ポスター　Poster

第 1 日目（9 月 13 日（日））／Day 1（Sep. 13 Sun.）プロムナード / Promenade

蛋白質：構造 / Protein: Structure

1Pos001 **電子顕微鏡を用いた核ラミンの動的構造変化**
Observation of dynamics of nuclear lamin using electron microscopy
Muneyo Mio[1], Mai Tsunoda[1], Hayato Yamashita[2], Toshihiko Sugiki[3], **Kazuhiro Mio**[1] ([1]*AIST*, [2]*Grad. Sch. Eng. Sci., Univ. Oosaka*, [3]*IPR, Univ. Oosaka*)

1Pos002 **Single-particle analysis of *Thermus thermophilus* V-ATPase using an electron microscopy**
Atsuko Nakanishi[1], Nao Takeuchi[1], Jun-ichi Kishikawa[1], Kaoru Mitsuoka[2], Ken Yokoyama[1] ([1]*Kyoto Sangyo Univ. LifeSci.*, [2]*Osaka Univ. Res. Ctr. UHVEM*)

1Pos003 **分子動力学法と分子ドッキング法を用いたエストロゲンレセプターのリガンド結合予測**
Prediction of binding pose of estradiol to human estrogen receptor: identification of druggable pocket and ensemble-based docking
Hiroaki Saito, Hidemi Nagao, Kazutomo Kawaguchi (*Kanazawa University*)

1Pos004 **クライオ電子顕微鏡を用いた B 型肝炎ウイルスの表面抗原粒子の構造解析**
Structural analysis of hepatitis B surface antigen particles with cryo-electron microscopy
Mai Tsunoda[1], Muneyo Mio[1], Yasuko Maeda[2], Yuji Hoshi[3], Kaoru Mitsuoka[4], Kazuhiro Mio[1] ([1]*AIST*, [2]*arroba.LLC*, [3]*Central Blood Inst., JRCS*, [4]*Research Center for UHV-EM, OSAKA Univ.*)

1Pos005 **NLRP3 タンパク質リガンド結合ドメインの構造特性**
Structure characterization of the ligand-binding domain of an inflammation-related protein NLRP3
Ryota Yamamoto[1], Kazuto Yamashita[1], Hiroshi Imamura[2], Motonari Tsubaki[1], Eri Chatani[1] ([1]*Grad. Sch. Sci.,Kobe Univ.*, [2]*AIST*)

1Pos006 **コレラ菌走化性受容体のリガンド認識機構**
Ligand recognition mechanism of chemoreceptor proteins of *Vibrio cholerae*
Yohei Takahashi[1], Kazumasa Sumita[1], Yumiko Uchida[1], So-ichiro Nishiyama[2], Ikuro Kawagishi[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*Dept. Front. Biosci. Sci., Hosei Univ.*)

1Pos007 **EMDB と PDB データの形状類似検索: Omokage 検索**
Shape similarity search for EMDB and PDB: Omokage search
Hirofumi Suzuki[1,2], Takeshi Kawabata[1], Haruki Nakamura[1,2] ([1]*IPR, Osaka-univ*, [2]*PDBj*)

1Pos008 **Porphyromonas gingivalis の T9SS によって分泌される PGN_0123 の結晶化**
Crystallization of PGN_0123 secreted by T9SS 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*)

1Pos009 **レジストリ―の異なるダイニンストーク領域の二次構造解析**
Secondary structure analysis of the entire stalk region with two different registries
Haruka Iwasaki[1], Yosuke Nishikawa[2], Momoko Inatomi[1], Hideaki Tanaka[2], Genji Kurisu[2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Institute for Protein Research*)

1Pos010 **水溶性セレノキシド試薬を用いた α-lactalbumin の酸化的フォールディング**
The oxidative folding of α-lactalbumin under mild basic conditions by using a selenoxide reagent
Reina Shinozaki, Michio Iwaoka (*Tokai University*)

1Pos011 **分子動力学シミュレーションを用いた Hras-GTP/GDP 複合体周辺の水の動きの解析**
Analysis of dynamics of water molecules near the Hras-GTP/GDP complexes by molecular dynamics simulations
Takeshi Miyakawa[1], Ryota Morikawa[1], Masako Takasu[1], Kimikazu Sugimori[2], Kazutomo Kawaguchi[2], Hiroaki Saito[2], Hidemi Nagao[2] ([1]*Tokyo Univ. of Pharm. and Life Sci.*, [2]*Kanazawa Univ.*)

1Pos012 **プロテイン A とその誘導体の溶液内構造。X 線小角産卵法による研究。**
Structure of Protein A and its derivative in solution studied by small-angle x-ray scattering
Masaji Shinjo[5], Kaoru Ishimura[6], Akitsugu Yamamoto[6], Hiroshi Kihara[1,2,3,4] ([1]*Himeji Hinomoto College*, [2]*Hinomoto Gakuen Educational Foundation*, [3]*Ritsumeikan Univ. SR Center*, [4]*Nagoya Univ. SR Research Center*, [5]*Kansai Medical Univ*, [6]*Nagahama Inst of Bio-Sci. & Tech*)

1Pos013 **分子動力学シミュレーションによる Aβ アミロイド線維の揺らぎと構造**
Structure and fluctuation of Aβ fibril by molecular dynamics simulations
Hisashi Okumura[1,2], Satoru G. Itoh[1,2] ([1]*IMS*, [2]*SOKENDAI*)

1Pos014 **tRNA チオ化酵素 TtuA-TtuB 複合体の結晶構造解析**
Crystal structure analysis of TtuA-TtuB, a tRNA thiolation enzyme complex
Shun Narai[1], Minghao Chen[1], Naoki Shigi[3], Yoshikazu Tanaka[2], Min Yao[2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Facl. of Adv. Life Sci., Hokkaido Univ.*, [3]*Biotech. Res. Inst. for Drug Discov., AIST*)

1Pos015 **The approach toward crystallization of HBV core of genotype C**
Katsumi Omagari, Yasuhito Tanaka (*Dept. Virol., Grad Sch. Med., Nagoya City Univ.*)

1Pos016 **Development of a De Novo protein structure prediction: generating new fold structures by permutating and reversing SSEs of known folds**
Shunsuke Nishiyama, Kodai Takagi, George Chikenji (*Grad. Sch. of Engineering, Nagoya Univ*)

1Pos017 **コフィリンの結合によるアクチン線維構造変化の解析**
Elucidation of structural change in actin filament invoked by cofilin
Kotaro Tanaka[1], Chieko Kimura-Sakiyama[1], Kaoru Mitsuoka[2], Daisuke Kasuya[3], Yuichiro Maeda[1], Akihiro Narita[1] ([1]*Structure Biology Research Center, Nagoya Univ.*, [2]*Research Center for Ultra-High Voltage Electron Microscopy, Osaka Univ.*, [3]*JBiC*)

蛋白質：構造･機能 / Protein: Structure & Function

1Pos018 **MP2/6-311G++(d,p)法による炭酸脱水酵素の機能発現と構造に関する理論的研究**
Basis Set Having Diffuse Function, 6-311G++(d,p), in MP2 to Calculate Energy of Active Site Model Containing His/Trp in Carbonic Anhydrase
Muhamad Koyimatu[1], Kimikazu Sugimori[2], Hidemi Nagao[2], Hideto Shimahara[1] ([1]*Japan Advanced Institute of Science and Technology*, [2]*Kanazawa University*)

1Pos019 **多剤排出トランスポーター AcrB の Motion-Tree 法による解析**
Motion tree analysis of the multidrug transporter AcrB
Tsutomu Yamane[1], Ryotaro Koike[2], Motonori Oota[2], Satoshi Murakami[3], Akinori Kidera[1], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [2]*Grad. Sch. of Inf. Sci., Nagoya Univ.*, [3]*Grad. Sch. of Biosci. and Bioeng., Tokyo Inst. of Tech.*)

1Pos020 **シアノバクテリア由来のフィトクロム Cph1 の光受容部位の構造変化ダイナミクス**
Conformational dynamics of photosensory domains of the Cyanobacterial Phytochrome 1 (Cph1)
Kimitoshi Takeda, Masahide Terazima (*Grad. Sch. Sci., Kyoto Univ*)

1Pos021 **アメリカヤマゴボウ抗ウイルスタンパク質におよぼす糖結合の影響**
Sugar binding effects on pokeweed anti-viral protein
Ayana Okuno[1], Ryosuke Ueno[2], Yuki Okada[2], Etsuko Nishimoto[3] ([1]*Sch. Agr.,Univ. Kyushu*, [2]*Grad. Sch. Bioresour. Bioenveron. Sci.,Univ. Kyushu*, [3]*Fac. Agr.,Univ.Kyushu*)

1Pos022 **密度汎関数法による D-アミノ酸酸化酵素のフラビン-基質配置に関する研究**
A DFT study on flavin-substrate arrangement in D-amino acid oxidase
Kyosuke Sato (*Dept. Mol. Physiol., Facult. Life Sci., Kumamoto Univ.*)

1Pos023 **26s プロテアソームの高速 AFM 観察**
High-speed AFM observation of the 26S proteasome
Takashi Okuno[1], Kentaro Noi[2,5], Ken-ichi Arita-Morioka[2,5], Hikaru Tsuchiya[3], Yasushi Saeki[3], Kazunobu Takahashi[4], Tomonao Inobe[4], Takahiro Saito[1], Kunitoshi Yamanaka[2,5], Teru Ogura[2,5] ([1]*Fac. Sci. Univ. Yamagata.*, [2]*Inst. Mol. Embryol. Genet., Kumamoto Univ.*, [3]*Tokyo Metro. Inst. of Med. Sci.*, [4]*Frontier Res. Core for Life Sci., Univ. of Toyama*, [5]*CREST, JST*)

1Pos024 **Structural origins of slowness and regulatory mechanism in KaiC ATPase**
Jun Abe[1], Takuya B. Hiyama[1], Atsushi Mukaiyama[1,2], Seyoung Son[3], Toshifumi Mori[2,4], Shinji Saito[2,4], Masato Osako[3], Wolanin Julie[1], Eiki Yamashita[5], Takao Kondo[3], Shuji Akiyama[1,2] ([1]*CIMoS, IMS*, [2]*Grad. Univ. for Advanced Studies*, [3]*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*, [4]*Dept. Theoret. and Comput. Molecular Science, IMS*, [5]*IPR*)

1Pos025 **Study of interaction between transferrin and transferrin receptor2 by molecular simulation and flow cytometry**
Tetsuya Sakajiri[1], Katsuya Ikuta[2], Takaki Yamamura[1] ([1]*Morioka Univ.*, [2]*Asahikawa Med. Col.*)

1Pos026 **植物型フェレドキシンの酸化還元電位を大幅に上昇させる構造要因の精密解析**
Structural basis for the unexpected increase of redox potential of plant-type Ferredoxin revealed by the high resolution X-ray analysis
Daiki Kiyota[1,2], Arisa Sato[3], Risa Mutoh[2], Haruki Yamamoto[2], Toshiharu Hase[1,2], Genji Kurisu[1,2] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*Institute for Protein Research, Osaka University, Japan*, [3]*Doshisha Women's college*)

1Pos027 **蛋白質多重配列アラインメントの格子気体模型**
Lattice gas model of protein multiple sequence alignment
Akira Kinjo (*Inst. Protein Res., Osaka Univ.*)

1Pos028 **Analysis of the Free Energy Landscapes for the Open-Closing Dynamics of MalK2 Using Enhanced Sampling MD Simulation**
WeiLin Hsu, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech.*)

1Pos029 **How do intramolecular hydrogen bonds within a peptide contribute to peptide-antibody interaction?**
Kazuhiro Miyanabe[1], Hiroki Akiba[2], Jose Caaveiro[2], Daisuke Kuroda[2], Makoto Nakakido[3], Osamu Arai[4], Hiroko Iwanari[4], Takao Hamakubo[4], Kouhei Tsumoto[1,2,3] ([1]*Dept. Chem. Biotech., Sch. Eng., Univ. Tokyo*, [2]*Dept. Bioeng., Sch. Eng., Univ. Tokyo*, [3]*Inst. Med. Sci., Univ. Tokyo*, [4]*RCAST, Univ. Tokyo*)

1Pos030 **Molecular dynamics of channelrhodopsin at the early stages of channel opening**
Mizuki Takemoto[1], E. Hideaki Kato[1], Michio Koyama[1], Jumpei Ito[2], Motoshi Kamiya[3], Shigehiko Hayashi[3], Andres D. Maturana[2], Karl Deisseroth[4], Ryuichiro Ishitani[1], Osamu Nureki[1] ([1]*University of Tokyo*, [2]*Nagoya University*, [3]*Kyoto University*, [4]*Stanford University*)

1Pos031 **滴定 X 線小角散乱測定による Shootin1-Cortactin 複合体形成の構造学的評価**
Structural investigation of direct interaction between Shootin1 and cortactin by the titration SAXS measurements
Junko Makino[1], Hironari Kamikubo[1], Yoichi Yamazaki[1], Mikio Kataoka[1], Keito Yoshida[1], Naoyuki Inagaki[2], Yusuke Kubo[2], Kentarou Baba[2] ([1]*Graduate School of Materials Science, Nara Institute of Science and Technology*, [2]*Graduate School of Biological Sciences, Nara Institute of Science and Technology*)

1Pos032 **Proton transfer mechanisms of photosystem II: Hybrid ab inito quantum mechanics study**
Atsushi Nakamura[1], Jiyoung Kang[1], Yasufumi Umena[2], Keisuke Kawakami[3], Shen Jian-Ren[2], Nobuo Kamiya[3], Masaru Tateno[1] ([1]*Grad. Sch. Life Sci.,Univ. Hyogo*, [2]*Grad. Sch. of Natural Science and Technology, Okayama Univ*, [3]*OCARINA, Osaka City Univ.*)

1Pos033 **分子動力学シミュレーションを用いた細菌機械受容チャネル MscL の脂質膜厚変化で影響される開口過程の解析**
Molecular Dynamics Study on the Gating of the Bacterial Mechanosensitive Channel MscL Affected by Membrane Thickness
Hiroki Katsuta[1], Yasuyuki Sawada[2], Masahiro Sokabe[3] ([1]*Scl. Med. Nagoya Univ.*, [2]*Dept. Physiol. Grad. Scl. Med. Nagoya Univ.*, [3]*Mechanobiology Lab. Grad. Scl. Med. Nagoya Univ.*)

1Pos034 **Structure and dynamics of Sec protein-conducting channel**
Yasunori Sugano[1], Yoshiki Tanaka[1], Mizuki Takemoto[2], Takaharu Mori[3], Takamitsu Haruyama[4], Arata Furukawa[1], Tsukasa Kusakizako[2], Kaoru Kumazaki[2], Ayako Kashima[2], Ryuichiro Ishitani[2], Hiroki Konno[4], Yuji Sugita[3], Osamu Nureki[2], Tomoya Tsukazaki[1,5] ([1]*NAIST*, [2]*Grad. Sch. of Sci., Univ. of Tokyo*, [3]*RIKEN*, [4]*BioAFM-FRC. Kanazawa Univ*, [5]*JST, PRESTO*)

1Pos035 **含セレン酵素の活性中心を模倣した短鎖セレノペプチドの分子設計**
Molecular design of short selenopeptides mimicking a selenoenzyme active center
Natsuki Babe, Toshiki Suzuki, Taku Shimosato, Toshiya Minezaki, Michio Iwaoka (*School Sci., Tokai Univ.*)

蛋白質：特性 / Protein: Property

1Pos036 **内部座標系による構造エントロピー変化の計算と解析**
Analysis for configurational entropy change calculated using internal coordinate system
Simon Hikiri[1], Takashi Yoshidome[2], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. of Med. Life Sci. Yokohama city Univ.*, [2]*Dept. of Appl. Phys., Tohoku Univ.*)

1Pos037 **超音波連続照射下におけるマウスプリオン蛋白質の凝集体形成**
The formation of aggregates of mouse prion protein under the continuous ultrasonic irradiation
Kei-ichi Yamaguchi[1], Ryo P. Honda[1,2], Abdelazim Elsayed Elhelaly[1], Kazuo Kuwata[1,2] ([1]*Unit. Grad. Sch. of Drug Dis. and Med. Inf. Sci., Gifu Univ.*, [2]*Grad. Sch. of Med., Gifu Univ.*)

1Pos038 **SyPixD の光反応に対する構造揺らぎの効果**
Effect of structural fluctuation on photoreaction of SyPixD
Tsubasa Nakajima[1], Kunisato Kuroi[1], Kouji Okajima[2,3], Masahiko Ikeuchi[3], Satoru Tokutomi[2], Masahide Terazima[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Sci., Osaka Pref Univ.*, [3]*Grad. Sch. Art and Sci., Tokyo Univ.*)

1Pos039 **アルコール脱水素酵素のサブユニット間相互作用に及ぼすホフマイスター効果**
Hofmeister effect on the subunit-subunit interaction of Liver Alcohol Dehydrogenase
Tomohiro Aoyama[1], Etsuko Nishimoto[2] ([1]*Grad. Sch. Bioresour. Bioenviron. Sci., Univ. Kyushu*, [2]*Fac. Agr., Univ. Kyushu*)

1Pos040 **ユビキチン化の新規物理化学的性質**
Novel physicochemical properties of ubiquitylation
Daichi Morimoto[1], Erik Walinda[1], Kenji Sugase[1], Harumi Fukada[2], Yu-shin Sou[3], Shun Kageyama[3,4], Masaru Hoshino[5], Takashi Fujii[6], Hikaru Tsuchiya[7], Yasushi Saeki[7], Kyohei Arita[8], Mariko Ariyoshi[1], Hidehito Tochio[9], Kazuhiro Iwai[10], Keiichi Namba[6,11], Masaaki Komatsu[3,4], Keiji Tanaka[7], Masahiro Shirakawa[1] ([1]*Eng., Kyoto Univ.*, [2]*Life Envi. Sci., Osaka Pref. Univ.*, [3]*Protein Metabolism Proj., Tokyo Metro. Ins. Med. Sci.*, [4]*Med., Niigata Univ.*, [5]*Pharm., Kyoto Univ.*, [6]*QBiC, RIKEN*, [7]*Lab. Protein Metabolism, Tokyo Metro. Ins. Med. Sci.*, [8]*Med. Life Sci., Yokohama City Univ.*, [9]*Science, Kyoto Univ.*, [10]*Med., Kyoto Univ.*, [11]*Frontier Biosci., Osaka Univ.*)

1Pos041 **時間分解 EPR 法を用いたアミロイド線維形成過程におけるヒトインスリン局所構造変化の観測**
Time-resolved EPR Study on Local Structures of Human Insulin Forming Amyloid Fibrills
Tomoka Abe, Takashi Tachikawa, Eri Chatani, Yasuhiro Kobori (*Grad. Sch. Sci., Kobe Univ.*)

1Pos042 **膜貫通 β バレルの β ストランドのねじれと曲りは抑制されている**
β-strand twisting and bending of the transmembrane β-barrel are suppressed
Nobuaki Kikuchi, Shinichi Ebisawa, Yuka Watanabe, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. of Bioinformatics, Soka Univ.*)

1Pos043 **複数のアミロイド性ペプチドの混在する複雑な系におけるアミロイド線維形成機構**
Amyloid Fibrillation in Complicated Systems Containing Various Amyloidogenic Peptides
Hiroya Muta[1], Masatomo So[1], Kazumasa Sakurai[2], Yuji Goto[1] ([1]*Inst. for Pro. Research, Osaka Univ.*, [2]*Inst. of Adv. Tech., Kinki Univ.*)

1Pos044 **Study on the NaCl concentration-dependent structural stability of maize (leaf) ferredoxin**
Misaki Kinoshita, Yoko Ariga, Toshiharu Hase, Yuji Goto, Genji Kurisu, Young-Ho Lee (*Institute for Protein Research, Osaka University*)

1Pos045 **抗がん剤候補のハースタチンは天然変性タンパク質である**
Herstatin, an antitumor drug candidate, is an intrinsically disordered protein
Daisuke Tashiro, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos046 **GB1(41-56)ペプチドの β ヘアピン構造に及ぼす圧力効果に関する FTIR・ラマン分光研究**
FTIR and Raman studies of pressure effects on the β-hairpin structure of GB1(41-56) peptides
Minoru Kato[1], Keita Tsuchiya[2] ([1]*Dept. Pharmacy. Ritsumeikan Univ.*, [2]*Grad. Sch. Life Sci. Ritsumeikan Univ.*)

蛋白質：機能 / Protein: Function

1Pos047 **Control of protein aggregation and oligomerization using short SEP (Solubility Enhancing Peptide) tags**
Md. Golam Kabir, Mohammad Monirul Islam, Yutaka Kuroda (*Tokyo Univ. Agri. Eng.*)

1Pos048 **ダイナミン 1-コルタクチンおよびダイナミン 1–アンフィファイジン複合体の高速 AFM による動態観察**
High-Speed AFM imaging of dynamics of Dynamin 1-Cortactin and Dynamin 1-Amphiphysin 1 complexes
Yusuke Kumagai[1], Tetsuya Takeda[3], Takayuki Uchihashi[1,2], Tadashi Abe[3], Kohji Takei[3], Toshio Ando[1,2] ([1]*College of Science and Engineering, Kanazawa University*, [2]*Bio-AFM Frontier Research Center, College of Science and Engineering, Kanazawa University*, [3]*Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University*)

1Pos049 **線虫ミトコンドリアにおけるフェレドキシン依存性電子伝達経路の機能解析**
Characterization of ferredoxin-dependent electron transfer system in Caenorhabditis elegans mitochondira
Ryohei Wada[1], Hiroshi Hori[1], Yoshito Furuie[1], Fusako Takeuchi[2], Motonari Tsubaki[1] ([1]*Grad. Sch. Sci., Chem., Kobe Univ.*, [2]*IPHE., Kobe Univ.*)

1Pos050 **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**
The search for the binding sites between two enzymes essential for cyanobacterial alkane biosynthesis
Mari Chang[1], Yuuki Hayashi[2], Munehito Arai[1,2] ([1]*Dept. Phys., Univ. Tokyo*, [2]*Dept. Life Sci., Univ. Tokyo*)

1Pos051 **アルカン合成酵素のアラニンスキャン変異解析**
Residues essential for the alkane producing activity of aldehyde deformylating oxygenase revealed by alanine scanning mutagenesis
Keigo Shimba, Fumitaka Yasugi, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos052 **海洋性ビブリオ菌のべん毛本数を負に制御する FlhG の蛋白質凝集性と ATPase 活性の相関**
Relationship between aggregability and ATPase activity of FlhG, the negative regulator of the flagellar number in *Vibrio alginolyticus*
Hikaru Hirata, Michio Homma, Seiji Kojima (*Div. Bio Sci., Grad. Sch. Sci., Univ. Nagoya*)

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

1Pos053 **4. Development of a new BRET based ATP indicator for high-throughput quantitative ATP assay**
Tomoki Yoshida, Hiromi Imamura (*Graduate school of biostudy, Kyoto University*)

1Pos054 **難溶性化合物とタンパク質との相互作用解析へ向けた新規技術開発**
A novel approach for analysis of interaction between low water-soluble compounds and target proteins
Shigeru Sugiyama[1,2], Keisuke Kakinouchi[4], Hiroyoshi Matsumura[3,4], Hiroaki Adachi[3,4], Kazufumi Takano[4,5], Mihoko Maruyama[3], Yoshinori Takahashi[3], Hiroshi Yoshikawa[6], Masashi Yoshimura[3], Satoshi Murakami[4,7], Tsuyoshi Inoue[3,4], Michio Murata[1,2], Yusuke Mori[3,4] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*JST ERATO*, [3]*Grad. Sch. Eng., Osaka Univ.*, [4]*SOSHO Inc.*, [5]*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, [6]*Grad. Sch. Sci. & Eng., Saitama Univ.*, [7]*Grad. Sch. Biosci. & Biotech., Tokyo Inst. Tech.*)

1Pos055 **X 線 1 分子追跡法よるフェムトニュートン力場でのタンパク質ネットワーク観察**
Observation of Supersaturated Protein Networking in femto-Newton Force-field from Diffracted X-ray Tracking
Yufuku Matsushita[1], Hiroshi Sekiguchi[2], Noboru Ohta[2], Keigo Ikezaki[1], Yuji Goto[3], Yuji C. Sasaki[1,2] ([1]*Graduate School of Frontier Science, The University of Tokyo*, [2]*SPring-8/JASRI*, [3]*Institute for Protein Research, Osaka University*)

1Pos056 **アカネ科植物由来 抗腫瘍活性ペプチド RA-VII の分子動力学シミュレーション**
Molecular dynamics simulations of antitumor peptide RA-VII from Rubia cordifolia
Yoh Noguchi[1], Hironao Yamada[1], Sakiko Mori[1], Takeshi Miyakawa[1], Ryota Morikawa[1], Satoshi Yokojima[2], Yukio Hitotsuyanagi[2], Koichi Takeya[2], Masako Takasu[1] ([1]*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences*, [2]*School of Pharmacy, Tokyo University of Pharmacy and Life Sciences*)

1Pos057 **解析ソフトウェア CAPAXIS のさらなる開発：PyMOL との連携と B 型肝炎ウイルスへの応用**
Further Development of Software Tool, CAPAXIS, for Use with PyMOL : Application to Hepatitis B Virus
Shunsuke Sato[1], Go Watanabe[2], Shigetaka Yoneda[2] ([1]*Grad. Sch. Sci., Kitasato Univ.*, [2]*Sch. Sci., Kitasato Univ.*)

蛋白質：工学 / Protein: Engineering

1Pos058 **新型マイクロアレイ MMV を用い機能性ペプチドを淘汰するのに初めて成功したーセルベーストスクリーニングの躍進**
First success in selection of functional peptides using a novel concept microarray MMVーA breakthrough for cell-based screenings
Koichi Nishigaki[1,2], Tatsuya Furukawa[1], Naoki Takeuchi[1], Takuto Saiki[1], Aya Hongo[1], Motoki Iwano[1], Yuuki Masubuchi[1], Miho Suzuki[1] ([1]*Saitama Univ.*, [2]*AIST*)

1Pos059 **主鎖二面角パターンによる αβ 型タンパク質構造のデザイン**
Design of αβ protein structures: the extended design principles
Yu-Ru Lin[1], Rie Koga[1,3,4], Gaohua Liu[2], Guy Montelione[2], David Baker[1], **Nobuyasu Koga**[1,3,4] ([1]*Univ. Wash.*, [2]*Rutgeres, NESG*, [3]*IMS, CIMoS*, [4]*JST, PRESTO*)

1Pos060 **合理的設計による抗体精製用リガンド FPA の抗体解離 pH の向上**
Rational design to improve the pH-sensitive antibody dissociation of FPA, a ligand for antibody purification
Taihei Sawada, **Yoshiki Oka**, Takahiro Watanabe, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

1Pos061 **Rossmann フォールド蛋白質のデザイン：ストランド入れ替わり問題の謎に迫る**
Design of Rossmann folds: the internal strand swapping problem
Rie Koga[1,2], Gaohua Liu[3], Gaetano T. Montelione[3], David Baker[2], Nobuyasu Koga[1,2,4] ([1]*IMS, CIMoS*, [2]*Univ. of Washington, Dept. Biochem.*, [3]*Rutgers Univ., NESG*, [4]*JST, PRESTO*)

ヘム蛋白 / Heme proteins

1Pos062 **電気化学マイクロデバイスによる P450 反応解析**
Electrochemical Analysis of P450s in Microfluidic Channel
Yasuhiro Mie, Yasuo Komatsu (*Bioproduction Res. Inst., AIST*)

1Pos063 **ヘムの構造歪みが酸化還元電位に与える影響の計算科学的研究**
Computational Study of Structural Effects on Redox Potential of Hemes
Yasuhiro Imada[1,2], Haruki Nakamura[1], Yu Takano[1,3] ([1]*IPR, Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Grad. Sch. Info. Sci., Hiroshima City Univ.*)

