
Wei Ming Lim, Yuma Ito, Makio Tokunaga, Kumiko Sakata-Sogawa (*Sch. Life Sci. Tech., Tokyo Inst. Tech.*)

1Pos313 **核小体構成タンパク質動態の１分子イメージング定量解析**
Single molecule imaging and quantitative analysis of Nucleolar-localized protein dynamics
Daiki Matsumoto[1], Yuma Ito[1], Noriko Saitoh[2], Kumiko Sakata-Sogawa[1], Makio Tokunaga[1] ([1]*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, [2]*IMEG, Kumamoto Univ.*)

1Pos314 **高速超解像光学顕微鏡を用いた出芽酵母の膜交通の観察**
Observations of the membrane traffic in living yeast cells via the high-speed super-resolution optical microscope
Daisuke Miyashiro[1], Kazuo Kurokawa[1], Akihiko Nakano[1,2] ([1]*Riken, RAP*, [2]*University of Tokyo, Dep. Bio. Sci.*)

1Pos315* **新規微分干渉顕微法を用いた生細胞ヘテロクロマチンにおける物質密度のイメージング**
“Density” imaging of heterochromatin in live mouse cells using OI-DIC microscopy
Ryosuke Imai[1,2], Tadasu Nozaki[1], Tomomi Tani[3], Kayo Hibino[1,2], Michael Shribak[3], Kazuhiro Maeshima[1,2] ([1]*Natl. Inst. of Genet.*, [2]*SOKENDAI*, [3]*MBL, Woods Hole, USA*)

1Pos316 **線虫 *C. elegans* 胚発生における細胞動態の個体差定量解析**
Quantitative analysis of variability of cellular dynamics in *C. elegans* embryogenesis
Yusuke Azuma, Shuichi Onami (*RIKEN QBiC*)

1Pos317 **神経分化時における神経細胞内温度イメージング**
Imaging of intracellular temperature in PC12 cell nerve differentiation
Masaki Kinoshita[1,2], Kohki Okabe[3,4], Hisashi Tadakuma[2], Yoshie Harada[1,2,5] ([1]*Grad. Sch. Bio., Kyoto Univ.*, [2]*iCeMS, Kyoto Univ.*, [3]*Grad. Sch. Pharm, Tokyo Univ.*, [4]*PRESTO, JST*, [5]*IPR, Osaka Univ.*)

1Pos318* **ヒト免疫応答の 1 細胞実時間イメージングによるアレルギー診断の可能性**
Potential allergy diagnosis by real-time single-cell secretion imaging of human immune response
Kaede Miyata[1], Yoshitaka Shirasaki[1,2], Nobutake Suzuki[1], Hiroki Kabata[3], Mai Yamagishi[1,2], Osamu Ohara[2], Koichi Fukunaga[3], Kazuyo Moro[2], Sotaro Uemura[1] ([1]*Department of Bological Sciences, Graduate school of Tokyo*, [2]*Institute of Physical and Chemical Research, IMS.*, [3]*Division of Pulmonary Medicine, Keio University*)

1Pos319 **ソフトウェア「閻魔」と EMC アルゴリズムを用いたタンパク質 3 次元電子密度分布の再構成：XFEL-CXDI 実験を想定したシミュレーション**
Reconstruction of three-dimensional structures of a protein with software ENMA and EMC algorithm: A simulation for XFEL-CXDI experiment
Takashi Yoshidome[1], Yuki Sekiguchi[2,3], Tomotaka Oroguchi[2,3], Masayoshi Nakasako[2,3], Mitsunori Ikeguchi[4] ([1]*Dep. of Appl. Phys., Tohoku Univ.*, [2]*Fac. of Sci. and Tech., Keio Univ.*, [3]*RIKEN SPring-8 Center*, [4]*Grad. Sch. of Med. Life Sci. Yokohama City Univ.*)

1Pos320 **X 線自由電子レーザーを用いた低温コヒーレントＸ線回折イメージングによるシアノバクテリアの三次元構造解析**
Three-dimensional structure of a cyanobacterium visualized by cryogenic coherent X-ray diffraction imaging using X-ray free-electron laser
Amane Kobayashi[1,2], Yuki Sekiguchi[1,2], Koji Okajima[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Yayoi Inui[3], Takeshi Hirakawa[3], Sachihiro Matsunaga[3], Masaki Yamamoto[2] ([1]*Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*, [3]*Sci. Tech., Tokyo Univ. Sci.*)

第2 日目 (11 月26 日 (土))／Day 2 (Nov. 26 Sat.)大会議室 101 ＋102、多目的ホール／Conference Room 101+102, Multi-Purpose Hall

蛋白質：構造 / Protein: Structure

2Pos001* **カルシウム依存的な鞭毛運動の制御に関わるタンパク質カラクシンの構造解析**
Structural analysis of calaxin, calcium-dependent flagellar movement regulator
Tomoki Shojima[1], Feng Hou[1], Yusuke Takahashi[1], Masahiko Okai[1], Katsutoshi Mizuno[2], Kazuo Inaba[2], Takuya Miyakawa[1], Masaru Tanokura[1] ([1]*Grad. Sch. Agr. Life Sci., Univ. Tokyo*, [2]*Shimoda Marine Research Center, Univ. Tsukuba*)

2Pos002 **Porphyromonas gingivalis の T9SS によって分泌される PGN_0123 の構造**
Structure of PGN_0123, a Type IX secretion substrate of Porphyromonas gingivalis
Yusuke Handa[1], Keiko Sato[2], Koji Nakayama[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*Grad. Sch. Biomedical Sci., Univ. Nagasaki*)

2Pos003 **時計タンパク質 KaiC のリン酸化状態と脱リン酸化状態における構造上の差異**
Structural Differences between Phosphorylated and Dephosphorylated States of Clock Protein KaiC
Yoshihiko Furuike[1], Jun Abe[1], Eiki Yamashita[3], Takao Kondo[4], Shuji Akiyama[1,2] ([1]*Research Center of Integrative Molecular Systems (CIMoS), Institute for Molecular Science (IMS)*, [2]*Department of Functional Molecular Science, SOKENDAI (The Graduate University for Advanced Studies)*, [3]*Institute for Protein Research, Osaka University*, [4]*Graduate School of Science, Nagoya University*)

2Pos004 **Structural characterization of Hsp104 from a thermophilic fungus, Chaetomium thermophilum**
Yosuke Inoue (*Tokyo University of Agriculture and Technology*)

2Pos005 **圧力応答を示す YFP 挿入変異体の高圧下での結晶構造**
Crystal structure of a pressure sensitive YFP mutant under high pressure
Mika Tsujii[1], Takayuki Nagae[2], Keiko Yoshizawa[3], Tomonobu Watanabe[3], Masahiro Nishiyama[4], Nobuhisa Watanabe[2], Tatsuya Kawaguchi[1], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*SRRC. Nagoya Univ.*, [3]*QBiC, Riken.*, [4]*Grad. Sch. Sci., Univ. Kyoto*)

2Pos006 **Crystallization of Hepatitis B virus Core Protein in genotype C**
Katsumi Omagari (*Nagoya City University*)

2Pos007* **巨大タンパク質会合体ヘモシアニンの多孔質性結晶を用いた生体分子の包摂**
Encapsulation of biomacromolecules into porous crystal of a huge protein complex hemocyanin
Asuka Matsuno[1], Ye Yuxin[2], Yuki Ohnishi[2], Akira Kitamura[1,2], Masataka Kinjo[1,2], Satoshi Abe[4], Takafumi Ueno[4], Yoshikazu Tanaka[1,2,3], Min Yao[1,2] ([1]*Graduate School of Life Science, Hokkaido University*, [2]*Faculty of Advanced Life Science, Hokkaido University*, [3]*JST, PRESTO*, [4]*Department of Life Science and Technology, Tokyo Institute of Technology*)

2Pos008 **蛋白質結晶中の分子間静電相互作用計算**
Calculation of inter-molecular electrostatic interactions in protein crystals
Takuya Takahashi[1], Shigeru Endo[2], Masanori Ootaki[3], Yoko Sugawara[2] ([1]*Bioinfo., Coll. Life. Sci., Ritsumeikan Univ.*, [2]*Dept. Physics, Sch. Sci., Kitasato Univ.*, [3]*Dep. Pharmacology, St. Marianna Univ. School of Medicine*)

2Pos009 **X 線自由電子レーザー（XFEL）回折像からの生体分子三次元構造の復元プログラムの開発**
Development of 3D reconstruction program for coherent diffraction patterns obtained by XFEL
Miki Nakano[1], Osamu Miyashita[1], Slavica Jonic[2], Atsushi Tokuhisa[1], Daewoon Nam[3], Yasumasa Joti[4], Changyong Song[3], Florence Tama[1,5] ([1]*RIKEN AICS*, [2]*IMPMC, Sorbonne University - CNRS UMR 7590, UPMC Univ. Paris 6, MNHN, IRD UMR 206*, [3]*POSTECH, Korea*, [4]*JASRI XFEL*, [5]*Grad. Sch. Science, Nagoya Univ.*)

2Pos010 **Hsp90 の構造変化に関する理論的研究**
Theoretical study of a conformational change in Hsp90
Kazutomo Kawaguchi, Hidemi Nagao (*Inst. Sci. Eng., Kanazawa Univ.*)

2Pos011 **Building a database of 3D biological shapes for the interpretation of XFEL diffraction patterns**
Sandhya Tiwari[1], Osamu Miyashita[1], Florence Tama[1,2] ([1]*Riken Advanced Institute for Computational Science*, [2]*Nagoya University*)

2Pos012 **胆汁酸輸送体の分子動力学シミュレーション**
Molecular dynamics simulation of the bile acid transporter
Shin-ichiro Tasaki, Ryunosuke Yoshino, Yoshitaka Moriwaki, Kentaro Shimizu, Tohru Terada (*Grad. Sch. of Agri. Life Sci., Univ. of Tokyo*)

2Pos013* **フレキシィボタンパク質ータンパク質ドクイン： PaCS−MD の応用**
Flexible-Body Protein-Protein Docking: an Application of Parallel Cascade Selection Molecular Dynamics
Duy P. Tran[1], Akio Kitao[1,2] ([1]*UTokyo, GSFS*, [2]*UTokyo, IMCB*)

2Pos014 **分子動力学シミュレーションを用いた Hras-GTP/GDP 複合体と溶媒水との水素結合の動きの解析**
Analysis of dynamics of hydrogen bond between the solvent water and the Hras-GTP/GDP complexes by molecular dynamics simulations
Takeshi Miyakawa[1], Ryota Morikawa[1], Masako Takasu[1], Kimikazu Sugimori[2], Kazutomo Kawaguchi[2], Hidemi Nagao[2] ([1]*Tokyo Univ. of Pharm. & Life Sci.*, [2]*Kanazawa Univ.*)

2Pos015 **分子動力学シミュレーションによる抗 HIV 中和抗体 PG16 の CDR-H3 における構造剛性の解析**
Molecular dynamics study of the structural rigidity of CDR-H3 of anti-HIV neutralizing antibody PG16
Ryo Kiribayashi[1], Hiroko Kondo[1], Daisuke Kuroda[2], Toru Saito[1], Jiro Kohda[1], Akimitsu Kugimiya[1], Yasuhisa Nakano[1], Yu Takano[1] ([1]*Hiroshima City Univ.*, [2]*Showa Univ.*)

2Pos016 **Molecular dynamics simulations of the basic amyloidogenic unit of IAPP**
Richa Tambi[1], Satoshi Kosuda[1], Gentaro Morimoto[2], Makoto Taiji[2], Yutaka Kuroda[1] ([1]*Tokyo University of Agriculture and Technology*, [2]*Quantitative Biology Center, RIKEN*)

2Pos017 **レプリカ交換モンテカルロ SAAP3D 法による C-ペプチドと Trp ケージの分子シミュレーション**
Molecular simulation of C-peptide and Trp-cage by SAAP3D-REMC method
Michio Iwaoka, Natsuki Babe, Yuya Shoji (*Tokai University, Department of Chemistry*)

2Pos018 **REST 法による TRP-cage のフォールディングシミュレーション**
In silico folding simulation of Trp-cage using the REST method and its variants
Motoshi Kamiya[1], Yuji Sugita[1,2,3] ([1]*AICS, RIKEN*, [2]*RIKEN*, [3]*QBiC, RIKEN*)

2Pos019 **タンパク質のフォールディング過程における階層性と不均一性の分子論的起源**
Molecular origin of heterogeneity and hierarchy behind protein folding
Toshifumi Mori[1,2], Shinji Saito[1,2] ([1]*IMS*, [2]*SOKENDAI*)

2Pos020 **プロリン型人工アミノ酸を含むペプチドの分子動力学計算**
Molecular dynamics simulation of peptide oligomers bearing the proline-type artificial amino acid
Yuko Otani[1], Satoshi Watanabe[1], Akio Kitao[2], Tomohiko Ohwada[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Tokyo*, [2]*IMCB, Univ. Tokyo*)

2Pos021 **Theoretical study of diffusion of plastocyanin with Langevin equation**
Makoto Wada, Satoshi Nakagawa, Shogo Kinoshita, Kurniawan Isman, Kouichi Kodama, Kazutomo Kawaguchi, Hidemi Nagao (*Nat. Sci. Kanazawa Univ.*)

2Pos022* **HIV-1 protease の触媒的加水分解反応に関する理論的研究**
Theoretical study on catalytic hydrolysis of HIV-1 protease
Masahiro Kaneso, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto. Univ.*)

蛋白質：構造機能相関 / Protein: Structure & Function

2Pos023 **ホタルルシフェラーゼの全原子を考慮した発光基質オキシルシフェリンの光吸収のｐ H 依存性の定量解析**
Quantitative Analysis of pH Effect on Absorption Peaks of Oxyluciferin by Considering All Atoms of Firefly Luciferase
Hironori Sakai[1], Itsuki Kaji[2], **Naohisa Wada**[2] ([1]*Insti. of Fluid Science, Tohoku Univ.*, [2]*Food Life Sciences, Toyo Univ.*)

2Pos024 **糖転移酵素の糖選択性とタンパク質認識に関わるアミノ酸の解析**
Sequence and structure analysis of glycosyltransferases for understanding the sugar selectivity and target recognition mechanisms
Go Miyasaka[1], Kenji Etchuya[2], Yuri Mukai[1,2] ([1]*Sch. Sci. & Tech., Meiji Univ.*, [2]*Grad. Sch. Sci. & Tech., Meiji Univ.*)

2Pos025 **アルカン合成関連酵素の機能発現における保存部位の役割**
Alanine scanning mutagenesis reveals functional roles of conserved residues in an enzyme for alkane biosynthesis
Masashi Nomura, Hisashi Kudo, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

2Pos026 **示差走査型蛍光定量法を用いたアルドケト還元酵素の化合物選択性の評価**
Evaluation of compound selectivity of aldo-keto reductases using differential scanning fluorimetry
Kabir Aurangazeb[1], Satoshi Endo[2], Naoki Toyooka[3], Mayuko Fukuoka[1], Kazuo Kuwata[1,4], **Yuji Kamatari**[5] ([1]*United Grad. Sch. Drug Dis. Med. Inf. Sci., Gifu Univ.*, [2]*Lab. Biochem., Gifu Pharm. Univ.*, [3]*Grad. Sch. Sci. Tech. Res., Univ. Toyama*, [4]*Grad. Sch. Med., Gifu Univ., Gifu Univ.*, [5]*Life Sci. Res. Ctr.*)

2Pos027 **Unique mechanism for broad substrate specificity of human MTH1**
Shaimaa Ali, **Teruya Nakamura**, Keisuke Hirata, Mami Chirifu, Shinji Ikemizu, Yuriko Yamagata (*Grad. Sch. Pharmaceut. Sci., Kumamoto Univ.*)

2Pos028* **ラン藻由来アルカン合成関連酵素の構造機能解析**
Structural and functional analysis of a cyanobacterial enzyme for alkane biosynthesis
Hisashi Kudo[1], Ryota Nawa[2], Yuuki Hayashi[1,2], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo.*, [2]*Dept. Pure & Applied Sci., Univ. Tokyo.*)

2Pos029 **クジラミオグロビンの分子進化**
Tracing evolution of whale myoglobin by resurrecting ancient proteins
Yasuhiro Isogai[1], Hiroshi Imamura[2], Setsu Nakae[3], Tomonari Sumi[4], Ken-ichi Takahashi[3], Taro Nakagawa[3], Antonio Tsuneshige[5], Tsuyoshi Sirai[3] ([1]*Dept. Biotech., Toyama Pref. Univ.*, [2]*Biomedical Res. Inst., AIST*, [3]*Dept. Comp. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*, [4]*Dept. Chem., Okayama Univ.*, [5]*Nano-Tech. Center, Hosei Univ.*)

2Pos030 **MEK1 リン酸化に伴う構造変化**
Structual dynamics of MEK1 activation through phosphorylation
Minami Ando, Kei Moritsugu, Akinori Kidera (*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*)

2Pos031 **アロステリーの概念拡張に向けて：トロンビンのアロステリック制御・再訪**
Toward Expanding the Concept of Allostery: Thrombin Allosteric Regulation, Revisited
Ikuo Kurisaki[1,2], Masayoshi Takayanagi[1,2], Barberot Chantal[1,2], Masataka Nagaoka[1,2] ([1]*Grad. Sch. Info. Sci. Univ. Nagoya*, [2]*JST-CREST*)

2Pos032 **サルコシン酸化酵素の反応生成物は４つの水チャネルの１つを選択的に移動する：平均力ポテンシャルによる検証**
Potential of mean force shows that the reaction product of sarcosine oxidase selectively exits from one of four water channels
Takami Saito[1], Go Watanabe[2], Daisuke Nakajima[2], Haruo Suzuki[2], Shigetaka Yoneda[2] ([1]*Grad. Sch. Sci., Kitasato Univ.*, [2]*Sch. Sci., Kitasato Univ.*)

2Pos033 **Characterizing NO diffusion in nitrite reductase: nitric oxide reductase complex**
Po-hung Wang[1], Kenta Yamada[1], Takehiko Tosha[2], Yoshitsugu Shiro[2,3], Yuji Sugita[1,4,5,6] ([1]*RIKEN Theoretical Molecular Science Laboratory*, [2]*RIKEN SPring-8 Center*, [3]*Graduate School of Life Science, University of Hyogo*, [4]*RIKEN Advanced Institute for Computational Science*, [5]*RIKEN Quantitative Biology Center*, [6]*RIKEN iTHES*)

2Pos034* **二段階緩和モード解析による蛋白質シミュレーションの動的解析**
Dynamical analysis of protein simulations by using two-step relaxation mode analysis
Naoyuki Karasawa[1], Ayori Mitsutake[1,2], Hiroshi Takano[1] ([1]*Grad. Sch. Sci. Technol., Keio Univ.*, [2]*JST, PRESTO*)

2Pos035 **MSES 法による EGFR キナーゼドメイン活性化の全原子構造解析**
Structural basis for activation of EGFR kinase domain at atomistic resolution revealed by multiscale enhanced sampling
Kei Moritsugu[1], Tohru Terada[2], Akinori Kidera[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [2]*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)

2Pos036 **生物学的レアイベントを再現する効率的構造サンプリング手法の開発**
Developments of conformational sampling methods for reproducing biologically rare events of proteins
Ryuhei Harada, Yasuteru Shigeta (*Center for Computational Sciences, University of Tsukuba*)

2Pos037 **タンパク質の長時間シミュレーションに関する緩和モード解析**
Relaxation mode analysis for long time simulations of proteins
Ayori Mitsutake[1,2], Hiroshi Takano[1] ([1]*Dept. Physics, Keio Univ.*, [2]*JST, PRESTO*)

2Pos038 **Molecular basis for Hsp104-mediated prion propagation in yeast**
Yoshiko Nakagawa[1,2], Hideki Taguchi[3], Motomasa Tanaka[1] ([1]*RIKEN Brain Science Institute*, [2]*Tokyo Institute of Technology*, [3]*Institute of Innovative Research, Tokyo Institute of Technology*)

2Pos039* **HSP70 のフタの構造動態は基質結合にいかに関与するか？**
How the lid exploits its structure dynamics in grasping the substrate in HSP70
Kohei Umehara[1], Naoya Tochio[2], Miho Hoshikawa[1], Shoji Ueki[3], Shin-ichi Tate[1,2] ([1]*Dept. Math. and Life Sci., Hiroshima Univ.*, [2]*RcMcD, Hiroshima Univ.*, [3]*Kagawa Sch. Pharm. Sci., Tokushima bunri Univ.*)

2Pos040 **New insights into high molecular weight complex formation of 2-Cys peroxiredoxin and its chaperone function**
Takamitsu Haruyama[1], Takayuki Uchihashi[1,2], Noriyuki Kodera[1], Toshio Ando[1], Hiroki Konno[1] ([1]*Bio-AFM FRC, Coll. Sci. & Eng., Kanazawa Univ.*, [2]*Coll. Sci. & Eng., Kanazawa Univ.*)

2Pos041 **Spectral characteristics of chimeric channelrhodopsins implicate the molecular identity involved in desensitization**
Alemeh Zamani, Toru Ishizuka, Hiromu Yawo (*Tohoku University*)

2Pos042 **タンパク質の構造と機能の相関を利用した Channelrhodopsin と MtrF の戦略的立体構造モデリング**
Strategic modeling of channelrhodopsins and MtrF based on the correlation between protein structures and functions
Hiroshi C. Watanabe[1,2], Yuki Yamashita[2], Marcus Elstner[3], Hiroshi Ishikita[1,2] ([1]*UTokyo, RCAST*, [2]*UTokyo, School of Engineering*, [3]*Karlsruhe Institute of Technology*)

2Pos043 **機械受容チャネル MscL のゲーティングにおいてメカノセンサーとゲートは密接に連動する**
Mechanosensor and the gate are tightly coupled in the mechano-gating of the bacterial mechanosensitive channel MscL
Yasuyuki Sawada[1], Takeshi Nomura[2], Masahiro Sokabe[1] ([1]*Mechanobiology Lab Nagoya Univ. Grad. Sch. Med.*, [2]*Physical Therapy Grad. Sch. Health Sciences Kyushu Nutrition Welfare Univ.*)

2Pos044 **電位依存性プロトンチャネル VSOP/Hv1 における亜鉛イオンの結合様式の解析**
A detailed analysis of the binding mode of a zinc ion to the voltage-gated proton channel VSOP/Hv1
Hiroko X. Kondo[1,2], Masayo Iwaki[3], Yusuke Kanematsu[1], Matsuyuki Shirota[2,4,5], Yasushige Yonezawa[6], Kengo Kinoshita[2,5,7], Hideki Kandori[3], Yu Takano[1] ([1]*GSIS, Hiroshima City Univ.*, [2]*GSIS, Tohoku Univ.*, [3]*Grad. Sch. Eng, Nagoya Inst tech*, [4]*Grad. Sch. Med., Tohoku Univ.*, [5]*ToMMo, Tohoku Univ.*, [6]*IAT, Kinki Univ.*, [7]*IDAC, Tohoku Univ.*)

2Pos045 **Molecular dynamics investigation of the full maltose transporter with and without the maltose binding protein MalE**
WeiLin Hsu, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech.*)

2Pos046* **Binding and conformational dynamics of TOM20 and mitochondrial targeting signals using computational methods**
Arpita Srivastava[1], Osamu Miyashita[2], Florence Tama[1,3] ([1]*Dept. Phys., Sch. Sci., Nagoya Univ.*, [2]*RIKEN Adv. Inst. Comp. Sci.*, [3]*ITbM, Nagoya Univ.*)

2Pos047 **細胞間接着結合における α カテニン分子の力-構造-機能ダイナミクス**
Mechanical, structural and functional dynamics of α-catenin molecule at intercellular adherens junctions
Koichiro Maki[1,2], Taiji Adachi[1,2] ([1]*Institute for Frontier Medical Sciences, Kyoto University*, [2]*Department of Micro Engineering, Graduate School of Engineering, Kyoto University*)

2Pos048 **高速 AFM によるバクテリアコンデンシン複合体 MukBEF の構造動態の研究**
Structural dynamics of bacterial condensin complex MukBEF studied by HS-AFM
Hironori Yoneda[1], Kouichi Yano[2], Noriyuki Kodera[3,4], Kenta Yagi[1], Hironori Niki[2], Toshio Ando[1,3,5] ([1]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ.*, [2]*Natl. Inst. of Genet.*, [3]*Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ.*, [4]*PRESTO, JST*, [5]*CREST, JST*)

2Pos049 **高速 AFM によるダイナミン 1ーアンフィファイジン複合体の動態観察**
High-Speed AFM imaging of dynamics of Dynamin1-Amphiphysin1 complexes
Daiki Ishikuro[1], Tetsuya Takeda[3], Toshiya Kozai[1], Yusuke Kumagai[1], Kaho Seyama[3], Huiran Yang[3], Hiroshi Yamada[3], Takayuki Uchihashi[1,2], Toshio Ando[1,2], Kohji Takei[3] ([1]*College of Science and Engineering, Kanazawa Univ.*, [2]*Bio-AFM FRC, Kanazawa Univ.*, [3]*Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama Univ.*)

2Pos050* **過飽和条件下におけるタンパク質分子内二次構造変化と芳香族アミノ酸立体配置**
Internal Secondary Structural Changes and Aromatic Rings Conformation of Protein under Supersaturated Condition
Yufuku Matsushita[1], Hiroshi Sekiguchi[2], Jae-won Chang[1], Keigo Ikezaki[1], Masaki Nishijima[3], Daizo Hamada[4], Yuji Goto[5], Yuji Sasaki[1,2] ([1]*Grad. Sch. Front. Sci., Univ. Tokyo*, [2]*JASRI/SPring-8*, [3]*UIC, Osaka Univ.*, [4]*Int. Res. Cent., Kobe Univ.*, [5]*IPR, Osaka Univ.*)

2Pos051 **二次元蛍光寿命相関分光法による脂質膜上シトクロム *c* の環境に依存した構造ゆらぎの研究**
Study of environment dependent dynamics of cytochrome *c* on a lipid membrane by 2D fluorescence lifetime correlation spectroscopy
Miyuki Sakaguchi[1], Masaru Yamanaka[2], Shun Hirota[2], Kunihiko Ishii[1,3], Tahei Tahara[1,3] ([1]*Molecular Spectroscopy Lab. RIKEN*, [2]*NAIST Graduate School of Materials Science*, [3]*RIKEN Center for Advanced Photonics*)

蛋白質：物性 / Protein: Property

2Pos052* **一分子蛍光分光測定により明らかになったユビキチンの変性状態の不均一性とゆっくりとしたダイナミクス**
Significant Heterogeneity and Slow dynamics of the Unfolded Ubiquitin Detected by Single-Molecule Fluorescence Spectroscopy
Masataka Saito[1,2], Kamonprasertsuk Supawich[1], Keiichiro Kushiro[3], Madoka Takai[3], Eric H.-L. Chen[4], Po-Ting Chen[4], Rita P.-Y. Chen[4], Hiroyuki Oikawa[1,2], Satoshi Takahashi[1,2] ([1]*Grad. Sch. Sci., Tohoku Univ.*, [2]*IMRAM, Tohoku Univ.*, [3]*Sch. Eng., Univ. Tokyo.*, [4]*IBC, Academia Sinica*)

2Pos053 **高活性型 DHFR 変異体の構造揺らぎの NMR 解析**
NMR analysis of structural fluctuation of a highly active mutant of *Escherichia coli* dihydrofolate reductase
Takuro Nobe, Yuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

2Pos054 **C-ペプチド領域をもたないウシ膵臓インスリンの二本鎖酸化的フォールディング経路**
Double-chain oxidative folding pathways of bovine pancreatic insulin without C-peptide region
Kenta Arai[1], Toshiki Takei[1,2], Reina Shinozaki[1], Yuya Asahina[2], Hironobu Hojo[2], Michio Iwaoka[1] ([1]*Tokai Univ.*, [2]*Inst. for Prot. Res., Osaka Univ.*)

2Pos055* **圧力ジャンプ FTIR 法を用いた β ラクトグロブリンのフォールディング反応解析**
A pressure-jump FTIR study of the folding reaction of β-Lactoglobulin
Satoshi Hayakawa, Tsubasa Yamamoto, Minoru Kato (*Dept. Applied Chemistry, Ritsumeikan Univ.*)

2Pos056 **700 MPa 高圧下で観測された蛍光蛋白質 Akane families の特異な蛍光挙動**
Unique properties of a GFP-like protein Akane families, observed under 700 MPa high-pressure
Akihiro Maeno[1], Yuko Kato[2], Mitsuru Jimbo[3], Kei Amada[4], Kazuyuki Akasaka[5] ([1]*Chem., Kansai Med. Univ.*, [2]*Electro. Res. Lab., Fukuoka Inst. Tech.*, [3]*Marine Biosci., Kitasato Univ.*, [4]*Life, Environ. and Mat. Sci., Fukuoka Inst. Tech.*, [5]*Grad. Sch. Life and Environ. Sci., Kyoto pref. Univ.*)

2Pos057 **タンパク質ジスルフィドイソメラーゼ様触媒活性を有する新規低分子ジセレニド化合物を用いた酸化的フォールディングに関する研究**
Study on the oxidative folding by using a novel small-molecular diselenide compound having protein disulfide isomerase-like activity
Yuki Asano, Haruhito Ueno, Michio Iwaoka, Kenta Arai (*Tokai Univ.*)

2Pos058* **分子内ジスルフィド結合がリポカリン型プロスタグランジン D 合成酵素の熱安定性及び構造安定性に与える影響**
Effects of an intramolecular disulfide bond on the thermal and conformational stability of lipocalin-type prostaglandin D synthase
Shogo Atsuji[1], Yoshiaki Teraoka[1], Young-Ho Lee[2], Yuji Goto[2], Takashi Inui[1] ([1]*Grad. Sch. Life & Envi. Sci., Osaka Pref. Univ.*, [2]*Inst. Prot. Res., Osaka Univ.*)

2Pos059 **タンパク質の翻訳時フォールディングにおけるリボソーム効果の粗視化分子動力学シミュレーション研究**
Ribosomal effects on protein cotranslatoinal folding studied by coarse-grained molecular dynamics simulation
Kazushi Mochizuki, Shoji Takada (*Graduate School of Science, Kyoto Univ.*)

2Pos060 **蛋白質の相互作用とダイナミクスに及ぼす高分子混み合いの影響：全原子分子動力学法による研究**
Influence of Macromolecular Crowding on the Dynamics and Interactions of proteins: All-atom Molecular Dynamics Study
Isseki Yu[1], Tadashi Ando[2], Takaharu Mori[1], Jaewoon Jung[3], Ryuhei Harada[3], Yuji Sugita[1,2,3], Michael Feig[4] ([1]*RIKEN*, [2]*RIKEN QBIC*, [3]*RIKEN AICS*, [4]*Michigan State Univ.*)

2Pos061* **高温条件下で変性した DEN4 ED3 の可逆的なオリゴマー形成の一残基置換による阻害**
Unusual reversible oligomerization of unfolded Dengue envelope protein domain 3 at high temperature and its abolition by a point mutation
Tomonori Saotome[1], Shigeyoshi Nakamura[2], Mohammad M. Islam[1], Akiko Nakazawa[2], Mariano Dellarole[3], Fumio Arisaka[4], Shun-ichi Kidokoro[2], Yutaka Kuroda[1] ([1]*Dept. of Biotech. and Life Sci., Tokyo Univ. of Agric. and Tech.*, [2]*Dept. of Bioeng., Nagaoka Univ. of Tech.*, [3]*CBS, Univ. of Montpellier*, [4]*Coll. of Biores. Sci., Univ. of Nihon*)

2Pos062 **球殻状超分子集合における局所的相互作用の役割**
The role of local interactions on the spherical shell-shaped supermoleculer assembly
Daisuke Sato[1], Hideaki Ohtomo[2], Atsushi Kurobe[2], Kazuo Fujiwara[1], Masamichi Ikeguchi[1] ([1]*Fac. of Sci. and Eng., Soka Univ.*, [2]*Fac. of Eng., Soka Univ.*)

2Pos063 **赤外分光法によるカルシウム結合タンパク質の金属配位構造解析 - 合成ペプチドアナログの凝集による問題**
Infrared study of the Ca^{2+}-coordination structures of Ca^{2+}-binding proteins: the problem of aggregation of synthetic peptide analogues
Masayuki Nara[1], Hisayuki Morii[2], Takuya Miyakawa[3], Masaru Tanokura[3] ([1]*TMDU*, [2]*AIST*, [3]*Grad. Sch. Agr. Life Sci., Univ. Tokyo*)

2Pos064* **競争的凝集形成機構に基づいた蛋白質異常凝集の理解**
Understanding of aberrant protein aggregation based on the competitive aggregation mechanism
Masayuki Adachi, Masatomo So, Yuji Goto (*Inst. Protein Res., Osaka Univ.*)

2Pos065 **ヘパリンによるアミロイド線維形成の促進と抑制の分子機構**
Molecular mechanism underlying the heparin-induced acceleration and inhibition of amyloid fibrillation
Ayame Nitani, Hiroya Muta, Masayuki Adachi, Masatomo So, Yuji Goto (*Inst. Protein res., osaka Univ.*)

2Pos066 **キメラカルシトニンによるヒトカルシトニンアミロイド凝集阻害機構の解明**
Analysis of amyloid formation and inhibition mechanisms of human calcitonin by chimera calcitonin
Chiaki Ota[1], Hiroko Tanaka[1], Tomoyasu Aizawa[2], Yoichi Yamazaki[1], Mikio Kataoka[1], Hironari Kamikubo[1] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*Grad. Sch. Life Sci., Hokkaido Univ.*)