1Pos064 **Bach2 天然変性領域の電荷状態分布の解析**
Charge-state-distribution analysis of Bach2 intrinsically disordered heme binding region
Tomoji Suenaga[1], Miki Watanabe-Matsui[2,3], Hiroki Shima[3], Kazuhiko Igarashi[3], Kazutaka Murayama[4] ([1]*ThermoFisherScientific*, [2]*Tohoku Univ., NICHE*, [3]*Tohoku Univ., Med.*, [4]*Tohoku Univ., Biomed. Eng.*)

1Pos065 **チトクロム酸化酵素を用いた常温高分解能 X 線回折実験法の確立**
Development of high-resolution X-ray diffraction experiments at room temperature
Keita Hatano[1], Akari Miyamoto[1], Atsuhiro Shimada[1], Seiki Baba[2], Takashi Kumasaka[2], Kyoko Shinzawa-Itoh[1], Tomitake Tsukihara[1,3], Shinya Yoshikawa[1] ([1]*Picobiol. Inst., Grad. Sch. Life Sci., Univ. Hyogo*, [2]*JASRI*, [3]*Inst. Protein Res., Osaka Univ.*)

1Pos066 **Electrochemical behavior of bacterial nitric oxide reductase immobilized on gold electrodes *via* self-assembled monolayers**
Kuniaki Yamaki[1], Masaru Kato[1], Takehiko Tosya[2], Ichizo Yagi[1] ([1]*Grad. Sch. Env. Sci., Univ. Hokkaido*, [2]*Harima Inst., Riken*)

膜蛋白質 / Membrane proteins

1Pos067 **固体 NMR によるフォボロドプシン-トランスデューサー複合体の細胞質側での相互作用の解析**
Analysis of interactions of phoborhodopsin-transducer complex in cytoplasmic side by solid-state NMR spectroscopy
Satoshi Nakatani[1], Yoshiteru Makino[1], Ryota Nishikawa[1], Izuru Kawamura[1], Naoki Kamo[2], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Hokkaido Univ.*)

1Pos068 **GPCR の熱安定性を向上させるアミノ酸置換の予測:有力な手法の構築**
Prediction of Thermostabilizing Mutations for G Protein-Coupled Receptors: Construction of an Efficient Method
Yuta Kajiwara[1], Satoshi Yasuda[2], Yuuki Takamuku[3], Nanao Suzuki[3], Takeshi Murata[3], Masahiro Kinoshita[2] ([1]*Graduate School of Energy Science, Kyoto University*, [2]*Institute of Advanced Energy, Kyoto University*, [3]*Graduate School of Science, Chiba University*)

1Pos069 **腸内連鎖球菌 V-ATPase のクライオ位相差電子顕微鏡単粒子構造解析**
Single particle phase-contrast cryo-EM 3D reconstruction of Enterococcus hirae V-ATPase
Kazuyoshi Murata[1], Takeshi Murata[2], Hiroshi Ueno[3], Ryota Iino[4] ([1]*National Institute for Physiological Sciences*, [2]*Dept. Science, Chiba University*, [3]*School of Engineering, The University of Tokyo*, [4]*Okazaki Integrated Bioscience/Institute of Molecular Science*)

1Pos070 **High-resolution cryoEM structural analysis of MotPS stator of the bacterial flagellar motor**
Naoya Terahara, Takayuki Kato, Tohru Minamino, Keiichi Namba (*Grad. Sch. of Frontier Biosciences, Osaka Univ.*)

1Pos071 **Highly sensitive measurement of proton flux mediated by POT**
Shinya Ohdate[1], Tsukasa Kusakizako[2], Shintaro Doki[2], Naoki Soga[1], Ryuichiro Ishitani[2], Rikiya Watanabe[1], Osamu Nureki[2], Hiroyuki Noji[1] ([1]*Department of Applied Chemistry, The University of Tokyo*, [2]*Department of Biological Science, The University of Tokyo*)

1Pos072 **メカノセンシティブチャネルはストレプトマイシンの細胞内への侵入に関与するか？**
Are mechanosensitive channels involved in the entry of streptomycin into the bacterial cell?
Kenichi Hashimoto, Fangzhen Zheng, Kazuhiro Nobata, Sanae Yamazaki, Isamu Yabe, Hisashi Kawasaki (*Dept. Green Sust. Chem., Tokyo Denki Univ.*)

1Pos073 **1 分子イメージングで見る GPCR の多量体化とエンドサイトーシス**
Single-molecule imaging of GPCR oligomerization followed by internalization
Masataka Yanagawa[1], Michio Hiroshima[2], Takahiro Yamashita[3], Yoshinori Shichida[3], Yasushi Sako[1] ([1]*Riken*, [2]*QBiC, Riken*, [3]*Grad. Sch. Sci., Kyoto Univ.*)

1Pos074 **上皮成長因子受容体クラスタリングの超解像定量解析**
A Super-resolved Quantitative Analysis of Epidermal Growth Factor Receptor Clustering
Michio Hiroshima[1,2], Masahiro Ueda[1], Yasushi Sako[2] ([1]*RIKEN QBiC*, [2]*RIKEN*)

核酸結合蛋白質 / Nucleic acid binding proteins

1Pos075 **粗視化 MD-SAXS 法とヌクレオソームへの適用**
Coarse-Grained MD-SAXS method and application to nucleosomes
Yuichi Kokabu[1], Takashi Oda[1], Masaaki Sugiyama[2], Hitoshi Kurumizaka[3], Mamoru Sato[1], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*, [2]*Grad. Sch. Sci., Kyoto Univ.*, [3]*Grad. Sch. Sci. Eng., Waseda Univ.*)

1Pos076 **粗視化シミュレーションによるヘテロクロマチン蛋白質 1 のヌクレオソームへの結合研究**
Heterochromatin protein 1 binding to nucleosomes studied by coarse-grained simulations
Shuhei Watanabe[1], Yuichi Mishima[2], Isao Suetake[2], Shoji Takada[1] ([1]*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*, [2]*Inst. Protein Res., Osaka Univ.*)

1Pos077 **高活性 TALE 蛋白質の開発とその応用**
Development and application of improved TALE protein
Kazuho Ikeda, Yoko Terahara, Kenta Sumiyama, Yasushi Okada (*QBiC, RIKEN*)

1Pos078 **粗視化モデルによるダイヌクレオソーム間の相互作用とヒストンテイルの役割**
Dinucleosome structure and role of histone tails by coarse-grained model
Hiroo Kenzaki[1], Shoji Takada[2] ([1]*ACCC, Riken*, [2]*Grad. Sch. Sci., Kyoto Univ.*)

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

1Pos079 **G-quadruplex がさまざまの小分子と相互作用することによる構造変化の反応速度論による研究**
Kinetics and mechanism of conformational changes by interaction of G-quadruplexes and small molecules
Masato Tanigawa, Takafumi Iwaki (*Fac. Med., Oita Univ.*)

1Pos080 **蛍光色素から DNA 修飾した単層カーボンナノチューブへのエネルギートランスファーに関する研究**
Research on energy transfer from fluorescent dyes to DNA-wrapped single-walled carbon nanotubes
Shusuke Oura, Masahiro Ito, Yoshikazu Homma, Kazuo Umemura (*Tokyo Univ. of Sci.*)

1Pos081 **異なる損傷源が引き起こす DNA 二本鎖切断の DMSO による保護作用の比較**
Comparison of the protective effect of DMSO on DNA double-stand break with different injury sources
Masami Noda[1], Yuko Yoshikawa[2], Kenichi Yoshikawa[1], Takahiro Kenmotsu[1], Tadayuki Imanaka[2] ([1]*Doshisha University*, [2]*Ritsmeikan University*)

1Pos082 **超音波パルスによる DNA 切断の促進効果**
Pulsing stimuli of ultrasound causes larger damage on DNA than its CW mode: Single DNA observation on double-strand breaks
Rinko Kubota[1], Yusuke Yamashita[1], Yukihiro Kagawa[1], Yuko Yoshikawa[2], Yoshiaki Watanabe[1], Takahiro Kenmotsu[1], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Grad. Sch. Life and Medical Sciences, Univ. Doushisha*, [2]*Laboratory of Environmental Biotechnology Research Organization of Science and Technology, Univ. Ritsumeikan*)

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

1Pos083 **2D DNA nanostructure to arrange positions of functional molecules**
Yuki Matsubara, Akira Suyama (*Univ. of Tokyo, Graduate School of Arts and Sciences*)

1Pos084 **エタノールによって引き起こされる DNA の再帰転移現象**
Reentrant transition on the higher-order structure of DNA with the increase of alcohol concentration
Yuki Oda[1], Yuko Yoshikawa[2], Tadayuki Imanaka[2], Kingo Takiguchi[3], Masato Hayashi[3], Kenichi Yoshikawa[1] ([1]*Graduate School of Life and Medical Science, Doshisha University*, [2]*Department of Biotechnology, College of Life Sciences, Ritsumeikan University*, [3]*Department of Molecular Biology, Graduate School of Science, Nagoya University*)

電子状態 / Electronic state

1Pos085 **Photoactive Yellow Protein に現れる H/D 同位体効果の理論的解析**
Theoretical analysis of H/D isotope effect on Photoactive Yellow Protein
Yusuke Kanematsu[1,2], Yu Takano[1], Masanori Tachikawa[2] ([1]*Grad. Sch. Info., Hiroshima City Univ.*, [2]*Grad. Sch. Nanobio., Yokohama City Univ.*)

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

1Pos086 **電解質溶液中におけるマクロアニオンの凝集挙動**
Aggregation behavior of macroanions immersed in electrolyte solution
Takuto Sawayama, Ryo Akiyama (*Kyushu Univ., Dept. Chem.*)

1Pos087 **演題取り消し**

1Pos088 **シミュレーション・データマイニングによるリガンド結合系における水分子の振る舞い**
Simulation-based data-mining approach for water behavior of ligand-binding system
Taku Mizukami[1], Viet Cuong Nguyen[3], Tu Bao Ho[2], Hieu Chi Dam[2] ([1]*Sch. of Materials Sci., JAIST*, [2]*Sch. of Knowledge Sci., JAIST*, [3]*HPC Systems Inc.*)

分子遺伝学･遺伝子発現 / Molecular genetics & Gene expression

1Pos089 **Cell differentiation and Reprogramming: A minimal model**
Ashwin S.S., Masaki Sasai (*Nagoya University, Japan*)

発生･分化 / Development & Differentiation

1Pos090 **多能性幹細胞の分化における１細胞解析**
Single-cell-based analysis of differentiation of pluripotent stem cells
Ayumu Kano[1], Yuta Yamamoto[1], Shogo Nakamura[1], Atsushi Maruyama[1], Olga M De Sousa[2], Masahiro Iwahashi[3], Toshiyuki Akaike[4], Kiyoshi Ohnuma[1] ([1]*Nagaoka University of Technology Bioengineering*, [2]*Faculty of Engineering, Science and Technology National University of East Timor*, [3]*Nagaoka University of Technology Electronics and Information Engineering*, [4]*Tokyo Institute of Technology, Yokohama, Japan 226-8501*)

1Pos091 **植物の中の局所微小管と細胞成長の関係について**
On the Relationship between Local Microtubule and Cell Growth in Plants
Satoru Tsugawa, Chun-Biu Li, Tamiki Komatsuzaki (*Research Institute for Electronic Science*)

筋肉 / Muscle

1Pos092 **Control of Morphological Dynamics of Myoblasts Using Stimulus-Responsive Hydrogels Cross-linked by Host-Guest Interactions**
Marcel Hoerning[1], Masaki Nakahata[2], Akihisa Yamamoto[1], Yoshinori Takashima[2], Akira Harada[2], Motomu Tanaka[1] ([1]*iCeMS, Kyoto University*, [2]*Osaka University*)

1Pos093 **CryoEM structure of muscle thin filament with the tropomyosin and troponin complex**
Yurika Yamada[1], Keiichi Namba[1,2], Takashi Fujii[1,3] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*QBiC, RIKEN*, [3]*JST PRESTO*)

1Pos094 **ナノイメージングによるマウス心臓の *in vivo* サルコメア動態解析**
High-speed live imaging of single sarcomere dynamics in the beating mouse heart *in vivo*
Fuyu Kobirumaki[1], Kotaro Oyama[1,2], Togo Shimozawa[4], Seine Shintani[5], Erisa Hirokawa[1], Takako Terui[3], Shin'ichi Ishiwata[2], Norio Fukuda[1] ([1]*Dept. Cell Physol., Jikei Univ. Sch. Med.*, [2]*Dept. Physics, Waseda Univ.*, [3]*Dept. Anesth., Jikei Univ. Sch. Med.*, [4]*Dept. Life Sci. Med. Biosci., Waseda Univ.*, [5]*Dept. Physics, Univ. Tokyo*)

1Pos095 **F-アクチンの水和状態の円二色性分光と DSC 測定による検討**
Study on the correlation of hydration state, ternary structure and heat capacity of F-actin
Takaya Yamaguchi, Ryotaro Chisima, George Mogami, Makoto Suzuki (*Graduate School of Engineering, Tohoku University*)

1Pos096 **電子顕微鏡によるフォルミン mDia1 のアクチンフィラメント端結合構造の解析**
Structural analysis of binding state of formin/mDia1 to actin filament by electron microscopy
Mizuki Matsuzaki, Akihiro Narita (*Grad. Sch. Sci., Nagoya Univ.*)

1Pos097 **アクチン繊維の骨格形状と滑り運動時に生じる破断の原因**
A cause for breaking of sliding actin filament on myosin
Katsunari Sakamoto, Shigeru Sakurazawa (*Future Univ. Hakodate*)

分子モーター / Molecular motor

1Pos098 **Probing stator-protein dynamics of bacterial flagellar motors**
Chien-Jung Lo, Tsaishun Lin (*Department of Physics, National Central University, Taiwan*)

1Pos099 **Effect of Microtubule Deformation on Kinesin-based Cargo Transportation In Vitro**
Tanjina Afrin[1], Arif Md. Rashedul Kabir[2], Daisuke Inoue[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.*)

1Pos100 **High resolution structural analysis of the flagellar hook of Salmonella**
Peter Horvath[1], Tomoko Miyata[1], Hiroko Takazaki[1], Takayuki Kato[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Riken QBiC*)

1Pos101 **マルチスケール MD による V1ATPase の回転機構の解明**
Rotation mechanism of V1-ATPase studied by multi-scale MD simulation
Yuta Isaka[1], Yuuichi Kokabu[1], Toru Ekimoto[1], Takeshi Murata[2,3], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. of Med Life Sci., Yokohama City Univ.*, [2]*Fac. of Sci., Chiba Univ.*, [3]*JST, PRESTO*)

1Pos102 **アクチン-ミオシン結合における水の役割の理論解析**
A theoretical analysis on water roles in actin-myosin binding
Hiraku Oshima, Tomohiko Hayashi, Masahiro Kinoshita (*Inst. Adv. Energ., Kyoto Univ.*)

1Pos103 **タンデム型エフェクターによる T3SA 内エフェクター分泌機序の評価**
Analysis of Type 3 secretion mechanism by "tandem-connected effectors"
Kyoko Momiyama, Takashi Ohgita, Kentaro Kogure (*Kyoto Pharm. Univ.*)

1Pos104 **蛍光性 NTA-Ni の合成とフォトクロミック分子で修飾した有志分裂キネシン Eg5 への蛍光ラベリング**
Synthesis of fluorescent NTA-Ni and its application to the fluorescent labeling of mitotic kinesin Eg5 modified with photochromic molecule
Yuki Tamura, Kei Sadakane, Ryoma Yamamoto, Kentaro Saito, Shinsaku Maruta (*Division of Bioinformatics, Graduate School of Engineering, Soka University*)

1Pos105 **構成論的手法による真核生物鞭毛運動の機能再構築**
Reconstruction of flagellar motility by the bottom-up strategy
Junya Kirima[1], Misaki Shiraga[2], Hiroaki Kojima[3], **Kazuhiro Oiwa**[1,3,4] ([1]*Grad. Sch. Univ. Hyogo*, [2]*F. Sci., Univ. Hyogo*, [3]*NICT, Adv. ICT. Res. Inst.*, [4]*CREST, Biodynamics*)

1Pos106 **アゾベンゼン誘導体を利用したキネシン二量体化の光制御**
Photo-regulation of kinesin dimerization using bifunctional azobenzene derivatives
Haruka Fujio[1], Yasunobu Sugimoto[2], Kazunori Kondo[3], Shinsaku Maruta[1,3] ([1]*Div. of Bioinfo, Gra. Sch. of Eng., Univ. of Soka*, [2]*Nagoya Univ., SR Research Center*, [3]*Dep. of Bioinfo., Fac. of Eng., Univ. of Soka*)

1Pos107 **ATP 合成酵素の回転運動の幾何学的位相モデル**
Geometric-phase model for the rotary motion of ATP synthase
Tomohiro Yanao (*Grad. Sch. Sci. & Eng., Waseda Univ.*)

1Pos108 ***Mycoplasma mobile* の滑走に必須な Gli123 タンパク質の構造解析**
Structure analyses of Gli123 protein, essential for gliding of *Mycoplasma mobile*
Daiki Matsuike, Yuhei O. Tahara, Tasuku Hamaguchi, Makoto Miyata (*Grad. Sch. Sci., Osaka City Univ.*)

1Pos109 **カタユウレイボヤ精子鞭毛における内腕ダイニンのキャラクタリゼーション**
Characterization of inner arm dyneins from sperm flagella in *Ciona intestinalis*
Osamu Kutomi[1], Katsutoshi Mizuno[1,2], Keiko Hirose[3], Lixy Yamada[4], Hitoshi Sawada[4], Kogiku Shiba[1], Kazuo Inaba[1] ([1]*Shimoda Mar. Res. Ctr.*, [2]*Dartmouth College*, [3]*Biomed. Res. Inst., AIST*, [4]*Sugashima Marine Biological Lab., Grad. Sch. Sci., Nagoya Univ.*)

1Pos110 **Dynactin is a biphasic regulator to promote and inhibit dynein motility**
Takuya Kobayashi[1], Takuya Miyashita[1], Hatsuha Kajita[1], Kei Saito[1], Takashi Murayama[2], Yoko Y. Toyoshima[1] ([1]*Grad. Sch. Arts and Sci., Univ. of Tokyo*, [2]*Sch. Med., Juntendo Univ.*)

1Pos111 **カビ由来セルラーゼ Trichoderma reesei Cel6A および Cel7A の逐次運動の１分子蛍光観察**
Single-molecule fluorescence imaging analysis of processive movement of fungal cellulases Trichoderma reesei Cel6A and Cel7A
Tomoyuki Tasaki[1], Akihiko Nakamura[2,3], Daiki Ishiwata[2,3], Hiroyuki Noji[1], Ryota Iino[2,3] ([1]*School of Engineering, The University of Tokyo*, [2]*Okazaki Inst. Integ. Biosci., NINS*, [3]*School of Physical Sciences, SOKENDAI*)

1Pos112 **High-speed angle-resolved imaging of domain motion of the catalytic β subunit of F_1-ATPase**
Sawako Enoki[1], Ryota Iino[2], Yoshihiro Minagawa[1], Yamato Niitani[3], Michio Tomishige[3], Hiroyuki Noji[1] ([1]*Dept. Appl. Chem, Grad. Sch. Eng.*, [2]*Okazaki Inst. Integ. BioSci., NINS*, [3]*Dept. Appl. Phys, Grad. Sch. Eng.*)

1Pos113 **微小管モータータンパク質による微小管構造の識別機構の解析**
In vitro analysis of smart motor hypothesis
Tomohiro Shima[1,2], Yasushi Okada[2] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*QBiC, Riken*)

1Pos114 **バクテリアべん毛モーターにおける二軌道回転**
Two orbital rotation of bacterial flagellar motor
Yoichiro Sawano[1], Yuichi Inoue[1], Akihiko Ishijima[2] ([1]*IMRAM, Tohoku University*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*)

1Pos115 **F_1-ATPase の回転拡散係数に関する理論研究**
Theoretical study of rotational diffusion for F_1-ATPase
Ryota Shinagawa, Kazuo Sasaki (*Dept. Applied Physics, Tohoku Univ.*)

1Pos116 **べん毛モータートルク発生に関わる構成蛋白質 FliG の多量体の検出**
Identification of multimeric forms of FliG, a flagellar motor component for torque generation
Tohru Umemura[1], Yoshiyuki Sowa[1,3], Ikuro Kawagishi[1,2,3] ([1]*Dept. Bio. Fac. Bio., Hosei Univ.*, [2]*Dept. Eng. Fac. Bio., Hosei Univ.*, [3]*Micro. Nanotec., Hosei Univ.*)

1Pos117 **非平衡効果が引き起こす F_1 分子モーターの非アレニウス型温度依存性**
Non-Arrhenius Type Temperature Dependence of F_1 Molecular Motor Induced by Non-equilibrium Effects
Yuji Tamiya[1,2], Chun-Biu Li[1,2], Rikiya Watanabe[3], Hiroyuki Noji[3], Tamiki Komatsuzaki[1,2] ([1]*Grad. Sch. Sci., Hokkaido Univ.*, [2]*Research Institute for Electronic Science, Hokkaido Univ.*, [3]*Faculty of Engineering, Univ. Tokyo*)

1Pos118 **走化性シグナル CheY-P を結合したべん毛基部体スイッチ複合体の構造**
Structure of the flagellar basal body swich complex with chemotaxis signal protein CheY-P
Tomoko Miyata[1,2], Takayuki Kato[2], Yusuke V. Morimoto[1,2], Hideyuki Matsunami[3], Keiichi Namba[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*Trans-Membrane Trafficking Unit, OIST*)

1Pos119 **好熱菌 F_1 の βE190 残基は構造を安定化することにより、F_1 の高効率エネルギー変換に貢献する**
TF_1 βE190 residue contributes to high energy transduction efficiency by stabilizing the structure of the enzyme
Mana Tanaka[1], Tomohiro Kawakami[1], Yohei Nakayama[1], Shoichi Toyabe[3], Hiroshi Ueno[2], Seishi Kudo[3], Eiro Muneyuki[1] ([1]*Dept. Phys., Faculty of Science and Engineering, Chuo Univ.*, [2]*Dept. Appl. Chem., Sch. Eng., Tokyo Univ.*, [3]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*)

1Pos120 **2 種類のイオンで駆動する細菌べん毛モーターのエネルギー変換機構の解明**
Analysis of bacterial flagellar rotation driven by dual ion
Kenta Arai[1], Yuka Takahashi[2], Masahiro Ito[2], Yoshiyuki Sowa[1] ([1]*Hosei Univ.*, [2]*Toyo Univ.*)

細胞生物学 / Cell biology

1Pos121 **The Growth Rate of Vibrio alginolyticus Polar Flagellum Decays Exponentially with Flagellar Length**
Mei-Ting Chen (*National Central University*)

1Pos122 **マスト細胞の脱顆粒におけるミトコンドリアカルシウムユニポーターの役割**
Role of mitochondrial calcium uniporter in mast cell degranulation
Tadahide Furuno, Narumi Shinkai, Masanari Ishikawa, Yoshikazu Inoh, Mamoru Nakanishi (*Sch. Pharm., Aichi Gakuin Univ.*)

1Pos123 **1 分子観察によるガングリオシドのダイマー形成機構の解明**
Unraveling of mechanisms of ganglioside dimer formation as revealed by single-molecule imaging
Kenichi Suzuki[1], Hiromune Ando[1,2], Naoko Komura[1,2], Ayano Yamazaki[2], Hideharu Ishida[2], Koichi Furukawa[3], Kenichi Morigaki[4], Akihiro Kusumi[1], Makoto Kiso[1,2] ([1]*iCeMS, Kyoto Univ.*, [2]*Dpt. Appl. Biol. Sci., Gifu Univ.*, [3]*Dpt. Biochem., Nagoya Univ.*, [4]*Res. Ctr. Env. Genomics, Kobe Univ.*)

1Pos124 **ミトコンドリア輸送・ATP 産生の同時測定と相関評価**

Simultaneous imaging and correlation analysis of mitochondrial trafficking and its ATP production

Rika Suzuki, Kohji Hotta, Kotaro Oka (*Keio University, BioPhysics and NeuroInformatics Lab.*)

1Pos125 **好中球様 HL-60 細胞の繰返し基質伸展刺激下での運動方向決定**

Directional migration of neutrophil-like HL-60 cells by cyclic substratum stretching

Chika Okimura[1], Kazuki Ueda[1], Yuichi Sakumura[2,3], Yoshiaki Iwadate[1] ([1]*Facult., Sci., Yamaguchi Univ.*, [2]*Sch. Info. Sci. Tech., Aichi Pref. Univ.*, [3]*Grad. Sch. Biol. Sci., Nara Inst. Sci. Tech.*)

1Pos126 **構造的微小管結合蛋白質を介した微小管とアクチンフィラメント間の相互作用**

Interaction between microtubules and actin filaments via structural microtubule-associated proteins

Miyuki Shiga[1], Shouma Saitou[1], Yurika Hashi[1], Kazushi Matui[1], Susumu Kotani[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Sustain. Environ. Eng., Muroran Inst.*, [2]*Kanagawa University*)

1Pos127 **心臓組織片による自律拍動の同期化メカニズム**

Synchronization process of cardiac tissue fragments

Tomonori Takahashi[1], Kentaro Ishida[1], Tomoyuki Kaneko[2], Toshiyuki Mitsui[1] ([1]*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*, [2]*Bioscience and applied chemistry, Hosei Univ.*)

1Pos128 **Mycoplasma mobile のストール力**

Stall force of Mycoplasma mobile

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

1Pos129 **定常状態の大腸菌における走化性受容体クラスターの協同性と細胞内シグナル伝達の関係**

Relationship between cooperativity in receptor array and intracellular signaling under steady-state of *Escherichia coli*

Hajime Fukuoka[1], Yong-Suk Che[1], Tomoko Horigome[2], Yuichi Inoue[3], Hiroto Takahashi[3], Akihiko Ishijima[1] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Life Sci, Tohoku Univ.*, [3]*IMRAM, Tohoku Univ.*)

1Pos130 **細胞性粘菌における細胞集団の組織的運動の 3 次元解析**

3D analysis of collective cell migration in Dictyostelium

Hidenori Hashimura[1], Masato Yasui[2], Kei Inouye[3], Masahiro Ueda[1] ([1]*Department of Biological Sciences, Graduate School of Science, Osaka University*, [2]*RIKIEN QBiC*, [3]*Graduate School of Science, Kyoto University*)

1Pos131 **細胞性粘菌の高圧処理からの回復過程で糸状仮足突出が増加する**

Protrusion of filopodia increase in the recovery process from the high-pressure treatment of *Dictyostelium* cells

Yuki Gomibuchi[1], Masayoshi Nishiyama[2], Kaoru Katoh[3], Taro Uyeda[3], Takeyuki Wakabayashi[1] ([1]*Teikyo Univ.*, [2]*Kyoto Univ.*, [3]*AIST*)

1Pos132 **損傷時の脳がん幹細胞の膜タンパク質の運動解析**

Molecular dynamics of brain tumor stem cell induced by specific cell damage

Morito Sakuma, Sayaka Kita, Hideo Higuchi (*Grad. Sch. Sci., Univ. Tokyo*)

1Pos133 **Local intracellular temperature increase mediates stress granule formation**

Beini Shi[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Graduate School of Pharmaceutical Sciences, the University of Tokyo*, [2]*JST-PRESTO*)

1Pos134 **蛍光イメージングによる単一ミトコンドリアマトリクス内 ATP 濃度測定**

Single mitochondrion imaging of ATP concentration changes in the matrix

Saki Yamashita[1], Takahiro Shibata[1], Kotoe Hirusaki[1], Kaoru Katoh[2], Yoshihiro Ohta[1] ([1]*Grad. Sch. Life Sci. & Bio Tech., TUAT*, [2]*AIST*)

1Pos135 **らせん細菌スピロヘータの調和された回転運動**

Coordinated cell rotation in the spirochete Leptospira

Kyosuke Takabe, Md. Shafiqul Islam, Shoichi Toyabe, Seishi Kudo, Shuichi Nakamura (*Grad. Sch. Engineering., Univ. Tohoku*)

1Pos136 **Computer simulation of the periodic dynamics of actomyosin foci in C. elegans embryos**

Masashi Fujita[1], Shuichi Onami[1,2] ([1]*RIKEN QBiC*, [2]*NBDC, JST*)

1Pos137 **線維芽細胞を介した心筋細胞集団の同期**

Synchronization between large clusters of cardiomyocytes through fibroblasts

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.*)

1Pos138 **多細胞の協同運動における力学量の計測と制御**

Measurements and control of cellular mechanical factors during collective cell migration

Takeomi Mizutani, Hisashi Haga, Kazushige Kawabata (*Faculty of Advanced Life Sciences, Hokkaido University*)

1Pos139 **海洋性ビブリオ菌のべん毛形成を制御する DnaJ ファミリータンパク質 SflA の構造機能解析**

Structural and functional analysis of the DnaJ family protein SflA, that is involved in regulation of flagellation in Vibrio alginolyticus

Satoshi Inaba[1], Takehiko Nishigaki[1], Shoji Nishikawa[2], Mayuko Sakuma[1], Seiji Kojima[1], Katsumi Imada[2], Michio Homma[1] ([1]*Div. Biol. Sci. Grad. Sch. Sci. Nagoya Univ.*, [2]*Grad. Sch. Sci. Osaka Univ.*)

1Pos140 **微小管を内包した巨大リポソームは架橋・枝分かれ因子無しでも自発的に多角形的な形状になる**

Giant liposomes containing microtubules spontaneously develop into polygonal shape in the absence of any crosslinking or branching factor

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

1Pos141 **細胞における多種分子活性化の同時計測**

Simultaneous detection of the activation of signaling proteins in carcinoma cell lines

Hiraku Miyagi[1], Michio Hiroshima[2], Atsushi Mochizuki[1], Yasushi Sako[1] ([1]*RIKEN*, [2]*RIKEN QBiC*)

1Pos142 **心筋細胞に対する力学的刺激の与える影響**
Influence of mechanical stimulus on heart cell aggregates
Shin Arai, Ayaha Tsuyuki, Takashi Nakamura, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

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

1Pos143 **^{31}P 固体 NMR によるペプチドホルモングルカゴンのアミロイド線維形成過程での生体膜との相互作用変化の解明**
Aging in interaction of glucagon with DMPC lipid bilayers in the process of fibril formation as revealed by ^{31}P solid-state NMR
Kazumi Haya, Akie Kikuchi, Izuru Kawamura, Akira Naito (*Grad. Sch. Eng.,Yokohama Natl. Univ.*)

1Pos144 **Structure-property of ganglioside GM3/DPPC membranes using coarse-grained molecular dynamics simulation**
Kento Inoue[1], Eiji Yamamoto[1], Daisuke Takaiwa[2], Kenji Yasuoka[2], Masuhiro Mikami[2] ([1]*Grad. Sch. Sci. Tech., Keio Univ.*, [2]*Dept. Mech. Eng., Keio Univ.*)

1Pos145 **逆相法の再検討：ホスファチジルコリン巨大ベシクル形成**
A reverse phase method for the formation of giant vesicles (GVs) of phosphatidylcholine
Kanta Tsumoto, Jin Tabata (*Grad. Sch. Eng., Mie Univ.*)

1Pos146 **化学反応下での脂質二重膜のバディングとコラプス**
Budding and collapse of bilayer membrane induced by chemical reaction
Koh Nakagawa, Hiroshi Noguchi (*Institute for Solid State Physics, University of Tokyo*)

1Pos147 **非対称飽和アシル鎖を有するホスファチジルコリンの温度および圧力誘起二重膜相転移**
Temperature- and pressure-induced bilayer phase transitions of phosphatidylcholines with asymmetric saturated acyl chains
Masaki Goto, Nobutake Tamai, Hitoshi Matsuki (*Institute of Technology and Science, Tokushima University*)

1Pos148 **ホスファチジルエタノールアミンを用いて調製したリポソームの特徴**
Characteristics of liposomes containing phosphatidylethanolamine
Hayato Akizuki, Tomoyuki Kaneko (*LaRC, Grad. Sci. Eng., Hosei Univ.*)

1Pos149 **分子動力学計算によるセラミド/水界面の水和構造解析**
Hydration structure at ceramide/water interface: A molecular dynamics simulation study
Suyong Re, Wataru Nishima, Tahei Tahara, Yuji Sugita (*RIKEN, Wako*)

1Pos150 **短鎖リン脂質の吸着膜およびミセルに対するアデノシンリン酸の親和性に及ぼすリン酸基の影響**
Effect of phosphate groups on affinities of adenosine phosphates to adsorbed film and micelles of short-chain phospholipid
Ayumi Nishimaru, Miki Tanaka, Michio Yamanaka (*Fac. Sci., Kyushu univ.*)

生体膜･人工膜：動態 / Biological & Artificial membrane: Dynamics

1Pos151 **Effect of Osmotic Pressure on Constant Tension-Induced Pore Formation in Lipid Membranes**
Sayed Shibly Ul Alam[1], Mohammad Abu Sayem Karal[1], Masahito Yamazaki[1,2] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

1Pos152 **抗菌ペプチド・ラクトフェリシンＢが誘起する巨大リポソーム中のポア形成**
Antimicrobial Peptide Lactoferricin B-Induced Pore Formation in Single Giant Unilamellar Vesicles
Md. Moniruzzaman[1], Jahangir Md. Alam[2], Hideo Dohra[3], Masahito Yamazaki[1,2,4] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*, [3]*Res. Inst. Green Sci. Tech., Shizuoka University*, [4]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*)

1Pos153 **脂質膜表面上での自己組織化された DNA ナノ構造体の構築**
Construction of self-assembled DNA nanostructures on lipid membrane surface
Masamune Morita[1], Miho Yanagisawa[2], Shogo Hamada[3], Shin-ichiro Nomura[4], Satoshi Murata[4], Masahiro Takinoue[1] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*Dept. Appl. Phys., Tokyo Univ. Agri. Tech.*, [3]*Kavli Inst., Cornell Univ.*, [4]*Grad. Sch. Eng., Tohoku Univ.*)

1Pos154 **バクテリアを封入したリポソームにおける大腸菌の動態**
Dynamics of Escherichia coli in bacteria-enclosed liposomes
Hazuki Terajima, Ryutaro Isobe, Tomoyuki Kaneko (*LaRC., Dept. Frontier Biosci., Hosei Univ.*)

1Pos155 **リポソーム融合の光マニピュレーション**
Photocontrol of liposome fusion
Yui Suzuki[1], Kazuki Shigyou[1], Ken Nagai[1], Anatoly Zinchenko[2], Tsutomu Hamada[1] ([1]*Sch. of Materials Science, JAIST*, [2]*Grad. Sch. of Environmental Studies, Nagoya Univ.*)

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

1Pos156 **Simple method for lipid bilayer formation with simultaneous incorporation of ion channels using gold electrode (2)**
Toru Ide[1,2], Daichi Okuno[2], Takamitsu Kira[1], Minako Hirano[2,3], Hiroaki Yokota[3] ([1]*Grad Schl Natl Sci Tech, Okayama Univ*, [2]*Riken*, [3]*GPI*)

1Pos157 **高速原子間力顕微鏡で見る膜中カリウムチャネル KcsA の動的挙動**
Dynamic behavior of the KcsA potassium channel in membrane observed by high-speed atomic force microscopy
Ayumi Sumino[1,2], Takayuki Uchihashi[3], Daisuke Yamamoto[4], Masayuki Iwamoto[2], Takehisa Dewa[5], Shigetoshi Oiki[2] ([1]*JST/PRESTO*, [2]*Facult. Med. Sci., Univ. Fukui*, [3]*Depart. Phys., Kanazawa Univ.*, [4]*Facult. Sci., Univ. Fukuoka*, [5]*Grad. Sch. Eng., Nagoya Inst. Tech.*)

1Pos158 **ポリセオナミドBチャネルの pH 依存性ゲーティング機構**
pH-dependent gating of the polytheonamide B channel
Yuka Matsuki[1], Masayuki Iwamoto[1], Shigeki Matsunaga[2], Shigetoshi Oiki[1] ([1]*Dept. Mol. Physiol. Biophys., Univ. Fukui Fac. Med. Sci., Univ, Fukui, Japan*, [2]*Lab. Aqua. Nat. Products Chem., Grad. Sch. Agri. Life Sci., Univ. Tokyo, Japan*)

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

1Pos159 **細菌べん毛 III 型分泌装置のエネルギー変換メカニズム**
An energy transduction mechanism of the bacterial flagellar type III secretion apparatus
Hiroyuki Terashima[1], Akihiro Kawamoto[2], Chinatsu Tatsumi[1], Tohru Minamino[2], Keiichi Namba[2], Katsumi Imada[1] ([1]*Dep. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*)

1Pos160 **Zero-Mode Waveguides sealed with artificial lipid bilayer for the analysis of membrane proteins**
Keisuke Nagao[1], Toshihisa Osaki[2], Ryota Iino[3], Takayuki Uchihashi[4], Hirofumi Shintaku[1], Hidetoshi Kotera[1], Ryuji Yokokawa[1] ([1]*Kyoto University*, [2]*The University of Tokyo*, [3]*Institute for Molecular Science*, [4]*Kanazawa University*)

生体膜･人工膜：信号伝達 / Biological & Artificial membrane: Signal transduction

1Pos161 **PI3K と Ras から成るフィードバック回路による自己組織的な PIP3 局在形成の制御**
Positive feedback loop composed by PI3K and Ras regulates self-organization of PIP3-enriched domain
Seiya Fukushima[1,2], Satomi Matsuoka[2], Masahiro Ueda[1,2] ([1]*Graduate School of Science, Osaka University*, [2]*Riken Quantitative Biology Center*)

神経科学･感覚 / Neuroscience & Sensory systems

1Pos162 **海馬シナプスへの性ホルモンの急性作用：男性ホルモンと女性ホルモンの比較**
Acute effect of estrogen and androgen on hippomcapal synapses
Yasushi Hojo[1,2], Yoshitaka Hasegawa[2,3], Yusuke Hatanaka[3], Bon-chu Chung[2], Suguru Kawato[2,3,4] ([1]*Dept. Biochem., Saitama Med. Univ.*, [2]*JST, Japanese-Taiwanese Cooperative Programme*, [3]*Grad. Sch. of Arts and Sci., Univ. of Tokyo*, [4]*Urology, Juntendo Univ.*)

1Pos163 **アルギン酸ゲルを用いた神経シートの作製技術の開発と機能評価**
Fabrication and functional evaluation of "neuronal sheet" using calcium alginate gel
Hideyuki Terazono, Hyonchol Kim, Fumimasa Nomura, Kenji Yasuda (*Biomed. info., IBB, Tokyo Med. Dent. Univ.*)

1Pos164 **β3 チューブリン変異による軸索伸長の異常を、キネシンのサプレッサー変異で回復する**
Reversal of axon growth defects in CFEOM3 by suppressor mutation in the kinesin-microtubule interface
Itsushi Minoura[1], Hiroko Takazaki[1,2], Rie Ayukawa[1], You Hachikubo[1], Yoshihiko Yamakita[1,3], Seiichi Uchimura[1], Chihiro Yoshida[1], Tomomi Shimogori[1], Tomonobu Hida[1], Hiroyuki Kamiguchi[1], Etsuko Muto[1] ([1]*BSI, RIKEN*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*Sch. Med. Nagoya Univ.*)

神経回路･情報処理 / Neuronal circuit & Information processing

1Pos165 **培養神経回路網における機能的結合のグラフ構造**
The graph structure of functional connections in a cultured neuronal network
Nanami Hirata, Hidekatsu Ito, Wataru Minoshima, Suguru Kudoh (*Kwansei Gakuin Univ*)

1Pos166 **リアノジン受容体を介した神経細胞の温度感受性カルシウム放出**
Thermosensitive Ca2+ burst in rat hippocampal neurons through ryanodine receptors
Yuki Kawamura[1], Kotaro Oyama[1,2], Hideki Itoh[1,3], Vadim Zeeb[4], Madoka Suzuki[5,6], Shin'ichi Ishiwata[1,5,6] ([1]*Sch. Adv. Sci. Eng., Waseda Univ.*, [2]*Dept. Cell Physiol., The Jikei Univ. Sch. Med.*, [3]*Inst. Med. Biol., A*STAR, Singapore*, [4]*Inst. Theoret. Exp. Biophys., Rus. Acad. Sci.*, [5]*WASEDA Biosci Res Inst Singapore (WABIOS)*, [6]*Org Univ Res Initiatives, Waseda Univ*)

行動 / Behavior

1Pos167 **滑走細菌 *Flavobacterium johnsoniae* のレール状滑走装置**
Rail-like structure in gliding machinery of the gliding bacterium *Flavobacterium johnsoniae*
Satoshi Shibata[1], Akihiro Kawamoto[2], Takayuki Katou[2], Keiichi Namba[2], Koji Nakayama[1] ([1]*Graduate Sch. of Biomedical Science, Nagasaki Univ*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*)

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

1Pos168 ***In-situ* 光照射固体 NMR による D96N-bR 変異体の光中間体と光反応経路の解析**
Characterization of photo-intermediates and photo reaction pathway of D96N-bR mutant by *in-situ* photo-irradiation solid-state NMR
Yuto Otani[1], Arisu Shigeta[1], Yoshiteru Makino[1], Ryota Miyasa[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Satoru Tuzi[3], Akira Naito[1] ([1]*Grad. Sch. Eng, Yokohama Natl Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Univ. of Hyogo*)

1Pos169 **局所的な照明により制御される IV 型線毛の収縮**
Retraction of Type IV pili controlled by local light gradient
Daisuke Nakane, Takayuki Nishizaka (*Dept. of Phys., Gakushuin Univ.*)

1Pos170 ***Harorubrum* 族の新種から見つかったアーキロドプシンの大腸菌での発現**
Archaerhodopsin found in *Harorubrum* sp. ejinoor was functionally expressed in *Escherichia coli*
luomeng Chao[1], Xiong Geng[1], Gang Dai[2], Takashi Kikukawa[3], Tatsuo Iwasa[1] ([1]*1Div. Eng. Composite Funct., Muroran Ins. Technol., Japan*, [2]*Coll. Chem. Environ. Sci., Inner Mongolia Normal Univ., China*, [3]*Grad. Sch. Life. Sci., Hokkaido Univ., Japan*)

1Pos171 **ニワトリクリプトクロム 4 の光反応の特性解析**
Characterization of photoreaction property of chicken cryptochrome4
Hiromasa Mitsui, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

1Pos172 **YFP および mCherry と融合させた光制御型 bZIP タンパク質（Photozipper）の解析**
Analyses of a light-regulated bZIP protein, Photozipper, fused with YFP and mCherry
Keigo Furuya, Osamu Hisatomi (*Grad. Sch. Sci., Univ. Osaka*)

1Pos173 **水溶液中のオキシルシフェリン光ルミネッセンス過程**
Analysis of Photoluminescence Pathways of Firefly Oxyluciferin in Aqueous Solution
Miyabi Hiyama[1], Toshimitsu Mochizuki[2], Hidefumi Akiyama[1], Nobuaki Koga[3] ([1]*ISSP, Univ. Tokyo*, [2]*AIST*, [3]*Grad. Sch. Info. Sci., Nagoya Univ.*)

1Pos174 **PYP Binding Protein の Rc-PYP との複合体形成における N 末端領域の役割**
The role of N-terminal region of PYP binding protein at the formation of complex with Rc-PYP
Tomoyuki Yasumuro, Yoichi Yamazaki, Mikio Kataoka, Hironari Kamikubo (*Grad. Sch. Mat. Sci., NAIST*)

1Pos175 **シアノバクテリアに由来する新規クロライドポンプ型ロドプシンは一残基置換によってプロトンポンプへ変換される**
A novel chloride–pumping rhodopsin from cyanobacterium converts to proton pump with a single amino acid replacement
Takatoshi Hasemi, Takashi Kikukawa, Masakatsu Kamiya, Tomoyasu Aizawa, Naoki Kamo, Makoto Demura (*Grad. Sch. Life Sci., Hokkaido Univ.*)

1Pos176 **ナトリウムポンプ型ロドプシン KR2 を基にしたカリウムポンプの創成**
Engineering K^+ pumping rhodopsin from KR2
Masae Konno[1], Keiichi Inoue[1,2], Hideaki Kato[3], Osamu Nureki[3], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*PRESTO, JST*, [3]*Grad. Sch. Sci., Univ. of Tokyo*)

1Pos177 **ファラオニスハロロドプシンの細胞質側チャネルに位置する重要残基の探索**
Functionally important residues in the cytoplasmic half channel of light-driven Cl^- pump *Natronomonas pharaonis* halorhodopsin
Anna Shimosaka, Takashi Kikukawa, Masakatsu Kamiya, Tomoyasu Aizawa, Naoki Kamo, Makoto Demura (*Grad. Sch. Life Sci., Univ. Hokkaido*)

光生物：光合成 / Photobiology: Photosynthesis

1Pos178 ***Tch. tepidum* 由来 LH1-RC の異常吸収挙動と熱耐性の解明に向けて**
Toward elucidating the unusual absorption behavior and enhanced thermostability of the LH1-RC complex from *Tch. tepidum*
T. Kawakami[1], L.-J. Yu[1,2], Yukihiro Kimura[3], S. Otomo[1] ([1]*Ibaraki Univ.*, [2]*Present address: Grad. Sch. Biol., Okayama Univ.*, [3]*Grad. Sch. Agri. Sci., Kobe Univ.*)

1Pos179 **好熱性紅色光合成細菌由来 LH1-RC 複合体の金属結合サイトおよび金属—タンパク質間相互作用の観測**
Monitoring of metal-binding sites and metal-protein interactions in the LH1-RC complex from thermophilic purple photosynthetic bacteria
Yuki Yura[1], Yukihiro Kimura[1], Yusuke Hayashi[1], Li Yong[1], Moe Onoda[1], Seiu Otomo[2], Takashi Ohno[1] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*Fac. Sci., Ibaraki Univ.*)

1Pos180 **多孔性シリカ粒子のナノ空間に埋め込まれたヘリオバクテリア反応中心コアタンパクの安定性と分光学的特性**
Stability and spectroscopic characterization of heliobacterial reaction center core protein incorporated into nanoporous silica particles
Hirozo Oh-oka[1], Tomoyasu Noji[2], Chihiro Azai[3], Risa Mutoh[4], Genji Kurisu[4], Shigeru Itoh[5] ([1]*Department of Biological Sciences, Graduate School of Science, Osaka University*, [2]*The OCU Advanced Research Institute for Natural Science and Technology, Osaka City University*, [3]*Department of Bioinformatics, College of Life Science, Ritsumeikan University*, [4]*Institute for Protein Research, Osaka University*, [5]*Center for Gene Research, Nagoya University*)

1Pos181 **極低温顕微鏡を用いた緑化途上トウモロコシ生葉の光合成タンパク質前駆体の空間分布の測定**
Cryogenic microscope observations of photosynthetic proteins under the assembly process in greening etiolated Zea mays leaves
Tomofumi Chiba, Hiroshi Fukumura, Yutaka Shibata (*Grad. Sch. Sci., Univ. Tohoku*)

1Pos182 **高酸化状態のマンガンクラスターにおける Ca^{2+}の影響**
Influence of Ca^{2+} on spin structure of Mn cluster in high oxidation state
Takahiro Sakai[1], Hiroki Nagashima[1], Hitomi Matsushita[2], Ko Furukawa[3], Hiroyuki Mino[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Sch. Sci., Univ. Nagoya*, [3]*Fac., Sci., Univ. Niigata*)

1Pos183 **光合成水分解反応における S0→S1 遷移の時間分解赤外分光解析**
Time-resolved infrared analysis of the S0-to-S1 transition of photosynthetic water oxidation
Tatsuki Shimizu, Ryo Nagao, Takumi Noguchi (*Division of Material Science, Graduate School of Science, Nagoya University*)

放射線生物学･活性酸素 / Radiobiology & Active oxygen

1Pos184 **FRET を用いた放射線誘発 DNA 脱塩基部位の局在性評価**
Localization estimation of abasic (AP) sites in DNA induced by ionizing radiation
Ken Akamatsu, Naoya Shikazono (*Japan Atomic Energy Agency*)

1Pos185 **酸化ストレスはビタミン D によって誘発される骨髄細胞分化を調整する**
Oxidative Stress Modulates Vitamin D-induced Myeloid Cell Differentiation
Hiroaki Tanaka[1], Hiroyuki Kato[1], Omi Nawa[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.*)

生命の起源･進化 / Origin of life & Evolution

1Pos186 **大腸菌とマイクロデバイスのハイブリッド型人工細胞の効率改善に向けた条件検討**
The suitable condition for the hybrid artificial cell system based on *E. coli* and the ALBiC device
Yoshiki Moriizumi[1], Kazuhito V. Tabata[1,3], Rikiya Watanabe[1,3], Hiroyuki Noji[1,2] ([1]*Dept. Appl. Chem., Grad. Sch. Eng., Univ Tokyo*, [2]*CREST, JST*, [3]*PRESTO, JST*)

1Pos187 **鋳型複製する高分子系の数理モデルにおける配列情報の選択**
Sequence selection in mathematical model of template replicating polymer system
Yoshiya Matsubara, Kunihiko Kaneko (*Department of Basic Science, The University of Tokyo*)

ゲノム生物：ゲノム構造 / Genome biology: Genome structure

1Pos188 **Visualization of chromatin dynamics and domains in live mammalian cells**
Tadasu Nozaki[1,2], Sachiko Tamura[1], Ryosuke Imai[1], Tomomi Tani[3], Masaru Tomita[2], Takeharu Nagai[4], Yasushi Okada[5], Kazuhiro Maeshima[1] ([1]*Natl. Inst. Genet.*, [2]*Inst. Adv. Biosci., Keio Univ.*, [3]*Marine Biological Laboratory*, [4]*ISIR, Osaka Univ.*, [5]*QBiC, RIKEN*)

バイオインフォマティクス：ゲノム構造 / Bioinformatics: Structural genomics

1Pos189 **フォールド構造に基づく膜タンパク質の分類**
Classification of transmembrane proteins based on the fold structure
Tsukasa Ueno[1], Masami Ikeda[1,2], Makiko Suwa[1,2] ([1]*Biol. Sci., Grad. Sci. Eng., Aoyama Gakuin Univ.*, [2]*Chem. Biol. Sci., Sci. Eng., Aoyama Gakuin Univ.*)

1Pos190 **複合体モデリングにより発見された新規相互作用面と病気関連変異の関係**
Relationship between protein-protein interaction interface predicted by complex modeling and disease-related amino acid variants
Toshiyuki Tsuji, Takao Yoda, Tsuyoshi Shirai (*Nagahama Institute of Bio-Technology and Science*)

1Pos191 **ボツリヌス菌の大型プロジェニター毒素複合体のダイナミクス**
Dynamics of the Large Progenitor Toxin Complex of Clostridium botulinum
Yosuke Kondo[1], Tomonori Suzuki[2], Yeondae Kwon[3], Satoru Miyazaki[4] ([1]*Grad. Sch. Pharm., Tokyo Univ. Sci.*, [2]*Nut. Sci. Food Saf., Tokyo Univ. Agri.*, [3]*Grad. Sch. Agri. Life Sci., Univ. Tokyo*, [4]*Fac. Pharm., Tokyo Univ. Sci.*)

1Pos192 **蛋白質複合体における構造変化のデータベース解析**
Database analysis of structural changes in protein complexes
Ryotaro Koike, Motonori Ota (*Grad. Sch. of Info. Sci., Nagoya Univ.*)

バイオインフォマティクス：ゲノム機能 / Bioinformatics: Functional genomics

1Pos193 **蛋白質の配列進化における最小作用原理とその変異体解析への応用**
Application of the principle of least action to protein sequence evolution for quantifying the effect of mutations
Motoi Taniguchi (*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*)

バイオインフォマティクス：ゲノム比較 / Bioinformatics: Comparative genomics

1Pos194 **遺伝子発現データと染色体構造データに基づく真核生物の染色体上における遺伝子発現相関の解析**
Analysis of correlations between gene expressions and chromosome structures of eukaryotes based on publicly available data sets
Rei Tanikado[1], Akinori Awazu[1,2], Hiraku Nishimori[1,2] ([1]*Dept. of Mathematical and Life Sci., Univ. Hiroshima*, [2]*Research center for the Mathematics on chromatin live Dynamics (RcMcD)*)

数理生物 / Mathematical biology

1Pos195 **Eddy current flow of probability in stochastic gene expression dynamics in eukaryotes**
Bhaswati Bhattacharyya, Masaki Sasai (*Sasai group, Department of Computational Science and Engineering, Graduate School of Engineering*)

1Pos196 **細胞核の変形運動が核内クロマチン配置に及ぼす効果**
Nuclear deformation dynamics induced hetero- and eu-chromatin positioning
Akinori Awazu[1,2] ([1]*Department of Mathematical and Biosciences, Hiroshima University*, [2]*Research Center for Mathematics on Chromatin live Dynamics, Hiroshima University*)

1Pos197 **適応度と情報に関するゆらぎ定理**
Fluctuation Relations for Fitness and Information
Tetsuya Kobayashi, Yuki Sughiyama (*Institute of Industrial Sciene, University of Tokyo*)

1Pos198 **細胞の自発運動ダイナミクスの種間共通性**
Common aspects of spontaneous cell migration dynamics in different species
Hiroaki Takagi (*Dept. Phys., Nara Med. Univ.*)

1Pos199 **A stochastic simulation study on 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*)

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

1Pos200 **Dynamical model of chromosome synapsis formation during meiosis in Eukaryotes**
K. Takamiya[1], K. Yamamoto[1], Hiraku Nishimori[1,2], A. Awazu[1,2] ([1]*1Dept. Mathematics and Life sciences, Grad. Sch. Sci, Univ. Hiroshima*, [2]*Research Center Math. Chromatin Live Dynamics (RcMcD), Univ. Hiroshima*)

1Pos201 **パルス密度制御による小胞型非平衡開放系リアクタ**
Vesicular nonequilibrium open reactor regulated by pulse-density modulation
Haruka Sugiura[1], Manami Ito[1], Hiroyuki Kitahata[2], Yoshihito Mori[3], **Masahiro Takinoue**[1,4] ([1]*Dept. Comput. Intell. Syst. Sci., Tokyo Tech*, [2]*Dept. Phys., Chiba Univ.*, [3]*Dept. Chem., Ochanomizu Univ.*, [4]*PRESTO, JST*)

1Pos202 **キネシン駆動微小管の非平衡パターン形成**
Pattern formation of microtubules driven by kinesin
Sakurako Tanida[1], Ken'ya Furuta[2], Kaori Nishikawa[1], Hiroaki Kojima[2], Masaki Sano[1] ([1]*Grad. Sch. Sci., The Univ. Tokyo*, [2]*NICT*)

計測 / Measurements

1Pos203 **高速走査型イオン伝導顕微鏡の開発**
Development of high-speed scanning ion conductance microscopy
Shinji Watanabe[1], Toshio Ando[1,2,3,4] ([1]*Bio-AFM, Kanazawa Univ.*, [2]*Fac. of Math. & Phys., Kanazawa Univ.*, [3]*Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ.*, [4]*JST-CREST*)

1Pos204 **Target imaging droplet sorting system: a shape identification method for recognition and sort target droplet with cell in real time**
Mathias Girault[1], Hyonchol Kim[1,2], Kenji Matsuura[1], Masao Odaka[1,2], Hideyuki Terazono[1,2], Akihiro Hattori[1], Kenji Yasuda[1,2] ([1]*KAST*, [2]*TMDU*)

1Pos205 **金ナノ粒子を用いた 1 細胞局所加熱による細胞内温度の研究**
Investigation of intracellular temperature using local heating of 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*)

1Pos206 **レンズドファイバを用いた内視鏡型蛍光相関分光装置の開発**
Development of an endoscopic fluorescence correlation spectroscopy using a lensed fiber
Johtaro Yamamoto, Masataka Kinjo (*Graduate School of Life Science, Hokkaido University*)

1Pos207 **アドレナリンによる培養神経細胞軸索輸送活動度の増加がフロー解析法により定量化された**
Flow analysis revealed the activity increase of axonal transport of cultured neurons by Adrenaline
Takashi Katakura, Risa Isonaka, Tadashi Kawakami (*Dept. Physiol., Kitasato Univ. Sch. Med.*)