2Pos067* **プリオンタンパク質とプリオンタンパク質を標的とする RNA 分子の Aβ 線維化への影響**
The effects of prion protein and a RNA molecule that binds to prion protein on Aβ fibrillation
Mamiko Iida[1,2], Tsukasa Mashima[1,2], Yudai Yamaoki[2], Takashi Nagata[1,2], Masato Katahira[1,2] ([1]*Grad. Sch. of Energy Sci., Kyoto Univ.*, [2]*Inst. of Adv. Energy, Kyoto Univ.*)

蛋白質：機能 / Protein: Function

2Pos068 **High-level expression, purification and characterization of the plant antimicrobial peptide snakin-1 in *Pichia pastoris***
Md. Ruhul Kuddus[1,2], Farhana Rumi[1], Motosuke Tsutsumi[1], Megumi Yamano[1], Masakatsu Kamiya[1], Takashi Kikukawa[1], Makoto Demura[1], Tomoyasu Aizawa[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Dhaka Univ.*)

2Pos069 **A study on tryptophan-dependent translation termination arrest of TnaC**
Tomoki Shinozawa, Ryo Iizuka, Zhuohao Yang, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

2Pos070* **1 分子不凍タンパク質の温度依存ダイナミクスと AgI との吸着関係**
Temperature Dynamics of Single Molecular AntiFreeze Proteins and adsorption to AgI interaction
Rio Okada[1], Tatsuya Arai[2], Yuhuku Matushita[1], Jae-won Chang[1], Hiroshi Sekiguchi[3], Tadashi Mori[4], Masaki Nishijima[4], Keigo Ikezaki[1], Sakae Tsuda[2], Yuji Sasaki[1,3] ([1]*Frontier Science., Adv. Material Science., Tokyo Univ.*, [2]*AIST / Grad. Schl. of Life Sci., Hokkaido Univ.*, [3]*JASRI*, [4]*Grad. Schl. of Eng., Div. of Ap. Chem., Osaka Univ.*)

2Pos071 **青色光センサータンパク BlrP1 の反応の光強度依存性**
Light intensity determines photoreaction of blue-light sensor protein BlrP1
Kosei Shibata, Yusuke Nakasone, Masahide Terazima (*Grad. Sch. Sci. Unv. Kyoto*)

2Pos072　反転膜小胞を用いたべん毛軸構造蛋白質の輸送順序の解析
Secretion order of the Class-II flagellar axial proteins analyzed by inverted membrane vesicles (IMV)
Yudai Matsumoto[1], Chinatsu Tatsumi[1], Hiroyuki Terashima[1], Tohru Minamino[2], Katsumi Imada[1] ([1]*Grad. Sch. of Sci., Osaka Univ.*, [2]*Grad. Sch. of Front. BioSci., Osaka Univ.*)

2Pos073　Alp7/TACC-Alp14/TOG protein complex promotes assembly of *S. pombe* microtubules
Douglas Drummond[1], Frauke Hussmann[2], Daniel Peet[2], Douglas Martin[3], Robert Cross[2] ([1]*Faculty of Agriculture, Kyushu Univ.*, [2]*Warwick Medical Sch., UK*, [3]*Lawrence Univ., USA*)

2Pos074　タウタンパク質に対する Pin1 由来のプロテアーゼの活性
Activity of a protease derived from Pin1 for tau protein
Teikichi Ikura, Nobutoshi Ito (*Med. Res. Inst., Tokyo Med. Dent. Univ.*)

2Pos075*　アミロイド線維形成の圧力依存性を解明するための計算研究
Computational Research to Reveal the Pressure Dependency of the Formation of Amyloid Fibrils
Naohiro Nishikawa[1,2], Yoshiharu Mori[2], Yuko Okamoto[1,3,4,5], Hisashi Okumura[2,6] ([1]*Grad. Sch. of Sci., Nagoya Univ.*, [2]*IMS*, [3]*Str. Biol. Res. Cent., Grad. Sch. of Sci., Nagoya Univ.*, [4]*Cent. for Comp. Sci., Grad. Sch. of Eng., Nagoya Univ.*, [5]*Info. Tech. Cent., Nagoya Univ.*, [6]*SOKENDAI*)

蛋白質：計測･解析 / Protein: Measurement & Analysis

2Pos076*　ESI-QTOF MS 法を用いたアミロイドベータペプチドのオリゴマー形成機構の解析
ESI-QTOF MS analyses of the oligomerization mechanism of amyloid β peptides
Shintaro Yoshida[1], Sosuke Yoshinaga[1], Mitsuhiro Takeda[1], Ayumi Tanaka[1], Takashi Hamaguchi[1], Hitomi Yamaguchi[1], Shigeto Iwamoto[1], Takashi Saito[2], Yoshihiko Takinami[3], Toshiyuki Kohno[4], Takaomi C. Saido[2], Hiroaki Terasawa[1] ([1]*Fac. Life Sci., Kumamoto Univ.*, [2]*RIKEN BSI*, [3]*Bruker Daltonics*, [4]*Kitasato Univ. Sch. Med.*)

2Pos077　Processing of XFEL still images with a reference oscillation data set for crystal structural analyses of Cytochrome c Oxidase
Luo Fangjia[1], Atsuhiro Shimada[1], Keitaro Yamashita[2], Kunio Hirata[2], Masaki Yamamoto[2], Kyoko Itoh-Shinzawa[1], Shinya Yoshikawa[1], Tomitake Tsukihara[1] ([1]*Picobiology INST, Grad. Sch. of Life Sci., Univ. of Hyogo*, [2]*RIKEN SPring-8 Center*)

2Pos078　中性子タンパク質結晶構造解析での水素高感度検出のための動的核偏極法の予備的結果
The preliminary result of Dynamic Nuclear Polarization method for more sensitive detection of hydrogen in Neutron Protein Crystallography
Naoya Komatsuzaki[1], Ichiro Tanaka[1,2], Takahiro Iwata[3], Daisuke Miura[3], Yoshiyuki Miyachi[3], Genki Nukazuka[3], Hiroki Matsuda[3], Toshiyuki Chatake[4], Katsuhiro Kusaka[2], Nobuo Niimura[2] ([1]*Coll. of Eng., Ibaraki Univ.*, [2]*Frontier Res. Ctr., Ibaraki Univ.*, [3]*Faculty of Sci., Yamagata Univ.*, [4]*RRI, Kyoto Univ.*)

2Pos079　Elucidating the mechanisms of proton pumping in cytochrome c oxidase by time resolved IR spectroscopy
Chen Li, Tatsuhito Nishiguchi, Shun Yamauchi, Kyoko Shinzawa-Itoh, Shinya Yoshikawa, Satoru Nakashima, Takashi Ogura (*Grad. Sch. Sci., Univ. Hyogo*)

2Pos080　ストップトフロー装置と過渡回折格子法を組み合わせたタンパク質反応検出手法の開発
Time-resolved detection of the transient grating signal using stopped flow system
Shunki Takaramoto, Yusuke Nakasone, Masahide Terazima (*Dept. of chem, Univ. Kyoto*)

2Pos081　顕微ラマン分光法による微小液滴内での酵素活性検出系の開発
Detection of enzymatic activity in femtliter droplets using micro-Raman spectroscopy
Hironobu Yamashita[1], Kazuhito Tabata V.[1,2], Hiroshi Ueno[1], Hiroyuki Noji[1,3] ([1]*Department of Applied Chemistry, the University of Tokyo*, [2]*PRESTO, JST*, [3]*ImPACT, CAO, Govt*)

2Pos082　蛋白質周囲の水分子運動の測定を目的とした蛍光アップコンバージョン測定装置の開発
Development of fluorescence up-conversion apparatus to investigate hydration dynamics around the protein surface
Asahi Fukuda, Tomotaka Oroguchi, Masayoshi Nakasako (*Grad. Sci. Tech., Keio Univ.*)

2Pos083　Grid inhomogeneous solvation theory を用いた血液凝固因子 Xa の水和解析
Hydration analysis of Coagulation Factor Xa using grid inhomogeneous solvation theory
Hiroyuki Sato, Azuma Matsuura (*Fujitsu Laboratories Ltd.*)

2Pos084　キナーゼと ATP 競争阻害剤との結合自由エネルギー計算における、薬剤結合サイトの立体構造柔軟性がもたらす影響
The effect of conformational flexibility on the binding free energy calculation between kinases and their ATP-competitive inhibitors
Mitsugu Araki[1], Narutoshi Kamiya[1,2], Miwa Sato[3], Masahiko Nakatsui[1,5], Takatsugu Hirokawa[4], Yasushi Okuno[1,5] ([1]*RIKEN, AICS*, [2]*Grad. Sch. Sim. St., Univ. Hyogo*, [3]*Mitsui Knowledge Industry Co., Ltd.*, [4]*AIST, Molecular Profiling Research Center for Drug Discovery*, [5]*Grad. Sch. Med., Kyoto Univ.*)

2Pos085*　溶質構造エントロピー計算法の理論的研究
Theoretical study for solute configurational entropy calculation methods
Simon Hikiri[1], Takashi Yoshidome[1,2], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. of Med. Life Sci. Yokohama city Univ.*, [2]*Dept. of Appl. Phys., Tohoku Univ.*)

2Pos086　分子シミュレーションにおける静電相互作用計算法：零多重極子法の理論と実際
Computational method for electrostatic interactions in molecular simulation: theory and practice in the zero-multipole summation
Ikuo Fukuda[1], Han Wang[2], Narutoshi Kamiya[3], Kota Kasahara[4], Tohru Terada[5], Shun Sakuraba[6], Haruki Nakamura[1] ([1]*IPR, Osaka Univ.*, [2]*Freie Universitaet Berlin*, [3]*Univ. of Hyogo*, [4]*Col. Life Sci., Ritsumeikan Univ.*, [5]*Grad. Sch. Agr. Life Sci. Univ. Tokyo*, [6]*Grad. Sch. Frontier Sci., Univ. Tokyo*)

蛋白質工学 / Protein: Engineering

2Pos087 **天然状態と似たそして異なるアポミオグロビン折り畳み中間体の構造**
Native-like and non-native structures in the folding intermediate of apomyoglobin
Chiaki Nishimura (*Fac. Pharm. Sci., Teikyo Heisei Univ.*)

2Pos088 **理想タンパク質の安定性のオリジンを探る**
Stability for de novo designed ideal proteins revisited
Mami Yamamoto[1,2], Rie Koga[1], Takahiro Kosugi[1,2], Nobuyasu Koga[1,2,3] ([1]*CIMoS, IMS.*, [2]*SOKENDAI*, [3]*JST, PRESTO*)

2Pos089 **c-Myb- KIX 間相互作用を阻害するペプチドの合理的設計**
Rational design of a peptide inhibitor of the c-Myb-KIX interaction
Shunji Suetaka[1], Yoshiki Oka[2], Yuuki Hayashi[1,2], Munehito Arai[1,2] ([1]*Dept. Integrated Sci., Univ. Tokyo*, [2]*Dept. Life Sci., Univ. Tokyo*)

2Pos090 **β シートモデルタンパク質 OspA への αB クリスタリンのアミロイド形成配列移植と評価**
Grafting of a short amyloid forming sequence from αB crystalline into β-rich model protein, OspA
Yuki Hori[1], Kenta Hongo[2], Norio Yoshida[3], **Koki Makabe**[1] ([1]*Graduate School of Science and Engineering, Yamagata University*, [2]*School of Information Science, JAIST*, [3]*Department of Chemistry, Graduate School of Sciences, Kyushu University*)

2Pos091 **レアメタルに特異的に結合するペプチドの設計**
Design of peptides that specifically bind to the rare metal
Yoshihiro Iida, Atsuo Tamura (*Grad. Sci., Univ. Kobe*)

2Pos092* **進化分子工学によるフィチン酸塩加水分解酵素の活性向上**
Improving activity of a phytate-hydrolyzing enzyme by directed evolution
Manami Wada, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

2Pos093 **Toward Directed Evolution of Bacterial Biosensor for Arsenite Detection by Compartmentalized Partnered Replication**
Seaim Lwin Aye, Asuka Ueki, Kei Fujiwara, Nobuhide Doi (*Grad. Sch. Sci. Tech., Keio Univ.*)

2Pos094 **フェムトリットルチャンバーアレイを用いたスクリーニングシステムによるアルカリフォスファターゼの進化分子工学**
Directed evolution of alkaline phosphatase by femtoliter chamber array screening system
Makoto Kato, Yi Zhang, Kazuhito Tabata, Hiroyuki Noji (*Grad. Sch. Eng., Univ. Tokyo*)

2Pos095* **ファージ選別実験への応用を目指したスプリット GFP による蛍光ファージの作製**
Construction of fluorescent phages based on split GFP for the phage sorting technique
Naoki Mikoshiba[1,2], Yuki Shimizu[1,3], Rie Kiriguchi[1,2], Seiji Sakamoto[1,3], Hiroyuki Oikawa[1,2,3], Kiyoto Kamagata[1,2,3], Takehiko Wada[1,3], Satoshi Takahashi[1,2,3] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Life Sci., Tohoku Univ.*, [3]*Grad. Sch. Sci., Tohoku Univ.*)

2Pos096 **Toward design of diverse all-α protein structures**
Kouya Sakuma[1,2], Rie Koga[1], Takahiro Kosugi[1,2], Nobuyasu Koga[1,2,3] ([1]*CIMoS, IMS.*, [2]*SOKENDAI*, [3]*JST, PRESTO*)

2Pos097 **エクソンペプチドの構造予測と解析**
Prediction of Exon-Peptide Structures and Analysis
Michiko Nosaka (*National Institute of Technology, Sasebo College*)

核酸結合蛋白質 / Nucleic acid binding proteins

2Pos098* **粗視化分子動力学計算によるサブヌクレオソームの構造解析**
Structural modeling of the subnucleosome using coarse-grained molecular dynamics simulations
Masahiro Shimizu, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

2Pos099 **Holliday junction DNA facilitates RuvA-RuvB complex formation**
Yong-Woon Han[1], Reiko Yamamoto[1], Kimiko Nakao[1], Hisashi Tadakuma[1], Yoshie Harada[1,2,3] ([1]*Kyoto Univ., iCeMS*, [2]*Grad. Sch. Biostudies, Kyoto Univ.*, [3]*Inst. for Protein Res., Osaka Univ.*)

2Pos100 **定量的イメージング法を用いた単一細胞由来のグルココルチコイド受容体のホモ二量体と転写活性の関連解析**
Quantification of homodimeric glucocorticoid receptor and transcriptional activity from single cell using quantitative imaging techniques
Sho Oasa[1], Akira Sasaki[2], Shintaro Mikuni[1], Johtaro Yamamoto[1], Masataka Kinjo[1] ([1]*Fac. Adv. Life Sci., Hokkaido Univ.*, [2]*AIST*)

2Pos101 **(6-4)光回復酵素の T(6-4)T と T(6-4)C の光活性及び光修復における 赤外分光解析の比較**
Comparative FTIR study of photoactivation and photorepair of T(6-4)T and T(6-4)C photoproducts by *Xenopus* (6-4) photolyase
Mai Kumagai[1], Daichi Yamada[1,2], Tatsuya Iwata[1], Elizabeth D Getzoff[4], Junpei Yamamoto[3], Shigenori Iwai[3], Hideki Kandori[1] ([1]*Nagoya Institute of Technology*, [2]*Ochanomizu University*, [3]*Osaka University*, [4]*The Scripps Research Institute*)

2Pos102 **3 本鎖 DNA 結合蛋白質が 3 本鎖 DNA を認識する分子機構**
Molecular mechanism of the triplex DNA-binding protein to recognize triplex DNA
Kazuki Kiuchi[1], Kohta Sugiyama[1], Ryotaro Kishi[1], Satoru Unzai[2,3], **Hidetaka Torigoe**[1] ([1]*Dept. Applied Chem., Fac. Sci., Tokyo Univ. Sci.*, [2]*Grad. Sch. Medical Life Sci., Yokohama City Univ.*, [3]*Fac. Biosci. Applied Chem., Hosei Univ.*)

2Pos103* **Characterization of the deamination activity of APOBEC3B by real-time NMR, which is distinct from that of APOBEC3G**
Li Wan[1], Takashi Nagata[1,2], Ryo Morishita[3], Akifumi Takaori[4], Masato Katahira[1,2] ([1]*Grad. Sch. of Energy Sci., Kyoto Univ.*, [2]*Inst. of Adv. Energy, Kyoto Univ.*, [3]*CellFree Sciences Co., Ltd.*, [4]*Dept. of Hematology and Oncology, Grad. Sch. of Med., Kyoto Uni.*)

2Pos104 **Sequence-Specific Protein-DNA Interactions for Molecular Simulations Modeled by Position Weight Matrix**
Cheng Tan, Shoji Takada (*Dept. Biophysics, Graduate School of Science, Kyoto University*)

2Pos105 **Mechanistic studies of transcriptional regulation by non-CpG methylated DNA**
Jianshi Jin[1,2,4], Tengfei Lian[1,2], Chan Gu[1,3], Kai Yu[1,2], Yi Qin Gao[1,3], Xiao-Dong Su[1,2] ([1]*Biodynamic Optical Imaging Center(BIOPIC), Peking University*, [2]*School of Life Sciences, Peking University*, [3]*College of Chemistry and Molecular Engineering, Peking University*, [4]*RIKEN Quantitative Biology Center (QBiC), Laboratory for Integrative Omics*)

2Pos106 **転写調節機構の統計的解釈～コンセンサス配列でわかること、わからないこと～**
Global Statistical Control of Transcriptional Pausing by Repetitive Genomic Sequences
Masahiko Imashimizu[1,2,3], Ariel Afek[4], Hiroki Takahashi[2], David Lukatsky[4] ([1]*IMSUT*, [2]*MMRC, Chiba Univ.*, [3]*NIH/NCI*, [4]*Ben-Gurion Univ. of the Negev*)

2Pos107 **Molecular dynamics of transcription factor-nucleosome interactions**
Giovanni Brandani, Shoji Takada (*Kyoto University*)

核酸：構造・物性 / Nucleic acid: Structure & Property

2Pos108 **Structured RNAs Induce Intersubunit Rolling and Codon-Anticodon Weakening During Ribosomal Frameshifting**
Kaichun Chang[1], Emmanuel Salawu[2,3], Jin-Der Wen[1], **Lee-Wei Yang**[2,3,4] ([1]*National Taiwan University*, [2]*National Tsing Hua University*, [3]*Bioinformatics Program, Academia Sinica*, [4]*National Center of Theoretical Science*)

2Pos109 **リンカー DNA により繋がっているダイヌクレオソーム構造のサンプリング**
Sampling di-nucleosome structures connected by linker DNA of various lengths
Hiroo Kenzaki[1], Shoji Takada[2] ([1]*ACCC, RIKEN*, [2]*Grad. Sch. Sci., Univ. Kyoto*)

2Pos110 **酵母間期染色体の力学モデルと核内構造・動態の解析**
Analysis of interface chromosome dynamics of yeast by course-grained models
Takamasa Yamamoto[1], Hiraku Nishimori[1,2], Akinori Awazu[1,2] ([1]*Dept. Math and Life Sci. Hiroshima Univ.*, [2]*RcMcD*)

2Pos111 **細胞分裂およびアポトーシス過程におけるクロマチンダイナミクスの 1 分子解析**
Chromatin dynamics in mitosis and apoptosis
Kayo Hibino[1,2], Kazuhiro Maeshima[1,2] ([1]*NIG*, [2]*SOKENDAI*)

2Pos112 **Grab & Watch: Correlative optical Tweezers-Fluorescence Microscopy (CTFM) as a versatile tool for chromatin studies**
Andrea Candelli[1,2], Gerrit Sitters[1,2], **Rosalie Driessen**[1,2], Willem Peutz[1,2], Olivier Heyning[1,2], Gijs Wuite[1,2], Erwin Peterman[1,2] ([1]*LUMICKS*, [2]*VU University, Amsterdam*)

2Pos113 **クロマチンのエピジェネティック状態を用いたヒト間期核内における染色体三次元構造のシミュレーション**
Simulating three-dimensional organization of chromosomes in human interphase nucleus using epigenetic state of chromatin
Shin Fujishiro, Masaki Sasai (*Nagoya Univ.*)

核酸：相互作用･複合体形成 / Nucleic acid: Interaction & Complex formation

2Pos114* **蛍光相互相関分光法を用いたグルココルチコイド受容体-DNA 間相互作用の定量化**
The different interaction affinity of monomeric or dimeric GR on DNA determined by fluorescence cross-correlation spectroscopy
Daisuke Yamashita, Mari Saito, Sho Oasa, Shintaro Mikuni, Masataka Kinjo (*Grad. Sch. Life Sci., Univ. Hokkaido*)

2Pos115 **Effects of cumulative acetylation in histone H3 tail studied by an enhanced conformational sampling MD simulation**
Jinzen Ikebe[1], Shun Sakuraba[2], Hidetoshi Kono[1] ([1]*QST, MMS*, [2]*Grad. School of Frontier Sci., Univ. Tokyo*)

2Pos116 **Photo-control of the ribosome movement along mRNA using a reversible photo-cross-linking probe**
Shunsuke Yamashiro[1], Ryo Iizuka[2], Takashi Funatsu[2] ([1]*Fac. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

2Pos117 **転写によって誘起されるクロマチンブラシの相分離**
Transcription driven phase separation in chromatin brush
Tetsuya Yamamoto[1], Helmut Schiessel[2] ([1]*National Composite Center, Nagoya University*, [2]*Instituut-Lorentz for Theoretical Physics, Leiden University*)

2Pos118 **蛍光消光現象を利用した単層カーボンナノチューブ表面上での一本鎖 DNA 吸着過程の観察**
Monitoring adsorption process of single stranded DNA to single-walled carbon nanotubes surfaces by fluorescence quenching
Shizuma Sato[1], Gilbert Bustamante[2], Jing Yong Ye[2], Kazuo Umemura[1] ([1]*Tokyo Univ. of Sci.*, [2]*UTSA*)

2Pos119 **DNA の網目構造が微粒子の拡散に及ぼす影響**
Effect of a mesh structure of DNA on diffusion of a small particle
Masaya Tanoguchi, Yoshihiro Murayama (*Tokyo Univ. of Agri. and Tech.*)

水･水和･電解質 / Water & Hydration & Electrolyte

2Pos120 **イオン液体ー水混合溶液中の β-ラクトグロブリンの会合構造**
Aggregation of β-lactoglobulin in alkylammonium-based nitrate ionic liquid-water mixture
Koji Yoshida, Ayako Fujiyoshi, Toshio Yamaguchi (*Fukuoka Univ.*)

2Pos121 **OH 伸縮振動のラマン分光によるアミノ酸水和層の解析**
Hydration analysis of amino acids by Raman OH-stretching spectroscopy
Yasutaka Naito[1], Yuki Ochiai[2], George Mogami[2], Makoto Suzuki[2] ([1]*Sch. Eng., Univ. Tohoku*, [2]*Grad. Sch. Eng., Univ. Tohoku*)

2Pos122 **広帯域誘電緩和分光を用いた球状および膜タンパク質における水和と熱活性効果の研究**
Effects of hydration and thermal excitation of globular and membrane proteins studied by broadband dielectric spectroscopy
Naoki Yamamoto[1], Shota Ito[2], Eri Chatani[1], Hideki Kandori[2], Keisuke Tominaga[1,3] ([1]*Graduate School of Science, Kobe University*, [2]*Graduate School of Engineering, Nagoya Institute of Technology*, [3]*Molecular Photoscience Research Center, Kobe University*)

2Pos123* **分子動力学法を用いた蛋白質周囲の水和ダイナミクスの検討：溶媒条件と蛋白質構造の影響について**
Effects of solvent pH and protein conformations on water dynamics around a denatured protein with molecular dynamics simulation
Takafumi Fujiyoshi[1], Naoki Ogasawara[1], Yuji Ezaki[2], Yuta Nonaka[2], Kota Kasahara[2], Takuya Takahashi[2] ([1]*Graduate School of Life Sciences, Ritsumeikan University*, [2]*College of Life Sciences, Ritsumeikan University*)

2Pos124 **ミオシン周囲の局所誘電環境**
Local dielectric environment around myosin
Takato Sato, Tohru Sasaki, Jun Ohnuki, Mitsunori Takano (*Dept. of Pure. & Appl. Phys., Waseda Univ.*)

2Pos125 **水溶液中における芳香環間相互作用の統計熱力学**
Statistical thermodynamics of aromatic-aromatic interactions in aqueous solution
Tomohiko Hayashi, Masahiro Kinoshita (*Inst. Adv. Energy, Kyoto Univ.*)

2Pos126* **Lennard-Jones ポテンシャルのパラメータの変更による溶質周囲の水分子のダイナミクスの探求**
Effects of Lennard-Jones potentials on the dynamics of water molecules around a solute
Yuki Takimoto[1], Kou Sakuma[2], Nana Okita[2], Kota Kasahara[2], Takuya Takahashi[2] ([1]*Grad. Sch. Life. Sci., Ritsumeikan Univ.*, [2]*Col. Life. Sci., Ritsumeikan Univ.*)

2Pos127 **親水性アミノ酸残基周辺の水和構造における酸素原子ローンペアの影響**
Effects of lone pairs of oxygen atoms on hydration structures around polar amino-acid residues: MD simulation study
Tomotaka Oroguchi, Masayoshi Nakasako (*Sci. Tech., Keio Univ.*)

2Pos128 **機械学習によるタンパク質親水／疎水表面における水分子の動的振る舞いの解析**
Analysis of water behavior near the protein hydrophobic/hydrophilic surface by machine learning techniques
Taku Mizukami[1], Nguyen Viet Cuong[3], Ho Tu Bao[2], Dam Hieu Chi[2] ([1]*JAIST, Materials Science*, [2]*JAIST, Knowledge Science*, [3]*HPC SYSTEMS Inc.*)

2Pos129* **MM/3D-RISM 法を用いた Pim1-リガンド系における結合自由エネルギーの予測**
Estimation of binding free energy based on the MM/3D-RISM method for the Pim1-ligand system
Takeshi Hasegawa[1], Masatake Sugita[1], Takeshi Kikuchi[1], Fumio Hiata[2] ([1]*Dept. of Bioinfo., Col. Life Sci., Ritsumeikan Univ.*, [2]*Toyota Physical and Chemical Research Institute*)

発生·分化 / Development & Differentiation

2Pos130 **ROXS によって mCherry の安定性と明るさが向上する**
in-vivo ROXS improve the brightness and photostability of a red fluorescent protein, mCherry in *C. elegans* embryos
Yukinobu Arata, Yasushi Sako (*Cell. Info. Lab. RIKEN*)

2Pos131 **Axon bundle regulates cortical tissue stiffness in the developing brain**
Misato Iwashita, Yoichi Kosodo (*Korea Brain Research Institute*)

2Pos132* **Mouse-ferret differences in the mechanical property of the developing cerebral cortex: tissue-level and single cell-level assessments**
Arata Nagasaka, Tomoyasu Shinoda, Takaki Miyata (*Grad. Sch. Med., Univ. Nagoya*)

2Pos133 **Macroscopic dynamics of vascular endothelial cells in angiogenesis**
Naoko Takubo[1], Kazuaki Naekura[1], Ryo Yoshida[2], Terumasa Tokunaga[3], Osamu Hirose[4], Yasunobu Uchijima[1], Yukiko Kurihara[1], Hiroki Kurihara[1] ([1]*Graduate School of Medicine, The University of Tokyo*, [2]*The Institute of Statistical Mathematics, Research Organization of Information and Systems*, [3]*Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [4]*College of Science and Engineering, Kanazawa University*)

2Pos134 **ヒトの原腸形成時の細胞運動を in vitro で一細胞解析**
Single cell tracking of migration during human gastrulation in vitro
Shota Miyazaki[1], Yuta Yamamoto[1], Kohei Nakazono[1], Minh N. T. Le[1], Shuji Fuji[1,2], Kiyoshi Ohnuma[1,3] ([1]*Department of Bioengineering, Nagaoka University of Technology*, [2]*Department of Materials Science and Technology, Nagaoka University of Technology*, [3]*Department of Science of Technology Innovation, Nagaoka University of Technology*)

2Pos135 **多細胞運動におけるソリトン様運動関連遺伝子の探索**
Searching the responsible genes for biological soliton in multicellular movement
Kentaro Yoshida[1], Hiroki Takahashi[2], Yoshitoshi Ogura[3], Yutaka Suzuki[4], Tetsuya Hayashi[3], Hidekazu Kuwayama[1] ([1]*Fac. Life and Env. Sci., Univ. Tsukuba*, [2]*Medi. Myco. Res. Center, Chiba Univ.*, [3]*Dep. Bact., Fac. Med. Sci., Kyushu Univ.*, [4]*Dep. Med. Genome Sci., Grad. School Front. Sci., Univ. Tokyo*)

2Pos136 **A model for analyzing phenomena in multicellular organisms with multivariable polynomials**
Hiroshi Yoshida (*Dep. Math., Kyushu Univ.*)

2Pos137 ***C. elegans* の受精における二相性カルシウム波の分子基盤**
The molecular underpinnings of the biphasic calcium wave during fertilization in *C. elegans*
Jun Takayama, Shuichi Onami (*RIKEN QBiC*)

筋肉 / Muscle

2Pos138 **機能する昆虫飛翔筋-ウサギ骨格筋ハイブリッド筋線維の再構成**
Reconstitution of functional insect flight- and rabbit skeletal hybrid muscle fibers as monitored by X-ray diffraction
Hiroyuki Iwamoto (*SPring-8, JASRI*)

2Pos139 **アクチン骨格阻害剤 Latrunculin A はアクチンを脱重合させ重合を阻害する**
Latrunculin-A; a drug to inhibit actin cytoskeleton, depolymerizes and inhibits actin polymerization under TIRF microscopy
Ikuko Fujiwara[1], Thomas Pollard[2] ([1]*URA, NITech.*, [2]*MCDB, Yale Univ.*)

2Pos140 **バキュロウイルス-昆虫細胞を用いた、組換え β-アクチンの発現精製系の構築**
Expression and Purification of Recombinant Human β-Actin in Insect Cells
Mizuki Matsuzaki[1], Sae Kashima[1], Kayo Maeda[1], Mahito Kikumoto[1], Tomoharu Matsumoto[1], Kotaro Tanaka[1], Motonori Ota[2], Akihiro Narita[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Info. Sci., Nagoya Univ.*)

2Pos141 **結合した HMM 濃度の違いによる F-アクチンの状態変化**
HMM induced structural changes of actin monitored by in vitro fluorescence along single filaments
Marie Kobayashi, Satoshi Nakamura, Takahiro Hayashizaki, Hajime Honda (*Dept. Bioeng., Nagaoka Univ. Tech.*)

2Pos142* **超解像イメージング法を用いた骨格筋ミオシン分子動態の直接計測**
Direct measurement of dynamics of individual skeletal myosin by using a super-resolution localization method
ZhiYuan Zhang, Yuto Ashida, Masahito Ueda, Hideo Higuchi, Motoshi Kaya (*Department of Physics, Graduate School of Science, The University of Tokyo*)

分子モーター / Molecular motor

2Pos143* **HS-AFM で一方向的な運動が観測されたローターレス Enterococus hirae V_1-ATPase の結晶構造解析**
Crystal structures of rotorless Enterococus hirae V_1-ATPase which shows unidirectional dynamics by HS-AFM
Shintaro Maruyama[1], Kazuya Nakamoto[1], Kano Suzuki[1], Fabiana. Lica Yakushiji[1], Kenji Mizutani[1], Motonori Imamura[2], Takayuki Uchihashi[2,3,4], Takeshi Murata[1,5] ([1]*Grad. Sch. Sci., Univ. Chiba*, [2]*Bio-AFM FRC, Kanazawa Univ.*, [3]*Dept. Phys., Kanazawa Univ.*, [4]*CREST, JST*, [5]*PRESTO, JST*)

2Pos144 **F_1-ATPase の中心軸回転を駆動する触媒サブユニットの１分子構造変化観察**
Single-molecule detection of conformational changes in the catalytic subunit of F_1-ATPase that correlate with rotation of the shaft
Ryuichi Yokota[1], Ryota Yanagida[1], Yuta Nomura[1], Nagisa Mikami[2], Rinako Nakayama[2,3], Takayuki Nishizaka[2], Tomoko Masaike[1,3,4] ([1]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [2]*Dept. Phys., Gakushuin Univ.*, [3]*Res. Inst. for Sci. and Tech., Tokyo Univ. of Sci.*, [4]*PRESTO, JST*)

2Pos145* **V_1 回転分子モーターでの外来タンパク質の回転**
Rotation of endogenous proteins in V_1 rotary motor
Mihori Baba, Atsuko Nakanishi, Jun-ichi Kishikawa, Ken Yokoyama (*Kyoto Sangyo Univ. LifeSci.*)

2Pos146* **１分子観察とドッキングシミュレーションで蛍光基質を通じて明らかになった化学反応に伴う酵素の構造変化**
Conformational change of the rotary motor F_1-ATPase revealed by single-molecule imaging and docking simulation
Nagisa Mikami[1], Yuko Ito[2], Mitsuhiro Sugawa[1], Mitsunori Ikeguchi[2], Takayuki Nishizaka[1] ([1]*Dept. phys., Gakushuin Univ.*, [2]*Medical Life Sci., Yokohama City Univ.*)

2Pos147 **光渦トラップを使った力学測定システムの開発：DNA オリガミを使った F_1-ATPase の回転可視化**
Development of optical vortex trapping system with DNA origami for the precise measurements of torque generated by F_1-ATPase
Yu Hashimoto[1], Sayaka Kazami[1], Yuji Kimura[1], Tomoko Hyodo-Otsu[2], Taro Ando[2], Hiroyasu Itoh[1,2] ([1]*Tsukuba Research Lab., Hamamatsu Photonics K.K.*, [2]*Central Research Lab., Hamamatsu Photonics K.K.*)

2Pos148 ***Enterococcus hirae* 由来 V_1-ATPase の回転とヌクレオチド結合解離の１分子同時観察**
Single-molecule simultaneous observation of rotation and nucleotide binding/release of *Enterococcus hirae* V_1-ATPase
Yoshihiro Minagawa[1], Hiroshi Ueno[1], Hiroyuki Noji[1], Takeshi Murata[2], **Ryota Iino**[3,4] ([1]*Univ. Tokyo*, [2]*Chiba Univ.*, [3]*OIIB and IMS, NINS*, [4]*SOKENDAI*)

2Pos149 **高熱菌 *Bacillus* PS3 由来 F_oF_1-ATP 合成酵素のプロトン輸送活性および H^+/ATP の決定**
Determination of the proton pump activity and the H^+/ATP ratio of thermophilic *Bacillus* PS3 F_oF_1-ATP synthase
Naoya Iida[1], Yuzo Kasuya[1], Naoki Soga[2], Toshiharu Suzuki[2], Taro Uyeda[1], Masasuke Yoshida[3], Kazuhiko Kinosita[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Dept. Eng, Univ. of Tokyo*, [3]*Dept. Mol Biochem, Kyoto Sangyo Univ.*)

2Pos150 **細菌べん毛モーターの回転方向変換制御機構の解明**
Elucidation of the directional switching mechanism of the bacterial flagellar motor by electron cryomicroscopy
Tomoko Miyata[1], Takayuki Kato[1], Akihiro Kawamoto[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*QBiC, RIKEN*)

2Pos151 **Molecular dynamics study of pressure effects on unbinding of the CheY-FliM complex**
Hiroaki Hata[1], Yasutaka Nishihara[1], Masayoshi Nishiyama[2], Ikuro Kawagishi[3], Akio Kitao[1] ([1]*IMCB, UTokyo*, [2]*The HAKUBI Center, Kyoto Univ.*, [3]*Dept. of Frontier Biosci., Hosei Univ.*)

2Pos152 **海洋性ビブリオ菌 FliG の EHPQR-motif 周辺構造によるべん毛の回転方向決定**
Direction of flagellar motor rotation determined by the structure around EHPQR-motif of FliG in marine *Vibrio*
Tatsuro Nishikino[1], Atsushi Hijikata[2], Yasuhiro Onoue[1], Tsuyoshi Shirai[2], Michio Homma[1] ([1]*Div. Biol. Sci. Grad. Sch. Sci., Nagoya Univ.*, [2]*Dep. Biosci., Nagahama Inst. of Bio-Sci. Tec.*)

2Pos153*　2 種イオン駆動型べん毛モーターの入力と出力の関係

Input-output relationship of dual ion driven flagellar motor

Kenta Arai[1], Taishi Kasai[2], Yuka Takahashi[3], Masahiro Ito[3], Yoshiyuki Sowa[1,2] ([1]*Hosei Univ.*, [2]*Research Center for Micro-Nano Tech. Hosei Univ.*, [3]*Toyo Univ.*)

2Pos154　高度高塩菌ハロバクテリウムサリナラムのべん毛の回転とステップ運動の直接観察

Direct observation of rotation and steps of the archaellum in the swimming halophilic archaeon Halobacterium salinarum

Yoshiaki Kinosita[1], Nariya Uchida[2], Daisuke Nakane[1], Takayuki Nishizaka[1] ([1]*Department of Physics, Gakushuin University*, [2]*Department of Physics, Tohoku University*)

2Pos155　キネシンネックリンカーの構造変化に伴う自由エネルギー変化

Measuring of energy at neck linker docking of single kinesin molecule

Yuichi Kondo, Hideo Higuchi (*Grad. Sch. Sci., Univ. of Tokyo*)

2Pos156　LZMW を利用した高濃度蛍光 ATP 存在下でのキネシン運動と ATP 結合の同時蛍光 1 分子計測

Simultaneous fluorescent observation of kinesin motility and ATP occupancy with high concentration of fluorescent labeled ATP using LZMW

Kazuya Fujimoto[1], Yuki Morita[1], Hirofumi Shintaku[1], Michio Tomishige[2], Ryota Iino[3], Hidetoshi Kotera[1], Ryuji Yokokawa[1] ([1]*Kyoto University Department of Micro Engineering*, [2]*The University of Tokyo Department of Applied Physics*, [3]*National Institute of Natural Science Institute for Molecular Science*)

2Pos157　CYK-4 による kinesin-6 の回転運動揺らぎ

CYK-4 induces the large fluctuations of the left-handed rotational movement of dimeric kinesin-6

Yohei Maruyama[1], Akihiko Sato[1], Tim Davis[2], Toshihisa Osaki[3], Shin Yamaguchi[1], Shoji Takeuchi[3], Masanori Mishima[2], Junichiro Yajima[1] ([1]*Dept. Life Sci., Grad. Sch. of Arts and Sci., Univ. of Tokyo*, [2]*CMCB at Warwick Med. Sch., Univ. of Warwick*, [3]*Inst. of Ind. Sci., Univ. of Tokyo*)

2Pos158　微小管と光応答性 DNA による物質輸送システムの構築

Construction of a nano-transportation system by using microtubules and photoresponsive DNA

Kentaro Kayano[1], Ryuuhei Suzuki[2], A.M.R. Kabir[2], Kazuki Sada[2,3], Akinori Kuzuya[4], Hiroyuki Asanuma[5], Akira Kakugo[2,3] ([1]*Dept. Chem. Fac. Sci., Hokkaido Univ.*, [2]*Grad. Sch. Chem. Sci. Eng., Hokkaido Univ.*, [3]*Fac. Sci., Hokkaido Univ.*, [4]*Fac. Chem. Mater. Bioeng., Kansai Univ.*, [5]*Grad. Sch. Eng., Nagoya Univ.*)

2Pos159　キネシンの非平衡熱散逸

Non-equilibrium dissipation of kinesin

Takayuki Ariga[1], Michio Tomishige[2], Daisuke Mizuno[1] ([1]*Dept. of Phys., Kyushu Univ.*, [2]*Dept. of Appl. phys., Univ. Tokyo*)

2Pos160　生細胞内における微小管へのキネシン結合速度定数の直接計測

Direct measurement of the binding rate constant of kinesin to microtubules in living cells

Taketoshi Kambara, Yasushi Okada (*RIKEN, QBiC*)

2Pos161　*Flavobacterium johnsoniae* の滑走に関与するマルチレール構造

The multi-rail structure contributes to gliding motility of *Flavobacterium johnsoniae*

Satoshi Shibata, Koji Nakayama (*Graduate Sch. of Biomedical Sciencces, Nagasaki Univ.*)

2Pos162*　マイコプラズマ・モービレ滑走運動におけるシングルユニットが発生する力

Force generated by single unit in *Mycoplasma mobile* gliding

Masaki Mizutani[1], Isil Tulum[1], Yoshiaki Kinosita[2], Takayuki Nishizaka[2], Makoto Miyata[1] ([1]*Osaka City Univ., Grad. sch. Sci.*, [2]*Gakushuin Univ., Fac. Sci.*)

2Pos163　Dynamics of Type IV pili controlled by light direction in unicellular cyanobacteria

Daisuke Nakane, Takayuki Nishizaka (*Dept. of Phys., Gakushuin Univ.*)

2Pos164　マイコプラズマモービレ由来滑走タンパク質 Gli349 の構造ドメインの探索とその構造解析

Determination of domain boundaries and analysis of domain structures of the gliding protein Gli349 from Mycoplasma mobile

Yuuki Hayashi[1,2], Yoshihiro Nomura[2], Manami Wada[1], Tasuku Hamaguchi[3], Aya Takamori[3], Masato Miyata[3], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*Dept. Integrated Sci., Univ. Tokyo*, [3]*Dept. Biol., Osaka City Univ.*)

2Pos165　高圧力顕微鏡法による深海微生物の遊泳運動観察

Swimming motility of deep-sea bacteria measured by high-pressure microscopy

Masayoshi Nishiyama[1], Chiaki Kato[2], Hiroshi Imai[3], Shinji Kamimura[3], Yoshie Harada[4] ([1]*The HAKUBI Center, Kyoto Univ.*, [2]*JAMSTEC*, [3]*Chuo Univ.*, [4]*Osaka Univ.*)

2Pos166*　*Mycoplasma mobile* の滑走装置に局在するペアになった F 型 ATP アーゼのパラログ

Paired F-type ATPase paralog in gliding machinery of *Mycoplasma mobile*

Takuma Toyonaga[1], Yuhei Tahara[1], Noriyuki Kodera[2], Tasuku Hamaguchi[1], Toshio Ando[2], Makoto Miyata[1] ([1]*Grad. Sch. Sci., Osaka City Univ.*, [2]*Bio AFM-FRC., Kanazawa Univ.*)

2Pos167*　Dynamics and heterogeneity of ATP production and consumption in single C2C12 myotubes

Naoki Matsuda[1], Katsuyuki Kunida[1], Takumi Wada[1], Haruki Inoue[2], Daisuke Hoshino[1], Shinya Kuroda[1,2] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Grad. Sch. Frontier Sci., Univ. Tokyo*)

細胞生物学 / Cell biology

2Pos168　C 型インフルエンザウイルスの運動機構

Motile mechanism of influenza C virus

Tatsuya Sakai[1], Yasushi Muraki[2], Mineki Saito[1] ([1]*Department of Microbiology, Kawasaki Medical School*, [2]*Division of Infectious Diseases and Immunology, Department of Microbiology, School of Medicine, Iwate Medical University*)

2Pos169　鞭毛・繊毛の表面運動：現象の普遍性と膜タンパク質のダイナミクス

Surface motility in eukaryote cilia/flagella: Generality and membrane protein dynamics

Ritsu Kamiya[1,3], Kogiku Shiba[2], Kazuo Inaba[2], Takako Kato-Minoura[3] ([1]*Gakushuin Univ., Fac. Sci.*, [2]*Tsukuba Univ., Shimoda Marine Res. Ctr.*, [3]*Chuo Univ., Fac. Sci. Eng.*)

2Pos170　微小管ネットワークによって引き起こされる細胞質回転流動

Spatial confinement of active microtubule networks induces large-scale rotational cytoplasmic flow

Kazuya Suzuki[1,2], Makito Miyazaki[1,2], Jun Takagi[3], Takeshi Itabashi[1,2], Shin'ichi Ishiwata[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Waseda Bioscience Research Institute in Singapor, Waseda Univ.*, [3]*Quantitative Mechanobiology Lab., NIG*)

2Pos171　軸糸直径サイズ変化による鞭毛繊毛の屈曲運動の制御

Regulation of cilia and flagella bending movements through the change of axoneme diameter

Toshiki Yagi[1], Shinji Kamimura[2], Hiroyuki Iwamoto[3] ([1]*Dept. Life Sci., Prefectural Univ. of Hiroshima*, [2]*Dept. Biol. Sci., Chuo Univ.*, [3]*SPring-8 JASRI*)

2Pos172　中心子の普遍的 9 回対称性構造の構築機構

Assembly mechanisms of the nine-fold symmetry of the centriole structure

Masafumi Hirono (*Frontier Biosci. Hosei Univ.*)

2Pos173　X 線繊維回折を用いた真核生物鞭毛軸糸の構造ダイナミクス解析

X-ray fiber diffraction study on structural dynamics of flagellar axonemes of Chlamydomonas

Kazuhiro Oiwa[1,2], Hiroyuki Iwamoto[3], Junya Kirima[2], Yu Yamano[2] ([1]*Adv. ICT Res. Inst. NICT*, [2]*Univ. Hyogo*, [3]*SPring8, JASRI*)

2Pos174*　3-D measurement of bending dependency of the maximum force of the single tracheal cilium

Takanobu A Katoh[1], Koji Ikegami[2], Toshihito Iwase[3], Tomoko Masaike[3,4], Mitsutoshi Setou[2], Takayuki Nishizaka[1] ([1]*Dept. Phys., Gakushuin Univ.*, [2]*Dept. Cell Biol. and Anat., Hamamatsu Univ. Sch. Med.*, [3]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [4]*PRESTO, JST*)

2Pos175　アルファシヌクレインタンパク質による輸送性微小管の制御機構

Alpha-synuclein binds unconventional microtubules that have a unique function

Shiori Toba[1], Mingyue Jin[1], Masami Yamada[1], Takuo Yasunaga[2], Yuko Fukunaga[3,4], Atsuo Miyazawa[3,4], Kyoko Itoh[5], Shinji Fushiki[5], Hiroaki Kojima[6], Hideki Wanibuchi[7], Yoshiyuki Arai[8], Takeharu Nagai[8], Shinji Hirotsune[1] ([1]*Dept. of Genetic Disease Research, Osaka City Univ. Graduate School of Medicine*, [2]*Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [3]*Graduate School of Life Science, Univ. of Hyogo*, [4]*RSC-University of Hyogo Leading Program Center, RIKEN SPring-8 Center*, [5]*Kyoto Prefectural Univ. of Medicine Graduate School of Medical Sciences*, [6]*Advanced ICT Research Institute, National Institute of Information and Communications Technology*, [7]*Dept. of Pathology, Osaka City Univ. Graduate School of Medicine*, [8]*Institute of Scientific and Industrial Research, Osaka Univ.*)

2Pos176　マウス Tppp (Tubulin Polymerization Promoting Protein)の機能解析

Analysis of Tppp (Tubulin Polymerization Promoting Protein)

Masahiro Kawakita[1], Arashi Seki[1], Katsuyoshi Takaoka[2], Hiroshi Hamada[3], Kyosuke Shinohara[1] ([1]*Tokyo University of Agriculture & Technology*, [2]*EMBL Heidelberg*, [3]*RIKEN Center for Developmental Biology*)

2Pos177　マウス繊毛細胞における Dpcd の機能解析

Role of Dpcd in motile cilia of mice

Misato Tamegai[1], Mahito Kikumoto[2], Miki Kinoshita[3], Akihiro Kawamoto[3], Keiichi Namba[3], Hiroshi Hamada[4], Katsumi Imada[3], Akihiro Narita[2], Kyosuke Shinohara[1] ([1]*Tokyo University of Agriculture & Technology*, [2]*Nagoya University*, [3]*Osaka University*, [4]*RIKEN Center for Developmental Biology*)

2Pos178　IFT（繊毛内輸送）に関与する基底小体微小管の機能に関する研究

The function of the basal body microtubules associated with intraflagellar transport (IFT)

Yurika Koiso, Shin Yamaguchi, Mitsuhiro Sugawa, Takuya Kobayashi, Yoko Y. Toyoshima, Junichiro Yajima (*Department of Life Sciences Graduate School of Art & Sciences, The University of Tokyo*)

2Pos179　Distinctive structured radial spoke of mouse sperm underlies wave propagation of flagella

Kaoru Horiuchi[1], Hironori Ueno[2], Akihiro Narita[3], Hiroshi Hamada[4], Kyosuke Shinohara[1] ([1]*Tokyo University of Agriculture and Technology*, [2]*Aichi University of Education*, [3]*Nagoya University*, [4]*RIKEN Center for Developmental Biology*)

2Pos180　クラミドモナス鞭毛から精製したラジアルスポークの特性

Properties of the Purified Radial Spoke of Chlamydomonas Flagella

Hitoshi Sakakibara[1], Yosuke Shimizu[1], Pinfen Yang[2], Hiroaki Kojima[1] ([1]*Protein Biophys. Gr., NICT*, [2]*Dept. Biol. Sci., Marquette Univ.*)

2Pos181　ハプトネマの微小管系急速コイリング運動メカニズムを探る

Unveiling a mechanism for rapid microtubule coiling movement of haptonema

Mami Nomura[1], Keiko Hirose[2], Kogiku Shiba[1], Kazuo Inaba[1] ([1]*Shimoda Marine Research Center, University of Tsukuba.*, [2]*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology*)

2Pos182 **cAMP シグナルリレーにおける膜電位変化の計測と制御**
Measurement and control of membrane potential changes in cAMP signal relay
Yusuke V. Morimoto[1], Masahiro Ueda[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

2Pos183 **動的な場における時間空間知覚メカニズムの解析：走化性パラドクスの克服と細胞の整流作用**
Delineating temporal and spatial sensing in migrating cells: chemotactic wave paradox and rectification of the leading edge response
Akihiko Nakajima[1], Shuji Ishihara[2], Motohiko Ishida[3], Daisuke Imoto[3], Satoshi Sawai[1,3] ([1]*Res. Cent. Comp. Sys. Biol., Grad. Sch. Arts Sci., Univ. Tokyo*, [2]*Sch. Sci. Tech., Meiji Univ.*, [3]*Dept. Basic Sci., Grad. Sch. Arts Sci., Univ. Tokyo*)

2Pos184 **細胞か接着により誘導される細胞の集団運動**
Cell-Cell Adhesion guiding Collective Cell Migration
Katsuyoshi Matsushita (*Department of Biological Sciences, Graduate School of Science, Osaka University*)

2Pos185 **力測定で明かす神経幹細胞の集団遊走**
Measuring the Forces in Neural Stem Cell Monolayer
Masahito Uwamichi, Masaki Sano (*Dept. of Phys., The Univ. of Tokyo*)

2Pos186 **細胞性粘菌における集団的回転運動の定量解析**
Quantitative analysis of collective rotational motion of Dictyostelium cells
Taihei Fujimori[1], Akihiko Nakajima[1,2], Ryo Yokota[3], Ryo Nakabayashi[4], Gen Honda[1], Tetsuya Kobayashi[3], Satoshi Sawai[1,2] ([1]*Grad. Sch. of Arts & Sci., Univ. Tokyo*, [2]*Res. Ctr. Complex Syst. Biol., Univ. Tokyo*, [3]*Inst. of Ind. Sci., Univ. Tokyo*, [4]*Univ. Tokyo*)

2Pos187 **Spatial heterogeneous and transient dynamics during collective cell migration in a monolayer of MDCK epithelial cells**
Preetom Nag[1], Helal Khalifa[1,2], Hiroshi Teramoto[3], Naoya Yamaguchi[4], Chun-Biu Li[1], Hisashi Haga[2], Tamiki Komatsuzaki[1,2] ([1]*Research Institute for Electronic Science, Hokkaido University*, [2]*Graduate School of Life Science, Hokkaido University*, [3]*Hitachi, Ltd. Research & Development Group*, [4]*Skirball Institute of Biomolecular Medicine, New York University Langone Medical Center, USA*)

2Pos188 **細胞の協調運動における接着結合タンパク質の役割**
Roles of adherence junction proteins in the collective cell movement in vitro and vivo
Takeomi Mizutani, Kazushige Kawabata (*Department of Advanced Transdisciplinary Sciences, Faculty of Advanced Life Science, Hokkaido University*)

2Pos189* **筋分化 C2C12 におけるインスリン刺激時 S6K 活性のダイナミクスと不均一性**
Dynamics and Heterogeneity of S6K activity in insulin stimulated-C2C12 myotubes
Haruki Inoue[1], Katsuyuki Kunida[2], Daisuke Hoshino[2], Takumi Wada[2], Shinya Kuroda[1,2] ([1]*Grad. Frontier Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci., Univ. Tokyo*)

2Pos190 **Beating rate changes of isolated cardiomyocyte clusters in different thermal environments**
Wei Wang, Tomoyuki Kaneko (*LaRC, Dept. Frontier Biosci., Hosei Univ.*)

2Pos191 **改良型蛍光 ATP センサーを用いた一細胞及び細胞内局所 ATP 濃度の測定**
Quantification of single-cell and subcellular ATP concentrations using an improved fluorescent ATP indicator in mammalian cells
Hideyuki Yaginuma, Yasushi Okada (*QBiC, RIKEN*)

2Pos192* **がん細胞の損傷回復過程の定量評価**
Quantitative evaluation of recovery from damage in cancer cells
Morito Sakuma[1,2], Kazuhito Tabata[1,2], Hiroyuki Noji[2], Hideo Higuchi[1] ([1]*Department of Physics, Graduate School of Science, The University of Tokyo*, [2]*Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo*, [3]*JSPS Research Fellow*)

2Pos193* **ナノ秒パルス電場による細胞内応答の顕微ラマン・蛍光分光法を用いたその場観測**
In situ observation of the intracellular responses to nanosecond pulsed electric fields by Raman and fluorescence spectroscopy
Yusuke Horii, Hirotsugu Hiramatsu, Takakazu Nakabayashi (*Graduate School of Pharmaceutical Sciences, Tohoku University*)

2Pos194* **ミトコンドリア輸送・膜電位・ATP と神経伸展の相関解析**
Correlation analysis of transport, membrane potential, and ATP levels of mitochondria and neurite extension
Rika Suzuki, Kohji Hotta, Kotaro Oka (*Keio Univ.*)

2Pos195* **細胞内局所発熱がストレス顆粒形成を開始する**
Intracellular local thermogenesis initiates stress granule formation
Beini Shi[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

2Pos196 **Investigating the contribution of cytoskeletons on intracellular temperature variation**
Takashi Yanagi[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharmac. Sci., Univ. Tokyo*, [2]*JST, PRESTO*)

2Pos197 **Attempt to Detect Functional Interaction between FoF1-ATPase and Adenine Nucleotide Translocator**
Saki Yamashita, Takahiro Shibata, Yoshihiro Ohta (*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*)

2Pos198 **Effects of mitochondrial volume on the generation of reactive oxygen species**
Sawako Kimura[1], Satoshi Honda[2], Norihiro Umeda[2], Yoshihiro Ohta[1] ([1]*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*, [2]*Dept. of Mech. Sys. Eng., Tokyo Univ. of Agr. and Tech.*)

2Pos199 **Partial contribution of mitochondrial permeability transition to t-butyl hydroperoxide-induced cell death**
Naoko Ashida, Xiaolei Shi, Hyonjin Choi, Yoshihiro Ohta (*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*)

2Pos200 **Monitoring of mitochondrial activity during cell division**
Kyunghak Cho, Kotoe Hirusaki, Yoshihiro Ohta (*Div. of Biotech. And Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.*)

生体膜・人工膜：情報伝達 / Biological & Artificial membrane: Signal transduction

2Pos201* **パターン化人工膜を用いて脂質ラフトによる光シグナル伝達の制御機構を解明する**
Regulation of phototransduction by lipid rafts studied with a micropatterned model membrane
Yasushi Tanimoto[1], Sakiko Kojima[1], Fumio Hayashi[2], Kenichi Morigaki[1,3] ([1]*Grad. Sch. Agri, Univ. Kobe*, [2]*Grad. Sch. Scie, Univ. Kobe*, [3]*Biosignal Research Center, Univ. Kobe*)

2Pos202 **全反射照明蛍光顕微鏡を用いた RalGDS 分子の EGF 依存的な膜局在化メカニズムの解明**
Elucidation of the EGF dependent localization mechanism of RalGDS molecule to plasma membrane using TIRF microscopy
Ryo Yoshizawa[1,2], Nobuhisa Umeki[2], Masataka Yanagawa[2], Masayuki Murata[1], Yasushi Sako[2] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Wako Inst., Riken*)

生体膜・人工膜：ダイナミクス / Biological & Artificial membrane: Dynamics

2Pos203 **分子動力学シミュレーションによる膜の細孔形成自由エネルギー解析**
Free energy analysis of membrane pore formation by molecular dynamics simulations
Yusuke Miyazaki, Wataru Shinoda, Susumu Okazaki (*Grad. Eng., Univ. Nagoya*)

2Pos204* **Min 反応拡散波の油中水滴内再構成**
Reconstitution of Min Reaction-Diffusion Waves in Water-in-Oil Microdroplets
Shunshi Kohyama, Nobuhide Doi, Kei Fujiwara (*Grad. Sch. Sci. Tech., Keio Univ.*)

2Pos205 **ラクトフェリシン B フラグメントと大腸菌および GUV との相互作用**
Interactions of a fragment of lactoferricin B with *E.coli* and single GUVs
Md. Moniruzzaman[1], Hideo Dohra[2], Masahito Yamazaki[1,3,4] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Green Sci. Tech., Shizuoka University*, [3]*Res. Inst. Ele., Shizuoka Univ.*, [4]*Grad. Sch. Sci., Shizuoka Univ.*)

2Pos206 **フォトクロミック脂質を用いた蛍光脂質のダイナミクス**
Intermembrane transfer of fluorescent lipid analogs using photochromic lipid analogs as FRET acceptors
Mariko Sumi[1,2], Asami Makino[1], Takehiko Inaba[1], Fumihiro Fujimori[2], Peter Greimel[1], Toshihide Kobayashi[1,3] ([1]*Lipid Bio. Lab., RIKEN*, [2]*Grad. Sch. of Humanities and Life Sci., Tokyo Kasei Univ.*, [3]*CNRS, France*)

2Pos207 **脂質膜の力学的特性は細胞透過ペプチド・トランスポータン 10(TP10)の単一ベシクルへの侵入に影響を与える**
Mechanical Properties of Lipid Bilayers Affect the Entry of Cell-Penetrating Peptide Transportan 10 (TP10) into Single Vesicles
Md. Zahidul Islam[1], Sabrina Sharmin[1], Masahito Yamazaki[1,2,3] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Ele., Shizuoka Univ.*, [3]*Grad. Sch. Sci., Shizuoka Univ.*)

2Pos208 **一定張力が誘起する膜破壊の活性化エネルギーを用いた解析**
Analysis of Constant Tension-Induced Rupture of Lipid Membranes Using Activation Energy
Md. Abu Sayem Karal[1], Victor Levadnyy[1,3], **Masahito Yamazaki**[1,2] ([1]*Shizuoka Univ. Grad. Sch. Sci. Tech.*, [2]*Shizuoka Univ. Res. Inst. Ele.*, [3]*Rus. Acad. Sci.*)

2Pos209 **抗菌ペプチド・マガイニン２が脂質膜中に誘起するポア形成のメカニズム**
A Mechanism of Antimicrobial Peptide, Magainin 2-Induced Pore Formation in Lipid Membranes
Moynul Hasan[1], Mohammad Abu Sayem Karal[1], Victor Levadnyy[1,2], Md. Zahidul Islam[1], Masahito Yamazaki[1,3,4] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Rus. Acad. Sci.*, [3]*Res. Inst. Ele., Shizuoka Univ.*, [4]*Grad. Sch. Sci., Shizuoka Univ.*)

2Pos210 **引張下コレステロール含有リン脂質二重膜における指組み構造の形成：分子動力学シミュレーション**
Stretch-Induced Interdigitated Phase Formation in Phospholipid/Cholesterol Bilayer: Molecular Dynamics Simulation
Taiki Shigematsu[1], Kenichiro Koshiyama[2], Shigeo Wada[2] ([1]*JAMSTEC*, [2]*Grad. Sch. Eng. Sci., Osaka Univ.*)

2Pos211 **細胞サイズ液滴内における高分子溶液の拡散とその空間閉じ込めの影響**
Diffusion in polymer solutions confined in cell-sized droplets: effect of confinement size
Chiho Watanabe[1], Miho Yanagisawa[2] ([1]*Inst. Glob. Innov., Tokyo Univ. Agri. & Tech.*, [2]*Grad. Sch. Tech., Tokyo Univ. Agri. & Tech.*)

2Pos212 **Investigating interactions and dynamics of pleckstrin homology domains on a lipid membrane surface**
Eiji Yamamoto[1], Antreas C. Kalli[2], Takuma Akimoto[1], Mark S.P. Sansom[2], Kenji Yasuoka[3] ([1]*Grad. Sch. Sci. Technol., Keio Univ.*, [2]*Dept. Biochem., Univ. Oxford*, [3]*Dept. Mech. Eng., Keio Univ.*)

生体膜・人工膜：構造・物性 / Biological & Artificial membrane: Structure & Property

2Pos213* **D 体フェニルアラニンを含む抗菌ペプチド Phenylseptin の脂質膜との相互作用解析**
Analysis of interaction between antimicrobial peptide phenylseptin containing a D-phenylalanine and membrane
Yuta Matsuo, Izuru Kawamura (*Grad. Sch. Eng., Yokohama Natl. Univ.*)

2Pos214* **人工生体膜とナノ空間を利用した 1 分子計測技術の開発**
Single-molecule observation technique based on a model membrane and a nanometric gap structure
Koji Ando[1], Humio Hayashi[2], Kenichi Morigaki[1,3] ([1]*Grad. Agri., Univ. Kobe*, [2]*Grad. Sci., Univ. Kobe*, [3]*Biosignal. Univ. Kobe*)

2Pos215* **カチオン性抗菌ペプチド ボンビニン H2 および H4 のリーシュマニア原虫模倣膜との特異的な相互作用**
Specific interaction of cationic antimicrobial peptides bombinin H2 and H4 with *Leishmania* protozoa mimetic membrane
Shiho Kaneda, Akira Naito, Izuru Kawamura (*Grad. Sch. Eng., Yokohama Natl. Univ.*)

2Pos216 **水の脂質膜透過に対する膜の張力の効果**

Effect of Lateral Tension on Membrane Permeability of Water in Lipid Membranes

Sayed Ul Alam Shibly[1], Masahito Yamazaki[1,2,3] ([1]*Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Ele., Shizuoka Univ.*, [3]*Grad. Sch. Sci., Shizuoka Univ.*)

2Pos217 **部分フッ素化リン脂質からなる人工膜内色素分子の発光挙動**

Investigation of fluorescence emission from dye-lipid in partially fluorinated lipid bilayer

Toshinori Motegi[1], Ryugo Tero[2], Toshiyuki Takagi[3], Hiroshi Takahashi[1], Hideki Amii[1], Toshiyuki Kanamori[3], Masashi Sonoyama[1] ([1]*Gunma Univ.*, [2]*Toyohashi Univ. Tech.*, [3]*AIST*)

2Pos218 **パターン化人工膜を利用した NAP-22 の膜結合と凝集挙動解析**

Membrane binding and aggregation of neuronal acidic protein of 22kDa (NAP-22) studied with a patterned model membrane

Sakiko Kojima[1], Yasushi Tanimoto[1], Fumio Hayashi[3], Shohei Maekawa[3], Kenichi Morigaki[1,2] ([1]*Grad. Sch. Agri., Univ. Kobe*, [2]*Biosignal Research Center, Univ. Kobe*, [3]*Grad. Sch. Sci., Univ. Kobe*)

2Pos219 **Phospholipase C and D induced defects in POPC and POPC: POPG lipid bilayers: A simulation study**

M Harunur Rashid[1], M N Holme[2], M M Stevens[2], I Yarovsky[1] ([1]*School of Engineering, RMIT university, Melbourne, Australia*, [2]*Department of Materials, Department of Bioengineering and Institute of Biomedical Engineering, Imperial College, London, UK.*)

2Pos220 **固体 NMR と MD シミュレーションによる抗菌ペプチドアラメチシンとメリチンの膜結合構造と配向の解明**

Structure and orientation of antimicrobial peptides alamethicin and melittin in membrane revealed by solid-state NMR and MD simulation

Akira Naito[1], Takashi Nagao[1], Daisuke Mishima[1], Namsrai Javkhalantugs[2], Jun Wang[1], Daisuke Ishioka[1], Kiyonori Yokota[1], Kazushi Norisada[1], Izuru Kawamura[1], Kazuyoshi Ueda[1] ([1]*Grad. Schl. Eng. Yokohama Natl. Univ.*, [2]*Schl. Eng. and Appl. Sci., Natl. Univ. Mongolia*)

2Pos222 **巨大一枚膜ベシクルに内包された DNA コンピュータ基盤遺伝子発現制御システム**

Development of a DNA computer-based gene-regulatory system encapsulated in a giant unilamellar vesicle

Koh-ichiroh Shohda[1], Toru Nishikata[1], Yutetsu Kuruma[2], Akira Suyama[1] ([1]*Grad. Sch. Arts and Sciences, The University of Tokyo*, [2]*Earth-Life Science Institute, Tokyo Institute of Technology*)

2Pos223 **Local pressure tensor calculation for molecular simulations and its application to lipid membranes**

Koh Nakagawa, Hiroshi Noguchi (*ISSP, Univ. of Tokyo*)

2Pos224 **Formation of vesicles using self-reproducing oil droplet system**

Kensuke Kurihara[1,2,3] ([1]*Okazaki Institute for Integrative Bioscience*, [2]*Institute for Molecular Science*, [3]*Research Center for Complex Systems Biology, The Univ. of Tokyo*)

2Pos225* **アクチンフィラメントの細胞膜シート上への結合**

The binding of actin filament on the cell membrane flat sheet

Shun Wakamatsu[1], Kuniyuki Hatori[1], Takashi Okuno[2] ([1]*Grad. Sch. Sci. & Eng., Yamagata Univ.*, [2]*Fac. Sci., Yamagata Univ.*)

2Pos226* **アクチン線維を封入した巨大リポソームの形態変化**

Shape change of giant liposomes encapsulating actin filaments

Shunsuke Tanaka, Masahito Hayashi, Kingo Takiguchi (*Grad. Sch. Sci., Nagoya Univ.*)

光生物：視覚･光受容 / Photobiology: Vision & Photoreception

2Pos227 **全反射赤外分光法を用いたウシオプシンと匂い分子の相互作用研究**

ATR-FTIR study on the interactions between bovine opsin and odorants

Kunisato Kuroi[1], Takefumi Morizumi[2], Hisao Tsukamoto[1], Oliver P Ernst[2], Yuji Furutani[1] ([1]*Inst. for Mol. Sci.*, [2]*Univ. Toronto*)

2Pos228 **Glu381Lys 点変異体を用いたニワトリクリプトクロム 4 の光反応メカニズムの解析**

Photoreaction mechanism of chicken cryptochrome4 studied by using a Glu381Lys mutant

Hiromasa Mitsui, Kota Miura, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

2Pos229* **ニワトリクリプトクロム４の光依存的な相互作用分子とその分子メカニズム**

Identification of chicken CRY4-interacting molecules and the interaction mechanism