バイオイメージング / Bioimaging

1Pos208 **細胞内小器官選択的な蛍光分子温度計**
Organelle-targeting molecular fluorescent thermometers for living cells
Madoka Suzuki[1,2], Satoshi Arai[1], Young-Tae Chang[3] ([1]*WASEDA Biosci Res Inst Singapore (WABIOS)*, [2]*Org Univ Res Initiatives, Waseda Univ*, [3]*Dept Chem, Natl Univ Singapore (NUS)*)

1Pos209 **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.*)

1Pos210 **Development of a novel user-friendly system for image processing of electron micrographs by integrating web browser and PIONE with Eos**
Takafumi Tsukamoto, Takuo Yasunaga (*Kyushu Institute of Technology*)

1Pos211 **X 線自由電子レーザーを用いた低温コヒーレント回折イメージングによる酵母細胞核の三次元構造解析**
Three-dimensional structure of yeast nucleus visualized by cryogenic coherent diffraction imaging using X-ray free-electron laser
Yuki Sekiguchi[1,2], Amane Kobayashi[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Yuichi Ichikawa[3], Hitoshi Kurumizaka[3], Mitsuhiro Shimizu[4], Masaki Yamamoto[2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*, [3]*Grad. Adv. Sci. Eng., Waseda Univ.*, [4]*Grad. Sci. Eng., Meisei Univ.*)

1Pos212 **幅広い応用が可能な超高輝度マルチカラー発光タンパク質**
Color pallet of super-duper luminescent proteins capable of wide range application
Kazushi Suzuki[1], Yoshiyuki Arai[1,2], Masahiro Nakano[1,2], Takeharu Nagai[1,2] ([1]*Grad. Sch. Engin., Osaka Univ.*, [2]*ISIR, Osaka Univ.*)

1Pos213 **Yeast two hybrid および定量イメージング解析による PDLIM2 相互作用タンパク質の同定**
Identification of PDLIM2 interacting protein using yeast two-hybrid system and quantitative imaging analysis
Chanyoung Shin[1,2], Yuma Ito[1], Kumiko Sakata-Sogawa[1], Takashi Tanaka[2], Makio Tokunaga[1] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

1Pos214 **Measurement of the redox potential in Chlamydomonas flagella using a redox-sensitive fluorescent protein, Oba-Q**
Yuta Nishimaki, Kazunori Sugiura, Toru Hisabori, Ken-ichi Wakabayashi (*Chemical Resources Laboratory, Tokyo Institute of Technology*)

1Pos215 **クロマチン動態制御におけるアクチン関連タンパク質 Arp4 の核内ダイナミクス**
Dynamics of actin-related protein 4 in living cell nucleus for dynamic chromatin regulation
Yuma Ito[1], Hiroshi Kimura[1], Masahiko Harata[2], Kumiko Sakata-Sogawa[1], Makio Tokunaga[1] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*Grad. Sch. Agr. Sci., Tohoku Univ.*)

1Pos216 **蛍光褪色回復法による INO80 クロマチンリモデリング複合体の核内動態解析**
Intranuclear dynamics of INO80 chromatin remodeling complex by fluorescent recovery after photobleaching
Yuma Ito[1], **Tsubasa Isogaki**[1], Hiroshi Kimura[1], Masahiko Harata[2], Kumiko Sakata-Sogawa[1], Makio Tokunaga[1] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*Grad. Sch. Agr. Sci., Tohoku Univ.*)

1Pos217 **高速原子間力顕微鏡により観察された AAA シャペロン p97 の主要 ATPase リングの構造変化**
Conformational changes of the major ATPase domain D2 of the AAA chaperone p97 observed by high-speed atomic force microscopy
Daisuke Yamamoto[1,3], Kentaro Noi[2,3], Ken-ichi Arita-Morioka[2,3], Teru Ogura[2,3] ([1]*Fac. Sci., Fukuoka Univ.*, [2]*IMEG, Kumamoto Univ.*, [3]*CREST, JST*)

1Pos218 **軟 x 線顕微鏡による糸状シアノバクテリアにおける窒素固定の直接観察**
Direct observation of nitrogen fixation in filamentous cyanobacteria by using soft X-ray microscopy
Takahiro Teramoto[1], Masashi Yoshimura[2], Chihiro Azai[3], Kazuki Terauchi[3], Hidetoshi Namba[2], Toshiaki Ohta[2] ([1]*Col. Sci. & Eng, Ritsumeikan Univ.*, [2]*SRCenter, Ritsumeikan Univ.*, [3]*Col. Life Sci. Ritusmeikan Univ.*)

バイオエンジニアリング / Bioengineering

1Pos219 **遠心操作を伴わない細胞を回収するためのマイクロデバイス**
Microfluidic Device for Recovering Cells without Centrifugation
Koji Matsuura, Saori Nishina, Keiji Naruse (*Cardiovascular Physiology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University*)

1Pos220 **芽胞菌に対するマイクロ波照射効果**
Microwave Irradiation Effect to Spore-Forming Bacteria
Ryota Nakama[1], Arata Shiraishi[1], Wataru Nagayoshi[1], Sakura Yoshimoto[2], Shokichi Ohuchi[1,2] ([1]*Dept. Lifesci. & Syst, Eng., Kyushu Inst. Tech.*, [2]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*)

1Pos221 **ビオチン化したタンパク質ラングミュア膜上に作成したストレプトアビジン層**
Streptavidin layer formed on the biotinylated Langmuir film of protein
Taiji Furuno (*Dept. Phys., Keio Univ. Sch. Med.*)

1Pos222 **光分解性ゲルによる接着細胞の力学的操作法の検討**
Application of photodegradable hydrogel to mechanical manipulation of adherent cells
Kentaro Iketaki[1], Humiki Yanagawa[2], Ryuzo Kawamura[1], Seiichiro Nakabayashi[1], Toshiyuki Takagi[2], Shinji Sugiura[2], Toshiyuki Kanamori[2], Hiroshi Yoshikawa[1] ([1]*Dept. Chem., Saitama Univ.*, [2]*BRD., AIST.*)

1Pos223 **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**
Controlling DNA motions with an AC gate voltage applied gate embedded in nanopore
Yuta Kato, Naoto Sakashita, Yoshitaka Tanida, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

1Pos224 **ハニカム構造を有するマイクロゲルネットワークの構築**
Construction of microgel network with honeycomb structure
Satoshi Umeyama, Masayuki Hayakawa, Masamune Morita, Masahiro Takinoue (*Interdisciplinary Graduate school of Science and Engineering*)

1Pos225 **Directed evolution system to generate peptide agonists for G protein-coupled receptors using in vitro translation in water-in-oil droplets**
Takashi Sakurai[1], Ryo Iizuka[1], Yasuyuki Nakamura[2], Jun Ishii[3], Rui Sekine[4], Yoon Dong H.[4], Tetsushi Sekiguchi[5], Akihiko Kondo[2], 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]*Grad. Sch. of Adv. Sci. and Eng., Waseda Univ.*, [5]*Inst. for Nanosci. and Nanotechnol., Waseda Univ.*)

1Pos226 **分子モータと DNA 回路を内包した巨大リポソームにより構築される分子ロボット**
Molecular robots constructed by entrapping molecular-motors and DNA circuits into giant liposomes
Yusuke Sato[1], Yuichi Hiratsuka[2], Ibuki Kawamata[1], Satoshi Murata[1], Shin-ichiro Nomura[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Sch. Matl. Sci., JAIST*)

1Pos227 **光応答基板：細胞移動研究のためのマテリアルバイオロジー的研究ツール**
Photoactivatable substrates: Material biological tools for cell migration research
Jun Nakanishi[1], Kazuo Yamaguchi[2] ([1]*NIMS*, [2]*Kanagawa University*)

1Pos228 **Novel genetically encoded antibody-based biosensors allowing fluorescence ratio detection of antigens**
Kim Phuong Huynh Nhat, Takayoshi Watanabe, Takahiro Hohsaka (*JAIST*)

その他 / Miscellaneous topics

1Pos229 **ベイズ推定を用いた CTF 補正の自動化**
Automation of CTF correction using the Bayesian estimation
Koji Hisanaga, Takuo Yasunaga (*Kyushu Institute of Technology Graduate School of Computer Science and Systems Engineering Yasunaga Lab*)

1Pos230 **Model studies of bacterial flagellar motor switching in response to CheY-P regulation and motor structural alterations**
Qi Ma[1], Matthew A. B. Baker[2], Fan Bai[1] ([1]*Biodynamic Optical Imaging Center, Peking University, Beijing, China*, [2]*Victor Chang Cardiac Research Institute, Sydney, NSW, Australia*)

第２日目（9 月 14 日（月））／Day 2（Sep. 14 Mon.）プロムナード / Promenade

蛋白質：構造 / Protein: Structure

2Pos001 **CryoEM 3D image reconstruction of the flagellar LP ring complex**
Meltem Tatli[1], Tomoko Miyata[1,2], Takayuki Kato[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Riken QBiC*)

2Pos002 **毒性型アミロイドテープ： GM1 クラスター上で形成される新規 Aβ 逆平行／平行混合 β シート構造**
Toxic Amyloid Tape: Novel Mixed Antiparallel/Parallel β-Sheet Structure Formed by Aβ on GM1 Clusters
Yuki Okada[1], Keisuke Ikeda[5], Yoshiaki Yano[1], Masaru Hoshino[1], Yoshio Hayashi[4], Yoshiaki Kiso[3], Hikari Itoh-Watanabe[2], Akira Naito[2], **Katsumi Matsuzaki**[1] ([1]*Grad. Sch. Pharm. Sci. Kyoto Univ.*, [2]*Fac. Eng. Yokohama Nation. Univ.*, [3]*Nagahama Inst. Bio-Sci. Tech.*, [4]*Tokyo Univ. Pharm. Life Sci.*, [5]*Grad. Sch. Med. Pharm. Sci. Univ. Toyama*)

2Pos003 **Hsp90 と ADP の会合における水分子の役割**
Role of water molecules for association of Hsp90 and ADP
Kazutomo Kawaguchi, Hiroaki Saito, Hidemi Nagao (*Inst. Sci. Eng., Kanazawa Univ.*)

2Pos004 **赤外分光法によるインスリンアミロイドの構造規則性の解明**
Revealing the structural rules of insulin amyloid by infrared spectroscopy
Hisayuki Morii[1], Takashi Shimizu[1], Masayuki Nara[2] ([1]*AIST*, [2]*Tokyo Med. Dent. Univ.*)

2Pos005 **タンパク質の形状に内在する機構的性質に関する解析**
Analysis of Mechanism Features Present in Protein Shapes
Keisuke Arikawa (*Fcl. Eng. , Kanagawa Inst. of Tech.*)

2Pos006 **抗体 CDR-H3 ループ領域の立体構造予測**
Accurate ensemble modeling of CDR-H3 loop in antibody
Hiroshi Nishigami[1,2], Gert-Jan Bekker[1], Narutoshi Kamiya[1], Junichi Higo[1], Haruki Nakamura[1] ([1]*Institute for Protein Research, Osaka University*, [2]*Department of Biology, Graduate School of Science, Osaka University*)

2Pos007 **単粒子像解析のための分子同定用 GFP ラベル**
GFP protein labeling for single particle image analysis
Takayuki Kato[1], Naoya Terahara[1], Tomoko Miyata[2], Keiichi Namba[1,2] ([1]*Osaka Univ, Front. Biosci.*, [2]*Riken, Qbic*)

2Pos008 **広範囲に基質特異性を示す L-アミノ酸酸化酵素の構造**
Structure of L-amino acid oxidase with broad substrate specificity
Nanako Ito[1], Tatsuya Kawaguchi[1], Kaho Murakami[2], Takashi Tamura[2], Miwa Yamada[3], Kimiyasu Isobe[3], Kenji Inagaki[2], Katsumi Imada[1] ([1]*Dept. MacroMol., Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Env. & Life Sci., Okayama Univ.*, [3]*Dept. Biol. Chem. & Food Sci., Iwate Univ*)

2Pos009 **Thermococcus kodakaraensis 由来エンドヌクレアーゼ NucS の構造**
Structure prediction and analyses of endonuclease NucS from *Thermococcus kodakaraensis*
Setsu Nakae[1], Atsushi Hijikata[1], Toshiyuki Tsuji[1], Koki Yonezawa[1], Ken-ichi Kouyama[2], Kouta Mayanagi[3], Sonoko Ishino[4], Yoshizumi Ishino[4], Tsuyoshi Shirai[1] ([1]*Fac. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*, [2]*Grad. Sch. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*, [3]*Medical Inst. of Bioregulation, Kyushu Univ.*, [4]*Grad. Sch. Bioresource and Bioenviron. Sci., Kyushu Univ.*)

2Pos010 **MARTINI 粗視化シミュレーションにおけるタンパク質の多段階構造変化手法の開発**
Development of a method enabling multiple-step conformational change along a path in MARTINI coarse-grained simulations
Kaita Fujihara, Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Dept. of Biotech., Grad Sch. of Agri. Life Sci., Univ. of Tokyo*)

2Pos011 **構造に分布を持つ二重スピンラベルタンパクの電子スピン共鳴の緩和および線形の解析**
Relaxation and Lineshape Analysis for Electron Paramagnetic Resonance of Doubly Spin-labeled Protein with Structural Distribution
Yasunori Ohba[1], Munehito Arai[2], Jun Abe[3], Tetsuya Itabashi[1], Toshikazu Nakamura[3], Satoshi Takahashi[1], Seigo Yamauchi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Art and Sci, Univ. Tokyo,*, [3]*IMS*)

2Pos012 **Structural insight into the interaction between Death-associated protein kinase 1 and natural flavonoids**
Yuto Kosaka, Mineyuki Mizuguchi, Takeshi Yokoyama (*Fac. of Pharm. Sci., Univ. of Toyama*)

2Pos013 **ウシ心筋チトクロム酸化酵素 O 型中間体の X 線結晶構造解析**
The X-ray structural analysis of O intermediate of bovine heart cytochrome *c* oxidase
Yuki Eto[1], Atsuhiro Shimada[1], Fumiyoshi Hara[2], Eiki Yamashita[2], Kyoko Shinzawa-Itoh[1], Tomitake Tsukihara[1,2], Shinya Yoshikawa[1] ([1]*Grad. Sch. Life Sci. Univ. Hyogo.*, [2]*Inst, Protein Res, Osaka Univ*)

2Pos014 **Molecular dynamics study of structural fluctuation in calmodulin**
Hiromitsu Shimoyama, Mayuko Takeda-Shitaka (*Kitasato University, Faculty of Pharmacy*)

2Pos015 **タンパク質立体構造予測のための新規な疎水性指標**
A novel measure for evaluating the satisfication of the hydrophobicity for protein structure prediction
Yota Masuyama, Koudai Takagi, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)

2Pos016 **アミロイド線維凝集に関する分子動力学計算を用いた静電相互作用の研究**
Study of electrostatics interaction of amyloid fibrils using molecular dynamics calculation
Takuya Gouda[1], Yuko Okamoto[1,2,3,4] ([1]*Grad. Sch. Phys., Univ. Nagoya*, [2]*Struc.Biol.Res.Center, Grad.Sch.Sci., Nagoya Univ*, [3]*Center Comput. Sci., Grad. Sch. Eng.,Nagoya Univ*, [4]*Info. Tech. Center, Nagoya Univ*)

2Pos017 **α ヘリックスが β-ストランドペア形成に及ぼす影響**
The effect of α-helices on β-strand pairing propensity
Hiromi Suzuki (*Sch. Agri., Meiji Univ.*)

蛋白質：構造･機能 / Protein: Structure & Function

2Pos018 **分子動力学シミュレーションを用いた Gads の SLP-76 認識機構の解析**
Analysis of the SLP-76 ligand recognition mechanism of Gads by molecular dynamics simulation
Yoshiyuki Uemura, Kazuyoshi Ueda, Motoyasu Ozawa (*Yokohama National University*)

2Pos019 **Subunits kinetics in alpha-crystallin as studied by small angle neutron scattering**
Rintaro Inoue[1], Takumi Takata[1], Norihiko Fujii[2], Nobuhiro Sato[1], Yojiro Oba[1], Shinichi Takata[3], Noriko Fujii[1], Masaaki Sugiyama[1] ([1]*Research Reactor Institute,Kyoto University*, [2]*Teikyo Univ, Radioisotope Res Ctr,*, [3]*Japan Atom Energy Agency*)

2Pos020 **単粒子解析法を用いて 26S プロテアソームの立体構造解析**
Structural analysis of the 26S proteasome by cryo-electron microscopy and Single-Particle Analysis
Zhuo Wang[1], Yasuo Okuma[1], Daiske Kasuya[2], Kaoru Mitsuoka[3], Yasushi Saeki[4], Takuo Yasunaga[1] ([1]*Department of Bioscience and Bioinformatics, Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [2]*Biomedicinal Information Research Center, Japan Biological Information Consortium (JBIC)*, [3]*Osaka University*, [4]*Laboratory of Protein Metabolism, Tokyo Metropolitan Institute of Medical Science*)

2Pos021 **TRAF 結合分子の結晶構造と X 線小角散乱解析**
Crystal structure and small-angle X-ray scattering analysis of TRAF binding protein
Teruya Nakamura[1], Chie Hashikawa[1], Yuya Yokote[1], Mami Chirifu[1], Yuu Taguchi[2], Jin Gohda[2], Taishin Akiyama[2], Kentaro Semba[3], Yoshinari Okamoto[1], Shinji Ikemizu[1], Masami Otsuka[1], Jun-ichiro Inoue[2], Yuriko Yamagata[1] ([1]*Grad. Sch. Pharmaceut. Sci., Kumamoto Univ.*, [2]*Inst. Medical Sci., Univ. Tokyo*, [3]*Dept. Life Sci. and Medical Bio-sci., Waseda Univ.*)

2Pos022 **緩和モード解析による転移温度付近の 10 残基のシニョリンのダイナミクス**
Dynamics of 10-Residue Peptide, Chignolin near a Transition Temperature using Relaxation Mode Analysis
Ayori Mitsutake[1,2], Hiroshi Takano[1] ([1]*Dep. of Phys., Keio Univ.*, [2]*JST, Presto*)

2Pos023 **大規模構造変化を許容するヘモグロビン結晶：結晶中タンパク質の動きの観測を目指して**
Hemoglobin crystals that allow large-scale conformational changes: toward the observation of protein motions in crystals
Naoya Shibayama (*Div. of Biophysics, Jichi Medical Univ.*)

2Pos024 **Circadian timing governed by cyanobacterial KaiC ATPase**
Atsushi Mukaiyama[1,2], Jun Abe[1], Takuya Hiyama[1], Seyoung Son[3], Toshifumi Mori[2,4], Shinji Saito[2,4], Masato Osako[3], Julie Wolanin[1], Eiki Yamashita[5], Takao Kondo[3], Shuji Akiyama[1,2] ([1]*CIMoS, IMS*, [2]*Grad. Univ. for Adv. Studies, SOKENDAI*, [3]*Nagoya Univ.*, [4]*Dep. of Theor. and Comp. Molecular Science, IMS*, [5]*IPR, Osaka Univ.*)

2Pos025 **サチライシンにおける局所的な柔軟性増大のアロステリック効果**
Allosteric effect of locally-enhanced flexibility in subtilisin
Takato Sato, Kosei Maetani, Dan Parkin, Jun Ohnuki, Koji Umezawa, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

2Pos026 **シナプス小胞膜を模倣した膜上での α シヌクレイン線維形成メカニズム**
Study on the mechanism of amyloidogenesis of α-synuclein on presynaptic membrane mimetics
Mayu Terakawa S.[1], Yuxi Lin[1], Tatsuya Ikenoue[1], Naoya Fukui[2], Yasushi Kawata[2], Young-Ho Li[1], Yuji Goto[1] ([1]*IPR, Osaka Univ.*, [2]*Dept. of Chem. and Biotech., Grad. Sch. of Eng., Tottori Univ.*)

2Pos027 **アナモックス菌のラダラン脂質生合成にかかわると推定されるラジカル SAM 酵素の発現と精製**
Expression and purification of a radical SAM enzyme, which is presumably involved in ladderane lipid biosynthesis in anammox bacteria
Jumpei Shimada[1], Nozomi Shinde[1], Tomoya Hino[1], Miki Fukuma[1], Ken Takai[2], **Shingo Nagano**[1] ([1]*Grad. Schl. Eng., Tottori Univ.*, [2]*JAMSTEC*)

2Pos028 **揺らぎと水和効果に着目した ABC トランスポーターの NBD 二量体化過程の統計熱力学的解析**
Statistical thermodynamic analysis of dimerization of nucleotide binding domains in an ABC transporter: fluctuation and hydration effects
Honami Sakaizawa, Hiroshi C. Watanabe, **Tadaomi Furuta**, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

2Pos029 **区分同位体標識を用いた β_2-アドレナリン受容体のリン酸化の NMR 解析**
NMR analyses of the phosphorylation of β_2-adrenergic receptor using segmental isotopic labeling
Yutaro Shiraishi[1], Yutaka Kofuku[1], Takumi Ueda[1,2], Mei Natsume[1], Hideo Iwai[3], Ichio Shimada[1] ([1]*Grad.Sch.Pharm.Sci.,Univ.Tokyo*, [2]*JST,PRESTO*, [3]*Inst.Biotech.,Univ.Helsinki*)

2Pos030 **ホタルの発光に関与する酵素ルシフェラーゼの荷電性アミノ酸残基に対する滴定曲線の導出**
Computational Analysis of Titration Curves of Some Amino Acid Residues in Proximity to Catalytic Center of Firefly Luciferase
Naohisa Wada[1], Keiici Horie[1], Sho Takamatsu[1], Itsuki Kaji[1], Hironori Sakai[2] ([1]*Fac. of Food Life Sciences, Toyo Univ.*, [2]*Insti. of Fluid Science, Tohoku Univ.*)

2Pos031 **阻害剤 BOF を結合したバクテリア XOR のリガンド結合ポケット入口に存在する一つのループの揺らぎについて**
On the motion of a loop located in the entrance to the ligand-binding pocket of bacterial XOR with the inhibitor BOF
Hiroto Kikuchi[1], Hiroshi Fujisaki[1], Tadaomi Furuta[2], Ken Okamoto[3], Takeshi Nishino[4] ([1]*Dept. of Phys., Nippon Med. Sch.*, [2]*Grad. Sch. of Biosci. & Biotech., Tokyo Inst. of Tech.*, [3]*Dept. of Biochem., Nippon Med. Sch.*, [4]*Grad. Sch. of Agri. & Life Sci., Univ. Tokyo*)

2Pos032 **等温滴定型熱量測定によるヒトヘモグロビンーIHP 間の相互作用の研究**
Interactions between inositol hexakisphosphate and hemoglobin studied by isothermal titration calorimetry and oxygen binding measurements
Shunsuke Sakurai[1], Daiki Sawada[1], Tsuyoshi Egawa[2], Takashi Yonetani[3], Antonio Tsuneshige[1] ([1]*Dept. of Frontier Bioscience, Hosei University, Tokyo, Japan*, [2]*Dept. of Biochemistry, Albert Einstein School of Medicine, New York, USA*, [3]*Dept. of Biochemistry and Biophysics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA*)

2Pos033 **3D-RISM 理論に基づく 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 3D-RISM theory for the Pim1-ligand system
Takeshi Hasegawa[1], Masatake Sugita[1], Takeshi Kikuchi[1], Fumio Hirata[2] ([1]*Dept. of Bioinf., Col. of Life Sci., Ritsumeikan Univ.*, [2]*Research Org. of Sci. and Tech., Ritsumeikan Univ.*)

2Pos034 **粗視化モデルを用いた T7 RNA ポリメラーゼの転写動態に関する考察**
Study of transcriptional dynamics of T7 RNA polymerase using coarse-grained model
Kizuku Yamana, Hiraku Nishimori, Akinori Awazu (*Dept. of Math. and Life Sciences, Hiroshima Univ.*)

蛋白質：特性 / Protein: Property

2Pos035 **蛋白質熱安定性に及ぼす共溶媒の添加効果**
Effects of cosolvent addition on the thermal stability of a protein
Shota Murakami[1], Masahiro Kinoshita[2] ([1]*Grad. Sch. Energ. Sci., Kyoto Univ.*, [2]*Inst. Adv. Energ., Kyoto Univ.*)

2Pos036 **独立成分分析 tICA を用いたヒストンテールの遅い運動の解析**
Slow dynamics of histone tails in molecular dynamics simulation revealed by time-structure based independent component analysis
Sotaro Fuchigami (*Grad. Sch. of Medical Life Science, Yokohama City Univ.*)

2Pos037 **接着結合における張力伝達分子としての β-カテニン**
β-catenin as a mechano-transmitter molecule at adherens junctions
Koichiro Maki[1,2], Sung-Woong Han[1,2], Taiji Adachi[1,2] ([1]*Inst. for Front. Med. Sci., Kyoto Univ.*, [2]*Grad. Sch. of Eng., Kyoto Univ.*)

2Pos038 **Spectroscopic and calorimetric analysis for conformational stability of c-Myb DNA-binding domain under different pH conditions**
Satomi Inaba[1], Yuji O. Kamatari[2], Hiroshi Sekiguchi[3], Harumi Fukada[4], Masayuki Oda[1] ([1]*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, [2]*Life Sci. Res. Center, Gifu Univ.*, [3]*JASRI/SPring-8*, [4]*Grad. Sch. Life Environ. Sci., Osaka Pref. Univ*)

2Pos039 **高速時間分割蛍光異方性によるタンパク質間相互作用の解析**
Protein-protein interaction revealed by time-resolved fluorescence anisotropy
Akane Kato[1], Etsuko Nishimoto[2] ([1]*Grad. Sch. Bioresour. Bioenviron. Sci., Univ. Kyushu*, [2]*Fac. Agr., Univ. Kyushu*)

2Pos040 **高圧小角散乱法により検出されたニトリラーゼ会合体の高圧中間体解析**
Analysis on pressure intermediate of Nitrilase oligomer detected by high-pressure small-angle scattering
Tetsuro Fujisawa[1,2,3], Ryo Ishiguro[1,2] ([1]*Dep. Eng., Gifu Univ.*, [2]*Harima Inst., Riken*, [3]*NSSR, Nagoya Univ.*)

2Pos041 **フェリチンアセンブリ反応における静電相互作用の重要性**
Importance of electrostatic interactions during ferritin assembly reaction
Daisuke Sato, Atsushi Kurobe, Satsuki Takebe, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. Bioinfo., Grad. Sch. Eng., Soka Univ.*)

2Pos042 **アクチンフィラメントの圧電特性 II**
Piezoelectric property of an actin filament II
Jun Ohnuki[1], Takato Sato[1], Taro Q.P. Uyeda[2], Mitsunori Takano[1] ([1]*Dept. of Pure & Appl. Phys., Waseda Univ.*, [2]*Biomedical Res. Inst., AIST*)

2Pos043 **天然変性領域である p53C 末端ドメインの構造と物性にアセチル化が及ぼす影響**
Effect of acetylation on structure and physicochemical properties of the intrinsically disordered C-terminal domain of p53
Shinji Iida[1,2], Hironobu Hojo[1], Haruki Nakamura[1], Junichi Higo[1] ([1]*IPR, Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*)

2Pos044 **天然タンパク質の分子密度に関する統計解析**
Statistical analysis on the molecular density of native proteins
Hidenobu Kawai, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

2Pos045 **ALS を引き起こす SOD1 の線維形成に伴う物性変化**
Physical property change associated with fibril formation of ALS-causative SOD1
Noriko Fujiwara[1], Michiru Wagatsuma[2], Daisaku Yoshihara[1], Yoshiaki Furukawa[3], Haruhiko Sakiyama[1], Hironobu Eguchi[1], Keiichiro Suzuki[1] ([1]*Dep. of Biochem., Hyogo coll. of Med.*, [2]*Biosensor, Res. and Dev., ULVAC*, [3]*Dept. of Chem., Keio Univ.*)

2Pos046 **構造エレメントの決定因子としての分子内相互作用**
Intramolecular interaction as a determination factor for structure elements of proteins
Yuji Konno, Takeshi Inagaki, Hironari Kamikubo, Mikio Kataoka (*Graduate School of Materials Science, Nara Institute of Science and Technology*)