Ayano Orii, Shingo Kondo, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

2Pos230 **桿体視細胞に発現する視物質の熱活性化頻度**

Thermal activation rates of visual pigments expressed in rods

Keiichi Kojima[1], Yuki Matsutani[1], Masataka Yanagawa[2], Takahiro Yamashita[1], Yasushi Imamoto[1], Osamu Hisatomi[3], Yumiko Yamano[4], Akimori Wada[4], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Cell. Info. Lab., Riken*, [3]*Grad. Sch. Sci., Osaka Univ.*, [4]*Kobe Pharm. Univ.*)

2Pos231 **トランスデューシンは PDE を“間接的に”活性化する**

Transducin activates cGMP phosphodiesterase indirectly

Teizo Asano, **Shuji Tachibanaki**, Satoru Kawamura (*Grad. Sch. Frontier Biosci., Osaka Univ.*)

2Pos232* **低温赤外分光法によるサル緑感受性視物質がもつ塩化物イオン結合部位の構造解析**

Structural analysis of chloride binding site of monkey green studied by light-induced difference FTIR spectroscopy

Shunta Nakamura[1], Kota Katayama[2], Hiroo Imai[3], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*Dept. Pharm CWRU, USA*, [3]*Primate Res Inst., Kyoto Univ.*)

2Pos233 **新口動物の光受容タンパク質 Opn5 の多様性**
Diversity of the photoreceptor protein Opn5 found in deuterostomes
Takahiro Yamashita[1], Ikutaro Sawada[1], Keita Sato[2], Naoaki Sakamoto[3], Keisuke Takahashi[1], Naoyuki Iwabe[1], Hideyo Ohuchi[2], Takashi Yamamoto[3], Yoshinori Shichida[1] ([1]*Grad. Scl. of Sci., Kyoto Univ.*, [2]*Okayama Univ. Grad. Sch. of Med.*, [3]*Grad. Scl. of Sci., Hiroshima Univ.*)

2Pos234 **Light-dependent association and dissociation of arrestin with bistable opsins**
Takashi Nagata[1], Mitsumasa Koyanagi[1, 2], Emi Yamashita-Kawano[1], Robert Lucas[3], Akihisa Terakita[1] ([1]*Graduate School of Science, Osaka City University*, [2]*JST PRESTO*, [3]*Faculty of Life Sciences, The Unversity of Manchester*)

2Pos235 **桿体アレスチンのスプライスバリアント・p44 の自己会合の解析**
Self-association of p44, a splice variant of visual rod arrestin
Yasushi Imamoto[1], Keiichi Kojima[1], Toshihiko Oka[2], Takahiro Yamashita[1], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Sci., Shizuoka Univ.*)

2Pos236 **疾患に関わるロドプシン変異体の FTIR 研究**
FTIR study of disease-causing mutations of rhodopsin
Akiko Enomoto[1], Shunta Nakamura[1], Kota Katayama[2], Hiroo Imai[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Dept. Pharm., CWRU, USA*, [3]*Primate Res. Inst., Kyoto Univ.*)

2Pos237 **N-terminal region of modified Volvox channel rhodopsin-1(mVChR1) enchances Na+ Influx by drowing hydrogen ion**
Yuko Sakajiri[1], Kanako Hara[2], Yoshito Watanabe[2], Tetsuya Sakajiri[3], Eriko Sugano[2], Hiroshi Tomita[1,2] ([1]*Ugas. Agr. Iwate Univ.*, [2]*Se. Iwate Univ.*, [3]*Fac. of Nutr. Sci., Morioka Univ.*)

2Pos238 **フグ眼球由来の細胞株における広範囲な光波長応答性**
A wide-range spectral photosensitivity in the puffer fish ocular cells
Keiko Okano[1], Shoichi Ozawa[1], Hayao Sato[1], Sawa Kodachi[1], Masaharu Ito[1], Toshiaki Miyadai[2], Akihiro Takemura[3], Toshiyuki Okano[1] ([1]*Dept. Eng Biosci, Grad. Sch. Adv Sci. and Eng, Waseda Univ.*, [2]*Fac Marine Biosci, Fukui Pref. Univ.*, [3]*Dept. Chem Biol. & Marine Sci. Fac Sci., Univ. Ryukyus*)

2Pos239 ***Guillardia theta* 由来ロドプシン様タンパク質の分子機能解明**
Molecular functions of rhodopsin-like proteins from *Guillardia theta*
Yumeka Yamauchi[1], Masae Konno[1], Keiichi Inoue[1,2], Satoshi Tsunoda[1], Hideki Kandori[1] ([1]*Nagoya Inst. tech.*, [2]*JST. PRESTO*)

2Pos240* **海洋性細菌のもつ光駆動イオンポンプ**
Light-driven ion-pump activity of native marine bacteria
Yuichi Hashimoto[1], Rei Abe-Yoshizumi[1], Yoshitaka Kato[1], Keiichi Inoue[1,2], Hideki Kandori[1] ([1]*Nagoya Institute of Technology*, [2]*JST PRESTO*)

光生物：光合成 / Photobiology: Photosynthesis

2Pos241 **好熱性紅色光合成細菌 *Alc. tepidum* 由来の光捕集複合体の単離精製と分光学的特性評価**
Purification and spectroscopic study of the light-harvesting complexes from thermophilic purple bacterium *Allochromatium tepidum*
N. Nakamura[1], S.-W. Lu[2], A. Ohkoshi[1], K. Okazaki[1], T. Kawakami[1], M. T. Madigan[3], Y. Kimura[2], **S. Otomo**[1] ([1]*Ibaraki Univ.*, [2]*Grad. Sch. Agri. Sci., Kobe Univ.*, [3]*Southern Illinois Univ.*)

2Pos242 **Thermochromatium tepidum 由来光捕集 1 複合体における部位特異的変異体の分光学的解析**
Spectroscopic characterization of site-directed mutants in Light-Harvesting 1 complex from Thermochromatium tepidum
Kanako Hashimoto[1], Seiji Akimoto[2], Kenji Nagashima[3], Takashi Ohno[1], Sheiu Otomo[4], Yukihiro Kimura[1] ([1]*Graduate school of Agriculture, Kobe University*, [2]*Graduate school of Science, Kobe University*, [3]*Research Institute for Photobiological Hydrogen Production, Kanagawa University*, [4]*Faculty of Science, Ibaraki University*)

2Pos243 **光合成光捕集複合体における金属イオン認識の構造基盤**
Structural basis for the metal-ion recognition of the bacterial core light-harvesting complex
T. Kawakami[1], L.-J. Yu[2,3], Y. Kimura[4], S. Otomo[2] ([1]*Grad. Sch. Sci. Eng., Ibaraki Univ.*, [2]*Ibaraki Univ.*, [3]*Present address: Grad. sch. Boi., Okayama Univ.*, [4]*Grad. Sch. Agri. Sci., Kobe Univ.*)

2Pos244 **NMR study of the interaction on the two ferredoxin isoforms with ferredoxin-NADP$^+$ reductase**
Risa Mutoh[1,2], Akane Furuya[2,3], Takahisa Ikegami[4], Michael Hippler[5] ([1]*Faculty of Sci., Fukuoka Univ.*, [2]*Inst. for Protein Research, Osaka Univ.*, [3]*Grad. Sch. of Sci., Osaka Univ.*, [4]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [5]*Inst. for Biology and Biotechnology, Univ. of Munster*)

2Pos245* **同一メナキノン分子の酸化還元電位が２種の光合成反応中心蛋白質で 500mV も異なる理由**
Redox potential difference of 500 mV for menaquinones in two types of photosynthetic reaction centers
Keisuke Kawashima[1], Hiroshi Ishikita[1,2] ([1]*Grad. Sch. Eng., Univ. of Tokyo*, [2]*RCAST, Univ. of Tokyo*)

2Pos246 **ヘリオバクテリア光合成反応中心の過渡吸収変化と低温蛍光解析**
Analyses of transient absorption changes and low-temperature fluorescence in the photosynthetic reaction center of heliobacteria
Hirozo Oh-oka[1], Risa Kojima[1], Chihiro Azai[2], Risa Mutoh[3], Genji Kurisu[3], Shigeru Itoh[4] ([1]*Graduate School of Science, Osaka University*, [2]*College of Life Science, Ritsumeikan University*, [3]*Institute for Protein Research, Osaka University*, [4]*Center for Gene Research, Nagoya University*)

2Pos247 **Magnetic structure of reduced [2Fe-2S] Rieske cluster from green sulfur bacteria Chlorobaculum tepidum studied by ESEEM**
Naotaka Terashima (*photobioenergetics lab, graduate school of science, Nagoya university*)

2Pos248 **好熱性紅色光合成細菌 Thermochromatium tepidum 由来反応中心複合体におけるカルシウムイオンの機能的、構造的役割**
Functional and structural roles of calcium ion in the reaction center from thermophilic purple bacterium, Thermochromatium tepidum
Michie Imanishi[1], Masayuki Kobayashi[2], Manami Kobayashi[1], Mari Matsuzaki[3], Yuki Yura[3], Takashi Ohno[3], Seiu Otomo[4], Yukihiro Kimura[3] ([1]*Faculty of Agriculture, Kobe University*, [2]*Ariake National College of Technology*, [3]*Guraduate school of Agriculture, Kobe university*, [4]*Faculty of Science, Ibaraki University*)

2Pos249 **Initial formation of the radical pair in reaction center complex of *Heliobacterium modesticaldum* detected by transient ESR**
Hiroyuki Tsukuno[1], Risa Mutoh[3], Genji Kurisu[2,4], Hirozo Oh-oka[2], Hiroyuki Mino[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Dept. Applied Phys. Fac. Sci., Fukuoka Univ.*, [4]*Ins. Pro. Res., Osaka Univ.*)

2Pos250* **フラビンタンパク質で目指す人工光合成**
Artificial photosynthesis based on the engineered flavoprotein LOV
Nozomi Ueda, Yukiko Ono, Tatsuya Iwata, Masayo Iwaki, Hideki Kandori (*Nagoya Institute of Technology*)

2Pos251* **分子動力学シミュレーションによる光捕集複合体の自己組織化過程に関する理論的研究**
Theoretical study on the self-organization process of the light-harvesting complexes with molecular dynamics simulation
Marie Yamauchi[1], Shinji Saito[2,3], Masahiro Higashi[4] ([1]*Graduate School of Engineering and Science, University of the Ryukyus*, [2]*Department of Theoretical and Computational Molecular Science, Institute for Molecular Science*, [3]*The Graduate University for Advanced Studies (SOKENDAI)*, [4]*Faculty of Science, University of the Ryukyus*)

光生物：光遺伝学･光制御 / Photobiology: Optogenetics & Optical Control

2Pos252 **クリプト藻由来のカチオンチャネルロドプシンのイオン透過メカニズムの電気生理学による研究**
Electrophysiological study of cation channelrhodopsins from cryptophyte algae
Satoshi Tsunoda[1], Yumeka Yamauchi[1], Masae Konno[1], Keiichi Inoue[1,2], Hideki Kandori[1] ([1]*Grad. Sch. Sci., Nagoya Inst. of Tech.*, [2]*JST, PREST*)

2Pos253 **アニオンチャネルロドプシン 2 の光開閉型 Cl^-/H^+対向輸送活性**
A light-dependent Cl^-/H^+ antiport activity in anion channelrhodopsin-2
Satoko Doi[1], Takashi Tsukamoto[1], Srikanta Chowdhury[2], Susumu Yoshizawa[3], Akihiro Yamanaka[2], Yuki Sudo[1] ([1]*Grad. Sch. of Med. Dent. & Pharm. Sci., Okayama Univ.*, [2]*RIEM, Nagoya Univ.*, [3]*AORI, Univ. of Tokyo*)

2Pos254 **サーモフィリックロドプシンの耐熱性・高光遺伝学活性の構造基盤**
Structural basis for high thermal stability and efficient optogenetic function of thermophilic rhodopsin
Takashi Tsukamoto[1], Kenji Mizutani[2], Taisuke Hasegawa[3], Megumi Takahashi[4], Naoya Honda[1], Naoki Hashimoto[2], Kazumi Shimono[5], Seiji Miyauchi[5], Shin Takagi[4], Shigehiko Hayashi[3], Takeshi Murata[2], **Yuki Sudo**[1] ([1]*Okayama Univ.*, [2]*Chiba Univ.*, [3]*Kyoto Univ.*, [4]*Nagoya Univ.*, [5]*Toho Univ.*)

2Pos255 **新規酵素ロドプシンの機能解析**
Characterization of a novel enzyme rhodopsin
Kazuho Yoshida[1], Satoshi Tsunoda[1], Leonid S. Brown[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Univ. Guelph*)

2Pos256 **ユニークな光反応を示す微生物型ロドプシンの研究**
Microbial rhodopsins with unique photoreaction
Yoshitaka Kato, Keiichi Inoue, Shota Ito, Satoshi Tsunoda, Yurika Nomura, Hideki Kandori (*Grad. Sch. Eng., Nagoya Inst. Tech.*)

生命の起源･進化 / Origin of life & Evolution

2Pos257* **マイクロデバイスと大腸菌の融合を基とした人工細胞の開発**
A step towards creating life: Development of the hybrid cell based on the fusion of micron-scaled device and *E. coli*
Yoshiki Moriizumi[1,2], Kazuhito V. Tabata[1,2,3], Rikiya Watanabe[1,3], Tomohiro Doura[4], Mako Kamiya[3,4], Yasuteru Urano[4,5,6], Hiroyuki Noji[1,2] ([1]*Dept. Appl. Chem., Grad. Sch. Eng, Univ. Tokyo*, [2]*ImPACT, Cab. Office, Gov. Japan*, [3]*PRESTO, JST*, [4]*Grad. Sch. Med., Univ. Tokyo*, [5]*Grad. Sch. Pharm, Univ. Tokyo*, [6]*CREST, AMED*)

2Pos258* **翻訳と共役した再帰的 DNA 複製システムの確立**
The establishment of translation-coupled recursive DNA replication system
Yoshihiro Sakatani[1], Norikazu Ichihashi[1,2] ([1]*Grad. Sch. Info., Osaka Univ.*, [2]*Grad. Sch. Bio., Osaka Univ.*)

2Pos259 **Characterization on *Escherichia coli* L-Form**
Shino Toe[1], Kazuhito V. Tabata[2,3,4], Yoshiki Moriizumi[2,3], Hiroyuki Noji[2,3] ([1]*Dept. Appl. Chem., UG. Sch. Eng, Univ. Tokyo*, [2]*Dept. Appl. Chem., Grad. Sch. Eng, Univ. Tokyo*, [3]*ImPACT, Cab. Office, Gov. Japan*, [4]*PRESTO, JST*)

2Pos260 **対称性の自発的破れによる遺伝子の起源**
The origin of genes through spontaneous symmetry breaking
Nobuto Takeuchi (*Univ. Tokyo, Grad. Sch. of Arts and Sciences*)

2Pos261* **円偏光による L 型アミノ酸過剰生成機構の理論的探求**
Theoretical investigation of the generation of L-form amino acid excess by the CPL irradiation
Akimasa Sato[1], Mitsuo Shoji[2], Katsumasa Kamiya[3], Kenji Shiraishi[4], Kazuhiro Yabana[2], Yasuteru Shigeta[2], Masayuki Umemura[2] ([1]*Grad. Sch. Pure. App. Sci., Univ. Tsukuba*, [2]*Center Comp. Sci., Univ. Tsukuba*, [3]*Center Basic Edu. Integ. Learn., Kanagawa Inst. Tech.*, [4]*Inst. Mat. Sys. Sust., Nagoya Univ.*)

ゲノム生物学：ゲノム構造 / Genome biology: Genome structure

2Pos262 **3D ゲノム構造の集団ベースモデリング**
Population-based framework of 3D genome modeling
Takeshi Sugawara (*RcMcD, Hiroshima University*)

2Pos263 **Dynamic chromatin domains revealed by super-resolution live-cell imaging**
Tadasu Nozaki[1], Sachiko Tamura[1], Ryosuke Imai[1], Tomomi Tani[2], Masaru Tomita[3], Takeharu Nagai[4], Yasushi Okada[5], Kazuhiro Maeshima[1] ([1]*Natl. Inst. Genet.*, [2]*MBL*, [3]*Inst. Adv. Biosci., Keio Univ.*, [4]*ISIR, Osaka Univ.*, [5]*QBiC, RIKEN*)

2Pos264 **分裂酵母クロマチン動態の網羅的解析**
Comprehensive Analysis of Chromatin Dynamics in Fission Yeast
Toshinori Namba[1], Sayaka Suzuki[2], Takeshi Sugawara[1], Da-Qiao Ding[3], Yasushi Hiraoka[4], Yuichi Togashi[1], Masaru Ueno[5], Shin-ichi Tate[1] ([1]*RcMcD, Hiroshima Univ.*, [2]*Dept. of Math. and Life Sci., Hiroshima Univ.*, [3]*Adv. ICT Res. Inst., NICT*, [4]*Dept. of Biol. Sci., Osaka Univ.*, [5]*Grad. Sch. of Adv. Sci. of Matter, Hiroshima Univ.*)

バイオインフォマティクス：構造ゲノミクス / Bioinformatics: Structural genomics

2Pos265 **長さの異なる塩基配列組み合わせの頻度・分布を用いたヌクレオソーム配置推定**
Predict nucleosome positioning by incorporating the frequencies and distributions of three length-different nucleotide segments
Akinori Awazu[1,2] ([1]*Dept. of Math. and Life Sciences, Hiroshima Univ.*, [2]*RcMcD , Hiroshima Univ.*)

2Pos266 **New rules of protein structures**
Shunsuke Nishiyama[1], Shintaro Minami[2], **George Chikenji**[1] ([1]*Dept. of Comp. Sci. & Eng., Nagoya Univ.*, [2]*Grad. Sch. of Inf. Sci., Nagoya Univ.*)

2Pos267 **全原子 Motion Tree による構造変化の解析**
Description of protein structural changes by full-atom Motion Tree
Ryotaro Koike (*Grad. Sch. of Info. Sci., Nagoya Univ.*)

2Pos268 **分子動力学法を用いた、ポリグルタミン酸のアンフォールドダイナミクス**
Unfolding dynamics of poly-glutamic acid in using molecular dynamics method
Naoki Ogasawara[1], Ryosuke Iwai[1], Kota Kasahara[2], Tetsuro Nagai[3], Takuya Takahashi[2] ([1]*Grad. Sch. Life. Sci., Ritsumei. Univ.*, [2]*Col. Life. Sci., Ritsumei. Univ.*, [3]*Col. Sci., Univ. Nagoya*)

2Pos269 **MEGADOCK-Azure: Microsoft Azure クラウド環境での並列タンパク質間相互作用予測計算**
MEGADOCK-Azure: High-performance protein-protein interaction predictions on Microsoft Azure HPC
Masahito Ohue[1], Yuki Yamamoto[1,2], Hiroyuki Sato[3], Takashi Matsushita[3], Yutaka Akiyama[1,2] ([1]*Sch. of Computing, Tokyo Tech.*, [2]*ACLS, Tokyo Tech.*, [3]*IMSBIO Co., Ltd.*)

2Pos270 **非エバルト静電ポテンシャル計算法“零多重極子和法”の開発と検証**
Development and Evaluations of a Fast and Accurate Non-Ewald Electrostatic Potential Scheme, the Zero-Multipole Summation Method
Kota Kasahara[1], Shun Sakuraba[2], Ikuo Fukuda[3], Jinzen Ikebe[4], Ryuhei Harada[5] ([1]*Col. Life Sci., Ritsumeikan Univ.*, [2]*Grad. Sch. Frontier Sci., Univ. Tokyo*, [3]*IPR, Osaka Univ.*, [4]*QST, MMS*, [5]*CCS, Univ. Tsukuba*)

2Pos271 **Local structures around protein phosphorylation sites**
Hafumi Nishi, Kengo Kinoshita (*Grad. Sch. Info. Sci., Tohoku Univ.*)

2Pos272 **膜タンパク質の構造分類：93 フォールドの同定**
We found at least 93 membrane protein folds in structure classification
Tsukasa Ueno[1], Masato Sakai[1], Masami Ikeda[2], Makiko Suwa[1,2] ([1]*Biol. Sci., Grad. Sci. Eng., Aoyama Gakuin Univ.*, [2]*Chem. Biol. Sci., Sci. Eng., Aoyama Gakuin Univ.*)

バイオインフォマティクス：分子進化 / Bioinformatics: Molecular evolution

2Pos273 **Culture-independent identification of genes encoding agarase from environmental bacteria using agarose gel microdroplets**
Eiji Shigihara[1], Ryo Iizuka[1], Takashi Sakurai[1], Yuji Hatada[2], Dong Hyun Yoon[3], Tetsushi Sekiguchi[4], Shuichi Shoji[3], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., Univ. Tokyo.*, [2]*Dept. of Life Sci. and Green Chem., Saitama Inst. of Technol.*, [3]*Dept. of Nanosci. and Nanoeng., Waseda Univ.*, [4]*Res. Org. for Nano&Life Innov., Waseda Univ.*)

2Pos274 **人工平面脂質二重膜を用いた抗菌性ペプチドの分子進化研究**
Molecular evolution of antimicrobial peptides using artificial planar lipid bilayers
Naoki Saigo[1], Yusuke Sekiya[2], Hirokazu Watanabe[2], Ryuji Kawano[3] ([1]*Tokyo Univ. of Agri. & Tech. Dept. of Biotech. Life Sci.*, [2]*Tokyo Univ. of Agri. & Tech. Dept. of Biotech. Life Sci.*, [3]*Tokyo Univ. of Agri. & Tech. Dept. of Biotech. Life Sci.*)

2Pos275 **タンパク質コーパスによる分散表現：ランダム配列の意味空間マッピングによる偽タンパク質の探索**
Distributed representation analysis of a protein corpus: Can we identify fake proteins by mapping random sequences on a semantic space?
Hiroshi Imamura, Shinya Honda (*AIST*)

2Pos276 **蛋白質構造安定性の平衡淘汰**
Selection maintaining protein stability at equilibrium
Sanzo Miyazawa

計測 / Measurements

2Pos277* **原子間力顕微鏡による初期発生胚の弾性率のタイムラプスイメージング**
Time-lapse imaging of elastic modulus of ascidian embryo during early development by atomic force microscopy
Yuki Fujii[1], Wataru Koizumi[2], Taichi Imai[2], Kohji Hotta[2], Kotaro Oka[2], Takaharu Okajima[1] ([1]*Grad. Schl. Inform. Sci. and Tech. Hokkaido Univ.*, [2]*Grad. Schl. Biosci. and Bioinfo. Keio Univ.*)

2Pos278 **信号処理蛋白質 Raf の生細胞内 ALEX 計測**
In-cell ALEX measurement of cytosolic signaling protein Raf
Kenji Okamoto[1], Kayo Hibino[2], Yasushi Sako[1] ([1]*RIKEN*, [2]*NIG*)

2Pos279 **細胞内環境におけるアンチセンス分子自己相補形成の mRNA に対する親和性への寄与**
Contribution of self-complementarity of antisense molecule to the affinity for mRNA in intracellular environment
Shunsuke Takeda[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. of Tokyo*, [2]*PRESTO, JST*)

2Pos280 **顕微ラマン分光法によるバクテリアー細胞の代謝活性測定**
Measuring metabolic activities in single bacterial cells by Raman microspectroscopy
Yota Kato[1], Hiroshi Ueno[1], Hiroyuki Noji[1,2] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*ImPACT, JST*)

2Pos281 **上皮細胞シートの頂端膜揺らぎ：走査型イオンコンダクタンス顕微鏡**
Scanning ion conductance microscopy (SICM) measurement of apical membrane fluctuation in epithelial cell monolayer
Kenta Aoki[1], Ryosuke Tanaka[1], Cho Nam-Joon[2], Takaharu Okajima[1] ([1]*Grad. Schl. Inform. Sci. and Technol., Hokkaido Univ.*, [2]*NanyangTechnol Univ.*)

2Pos282* **蛍光偏光相関分光法により明らかになった生細胞内での分子混雑と回転拡散の関係**
The relationship between rotational diffusion and crowding in living cell revealed by polarized fluorescence correlation spectroscopy
Makoto Oura[1], Johtaro Yamamoto[2], Takahiro Matsuda[1], Jian Ping Gong[2], Masataka Kinjo[2] ([1]*Hokkaido Univ. Grad. Sch. Life Sci.*, [2]*Hokkaido Univ. Fac. Adv. Life Sci.*)

2Pos283 **細胞イメージングシステムを用いたナノバイオプローブの生体適合性評価**
Evaluation of biocompatibility of nano-bio probes by using Cell imaging system
Yuko Nakane[1,2], Takashi Jin[2] ([1]*Tomy Digital Biology Co., Ltd.*, [2]*RIKEN QBiC*)

2Pos284 **金ナノ粒子を用いた加熱による細胞内局所温度の制御**
Manipulating the local temperature in a single cell with gold nanoparticles
Takaaki Honda[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharma., Univ. Tokyo*, [2]*JST PRESTO*)

2Pos285 **人工細胞開発に向けた細胞内 ATP 濃度の定量計測系開発**
Development of Quantitative ATP Concentration Measurement Method in Single Cells for Artificial Cell System
Hiroki Ashikawa[1], Kazuhito V. Tabata[1,2,3], Hiromi Imamura[4], Rikiya Watanabe[1,3], Hideyuki Yaginuma[5], Hiroyuki Noji[1,2] ([1]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Toyko*, [2]*ImPACT, CAO, Govt. Japan*, [3]*PRESTO, JST*, [4]*Grad. Sch. Bio., Univ. Kyoto*, [5]*QBiC, RIKEN*)

2Pos286 **バイオセンサシステムのための水素化アモルファスシリコン薄膜上のアミノ酸含有ゲルの電圧電流特性解析および蛍光性分子薄膜に関する研究**
Voltage current property of amino acid containing hydrogel and molecular film on hydrogenated amorphous silicon film for biosensor system
Makoto Horigane[1], Shotaro Minato[1], Hiroshi Masumoto[2], Takashi Goto[3], **Yutaka Tsujiuchi**[1] ([1]*Mat. Sci. & Eng., Akita Univ.*, [2]*Front. Res. Inst., Tohoku Univ.*, [3]*Inst. Mat. Res., Tohoku Univ.*)

2Pos287 **オンチップ１細胞計測系によるマクロファージの複数貪食の制御解析**
Studies on regulation mechanism of multiple phagocytosis of macrophage by single cell on-chip measurement assay
Yoshiki Nakata[1], Hideyuki Terazono[2], Masao Odaka[2], Kenji Matsuura[2], Akihiro Hattori[2], Kenji Yasuda[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*WASEDA Biosci. Res. Inst. Singapore (WABIOS), Waseda Univ.*)

2Pos288 **Development of Novel Scanning Microscope for Measurement of Emission and Excitation Spectra Simultaneously**
Sankar Jana, Yutaka Shibata (*Tohoku University*)

バイオイメージング / Bioimaging

2Pos289 **高速 AFM によるアクチン様細胞骨格タンパク質 MamK 繊維の直接観察**
Direct observation of actin-like MamK cytoskeletal filaments by high-speed AFM
Yousuke Kikuchi[1], Marina Inagawa[2], Zachery Oestreicher[1], Azuma Taoka[1,3], Yoshihiro Fukumori[1] ([1]*Sch. of Nat. Sys., Col. of Sci. and Eng., Kanazawa Univ.*, [2]*Grad. Sch. of Nat. Sci. and Tech., Kanazawa Univ.*, [3]*Bio-AFM Center, Col. of Sci. and Eng., Kanazawa Univ.*)

2Pos290 **高速 AFM による古細菌 *S. solfataricus* 由来ミニ染色体維持(ssoMCM)タンパク質複合体の観察**
Observation of *S. solfataricus* archaeal minichromosome maintenance (ssoMCM) protein complex by high-speed AFM
Daisuke Noshiro[1], Noriyuki Kodera[1,2], Toshio Ando[1,3] ([1]*Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ.*, [2]*PRESTO, JST*, [3]*CREST, JST*)

2Pos291 **ストレプトリジン O による膜孔形成の高速 AFM 観察**
High-speed AFM Observation of Membrane Pore Formation by Streptolysin O
Hirotaka Ariyama[1], Noriyuki Kodera[1], Toshio Ando[1,2] ([1]*Bio-AFM Frontier Research Center, Kanazawa Univ.*, [2]*Dept. Phys., Kanazawa Univ.*)

2Pos292　ストレス顆粒内内在性 mRNA のナノスケール蛍光イメージング

Nanoscale Fluorescence Imaging of Endogenous mRNAs in Stress Granules

Ko Sugawara[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. of Tokyo*, [2]*JST, PRESTO*)

2Pos293　人知を超える超高速・高精度蛍光形態サイトメトリー

Ghost Cytometry: fluorescence "imaging" cytometry beyond human's limit

Sadao Ota[1,2], Hiroyuki Noji[1,3] ([1]*Sch. Eng., Univ. Tokyo*, [2]*JST, PRESTO*, [3]*JST, ImPACT*)

2Pos294　線形ゼロモード導波路を用いたアクチン重合メカニズムの 1 分子解析

Single molecule observation of actin polymerization using linear zero-mode waveguides

Soichiro Fujii[1], Ryo Iizuka[1], Masamichi Yamamoto[1], Makoto Tsunoda[1], Takashi Tanii[2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Tokyo*, [2]*Fac. Sci. Eng., Waseda Univ.*)

2Pos295　T 細胞活性化における微小管動態の超解像解析

Super-resolution analysis of microtubule dynamics on T cell activation

Hengyu Shi, Yuma Ito, Wei Ming Lim, Kumiko Sakata-Sogawa, Makio Tokunaga (*Sch. Life Sci. Tech., Tokyo Inst. Tech.*)

2Pos296　自発的光スイッチング蛍光タンパク質による簡便超解像イメージング

Simple and easy way for superresolution imaging by spontaneously switching-on fluorescent protein

Yoshiyuki Arai, Hiroki Takauchi, Takeharu Nagai (*ISIR, Osaka Univ.*)

2Pos297*　細胞内グルタチオンの求核付加・解離平衡に基づく超解像蛍光イメージングプローブの開発

Development of spontaneously blinking fluorophores based on nucleophilic addition of intracellular glutathione for superresolution imaging

Akihico Morozumi[1,4], Mako Kamiya[2,5], Shinnosuke Uno[1], Keitaro Umezawa[1], Toshitada Yoshihara[3], Seiji Tobita[3], Yasuteru Urano[1,2,4] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Med., The Univ. of Tokyo*, [3]*Grad. Sch. Sci. Tech., Gunma Univ.*, [4]*AMED CREST*, [5]*JST PRESTO*)

2Pos298*　自由行動マウスの脳活動計測を可能にする化学発光膜電位センサーの開発

Development of a chemiluminescent voltage indicator applicable to brain activity recording in freely moving mice

Shigenori Inagaki[1], Masakazu Agetsuma[2], Hidekazu Tsutsui[3,4], Yoshiyuki Arai[2], Kazushi Suzuki[5], Yuka Jinno[4], Yasushi Okamura[1,4], Tomoki Matsuda[2], Takeharu Nagai[1,2,5] ([1]*FBS., Univ. Osaka*, [2]*ISIR., Univ. Osaka*, [3]*Sch. Mat. Sci., JAIST*, [4]*Grad. Sch. Med., Univ. Osaka*, [5]*Dep of Biotech, Univ. Osaka*)

2Pos299　自動 1 分子イメージング装置の開発

Development of automatic single molecular imaging system

Masato Yasui[1], Jun Kozuka[1], Michio Hiroshima[1], Taku Tsuzuki[2], Yasushi Sao[3] ([1]*RIKEN QBiC*, [2]*Osaka University*, [3]*RIKEN Cellular Informatics Laboratory*)

2Pos300　Fluorescence recovery after photobleaching (FRAP) analysis of INO80 chromatin remodeling complex

Tsubasa Isogaki[1], Yuma Ito[1], Shota Ichikawa[1], Hiroshi Kimura[2], Masahiko Harata[3], Kumiko Sakata-Sogawa[1], Makio Tokunaga[1] ([1]*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, [2]*Inst. Innov. Res., Tokyo Inst. Tech.*, [3]*Grad. Agr. Sci., Tohoku Univ.*)

2Pos301*　The Correspondence between Raman Microspectroscopy and Omics Data

Koseki Kobayashi-Kirschvink[1], Hidenori Nakaoka[1], Arisa Oda[2], Kunihiro Ohta[2,3], Yuichi Wakamoto[1] ([1]*Dep. Bas. Sci., Univ. Tokyo*, [2]*Dep. Life. Sci., Univ. Tokyo*, [3]*Dep. Bio. Sci., Univ. Tokyo*)

2Pos302　電子顕微鏡法のための画像処理パッケージ Eos/PIONE の更なる発展

Further progress of Eos/PIONE for image analysis packages for electron microscopy

Takuo Yasunaga, Takafumi Tsukamoto, Ayaka Iwasaki (*Dept. of Biosci. Bioinfo., School of Comp. Sci. Systems, Eng., Kyushu Inst. Tech.*)

2Pos303　X 線自由電子レーザーを用いたコヒーレント回折イメージング実験におけるデータ解析の自動化と酵母細胞核の三次元構造解析への応用

Automated data analyses for 3D structural reconstruction of yeast nuclei in coherent diffraction imaging using X-ray free-electron laser

Yuki Sekiguchi[1,2], Amane Kobayashi[1,2], Koji Okajima[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Masaki Yamamoto[2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*)

バイオエンジニアリング / Bioengineering

2Pos304　フォトクロミック分子を利用した低分子量 G タンパク質の光可逆的制御

Photo-regulation of Small G protein RhoA using Photochromic Molecules

Kaori Masuhara[1], Masahiro Kuboyama[1], Nobuyuki Nishibe[2], Shinsaku Maruta[1,2] ([1]*Grad. Sch. Bioinfo., Univ. SOKA*, [2]*Dept. Bioinfo., Fac. Engineer., Univ. SOKA*)

2Pos305　Structure and mechanism of the multimerization of small GTPase protein Ras induced by chamical modification at HVR domain

Takashi Hashimoto[1], Shinsaku Maruta[1], Yasunobu Sugimoto[2] ([1]*Soka University*, [2]*Nagoya University*)

2Pos306　環状型サイトカインの安定性を向上させる結合末端ループ長の選択

Selection of the loop length about circularized cytokines

Risa Shibuya[1], Takamitsu Miyafusa[2], Wataru Nishima[2], Shinya Honda[2] ([1]*Front. Sci. , Univ. of Tokyo*, [2]*BMRI, AIST*)

2Pos307　Interaction between ring or linear DNA vs. nanopore/nanoslit

Takayuki Nakayama[1], Yoshiaki Iitsuka[1], Seiya Minato[1], Surat Wangwarunyoo[2], Naoto Sakashita[1], Kentaro Ishida[1], Toshiyuki Mitsui[1] ([1]*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*, [2]*Chulalongkorn Univ.*)

2Pos308 **Photo-regulation of Small G-proteins Ras Using Photochromic Molecules**
Masahiro Kuboyama, Kaori Masuhara, **Shinsaku Maruta** (*Soka University*)

2Pos309 **脂質膜上チャネル形成のための 10 ナノメートルスケールのポアを持つ DNA オリガミナノ構造**
DNA origami nanostruture with pore of ten nanometer scale for forming channel on lipid membrane
Koichiro Katayama[1], Ibuki Kawamata[1], Yuki Suzuki[1,2], Satoshi Murata[1], Shin-ichiro Nomura[1] ([1]*Graduate school of Engineering, Tohoku University*, [2]*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*)

2Pos310* **撹拌操作が引き起こすゲノム DNA の二本鎖切断：新規実験手法の提案**
How to keep genome-sized DNA safe against stirring stress: Quantitative analysis through single DNA observation
Hayato Kikuchi, Yuko Yoshikawa, Rinko Kubota, Kenichi Yoshikawa (*Lab. Biol. Phys., Facul. Life Med. Sci., Doshisha Univ.*)

2Pos311* **Four-way junction DNA 形成による癌特異的 microRNA 発現パターンの自律的検出**
Programmable system for recognition of microRNA expression pattern using four-way junction DNA formation
Moe Hiratani, Masayuki Ohara, Ryuji Kawano (*The Dep. of Biotech. and Life Sci., Tokyo Univ. of Agr. and Tech.*)

2Pos312 **光による DNA ハイドロゲルのパターン形成**
Patterning of DNA hydrogel using light
Suguru Shimomura, Takahiro Nishimura, Yusuke Ogura, Jun Tanida (*Grad. Sch. Info. Sci. & Tech., Osaka Univ.*)

2Pos313 **キメラ受容体によるバクテリアバイオセンサーの特異性改変**
Modification of ligand specificity in bacterial biosensor with hybrid chemoreceptors
Hana Satou[2], Nao Fujii[2], Takashi Sagawa[1], Hiroto Tanaka[1], Kazuhiro Oiwa[1,2], **Hiroaki Kojima**[1] ([1]*Frontier Lab.,KARC,NICT*, [2]*Sch. Sci., Univ. Hyogo*)

2Pos314* **金ナノ粒子のデジタル計数法による標的 DNA の高感度検出**
High-sensitivity Homogeneous DNA hybridization assay by Digital Counting of Gold Nanoparticle Dimers
Takaha Mizuguchi, Keiko Esashika, Toshiharu Saiki (*Grad. Sch. Sci. Tech., Keio Univ.*)

2Pos315* **A single integrated gene nano-chip functioning in an artificial cell**
Takeya Masubuchi[1], Masayuki Endo[2], Ryo Iizuka[3], Ayaka Iguchi[4], Yoon Doung Hyun[4], Tetsushi Sekiguchi[5], Hao Qi[1,6], Ryosuke Iinuma[1], Yuya Miyazono[1], Shuichi Shoji[4], Takashi Funatsu[3], Hiroshi Sugiyama[2,7], Yoshie Harada[2], Takuya Ueda[1], Hisashi Tadakuma[1,2] ([1]*Grad. Sch. of Frontier Sci., The Univ. of Tokyo*, [2]*iCeMS, Kyoto Univ.*, [3]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [4]*Grad. Sch. of Adv. Sci. and Eng., Waseda Univ.*, [5]*Research Organization for Nano & Life Innovation, Waseda Univ.*, [6]*Dept. of Chem. Eng. and Tech., Tianjin Univ.*, [7]*Grad. Sch. of Sci., Kyoto Univ.*)

2Pos316* **アメーバ型分子ロボット：モータータンパク質と DNA デバイスを内包した巨大リポソームの形状変化とその制御**
Amoeba type molecular robot: controlling shape change of giant liposome entrapping molecular motors and DNA circuits
Yusuke Sato[1], Yuichi Hiratsuka[2], Ibuki Kawamata[1], Satoshi Murata[1], Shin-ichiro Nomura[1] ([1]*Grad. Sho. Eng., Tohoku Univ.*, [2]*Sch. Mat. Sci., JAIST*)

2Pos317 **心筋細胞集団同士を繋ぐ線維芽細胞の距離に対する同期**
Synchronization of large clusters of cardiomyocytes connected with fibroblasts and its distance change
Shota Miyakoshi[1], Toshiyuki Mitsui[2], Tomoyuki Kaneko[1] ([1]*LaRC, Grad. Sci. Eng., Hosei Univ.*, [2]*Dept. Math. Phys. Col. Sci. Eng,. Aoyama Univ.*)

2Pos318 **目的細胞の回収を目指した微小液滴内培養法の開発**
Development of a single cell cultivating method using a microdroplets forming technique for sorting specific cells
Hideyuki Terazono[1], Masao Odaka[1], Akihiro Hattori[1], Kenji Matsuura[1], Kenji Yasuda[1,2] ([1]*WASEDA Biosci. Res. Inst. Singapore (WABIOS), Waseda Univ.*, [2]*Dept. Physics, Waseda Univ.*)

第3 日目（11 月27 日（日））／Day 3 (Nov. 27 Sun.) 大会議室 101 ＋102、多目的ホール／Conference Room 101+102, Multi-Purpose Hall

蛋白質：構造 / Protein: Structure

3Pos001 **Single Particle Analysis of *Eh*V-ATPase by Phase-contrast cryo-Electron Microscopy**
Jun Tsunoda[1,2], Chihong Song[2], Fabiana Lica Yakushiji[3], Takeshi Murata[3], Hiroshi Ueno[4], Junichi Takagi[6], Ryota Iino[1,5], Kazuyoshi Murata[1,2] ([1]*SOKENDAI*, [2]*NIPS*, [3]*Dept. Chem., Chiba Univ.*, [4]*Dept. Appl. Chem., Sch. Eng., Univ. Tokyo*, [5]*OIIB/IMS*, [6]*Osaka Univ. IPR*)

3Pos002 **TEM と ASEM を用いたタンパク質複合体・細胞組織の親水環境での観察**
Electromicroscopy of protein complexes, cells and tissues in hydrophilic environment
Chikara Sato[1], Nassirhadjy Memtily[1], Mari Sato[1], Toshiko Yamazawa[2], Masaaki Kawata[1] ([1]*AIST*, [2]*Dept. Mol Physiol, Jikei Univ. Sch. Med.*)

3Pos003 **クライオ電子顕微鏡による *Thermus thermophilus* V-ATPase の単粒子解析**
Single-particle analysis of *Thermus thermophilus* V-ATPase by Cryo-EM
Atsuko Nakanishi[1], Jun-ichi Kishikawa[1], Kaoru Mitsuoka[2], Ken Yokoyama[1] ([1]*Dept. LifeSci. Kyoto Sangyo Univ.*, [2]*Res. Ctr. UVHEM. Univ. Osaka.*)

3Pos004 **クライオ電子顕微鏡単粒子解析によるマウスノロウイルス VLP の構造解析**
Structural Analyses of Murine Norovirus VLPs by Cryo-Electron Microscopy Single Particle Analysis
Chihong Song[1], Motohiro Miki[2,3], Reiko Todaka[2], Kei Haga[2], Akira Fujimoto[2], Kazuhiko Katayama[2], Kazuyoshi Murata[1] ([1]*NIPS*, [2]*NIID*, [3]*Denka Seiken*)

3Pos005 **2D ハイブリッド解析による電子顕微鏡平均画像の成分解析**

Component analysis of averaged EM images by 2D hybrid analysis

Atsushi Matsumoto[1], Junichi Takagi[2], Atsushi Kawaguchi[3], Kenji Iwasaki[2] ([1]*National Institutes for Quantum and Radiological Science and Technology*, [2]*Osaka University*, [3]*Tsukuba University*)

3Pos006 **Structural analysis for V1-ATPase from a variety of prokaryotes**

Nao Takeuchi[1], Atsuko Nakanishi[1], Jun-ichi Kishikawa[1], Kaoru Mitsuoka[2], Ken Yokoyama[1] ([1]*Kyoto Sangyo Univ. LifeSci.*, [2]*Osaka Univ. Res. Ctr. UHVEM*)

3Pos007 **最新低温電子顕微鏡“CryoARM”の性能**

Performance of State-of-the-art CryoEM, named “CryoARM”

Takayuki Kato[1], Naoki Hosogi[2], Takeshi Kaneko[2], Isamu Ishikawa[2], Keiichi Namba[1,3] ([1]*Grad. Sch. of Front. Biosci., Osaka Univ.*, [2]*JEOL*, [3]*RIKEN, QBiC*)

3Pos008 **電顕３次元密度マップからαヘリックスを認識する混合正規分布モデルの開発**

Detection of alpha-helices from the 3D EM density map using Gaussian mixture model

Takeshi Kawabata, Haruki Nakamura (*IPR, Osaka U.*)

3Pos009 **Towards Understanding the Molecular Architecture of Human DNA Polymerase δ using Electron Microscopy and Computational Modeling**

Ashutosh Srivastava[1], Yuji Masuda[2], Jiro Usukura[3], Motoshi Suzuki[4], Florence Tama[1,5] ([1]*ITbM, Nagoya Univ.*, [2]*Res. Inst. Env. Med., Nagoya Univ.*, [3]*Str. Bio. Cen., Grad. Sch. Sci., Nagoya Univ.*, [4]*Div. Mol. Carc., Grad. Sch. Med., Nagoya Univ.*, [5]*Dept. Phys., Sch. Sci., Nagoya Univ.*)

3Pos010 **GPI アタッチメントシグナル領域の二次構造解析**

Secondary structural analysis of GPI attachment regions

Keiya Inoue[1], Daiki Takahashi[2], Tatsuki Kikegawa[2], Kenji Etchuya[2], Yuri Mukai[1,2] ([1]*Sch. Sci. & Tech., Meiji Univ.*, [2]*Grad. Sch. Sci. & Tech., Meiji Univ.*)

3Pos011 **インターセクチン２のコンホメーション解析**

Conformational Analysis of Multidomein Protein Intersectin 2

Kazutaka Murayama[1,2], Miyuki Murayama-Kato[2], Ryogo Akasaka[2], Daisuke Sugimori[3], Mikako Shirouzu[2] ([1]*Tohoku Univ. Biomed. Eng.*, [2]*RIKEN, CLST*, [3]*Fukushima Univ. Symbio. Sys. Sci.*)

3Pos012 **タンパク質の構造変性と回転拡散係数**

Rotational diffusion coefficients of proteins along denaturation curve

Yoshitake Tomoyuki, Terazima Masahide (*Graduate School of Science, Kyoto University*)

3Pos013 **シアノバクテリア時計タンパク質 KaiC の AFM 観察**

AFM observation of a ring-shaped structure of KaiC

Jun Abe, Atsushi Mukaiyama, Yoshihiko Furuike, Shuji Akiyama (*Division of Trans-Hierarchical Molecular Systems, Research Center of Integrative Molecular Systems (CIMoS), Institute for Molecular Science (IMS)*)

3Pos014 **高速 AFM による 20S プロテアソーム関連タンパク質の動態観察**

Dynamics observation of the 20S proteasome-related proteins using High-Speed AFM

Toshiya Kozai[1], Tadashi Satoh[2], Arunima Sikdar[3,4], Hirokazu Yagi[2], Maho Yagi-Utsumi[3], Takayuki Uchihashi[1], Toshio Ando[1], Koichi Kato[3,4] ([1]*Dept. of phys., Kanazawa Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*Okazaki Inst. Integ. Biosci.*, [4]*Nat. Univ. SOKENDAI*)

3Pos015 **立体構造予測において疎水効果を評価するための新しい指標： 仮想原子の周りのコンタクト数**

A new measure for hydrophobicity: Contact number around an imaginary atom

Yota Masuyama, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)

3Pos016 **統合失調症疾患感受性遺伝子産物 G72 タンパク質の構造機能予測**

Structure and function prediction of the G72 protein, the product of a susceptible gene for schizophrenia

Yusuke Kato, Kiyoshi Fukui (*Institute for Enzyme Research, Tokushima University*)

3Pos017 **残基間平均距離統計に基づくコンタクトマップによる天然変性領域の予測**

Prediction of IDRs by a contact map based on inter residue average distance statistics

Takumi Shimomura, Takeshi Kikuchi (*Univ. Ritsumei*)

3Pos018 **A new threading method based on the physical characteristics of sequence-structure compatibility**

Kyosuke Tomoda, Yota Masuyama, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)

3Pos019 **EMDB, PDB, SASBDB 中の多階層構造データを対象としたウェブベースのサービス**

Web based services for multiscale structure data in EMDB, PDB and SASBDB

Hirofumi Suzuki[1,2], Takeshi Kawabata[1], Gert-Jan Bekker[1,2,3], Haruki Nakamura[1,2] ([1]*IPR, Osaka Univ.*, [2]*PDBj*, [3]*FBS, Osaka Univ.*)

3Pos020 **単独で構造を維持するドメインデータベース「IS-Dom」の他のデータベースに依存しない拡張**

Standalone definition of putatively independent structural domain: IS-Dom

Soichiro Ide[1], Teppei Ebina[2], Richa Tanbi[1], Yutaka Kuroda[1] ([1]*Tokyo University of Agriculture and Technology*, [2]*Department of Physiology, Graduate School of Medicine, The University of Tokyo*)

3Pos021 **Attempts at CA-type formal analysis of fibrous assembly of particles**

Takashi Konno (*Mol. Physiol., Med., Univ. Fukui*)

3Pos022 **生物の低温適応と蛋白質配列の進化**

Cold adaptation of organisms and the evolution of protein sequences

Matsuyuki Shirota[1,2,3] ([1]*Grad. Sch. Med., Tohoku Univ.*, [2]*ToMMo, Tohoku Univ.*, [3]*Grad. Sch. Inform Sci., Tohoku Univ.*)

3Pos023 **スライディングとストランド間移動を用いたヒト抗ウイルス因子 APOBEC3G の高効率な DNA 配列探索：実時間 NMR による新知見**
Sliding and intersegmental transfer on DNA enhance target search of human anti-viral factor APOBEC3G: insight by the real-time NMR study
Keisuke Kamba[1], Takashi Nagata[1,2], Masato Katahira[1,2] ([1]*Inst. of Adv. Energy, Kyoto Univ.*, [2]*Grad. Sch. of Energy Sci., Kyoto Univ.*)

3Pos024 **分子動力学ドッキング・シミュレーションによるスーパーコイル DNA 結合（SDR）ペプチドとクロスオーバー DNA の選択的結合メカニズムの解析**
Molecular dynamics docking study on selective binding mechanisms of supercoiled-DNA recognition (SDR) peptide and spatially-crossover DNA
Hiroshi Nishigami[1], Kakeru Sakabe[1], Jiyoung Kang[1], Kuniaki Sano[2], Kimiko Tsutsui[2], Ken Tsutsui[2], Kazuhiko Yamasaki[3], Masaru Tateno[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Dept. Neurogenomics, Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ.*, [3]*Biomedical Res. Inst., AIST*)

3Pos025 **Unravelling the mechanism of (6-4) photolyase enzyme**
Hisham Dokainish, AKio Kitao (*The University of Tokyo*)

3Pos026 **暗視野顕微鏡を用いたタンパク質過飽和溶液中ナノスケールダイナミクス構造観察**
Nano-scale Observations of Supersaturated Protein Dynamics using Dark-Field Microscopy
Kazuki Yoshimura[1], Yufuku Matsushita[1], Keigo Ikezaki[1], Hiroshi Sekiguchi[2], Yuji Goto[3], Yuji Sasaki[1,2] ([1]*Grad. Sch. Front. Sci., Univ. Tokyo*, [2]*JASRI/SPring-8*, [3]*IPR, Osaka Univ.*)

3Pos027 **Analysis and control of protein crystallization using short peptide tags without affecting structure, thermal stability and function**
MM. Islam[1], N. Shigeyoshi[2], K. Noguchi[3], M. Yohda[3], SI. Kidokoro[2], Y Kuroda[3] ([1]*CU*, [2]*NUT*, [3]*TUAT*)

3Pos028 **滴定 X 線溶液散乱測定を用いたアダプター蛋白質 GGA-ユビキチン相互作用の解析**
An analysis of the interaction of GGA with ubiquitin by using titration SAXS measurement
Yugo Hayashi[1], Miho Shinohara[1], Keito Yoshida[1], Yoichi Yamazaki[1], Kazuhisa Nakayama[2], Soichi Wakatsuki[3], Hironari Kamikubo[1] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*Grad. Sch. Pharm., Kyoto Univ.*, [3]*Stanford Univ.*)

3Pos029 **K63 ジユビキチンと TAB2 複合体の拡張サンプリング**
Large-scale configurational sampling of K63-linked di-ubiquitin complexed with TAB2
Keiichi Inariyama[1], Hafumi Nishi[2], Kei Moritsugu[1], Akinori Kidera[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City University*, [2]*Grad. Sch. Info. Sci., Tohoku University*)

3Pos030 **Periodic Formation of the Cyanobacterial Circadian Clock Protein Complexes**
Shun Terauchi[1], Takahiro Iida[1,2], Kentaro Ishii[2], Masahiro Ishiura[2], Kosuke Maki[1] ([1]*Sch. of Sci., Nagoya Univ.*, [2]*Center for Gene Res., Nagoya Univ.*)

3Pos031 **広角溶液散乱測定のための環境整備と時計タンパク質への応用**
Wide-angle x-ray scattering studies on circadian clock systems
Shuji Akiyama[1,2], Takaaki Hikima[2], Atsushi Mukaiyama[1,2], Jun Abe[1,2], Yoshihiko Furuike[1,2] ([1]*CIMoS, IMS*, [2]*RIKEN SPring-8 Center*)

3Pos032 **X 線小角散乱法を用いた神経軸索伸長系関連蛋白質 shootin1 の動的な構造変化の解析**
Structural alteration of shootin1 upon phosphorylation revealed by using small angle x-ray scattering
Shoki Nakata[1], Keito Yoshida[1], Kentarou Baba[2], Yohei Shibata[1], Yoichi Yamazaki[1], Naoyuki Inagaki[2], Hironari Kamikubo[1] ([1]*Grad. Sch. of Mater. Sci., Nara Inst. of Sci. & Tech.*, [2]*Grad. Sch. of Biol. Sci., Nara Inst. of Sci. & Tech.*)

3Pos033 **Dynamical system of alpha-crystallin oligomers**
Rintaro Inoue, Takumi Takata, Noriko Fujii, Masaaki Sugiyama, Nobuhiro Sato, Yojiro Oba (*Research Reactor Institute,Kyoto University*)

3Pos034 **Refinement of Cryo-EM Structures Using Scattering Factors of Charged Atoms**
Koji Yonekura, Saori Maki-Yonekura, Rei Matsuoka, Yoshiki Yamashita, Fumie Iwabuki, Maiko Tanaka (*RIKEN SPring-8 Center*)

3Pos035 **Visualization of 11- and 34-fold rotational symmetries in the MS ring of the bacterial flagellum by electron cryomicroscopy**
Akihiro Kawamoto[1], Ayana Kaido[2], Miki Kinoshita[1], Tomoko Miyata[1], Tohru Minamino[1], Takayuki Kato[1], Keiichi Namba[1,3] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Dept. Food Science and Nutrition., Doshisha Women's College of Liberal Arts*, [3]*QBiC, RIKEN*)

3Pos036 **単粒子コヒーレント X 線回折像の類似積判定のためのマルチステップアルゴリズム**
Multistep similarity detection algorithm for single particle X-ray coherent diffractions
Atsushi Tokuhisa[1], Osamu Miyashita[1], Florence Tama[1,2] ([1]*AICS, RIKEN*, [2]*Department of Physics, Nagoya University*)

3Pos037 **Molecular determinants of the ATP binding properties of the ε subunit from bacterial ATP synthases**
Alexander Krah[1,2], Yasuyuki Kato-Yamada[3], Changbong Hyeon[2], Shoji Takada[1] ([1]*Dept. Biophys., Kyoto Uni.*, [2]*KIAS*, [3]*Dept. Life Sci., Rikkyo Uni.*)

3Pos038 **Microtubule stability and the tubulin molecule interactions within the microtubule lattice**
Kenta Hirasada, Daisuke Yamamoto, **Miho Katsuki** (*Fukuoka Univ., Faculty of Science*)

3Pos039 **隣り合うチューブリン存在下と非存在下における α/β チューブリン C 末端の異なる三次元空間分布**
Three-dimensional distributions of α/β-tubulin C-terminal tails and the influence of neighboring tubulins
Koji Umezawa[1,2], Yukinobu Mizuhara[3], Jun Ohnuki[3], Mitsunori Takano[3] ([1]*Grad. Sch. of Sci. & Tech., Shinshu Univ.*, [2]*IBS, Shinshu Univ.*, [3]*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*)

3Pos040 **F アクチンの水和状態は Mg^{2+}/Ca^{2+} イオンに強く依存する**
Strong Mg/Ca Ion Dependence of Hydration State of F-actin
Makoto Suzuki[1], Asato Imao[1], George Mogami[1], Ryotaro Chishima[1], Takahiro Watanabe[1], Takaya Yamaguchi[1], Nobuyuki Morimoto[1], Tetsuichi Wazawa[2] ([1]*Grad. School of Eng. Tohoku Univ.*, [2]*The Institute of Scientific and Industrial Research, Osaka University*)

3Pos041 アクチンフィラメントに結合したローダミンファロイジン蛍光のゆらぎ
Fluctuation of rhodamine-phalloidin fluorescence along actin filaments
Taro Ueda[1,3], Saku Kijima[2,3], **Takahiro Suzuki**[1] ([1]*Dept. of Physics, Waseda Univ.*, [2]*Biomed. Res. Inst., AIST*, [3]*Grad. Sch. Life Environ. Sci., Univ. of Tsukuba*)

3Pos042 OH 伸縮振動のラマン分光によるミオシン S1 および他のいくつかのタンパク質の水和状態の測定
Hydration study on myosin subfragment-1 (S1) and some other proteins by Raman OH-atretching spectroscopy
Yuki Ochiai[1], George Mogami[1], Tetsuo Taniuchi[2], Makoto Suzuki[1] ([1]*Grad. Sch. Eng., Univ. Tohoku*, [2]*IMRAM, Univ. Tohoku*)

3Pos043 ウルトラファインバブル水中のタンパク質構造の研究
Study of protein structure in ultra-fine bubble water
Mitsuhiro Hirai[1], Satoshi Ajito[1], Kosuke Takahashi[1], Noboru Ohta[2], Tatsuo Iwasa[3] ([1]*Grad. Sch. Sci. Tech., Gunma Univ.*, [2]*Jpn. Syn. Rad. Res. Inst.*, [3]*Muroran Inst. Tech.*)

3Pos044 3D−RISM 理論を応用した溶液中における Met−enkephalin の構造揺らぎの解析
Analysis of structural fluctuations of Met-encephalin in the solution phase by means of 3D-RISM theory
Masatake Sugita[1], Fumio Hirata[2] ([1]*Dept. of Bioinfo., Col. of Life Sci., Ritsumeikan Univ.*, [2]*Toyota Phys. & Chem. Res. Inst.*)

3Pos045 分子動力学シミュレーションとエネルギー表示理論を用いた共溶媒変性効果の自由エネルギー解析
Free energy analysis of cosolvent effect through molecular dynamics simulation and energy-representation method
Yu Yamamori, Nobuyuki Matsubayasi (*Grad. Sch. of Eng. Sci., Osaka Univ.*)

3Pos046 タンパク分子内情報伝達を実現する構造基盤の探索―既知の構造から
Search for Common Structural Basis of Mechanical Communication in Proteins: from Known Structures
Yuichi Togashi (*RcMcD, Hiroshima Univ.*)

3Pos047 CAPAXIS と PyMOL を用いたウイルス粒子脱殻の描画・操作
Modeling of uncoating of virus capsid by using CAPAXIS and PyMOL
Shunsuke Sato[1], Aya Kosugi[1], Go Wabanabe[2], Shigetaka Yoneda[2] ([1]*Grad. Sch. Sci., Kitasato Univ.*, [2]*Sch. Sci., Kitasato Univ.*)

蛋白質：物性 / Protein: Property

3Pos048 生体分子の分子動力学計算を取り扱う高速な QM/MM 理論の開発
Development of rapid QM/MM approach for biomolecular simulations
Hiroaki Nishizawa[1], Hisashi Okumura[1,2] ([1]*IMS*, [2]*Sokendai*)

3Pos049 タンパク質の基準振動モードのネットワーク解析：中心性指標の計算
Network analysis of normal modes of proteins: calculations of various centrality measures
Hiroshi Wako[1], Shigeru Endo[2] ([1]*Sch. of Soc. Sci., Waseda Univ.*, [2]*Sch. of Sci., Kitasato Univ.*)

3Pos050 タンパク質構造変化における経路の多様性：分子動力学シミュレーションによる解析
A variety of pathways for a conformational change of a protein investigated by molecular dynamics simulation
Sotaro Fuchigami (*Grad. Sch. of Medical Life Science, Yokohama City Univ.*)

3Pos051 カメレオンモデルによる NtrC の構造転移機構の研究
Mechanism of conformational transition of NtrC studied by using chameleon model
Shinya Abe[1], Atsushi Mizuno[2], Masaki Sasai[1], Tomoki P. Terada[1] ([1]*Dept. Comput. Sci. Eng., Grad. Sch. Eng., Nagoya Univ.*, [2]*Dept. Appl. Phys., Sch. Eng., Nagoya Univ.*)

3Pos052 Oct4 の 2 つの DNA 結合サブドメインを結ぶ柔軟な linker 領域の自由エネルギー地形
Free-energy landscape of the flexible linker connecting two DNA-binding subdomains of Oct4
Tomonori Hayami[1,2], Shoji Takada[3], Haruki Nakamura[1], Junichi Higo[1] ([1]*Inst. Protein Res., Osaka Univ.*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*)

3Pos053 タンパク質の協同的な折れたたみとループのつながり方の関係
Relation between cooperative protein folding and loop connections
Nobu C. Shirai[1], Shintaro Minami[2] ([1]*Center for Information Technologies and Networks, Mie University*, [2]*Graduate School of Information Science, Nagoya University*)

3Pos054 酸曝露後中和による抗体のフォールディングと凝集: 二種の光子相関分光法による追跡
Folding versus aggregation of an antibody initiated by pH-shift stress: Double tracking by photon correlation spectroscopies
Hiroshi Imamura, Akira Sasaki, **Shinya Honda** (*Natl Inst Adv Indust Sci. Tech.*)

3Pos055 NMR を用いた血清環境での相互作用解析
NMR approach for understanding protein interactions in serum environments
Saeko Yanaka[1,2], Rina Yogo[1,2], Hirokazu Yagi[1,2], Koichi Kato[1,2] ([1]*Department of Bioorganization Research, Okazaki Institute for Integrative Bioscience and Institute for Molecular Science, National Institutes of Natural Sciences*, [2]*Department of Structural Biology and Biomolecular Engineering, Graduate School of Pharmaceutical Sciences, Nagoya City University*)

3Pos056 酸化と酵素切断が LDL の物性に与える影響
Physical properties of low-density lipoprotein after oxidation or proteolytic enzyme treatment
Seiji Takeda[1], Agus Subagyo[2], Shu-Ping Hui[1], Hirotoshi Fuda[1], Kazuhisa Sueoka[2], Hitoshi Chiba[1] ([1]*Fac. Health Sci., Univ. Hokkaido*, [2]*Grad. Sch. Inf. Sci. Tech., Univ. Hokkaido*)

3Pos057 **イムノグロブリン G のマルチドメイン構造形成におけるエントロピー効果**
Entropic stabilization of the multi-domain architecture in immunoglobulin G
Seiki Yageta, Hiroshi Imamura, Shinya Honda (*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology*)

3Pos058 **統計熱力学に基づいたサーモフィリックロドプシンの熱安定化変異体の作製**
Identification of thermostabilizing mutations for thermophilic rhodopsin based on statistical thermodynamics
Sayaka Nemoto[1], Satoshi Yasuda[1,2], Kenji Mizutani[1], Takashi Tsukamoto[3], Yuki Sudo[3], Masahiro Kinoshita[2], Takeshi Murata[1,4] ([1]*Grad. Sch. Sci., Univ. Chiba*, [2]*Inst. Advanced Energy, Univ. Kyoto*, [3]*Grad. Sch. Medicine, Dentistry, and Pharmaceutical Sciences*, [4]*JST, PRESTO*)

3Pos059 **Amorphous aggregation of cytochrome c with inherently low amyloidogenicity is characterized by the phase diagram**
Yuxi Lin[1], Jozsef Kardos[2], Misaki Kinoshita[1], Toshihiko Sugiki[1], Koichiro Ishimori[3], Yuji Goto[1], Young-Ho Lee[1] ([1]*Institute for Protein Research, Osaka University*, [2]*Department of Biochemistry, Eotvos Lorand University*, [3]*Department of Chemistry, Faculty of Science, Hokkaido University*)

3Pos060 **The virial coefficients based on the rotaitional diffusion as a criterion of the protein crystallizaton**
Yudai Katsuki[1], Akane Kato[2], Etsuko Nishimoto[3] ([1]*sch. Agr., Kyushu Univ.*, [2]*Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ.*, [3]*Fac. Agr., Kyushu Univ.*)

3Pos061 **The hydration state near the binding site of human Serum Albumin revealed by the time-resolved fluorescence spectrum of Trp214**
Shoutaro Kubo[1], Etsuko Nishimoto[2] ([1]*Sch. Agr., Kyushu Univ.*, [2]*Fac. Agr., Kyushu Univ.*)

3Pos062 **アクチンフィラメントの圧電特性 III**
Piezoelectric property of an actin filament III
Jun Ohnuki, Takato Sato, Hideyo Okamura, Taro Q.P. Uyeda, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

3Pos063 **テトラヒメナ外腕ダイニン重鎖（Dyh3p)における運動系の開発と運動特性**
Motor domain-based motility system and motile properties of alpha heavy chain in Tetrahymena outer arm dynein
Masaki Edamatsu (*Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo*)

蛋白質：計測･解析 / Protein: Measurement & Analysis

3Pos064 **タンパク質の NMR 解析が困難な系にも有効なシグナル帰属法**
Signal assignment strategy for protein NMR under challenging conditions
Takuma Kasai[1,2], Kae Higuchi[1], Kohsuke Inomata[1,3], Takanori Kigawa[1,2,4] ([1]*RIKEN QBiC*, [2]*CREST, JST*, [3]*PRESTO, JST*, [4]*Sch. Comput., Tokyo Inst. of Tech.*)

3Pos065 **二量子遷移 EPR 距離測定における短距離成分の影響**
Effects of Short Distance Components on Double Quantum Coherence EPR Distance Measurements
Yasunori Ohba[1], Syouji Ueki[2], Toshiaki Arata[3] ([1]*IMRAM、Tohoku Univ.*, [2]*Fac. Pharm. Sci., Tokushima Bunri Univ.*, [3]*Dep. Biol. Sci., Osaka Univ.*)

3Pos066 **天然変性タンパク質の SAXS プロフィル評価法を開発するための新たな枠組み**
A novel framework for developing the evaluation method of SAXS profile of IDP
Yasutaka Seki[1], Shigeyoshi Nakamura[2] ([1]*Kochi Med. Sch.*, [2]*Kitakushu Nat. Coll. of Tech.*)

3Pos067 **SAXS とアミノ酸残基レベル二次構造情報からのタンパク質立体構造の構築**
Protein structure constructed with SAXS and secondary structures at amino acid residue level
Yasumasa Morimoto[1], Takayuki Ichioka[1], Toru Terada[2], Kentaro Shimizu[2], Yoshitaka Matsumura[1], Masaki Kojima[1] ([1]*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*, [2]*Dept. of Appl. Biol. Chem., Grad. Sch. of Agr. and Life Sci., The Univ. of Tokyo*)

3Pos068 **タンパク質複合体の解離過程の分子動力学**
A Steered Molecular Dynamics to Understand the Dissociation Process of Protein Complex
Yutaka Ueno, Yuki Mochizuki (*AIST Kansai, Biomedical Research*)

3Pos069 **脂質ナノディスクと ZMW 法を用いた高濃度リガンドでの計測が可能な膜タンパク 1 分子計測系の構築**
Nanodiscs platform on ZMWs for single-molecule imaging of membrane proteins at high ligand concentration
Keisuke Tsukada, Kazushi Isomura, Tomotaka Komori, Sotaro Uemura (*Dep. Bio. Sci., Grad. Sch. Sci., Univ. Tokyo*)

3Pos070 **X 線 1 分子追跡法による TRPV1 チャネルの分子運動解析**
3D Motion Maps of TRPV1 cation channel depicted by Diffracted X-Ray Tracking Method
Kazuhiro Mio[1], Keigo Ikezaki[2], Hiroshi Sekiguchi[3], Yuhuku Matsushita[2], Tai Kubo[1], Yuji C. Sasaki[2] ([1]*Molprof, AIST*, [2]*Frontier Science, Adv. Material Sci., Univ. of Tokyo*, [3]*JASRI*)