蛋白質：機能 / Protein: Function

2Pos047 **示差走査型蛍光定量法を用いたアルドケト還元酵素阻害剤の選択性の評価**
Evaluation of selectivity of aldo-keto reductase inhibitors using differential scanning fluorimetry
Yuji O. Kamatari[1], Aurangazeb Kabir[2], Satoshi Endo[3], Kazuo Kuwata[2] ([1]*Life Sci. Res. Center, Gifu Univ.*, [2]*United Grad. Sch. Drug Discov. Med. Info. Sci., Gifu Univ.*, [3]*Lab. Biochem., Gifu Pharm. Univ.*)

2Pos048 **GlcNAc 含有高分子を用いたビメンチンの新たな機能の解明**
Elucidation of novel functions of vimentin with the well-defined GlcNAc-bearing polymers
Sadanori Yamasaki[1], Horihiko Ise[2], Tadashi Nakamura[1], Yoshiko Miura[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE., Univ. Kyushu*)

2Pos049 **Protective effect of model peptides for group-3 LEA proteins on enzymes during desiccation**
Takao Furuki, Minoru Sakurai (*Center for Biological Resources and Informatics, Tokyo Institute of Technology*)

2Pos050 **NMR と分子動力学シミュレーションによるラン藻由来アルカン合成酵素の構造ダイナミクス解析**
Structural dynamics of a cyanobacterial alkane-producing enzyme, aldehyde deformylating oxygenase, studied by NMR and MD simulations
Yuma Suematsu, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)

2Pos051 **四量体型サルコシン酸化酵素の分子動力学シミュレーション :生成物の輸送経路の解明**
Molecular dynamics simulation of heterotetrameric sarcosine oxidase: analysis of channeling of product
Daisuke Nakajima[1], Go Watanabe[2], Haruo Suzuki[2], Shigetaka Yoneda[2] ([1]*Grad. Sch. Sci., Kitasato Univ.*, [2]*Sch. Sci., Kitasato Univ.*)

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

2Pos052 **生体高分子中性子結晶構造解析における水素の高感度検出のためのラジカル分子のタンパク質単結晶への導入**
An introduction of radical molecules into a protein single crystal for more sensitive detection of hydrogen in neutron crystallography
Naoya Komatsuzaki[1], Takahiro Iwata[2], Yoshiyuki Miyachi[2], Toshiyuki Chatake[3], Katsuhiro Kusaka[4], Nobuo Niimura[4], Ichiro Tanaka[4,5] ([1]*Grad. Sch. of Sci. and Eng., Ibaraki Univ.*, [2]*Faculty of Sci., Yamagata Univ.*, [3]*RRI, Kyoto Univ*, [4]*Frontier Res. Center*, [5]*Coll. of Eng., Ibaraki Univ.*)

2Pos053 **Raf の生細胞内構造分布を明らかにする 1 分子 FRET 計測**
Single-molecule FRET measurement to investigate structural distribution of Raf in living cells
Kenji Okamoto[1], Kayo Hibino[2], Yasushi Sako[1] ([1]*RIKEN*, [2]*NIG*)

2Pos054 **On the convergence of binding free-energy landscape calculation by improved virtual-system coupled adaptive umbrella sampling**
Bhaskar Dasgupta, Junichi Higo, Haruki Nakamura (*Institute for Protein Research, Osaka University*)

2Pos055 **X 線 1 分子追跡法によるミオシン分子構造揺らぎの高精度リアルタイム計測**
Molecular fluctuation analysis of myosin by DXT measurement
Keigo Ikezaki[1], Hiroshi Sekiguchi[2], Naoto Yagi[2], Toshio Yanagida[3], Yuji C. Sasaki[1,2] ([1]*Tokyo Univ.*, [2]*Spring-8/JASRI*, [3]*RIKEN/QBiC*)

2Pos056 **フェリチンからの鉄イオン遊離に与える交流磁場の影響**
Iron exit from ferritin under alternating magnetic fields
Yuta Yamada, Tsuyoshi Hondou, **Hidetake Miyata** (*Facuty of Science, Tohoku University*)

2Pos057 **1 分子光子計数データのデータ同化解析**
Sequential data assimilation for single-molecule FRET photon-counting data
Yasuhiro Matsunaga[1], Yuji Sugita[1,2,3,4] ([1]*RIKEN AICS*, [2]*RIKEN*, [3]*RIKEN iTHES*, [4]*RIKEN QBiC*)

蛋白質：工学 / Protein: Engineering

2Pos058 **がん関連サイトカインに結合するラクダ科単一ドメイン抗体の試験管内淘汰と、その簡便・迅速なプルダウン法**
***In vitro* selection and a simple and rapid pull-down assay of Camelidae single-domain antibodies that bind to cancer cytokine**
Hidenao Arai, Mana Mizugai, Koji Matsuoka, Naoto Nemoto (*Grad. Sch. Sci. Eng., Saitama Univ.*)

2Pos059 **α ヘリカルタンパク質の設計**
Design of diverse all-α protein strucrures based on αα-rule
Kouya Sakuma[1,2], Rie Koga[1], Nobuyasu Koga[1,2,3] ([1]*CIMoS, IMS.*, [2]*SOUKENDAI*, [3]*JST, PRESTO*)

2Pos060 **An attempt to improve the method for directed evolution by in vitro compartmentalization**
Kentaro Tahara[1], Ryo Iizuka[1], Ayaka Iguchi[2], Hyun Yoon Dong[2], Tetsushi Sekiguchi[2], Shuichi Shoji[2], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Adv. Sci. and Eng., Waseda Univ.*)

2Pos061 **Incorporation of a photoisomerizable non-natural amino acid into proteins for photo-control of protein functions**
Rumi Shiba, Takayoshi Watanabe, Takahiro Hohsaka (*School of Materials Science, Japan Advanced Institute of Science and Technology*)

ヘム蛋白 / Heme proteins

2Pos062 **癌抑制タンパク質 101F6 のアスコルビン酸からの電子受容機構**
Electron transfer mechanism from ascorbate to human tumor suppressor 101F6 protein
Fusako Takeuchi[3], Takako Yamazoe[1], Hiroaki Okano[1], C. Mariam Recuenco[1,2], Takahiro Kozawa[4], Kazuo Kobayashi[4], **Motonari Tsubaki**[1] ([1]*Chemistry, Grad. Sch. Sci., Kobe Univ.*, [2]*Univ. Philip., Los Banos*, [3]*IPHE, Kobe Univ.*, [4]*ISIR, Osaka Univ.*)

2Pos063 **ハーフメトヘモグロビン M を用いたヒト成人ヘモグロビンの酸素親和性制御に関する α 鎖と β 鎖の Fe-His 結合の役割の違いに関する研究**
Study on different roles of Fe-His bond between α and β chains for oxygen affinity regulation of human hemoglobin by using half-met Hb Ms
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*)

2Pos064 **酸素センサー酵素 YddV のヘム結合グロビンドメインの結晶構造解析**
Crystal structure of isolated heme-bound globin domain of a heme-based oxygen-sensor enzyme, YddV, from *Escherichia coli*
Jotaro Igarashi, Toru Kikuchi, Ariki Matsuoka (*Dept. Nat. Sci., Biol., Sch. of Med., Fukushima Med. Univ.*)

2Pos065 **チトクロム酸化酵素に対するチトクロム c の 2 つの結合部位の X 線構造解析**
X-ray structural analysis of two binding sites of cytochrome *c* to cytochrome *c* oxidase
Satoru Shimada[1,2], Shimpei Aoe[1], Kyoko Shinzawa-Itoh[1], Junpei Baba[1], Atsuhiro Shimada[1], Eiki Yamashita[3], Shinya Yoshikawa[1], Tomitake Tsukihara[1,2,3] ([1]*Picobiology Inst., Grad. Sch. Life Sci., Univ. Hyogo*, [2]*CREST, JST*, [3]*Inst. Protein Res., Osaka Univ.*)

膜蛋白質 / Membrane proteins

2Pos066 **三量体ハロロドプシンにおけるカロテノイド結合能の特異性**
Specificity of carotenoid binding to halorhodopsin trimer
Yasuyuki Miyazaki[1], Takashi Kikukawa[2], Makoto Demura[2], Noritaka Kato[1], Takanori Sasaki[1] ([1]*Sch. Sci. and Tech., Meiji Univ.*, [2]*Adv. Life Sci., Hokkaido Univ.*)

2Pos067 **脂質平面膜法を用いた TRPM3 チャネルの機能解析**
Single channel analysis of the TRPM3 channels in planar lipid bilayers
Kunitoshi Uchida[1,2,3], Lusine Demirkhanyan[2], Eleonora Zakharian[2], Makoto Tominaga[1,3] ([1]*Div of Cell Signal, OIIB (NIPS)*, [2]*Dept of Cancer Biol and Pharmacol, Univ of Illinois Coll of Med.*, [3]*Dept of Physiol Sci, SOKENDAI*)

2Pos068 **分子シミュレーションによる阻害剤が結合した ADP/ATP carrier の内向き開構造**
Structure of the inhibitor-bound inward-facing conformation of ADP/ATP carrier: A simulatioin study
Koichi Tamura[1], M. Harunur Rashid[1,2], Shigehiko Hayashi[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*RMIT Univ., Melbourne, Australia*)

2Pos069 **ケイジド化合物導入による低分子量 G タンパク質 H-Ras の多量体形成の光制御**
Photo-control of small G-protein H-Ras multimerization using caged compounds
Seigo Iwata[1], Takashi Hashimoto[2], Nobuhisa Umeki[3], Kazunori Kondo[2] ([1]*Grad. Sch. Eng., Univ. SOKA*, [2]*Fac. Eng., Univ. SOKA*, [3]*Wasko Inst., Riken*)

2Pos070 **細菌外膜シトクロムにおける代謝共役したフレキシブルな構造と機能**
Flexible Strucutral Alteration Associated with Respriatory Electron Flow in Microbial Outer Membrane c-type Cytochrome Complex
Akihiro Okamoto, Yoshihide Tokunou, Chinotaikul Punthira, Kazuhito Hashimoto (*Grad. Sch. Eng., Univ. Tokyo*)

2Pos071 **結晶化を目指したカイコガ性フェロモン生合成活性化神経ペプチド受容体（PBANR）のアンタゴニストの探索**
Ligand screening of silkmoth pheromone biosynthesis-activating neuropeptide receptor for crystallization of the ligand-receptor complex
Yukie Katayama[1], Hidekazu Katayama[2], Takeshi Kawai[1], Tatsuya Suzuki[1], Tatsuki Ebisawa[1], Ryo Natsume[3], Yu-Hua Lo[4], Toshiya Senda[4], Toshihiro Nagamine[5], Masaaki Kurihara[5], Jae Min Lee[5], Joe J. Hull[6], Shogo Matsumoto[5], Hiromichi Nagasawa[1], Koji Nagata[1], Masaru Tanokura[1] ([1]*UTokyo*, [2]*Tokai Univ.*, [3]*TDU*, [4]*KEK-PF*, [5]*RIKEN*, [6]*USDA-ARS*)

2Pos072 **チャネル電流計測を用いた脂質二重膜中における L-, D-ボンビニンの抗菌活性の解析**
Antimicrobial activity analysis of L- and D-Bombinin in lipid bilayers using channel current recording
Yusuke Sekiya[1], Hirokazu Watanabe[1], Yuki Kitahashi[2], Izuru Kawamura[2], Ryuji Kawano[1] ([1]*Tokyo Univ Agr Tech*, [2]*Grad. Sch. Eng, Yokohama Nattl Univ.*)

2Pos073 **Active supercomplex purified from bovine heart reveals the functional unit of the mitochondrial respiratory chain**
Kyoko Shinzawa-Itoh[1], Harunobu Shimomura[1], Sachiko Yanagisawa[1], Satoru Shimada[1,2], Ryoko Takahashi[1], Shigefumi Uene[1], Takashi Ogura[1], Shinya Yoshikawa[1], Tomitake Tsukihara[1,2] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*CREST, JST*)

2Pos074 **上皮成長因子受容体（EGFR）の膜貫通および膜近傍ドメインの構造ダイナミクス解析**
Conformational dynamics of transmembrane and juxtamembrane domains of epidermal growth factor receptor (EGFR)
Ryo Maeda[1], Takeshi Sato[2], Kenji Okamoto[1], Takehiko Inaba[3], Yasushi Sako[1] ([1]*Cellular Informatics Lab., RIKEN*, [2]*Inst. for Protein Research, Osaka Univ.*, [3]*Lipid Biology Lab., RIKEN*)

核酸結合蛋白質 / Nucleic acid binding proteins

2Pos075 **Characterization of RuvA-RuvB-Holliday junction DNA complex formation using Zero Mode Waveguides**
Yong-Woon Han[1], Takuma Iwasa[1,2], Ryo Hiramatsu[3], Hiroaki Yokota[1,4], Kimiko Nakao[1], Ryuji Yokokawa[5,6], Teruo Ono[3], Yoshie Harada[1,2] ([1]*iCeMS, Kyoto University*, [2]*Grad. Sch. Biostudies, Kyoto Univ.*, [3]*Inst. for Chem. Res., Kyoto Univ.*, [4]*Grad. Sch. for the Creation of New Photonics Ind.*, [5]*Grad. Sch. Tech., Kyoto Univ.*, [6]*PREST*)

2Pos076 **The stability of the translation arrest of SecM internal deletion mutants**
Yuanfang Guo, Zhuohao Yang, Ryo Iizuka, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

2Pos077 **高活性 TALEN の高活性化機構の解析**
In vitro analysis of super-active TALEN
Yoko Terahara[1], Kazuho Ikeda[1], Naoyuki Miyasita[2], Yasushi Okada[1] ([1]*QBic, Riken*, [2]*CDB, Riken*)

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

2Pos078 **弾性ネットワークモデルによる DNA の配列・構造・運動と機能の関係の考察**
Analysis of the relationship among sequences, structures, motions and the functions of DNA by elastic network models
Shuhei Isami[1], Sayuri Tatemoto[1], Atsushi Ikegaya[1], Hiraku Nishimori[1,2], Naoaki Sakamoto[1,2], Akinori Awazu[1,2] ([1]*Dept. Math. and Life Sciences, Hiroshima Univ.*, [2]*Research Center for Mathematics on Chromatin Live Dynamics*)

2Pos079 **DNA 二重鎖をほどく１分子計測とシミュレーションによる水素結合の構造へのエントロピー寄与**
Entropic effects of hydrogen bonds to the double-stranded DNA structure revealed by single-molecule mechanical unzipping
Akihiro Fukagawa[1], Michio Hiroshima[2], **Makio Tokunaga**[1] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*RIKEN*)

2Pos080 **磁場によるプラスミド DNA への影響**
The effect of magnetic fields on the plasmid DNA
Masahiko Hasegawa, Tsuyoshi Hondou, Hidetake Miyata (*Department of Physics, Tohoku University Graduate School*)

2Pos081 **DNA 高次構造転移における３価陽イオンと２価陽イオンの競合効果**
Mutual inhibition between 2+ and 3+ cations to induce folding transition of DNA
Chika Tongu[1], Takahiro Kenmotsu[1], Yuko Yoshikawa[2], Kenichi Yoshikawa[1] ([1]*Doshisha Univ.*, [2]*Ritsumeikan Univ.*)

2Pos082 **熱ショックタンパク質の発現調節をする温度感知 RNA の分子動力学シミュレーション**
Molecular dynamics simulations of a temperature-sensitive RNA that regulates the gene expression of heat-shock proteins
Yoshiharu Mori[1], Hisashi Okumura[1,2] ([1]*IMS*, [2]*SOKENDAI*)

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

2Pos083 **DNA および酵素のハイドロゲルカプセル内封入による単純なセルオートマトンの化学実装に向けて**
Toward chemically implementing simple cellular automaton by encapsulating DNA and Enzyme in hydrogel capsule
Ibuki Kawamata[1], Satoru Yoshizawa[1], Fumi Takabatake[1], Ken Sugawara[2], Satoshi Murata[1] ([1]*Tohoku University*, [2]*Tohoku Gakuin University*)

2Pos084 **DNA のよじれ合いと巻き付きにおけるカイラリティの選択性**
Chiral Selection in Braiding and Wrapping of Double-Stranded DNA
Sosuke Sano[1], Tomohiro Yanao[1], Kenichi Yoshikawa[2] ([1]*Grad. Sch. Sci. & Eng., Waseda Univ.*, [2]*Grad. Sch. Life & Med. Sci., Doshisha Univ.*)

電子状態 / Electronic state

2Pos085 **オーダーＮ法第一原理分子動力学計算のデモンストレーション**
Demonstration of order-N first-principles density functional theory-molecular dynamics calculations
Takao Otsuka[1], Michiaki Arita[2], Makoto Taiji[1], David R. Bowler[3], Tsuyoshi Miyazaki[4] ([1]*RIKEN QBiC*, [2]*Grad. Sch. Sci. and Tech., Tokyo Univ. of Sci.*, [3]*UCL*, [4]*NIMS*)

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

2Pos086 **一般化ボルンモデルにおける塩橋の安定性**
Salt bridge stability in the generalised Born model
Dan Parkin, Yukinobu Mizuhara, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

2Pos087 **剛体球参照系を用いた密度汎関数理論に基づく新しい溶媒和自由エネルギー表式**
A Solvation-Free-Energy Functional: A Reference-Modified Density Functional Formulation
Yutaka Maruyama[1], Tomonari Sumi[2], Ayori Mitsutake[3] ([1]*AICS, RIKEN*, [2]*Dep. Chem., Okayama Univ.*, [3]*Dep. Phys., Keio Univ.*)

2Pos088 **MM/3D-RISM 法を用いた 2-Hydroxypropyl-β-Cyclodextrin の抱接現象における結合自由エネルギーの解析**
Analyzing the binding free energy for the inclusion process of 2-Hydroxypropyl-β-Cyclodextrin by means of the MM/3D-RISM method
Masatake Sugita[1], Fumio Hirata[2] ([1]*Dept. of Bioinfo., Col. of Life Sci., Ritsumeikan Univ.*, [2]*Research Org. of Sci. and Tech., Ritsumeikan Univ.*)

発生･分化 / Development & Differentiation

2Pos089 **機械的な力による上皮形態形成制御**
Mechanical control of epithelial morphogenesis
Kaoru Sugimura[1,2], Keisuke Ikawa[1], Shuji Ishihara[3] ([1]*iCeMS, Kyoto Univ.*, [2]*JST PRESTO*, [3]*Fac. of Sci. and Eng., Meiji Univ.*)

2Pos090 **血管新生における内皮細胞動態ライブイメージング**
Live cell imaging of vascular endothelial cell dynamics in angiogenesis
Naoko Takubo[1], Kazuaki Naemura[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*)

2Pos091 **胎生期脳組織に発現するメカノトランスダクション関連遺伝子の解析**
The functional analysis of the mechanotransduction-related gene expressed in the developing brain
Misato Iwashita[1], Noriyuki Kioka[3], Yoichi Kosodo[2] ([1]*CDB, RIKEN*, [2]*Korea Brain Research Institute*, [3]*Grad. Sch. Agri., Kyoto Univ.*)

筋肉 / Muscle

2Pos092 **水中におけるアクチン重合の統計熱力学について**
On the statistical thermodynamics of actin polymerization in aqueous solution
Tomohiko Hayashi[1], Hiraku Oshima[1], Makoto Suzuki[2], Masahiro Kinoshita[1] ([1]*Inst. Adv. Energy, Kyoto Univ.*, [2]*Grad. Sch. Eng., Tohoku Univ.*)

2Pos093 **ESR 距離測定による心筋トロポニン I と T のリン酸化調節の 動的構造基盤**
Structural dynamics of cardiac troponin regulated by phosphorylation, as studied by distance measurement using spin-labeling dipolar EPR
Hiroaki Yamashita[1], Chenchao Zhao[1], Koichi Sakai[1], **Keisuke Ueda**[1], Tatsuhito Matsuo[2], Satoru Fujiwara[2], Shoji Ueki[3], Toshiaki Arata[1] ([1]*Dept. Biol., Sci. Grad. Sch., Osaka Univ.*, [2]*JAEA*, [3]*Tokushima-Bunri Univ.*)

2Pos094 **ミオシンフィラメント懸濁液の ADP 存在・非存在下でのプロトン NMR 緩和経過**
Spin-spin relaxation of 1H NMR signals from myosin filaments suspension with or without ADP
Tetsuo Ohno, Toshiko Yamazawa (*Department of Physiology The Jikei University School of Medicine*)

2Pos095 **OH 伸縮振動のラマン分光によるミオシン S1 の水和状態の測定**
Hydration study on myosin subfragment-1 (S1) by Raman OH-stretching spectroscopy
Yuki Ochiai[1], Hideyuki Ohsugi[1], George Mogami[1], Tetsuo Taniuchi[2], Makoto Suzuki[1] ([1]*Grad. Sch. Eng., Univ. Tohoku*, [2]**FRIS., Univ. Tohoku*)

2Pos096 **光学顕微鏡および放射光 X 線回折実験による甲虫飛翔筋の構造的考察**
Structural insights in coleopteran flight muscles by optical microscopy and synchrotron X-ray diffraction measurements
Toshiki Shimomura[1], Hiroyuki Iwamoto[2], Hirotaka Sato[3], Madoka Suzuki[4,5], Shin'ichi Ishiwata[1,4,5] ([1]*Sch Adv Sci Eng, Waseda Univ*, [2]*SPring-8, JASRI*, [3]*Sch Mech Aerospace Eng, Nanyang Tech Univ (NTU), Singapore*, [4]*WASEDA Biosci Res Inst Singapore (WABIOS)*, [5]*Org Univ Res Initiatives, Waseda Univ*)

2Pos097 **Mg/Ca 結合 F-アクチンの多重水和状態**
Multi-hydration States of F-actin Bound with Mg/Ca Ions
Ryotaro Chishima[1], Asato Imao[1], George Mogami[1], Takahiro Watanabe[1], Tetsuichi Wazawa[2], Nobuyuki Morimoto[1], Makoto Suzuki[1,3] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Inst. Sci. Ind. Res., Osaka Univ.*, [3]*FRIS, Tohoku Univ.*)

分子モーター / Molecular motor

2Pos098 **In-plane 2D buckling of microtubule under compressive stress**
Arif Md. Rashedul Kabir[1], Daisuke Inoue[1], Kazuki Sada[1,2], **Akira Kakugo**[1,2] ([1]*Fac.of Sci., Hokkaido Univ.*, [2]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*)

2Pos099 **Emergence of ultra-large vortex pattern by collectively moving microtubules on application of external indentation stimuli**
Tamanna Ishrat Farhana[1], Daisuke Inoue[2], 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.*)

2Pos100 **ATP 存在下のミオシン S1 はアクチンフィラメントのらせんピッチを伸ばしコフィリン結合を阻害する：高速 AFM による直接観察**
Active myosin S1 induces longer helical pitches of actin filaments and inhibits actin binding of cofilin as demonstrated by high speed AFM
Kien Ngo[1], Noriyuki Kodera[2], Taro Uyeda[1] ([1]*Biomed. Res. Inst., AIST*, [2]*BioAFM FRC., Kanazawa U.*)

2Pos101 **バクテリア由来セルラーゼ *Cellulomonas fimi* Cel6B の逐次運動の 1 分子蛍光可視化解析**
Single-molecule fluorescence imaging analysis of processive movement of a bacterial cellulase *Cellulomonas fimi* Cel6B
Daiki Ishiwata[1,2,3], Akihiko Nakamura[1,2,3], Tomoyuki Tasaki[4], Ryota Iino[1,2,3] ([1]*Okazaki Inst. for Integrative Bio.*, [2]*Inst. for Molecular Science*, [3]*Sch., Phis. Sci., SOKENDAI*, [4]*Sch. Eng., Univ. Tokyo*)

2Pos102 **Individual kinesin immobilization on microfabricated nano-pillar arrays**
Taikopaul Kaneko[1], Fumie Oda[1], Takahide Kon[3], Ryuji Yokokawa[2] ([1]*Grad. Sch. Eng., Univ. Kyoto*, [2]*Grad. Sch. Eng., Assoc. Prof, Univ. Kyoto*, [3]*Grad. Sch. Eng., Dep. Biol. Sci., Prof, Univ. Osaka*)

2Pos103 細菌Ⅲ型分泌機構の解明を目指したエフェクター輸送のリアルタイム評価系の構築

Real-time evaluation of effector transport for clarifying the transport mechanism on type III secretion apparatus

Takashi Ohgita, Tsubasa Uekawa, Kyoko Momiyama, Naoki Hayashi, Naomasa Gotoh, Kentaro Kogure (*Kyoto Pharm. Univ.*)

2Pos104 電場印加によるアクトミオシンの運動速度の可逆的変化

A reversible change in the velocity of the motility of actin filaments on a heavy meromyosin-coated surface under an electric field

Kuniyuki Hatori[1], Taiki Abe[1], Reito Wada[2] ([1]*Grad. Sch. Sci. Eng., Yamagata Univ.*, [2]*Grad. Sch. Med., Yamagata Univ.*)

2Pos105 新規フォトクロミック阻害剤を用いたキネシン Eg5 の光可逆的制御

Photo-reversible control of mitotic kinesin Eg5 using a novel photochromic inhibitor

Ryoma Yamamoto, Kei Sadakane, Yuhki Tamura, Kentaro Saito, Shinsaku Maruta (*Soka University Graduate School of Engineering Division of Bioinformatics*)

2Pos106 新規イネキネシン E11 に関する速度論的研究

Kinetic study on the novel rice plant kinesin E11

Hironobu Taniguchi[1], Naoto Inomoto[2], Shinsaku Maruta[1,2] ([1]*Division Of Bioinformatics, Graduate School Of Engineering, Soka University*, [2]*Department Of Bioinformatics, Faculty Of Engineering, Soka University*)

2Pos107 速度改変型キメラミオシン XI の発現により明らかになってきた原形質流動の機能と制御

Function and regulation of cytoplasmic streaming on plant development

Motoki Tominaga[1], Kohji Ito[2], Takeshi Haraguchi[2], Etsuo Yokota[3], Akihiko Nakano[4,5] ([1]*Fac. Educ. Integrated Arts and Sci., Waseda Univ.*, [2]*Grad. Sch. Sci., Univ. Chiba*, [3]*Grad. Sch. Sci., Univ. Hyogo*, [4]*Grad. Sch. Sci., Univ. Tokyo*, [5]*RAP, RIKEN*)

2Pos108 *Mycoplasma pneumoniae*・P1 adhesin の構造と機能

Structure and function of P1 adhesin of *Mycoplasma pneumoniae*

Yu Matsumoto[1], Yoshito Kawakita[1], Tsuyoshi Kenri[2], Shigetaro Mori[2], Tasuku Hamaguchi[1], Miki Kinoshita[1], Akihiro Kawamoto[3], Takayuki Kato[3], Keiichi Namba[3], Makoto Miyata[1] ([1]*Grad. Sch. Sci., Osaka City Univ.*, [2]*Infect. Dis. Inst*, [3]*Grad. Sch. Front. Biosciences., Univ. Osaka*)

2Pos109 F1-ATPase の P-loop 変異体 TF1（βG158A）とリン酸解離の関係

The relationship between F1-ATPase P-loop mutant TF1(βG158A) and Pi release

Hiroka Narita[1], Hitoshi Hoshina[1], Hikaru Yoshida[1], Ayumi Ito[1], Jotaro Ito[1,3], Yohei Nakayama[1], Shoichi Toyabe[2], Hiroshi Ueno[1,3], Eiro Muneyuki[1] ([1]*Dept. of Physics. Chuo Univ.*, [2]*Faculty of Physics. Tohoku Univ.*, [3]*School of Engineering, The University of Tokyo*)

2Pos110 分裂期 kinesin-6 の運動特性に関する研究

A study on motility of mitotic 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*)

2Pos111 ヒト細胞質ダイニン 1 分子のパワーストローク運動と反応機構

The power stroke mechanism of human cytoplasmic dynein revealed by optical tweezers

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

2Pos112 DNA オリガミバネを用いた負荷存在下でのキネシンの運動の蛍光一分子観察

Single-molecule fluorescent observations of kinesin-1 moving under a load from DNA origami spring

Kouhei Matsuzaki[1], Mitsuhiro Iwaki[2,3,4], Michio Tomishige[1] ([1]*Dept. Appl. Phys.,Grad. Sch.Eng., Univ. Tokyo*, [2]*QBiC, RIKEN*, [3]*Harvard Med. Sch.*, [4]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

2Pos113 長円形 PDMS チャンバー内における微小管の動的不安定性

Dynamic instability of microtubules observed in oval PDMS microchambers

Yu Onodera[1], Tomohiro Shima[2,3], Yasushi Okada[2], Tomoko Masaike[1,4,5] ([1]*Dept. Appl. Biol. Sci., Tokyo Univ. of Science*, [2]*QBiC, RIKEN*, [3]*Dept. Biol. Sci., Grad. Sch. of Sci., Univ. of Tokyo*, [4]*Res. Inst. for Sci. and Tech.,Tokyo Univ. of Science*, [5]*PRESTO, JST*)

2Pos114 高分解能ステップ計測で分かってきた細菌べん毛モーターのサーマルラチェット機構

Thermal ratchet mechanism of the bacterial flagellar motor emerged by high-resolution nanophotometry

Shuichi Nakamura[1,2], Yusuke V. Morimoto[2,3], Nobunori Kami-ike[2], Yoshiyuki Sowa[4], Tohru Minamino[2], Keiichi Namba[2] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*QBiC, RIKEN*, [4]*Dept. Frontier Biosci., Hosei Univ.*)

2Pos115 好アルカリ性 *Bacillus* 属細菌が持つ Na^+駆動型べん毛モーター固定子 MotPS の中性環境でのイオン透過機構の解明

Analysis of the reduced motility mechanism of the Na^+-driven flagellar motor stator MotPS in alkaline *Bacillus* at low pH

Yuka Takahashi[1], Yukina Noguchi[2], Masahiro Ito[1,2] ([1]*Bio-Nano., Toyo Univ.*, [2]*Grad. Sch. Life Sciences, Toyo Univ.*)

2Pos116 人工繊毛モーターの創製ー微小管の波打ち運動発現条件ー

Development of self-propelled artificial cilia constructed from biomolecular motors

Ren Sasaki[1], Shoki Wada[1], Masaki Ito[1], Daisuke Inoue[1], Arif Md. Rashedul Kabir[2], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. Chem. Sci. Eng., Hokkaido Univ*, [2]*Fac. Sci., Hokkaido Univ*)

2Pos117 超好熱菌 *Aquifex aeolicus* の固定子タンパク質 MotA のナノディスク再構成とその機能解析

Functional reconstitution of stator protein MotA from *Aquifex aeolicus* into Nanodisc

Mizuki Gohara[1], Norihiro Takekawa[1], Naoya Terahara[2], Takayuki Kato[2], Keiichi Namba[2,3], Yasuhiro Onoue[1], Michio Homma[1] ([1]*Divi. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch., Frontier Biosci., Osaka Univ.*, [3]*Riken QBiC*)

2Pos118 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, Quantitative Biology Center*)

2Pos119 **Measurment of the transition between docking and undocking of kinesin neck linkers**
Yuichi Kondo, Hideo Higuchi (*Grad. Sci. Phys., Univ. Tokyo*)

細胞生物学 / Cell biology

2Pos120 **FRAP による、成長円錐のラメリポディア領域におけるファシンの動態解析**
Dynamics of fascin analyezed by FRAP, in the lamellipodial region of the growth cone
Minami Tanaka[1,2], Ryoki Ishikawa[3], Kaoru Katoh[2] ([1]*Grad. Sch. Life & Env. Sci., Univ. Tsukuba*, [2]*Bio Mes Res. Inst., AIST*, [3]*Gunma Pref.Coll. Health Sci*)

2Pos121 **Dynamical Patterns and Physical Environments in Vibrio alginolyticus Swarm Plate**
Tzu-Jung Hsu (*National Central University*)

2Pos122 ***Spiroplasma eriocheiris* において観察されたキンクの伝搬によって生じるらせん型スクリューの向きと回転速度の変化**
Change in handedness and rotational speed of helical screw of *Spiroplasma eriocheiris* driven by kink propagation
Tatsuro Itou[1], Yoshiaki Kinosita[1], Daisuke Nakane[1], Hirofumi Wada[2], Wen Wang[3], Takayuki Nishizaka[1] ([1]*Department of Physics, Gakushuin Univ.*, [2]*Department of Physics, Ritsumeikan Univ.*, [3]*College of Life Science, Nanjing Normal Univ.*)

2Pos123 **クライオ電子線トモグラフィ法を用いたフィロポディア内アクチンフィラメント束化メカニズム解明**
Revealing the bundling mechanisms of actin filament in filopodia with cryo-electron tomography
Shinji Aramaki[1], Kouta Mayanagi[2], Kazuhiro Aoyama[3,4], Takuo Yasunaga[1] ([1]*Dept. of Bioscience and Bioinformatics, Kyushu Inst. of Tech.*, [2]*Medical Inst. of Bioregulation Kyushu Univ.*, [3]*FEI Company*, [4]*Research Center for Ultra-High Voltage EM, Osaka Univ.*)

2Pos124 **マウス網膜細胞光シグナル伝達の生体分子混み合いを考慮した数理モデル**
Rate equation models of phototransduction influenced by molecular crowding into membranous disks of mouse rod cell
Rei Takamoto[1], Hiraku Nishimori[1,2], Akinori Awazu[1,2] ([1]*Department of Mathematical and Life Science, Hiroshima University*, [2]*Research Center for Mathematics on Chromatin Live Dynamics, Hiroshima University*)

2Pos125 **ケラトサイトのかたち形成におけるストレスファイバーの役割**
Stress fibers contribute to the shape determination in fish keratocytes
Takako Nakata[1], Chika Okimura[1], Takahumi Mizuno[2], **Yoshiaki Iwadate**[1] ([1]*Fac. Sci., Yamaguchi Univ.*, [2]*Biomed. Res. Inst., AIST*)

2Pos126 **アクチンフィラメントとアクチン結合タンパク質間の協同的結合の経時的観察**
Longitudinal observation of cooperative binding between actin-binding proteins and actin filament
Rika Hirakawa[1], Atsuki Yoshino[1], Keitaro Shibata[2], Hiroaki Ueno[1], Taiga Imai[1], Taro Q.P. Uyeda[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Sustain. Environ. Eng., Muroran Inst.*, [2]*Biomedical Res. Inst., AIST.*)

2Pos127 **Photo-regulation of small G protein RhoA using photochromic molecules**
Masahiro Kuboyama[1], Kaori Masuhara[2], Shinsaku Maruta[2] ([1]*SOKA University Department of Bioinfomatics*, [2]*SOKA University Graduate School of Engeneering*)

2Pos128 **局在した細胞間接着が生み出す細胞運動パターン**
Localized intercellular adhesion inducing moving cell pattern
Katsuyoshi Matsushita (*CMC, Osaka Univ.*)

2Pos129 **Structural characterization of FliP, a component of flagellar type III protein export apparatus**
Takuma Fukumura[1], Fumiaki Makino[1], Takayuki Kato[1], Katsumi Imada[2], Keiichi Namba[1], Tohru Minamino[1] ([1]*Grad. Sch, Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Sci. Osaka Univ*)

2Pos130 **柔軟性に富んだ微小管内 GTPγS-チューブリン分子**
X-ray fiber diffraction analysis revealed a highly flexible state of GTPγS-tubulin in the microtubules
Shinji Kamimura[1], Yosuke Fujita[1], Yuuko Wada[1,2], Tomohiro Shima[3], Yasushi Okada[4], Hiroyuki Iwamoto[5] ([1]*Dept. Biol. Sci., Chuo Univ.*, [2]*Inst. Global Leader.*, [3]*Dept. Biol. Sci., Grad. Sch. Science, Uni. Tokyo*, [4]*QBiC, Riken*, [5]*JASRI, SPring-8*)

2Pos131 **細胞ネットワーク計測のための拡張可能なモジュール型多電極細胞外電位計測システムの開発**
Development of flexible expandable on-chip multi electrode array system for cell-network measurement
Fumimasa Nomura, Akihiro Hattori, Kenji Matsuura, Hiromi Kurotobi, Masao Odaka, Hyonchol Kim, Hideyuki Terazono, Kenji Yasuda (*Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University*)

2Pos132 **細胞性粘菌の集団運動における細胞極性の動態**
The dynamics of cell polarity during collective migration of *Dictyostelium* cells
Taihei Fujimori[1], Akihiko Nakajima[1,2], Satoshi Sawai[1,2] ([1]*Grad. Sch. Arts & Sci., Univ. Tokyo*, [2]*Res. Ctr. Complex Syst. Biol., Univ. Tokyo*)

2Pos133 **1 細胞分泌実時間イメージングの並列測定プラットフォーム**
Parallel measurement platform for real-time single-cell secretion imaging
Kaede Miyata[1], Yoshitaka Shirasaki[1,2], Nobutake Suzuki[1,2], Mai Yamagishi[1,2], Sotaro Uemura[1] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*IMS, RIKEN*)

2Pos134 **三次元で見た ATP 依存的な繊毛運動の Ca^{2+} による制御**
Regulation of ATP-dependent ciliary motility by Ca^{2+} observed in three dimensions
Toshihito Iwase[1], Masaaki Suegara[1], Rinako Nakayama[2,5], Takanobu A Katoh[3], Mitsutoshi Setou[4], Takayuki Nishizaka[3], Koji Ikegami[4], Tomoko Masaike[1,2,5] ([1]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [2]*Res. Inst. for Sci. and Tech., Tokyo Univ. of Sci.*, [3]*Dept. Phys., Gakushuin Univ.*, [4]*Dept. Cell Biol. and Anat., Hamamatsu Univ. Sch. Med.*, [5]*PRESTO, JST*)

2Pos135 **サルモネラべん毛モーターにおける MotA Met-206 の役割**
Role of MotA Met-206 in *Salmonella* flagellar motor
Kodai Oono[1], Shuichi Nakamura[1], Fumio Hayashi[2], Kenji Oosawa[3], Seishi Kudo[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Instrumental Analysis Center., Gunma Univ.*, [3]*Div. Mol. Sci., Fac. Sci. and Tech, Gunma Univ.*)

2Pos136 **周期的伸展刺激に対する心筋細胞の形態や配向性の変化**
Morphological and orientation change of cardiomyocytes to cyclic stretch stimulation
Chiho Nihei, Tomoyuki Kaneko (*LaRC, Dept. Frontier Biosci., Hosei Univ.*)

2Pos137 **原子間力顕微鏡による肝細胞共培養系の力学特性解析**
Mechanical analysis of hepatocyte coculture system using atomic force microscopy
Ryosuke Tanaka[1], Yoshikatsu Akiyama[2], Jun Kobayashi[2], Masayuki Yamato[2], Takaharu Okajima[1] ([1]*Grad. Sch. Info. Tech., Hokkaido Univ*, [2]*Inst. Adv.BioMed. Eng. Sci., Tokyo Women's Medical Univ*)

2Pos138 **アクチンストレスファイバー内ミオシンのダイナミクス**
Dynamics of nonmuscle myosin molecules in actin stress fibers
Tsubasa S. Matsui, Tomoya Ikeda, Shinji Deguchi (*Dept. Nanoparm. Sci., NITECH*)

2Pos139 **海洋性ビブリオ菌べん毛モーター FliL 蛋白質の生物物理性質と機能解析**
Analysis of function and biophysical properties of marine *Vibrio* FliL in the flagellar motor
Ananthanarayanan Kumar, **Yuuki Nishino**, Shiwei Zhu, Mayuko Sakuma, Seiji Kojima, Michio Homma (*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*)

2Pos140 **ビブリオ菌べん毛モーター MS リング構成因子 FliF の精製タンパク質会合状態**
Oligomeric states of purified FliF, a MS-ring component of Vibrio flagellar motor
Erika Yamaguchi, Seiji Kojima, Michio Homma (*Div. Bio. Sci., Grad. Sch. Sci., Nagoya Univ.*)

2Pos141 **細胞周期での細胞の大きさや形から得られる新たな情報**
New obvious information obtained from the cell size and shape during mitosis cycle
Rina Nagai[1,2], Keisuke Ohta[1,3], Takako Ichinose M.[1,2], Hikari Mori[1,2], **Atsuko Iwane H.**[1,2] ([1]*Cell Field Struc., QBiC, Riken*, [2]*Spec. Res. Promot. Group, Grad. Sch. Fronti., Biosci., Osaka Univ.*, [3]*Anatomy, Med., Kurume Univ.*)

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

2Pos142 **Bombinin H2 および H4 の細菌模倣膜に対する相互作用の解析**
Analysis of interaction of Bombinin H2 and H4 with the mimetic bacterial membrane
Shiho Kaneda, Yuki Kitahashi, Akira Naito, Izuru Kawamura (*Graduate School of Engineering, Yokohama National University*)

2Pos143 **FTIR-ATR プリズム上に作製したセラミド/ステロール混合膜への重水透過性**
Heavy water permeation into the ceramide/sterol mixed film prepared on an FTIR-ATR prism
Kohei Oka, Satoru Kato (*Grad. Sch. Sci & Tech., Univ. Kwansei Gakuin*)

2Pos144 **セラミドホスホエタノールアミンはマイクロメートルサイズのらせん構造をつくる**
Microstructural Polymorphism of Ceramide Phosphoethanolamine
Takehiko Inaba, Motohide Murate, Yan-Fen Lee, Francoise Hullin-Matsuda, Peter Greimel, Toshihide Kobayashi (*RIKEN Lipid biology laboratory*)

2Pos145 **DNA 構造の自己組織化によるマイクロサイズカプセルの形成**
Microsize capsule formed by self-assembly of DNA structures
Daisuke Ishikawa, Masamune Morita, Masahiro Takinoue (*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech*)

2Pos146 **細胞膜へのぬれ性がゲル弾性へ及ぼす影響**
How membrane wetting affects elasticity of biopolymer gels in model cells?
Atsushi Sakai, Miho Yanagisawa (*Dept. Appl. Phys.,Tokyo Univ. of Agri. & Tech.*)

2Pos147 **ナノ粒子と質量分析装置を用いて特定タンパク質周辺の脂質を分析する方法の開発について**
Development of a new method to detect lipids surrounding specific proteins using nanoparticles and mass spectrometry
Keiji Seno[1], Yukiyasu Kashiwagi[2], Yumi Yamahama[1] ([1]*Hamamatsu University School of Medicine*, [2]*Osaka Municipal Technical Research Institute (OMTRI)*)

2Pos148 **固体基板が誘起する人工脂質膜の非対称性と異方性**
Substrate-Induced Asymmetry and Anisotropy of Molecular Diffusion in Artificial Lipid Membranes
Toshinori Motegi[1], Kenji Yamazaki[2], Toshio Ogino[3,4], Ryugo Tero[1,4,5] ([1]*EIIRIS, Toyohashi Univ. Tech.*, [2]*Grad. Sch. Eng., Hokkaido Univ.*, [3]*Grad. Sch. Eng., Yokohama Nat. Univ.*, [4]*JST-CREST*, [5]*Dep. Environ. Life Sci., Toyohashi Univ. Tech.*)

2Pos149 **ヌクレオチドに誘起される巨大細胞膜小胞の形態変化**
Nucleotides induce morphological change of giant plasma membrane vesicles
Shun Wakamatsu[1], Takashi Okuno[2] ([1]*Grad. Sch. Sci. Eng., Univ. Yamagata*, [2]*Fac. Sci., Univ. Yamagata*)

生体膜･人工膜：動態 / Biological & Artificial membrane: Dynamics

2Pos150 **単一 GUV 法を用いた細胞透過ペプチド・ポリアルギニンの脂質膜ベシクルへの侵入の研究**
Investigation of the Entry of Cell-Penetrating Peptide, Polyarginine into a Vesicle of Lipid Membrane Using the Single GUV Method
Sabrina Sharmin[1], Md. Zahidul Islam[1], Hideo Dohra[2], Masahito Yamazaki[3,4] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Green Sci. Tech., Shizuoka University*, [3]*Res. Inst. Electronics, Shizuoka Univ.*, [4]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*)

2Pos151 **低い pH が誘起する DOPS/MO 膜の液晶相からキュービック相への相転移に対する温度効果**
The Effect of Temperature on the Low pH-Induced Lamellar to Bicontinuous Cubic Phase Transition in DOPS/MO
Toshihiko Oka[1,2], Takahiro Saiki[1], Jahangir Md. Alam[2], **Masahito Yamazaki**[1,2] ([1]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

2Pos152 **Effects of Cholesterol on the Entry of Cell-Penetrating Peptide Transportan 10 (TP10) into a Single Vesicle of Lipid Membranes**
Md. Zahidul Islam[1], Sabrina Sharmin[1], Masahito Yamazaki[1,2] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

2Pos153 **アクチン骨格様の DNA ゲル薄膜で支持されたリポソームの構築**
Liposomes with skeleton network of self-assembled DNA gel mimicking actin cortex
Chikako Kurokawa[1], Kei Fujiwara[2], Masamune Morita[3], Ibuki Kawamata[4], Satoshi Murata[4], Masahiro Takinoue[3], Miho Yanagisawa[1] ([1]*Dept. Appl. Phys., Tokyo Univ. of Agri. & Tech.*, [2]*Keio Univ.*, [3]*Tokyo Inst. Technol.*, [4]*Tohoku Univ.*)

2Pos154 **支持脂質二重膜へのプロテオリポソーム再構成過程の観察**
Observation of reconstitution process of proteoliposome into supported lipid bilayer
Kohei Fukumoto[1], Yutaka Ishinari[2,3], Ayumi Hirano-Iwata[2,3], Michio Niwano[3,4], Ryugo Tero[1,3,5] ([1]*Dept. Environment. Life Sci., Toyohashi Univ. Tech.*, [2]*Grad. Sch. Biomed. Eng., Tohoku Univ.*, [3]*CREST, JST*, [4]*RIEC, Tohoku Univ.*, [5]*EIIRIS, Toyohashi Univ. Tech.*)

2Pos155 **グラフェン酸化物が誘起する中性リン脂質膜からなる巨大単一膜ベシクルの形状変化**
Graphene oxide induced structural transformation of single giant unilamellar vesicles of phosphatidylcholine membranes
Gento Nakagawa[1], Yoshiaki Okamoto[2], Ryugo Tero[2], Yukihiro Tamba[1] ([1]*Suzuka Natl. Coll. Tech.*, [2]*Toyohashi Univ. Tech.*)

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

2Pos156 **KcsA チャネルの細胞内ドメインによる不活性化への影響**
The cytoplasmic domain regulates inactivation in the KcsA channel
Minako Hirano[1], Yukiko Onishi[2], Toru Ide[3] ([1]*GPI*, [2]*RIKEN, Qbic*, [3]*Okayama Univ.*)

2Pos157 **微小な液滴接触膜の形成とイオンチャネル機能解析への応用**
The formation of a contact bubble bilayer and its application to the functional analysis of ion channels
Masayuki Iwamoto, Shigetoshi Oiki (*Dept. Mol. Physiol. Biophys., Univ. Fukui Facult. Med. Sci.*)

2Pos158 **分子動力学で明らかにされる細菌機械受容チャネル MscL の N 末端領域の張力センサーとしての重要性**
How Important is the N-Terminal Domain of Bacterial Mechanosensitive Channel MscL for Sensing Membrane Tension: Molecular Dynamics Study
Yasuyuki Sawada[1], Masahiro Sokabe[2] ([1]*Dept. Physiol. Nagoya Univ. Grad. Sch. Med.*, [2]*Mechanobiology Lab. Nagoya Univ. Grad. Sch. Med.*)

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

2Pos159 **心筋 Na/Ca 交換の PMCA とカルシウムホールによる調節**
Regulation of cardiac Na/Ca exchanger by PMCA via "calcium holes"
Takao Shioya (*Dept. Physiol. Fac. Med. Saga Univ.*)

2Pos160 **細胞-GUV 電気融合による μm スケールの人工物導入について**
Electrofusion of Cell-GUV enables um-sized artificial objects transfer into live cells
Akira C. Saito[1], Toshihiko Ogura[2], Satoshi Murata[1], Shin-ichiro Nomura[1] ([1]*Department of Bioengi. and Robo. Tohoku Univ.*, [2]*Depart. of Develo. of Neurobiolo. (IDAC). Tohoku. Univ.*)

化学受容 / Chemoreception

2Pos161 **コレラ菌全走化性受容体ホモログの Che システム帰属**
Che system assignment of all chemoreceptor homologs in *Vibrio cholerae*
So-ichiro Nishiyama[1,2], Akihiro Hyakutake[3], Noriko Nishioka[3], Michio Homma[3], Ikuro Kawagishi[1] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Res. Cen. Micro-Nano Tech., Hosei Univ.*, [3]*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*)

神経科学･感覚 / Neuroscience & Sensory systems

2Pos162 **新規光応答性 CaMKII の単一スパイン内光操作**
Optogenetic manipulation of photo-activatable CaMKIIα in individual dendritic spines of neuron
Akihiro Shibata[1,2], Hideji Murakoshi[1] ([1]*National Institute for Physiological Science*, [2]*JSPS Research Fellow*)

2Pos163 **ナメクジ嗅覚中枢の培養ニューロンにおける神経振動ネットワークの再形成とアセチルコリン／ヒスタミンによる自発的神経活動の調節**

Oscillatory network formation and cholinergic/histaminergic activity in the cultured olfactory neurons in the slug

Suguru Kobayashi, Asuka Kobayashi (*Kagawa Schl Pharmaceut Sci, Tokushima Bunri Univ*)

2Pos164 **海馬で合成される男性・女性ホルモンによる記憶シナプスの急性制御の解析**

Rapid modulation of memory-related synapses by locally synthesized sex-hormones in the hippocampus

Suguru Kawato[1,2], Asami Kato[2], Yasushi Hojo[1] ([1]*Juntendo Univ, Med*, [2]*Univ. Tokyo*)

神経回路･情報処理 / Neuronal circuit & Information processing

2Pos165 **ミミズ非連合学習における 5-HT/NO/cGMP シグナルの役割**

Role of 5-HT/NO/cGMP signaling cascade in non-associative learning of 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*)

2Pos166 **柔らかい有機電極を用いる脳活動の同時多点測定**

Multi-site recording of brain activity using flexible organic electrodes

Satoshi Watanabe, Hideyuki Takahashi, Keiichi Torimitsu (*Grad. Sch. Eng., Tohoku Univ.*)

行動 / Behavior

2Pos167 **2-AG 分解酵素モノアシルグリセロールリパーゼ欠損マウスにおける課題依存性学習障害**

Task-specific impairment of hippocampus-dependent learning in mice deficient in monoacylglycerol lipase

Yasushi Kishimoto[1], Barbara Cagniard[2], Maya Yamazaki[3], Junko Nakayama[1], Kenji Sakimura[3], Yutaka Kirino[1], Masanobu Kano[2] ([1]*Department of Neurobiophysics, Kagawa School of Pharmaceutical Sciences, Tokushima Bunri University*, [2]*Department of Neurophysiology, Graduate School of Medicine, University of Tokyo*, [3]*Department of Cellular Neurobiology, Brain Research Institute, Niigata University*)

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

2Pos168 **X-ray Crystal Structure of TR: Implications for High Thermal Stability and High-Performance Optogenetic Availability**

Takashi Tsukamoto[1], Kenji Mizutani[2], Megumi Takahashi[3], Taisuke Hasegawa[4], Naoki Hashimoto[2], Shigehiko Hayashi[4], Shin Takagi[3], Takeshi Murata[2], Yuki Sudo[1] ([1]*Okayama University*, [2]*Chiba University*, [3]*Nagoya University*, [4]*Kyoto University*)

2Pos169 **Synechocystis sp. PCC 7509 由来の新規光駆動アニオンポンプの機能解析**

Functional studies on a light-driven anion pump from Synechocystis sp. PCC 7509

Akiko Niho[1], Susumu Yoshizawa[2], Yu Nakajima[2], Takashi Tsukamoto[1,3], Yuki Sudo[1,3] ([1]*Dept. Pharm. Sci., Okayama Univ.*, [2]*Atm. Ocean Res. Inst., Univ. Tokyo*, [3]*Grad. Sch. of Med. Dent. Pharm. Sci, Okayama Univ.*)

2Pos170 **プロテオロドプシンのアルカリ性条件下における光誘起プロトン移動の pH 依存性**

pH dependence of the photoinduced proton transfer in proteorhodopsin under alkaline conditions

Jun Tamogami[1], Keitaro Sato[2], Sukuna Kurokawa[2], Takumi Yamada[2], Toshifumi Nara[1], Makoto Demura[3], Takashi Kikukawa[3], Eiro Muneyuki[2], Naoki Kamo[3] ([1]*College Pharm. Sci., Matsuyama Univ.*, [2]*Grad. Sci and Eng., Chuo Univ.*, [3]*Fac. Adv. Life. Sci., Hokkaido Univ.*)

2Pos171 **アフリカツメガエル由来(6-4)光回復酵素の変異解析**

Mutational analyses of Xenopus laevis (6-4) photolyase

Kohei Shimizu[1], Takahiro Yumiba[1], Tomoko Ishikawa[2], Takeshi Todo[2], Junpei Yamamoto[1], Shigenori Iwai[1] ([1]*Grad. Sch. Eng. Sci., Univ. Osaka*, [2]*Grad. Sch. Med., Univ. Osaka*)

2Pos172 **量子化学計算を用いたプロテオロドプシン L105 変異体の波長シフトの解析**

Theoretical analysis of the color-tuning mechanism of mutations at Leu105 in Green-Light Absorbing Proteorhodopsin

Kaichi Yanagi, Hiroshi C. Watanabe, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

2Pos173 **Photoactive Yellow Protein におけるアルギニン 52 のプロトン化状態**

Protonation State of Arginine 52 in Photoactive Yellow Protein

Kento Yonezawa[1], Hironari Kamikubo[1], Yusuke Kanematsu[2], Yoichi Yamazaki[1], Masanori Tachikawa[2], Mikio Kataoka[1] ([1]*Grad. Sch. Mat. Sci NAIST*, [2]*Graduate School of Nanobioscience, Yokohama City Univ*)

2Pos174 ***Rhodobacter capsulatus* 由来 Photoactive Yellow Protein の相互作用における β-scaffold 部位の役割**

Analysis of interaction sites on β-scaffold region of *Rhodobacter capsulatus* Photoactive Yellow Protein

Yoichi Yamazaki, Atsuhiro Kawamura, Mikio Kataoka, Hironari Kamikubo (*Materials Science NAIST*)

2Pos175 **ナトリウムポンプロドプシンの低温赤外分光研究**

Low-temperature FTIR Study of Sodium Pumping Rhodopsin

Shota Ito[1], Shinya Sugita[1], Rei Yoshizumi-Abe[1], Keiichi Inoue[1,2], Tatsuya Iwata[1], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*Prest, JST*)

2Pos176 **光駆動ナトリウムポンプ KR2 のポンプスイッチにおける Asn112 の役割**

Role of Asn112 for transport activity by a light-driven sodium ion pump

Rei Abe-Yoshziumi[1], Keiichi Inoue[1,2], Hideaki Kato[3], Osamu Nureki[4], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*JST PRESTO*, [3]*Stanford University Medical School*, [4]*Grad. Sch. of Sci., Univ. of Tokyo*)

2Pos177 **部位特異的変異体を用いた bZIP モジュールである Photozipper の戻り反応の評価**
Dark regeneration kinetics of site-directed mutants of bZIP module, Photozipper
Yuki Yabe, osamu Hisatomi (*Grad. Sch. Sci., Univ. Osaka*)

光生物：光合成 / Photobiology: Photosynthesis

2Pos178 **酸素発生複合体におけるＳ４状態での３重項酸素発生に関する理論的研究**
Theoretical study on evolution of triplet oxygen molecule at the S4 state of oxygen evolution complex
Yasunori Yoshioka[1], Tomoya Ichino[2] ([1]*Mie University*, [2]*Hokkaido University*)