3Pos071 **細胞性粘菌の生きた細胞での膜タンパク質の拡散の網羅的解析**
Comprehensive Diffusion Analysis of Membrane Proteins in Living Dictyostelium Cells
Kazutoshi Takebayashi[1], Yukihiro Miyanaga[2], Masahiro Ueda[2,3] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Grad. Sch. FBS., Univ. Osaka*, [3]*QBiC., Riken*)

3Pos072 **細菌Ⅲ型分泌装置の回転運動によるエフェクター輸送の制御**
Rotation of needle-like type III secretion apparatus directly regulates its effector transport
Takashi Ohgita, Kohei Fukuda, Kyoko Momiyama, Naoki Hayashi, Naomasa Gotoh, Hiroyuki Saito (*Kyoto Pharm. Univ.*)

3Pos073 **抗体修飾ナノニードルと AFM を用いた引っ張り試験による細胞骨格の機械的特性の解析**
Analysis of mechanical property of cytoskeleton by tensile test for intermediate filament using antibody-modified nanoneedle and AFM
Moe Susaki[1], Itaru Takeda[2], Ayana Yamagishi[3], Yuta Takano[2], Tomoko Okada[3], Chikashi Nakamura[1,2,3] ([1]*Fac. Eng., Tokyo Univ. Agric. Technol.*, [2]*Grad. Sch. Eng., Tokyo Univ. Agric. Technol.*, [3]*Biomed. Res. Inst., AIST*)

3Pos074 **テンダム遺伝子を用いた無細胞タンパク質発現ノイズの解析**
Stochastic gene expression in cell-free system by tandem genes
Shiori Fujimoto, Yi Zhang, Kazuhito Tabata, Hiroyuki Noji (*Grad. Sch. Eng., Univ. Tokyo*)

ヘム蛋白質 / Heme proteins

3Pos075 **凍結トラップ結晶構造解析と時間分解分光を用いた P450nor の反応中間体の解析**
Reaction Intermediate Analysis of P450nor Using Freeze-Trap X-ray Crystallography and Time-Resolved Spectroscopy
Takashi Nomura[1], Takuma Nishida[2], Takehiko Tosha[1], Hiroshi Sugimoto[1], Yoshitsugu Shiro[1,2], Minoru Kubo[1,3] ([1]*Harima Inst., Riken*, [2]*Grad. Sch. Sci., Univ. Hyogo*, [3]*JST PRESTO*)

3Pos076 **結晶状態ヘモグロビンの大規模四次構造変化の直接観測**
Direct observation of large-scale quaternary motions of hemoglobin in a crystalline state
Naoya Shibayama[1], Mio Ohki[2], Sam-Yong Park[2] ([1]*Jichi Med. Univ., Div. of Biophys.*, [2]*Yokohama City Univ., Drug Design Lab.*)

3Pos077 **構造状態と関係したヘモグロビンのピコ秒ダイナミクスの変化**
Changes in the picosecond dynamics of hemoglobin related to the structural states
Satoru Fujiwara[1], Toshiyuki Chatake[2], Tatsuhito Matsuo[1], Fumiaki Kono[1], Taiki Tominaga[3], Kaoru Shibata[4], Ayana Sato[5], Naoya Shibayama[5] ([1]*QuBS, QST*, [2]*RRI, Kyoto Univ.*, [3]*CROSS-Tokai*, [4]*J-PARC Center*, [5]*Div. Biophysics, Jichi Med. Univ.*)

3Pos078 **四量体ヒトヘモグロビンにおける 2 つの α 鎖に特有の Fe-His 結合と四次構造との関連**
Distinct Fe-His bond of two α subunits in human $\alpha_2\beta_2$ tetramer hemoglobins and their quaternary structures
Shigenori Nagatomo[1], Kazuya Saito[1], Masako Nagai[2], Takashi Ogura[3], Teizo Kitagawa[3] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*Res. Center Micro-Nano Tech., Hosei Univ.*, [3]*Grad. Sch. Life Sci., Univ. Hyogo*)

3Pos079 **神経保護作用を持つヒトニューログロビンとヘテロ三量体 G_i 蛋白質 α サブユニットとの相互作用に重要なアミノ酸残基の特定**
Identification of residues crucial for the interaction between human neuroprotective protein "neuroglobin" and $G\alpha_i$
Nozomu Takahashi, Keisuke Wakasugi (*Dep. of Life Sci., Grad. Sch. of Arts and Sci., Univ. of Tokyo*)

3Pos080 **ドメインスワッピングによるミオグロビン二量体の形成**
Formation of myoglobin dimer by domain swapping
Satoshi Nagao[1], Ayaka Suda[1], Hisashi Kobayashi[1], Naoki Shibata[2], Yoshiki Higuchi[2], Shun Hirota[1] ([1]*Graduate School of Materials Science, Nara Institute of Science and Technology*, [2]*Graduate School of Life Science, University of Hyogo*)

3Pos082 **共鳴ラマン分光法による 2 価コバラミンの軸配位子に依存した構造変化の検出**
Resonance Raman Study of Cobalamin (II): Axial Ligands-Dependent Structural Change
Kaoru Mieda[1], Abdullah Al Mamun[2], Pawel M. Kozlowski[2], Takashi Ogura[1] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Dept. of Chem., Univ. of Louisville*)

3Pos083 **タンパク質中のヘムの歪みの統計的解析**
Statistical analysis of heme distortion in protein
Yasuhiro Imada[1], **Yusuke Kanematsu**[2], Hiroko X. Kondo[2], Yu Takano[2] ([1]*IPR, Osaka Univ.*, [2]*Grad. Sch. Info. Sci., Hiroshima City Univ.*)

3Pos084 **アンサンブルドッキングを用いた CYP1A2 化合物の代謝部位予測**
Prediction of site of metabolism of compounds for CYP1A2 by ensemble docking simulation
Hiroaki Saito[1], Taku Mizukami[2], Yoshinori Hirano[1], Takao Otsuka[1], Noriaki Okimoto[1], Makoto Taiji[1] ([1]*RIKEN Quantitative Biology Center (QBiC)*, [2]*Japan Institute of Science and Technology (JAIST)*)

膜蛋白質 / Membrane proteins

3Pos085 **本来の構造と機能を保持したウシミトコンドリア呼吸鎖複合体の精製**
Purification of native mitochondrial respiratory complexes from bovine heart
Satoru Shimada, Shigefumi Uene, Marika Oosaki, Ryoko Takahashi, Harunobu Shimomura, Kaoru Mieda, Shintaro Maeda, Masahide Hikita, **Kyoko Shinzawa-Itoh** (*Grad. Sch. Life Sci., Univ. Hyogo*)

3Pos086 **部分フッ素化リン脂質二分子膜中膜タンパク質バクテリオロドプシンの構造と安定性に対するフッ化アルキル鎖長依存性**
Structural stability of bacteriorhodopsin in partially fluorinated analogs of DMPC with different perfluoroalkyl chain lengths
Mami Hashimoto[1], Yuka Murai[1], Masaru Yoshino[1], Toshinori Motegi[1], Takashi Kikukawa[2], Toshiyuki Takagi[3], Hiroshi Takahashi[1], Hideki Amii[1], Toshiyuki Kanamori[3], Masashi Sonoyama[1] ([1]*Div. Mol. Sci., Gunma Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*AIST*)

3Pos087 **高圧下で界面活性剤を用いて昆虫細胞膜から可溶化した PBANR（クラス-A GPCR）はリガンド結合能を保持する**
PBANR, a class-A GPCR, solubilized under high hydrostatic pressure retains its ligand binding ability
Yukie Katayama[1], Tatsuya Suzuki[1], Tatsuki Ebisawa[1], Jun Ohtsuka[1], Ryo Natsume[2], Yu-Hua Lo[3], Toshiya Senda[3], Toshihiro Nagamine[4], J.Joe Hull[5], Shogo Matsumoto[4], Hiromichi Nagasawa[1,6], Koji Nagata[1], Masaru Tanokura[1] ([1]*UTokyo*, [2]*TDU*, [3]*KEK-PF*, [4]*RIKEN*, [5]*USDA-ARS*, [6]*ZJU*)

3Pos088 **GraDeR：単粒子解析等の膜タンパク質資料調整**
GraDeR: membrane protein preparation for single particle cryoEM & more
Christoph Gerle[1,5], Florian Hauer[4], Niels Fischer[4], Kyoko Shinzawa-Itoh[1], Satoru Shimada[1,5], Ken Yokoyama[2], Atsunori Oshima[3], Yoshinori Fujiyoshi[3], Holger Stark[4] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Kyoto Sangyo Univ.*, [3]*CeSPI, Nagoya Univ.*, [4]*Max Planck Society*, [5]*CREST, JST*)

3Pos089 **エーテル型部分フッ素化リン脂質膜中の膜タンパク質バクテリオロドプシンのサーモクロミズム**
Thermochromism of bacteriorhodopsin in partially fluorinated di-o-tetradecylphosphocholine vesicles
Masaya Miyazaki[1], Naoyuki Tuchida[1], Toshinori Motegi[1], Takashi Kikukawa[2], Toshiyuki Takagi[3], Hiroshi Takahashi[1], Hideki Amii[1], Toshiyuki Kanamori[3], Masashi Sonoyama[1] ([1]*Fac. Sci. Tech., Gunma. Univ.*, [2]*Grad. Sch. Sci., Hokkaido. Univ.*, [3]*AIST*)

3Pos090 **GXXXG モチーフによる膜貫通ヘリックスの二量体形成：会合トポロジー制御下での一分子 FRET 研究**
GXXXG-mediated dimerization of transmembrane helices: single-molecule FRET detection with controlled association topology
Yoshiaki Yano, Yuta Watanabe, Katsumi Matsuzaki (*Grad. Sch. Pharm Sci., Kyoto Univ.*)

3Pos091 **脂質膜分子による上皮成長因子受容体の膜近傍ドメイン構造制御機構**
Conformational regulation of the juxtamembrane domain of epidermal growth factor receptor by membrane lipid molecules
Ryo Maeda[1], Takeshi Sato[2], Yasushi Sako[1] ([1]*Cellular Informatics Lab., RIKEN*, [2]*Inst. for Protein Research, Osaka Univ.*)

3Pos092 **ESR による銅ポンプ P 型 ATPase における 金属イオン配位子の動的構造：ATP 効果の研究**
Structural dynamics in metal ion coordination of copper pump P-type ATPase as studied by EPR spectroscopy: Effect of ATP
Satoshi Yasuda[1,2], Naoyuki Kuwabara[3], Shoji Ueki[4], **Toshiaki Arata**[1,5] ([1]*Dept. Biol. Sci., Grad. Sch. Sci. Osaka Univ.*, [2]*Asahikawa Med. Univ.*, [3]*PF, KEK*, [4]*Tokushima-Bunri Univ.*, [5]*Ctr. Adv. High Mag. Field Sci., Grad. Sci. Osaka Univ.*)

3Pos093 **高速 AFM による ABC タンパク質の動態観察**
High-speed atomic force microscopy shows conformational changes of nucleic binding domains of ABC protein
Shohei Takigaura[1], Mikihiro Shibata[1,2], Kazuaki Yamahara[3], Yasuhisa Kimura[3], Kazumitsu Ueda[3,4], Takayuki Uchihashi[1,2], Toshio Ando[2] ([1]*Dep. Phys. Kanazawa Univ.*, [2]*Bio-AFM FRC*, [3]*Div. App. Lif. Sci. Kyoto Univ.*, [4]*iCeMs*)

3Pos094 **高速原子間力顕微鏡による電位依存性プロトンチャネルの直接観察**
Direct observation of voltage-gated proton channels by high speed AFM
Hayato Yamashita[1,2], Akira Kawanabe[3,4], Yasushi Okamura[3,4], Masayuki Abe[1] ([1]*Grad. Sch. of Eng. Sci., Osaka Univ.*, [2]*PRESTO, JST*, [3]*Grad. Sch. of med., Osaka Univ.*, [4]*CREST, JST*)

3Pos095 **多剤輸送担体 EmrE の基質結合エントロピー利得に対する水分子の寄与**
Contribution of water molecules for the gain in the substrate binding entropy to multidrug resistance transporter, EmrE
Kazumi Shimono[1], Keisuke Matsuda[1], Shoko Suzuki[1], Kaho Yajima[1], Sakiyo Yamamoto[1], Tomomi Kimura-Someya[2,3], Mikako Shirouzu[2,3], Shigeyuki Yokoyama[2,4], Seiji Miyauchi[1] ([1]*Fac. Pharm. Sci., Toho Univ.*, [2]*RIKEN SSBC*, [3]*RIKEN CLST*, [4]*RIKEN Struct. Biol. Lab.*)

3Pos096 **cd1NiR:cNOR 複合体構造を安定化する相互作用の理論解析**
Theoretical analysis of interaction that stabilizes cd1NiR:cNOR complex structure
Kenta Yamada[1], Takaharu Mori[1], Kiyoshi Yagi[1], Takehiko Tosha[2], Yoshitsugu Shiro[2], Yuji Sugita[1,3,4,5] ([1]*RIKEN TMS*, [2]*RIKEN BSL*, [3]*RIKEN AICS*, [4]*RIKEN QBiC*, [5]*RIKEN iTHES*)

3Pos097 **3 次元立体構造が不明の膜タンパク質に対する耐熱化置換体の特定**
Identification of Thermostabilizing Mutations for a Membrane Protein Whose Three-Dimensional Structure is Unknown
Yuta Kajiwara[1], Satoshi Yasuda[2,3], Yuuki Takamuku[2], Takeshi Murata[2,3,5], Masahiro Kinoshita[4] ([1]*Graduate School of Energy Science, Kyoto University*, [2]*Graduate School of Science, Chiba University*, [3]*Molecular Chirality Research Center, Chiba University*, [4]*Institute of Advanced Energy, Kyoto University*, [5]*JST, PRESTO*)

3Pos098 **In silico screening of novel stress response factors regulated by mitochondrial inner membrane proteases**
Kenichiro Imai, Yoshinori Fukasawa, Kentaro Tomii, Paul Horton (*AIRC, AIST*)

核酸：相互作用・複合体形成 / Nucleic acid: Interaction & Complex formation

3Pos099 **MD シミュレーションを用いた RNA 二重らせん構造の熱安定性予測**
Predicting RNA Duplex Dimerization Free-Energy Changes upon Mutations Using Molecular Dynamics Simulations
Shun Sakuraba[1], Kiyoshi Asai[1,2], **Tomoshi Kameda**[2] ([1]*Grad. Sch. Frontier Sci., Tokyo Univ.*, [2]*AI center, AIST*)

3Pos100 **単層および多層カーボンナノチューブ上における蛍光 DNA の蛍光強度の塩基配列依存性**
Base sequence dependence for fluorescence intensity of fluorescent dye-labeled DNA on single- and multi-walled carbon nanotubes
Shusuke Oura, Kazuo Umemura (*Tokyo Univ. of Sci.*)

3Pos101 **メタダイナミクスとアルケミカル変換法を用いた定量的結合活性予測**
Approach to the quantitative prediction of the binding affinity using metadynamics and alchemical transformation
Yoshiaki Tanida, Azuma Matsuura (*FUJITSU LABORATORIES LTD.*)

3Pos102 **紫外線損傷 DNA における Flippling 機構**
On the Flipping-out mechanism of the UV-induced DNA damage
Ryuma Sato, Ryuhei Harada, Yasuteru Shigeta (*Center of comp. Sci., Univ. Tsukuba*)

3Pos103 **Comparison of Multi-Dyes Quenching by Single-Walled Carbon Nanotube Dispersion with Single Stranded DNA**
Ying Tan, Katsuki Izumi, Kazuo Umemura (*Tokyo University of Science*)

電子状態 / Electronic state

3Pos104 **サイトキニン脱水素酵素における独特なフラビン-基質配置に関する量子化学的研究**
Quantum chemical study on unusual flavin-substrate alignment in cytokinin dehydrogenase
Kyosuke Sato (*Dept. Mol. Physiol., Facult. Life Sci., Kumamoto Univ.*)

3Pos105 **生体分子の電子状態解析のための大規模第一原理 DFT 計算手法の開発**
Large-scale DFT calculation method for electronic-structure analysis of biomolecules
Ayako Nakata[1], Takao Ostuka[2], David R. Bowler[3], Tsuyoshi Miyazaki[1] ([1]*NIMS*, [2]*RIKEN*, [3]*UCL*)

3Pos106 **生体分子系における定温オーダー N 法第一原理分子動力学計算**
Constant temperature order-N first-principles molecular dynamics calculations of biomolecular system and short-time behavior
Takao Otsuka[1], Makoto Taiji[1], David R. Bowler[2], Tsuyoshi Miyazaki[3] ([1]*RIKEN QBiC*, [2]*UCL*, [3]*NIMS*)

水･水和･電解質 / Water & Hydration & Electrolyte

3Pos107 **両親媒性抽出剤を用いた水相から有機相へのリン酸化合物の抽出**
Extraction of phosphoric compounds from aqueous phase into an organic phase with an amphiphilic extractant
Hideyuki Komatsu (*Bioinfo. & Biosci., Kyushu Inst. Tech.*)

3Pos108 **リン酸イオンの水和エネルギー空間分割解析**
Spatial-Decomposition Analysis of Hydration Energy of Phosphate Ions
George Mogami[1], Nobuyuki Matubayasi[2], Makoto Suzuki[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Eng. Sci., Osaka Univ.*)

3Pos109 **実効相互作用を用いた電解質中のマクロアニオンの分子シミュレーション**
Molecular simulation of macroanions in an electrolyte solution based on the effective potential
Ayumi Suematsu, **Ryo Akiyama** (*Dept. Chem., Kyushu Univ.*)

3Pos110 **MM/3D-RISM 法を用いたシクロデキストリン誘導体とロクロニウム臭化物の結合自由エネルギーの予測**
Estimation of binding free energies for inclusion processes of Rocuronium bromide by cyclodextrin derivatives using MM/3D-RISM method
Yuji Hayashino[1], Masatake Sugita[1], Fumio Hirata[2], Takeshi Kikuchi[1] ([1]*Dept. of Bioinfo., Col. Life Sci., Ritsumeikan Univ.*, [2]*Toyota Phys. & Chem. Res. Inst.*)

3Pos111 **ボルンエネルギーとクーロンエネルギー間のバランスの物理的理解と計算指針**
Physical understanding and computational guideline for the balance between Born and Coulomb energies
Dan Parkin, Yukinobu Mizuhara, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

分子遺伝学･遺伝子発現 / Molecular genetics & Gene expression

3Pos112 **何故無細胞タンパク質合成系においてはそんなに多くのリボソームが必要なのか？**
Why we need so many ribosomes in cell-free protein synthesis?
Yue Xu, Yi Zhang, Hiroyuki Noji (*Grad. Sch. Eng., Univ. Tokyo*)

3Pos113 **一細胞トランスクリプトーム解析へ向けた、PCR を含まないライブラリー調製**
Amplification-free library construction for single-cell transcriptome analysis
Tetsuo Fujinami, Yusuke Oguchi, Mai Yamagishi, Yoshitaka Shirasaki, Sotaro Uemura (*Grad. Sch. Sci. Univ. Tokyo*)

3Pos114 **無細胞タンパク質合成系に向けた最良 T7 プロモーター配列の探索**
Improvement of T7 promoter sequence for cell-free protein synthesis
Tomoya Nishimura[1], Yi Zhang[2], Hiroyuki Noji[2] ([1]*Undergrad. Sch. Eng., Univ. Tokyo*, [2]*Sch. Eng., Univ. Tokyo*)

3Pos115 **細胞集積度によるパラクラインシグナリングの制御により遺伝子発現の安定性が変化した**
Paracrine signaling modulated by the accumulation of cells altered the stability of gene expression
Mai Yamagishi[1,3], Yoshitaka Shirasaki[1,3], Yutaka Hori[2], Nobutake Suzuki[1], Osamu Ohara[3], Sotaro Uemura[1] ([1]*Grad. Sci. Sci., The Univ. of Tokyo*, [2]*Fac. Sci. Technol., Keio Univ.*, [3]*IMS, RIKEN*)

3Pos116 **Causal role of DNA methylation ?: A computational model**
Ashwin S.S, Masaki Sasai (*Dept. of Computational Sciences and Engineering & Dept. of Applied Physics, Nagoya Univ., Nagoya*)

3Pos117 **An in silico Approach to Investigating Gene Variants of Unknown Significance in a Clinical Context**
Stefanie S. Portelli[1], Elizabeth N. Robertson[1,2], Yaxin Lu[1], Murat Kekic[1], Brett D. Hambly[1], Richmond Jeremy[1,2,3] ([1]*Univ. Sydney*, [2]*Royal Prince Alfred Hospital*, [3]*Baird Institute*)

3Pos118 **遺伝子発現におけるポリアミンの DNA 高次構造との関係性**
Relationship between DNA higher order structure and Gene-Expression with Polyamines
Ai Kanemura[1], Yuko Yoshikawa[1], Takahiro Kenmotsu[1], Wakao Hukuda[2], Kenichi Yoshikawa[1] ([1]*Grad. Sch. Life Med. Sci., Univ. Doshisha*, [2]*Coll. Life Sci., Univ. Ritsumeikan*)

3Pos119 ***Guillardia theta* におけるロドプシン様遺伝子群の発現解析**
Expression analysis of microbial rhodopsin-like genes in *Guillardia theta*
Masae Konno[1,3], Keiichi Inoue[1,2], Hideki Kandori[1,3] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*PRESTO, JST*, [3]*OPTRC, Nagoya Inst. Tech.*)

筋肉 / Muscle

3Pos121 **細胞性粘菌の Tyr143 変異アクチンのカルボキシ末端領域にある Phe352、Met355 と Trp356 の側鎖の二形性**
Dimorphism of the side-chains of Phe352, Met355, and Trp356 in the carboxyl-terminal region of Dictyostelium actin mutants
Yuki Gomibuchi[1], Taro Q.P. Uyeda[2], Takeyuki Wakabayashi[1] ([1]*Teikyo Univ.*, [2]*Waseda Univ.*)

3Pos122 **筋収縮制御メカニズムの解明を目指した細いフィラメントの立体構造解析**
CryoEM structural analysis of muscle thin filament composed of actin filament, tropomyosin and troponin
Yurika Yamada[1], Keichi Namba[1,2], Takashi Fujii[1] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*RIKEN QBiC*)

3Pos123 **中性子準弾性散乱により明らかとなった心筋症原因変異がもたらすトロポニンの動力学異常**
Effects of a cardiomyopathy-causing mutation on the internal dynamics of troponin revealed by quasielastic neutron scattering
Tatsuhito Matsuo[1], Taiki Tominaga[2], Kaoru Shibata[3], Satoru Fujiwara[1] ([1]*QST/J-PARC*, [2]*CROSS-Tokai*, [3]*J-PARC*)

3Pos124　ウニのコネクチン様タンパク質の構造解析

Sequential analysis of connectin-like protein in sea urchin

Sumiko Kimura[1], Akira Hanashima[2], Maki Yamaguchi[1], Toshiko Yamazawa[1], Tetsuo Ohno[1], Naoya Nakahara[1], Mika Taguchi[1], Shigeru Takemori[1] ([1]*Dept. Mol. Physiol., Jikei Univ. Sch. Med.*, [2]*First Dept. Physiol., Kawasaki Med. Sch.*)

3Pos125　Mg ポリマー再考

Revisiting "Mg-Polymer"

Mahito Kikumoto, Shuuichi Takeda, Yuichiro Maeda (*Structural Biology Research Center, Nagoya-Univ.*)

3Pos126　細いフィラメント上のトロポミオシンのモデル：スピンラベル ESR 距離マップ

Modeling for tropomyosin position in the thin filament by distance measurements using spin-labeling dipolar EPR spectroscopy

Keisuke Ueda[1,2], Yoshiki Tsujimoto[2], Hiroaki Yamashita[2], Kouichi Sakai[2], Shoji Ueki[4], Masao Miki[3], Toshiaki Arata[2,5] ([1]*CLIST, Riken-Yokohama*, [2]*Dept. Biol. Sci. Grad. Sch. Osaka Univ.*, [3]*Univ. Fukui*, [4]*Tokushima-Bunri Univ.*, [5]*Ctr. Adv. High Mag. Field Sci., Grad. Sci. Osaka Univ.*)

3Pos127　筋原線維懸濁液の ATP 分解素過程中のプロトン NMR 緩和経過

Spin-spin relaxation of 1H NMR signals from myofibril suspension during cross-bridge cycling

Tetsuo Ohno, Hitomi Sano (*Dept. Physiol., The Jikei Univ. Sch. Med.*)

3Pos128　骨格筋タンパク質と水の相互作用を融点から探る

Interaction between water and myoproteins revealed by melting points

Naoya Nakahara[1], Tetsuo Ohno[1], Masako Kimura[2], Sumiko Kimura[1], Shigeru Takemori[1] ([1]*Jikei Univ. Sch. Med.*, [2]*Kagawa Nutri. Univ.*)

3Pos129　T-plastin の 2 つのアクチン結合ドメインとアクチンフィラメントとの結合性の比較

Comparison of binding affinities of two actin-binding domains of T-plastin to actin filament

Taiki Hirate, Atsusi Ooi, Tsuyoshi Okagaki (*Dept., Bioresources, Mie Univ.*)

3Pos130　心筋細胞集団の伝搬のゆらぎの局所・全体相関の解明のためのオンチップ心筋細胞ネットワーク解析技術の開発

Development of On-chip Cardiomyocyte Network Analysis Assay for Understanding of Fluctuation Correlation in Cell-to-cell Conduction

Naoki Takahashi[1], Hideyuki Terazono[2], Masao Odaka[2], Kenji Matsuura[2], Akihiro Hattori[2], Kenji Yasuda[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*WASEDA Biosci. Res. Inst. Singapore(WABIOS), Waseda Univ.*)

3Pos131　肥大型心筋症特異的なトロポミオシン変異体(V95A,D175N)のアクトミオシン収縮速度・収縮力への異なる影響

Tropomyosin's HCM mutants (V95A, D175N) differently affect the actomyosin sliding velocity and force

Shuya Ishii[1], Shin'ichi Ishiwata[2], Masataka Kawai[3] ([1]*Sch. Adv. Sci. Eng., Waseda Univ.*, [2]*Fac. Sci. Engn., Waseda Univ.*, [3]*Coll. Med., Univ. Iowa*)

3Pos132　温めた心筋細胞に備わった収縮振動は遅い Ca^{2+}変動に対して周期を一定に保つ

Contractive oscillations intrinsic to heating cardiomyocytes maintain the period against late Ca^{2+} variations

Seine A. Shintani[1,2], Takumi Washio[3], Hideo Higuchi[1] ([1]*Dept. Physics, Univ. Tokyo*, [2]*JSPS Research Fellow*, [3]*Dept. Human and Engineered Enviromental, Univ. Tokyo*)

3Pos133　周期性伸展刺激における伸展周期と心筋細胞の応答の関係

Relation between stretch cycles and response of cardiomyocytes in cyclic stretch stimulation

Chiho Nihei, Tomoyuki Kaneko (*LaRC, Grad. Sci. Eng., Hosei Univ.*)

3Pos134　Mg^{2+}/Ca^{2+} 交換及び温度変化による F-アクチンの三次構造変化

Tertiary structure of F-actin affected by Mg^{2+}/Ca^{2+} and temperature

Takaya Yamaguchi, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Univ. Tohoku*)

分子モーター / Molecular motor

3Pos135　Does homo hexamer function as a stator of rotary motor?

Aiko Endo[1], Junichi Kishikawa[2], Ken Yokoyama[2] ([1]*Grad. Sch. Biochem., Kyoto sangyo Univ.*, [2]*Dept. Mol. Biosci., Kyoto sangyo Univ.*)

3Pos136　全原子 MD と粗視化 MD を組み合わせたマルチスケール MD 解析による V1-ATPase の回転機構の解明

Rotation mechanism of V1-ATPase elucidated by multi-scale MD analysis

Yuta Isaka[1], Toru Ekimoto[1], Yuichi Kokabu[1], Takeshi Murata[2,3] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [2]*Fac. of Sci., Chiba Univ.*, [3]*JST, PRESTO*)

3Pos137　Probing the biophysical properties of a Thermoalkaliphilic F1 ATPase gives insight into adaptation and regulation

Duncan G. G. McMillan[1], Rikiya Watanabe[1], Hiroshi Ueno[1], Gregory M. Cook[2], Hiroyuki Noji[1] ([1]*Dept. of Applied Chemistry, The Univ. of Tokyo*, [2]*Dept. of Microbiology and Immunology, Univ. of Otago, Dunedin, New Zealand*)

3Pos138　高速 AFM で明らかにする回転軸の無い腸内連鎖球菌由来来 V_1-ATPase の一方向的協同性度合

The Extent of Unidirectional Cooperativity in Rotorless *Enterococcus hirae* V_1-ATPase Revealed by High-speed AFM

Motonori Imamura[1], Kazuya Nakamoto[2], Shintaro Maruyama[2], Fumihiro Kawai[3], Ryota Iino[3], Takayuki Uchihashi[1,4,5], Takeshi Murata[2,6], Toshio Ando[1,4,5] ([1]*Bio-AFM FRC*, [2]*Grad. Sch. Sci., Chiba Univ.*, [3]*Okazaki Inst. Integ. BioSci., IMS, NINS*, [4]*Dept. Phys., Kanazawa Univ.*, [5]*CREST, JST*, [6]*PRESTO, JST*)

3Pos139　リン酸結合蛋白を封入したフェムトリットル体積のドロップレットアレイによる無機リン酸検出

Detection of inorganic phosphate by phosphate binding protein encapsulated in femtoliter droplet arrays

Masayuki Higuchi[1], Kazuhito V. Tabata[2,4], Hiroyuki Noji[2], Tomoko Masaike[1,3,4] ([1]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [2]*Dept. Appl. Chem., Sch. of Eng., Univ. of Tokyo*, [3]*Res. Inst. for Sci. and Tech., Tokyo Univ. of Sci.*, [4]*PRESTO, JST*)

3Pos140 **Unveiling the chemomechanical coupling of F1 ATPase of Paracoccus denitrificans**

Mariel Zarco - Zavala[1], Duncan G G McMillan[1], Toshiharu Suzuki[1], Hiroshi Ueno[1], Francisco Mendoza-Hoffmann[2], Jose J. Garcia-Trejo[2], Hiroyuki Noji[1] ([1]*Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo*, [2]*Departament of Biology, Chemistry Faculty, National Autonomous University of Mexico*)

3Pos141 **腸球菌由来 ADP 結合型 V_1-ATPase の X 線結晶構造解析**

Crystal structures of the ADP-bound V_1-ATPase from *Enterococcus hirae*

Kano Suzuki[1], Kenji Mizutani[1,2,3], Shintaro Maruyama[1], Kazumi Shimono[4], Fabiana L. Yakushiji[1], Eiro Muneyuki[5], Yoshimi Kakinuma[6], Yoshiko Ishizuka-Katsura[7], Mikako Shirouzu[7], Shigeyuki Yokoyama[8], Ichiro Yamato[3], Takeshi Murata[1,2,7,9] ([1]*Chiba Univ.*, [2]*Mol. Chirality Res. Center, Chiba Univ.*, [3]*Dept. Biol. Sei. Tech., Tokyo Univ. of Science*, [4]*Faculty of Pharm. Sci., Toho Univ.*, [5]*Faculty of Sci. and Eng., Chuo Univ.*, [6]*Faculty of Agri., Ehime Univ.*, [7]*DSSB, RIKEN*, [8]*Struct. Biol. Lab., RIKEN*, [9]*JST, PRESTO*)

3Pos142 ***Enterococcus hirae* 由来 V_1-ATPase アルギニンフィンガー変異体が示す特異な回転特性**

Arginine finger mutant of *Enterococcus hirae* V_1-ATPase shows unusual rotational behaviors

Tatsuya Iida[1], Yoshihiro Minagawa[2], Hiroshi Ueno[2], Takeshi Murata[3], Ryota Iino[1,4,5] ([1]*SOKENDAI (The Grad. Univ. for Adv. Stud.)*, [2]*The Univ. Tokyo*, [3]*Chiba Univ.*, [4]*Inst. for Mol. Sci.*, [5]*Okazaki Inst. for Integr. Biosci.*)

3Pos143 **Structural analysis by NMR on C-terminal region of FliG, an essential motor component of Vibrio Na^+-driven flagella**

Yohei Miyanoiri[1], Yuuki Nishino[2], Mizuki Gohara[2], Atsushi Hijikata[3], Yasuhiro Onoue[2], Seiji Kojima[2], Tsuyoshi Shirai[3], Masatsune Kainosho[1], Michio Homma[2] ([1]*SBRC. Grad. Sch. Sci., Nagoya Univ.*, [2]*Biosci. Grad. Sch. Sci., Nagoya Univ.*, [3]*Biosci. Nagahama Inst. Biosci. Tech.*)

3Pos144 **サルモネラ属菌 FliFG 融合変異型べん毛モーターの動態機能計測**

Functional analysis of a FliFG deletion-fusion mutant flagellar motor

Tomofumi Sakai[1], Koichiro Mori[1], Yumi Inoue[1], Tomoko Miyata[1], Naoya Terahara[1], Yusuke Morimoto[2], Takayuki Kato[1], Keiichi Namba[1,2], Tohru Minamino[1] ([1]*Grad. Sch. Frontier BioSci., Osaka Univ.*, [2]*RIKEN QBiC*)

3Pos145 **光ピンセットを用いたバクテリアべん毛モーターの最大トルクの計測**

Maximum torque generated by the bacterial flagellar motor measured by optical tweezers

Taishi Kasai[1], Yoshiyuki Sowa[1,2] ([1]*Reserch center for Micro-Nano Tech. Hosei Univ.*, [2]*Dept. Frontier Biosci., Hosei Univ.*)

3Pos146 **べん毛モーターのトルク特性とその個体差の精密測定**

Precise measurement of torque characteristics and individual variability of bacterial flagellar motor

Kento Sato, Shuichi Nakamura, Seishi Kudo, Shoichi Toyabe (*Grad. Sch. Eng., Tohoku Univ.*)

3Pos147 **The mechanism of Vibrio alginolyticus polar flagellum growth**

Chien-Jung Lo, Meiting Chen (*Department of Physics, National Central University*)

3Pos148 **Functional Analysis of Slow-Motile Mutations in Flagellar Stator MotA/B of Salmonella**

Seyedehnoorolhoda Shajaripourjaberi, Naoya Terhara, Tohru Minamino (*frontier biosciences*)

3Pos149 **Rng2 による F-アクチンとミオシン間の協同的相互作用の制御**

Regulation of cooperative interaction between myosin and F-actin by Rng2

Taiga Imai[1], Masak Takaine[2], Kentaro Nakano[2], Osamu Numata[2], Taro Uyeda[3], Kiyotaka Tokuraku[1] ([1]*Muroran institute of technology*, [2]*University of Tsukuba*, [3]*Waseda University*)

3Pos150 **SH1 ヘリックス内に変異をもつミオシン II はアクチンフィラメントの滑りの活性化エネルギーを減少させる**

Myosin II SH1 helix mutant lowers the activation energy for sliding of Factin

Shigeru Chaen[1], Kotomi Shibata[1], Tsubasa Koyama[1], Atsushi Suenaga[1], Sosuke Iwai[2] ([1]*Dept. Biosci. Nihon Univ.*, [2]*Dept. Biol. Hirosaki Univ.*)

3Pos151 **プログラム可能なミオシンアセンブリの設計と高解像 1 分子イメージング**

Design of a programmable myosin motor assembly and nanometer-precision single-molecule imaging

Masashi Ohmachi[1], Keisuke Fujita[1], Keigo Ikezaki[2], Toshio Yanagida[1,3], **Mitsuhiro Iwaki**[1,3] ([1]*QBiC, RIKEN*, [2]*Univ. of Tokyo*, [3]*Osaka Univ.*)

3Pos152 **単純化された筋繊維の計算モデルを用いた筋収縮におけるバイアスブラウン運動の寄与の研究**

Contribution of biased Brownian motion in muscle contraction studied by a simplified computational model of muscle fiber

Daisuke Watanabe, Masaki Sasai, Tomoki P. Terada (*Dept. Comput. Sci. Eng., Grad. Sch. Eng., Nagoya Univ.*)

3Pos153 **Rng2 によるアクチンフィラメントの構造変化と、HMM で駆動されるアクチン運動の協同的阻害**

Structural changes of actin filaments induced by Rng2, and the resultant inhibition of actin movement on HMM

Yuki Hayakawa[1], Keiko Hirose[2], Masafumi Yamada[2], Kien X. Ngo[1], Noriyuki Kodera[4], Masak Takaine[3], Kentaro Nakano[3], Osamu Numata[3], Taro Uyeda[1,2] ([1]*dep physics, Waseda Univ.*, [2]*Biomed Res Inst, AIST*, [3]*Grad. School of Life and Environ Sci., Univ. Tsukuba*, [4]*Bio-AFM Res Ctr, Kanazawa Univ.*)

3Pos154 **Effect of external mechanical stress on collective motion of microtubules**

Tamanna Ishrat Farhana[1], Arif Md. Rashedul Kabir[2], Daisuke Inoue[2], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. Chem. Sci. & Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*)

3Pos155 **微小管内 GDP-チューブリンの精密な周期決定**

Determination of accurate axial tubulin repeat in GDP-microtubules

Shinji Kamimura[1], Hiroshi Imai[1], Toshiki Yagi[2], Tomohiro Shima[3,4], Yasushi Okada[4,5], Hiroyuki Iwamoto[6] ([1]*Dept. Biol. Sci., Chuo University*, [2]*Dept. Life Sci., Pref. Univ. Hiroshima*, [3]*Dept. Biol. Sci., Univ. Tokyo*, [4]*Lab. Cell Polarity Regulation., Qbic, RIKEN*, [5]*Dept. Phys., Univ. Tokyo*, [6]*Life & Environmental Div., SPring-8*)

3Pos156 **高精度な微小管分離に向けた微小管の持続長設計**

Design of Microtubule Persistence Length Toward High-precision Microtubule Sorting

Naoto Isozaki[1], Hirofumi Shintaku[1], Hidetoshi Kotera[1], Taviare L. Hawkins[2], Jennifer L. Ross[3], Ryuji Yokokawa[1] ([1]*Kyoto University*, [2]*University of Wisconsin - La Crosse*, [3]*University of Massachusetts - Amherst*)

3Pos157 **Regulated swarming of molecular robots prepared from a DNA programmed biomolecular motor system**

Jakia Jannat Keya[1], Ryuhei Suzuki[1], Arif Md. Rashedul Kabir[2], Daisuke Inoue[2], Kazuki Sada[1,2], Akinori Kuzuya[3], Akira Kakugo[1,2] ([1]*Graduate School of Chemical Sciences and Engineering, Hokkaido University*, [2]*Faculty of Science, Hokkaido University*, [3]*Faculty of Chemistry and Bioengineering, Kansai University*)

3Pos158 **構成論的手法を用いた鞭毛の機能的再構築**

Functional reconstitution of flagellar axonemes by self-organization of microtubules, dynein docking complex and outer arm dyneins

Misaki Shiraga[1,2], Jyunya Kirima[1,2], Hiroaki Kojima[1], Kazuhiro Ooiwa[1,2] ([1]*Adv. ICT Res. Inst. NICT*, [2]*Grad. Sch. Sci., Univ. Hyogo*)

3Pos159 **電子顕微鏡トモグラフィーによって明らかになった細胞質ダイニンのモータードメインの配置**

Orientation of two motor domains of cytoplasmic dynein characterized using electron computed tomography

Kotaro Koyasako[1], Shiori Toba[2], Shinji Hirotsune[2], Takuo Yasunaga[1] ([1]*Department of Bioscience and Bioinformatics, Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [2]*Department of Genetic Disease Research, Osaka City University Graduate School of Medicine*)

3Pos160 **ポリグルタミン酸化酵素欠損マウスの気管繊毛が示す異常な跳ね上がり運動**

Abnormal “hopping” of mouse tracheal cilia deficient in tubulin polyglutamylation

Masayuki Shiina[1], Toshihito Iwase[1], Masaaki Suegara[1], Haruka Kanno[1], Takanobu A Katoh[2], Mitsutoshi Setou[3], Takayuki Nishizaka[2], Koji Ikegami[3], Tomoko Masaike[1,4] ([1]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [2]*Dept. Phys., Gakushuin Univ.*, [3]*Hamamatsu Univ. Sch. Med.*, [4]*PRESTO, JST*)

3Pos161 **クラミドモナス鞭毛の波形変化に関わるタンパク質の探索**

Searching a putative protein responsible for switching waveform of Chlamydomonas flagella

Junya Kirima[1], Misaki Shiraga[1], Hiroaki Kojima[2], Kazuhiro Oiwa[1,2] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Adv. ICT Res. Inst., NICT*)

3Pos162 **バクテリア・カビ由来セロビオヒドロラーゼの結合、解離、プロセッシブ運動の一分子蛍光観察**

Single-molecule fluorescence analysis of binding, dissociation, and processive movement of bacterial and fungal cellobiohydrolases

Daiki Ishiwata[1], Akihiko Nakamura[1,2], Tomoyuki Tasaki[3], Akasit Visootsat[4], Maximilien Morice[5], Ryota Iino[1,2,6] ([1]*Sch. phys. sci., SOKENDAI (The Graduate University for Advanced Studies)*, [2]*Okazaki Inst. for Integr. Biosci.*, [3]*Sch. of Engi., Univ. Tokyo*, [4]*Fac. Sci., Univ. Kasetsart*, [5]*Chimie ParisTech.*, [6]*Inst. for Mol. Sci.,*)

3Pos163 **分子モーター RecBCD による混雑環境下でのタンパク質-DNA 複合体の除去**

Sequential eviction of crowded nucleoprotein complexes by the RecBCD molecular motor

Tsuyoshi Terakawa[1], Redding Sy[1,2], Silverstein Timothy[1], Greene Eric[1] ([1]*Columbia Univ.*, [2]*Univ. of California*)

3Pos164 **RHAU ヘリカーゼがグアニン４重鎖構造の安定性を調節するメカニズムの一分子研究**

RHAU helicases regulate G4 stability during the ATPase cycle revealed from single-molecule analysis

Huijuan You[1], Jie Yan[1,2] ([1]*MBI, National University of Singapore*, [2]*Dep. of Physics, National University of Singapore*)

3Pos165 **転写バーストは DNA 上の RNA ポリメラーゼの相互作用によって内因的に引き起こされる**

Transcriptional bursting is intrinsically caused by interplay between RNA polymerases on DNA

Keisuke Fujita[1,2], Mitsuhiro Iwaki[1,2], Toshio Yanagida[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. of Front. Biosci., Osaka Univ.*)

3Pos166 **金ナノプローブで明らかにされたリニア分子モーター霊菌 *Serratia marcescens* 由来キチナーゼ A の 1 nm ステップ運動**

One nanometer steps in the motion of a linear molecular motor *Serratia marcescens* chitinase A resolved by gold nanoprobe

Akihiko Nakamura[1,2], Ryota Iino[1,2,3] ([1]*Okazaki inst. for Integrative Bioscience*, [2]*The Graduate University for Advanced Studies (SOKENDAI)*, [3]*Institute for Molecular Science*)

細胞生物学 / Cell biology

3Pos167 **海洋性ビブリオ菌のべん毛形成に関わる DnaJ ファミリータンパク質 SflA のペリプラズム領域の構造特性**

Structural property of the periplasmic TPR domain of SflA, a DnaJ family protein involved in flagellation of *Vibrio alginolyticus*

Mayuko Sakuma[1,2], Satoshi Inaba[2], Shoji Nishikawa[3], Takehiko Nishigaki[2], Seiji Kojima[2], Katsumi Imada[3], Michio Homma[1,2] ([1]*Radioisotpe Res. Cent., Nagoya Univ.*, [2]*Div. Biol. Sci. Grad. Sch. Sci., Nagoya Univ.*, [3]*Dept. of Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*)

3Pos168 **FlhF がもつ GTPase モチーフへの変異によるビブリオ菌極べん毛数と位置への影響**

Effect of mutations in the GTPase motif of FlhF on the number and location of the polar flagellum of Vibrio alginolyticus

Shota Kondo, Michio Homma, Seiji Kojima (*Division of Biological Science, Graduate School of Science, Nagoya University*)

3Pos169 **細菌 Rhomboid プロテアーゼ GlpG の生理的基質の探索：GlpG のべん毛 III 型分泌装置機能への関与の可能性**

Screening of physiological substrates of *E. coli* rhomboid protease GlpG: possible involvement of GlpG in the flagellar function

Yohei Hizukuri, Kosuke Terushima, Yoshinori Akiyama (*Inst. Virus Res., Kyoto Univ.*)

3Pos170 **集合に共役したべん毛モーター固定子 MotB のペリプラズム領域における構造変化の変異体解析**

Mutational studies of the assembly-coupled conformational change in the periplasmic region of a flagellar stator protein MotB

Seiji Kojima[1], Masato Takao[2], Gaby Almira[3], Ikumi Kawahara[3], Mayuko Sakuma[1], Michio Homma[1], Chojiro Kojima[3,4], Katsumi Imada[2] ([1]*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*, [2]*Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.*, [3]*Inst. for Prot. Res., Osaka Univ.*, [4]*Grad. Sch. of Eng., Yokohama National Univ.*)

3Pos171　細菌べん毛モーター固定子蛋白質 MotA および回転子蛋白質 FliF の構造解析のための条件検討

Screening for the structural analysis of the stator and the rotor proteins MotA and FliF in the bacterial flagellar motor

Norihiro Takekawa[1], Mayuko Sakuma[2,3], Erika Yamaguchi[2], Seiji Kojima[2], Michio Homma[2], Katsumi Imada[1] ([1]*Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.*, [2]*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*, [3]*Radioisotope Res. Cent., Nagoya Univ.*)

3Pos172　FlhA の構造変換がべん毛蛋白質輸送順序の決定に重要である

Conformational rearrangements of FlhA is critical for ordered protein export during flagellar assembly

Yumi Inoue[1], Yuya Ogawa[2], Miki Kinoshita[1], Katsumi Imada[2], **Keiichi Namba**[1,3], Tohru Minamino[1] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*QBiC, RIKEN*)

3Pos173　サルモネラべん毛モーターにおける MotA Met-206 の役割

Roles of MotA Met-206 in rotation and assembly of the Salmonella flagellar motor

Yuya Suzuki[1], Kodai Oono[1], Shuichi Nakamura[1], Fumio Hayashi[2], Kenji Oosawa[3], Yusuke V. Morimoto[4], Seishi Kudo[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Center for Inst. Anal.*, [3]*Div. Mol. Sci., Fac. Sci. and Tech., Gunma Univ.*, [4]*QBiC, Riken*)

3Pos174　細菌べん毛 III 型タンパク質輸送の *in vitro* 再構築

***In vitro* reconstitution of the bacterial flagellar type III protein export**

Hiroyuki Terashima[1], Akihiro Kawamoto[2], Chinatsu Tatsumi[1], Keiichi Namba[2,3], Tohru Minamino[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*, [3]*Quant. Bio. Cent., Riken.*)

3Pos175　反転膜を用いたべん毛 III 型蛋白質輸送の蛍光による検出

Fluorescence detection of the flagellar type III protein export using the inverted membrane vesicles

Tsuyoshi Tono[1], Hiroyuki Terashima[1], Kazuhito Tabata[2], Hiroshi Ueno[2], Tomoki Matsuda[3], Takeharu Nagai[3], Hiroyuki Noji[2], Katsumi Imada[1] ([1]*Grad. Sch. of Sci., Univ. Osaka.*, [2]*Sch. of Eng., Univ. of Tokyo*, [3]*ISIR, Univ. Osaka.*)

3Pos176　バクテリアべん毛輸送ゲート複合体の発現系の構築と精製

Expression and purification of the bacterial flagellar type III export gate complex

Takuma Fukumura[1], **Miki Kinoshita**[1], Keiichi Namba[1,2], Tohru Minamino[1] ([1]*Grad. Sch. Frontier Biosci, Osaka Univ.*, [2]*QBiC, RIKEN*)

3Pos177　三次元的形状解析を用いたらせん形細菌の構造的理解

3D microscopic observation of the cell shape of spiral shaped bacteria

Hajime Tahara, Shuichi Nakamura (*Grad. Sch. Eng. Univ. Tohoku*)

3Pos178　Coordinated cell-body rotation in spirochete motion

Kyosuke Takabe, Seishi Kudo, Shuichi Nakamura (*Grad. Sch. Eng., Univ. Tohoku*)

3Pos179　局所的な照明によって誘起されたスピロプラズマの遊泳方向の反転

Reversal motion of *Spiroplasma* induced by partial illumination

Tatsuro Itou[1], Daisuke Nakane[1], Wen Wang[2], Takayuki Nishizaka[1] ([1]*Department of Physics, Gakushuin Univ.*, [2]*College of Life Sciences, Nanjing Normal Univ.*)

3Pos180　ロッド様に直線状で固く，野生型より長い変異型フックの金ナノ粒子標識によるべん毛モーターの高分解能回転計測

High resolution measurements of flagellar motor rotation by nanogold attached to a straight, solid hook mutant longer than the wild-type

Shuichi Nakamura[1,2], Yusuke V. Morimoto[2,3], Tohru Minamino[2], Keiichi Namba[2] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Frontier BioSci., Osaka Univ.*, [3]*QBiC, Riken*)

3Pos181　シュードモナス属べん毛モーターの回転計測

Rotation assay of the Pseudomonas flagellar motor

Taro Hariu, Takuto Tensaka, Seisi Kudo, Shuichi Nakamura (*Grad. Sch. Eng., Tohoku Univ.*)

3Pos182　ガラスに付着したビブリオ菌を用いたべん毛フリッキングの解析

Analysis of flagellar flicks of Vibrio cells stuck to a glass slide

Taichi Ohnuki, Shuichi Nakamura, Shoichi Toyabe, Seishi Kudo (*Grad. Sch. Eng., Univ. Tohoku*)

3Pos183　大腸菌の忌避刺激で見られた時間遅れは FliM の共同的な振る舞いにより説明される

Simulation of delays in repellent responses of *Escherichia coli* using a conformational spread model

Takashi Sagawa[1], Yoshiyuki Sowa[2], Ikuro Kawagishi[2], Kazuhiro Oiwa[1], Hiroaki Kojima[1] ([1]*Adv. ICT Res. Inst., NICT*, [2]*Dept. of Front. Biosci., Hosei Univ.*)

3Pos184　大腸菌二成分制御系 AtoS，AtoC の相互依存的細胞内局在

Interdependent co-localization of the histidine kinase AtoS and the response regulator AtoC of *Escherichia coli*

Takahide Endo[1], Yukiko Miyao[1], Kentaro Yamamoto[1], Masatoshi Nishikawa[1], Yoshiyuki Sowa[1,2], Ikuro Kawagishi[1,2] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Research Center for Micro-Nano Technology, Hosei Univ.*)

3Pos185　大腸菌は、アミノ酸種を識別する：データ駆動的アプローチにより明らかにする単細胞生物の化学知覚

Escherichia coli identify amino-acid species : unicellular organism's chemical perception revealed by using a data-driven approach

Hiroto Tanaka[1], Yasuaki Kazuta[1], Tadashi Matsukawa[1], Yasushi Naruse[2], Yukihiro Tominari[1], Masato Okada[3], Yoshiyuki Sowa[4], Ikuro Kawagishi[4], Kazuhiro Oiwa[1], Hiroaki Kojima[1] ([1]*Adv ICT Res Inst, NICT*, [2]*CiNet, NICT*, [3]*Tokyo Univ.*, [4]*Housei Univ.*)

3Pos186　コレラ菌走化性受容体 Mlp24 のアミノ酸受容能はカルシウムイオンで増強される

Ca^{2+} potentiates attractant responses to amino acids mediated by the chemoreceptor Mlp24 of *Vibrio cholerae*

So-ichiro Nishiyama[1,2], Yohei Takahashi[3], Katsumi Imada[3], Ikuro Kawagishi[1] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Res. Cen. Micro-Nano Tech., Hosei Univ.*, [3]*Dep. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*)

3Pos187 バクテリアのマグネットコンパスの人為的反転

Artificial polarity-reversal of bacterial magnetic compass

Seiji Iwata[1], Shouhei Kuzoo[1], Daisuke Nakane[1], Azuma Taoka[2,3] ([1]*Dept. of Phys., Gakushuin Univ.*, [2]*Col. of Sci. Eng., Kanazawa Univ.*, [3]*Bio-AFM Front. Res. Cent., Kanazawa Univ.*)

3Pos188 **Importance of receptor cooperativity on the switching coordination of flagellar motors on a single *Escherichia coli* cell**

Yong-Suk Che[1], Hiroto Takahashi[2], Akihiko Ishijima[1], Hajime Fukuoka[1] ([1]*Dept. Frontier Biosci., Osaka Univ.*, [2]*IMRAM, Tohoku Univ.*)

3Pos189 変性蛋白質センサーとしての大腸菌ヒスチジンキナーゼ BaeS

The histidine kinase BaeS of Escherichia coli may sense denatured proteins

Tohru Umemura[1], Yoshiyuki Sowa[1,2], Ikuro Kawagishi[1,2] ([1]*Dept. Frontier Bio., Hosei Univ.*, [2]*Research Center for Micro-Nano Technology, Hosei Univ.*)

3Pos190 G タンパク質共役型受容体の動的なホモ・ヘテロダイマー形成：二色同時蛍光 1 分子観察による解析

Dynamic homo- and hetero-dimerizations of G-protein coupled receptors: An analysis by dual-channel single fluorescent molecule observation

Rinshi Kasai[1], Akihiro Kusumi[1,2] ([1]*Inst. Front. Med. Sci., Kyoto Univ.*, [2]*Membrane Cooperativity Unit, OIST*)

3Pos191 共焦点画像解析と 1 分子計測を用いた ERK シグナル伝達系のボトルネックの解明

Unraveling origins of bottleneck effects for ERK signal transduction using confocal image analyses and single molecule imaging

Kazunari Mouri, Yasushi Okada (*RIKEN QBiC*)

3Pos192 三量体 G タンパク質の制御を介した走化性レンジの拡張機構

Dynamic range extension of eukaryotic chemotaxis via regulation of heterotrimeric G protein dynamics

Yukihiro Miyanaga[1,2], Yoichiro Kamimura[1,2], Masahiro Ueda[1,2] ([1]*Frontier Biosciences, Osaka Univ.*, [2]*QBiC, Riken*)

3Pos193 走化性タンパク質の細胞内動態と細胞応答の同時計測

Simultaneous observation of the intracellular chemotactic proteins and the cellular behavior

Hajime Fukuoka[1], Hiroto Takahashi[2], Akihiko Ishijima[1] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*IMRAM, Tohoku Univ.*)

3Pos194 ライブセルイメージングと薬剤実験に基づく動的な誘引物質勾配場における HL60 細胞の走化性運動の解析

Pharmacological and live-cell imaging analysis of chemotactic HL60 cells under dynamically changing chemoattractant gradient

Motohiko Ishida[1], Akihiko Nakajima[2], Satoshi Sawai[1,2] ([1]*Dept. Basic Sci., Grad. Sch. of Arts & Sci., Univ. of Tokyo*, [2]*Research Center for Complex Systems Biology, Grad. Sch. of Arts & Sci., Univ. of Tokyo*)

3Pos195 マクロファージの走熱性メカニズムの解明

Thermotaxis mechanism of mouse macrophage

Hideo Saitou, Seine Shintani, Hideo Higuchi (*Grad. Sch. Sci., The university of Tokyo*)

3Pos196 免疫受容体シグナルを担う足場分子 LAT は細胞膜に繋留された小胞で機能する：1 分子イメジングによる解明

The immune signal adaptor molecule LAT works on cytoplasmic vesicles tethered to the plasma membrane: a single-molecule imaging study

Koichiro M. Hirosawa[1], Bo Tang[2], Nao Hiramoto-Yamaki[1,3], Kenta J. Yoshida[1], Shohei Nozaki[4], Takaaki Tsunoyama[5], Kenichi G.N. Suzuki[6], Kazuhisa Nakayama[4], Takahiro K. Fujiwara[1], Akihiro Kusumi[5] ([1]*WPI-iCeMS, Kyoto Univ.*, [2]*College of Chemistry and Molecular Sciences, Wuhan Univ.*, [3]*JSPS Research Fellow*, [4]*Grad. Sch. Pharm., Kyoto Univ.*, [5]*OIST*, [6]*NCBS-inStem, Bangalore, India.*)

3Pos197 PIP3 と Ras の自己組織的な局在形成過程とその制御メカニズムの解析

Analysis of Self-organized Domain Formation and Regulation Mechanism of PIP3 and Ras

Seiya Fukushima[1,2], Satomi Matsuoka[2,3], Masahiro Ueda[1,2,3] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*QBiC, RIKEN*, [3]*Grad. Sch. Frontier Biosciences., Univ. Osaka*)

3Pos198 **Controlling contractile instabilities in the actomyosin cortex**

Masatoshi Nishikawa[1,2,3,4], Sundar Naganathan[2,3,4], Frank Julicher[4], Stephan Grill[2,3,4] ([1]*Hosei University*, [2]*TU-Dresden*, [3]*MPI-CBG*, [4]*MPI-PKS*)

3Pos199 増殖中の培養細胞における遊離コレステロールの分布

Distribution of free cholesterol in MDCK cells during the migration on culture dish

Yoshikatsu Ogawa (*AIST BMD*)

3Pos200 獲得免疫応答における T リンパ球の単一細胞測定系の開発

Development of a single cell assay system for T lymphocytes in adaptive immunity

Hiroaki Machiyama[1], Tomoyuki Yamaguchi[1], Tomonobu Watanabe[1,2], Hideaki Fujita[1,2] ([1]*IFReC, Osaka U.*, [2]*QBiC, RIKEN*)

3Pos201 **Drug response of lymphocytic leukemia cells to anticancer drug is affected by experience of cell division prior to treatment**

Akihisa Seita, Takahiro Yamada, Yuichi Wakamoto (*Department of Basic Science, Graduate School of Arts and Science, University of Tokyo*)

3Pos202 ErbB レセプターの相互リン酸化ネットワーク

Cell and signal specific phosphorylation networks of the ErbB receptor family

Hiraku Miyagi, Michio Hiroshima, Atsushi Mochizuki, Yasushi Sako (*RIKEN*)

生体膜・人工膜：構造・物性 / Biological & Artificial membrane: Structure & Property

3Pos203 膜活性ポリマーによる脂質二分子膜ナノディスクの形成

Lipid bilayer nanodiscs formed by designed membrane-active polymers

Kazuma Yasuhara, Jin Arakida, Masaya Inoue, Jun-ichi Kikuchi (*Grad. Sch. Mat. Sci., Nara Inst. Sci. Tech.*)

3Pos204 可溶性高分子で生成された水性相分離のマイクロ液滴内への生細胞の含有

Entrapment of Living Cells inside Micro-Droplet under Aqueous/Aqueous Segregation with Solvable Polymers

Tadashi Fujimoto[1], Naoki Nakatani[1], Kanta Tsumoto[2], Chwen-Yang Shew[3], Kenichi Yoshikawa[1] ([1]*Fac. Life Medical Sciences, Univ. Doshisha*, [2]*Grad. Sch. Eng, Univ. Mie*, [3]*Chemistry, City. Univ. New York*)

3Pos205 粗視化モデルによる脂質分子の集合体の形成過程に関する理論的研究

Theoretical study on the process of the formation of lipid molecule cluster by coarse-grained model

Shogo Kinoshita, Satoshi Nakagawa, Makoto Wada, Seiichiro Ito, Kazutomo Kawaguchi, Hidemi Nagao (*Nat. Sci. Kanazawa Univ.*)

3Pos206 ベシクルに大小 2 種のコロイド粒子を内包させた系の相分離ー朝倉・大沢理論の拡張―

Phase Separation of Two Kinds of Colloidal Particles in Giant Vesicles -Extension of Asakura-Osawa Theory-

Yuno Natsume[1], Kazumi Itoh[1], **Yuhei Natsume**[2], Kensuke Kurihara[3,4,5] ([1]*Japan Women's Univ.*, [2]*Chiba Univ.*, [3]*Okazaki Institute for Integrative Bioscience*, [4]*Institute for Molecular Science*, [5]*Research Center for Complex Systems Biology, The Univ. of Tokyo*)

3Pos207 種々の脂質組成によるタンパク質内包リポソームの構造学的研究

Structural study of liposomes encapsulating proteins depending on lipid composition and species

Kosuke Takahashi, Mitsuhiro Hirai (*Grad. Sch. Eng., Gunma Univ.*)

3Pos208 アシル鎖長の異なるホスファチジルエタノールアミン二重膜の熱および圧力相転移

Thermotropic and barotropic phase transitions in bilayer membranes of phosphatidylethanolamines with varying acyl chain lengths

Masaki Goto[1], Shigeru Endo[2], Nobutake Tamai[1], Hitoshi Matsuki[1] ([1]*Grad. Sch. of Biosci. and Bioindus., Tokushima Univ.*, [2]*Fac. of Engin., Tokushima Univ.*)

3Pos209 親水性高分子により基板との距離を制御した人工膜への膜タンパク質再構成

Patterned model membrane with hydrophilic polymer brushes for the functional incorporation of membrane proteins

Fuyuko Tamura[1], Yasushi Tanimoto[1], Yasuhiko Iwasaki[2], Fumio Hayashi[3], Yuki Sudo[4], Kenichi Morigaki[5] ([1]*Grad. Agri., Univ. Kobe*, [2]*Chem. Bioeng., Univ. Kansai*, [3]*Sci., Univ. Kobe*, [4]*Grad. Med. Dent. Pharm., Univ. Okayama*, [5]*Biosignal., Univ. Kobe*)

3Pos210 バクテリオロドプシン球殻構造体の形成機構

A mechanistic insight into the formation of bacteriorhodopsin vesicle

Daisuke Yamamoto, Risa Mutoh (*Fac. Sci. Fukuoka Univ.*)

3Pos211 ホスホリパーゼ Cβ 1 の C 末端には脂質膜のチューブ形成能がある

Membrane tubulation ability of phospholipase Cβ1 C terminal domains

Takehiko Inaba[1], Takuma Kishimoto[2], Motoshide Murate[1], Takuya Tajima[1,3], Mitsuhiro Abe[1], Asami Makino[1], Nario Tomishige[1], Reiko Ishitsuka[1], Yasuo Ikeda[3], Shinji Takeoka[3], Toshihide Kobayashi[1,4] ([1]*RIKEN*, [2]*Kyorin Univ. Sch. Medicine*, [3]*Waseda Univ.*, [4]*UMR 7213 CNRS, University of Strasbourg*)

3Pos212 巨大分子系シミュレーションに向けた粗視化脂質モデルの開発

Developing a coarse-grained model of lipid for large molecular simulations

Suguru Kato, Shoji Takada (*Kyoto University*)

3Pos213 アルギニンペプチドの膜透過を促進する両親媒性ペプチドによる脂質パッキングの変化

Alteration of Lipid Packing State by Amphipathic Peptides Promoting Membrane Penetration of Octaarginine

Tomo Murayama, Shiroh Futaki (*ICR, Kyoto Univ.*)

3Pos214 FTIR-ATR のプリズム上に作製した皮膚角層モデル膜への物質透過解析

Permeation of substances into stratum corneum model membranes prepared directly on FTIR-ATR prism

Kohei Oka, Satoru Kato (*Grad. Sch. Sci. & Tech., Univ. Kwansei Gakuin*)

神経回路･情報処理 / Neuronal circuit & Information processing

3Pos227 神経振動活動のシナプス入力による位相依存的な調節

Phase-dependent modulation of neural oscillations by synaptic inputs

Satoshi Watanabe[1], Moritoshi Hirono[2] ([1]*NCNP*, [2]*Grad. Sch. Brain Sci., Doshisha Univ.*)

3Pos228 線虫の whole-brain イメージングデータに関する位相同期解析

Phase synchronization analysis of whole-brain imaging data of C. elegans

Yuishi Iwasaki[1,7], Takayuki Teramoto[2,7], Terumasa Tokunaga[3,7], Osamu Hirose[4,7], Yu Toyoshima[5,7], Ryo Yoshida[6,7], Yuichi Iino[5,7], Takeshi Ishihara[2,7] ([1]*Fac. Eng., Ibaraki Univ.*, [2]*Grad. Sch. Sci., Kyushu Univ.*, [3]*Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Institute Tech.*, [4]*Institute. Sci. and Eng., Kanazawa Univ.*, [5]*Grad. Sch. Sci., Univ. Tokyo*, [6]*Institute Stat. Math.*, [7]*JST, CREST*)

3Pos229 神経細胞から伸長する神経突起の特性のオンチップ１細胞解析

Minimum Requirements of Microchannel Patterns for Building of Stable Neuronal Circuits in On-chip Cell Network Assay

Takahito Kikuchi[1], Hideyuki Terazono[2], Kenji Matsuura[2], Akihiro Hattori[2], Masao Odaka[2], Kenji Yasuda[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*WASEDA Biosci. Res. Inst. Singapore (WABIOS), Waseda Univ.*)

3Pos230 フェムト秒レーザー光刺激による神経回路網の誘発応答特性

Spatio-temporal activity pattern in neuronal network evaluated by femtosecond laser-induced stimulation

Yuji Fujioka[1,2], Yuta Nakagawa[1,2], Suguru N. Kudoh[2], Takahisa Taguchi[3], Chie Hosokawa[1] ([1]*Biomed. Res. Inst., AIST*, [2]*Sch. Sci. & Tech., Kwansei Gakuin Univ.*, [3]*CiNet, NICT*)

3Pos231 **培養神経回路網におけるネットワークグラフ構造の培養日数依存的変化**
Developmental changes of graph structures in cultured neurons -the analysis with functional-connection map
Nanami Hirata, Wataru Minoshima, Hidekatsu Ito, Suguru Kudoh (*Department of Human System Interaction, School of Science and Technology, Kwansei Gakuin University*)

3Pos232 **エピカテキンは、ヨーロッパモノアラガイの呼吸行動の中枢リズム発生器である RPeD1 ニューロンの興奮性を変化させる**
Epicatechin alters the electrophysiological activity of RPeD1 in the pond snail, Lymnaea
Yoshimasa Komatsuzaki[1], Minoru Saito[2], Ken Lukowiak[3] ([1]*Dept. Phys., CST, Nihon Univ.*, [2]*Grad. Sch. Integ. Basic Sci., Nihon Univ.*, [3]*Hotchkiss Brain Inst., Cumming Sch. of Med., Univ. of Calgary*)

3Pos233 **Increasing reproducibility of activity patterns in nenural network during culture days**
Takumi Okada, Wataru Minoshima, Hidekatsu Ito, Suguru Kudoh (*Dept. of Human System Interaction, School of Sci. and Tech., Kwansei Gakuin University,*)

3Pos234 **超高感度な匂い識別は、受容体 - G 蛋白質の初期一過性相互作用と前梨状皮質振動性応答に部分的に支配される**
Supersensitive odor discrimination is controlled in part by initial interactions of receptor-G-protein and cortical oscillatory responses
Takaaki Sato[1], Reiko Kobayakawa[2], Ko Kobayakawa[2], Makoto Emura[3], Shigeyoshi Itohara[4], Takashi Kawasaki[1], Riichi Kajiwara[5], Ichiro Takashima[1], Toshio Iijima[6], Akio Tsuboi[7], Hiroyoshi Matsumura[8] ([1]*AIST*, [2]*Kansai Med. Univ.*, [3]*Takasago Internat'l. Corp.*, [4]*BSI., RIKEN*, [5]*Sch. Sci. & Technol., Meiji Univ.*, [6]*Grad. Sch. Life Sci., Tohoku Univ.*, [7]*Nara Med. Univ.*, [8]*Ritsumeikan Univ.*)