2Pos179 **好熱性紅色光合成細菌 Thermochromatium tepidum 由来 LH1-RC 複合体におけるキノン分子の検出**
Detection of quinone molecules in the LH1-RC complex from the thermophilic purple photosynthetic bacterium Thermochromatium tepidum
Mari Matsuzaki[1], Yuki Yura[1], Takashi Ohno[1], Seiu Otomo[2], Yukihiro Kimura[1] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*Fac. Sci., Ibaraki Univ.*)

2Pos180 **NMR study of the interaction sites on the two Fd isoforms for photosynthetic protein complexes**
Risa Mutoh[1], Yuko Misumi[1], Hisako Kubota-Kawai[2], Ryutaro Tokutsu[2], Takahisa Ikegami[3], Hippler Michael[4], Jun Minagawa[2], Genji Kurisu[1] ([1]*Inst. Prot. Res., Osaka Univ.*, [2]*National Inst. Basic Biol.*, [3]*Dep. Med. Life Sci., Yokohama City Univ.*, [4]*Inst. Plant Biol. and Biotech., Univ. of Munster*)

2Pos181 **Fluorescence spectroscopy of single Photosystem I at liquid nitrogen temperatures**
Ting Du (*Tohoku University*)

2Pos182 **励起子緩和過程の摂動論に対する新たな試み**
New approach of perturbative study in exciton relaxation process
Akihiro Kimura (*Department of Physics, Graduate School of Science, Nagoya University*)

2Pos183 **ENDOR studies on biochemical modification on calcium site of the Mn cluster in photosystem II**
Hiroki Nagashima[1], Yoshiki Nakajima[2], Jian-Ren Shen[2], Hiroyuki Mino[1] ([1]*Grad. Sch, Sci., Nagoya Univ.*, [2]*Grad. Sch. Nat. Sci. and Tech./Fac. Sci., Okayama Univ.,*)

放射線生物学･活性酸素 / Radiobiology & Active oxygen

2Pos184 **プリオン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 metals in prion peptide
Shinnosuke Kondo, Masahiro Yagi, Wakako Hiraoka (*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*)

2Pos185 **超音波による CMNB ケージ基解離と脂肪酸分解の比較**
Comparison between CMNB-caged moiety and fatty acid on molecular scission induced by ultrasound
Kengo Takei[1], Haruko Koura[1], Asuka Kato[1], Masato Mutoh[2], Wakako Hiraoka[1] ([1]*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*, [2]*Dept. Master. & Human Env. Sci., Shonan Inst. of Tech.*)

生命の起源･進化 / Origin of life & Evolution

2Pos186 **Self-Emergent Cell-Sized Microsphere Entrapping DNA in a Crowding Binary Polymer Solution**
Naoki Nakatani[1], Kanta Tsumoto[2], Kenichi Yoshikawa[1] ([1]*Grad. Sch. Life Medical Sci., Doshisha Univ.*, [2]*Grad. Sch. Engineering, Mie Univ.*)

ゲノム生物：ゲノム解析 / Genome biology: Genome analysis

2Pos187 **Culture-independent method for identifying microbial enzyme-encoding genes based on activity-driven single cell genomics**
Kazuki Nakamura[1], Ryo Iizuka[1], Takao Yoshida[2], Yuji Hatada[2], Yoshihiro Takaki[2], Shinro Nishi[2], Ayaka Iguchi[3], Dong Hyun Yoon[3], Tetsushi Sekiguchi[3], Shuichi Shoji[3], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*JAMSTEC*, [3]*Major in Nanosci. and Nanoeng., Waseda Univ.*)

ゲノム生物：ゲノム構造 / Genome biology: Genome structure

2Pos188 **ヒト間期核の全ゲノム動力学シミュレーション**
Genome-wide chromatin dynamics simulation of human interphase nucleus
Shin Fujishiro, Naoko Tokuda, Masaki Sasai (*Grad. Sch. Eng., Nagoya Univ.*)

バイオインフォマティクス：ゲノム構造 / Bioinformatics: Structural genomics

2Pos189 **リガンド結合による構造変化がもたらす STING シグナル伝達系への影響**
Ligand-induced conformational changes in STING are essential for its signal transduction
Yuko Tsuchiya[1], Kenji Mizuguchi[2] ([1]*Institute for Protein Research*, [2]*National institutes of Biomedical Innovation, Health and Nutrition*)

2Pos190 **ベクトルマッチアルゴリズムによるタンパク質—タンパク質ドッキングポーズを評価するための統計アミノ酸ペアポテンシャルの開発**
A statistical amino acid pair potential to re-rank protein-protein docking poses predicted by a vector match algorithm
Atsushi Hijikata, Masafumi Shionyu, Tsuyoshi Shirai (*Facl. Biosci., Nagahama Inst. Bio-Sci. Tech.*)

2Pos191 **埋もれた極性残基の進化的保存**
Evolutionary conservation of buried polar residues
Matsuyuki Shirota[1,2,3] ([1]*Grad Sch Med, Tohoku Univ*, [2]*ToMMo, Tohoku Univ*, [3]*GSIS, Tohoku Univ*)

2Pos192 **高い配列相同性を持ちながら異なる立体構造を持つタンパク質のアミノ酸配列と立体構造に基づく解析**
The differences in 3D structures of proteins with high sequence identity. Analyses of amino acid sequences and 3D structures
Kohei Ohnishi, Masanari Matsuoka, Masatake Sugita, Takeshi Kikuchi (*Ritsumeikan Univ.*)

バイオインフォマティクス：ゲノム機能 / Bioinformatics: Functional genomics

2Pos193 **機能未知スプライシングアイソフォームの機能予測**
Function prediction of uncharacterized splicing isoforms
Masafumi Shionyu (*Fac. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*)

バイオインフォマティクス：分子進化 / Bioinformatics: Molecular evolution

2Pos194 **リゾチームスーパーファミリータンパク質のフォールディングユニットの頑健性.タンパク質機能とフォールディング機構との関係**
Robustness of folding units in lysozyme superfamily proteins during evolution, relationship between functions and folding mechanisms
Takuto Nakashima, Michirou Kabata (*Ritsumeikan Univ.*)

数理生物 / Mathematical biology

2Pos195 **構造変化を伴う高分子の反応拡散系―構造と機能のクロストーク**
Reaction-Diffusion Systems with Polymers Consisting of Mechanical Units: Crosstalk between the Structure and Function
Yuichi Togashi (*RcMcD, Hiroshima Univ.*)

2Pos196 **ミドリゾウリムシの細胞内共生における共生藻の単純な維持機構**
Maintenance of algal endosymbionts in *Paramecium bursaria*: a simple model based on population dynamics
Sosuke Iwai, Kenji Fujiwara, Takuro Tamura (*Faculty of Education, Hirosaki Univ.*)

2Pos197 **遺伝子発現振動系のダイナミクス低減**
Dynamical Reduction Approach reveals Oscillating Gene Expressions
Ikuhiro Yamaguchi[1], Yutaro Ogawa[2], Akihiko Akao[2], Yuki Shimono[2], Yasuhiko Jimbo[3], Kiyoshi Kotani[4] ([1]*Grad. Edu. Univ. Tokyo*, [2]*Front. Sci. Univ. Tokyo*, [3]*Eng. Univ. Tokyo*, [4]*RCAST Univ. Tokyo*)

2Pos198 **複雑反応ネットワークに埋め込まれた時間階層構造の解読**
Deciphering timescale hierarchy encoded in complex reaction networks
Yutaka Nagahata[1], Satoshi Maeda[2], Hiroshi Teramoto[1,3], Chun-Biu Li[2,3], Takashi Horiyama[4], Tetsuya Taketsugu[2], Tamiki Komatsuzaki[1,3] ([1]*Graducate School of Life Science, Hokkaido Univ.*, [2]*Faculty of Science, Hokkaido Univ.*, [3]*Research Institute for Electronic Science, Hokkaido Univ.*, [4]*Graduate School of Science and Engineering, Saitama Univ.*)

2Pos199 **Interdomain communication as the mechanism of correlation between circadian oscillation of KaiC phosphorylation and ATPase activity**
Shota Hashimoto, Das Sumita, Masaki Sasai, Tomoki P. Terada (*Grad. Sch. Eng., Nagoya Univ.*)

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

2Pos200 **人工 RNA 自己複製システムにおける宿主 RNA と寄生体 RNA の振動ダイナミクスと進化**
Oscillating population dynamics and evolution of artificial Host-Parasite replication system in micro compartment
Norikazu Ichihashi[1], Yohsuke Bansho[2], Tetsuya Yomo[1,2] ([1]*Osaka Univ, IST*, [2]*Osaka Univ, FBS*)

2Pos201 **微小液滴を用いた非線形化学反応間の相互作用の制御**
Control of the interaction among nonlinear chemical reactions based on microdroplets
Tomoya Okuaki[1], Haruka Sugiura[1], Ryuji Kawano[2], Masahiro Takinoue[1] ([1]*Dept. Comput. Intell. Syst. Sci., Tokyo Tech*, [2]*Div. Biotech. & life Sci., TUAT*)

計測 / Measurements

2Pos202 **細胞チップの電気生理学的特性評価のためのインピーダンス／細胞外電位計測システムの開発**
Development of impedance measurement system for identification of cells
Kenji Matsuura[1], Fumimasa Nomura[2], Akihiro Hattori[1], Hiromi Kurotobi[2], Masao Odaka[1], Hyonchol Kim[1], Hideyuki Terazono[2], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental Univ.*)

2Pos203 **オンチップマルチイメージングセルシステムを用いた血液中の単一がん細胞を認識するためのイメージングバイオマーカー認識方法の評価**
Evaluation of imaging biomarkers for identification of single cancer cells in blood by on-chip multi imaging cell system
Masao Odaka[1,2], Hyonchol Kim[1,2], Mathias Girault[1], Akihiro Hattori[1], Hideyuki Terazono[1,2], Kenji Matsuura[1], Fumimasa Nomura[2], Kenji Yasuda[1,2] ([1]*KAST*, [2]*IBB, TMDU*)

2Pos204 **FCS による HbA1c の計測**
HbA1c measurement using FCS
Atsushi Matsuo, Yasutomo Nomura, Kyohei Maruyama, Kyohei Nakayama, Mayuka Chiba (*Maebashi Institute of Technology*)

2Pos205 **生細胞における 1 分子内在性 mRNA イメージングのためのアンチセンスプローブの設計と評価**
Design and evaluation of potent antisense probes for imaging individual endogenous mRNA in live cells
Shunsuke Takeda[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. of Tokyo*, [2]*JST, PRESTO*)

2Pos206 **蛍光偏光相関分光法による蛍光タンパク質の回転拡散の研究**
Study of rotational diffusion of fluorescent proteins using polarization dependent fluorescence correlation spectroscopy (pol-FCS)
Makoto Oura[1], Johtaro Yamamoto[2], Masataka Kinjo[2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Advanced Life Sci., Hokkaido Univ.*)

2Pos207 **電子線の動電現象による単一接着性細胞への局所的な染色液導入の観察**
Observation of Local Dye Inflow into Single Adherent Cells induced by Electrokinetic Phenomena of Electron Beam
Moto Yoshioka, Hiroki Miyazako, Akira Wagatsuma, Kunihiko Mabuchi, Takayuki Hoshino (*Grad. Sch. IST., Univ. Tokyo*)

バイオイメージング / Bioimaging

2Pos208 **結合速度と光感受性を改良した蛍光 ATP バイオセンサー**
Improvement of binding speed and photostability of fluorescent ATP biosensor for extracellular ATP imaging
Hiromi Imamura, Sui Nishiyama, Ryuta Iwakiri, Akira Kakizuka (*Grad. Biostudies, Kyoto Univ.*)

2Pos209 **高速 AFM による DNA ジャイレースのダイナミクスの直接観察**
Direct observation of dynamic action in DNA gyrase by high-speed AFM
Daisuke Noshiro[1], Noriyuki Kodera[2,3], Toshio Ando[1,2,4] ([1]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ.*, [2]*Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ.*, [3]*PRESTO, JST*, [4]*CREST, JST*)

2Pos210 **電子顕微鏡画像処理及び画像解析のための Eos/PIONE の開発**
Development of Eos and PIONE for Image Processing and Analysis of Electron Micrographs
Takuo Yasunaga[1], Keita Yamaguchi[2], Takafumi Tsukamoto[1] ([1]*Dept. of Biosci. and Bioinfo., Sch. of Comp. Sci. and Sys. Eng., Kyushu Inst. Tech.*, [2]*Nau Data Inc.*)

2Pos211 **ラスター画像相互相関分光法による生細胞内外来 DNA 分解活性の時空間的可視化**
Raster image cross-correlation method for spatiotemporal visualization of intracellular degradation activities against exogenous DNAs
Akira Sasaki[1,2], Johtaro Yamamoto[3], Takashi Jin[2], Masataka Kinjo[3] ([1]*BMRI, AIST*, [2]*QBiC, Riken*, [3]*Faculty of Adv. Life Sci., Hokkaido Univ.*)

2Pos212 **Novel green fluorescent protein from Olindias formosa with exceptional pH stability**
Hajime Shinoda[1], Yuanqing Ma[2], Tomoki Matsuda[1,3], Takeharu Nagai[1,3] ([1]*Grad. Sch. Eng., Univ. Osaka*, [2]*Univ. Western Sydney*, [3]*ISIR, Univ. Osaka*)

2Pos213 **赤外超解像顕微鏡法による毛髪 α-ケラチンの分子配向イメージング -振動モード毎の偏光依存性測定-**
Orientation-sensitive IR super-resolution imaging of human hair α-keratins -Polarization dependency measurements-
Kohei Ushio, Yukihisa Watase, Masaaki Fujii, Makoto Sakai (*Tokyo Institute of Technology*)

2Pos214 **１分子イメージングによる転写伸長因子 NELF と DSIF のダイナミクス定量解析**
Quantitative analysis of dynamics of negative elongation factor NELF and DSIF by single molecule imaging
Daichi Ikeda, Yuma Ito, Makio Tokunaga, Kumiko Sakata-Sogawa (*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*)

2Pos215 **ストレス顆粒内一分子 mRNA の超解像イメージング**
Super-resolution imaging of single mRNA in stress granules
Yuki Suzuki[1], Ko Sugawara[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharma., Univ. Tokyo*, [2]*JST, PRESTO*)

2Pos216 **ディフュージョンマップ法を用いたタンパク質位相回復像の分類**
Classification of phase-retrieved projection electron density maps of a protein using the diffusion-map method
Takashi Yoshidome[1], Oroguchi Tomotaka[2,3], Masayoshi Nakasako[2,3], Mitsunori Ikeguchi[4] ([1]*Department of Applied Physics, School of Engineering, Tohoku University, Japan*, [2]*Department of Physics, Faculty of Science and Technology, Keio University*, [3]*Research Infrastructure Group, Advanced Photon Technology Division, RIKEN Harima Institute, Japan*, [4]*Graduate School of Medical Life Science, Yokohama City University, Japan*)

2Pos217 **ラスター画像相関分光法(RICS)による生細胞内の DNA 分解過程の時空間解析**
Spatiotemporal analysis of exogenous DNA degradation in living cells by raster image correlation spectroscopy (RICS)
Takashi Horio[1], Johtaro Yamamoto[2], Akira Sasaki[3], Masataka Kinjo[2] ([1]*Lab. Mol. Cell Dynamics, Grad. Life Sci., Hokkaido Univ.*, [2]*Lab. Mol. Cell Dynamics, Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Biomedical Research Inst., AIST.*)

2Pos218 **コヒーレント X 線回折イメージング法に向けたフーリエ変換ホログラフィー法による初期位相決定法の開発**
Application of Fourier transform holography to initial phasing in coherent X-ray diffraction imaging
Yuki Takayama[1], Yayoi Inui[2], Yuki Sekiguchi[1,3], Sachihiro Matsunaga[2], Masayoshi Nakasako[1,3], Koji Yonekura[1] ([1]*RIKEN SPring-8 Center*, [2]*Sci. Tech., Tokyo Univ. Sci.*, [3]*Sci. Tech., Keio Univ.*)

バイオエンジニアリング / Bioengineering

2Pos219 **血管内皮細胞の自発的管形成能力を利用した in vitro 組織培養システムの構築**
In vitro perfused tissue culture system using spontaneous vascular formation of endothelial cell
Yuji Nashimoto[1,4], Akiko Nakamasu[2,4], Hisako Imamura[2,4], Hidetoshi Kotera[1], Koichi Nishiyama[3,4], Takashi Miura[2,4], Ryuji Yokokawa[1,4] ([1]*Kyoto University, Graduate School of Engineering*, [2]*Kyusyu university, Graduate School of Medical Sciences*, [3]*Kumamoto University, Graduate School of Medical Sciences*, [4]*JST, CREST*)

2Pos220 **マイクロ波照射下での酵素反応の促進効果**
Acceleration of Enzymatic Reaction under Microwave Irradiation
Arata Shiraishi[1], Takeo Yoshimura[2], Seiji Higa[1], Hiroya Osoegawa[1], Shokichi Ohuchi[1,3] ([1]*Dept. Lifesci. & Syst. Eng., Kyushu Inst. Tech*, [2]*Dept. Appl. Chem., Tokyo Inst. Tech.*, [3]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*)

2Pos221 **マイクロ凹形状構造によるサイズ選択的細胞回収への排除体積効果の寄与**
Contribution of depletion effect to size-specific target cell purification using mirometer-sized concave structures
Hyonchol Kim[1,2], Hideyuki Terazono[2], Hiroyuki Takei[3], Akihiro Hattori[1], Kenji Matsuura[1], Fumimasa Nomura[2], Kenji Yasuda[2] ([1]*KAST*, [2]*Inst. Biomat. Bioeng., Tokyo Med. Dent. Univ.*, [3]*Facul. Life Sci., Toyo Univ.*)

2Pos222 **微生物（大腸菌）を使った化学物質センサーの開発**
Development of chemical substance sensor by using micro organism (*E. coli*)
Hiroto Tanaka[1], Tadashi Matsukawa[1], Yasushi Naruse[2], Yukihiro Tominari[3], Masato Okada[4], Yoshiyuki Sowa[5], Ikuro Kawagishi[5], Hiroaki Kojima[1] ([1]*Bio ICT Lab, NICT*, [2]*CiNet, NICT*, [3]*Nano ICT, NICT*, [4]*Tokyo Univ.*, [5]*Hosei Univ.*)

2Pos223 **リアルタイム局所化学刺激システムの開発と応用**
Development and application of the real-time local chemical stimulation system
Masaru Kojima, Takahiro Motoyoshi, Mitsuhiro Horade, Kazuto Kamiyama, Yasushi Mae, Tatsuo Arai (*Grad. Sch. Eng. Sci., Osaka Univ.*)

2Pos224 **DNA origami を用いた直交性のある転写ナノデバイスの構築**
Rational design of orthogonal gene transcription nano device on DNA origami
Takeya Masubuchi[1], Hisashi Tadakuma[2], Ryo Iizuka[3], Masayuki Endo[2], Takashi Funatsu[3], Hiroshi Sugiyama[2], Yoshie Harada[2], Takuya Ueda[1] ([1]*Grad. Sch. of Frontier Sci., The Univ. of Tokyo*, [2]*iCeMS, Univ. Kyoto*, [3]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

2Pos225 **生体ナノポアと 3-way junction DNA を用いた 1 分子ロジックゲートの構築**
Single molecule logic operations using 3-way junction DNA and biological nanopores
Masayuki Ohara, Ryuji Kawano (*Grad. Sch. Eng., Tokyo Univ. of Agr. and Tech.*)

2Pos226 **近赤外レーザーによる安定な細胞集合体の構築**
Construction of Stable Cellular Assembly with Optical Manipulation
Aoi Yoshida, Shu Hashimoto, Taeko Ohta, Kenichi Yoshikawa (*Doshisha University*)

2Pos227 **マイクロピペットによるリポソーム内への物質移入法の開発**
Development of novel methods for introducing materials into liposomes with micropipettes
Shin Yoshida[1], Fumika Asari[2], Tomoyuki Kaneko[1,2] ([1]*LaRC, Grad. Sci. Eng., Hosei Univ.*, [2]*LaRC, Dept. Frontier Biosci., Hosei Univ.*)

2Pos228 **生化学分析のための電子線による有機カチオン輸送制御**
Transportation Control of Organic Cations Using an Electron-beam for Biochemical Analysis
Hiroki Miyazako[1,2], Kyoko Fujita[3,4], Nobuhumi Nakamura[3,4], Hiroyuki Ohno[3,4], Kunihiko Mabuchi[1], Takayuki Hoshino[1] ([1]*IPC, UTokyo*, [2]*JSPS Research Fellow*, [3]*Dept. Biotech., TUAT*, [4]*Grad. Sch. Eng., TUAT*)

その他 / Miscellaneous topics

2Pos229 **ビリルビンを発色団とする蛍光タンパク質 UnaG のキロオプティカル特性**
Chiroptical Properties of Bilirubin-based Fluorescent Protein UnaG
Togo Shimozawa, Yoh Shitashima, Miyabi Ishida, Toru Asahi (*Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)

2Pos230 **Measuring *Escherichia coli* flagellar filaments growth in real time using fluorescent microscopy**
Ziyi Zhao[1], Chien-Jung Lo[2], Fan Bai[1] ([1]*Biodynamic Optical Imaging Center, Peking University, Beijing, China*, [2]*Department of Physics and Graduate Institute of Biophysics, National Central University, Jhongli, Taiwan*)

第 3 日目（9 月 15 日（火））／Day 3（Sep. 15 Tue.）プロムナード / Promenade

蛋白質：構造 / Protein: Structure

3Pos001 **Rap1B の構造とコンフォメーションスイッチ機構**
The structure and conformational switching of Rap1B
Hiroki Noguchi, Sam-Yong Park, Jeremy Tame, **Satoru Unzai** (*Yokohama City University, Graduate School of Medical Life Science*)

3Pos002 **完全重水素化 HiPIP の構造と性質**
Structure and characterization of perdeuterated HiPIP
Yuya Hanazono, Kazuki Takeda, Kunio Miki (*Grad. Sch. Sci., Kyoto Univ.*)

3Pos003 **酸化ヌクレオチド分解酵素の高分解能 X 線回折**

High resolution X-ray diffraction study of an enzyme for oxidative nucleotide processing

Keisuke Hirata, Teruya Nakamura, Mami Chirifu, Shinji Ikemizu, **Yuriko Yamagata** (*Grad. Sch. Pharm., Kumamoto Univ*)

3Pos004 **Structural and functional studies on two kinds of perireceptor proteins (PRPs) working in chemoreception**

Xing Li[1], Durige Wen[2], Masaru Hojo[3], Mamiko Ozaki[3], Tatsuo Iwasa[1,4] ([1]*Div. Eng., Muroran Ins. of Tech.*, [2]*Div of Prod Sys Eng., Muroran Ins. of Tech.*, [3]*Dept. Biol., Grad. School Sci., Kobe Univ*, [4]*Cen. Env. Sci. Dis. Mit. Adv. Res., Muroran Ins. of Tech.*)

3Pos005 **ストマチンパートナータンパク質の結晶構造と多量体形成**

Crystal structure of stomatin operon partner protein and formation of multimeric assembly

Hideshi Yokoyama[1], Ikuo Matsui[2] ([1]*Sch. of Pharm. Sci., Univ. of Shizuoka*, [2]*Biomedical Res. Inst., AIST*)

3Pos006 **分子動力学シミュレーションを用いたリガンド-レセプター間の最適解離経路を決定するための新規方法**

A novel method to determine the optimal unbinding path between receptor and ligand using advanced molecular dynamics simulations

Gert-Jan Bekker[1,2], Narutoshi Kamiya[1], Haruki Nakamura[1] ([1]*IPR, Osaka Univ*, [2]*FBS, Osaka Univ*)

3Pos007 **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**

CryoEM structural analysis of the needle complex from *Shigella flexneri*

Naoko Kajimiura[1], Fumiaki Makino[1], Takayuki Kato[1], Ariel Blocker[2], Keiichi Namba[1,3] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*Sch. of Cell. & Mol. Med., Univ. of Bristol*, [3]*RIKEN, QBiC*)

3Pos008 **低解像度密度マップへの複数のサブユニットのあてはめ計算 - 実験情報による拘束の利用 -**

Multiple subunit fitting into a low resolution density map using experimental additional restraints

Takeshi Kawabata, Hirofumi Suzuki, Haruki Nakamura (*Inst. Prot.Res., Osaka Univ.*)

3Pos009 **SAAP 力場を用いたシニョリンのレプリカ交換モンテカルロシミュレーション**

Replica-exchange Monte Carlo simulation of chignolin using SAAP force field

Toshiki Suzuki, Taku Shimosato, Natsuki Babe, Toshiya Minezaki, Michio Iwaoka (*School Sci., Tokai Univ.*)

3Pos010 **全原子 MD シミュレーションによるアラニンスキャニング変異を導入したアミロイド形成ペプチドの凝集解析**

All atom molecular dynamics alanine scanning of amyloid-forming peptides in explicit solvent system

Satoshi Kosuda[1], Atsushi Suenaga[2], Gentaro Morimoto[3], Makoto Taiji[3], Yutaka Kuroda[1] ([1]*Dep. Biotech. Life Sci., Grad. Sch. Eng., TUAT.*, [2]*Molprof, AIST*, [3]*QBiC, RIKEN*)

3Pos011 **エステル基を有する新規白金系複核制がん剤による DNA の高次構造と遺伝子活性への影響**

Action of novel anticancer-active, dinuclear platinum complexes with ester group on the higher order structure and genomic activity of DNA

Yuta Shimizu[1], Yuko Yoshikawa[2], Takahiro Tsuchiya[3], Hiroki Yoneyama[4], Shinya Harusawa[4], Seiji Komeda[3], Tadayuki Imanaka[2], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Univ. Doshisha*, [2]*Univ. Ritsumeikan*, [3]*Univ. Suzuka Med. Sci.*, [4]*Univ. Osaka Pharm. Sci.*)

3Pos012 **Attempts at CA-type formal analysis of fibrous assembly of particles**

Takashi Konno (*Univ. Fukui. Med. Mol. Physiol.*)

3Pos013 **The first crystal structure of intact 3.8 MDa molluscan hemocyanin**

Asuka Matsuno[1], Zuoqi Gai[2], Koji Kato[1,2], Sanae Kato[3], Takeshi Shimizu[4], Takeya Yoshioka[4], Hideki Kishimura[5], Tohru Terada[6], Yoshikazu Tanaka[1,2], Min Yao[1,2] ([1]*Grad. Schl. of Life Sci., Hokkaido Univ*, [2]*Facl. of Adv. Life Sci., Hokkaido Univ*, [3]*Asahikawa Med. Univ*, [4]*Hokkaido Ind. Tech. Cent*, [5]*Grad. Schl. of Fish. Sci*, [6]*Grad. Schl. of Agr. and Life Sci., The Univ. of Tokyo*)

3Pos014 **二面角系基準振動解析プログラムの並列化と巨大分子への適用**

Parallelization of the program for normal mode analysis in torsional angle space and application to supramolecules

Shigeru Endo[1], Hiroshi Wako[2] ([1]*Dept. Phys., Sch. Science, Kitasato Univ.*, [2]*Sch. Social Sciences, Waseda Univ.*)

3Pos015 **Template based protein modeling using a target dependent template library**

Kodai Takagi, George Chikenji, Yota Masuyama (*Grad. Sch. Eng., Nagoya Univ.*)

3Pos016 **レプリカ交換アンブレラサンプリング MD シミュレーションを用いたヒストン脱アセチル化酵素阻害剤の選択性の研究**

Study for the selectivity of a histone deacetylase inhibitor using replica-exchange umbrella sampling MD simulation

Shuichiro Tsukamoto[1], Yoshitake Sakae[1], Yukihiro Itoh[2], 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. Biol. Res. Center, Grad. Sch. Sci., Nagoya Univ.*, [5]*Center Comput. Sci., Grad. Sch. Eng., Nagoya Univ.*, [6]*Info. Tech. Center, Nagoya Univ.*)

蛋白質：構造･機能 / Protein: Structure & Function

3Pos017 **Interaction of Two Subunits of D/L Hetero Dimer with Catalytic Subunits in Archaeal RNA polymerase: Insights from MD Simulations**