3Pos235 **定量的マンガン造影 MRI による全脳神経活動計測**
Whole brain activity mapping using quantitative activation-induced manganese-enhanced MRI
Makoto Osanai[1,2], Satomi Kikuta[1,3], Hajime Tamura[1], Noriyasu Homma[1,2] ([1]*Tohoku Univ. Grad. Sch. Med.*, [2]*Grad. Sch. Bio Med. Eng, Tohoku Univ.*, [3]*Research Fellow, JSPS*)

行動 / Behavior

3Pos236 **Foraging behavior of Caenorhabditis elegans**
Chien Jung Lo, **Mao Ting Cheng** (*Dept. of Physics, NCU, Taiwan*)

3Pos237 **2 次元系および 3 次元系における細胞の自発運動動態**
Spontaneous cell migration dynamics in 2D and 3D environment
Hiroaki Takagi (*Dept. of Phys., Nara Med. Univ.*)

3Pos238 **活動量と睡眠との関連解析**
Association between physical activity and sleep efficiency
Ikuko Motoike[1,2], Atsushi Koike[1], Akihiro Karashima[1,3], Mitsuyuki Nakao[1] ([1]*Grad. Sch. Info. Sci., Tohoku Univ.*, [2]*Medical Megabank Org., Tohoku Univ.*, [3]*Grad. Sch. Eng., Tohoku Inst. Tech.*)

光生物：視覚･光受容 / Photobiology: Vision & Photoreception

3Pos239 **光誘起チャネルロドプシンに関する理論研究**
Theoretical study on molecular mechanism of photo-induced gate opening of channelrhodopsin
Cheng Cheng[1], Motoshi Kamiya[1], Norio Yoshida[2], Shigehiko Hayashi[1] ([1]*Kyoto Univ.*, [2]*Kyushu Univ.*)

3Pos240 **古細菌型 TSA モチーフ配列をもつ真正細菌由来ハライドイオンポンプロドプシンの光反応解析**
Cl^--pumping Photoreaction of a Bacterial Halide-ion Pumping Rhodopsin with an Archaeal-type TSA motif
Takashi Tsukamoto[1], Susumu Yoshizawa[2], Takashi Kikukawa[3], Makoto Demura[3], Yuki Sudo[1] ([1]*Grad. Sch. Med. Dent. & Pharm. Sci., Okayama Univ.*, [2]*AORI, Univ. of Tokyo*, [3]*Fac. Adv. Life Sci., Hokkaido Univ.*)

3Pos241 ***Mastigocladopsis repens* halorhodopsin のフォトサイクルの解析と TSD モチーフの役割の解明**
Photocycle of *Mastigocladopsis repens* halorhodopsin and the role of its TSD motif
Takatoshi Hasemi, Takashi Kikukawa, Tomoyasu Aizawa, Naoki Kamo, Makoto Demura (*Grad. Sch. Life Sci., Hokkaido Univ.*)

3Pos242 **ハロロドプシンの陰イオン輸送サイクルにおけるレチナール色素の異性化**
Isomerization of the retinal chromophore during the anion pumping cycle of halorhodopsin
Tsutomu Kouyama, Hiroki Kubo, Siu Kit Chan, Kousuke Maki (*Dept. Physics, Graduate School of Science, Nagoya University*)

3Pos243 **X 線小角散乱法を用いたシロイヌナズナ phototropin1 と変異体の構造及び機能研究**
Structural and functional study of Arabidopsis phototropin1 and its mutants by using small-angle X-ray scattering
Mao Oide[1,2], Koji Okajima[1,2], Sachiko Kashojiya[2,3], Yuki Takayama[1,2], Tomotaka Oroguchi[1,2], Takaaki Hikima[2], Masaki Yamamoto[2], Masayoshi Nakasako[1,2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*, [3]*Dept. of Biol. Sci., Osaka Pref. Univ.*)

3Pos244 **Chromophore conformation in active site of orange carotenoid protein studied by Raman optical activity spectroscopy**
Tomotsumi Fujisawa[1], Masashi Unno[1], Ryan Leverenz[2], Cheryl Kerfeld[2] ([1]*Saga Univ.*, [2]*Michigan State Univ.*)

3Pos245 **Functional characterization of a microbial rhodopsin from the marine eubacterium *Rubricoccus marinus* SG-29**
Saki Inoue[1], Susumu Yoshizawa[2], Takashi Tsukamoto[1,3], Yuki Sudo[1,3] ([1]*Fac. Pharm. Sci., Okayama Univ.*, [2]*AORI, Univ. of Tokyo*, [3]*Grad. Sch. Med. Dent. & Pharm. Sci., Okayama Univ.*)

3Pos246 **Signaling kinetics of Cyanabacterial phytochrome (Cph1) studied by the transient grating method**
Kimitoshi Takeda, Masahide Terazima (*Department of chemistry, Kyoto University*)

3Pos247 **In situ 光照射固体 NMR によるセンサリーロドプシン II の光中間体の解析**
Characterization of photo intermediates in sensory rhodopsin II as revealed by in-situ photo-irradiation solid-state NMR
Yoshiteru Makino[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Yuki Sudo[3], Naoki Kamo[4], Akira Naito[1], Kazuyoshi Ueda[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Grad. Sch. Med. Dent. Pharm., Okayama Univ.*, [4]*Grad. Sch. Life Sci., Hokkaido Univ.*)

3Pos248 **異なる生物種におけるフォトトロピン光反応の多様性**
Diversity of photoreaction of phototropins among different organisms
Yusuke Nakasone[1], Koji Okajima[4], Kenichi Hitomi[3], John Christie[3], Satoru Tokutomi[2], Masahide Terazima[1] ([1]*Kyoto University*, [2]*Osaka Prefecture University*, [3]*Scripps research institute*, [4]*Keio University*)

3Pos249 **EPR 法による Photozipper 反応過程の解析**
Reaction mechanism in Photozipper monitored by Electron Paramagntic Resonance
Kouhei Ozeki[1], Hiroki Nagashima[1], Osamu Hisatomi[2], Hiroyuki Mino[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*)

3Pos250 **Substrate recognition of the (6-4)photolyase**
Yuma Terai[1], Takahiro Yumiba[1], Tomoko Ishikawa[2], Takeshi Todo[2], Junpei Yamamoto[1], Shigenori Iwai[1] ([1]*Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*Grad. Sch. Med., Osaka Univ.*)

3Pos251 **(6-4)光回復酵素による逐次的 2 光子 DNA 修復における逆電子移動の観測**
Monitoring of the back electron transfer in the successive two-photons DNA repair by the (6-4) photolyase
Junpei Yamamoto[1], Kohei Shimizu[1], Shigenori Iwai[1], Klaus Brettel[2] ([1]*Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*CEA Saclay, France*)

光生物：光合成 / Photobiology: Photosynthesis

3Pos252 **イチョウの葉の微量色素分析**
Precise pigment analysis of ginkgo leaves
Yuhta Isei[1], Katsuhiro Wada[1], Tadashi Watanabe[2], Norio Tanaka[3], Masami Kobayashi[1] ([1]*Divi. Materials Sci., Fac. Pure and Applied Sci., Univ. Tsukuba*, [2]*Res. Center Math and Sci. Edu., Org. Adv. Edu., Tokyo University of Science*, [3]*Tsukuba Botanical Garden*)

3Pos253 **新奇クロロフィルを持つシアノバクテリアより光化学系 II 標品の単離精製とエネルギー移動機構の解析**
Analysis of energy transfer system of photosystem II complexes isolated from new chlorophyll containing cyanobacterium
Toshiyuki Shinoda[1], Daisuke Nii[1], Seiji Akimoto[2,3], Tatsuya Tomo[1,4] ([1]*Grad. Sch. Sci., Tokyo Univ. of Sci.*, [2]*Molecular Photoscience Research Center, Kobe Univ.*, [3]*JST CREST*, [4]*JST PRESTO*)

3Pos254 **Aggregation of chlorophylls d and f in n-hexane**
Katsuhiro Wada[1], Terumitsu Kanjoh[1], Yuhta Isei[1], Yutaka Hanawa[2], Yoshihiro Shiraiwa[2], Masataka Nakazato[3], Hideaki Miyashita[4], Masami Kobayashi[1] ([1]*Div. Materials Sci., Fac. Pure Applied Sci., Univ. Tsukuba*, [2]*Fac. Life Environ. Sci., Univ. Tsukuba*, [3]*Chlorophyll Research Institute Co., Ltd*, [4]*Graduate School Human Environ. Studies, Kyoto Univ.*)

3Pos255 **緑藻ミル糸状体における培養時光強度に依存したカロテノイドの蓄積**
Extra accumulation of carotenoids upon intense irradiation during culture of a siphonous green algae, *Codium fragile*
Kentaro Fujiwara[1], Ritsuko Fuji[1,2] ([1]*Grad. Sch. Sci., Osaka City Univ.*, [2]*OCARINA, Osaka City Univ.*)

3Pos256 **チラコイド膜での光還元に対する共溶媒の効果**
Effect of co-solvents on photo-reduction in thylakoid membranes
Kuniyuki Hatori, Yuko Kokaji, Tomoyuki Toyama (*Dept. Bio-Systems, Yamagata Univ.*)

3Pos257 **Identity of chlorophyll e**
Yuhta Sorimachi[1], **Taku Kaitani**[1], Masataka Nakazato[2], Hideaki Miyashita[3], Masami Kobayashi[1] ([1]*Div. Materials Sci. Pure and Applied Sci. Univ.*, [2]*Chlorophyll Res. Inst.*, [3]*Graduate School of Human and Environ. Sci., Univ.*)

3Pos258 **Solubility and stability of chlorophylls in algal oil**
Terumitsu Kanjoh[1], Mikihide Demura[2], Masaki Yoshida[2], Makoto Watanabe[2], Masataka Nakazato[3], Masami Kobayashi[1] ([1]*Div. Materials Sci., Fac. Pure Appl. Sci., Univ. Tsukuba*, [2]*Fac. Life Environ. Sci., Univ. Tsukuba*, [3]*Chl. Tes. Inst.*)

3Pos259 **Complex formation between carbon nanomaterials and photosystem complexes**
Shota Tanaka, Tatsuya Tomo (*Grad. Sch. Sci., Tokyo Univ. of Sci.*)

3Pos260 **緑化途上トウモロコシ生葉の極低温顕微分光による光合成タンパク質前駆体の蛍光スペクトル同定**
Spectral identification of late precursors to photosynthetic proteins by cryogenic microscopy of greening etiolated Zea mays leaves
Hirotomo Nagasawa, Tomofumi Chiba, Yutaka Shibata (*Graduate School of Science, Tohoku University*)

3Pos261 **北海道で採取した紅色非硫黄細菌による酢酸塩からの光水素生成**
Phototrophic hydrogen production from acetate by purple non-sulfur bacteria from rivers in Hokkaido
Mayoka Kanoh[1], Kazuma Tazawa[1], Seigo Kumakura[2], **Masahiro Hibino**[1,2] ([1]*Div. Sustain. Enviro. Eng., Muroran Inst. Tech.*, [2]*Dept. Appl. Sci., Muroran Inst. Tech.*)

放射線生物学･活性酸素 / Radiobiology & Active oxygen

3Pos262 **低線量或いは高線量 X 線被ばく後のマウス肝臓におけるメタボローム解析**
Metabolome analyses in livers of mice exposed to low or high-dose X-ray-irradiation
Tetsuo Nakajima[1], Guillaume Vares[2], Yasuharu Ninomiya[1], Bing Wang[1], Takanori Katsube[1], Kaoru Tanaka[1], Cuihua Liu[1], Hirokazu Hirakawa[1], Kouichi Maruyama[1], Akira Fujimori[1], Mitsuru Nenoi[1] ([1]*Natl. Inst. Radiol. Sci., QST.*, [2]*OIST*)

3Pos263 **ビタミンDによって誘発される単球の分化と酸化ストレスの関係**
Relations of oxidative stress and monocytic differentiation induced by vitamin D_3
Naoya Matsunaga, Kiyotaka Murakami, Wakako Hiraoka (*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*)

3Pos264 **プリオンオクタペプチドと二価金属錯体結合によってひきおこされるレドックス不均衡**
Redox imbalance induced by coordination of divalent metals in octarepeat region of human PrP
Shinnosuke Kondo, Wakako Hiraoka (*Dept. Phys., Grad. Sch. Sci. & tech., Meiji Univ.*)

3Pos265 **超音波に誘発される CMNB-ケージ基と脂肪酸の分解**
Ultrasound-induced scission of CMNB-caged moiety and fatty acids
Kengo Takei[1], Takuya Wada[1], Asuka Kato[1], Masato Mutoh[2], Wakako Hiraoka[1] ([1]*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*, [2]*Dept. Mater. & Human Env. Sci., Shonan Inst. of Tech.*)

ゲノム生物学：ゲノム機能 / Genome biology: Genome function

3Pos266 **一分子観察における DNA 二重鎖の光切断に対する PEG 保護作用**
Protective effect of PEG against DNA double-strand breaks caused by photo irradiation through single molecule observation
Moe Usui, Yuko Yoshikawa, Kenichi Yoshikawa (*Facul. Life Med. Sci., Doshisha Univ.*)

バイオインフォマティクス：機能ゲノミクス / Bioinformatics: Functional genomics

3Pos267 **機械学習を用いた機能未知スプライシングアイソフォームの機能性推定**
Evaluation of functionality of uncharacterized splicing isoforms using machine learning techniques
Pramote Teerasetmanakul, Masafumi Shionyu (*Grad. Sch. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*)

3Pos268 **Predicting protein-protein interactions using sequence homology and machine learning methods**
Yifan Tang, Wei Cao, Tohru Terada, Kazuya Sumikoshi, Shugo Nakamura, Kentaro Shimizu (*Grad. Sch. Agr., Univ. Tokyo*)

3Pos269 **クロマチン構造形成における単純反復配列の機能的役割**
Functional Roles of Simple Repeat Sequences in Chromatin Conformations
Takeru Kameda[1], Atsushi Ikegaya[1], Takeshi Sugawara[2], Naoaki Sakamoto[1,2], Akinori Awazu[1,2] ([1]*Dept. of Mathematical and Life Sciences, Hiroshima University*, [2]*Research Center for the Mathematics on Chromatin Live Dynamics*)

3Pos270 **翻訳伸長因子 1A の配列情報に基づいた機能分岐に関わる重要な残基の予測**
Prediction of key residues involving functional divergence based on sequence information of translation elongation factor 1A
Yosuke Kondo, Satoru Miyazaki (*Fac. Pharm., Tokyo Univ. Sci.*)

3Pos271 **天然変性領域の機能部位：Protean Segments が効果的に相互作用できる理由**
Interface property of protean segments: intrinsically disordered regions that undergo disorder-to-order transitions upon binding
Divya Shaji, Takayuki Amemiya, Ryotaro Koike, **Motonori Ota** (*Grad. Sch. Inf. Sci., Nagoya U.*)

3Pos272 **Immuno-Navigator: a co-expression database for cell type-specific network inference in the immune system**
Alexis Vandenbon (*IFReC, Osaka University*)

バイオインフォマティクス：比較ゲノミクス / Bioinformatics: Comparative genomics

3Pos273 **光回復酵素／クリプトクロムファミリーの機能発現に重要なアミノ酸残基部位の探索**
In search for amino acid positions that determine the molecular function of photolyase/cryptochrome family
Daichi Yamada[1], Kei Yura[1,2] ([1]*Cent. Info. Biol., Ochanimizu Univ.*, [2]*NIG*)

3Pos274 **Refining the performance of k-mer count similarity prediction and examining use of different scoring matrix for better pairwise alignment**
Kazunori Yamada, Kengo Kinoshita (*Tohoku University*)

数理生物学 / Mathematical biology

3Pos275 **緑藻の走光性と多細胞性の関係**
Relation between phototaxis and multicellularity of green algae
Keisuke Yamada, Yoshihiro Murayama (*Tokyo Univ. of Agri. and Tech.*)

3Pos276 **染色体の凝縮が染色体の構築や分離に与える影響**
Effects of chromatin condensation on chromosome construction and segregation
Yuji Sakai[1,2], Masashi Tachikawa[1], Atsushi Machizuki[1], Kazuhisa Kinoshita[3], Tatsuya Hirano[3] ([1]*RIKEN, Theoretical Biology Laboratory*, [2]*RIKEN, iTHES*, [3]*RIKEN, Chromosome Dynamics Laboratory*)

3Pos277 **クロマチン動態とコンタクトマップの関係を深く理解するための数理的研究**
A mathematical study for deep understanding of relationship between chromatin dynamics and contact map
Masaki Nakagawa (*RcMcD, Hiroshima Univ.*)

3Pos278 **Enhancement of sampling space in multivariate analysis of experimental big data in various biological sciences**
Jiyoung Kang[1], Kazuhiko Yamasaki[2], Masaru Tateno[1] ([1]*Univ. of Hyogo*, [2]*Biomed. Res. Ins. AIST*)

3Pos279 **血糖値調節におけるインスリン・C ペプチドの血中動態の数理モデルを用いた解析**
Mathematical model analysis of blood glucose regulation with insulin and C-peptide
Kaoru Ohashi[1], Masashi Fujii[1], Shinsuke Uda[1], Hisako Komada[2], Kazuhiko Sakaguchi[2], Wataru Ogawa[2], Shinya Kuroda[1] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Grad. Sch. Med., Univ. Kobe*)

3Pos280 **生命科学研究用の特化型シミュレータ群の具現化**
Implementation of a group of special-purpose simulators for life science researches
Hideto Katsuma[1,2], Jun Takayama[2], Yukako Tohsato[2], Koji Kyoda[2], Shuichi Onami[1,2] ([1]*Grad. Sch. System Inform., Kobe Univ.*, [2]*Lab. Dev Dyn., RIKEN QBiC*)

3Pos281 **遺伝子発現量制御メカニズムのタイプ分類と遺伝子機能の関係**
Relationship between regulatory pattern of gene expression level and gene function
Masayo Inoue, Katsuhisa Horimoto (*molprof, AIST*)

3Pos282 **T 細胞の胸腺における細胞数のダイナミクスのモデリングと推定**
Modeling and inferring dynamics of T cell population in thymus
Kazumasa Kaneko[1], Ryo Yokota[2], Taishin Akiyama[3], Tetsuya Kobayashi[2] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Inst. Ind. Sci., Univ. Tokyo*, [3]*Inst. Med. Sci., Univ. Tokyo*)

3Pos283 **触媒反応系から成る細胞のトレードオフ**
Trade-off in a protocell model with catalytic reactions
Atsushi Kamimura, Kunihiko Kaneko (*The University of Tokyo*)

3Pos284 **Spine における Small-volume effect: Robust, Sensitive, Efficient な情報伝達のメカニズム**
Small-volume effect enables robust, sensitive and efficient information transfer in the spine
Masashi Fujii[1], Kaoru Ohashi[1], Yasuaki Karasawa[2], Minori Hikichi[1], Shinya Kuroda[1] ([1]*Dept. Biol. Sci., Grad. Sch. of Sci., Univ. of Tokyo*, [2]*Dept. Neurol., Grad. Sch. of Med., Univ. of Tokyo*)

非平衡･生体リズム / Nonequilibrium state & Biological rhythm

3Pos285 **Curvature-driven splitting of a planar traveling wave**
Kazuya Horibe[1], Ken-ichi Hironaka[2,3,4], Katsuyoshi Matsushita[2], Koichi Fujimoto[2] ([1]*Grad. Sch. Info, Univ. Osaka*, [2]*Grad. Sch. Sci., Univ. Osaka*, [3]*CDB, Inst., Riken*, [4]*JSPS Research Fellow(PD)*)

3Pos286 **Quantification of dynamic mechano-response of myoblast using stimulus responsive matrix**
Marcel Hoerning[1], Masaki Nakahata[2], Akihisa Yamamoto[1], Mariam Veschgini[3], Stefan Kaufmann[3], Yoshinori Takashima[2], Akira Harada[2,4], Motomu Tanaka[1,3] ([1]*iCeMS, Kyoto University*, [2]*Osaka University*, [3]*Heidelberg University*, [4]*ImPACT*)

3Pos287 **再生ヒドラにおける形状ダイナミクスと対称性の破れの定量化**
Quantification of Morphological Dynamics and Symmetry Break in Regenerating Hydra Tissues
Ryo Suzuki[1], Mariam Veschgini[2], Thomas W. Holstein[3], Motomu Tanaka[1,2] ([1]*iCeMS, Kyoto University*, [2]*Institute of Physical Chemistry, University of Heidelberg*, [3]*Centre for Organismal Studies, University of Heidelberg*)

3Pos288 **2D swarming bacteria**
Chien Jung Lo, **Ching Yuan Lin** (*Dept. of Physics, NCU, Taiwan*)

3Pos289 **聴覚刺激によって引き起こされる脳波の引き込み現象と確率共鳴**
Auditory entrainment and stochastic resonance in EEGs
Minoru Saito[1,2], Shogo Kawamoto[2], Yuuta Hamasaki[1], Ken Saito[3], Tetsuya Yamamoto[4] ([1]*College of Humanities and Sciences, Nihon University*, [2]*Graduate School of Integrated Basic Sciences, Nihon University*, [3]*College of Science and Technology, Nihon University*, [4]*Tokyo Metropolitan College of Industrial Technology*)

バイオイメージング / Bioimaging

3Pos290 **Observation of conformational dynamics of FliI by HS-AFM**
Kei Adachi[1], Jun-ichi Kishikawa[3], Hiroyuki Terashima[2], Takayuki Uchihashi[1], Katsumi Imada[2], Ken Yokoyama[3], Toshio Ando[1] ([1]*Coll. Sci. & Eng., Kanazawa Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Facul. Biosci., Kyoto Sangyo Univ.*)

3Pos291 **高速原子間力顕微鏡と光ピンセットの複合システム**
Combined system of high speed atomic force microscopy(HS-AFM) and optical tweezers
Shin'nosuke Yamanaka[1], Akane Goto[1], Hiroki Watanabe[2], Takayuki Uchihashi[1,3], Toshio Ando[1,3] ([1]*Grad. Sch. Sci., Kanazawa Univ.*, [2]*RIBM Co., Ltd.*, [3]*Bio-AFM FRC., Kanazawa Univ.*)

3Pos292 **脂質膜の曲率に依存したタンパク質-脂質膜の相互作用の直接観察のための高速 AFM 用基板の開発**
Development of HS-AFM substrate for observation between proteins and lipid membrane depending on the physical shape of lipid membrane
Takahiro Toyoda[1], Shin'nosuke Yamanaka[1], Akane Goto[1], Hiroki Watanabe[2], Shunsuke Shozui[1], Mikihiro Shibata[1,3], Takayuki Uchihashi[1,3] ([1]*Dept. of phys., Kanazawa Univ.*, [2]*RIBM Co., Ltd.*,, [3]*Bio-AFM FRC., Kanazawa Univ.*)

3Pos293 **長時間１蛍光分子追跡法による接着斑分子の動的リクルートの解明**
Transient recruitment of focal adhesion molecules revealed by super-long single molecule tracking
Taka-aki Tsunoyama[1], Kenichi G.N. Suzuki[2,3], Takahiro K. Fujiwara[2], Akihiro Kusumi[1,2,4] ([1]*OIST*, [2]*Inst. Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto Univ.*, [3]*NCBS/inStem, India*, [4]*Inst. Frontier Medical Sciences, Kyoto Univ.*)

3Pos294 **個々の酵母細胞内 ATP 濃度の可視化により明らかになった、酸化ストレス下における細胞内 ATP 濃度の低下**
In vivo imaging of cytoplasmic ATP in living yeast cells reveals a profound effect of oxidative stress on ATP level
Masak Takaine[1,2], Hiromi Imamura[3], Satoshi Yoshida[1,2] ([1]*Gunma Univ. Initiative for Adv. Res.*, [2]*Gunma Univ. Inst. for Mol. and Cell. Regulation*, [3]*Lab. of Funct. Biol., Grad. Sch. of Biostudies, Kyoto Univ.*)

3Pos295 **PDLIM2 の相互作用タンパク質 MKRN2 は、NF-κB の p65 サブユニットに対する新規ユビキチン E3 リガーゼとして機能する**
PDLIM2-interacting protein MKRN2 functions as a novel E3 ligase for p65 subunit of NF-κB
Chanyoung Shin[1,2], Yuma Ito[1], Makio Tokunaga[1], Takashi Tanaka[2], **Kumiko Sakata-Sogawa**[1] ([1]*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, [2]*IMS, RIKEN*)

3Pos296 **リポ多糖刺激における炎症抑制タンパク質 PDLIM2 活性化の生細胞イメージング定量解析**
Live cell imaging and quantitative analysis of anti-inflammatory protein PDLIM2 activation upon LPS stimulation
Shota Ichikawa[1], Yuma Ito[1], Takashi Tanaka[2], Makio Tokunaga[1], Kumiko Sakata-Sogawa[1] ([1]*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

3Pos297 **mRNA の一分子追跡によるストレス顆粒形成初期機構の調査**
Investigating initiation mechanism of stress granule formation by tracking single mRNA particles
Masamichi Imaseki[1], Ko Sugawara[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm Sci., Univ. of Tokyo*, [2]*JST, PRESTO*)

3Pos298 **高速近接場光学顕微鏡の開発**
Development of high-speed near-field optical microscopy
Takayuki Umakoshi[1], Shingo Fukuda[2], Takayuki Uchihashi[1,2,3], Toshio Ando[1,2,3] ([1]*Bio-AFM FRC, Kanazawa Univ.*, [2]*Coll. Sci. & Eng., Kanazawa Univ.*, [3]*CREST-JST*)

3Pos299 **転写伸長制御に関わるタンパク質動態のイメージング定量解析**
Quantitative image analysis of dynamics of promoter-proximal pausing related proteins
Shinnosuke Kunimi, Yuma Ito, Yuki Yamaguchi, Kumiko Sakata-Sogawa, Makio Tokunaga (*Sch. Life Sci. Tech., Tokyo Inst. Tech.*)

3Pos300 **大気圧電子顕微鏡を用いた分泌腺組織の水中観察**
Secretory glands imaged in aqueous solution by atmospheric scanning electron microscopy (ASEM)
Toshiko Yamazawa[1], Naotoshi Nakamura[2], Mari Sato[3], Chikara Sato[3] ([1]*Dept. Mol. Physiol., Jikei Univ. Sch. Med.*, [2]*Dept. Statistical Genetics, Kyoto Univ.*, [3]*Biomed. Res. Inst., AIST*)

3Pos301 **ベイズ推定を用いた透過型電子顕微鏡画像の CTF 補正の自動化**
Development of automated CTF correction of transmission electron microscopic images using the Bayesian estimation
Koji Hisanaga, Takuo Yasunaga (*Kyushu Institute of Technology Graduate School of Computer Science and System Engineering*)

3Pos302 **様々な生物種の温度測定に利用でき且つ速い温度変化を測定可能な蛍光性温度プローブタンパク質**
Genetically encoded ratiometric fluorescent thermometer with wide temperature range and rapid response
Masahiro Nakano[1], Yoshiyuki Arai[1], Ippei Kotera[2], Kohki Okabe[3,4], Yasuhiro Kamei[5], Takeharu Nagai[1] ([1]*ISIR, Osaka Univ.*, [2]*RIES, Hokkaido Univ.*, [3]*Grad. Sch. Pharma., Univ. Tokyo*, [4]*JST, PRESTO*, [5]*NIBB*)

3Pos303 **新規誘電率顕微鏡(SE-ADM)による生きたそのままの細胞の液中ナノスケール観察**
Nanoscale observation of intact living cells in a medium with low radiation damage using scanning electron-assisted dielectric microscopy
Tomoko Okada, **Toshihiko Ogura** (*Advanced Industrial Science and Technology (AIST), Biomedical Research Institute*)

3Pos304 **Improvement of photostability of fluorescent dyes by using lanthanide ions**
Takuma Imoto[1], Shin Mizukami[2], Kazuya Kikuchi[1,3] ([1]*Grad. Sch. Eng, Osaka Univ.*, [2]*IMRAM, Tohoku Univ.*, [3]*IFReC*)

3Pos305 **Optical measurement of diffusion and pH in nanopores of protein crystals**
Kazuo Mori, Bernd Kuhn (*OIST*)

バイオエンジニアリング / Bioengineering

3Pos306 **アポフェリチンを用いた複合(MRI 造影・発光)希土類ナノ粒子の作製**
Synthesis of rare earth hybrid nanoparticles in the apoferritin cavity
Keita Kontani, Hideyuki Yoshimura (*Meiji University*)

3Pos307 **標的遺伝子高感度検出に向けた自己組織化単分子膜修飾金ナノ粒子の分散安定化**
Optimized modification of SAMs for suppression of non-specific binding gold nanoparticles for High-sensitivity Target Genetic Assay
Keiko Esashika, Takaha Mizuguchi, Toshiharu Saiki (*Sci. Rech., Keio Univ.*)

3Pos308 **血中循環腫瘍細胞を測定するためのサイズ分画機能を備えた画像認識型セルソーターの開発**
Development of Size Classifying Imaging Cell Sorter for Identifying of Circulating Tumor Cells
Moe Iwamura[1], Masao Odaka[2], Kenji Matsuura[2], Akihiro Hattori[2], Hideyuki Terazono[2], Kenji Yasuda[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*WASEDA Biosci. Res. Inst. Singapore (WABIOS), Waseda Univ.*)

3Pos309 **血中循環腫瘍細胞を無染色で識別するためのオン・チップ高機能画像認識型細胞分取装置の開発**
Development of Functional On-Chip Imaging Cell Sorter for Identification of Non-Labeled Circulating Tumor Cells
Masao Odaka[1], Akihiro Hattori[1], Kenji Matsuura[1], Hideyuki Terazono[1], Moe Iwamura[2], Kenji Yasuda[2] ([1]*WASEDA Biosci. Res. Inst. Singapore (WABIOS), Waseda Univ.*, [2]*Dept. Physics, Waseda Univ.*)

3Pos310 **ゲル媒質中で反応拡散系によるパターン形成を行う DNA 論理ゲート**
DNA logic gate performs Reaction-Diffusion Pattern formation in gel medium
Keita Abe[1], Ibuki Kawamata[2], Shin-ichiro M. Nomura[2], Satoshi Murata[2] ([1]*Dpt. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Eng., Tohoku Univ.*)

3Pos311 **電極埋め込み型ナノポアの AC ゲート電位による DNA の挙動制御**

DNA motion and translocation controlled by nanopore with embedded gate electrode

Naoto Sakashita, Yuta Kato, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

3Pos312 ***In vitro* selection of novel peptide agonists for human somatostatin receptor subtype-2 using water-in-oil microdroplets**

Takashi Sakurai[1], Ryo Iizuka[1], Yasuyuki Nakamura[2], Jun Ishii[3], Akihiko Kondo[2], Ayaka Iguchi[4], Dong H. Yoon[4], Tetsushi Sekiguchi[5], Shuichi Shoji[4], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Eng., Kobe Univ.*, [3]*Org. of Adv. Sci. and Technol., Kobe Univ.*, [4]*Dept. of Nanosci. and Nanoeng., Waseda Univ.*, [5]*Res. Org. for Nano & Life Innov., Waseda Univ.*)

3Pos313 **ナノポア計測の周波数解析による複数種類の microRNA のパターン認識**

Pattern Recognition for MicroRNA Expressions by using Fourier Analysis on Nanopore Sensing

Akihiro Tamotsu[1], Moe Hiratani[2], Masayuki Ohara[2], Ryuji Kawano[3] ([1]*Tokyo Univ. of Agri. and Tech. Dept. Biotech. and Life Sci.*, [2]*Tokyo Univ. of Agri. and Tech. Dept. Biotech. and Life Sci.*, [3]*Tokyo Univ. of Agri. and Tech. Dept. Biotech. and Life Sci.*)

3Pos314 **DNA を用いたナノ粒子 3D プリンタの実現**

Nanoparticle 3D Printing by DNA Bonding

Yuki Sakamoto, Shoichi Toyabe (*Grad. Sch. Eng. Applied Physics, Univ. Tohoku*)

3Pos315 **DNA ナノ構造の DNA ハイドロゲルへの繰り返し電子解離／会合**

Repeatable electronic dissociation/association of DNA nanostructures on DNA hydrogels

Keitel Cervantes, Ibuki Kawamata, Shin-Ichiro Nomura, Satoshi Murata (*Tohoku University*)

3Pos316 **作製済みリポソームへのマイクロピペットの穿刺**

Microinjection into already made liposome

Shota Sato, Shin Yoshida, Tomoyuki Kaneko (*LaRC, FB, Hosei Univ.*)

3Pos317 **Quantification of intersample differences in T cell populations**

Ryo Yokota[1], Yuki Kaminaga[2], Tetsuya Kobayashi J.[1,2] ([1]*Institute of Industrial Science, the University of Tokyo*, [2]*School of Engineering, The University of Tokyo*)

3Pos318 **多チャンネル局所化学刺激システムの開発**

Development of the multi-channel local chemical stimulation system

Masaru Kojima[1], Tatsuoya Furusawa[1], Hajime Fukuoka[2], Yasushi Mae[1], Tatsuo Arai[1] ([1]*Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*)

3Pos319 **多電極電位計測システムを用いた心筋細胞に対するテルフェナジンの影響**

Effect of Terfenadine to cardiomyocytes on multi electrode array system

Mitsuki Maruyama, Tomoyuki Kaneko (*LaCR, Hosei Univ.*)