Neetha Mohan[1], Kota Kasahara[1], Akira Hirata[2], Haruki Nakamura[1] ([1]*Laboratory of Protein Informatics, Institute for Protein Research, Osaka University*, [2]*Department of Materials and Biotechnology, Graduate School of Science and Engineering, Ehime University*)

3Pos018 **光活性化アデニル酸シクラーゼ合成酵素 PAC の活性化機構解明**

Structural and functional insights into a photoactivated adenylyl cyclase

Mio Ohki[1], Kanako Sugiyama[1], Fumihiro Kawai[1], Shigeru Matsunaga[2], Naoya Shibayama[3], Mineo Iseki[4], Sam-Yong Park[1] ([1]*Grad. Sch. of Medi. Life Sci, Yokohama City Univ.*, [2]*Cent. Research Lab. Hamamatsu Photonics K.K.*, [3]*Dept. of Physiology Jichi Medi. Univ.*, [4]*Faculty of Pharma. Sci. Toho Univ.*)

3Pos019 **マウス微小ウイルスの力学的性質：粗視化分子動力学シミュレーション**
Mechanical properties of the minute mice of virus capsid: Coarse-grained Molecular simulation
Koji Ono, Shoji Takada (*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ*)

3Pos020 **Momorcharin の酵素活性を制御する活性部位近傍の特殊なコンフォメーション**
The specific conformation near the active site regulating the enzymatic activity of momorcharin
Yuki Okada[1], Ayana Okuno[2], Etsuko Nishimoto[3] ([1]*Grad. Sch. Bioresour. Bioenviron. Sci., Univ. Kyushu*, [2]*Sch. Agr., Univ. Kyushu*, [3]*Fac. Agr., Univ. Kyushu*)

3Pos021 **ケモカイン受容体の細胞内領域に含まれるケモカインシグナル制御因子フロント結合領域の構造生物学的解析**
Structural analyses of the cytosolic region of the chemokine receptor, which interacts with the chemokine signal regulator FROUNT
Sosuke Yoshinaga[1], Kaori Esaki[1], Tatsuichiro Tsuji[1], Etsuko Toda[2], Yuya Terashima[2], Takashi Saitoh[3], Daisuke Kohda[3], Toshiyuki Kohno[4], Masanori Osawa[5], Takumi Ueda[5], Ichio Shimada[5], Kouji Matsushima[2], Hiroaki Terasawa[1] ([1]*Fac. Life Sci., Kumamoto Univ.*, [2]*Grad. Sch. Med., Univ. Tokyo*, [3]*Med. Inst. Bioreg., Kyushu Univ.*, [4]*Kitasato Univ. Sch. Med.*, [5]*Grad. Sch. Pharm. Sci., Univ. Tokyo*)

3Pos022 **酵素と基質と四つのイントロンで形成される平面の関係**
Enzyme, Ligand, and Plane formed with Four Introns
Michiko Nosaka, Akari Ichisima, Mami Nakayashiki (*National Institute of Technology, Sasebo College*)

3Pos023 **酵母カーゴ様タンパク質受容体 Emp46p と Emp47p のコイルドコイル領域における pH 依存的な会合と解離**
pH-dependent assembly and segregation of the coiled-coil segments of yeast putative cargo receptors Emp46p and Emp47p
Kentaro Ishii[1], Hiroki Enda[2], Masanori Noda[3], Megumi Kajino[2], Akemi Kim[2], Eiji Kurimoto[2,4], Ken Sato[5], Akihiko Nakano[6,7], Yuji Kobayashi[3], Hirokazu Yagi[2], Susumu Uchiyama[1,3], Koichi Kato[1,2,8] ([1]*Okazaki Inst. Integrative Bioscience, NINS*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*Grad. Sch. Eng., Osaka Univ.*, [4]*Fac. Pharm., Meijo Univ.*, [5]*Grad. Sch. Art. Sci., Univ. Tokyo*, [6]*Grad. Sch. Sci., Univ. Tokyo*, [7]*RIKEN, Cent. Phot.*, [8]*Inst. Mol. Sci., NINS.*)

3Pos024 **クライオ電子線トモグラフィー法により明らかになったイネ萎縮ウイルスの昆虫細胞からの放出メカニズム**
Mechanisms for egress of Rice dwarf virus from insect vector cells revealed by whole cell cryo-electron tomography
Naoyuki Miyazaki[1,2], Akifumi Higashiura[2], Kazuyoshi Murata[1], Atsushi Nakagawa[2], Kenji Iwasaki[2] ([1]*NIPS*, [2]*IPR*)

3Pos025 **Dynamics of bacterial flagellar filament self-assembly**
Anthony Abraham, Takuma Fukumura, Tohru Minamino, Keiichi Namba (*Osaka Uni. Grad. Sch. Frontier Biosciences*)

3Pos026 **α シヌクレインの添加物によるアミロイド線維形成への影響**
The effects additives on the amyloid formation ofα-synuclein
Miki Hirano[1], Masatomo So[1], Hisashi Yagi[3], Yasushi Kawata[2], Yuji Goto[1] ([1]*Institute for Protein Research, Osaka University*, [2]*Dept. of Chem. and Biotech., Grad. Sch. of Eng., Tottori Univ.*, [3]*Center for Research on Green Sustainable Chemistry, Tottori University*)

3Pos027 **１アミノ酸置換によるプロリン異性化酵素からタンパク質分解酵素への機能転換**
Functional conversion from peptydyl-prolyl isomerase to protease by a single amino acid substitution
Teikichi Ikura, Nobutoshi Ito (*MRI, Tokyo Med. Dent. Univ.*)

3Pos028 **粗視化力場を用いたタンパク質構造変化を伴うリガンド結合過程の比較解析**
A comparative study of the protein-ligand binding processes coupled to protein conformational changes in coarse-grained simulations
Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)

3Pos029 **脂質による GPCR の活性制御機構の解明**
Elucidation of the signal regulation mechanism of GPCRs under physiological lipid bilayer environments
Takuya Mizumura[1], Keita Kondo[1], Takumi Ueda[1,2], Yutaka Kofuku[1], Ichio Shimada[1] ([1]*Grad. Sch. Pha., Univ. Tokyo*, [2]*JST-PRESTO*)

3Pos030 **滴定 X 線溶液散乱測定を用いたアダプター蛋白質 GGA-ユビキチン複合体の相互作用/構造解析**
Interaction/Structure analysis of GGA-Ubiquitin complex by using titration SAXS Measurement
Miho Shinohara[1], Hironari Kamikubo[1], Keito Yoshida[1], Yoichi Yamazaki[1], Kazuhisa Nakayama[2], Soichi Wakatsuki[3], Mikio Kataoka[1] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*Grad. Sch. Pharmaceutical Sciences., Kyoto Univ.*, [3]*School of Medicine, Stanford University*)

3Pos031 **LigMap: 共溶媒分子シミュレーションによるタンパク質のリガンド結合ホットスポットの予測**
LigMap: Predicting ligand binding hostspots of proteins by molecular simulations with cosolvent solutions
Hironori Kokubo, Akihiro Yokota, Atsutoshi Okabe (*Takeda Pharmaceutical*)

3Pos032 **貝由来炭酸脱水酵素ナクレインのカルシウム結合部位の解析**
Structural Analysis of Calcium Binding Site in Sea Shell Carbonic Anhydrase, Nacrein
Hideto Shimahara[1], Muhamad Koyimatu[1], Yuji Kobayashi[2] ([1]*JAIST CNMT*, [2]*Osaka Univ.*)

3Pos033 **Relative Binding Free Energy Calculation with the Free Energy Variational Principle for fXa-Ligand system**
Toshimichi Matsugi, Takeshi Ashida, Takeshi Kikuchi (*Ritsumeikan Univ*)

3Pos034 **高速 AFM による c-Cbl の構造変化の直接観察**
Direct observation of conformational change of c-Cbl by high speed AFM
Yoshiki Takahashi[1], Jun-ichi Kishikawa[2], Hiromi Tanaka[3], Hiroki Konno[3] ([1]*Grad. Sch. of Nat. Sci., Kanazawa Univ.*, [2]*Fac. Life Sci., Kyoto Sangyo Univ.*, [3]*Bio-AFM Frontier Research Center, Kanazawa Univ.*)

蛋白質：特性 / Protein: Property

3Pos035 **Motion Tree によるタンパク質運動の階層的記述**
Motion Tree delineates hierarchical structure of protein dynamics observed in molecular dynamics simulation
Kei Moritsugu[1], Ryotaro Koike[2], Akinori Kidera[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City University*, [2]*Grad. Sch. of Info. Sci., Nagoya University*)

3Pos036 **ATP 結合に伴う GroEL 立体構造変化の計算科学的研究**
Computational study of conformational change in GroEL upon ATP binding
Yuka Suzuki[1,2], Kei Yura[3,4,5] ([1]*Dept. Biol., Ochanomizu Univ.*, [2]*OIST*, [3]*Grad. School of Humanities and Sciences, Ochanomizu Univ.*, [4]*Center for Info. Biol., Ochanomizu Univ.*, [5]*NIG*)

3Pos037 **分子動力学法による好熱性ロドプシンの熱安定性の研究**
Assessing Molecular Mechanism of High Thermal Stability of Thermophilic Rhodopsin by Molecular Dynamics Simulation
Taisuke Hasegawa[1], Yuki Sudo[2], Takeshi Murata[3], Shigehiko Hayashi[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ.*, [3]*Grad. Sch. Sci., Chiba Univ.*)

3Pos038 **Dissociation and Unfolding of Tobacco Mosaic Virus Coat Protein Assemblages**
Hiroaki Fukao[1], Kazumasa Sakurai[2], Yasushige Yonezawa[2], Masao Fujisawa[1], Kazuhiro Ishibashi[3], Masayuki Ishikawa[3], Tetsuo Meshi[3], Hideki Tachibana[1,2] ([1]*Fac Boil-Ortd Sci Tech, Kinki Univ*, [2]*High-Pres Prot Res Center, Kinki Univ*, [3]*Div Plant Sci, NIAS*)

3Pos039 **NMR で見た水溶液中メリチンの１量体－4 量体構造転移**
Conformational transition between monomer and tetramer of melittin in an aqueous solution studied by NMR
Yoshinori Miura (*Center for Advanced Instrumental Analysis, Kyushu University*)

3Pos040 **酸ストレス抗体の中性および穏和な温度における凝集の速度論**
Kinetics of antibody aggregation triggered by pH-shift stress at neutral pH and ambient temperatures
Hiroshi Imamura, Shinya Honda (*National Institute of Advanced Industrial Science and Technology*)

3Pos041 **Role of electrostatic repulsion between unique arginine residues on the assembly of a trimeric autotransporter translocator domain**
Eriko Aoki, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. Bioinfo., Grad. Sch. Eng., Soka Univ.*)

3Pos042 **熱測定を用いたグルカゴン凝集反応の熱力学的研究**
Thermodynamic characterization of glucagon aggregation using calorimetry
Tetsuhei Uenoyama[1], Tatsuya Ikenoue[1], Daniel E Otzen[2], Yuji Goto[1], Young-Ho Lee[1] ([1]*Inst. for. Prot. Research, Osaka Univ*, [2]*Department of Molecular Biology, Aarhus Univ*)

3Pos043 **Molecular Tailoring Approach 法による蛋白質二次構造内に働く相互作用の量子化学的研究**
Quantum chemical study for interactions in protein secondary structures via Molecular Tailoring Approach
Ayumi Kusaka[1,2], Haruki Nakamura[1], Yu Takano[1,3,4] ([1]*IPR, Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Grad. Sch. Info. Sci., Hiroshima City Univ.*, [4]*JST-CREST*)

3Pos044 **神経細胞毒性を持つ $A\beta_{42}$ 凝集体と持たない凝集体は共に β 構造から成るが短波長領域で違った CD パターンを持っている。**
Neurotoxic and nontoxic $A\beta_{42}$ assemblies are commonly composed of β-sheet structures but have different CD spectra in the short wavelength
Yoshitaka Matsumura[1,2], Tomoya Sasahara[1,2], Takayuki Ohnishi[1,2], Eri Saijo[1,2], Kaori Satomura[1,2], Michio Sato[3], Minako Hoshi[1,2,4] ([1]*TAO Health Life Pharma Co., Ltd.*, [2]*Inst. Biomed. Research & Innov.*, [3]*Meiji Univ.*, [4]*Kyoto Univ.*)

3Pos045 **レプリカ交換分子動力学シミュレーションによる ポリグルタミン酸の pH に対する構造依存性**
Structural dependence of poly-glutamic acids on pH studied by replica-exchange molecular dynamics simulations
Ryosuke Iwai[1], Tetsuro Nagai[2], Takuya Takahashi[2] ([1]*Grad. Sci. Life Sci., Ritsumeikan Univ*, [2]*Coll. Life. Sci., Ritsumeikan Univ*)

蛋白質：機能 / Protein: Function

3Pos046 **枯草菌 F_1-ATPase に於ける DELSEED 領域の機能解析**
Role of the DELSEED motif in *Bacillus subtilis* F_1-ATPase
Koji Takada, Yasuyuki Kato-Yamada (*Department of Life Science, Rikkyo University*)

3Pos047 **MD シミュレーションを用いた Neuropsin へのペプチド結合に関する研究**
Molecular Dynamics Study of Peptide Binding to Neuropsin
Masami Lintuluoto[1], Mitsumasa Abe[1], Hideki Tamura[2], Yoshifumi Fukunishi[3] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ*, [2]*L-StaR, Hoshi Univ. Sch. Pham. and Pham. Sci.*, [3]*AIST*)

3Pos048 **アクチン結合タンパク質アクチニン-４とその変異体の機能解析**
Predicting the three-dimensional structure of the actin-binding domains of actinin-4 mutants
Nami Miura, Masahiro Kamita, Takanori Kakuya, Hirokazu Shoji, Tesshi Yamada, Kazufumi Honda (*Div. Chem. Clin., Natl. Cancer Ctr. Res. Inst.*)

3Pos049 **MD シミュレーションを用いた G3LEA モデルペプチドとタンパク質の相互作用の解析**
Analysis of Group3LEA model peptide-protein interactions by molecular dynamics simulation
Makoto Usui, Takao Furuki, Tadaomi Furuta, Minoru Sakurai (*Center for Biological Resources and Informatics, Tokyo Institute of Technology*)

3Pos050 **F1-ATPase における ε サブユニットの活性制御因子としての役割**
Role of ε subunit as a regulator for F1-ATPase
Makoto Genda[1], Rikiya Watanabe[1], Yasuyuki Yamada[2], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng. , Univ. Tokyo*, [2]*Dept. Sci. , Univ. Rikkyo*)

3Pos051 **アデニル酸キナーゼ反応機構に関する計算科学的研究**
Computational Study on the Reaction Mechanism of Adenylate Kinase
Kenshu Kamiya (*Dept. Phys., Sch. Sci., Kitasato Univ.*)

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

3Pos052 **高精度で高効率な水和自由エネルギー計算法**
An accurate and efficient method to compute the hydration free energy for large and complex molecules
Takashi Yoshidome[1], **Toru Ekimoto**[1], Nobuyuki Matubayasi[2], Yuichi Harano[3], Masahiro Kinoshita[4], Mitsunori Ikeguchi[1] ([1]*Yokohama City Univ.*, [2]*Osaka Univ.*, [3]*Himeji Dokkyo Univ.*, [4]*Kyoto Univ.*)

3Pos053 **分子シミュレーションにおける静電相互作用計算のための新規非エバルト法**
Novel non-Ewald methods for calculating electrostatic interactions in molecular simulations
Ikuo Fukuda[1], Narutoshi Kamiya[1], Han Wang[2], Kota Kasahara[1], Haruki Nakamura[1] ([1]*Institute for Protein Research, Osaka University*, [2]*Freie Universitaet Berlin*)

3Pos054 **再構築型無細胞タンパク質合成系を用いた 真核生物由来タンパク質の凝集性の大規模解析**
Large-scale analysis of aggregation propensities of eukaryotic proteins by using a reconstituted cell-free translation system
Tatsuya Niwa[1], Eri Uemura[1], Kazuhiro Takemoto[2], Shintaro Minami[3], Satoshi Fukuchi[4], Motonori Ota[3], Takuya Ueda[5], Hideki Taguchi[1] ([1]*Grad. Sch. Biosci. and Biotech., Tokyo Tech*, [2]*Dept. Biosci. and Bioinfo., Kyushu Institute of Technology*, [3]*Grad. Sch. Inf. Sci., Nagoya Univ.*, [4]*Faculty Eng., Maebashi IT*, [5]*Grad. Sch. Frontier Sci., Univ. Tokyo*)

3Pos055 **複数の正則化項を用いた圧縮センシングによる NMR スペクトルの再構成**
Reconstruction of NMR spectra using compressed sensing with multiple regularization terms
Kazuya Sumikoshi[1], Teppei Ikeya[2], Yutaka Ito[2], Kentaro Shimizu[1] ([1]*Grad. Sch. Agr. Life Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci. Eng., Tokyo Metropolitan Univ.*)

3Pos056 **アミロイド β 凝集体に結合したチオフラビン T の蛍光寿命**
Fluorescence lifetime of Thioflavin T binding to amyloid-beta peptide aggregates
Akinori Oda, Hiroshi Satozono, Tomomi Shinke, Yohei Takata, Hiroyuki Okada (*Hamamatsu Photonics K.K.*)

3Pos057 **固体 NMR を用いたユビキチン過剰発現時に単一大腸菌細胞内で合成される分子数の計測**
Counting of the molecules synthesized in an ubiquitin-overexpressed intact *Escherichia coli* cell by solid-state NMR
Kazuya Yamada, Ayako Egawa, Toshimichi Fujiwara (*IPR, Osaka Univ.*)

蛋白質：工学 / Protein: Engineering

3Pos058 **抗酸化亜鉛 VHH 抗体の亜鉛イオン結合特性**
Zinc ion binding activity of an anti-ZnO VHH antibody, 4F2
Ryosuke Sasaki[1], Soichiro Kitazawa[2], Ryo Kitahara[2], Yoshikazu Tanaka[3], Izumi Kumagai[4], Mitsuo Umetsu[4], **Koki Makabe**[1] ([1]*Yamagata Univ.*, [2]*Ritsumeikan Univ.*, [3]*Hokkaido Univ.*, [4]*Tohoku Univ.*)

3Pos059 **テトラヒメナビオチン化タンパク質の同定と外腕ダイニン運動系への適用**
Identification of biotin carboxyl carrier protein in Tetrahymena and its application in in vitro motility systems of outer arm dynein
Masaki Edamatsu (*Grad. Sch. Arts Sci. Univ. Tokyo*)

3Pos060 **細胞透過性コイルドコイルタンパク質の熱安定性**
Thermal stability of coiled-coil cell-penetrating proteins
Tsubasa Yuki[1], Norihisa Nakayama[1], **Ken-Ichi Sano**[1,2] ([1]*Grad. Sch. Env. Sys., Nippon Inst. Tech.*, [2]*Dept. Innovative Sys. Eng. Nippon Inst. Tech.*)

3Pos061 **Selection of RuBpy3 motifes from a randomized peptide library**
Marziyeh Karimiavargani[1], Noriko Minagawa[2], Takuji Hirose[1], Yoshihiro Ito[2], Takanori Uzawa[2] ([1]*Univ. Saitama*, [2]*Nanomedical. Riken*)

ヘム蛋白 / Heme proteins

3Pos062 **ヒト cytochromeb561 ホモログタンパク質・ヒト SDR2 の生理機能解析**
Functional analysis of human stromal cell-derived receptor 2, a homolog of cytochrome b561
Rei Toda, Yuma Takahashi, Takako Yamazoe, Akikazu Asada, Motonari Tsubaki (*Dept. of Chem., Grad. Sch. of Sci., Kobe Univ.*)

3Pos063 **QM/MM と MD シミュレーションを用いた黄色ブドウ球菌の細胞壁上の高速ヘム輸送機構の解明**
Rapid heme-transfer reactions across the cell wall of *Staphylococcus aureus*: a theoretical study using QM/MM and MD simulations
Yoshitaka Moriwaki, Tohru Terada, Kentaro Shimizu (*Dept. Biotech., Grad. Sch. Agri., Univ. of Tokyo*)

3Pos064 **共鳴ラマン分光法による 2 価コバラミンの pH に依存した構造変化の検出**
Resonance Raman Detection of Cobalamin (II) : pH-Dependent Structural Change
Kaoru Mieda, Takashi Ogura (*Grad. Sch. Sci., Univ. Hyogo*)

3Pos065 **呼吸鎖 O_2 還元酵素反応中間体の構造解析**
Structural analysis of respiratory O_2 reductase in the reaction intermediate state
Kazumasa Muramoto (*Dept. of Life Sci., Univ. of Hyogo*)

膜蛋白質 / Membrane proteins

3Pos066 **光照射固体 NMR による 13-cis, 15-syn フォトサイクル及び中間体の解明**
Elucidation of 13-cis, 15-syn photocycle and its intermediate by photo-irradiation ss-NMR
Arisu Shigeta[1], Kyosuke Oshima[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Satoru Tuzi[3], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Univ. Hyogo*)

3Pos067 **G 蛋白質共役受容体を熱安定化させるアミノ酸置換の予測：自由エネルギー関数の開発**
Prediction of Thermostabilizing Mutations for G Protein-Coupled Receptors: Development of Free-energy Function
Satoshi Yasuda[1], Yuta Kajiwara[2], Yuuki Takamuku[3], Nanao Suzuki[3], Takeshi Murata[3], Masahiro Kinoshita[1] ([1]*Institute of Advanced Energy, Kyoto Univ.*, [2]*Graduate School of Energy Science, Kyoto Univ.*, [3]*Graduate School of Science, Chiba Univ.*)

3Pos068 **アクアポリン 1 の細孔口における水分子のダイナミクス**
Water dynamics at channel entrance of aquaporin 1
Eiji Yamamoto[1], Takuma Akimoto[1], Masato Yasui[2], Kenji Yasuoka[3] ([1]*Department of Mechanical Engineering, Keio University*, [2]*School of Medicine, Keio University*, [3]*Department of Mechanical Engineering, Keio University*)

3Pos069 **FSEC を用いた膜タンパク質複合体 MotA/B の構造安定性評価**
Evaluation of structural stability of membrane protein complex MotA/B by FSEC
Hiroko Takazaki[1], Keiichi Namba[1,2], Takashi Fujii[1,3] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*QBiC RIKEN*, [3]*JST PRESTO*)

3Pos070 **Toward simultaneous observation of conformational dynamics and proton transport in FoF1-ATP synthase**
Naoki Soga[1], Rikiya Watanabe[1,2,3], Mayu Hara[1], Hiroyuki Noji[1,3] ([1]*Dept. of app. chem., The Univ. of Tokyo*, [2]*PRESTO, JST*, [3]*CREST, JST*)

3Pos071 **パッチクランプ法による大腸菌呼吸鎖の末端酸化酵素の H^+-pump の機能解析**
Patch clamp studies on the terminal oxidase of *E. coli*
Masaaki Uno[1], Kosuke Komazawa[1], Teruo Kuroda[2], Hisashi Kawasaki[1], Isamu Yabe[1] ([1]*Grad. School of Adv. Sci. and Tech., Mate. and Life Sci., Tokyo Denki Univ.*, [2]*Grad. School of Med., Dent and Phar Sci., Okayama Univ.*)

3Pos072 **標的分子に適したナノポアの再構成と一分子検出への挑戦**
Reconstitution of a target-matching nanopore and challenge for a single molecule analysis
Hirokazu Watanabe, Ryuji Kawano (*Dep. of Biotec. and Life Sci., Tokyo Univ. of Agr. and Tech.*)

3Pos073 **カロテノイド結合に伴うハロロドプシンの熱安定化**
Thermal stabilization of halorhodopsin by binding of carotenoid
Takanori Sasaki[1], Kaede Suzuki[1], Takashi Kikukawa[2], Makoto Demura[2] ([1]*Sch. Sci. and Tech., Meiji Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

3Pos074 **高速原子間力顕微鏡によるバクテリオロドプシン球殻構造体の分子構造の観察**
Molecular arrangement in bacteriorhodopsin vesicles observed by high-speed atomic force microscopy
Yuto Noda, Daisuke Yamamoto (*Grad. Sch. Sci., Fukuoka Univ.*)

核酸結合蛋白質 / Nucleic acid binding proteins

3Pos075 **分子シミュレーションによる転写因子の DNA 上障害物の迂回機構の研究**
How transcription factor bypasses obstacles bound on DNA studied by molecular simulations
Mami Saito[1], Tuyoshi Terakawea[2], Shoji Takada[1] ([1]*Grad. Sch. Sci., Univ. Kyoto*, [2]*Univ. Columbia*)

3Pos076 **H3 ヒストンテールのアセチル化はその立体構造にどのような影響を与えるか**
How does an acetylation affect the conformation of H3 histone tail?
Jinzen Ikebe[1], Shun Sakuraba[2], Hidetoshi Kono[1] ([1]*MMS, JAEA*, [2]*GSFS, U Tokyo*)

3Pos077 **バイモーダルな mRNA コピー数分布の分子起源**
Molecular origins of bimodal mRNA copy-number distribution
Keisuke Fujita[1], Mitsuhiro Iwaki[1,2], Toshio Yanagida[1,2] ([1]*QBiC, Riken*, [2]*Grad. Sch. of Front. Biosci., Osaka Univ.*)

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

3Pos078 **親水性ポリマーがある混雑効果によって引き起こされた DNA の折り畳み転移: PEG の分子サイズの効果**
Folding transition of DNA induced by crowding effect with hydrophilic polymers: Effect of molecular size of PEG
Shogo Ogata[1], Kenichi Yoshikawa[1], Takahiro Kenmotsu[1], Yuko Yoshikawa[2] ([1]*Doshisha University*, [2]*Ritsumeikan University*)

3Pos079 **Sequence dependence of the stability of single-strand base-stacking**
Ryosuke Murai[1], Hiroaki Hata[2], Akira Suyama[1] ([1]*Grad. Sch. Arts and Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci., Univ. Hyogo*)

3Pos080 **Promotion & Inhibition of Gene-Expression with Polyamines**
Ai Kanemura[1], Yuta Shimizu[1], Yuko Yoshikawa[2], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*)

3Pos081 **Protect Effects of Ascorbic Acid against Double-strand Breaks in Giant DNA Molecules: Comparison among the Damages**
Yue Ma[1], Naoki Ogawa[1], Yuko Yoshikawa[2], Toshiaki Mori[3], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*, [3]*Osaka Prefecture University*)

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

3Pos082 **複製開始タンパク質 DnaA と二本鎖 DNA 相互作用の分子動力学計算による解析**
Interaction of replication initiator protein DnaA with dsDNA studied by molecular dynamics simulation
Masahiro Shimizu, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

3Pos083 **SEVENS 法：ヌクレオソームの局所密度の違いでクロマチンを分画する**
SEVENS assay: a chromatin fractionation based on the local density of nucleosomes
Satoru Ishihara (*Fujita Health Univ. Sch. Med.*)

3Pos084 **酵素を用いた DNA 反応系によりつくられた XOR 演算回路**
XOR circuit constructed using enzymatic DNA reactions
Toshihiro Kojima, Yoko Sakai, Koh-ichiroh Shohda, Akira Suyama (*Univ. of Tokyo*)

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

3Pos085 **分子シミュレーションを用いた２成分溶液系における選択的溶媒和の部分モルエンタルピーへの影響の研究**
Effects of Preferential Solvation on Partial Molar Enthalpies in Binary Mixture Systems: Molecular Simulation Study
Yuichi Kawabata, Ryo Akiyama (*Grad. Sch. Sci., Univ. Kyushu*)

3Pos086 **The first application of adaptive quantum mechanics / molecular mechanics method for infrared spectra of liquid phase**
Hiroshi Watanabe[1], Misa Banno[1], Kubar Tomas[2], Elstner Marcus[2], Minoru Sakurai[1] ([1]*Tokyo Inst. of Tech.*, [2]*Karlsruhe Inst. of Tech.*)

3Pos087 **3 次元分布相関を基にしたタンパク質水和構造予測法の開発**
Development of structural sampling for predicting hydration structure around the protein, based on 3-dimensional distribution function
Shunsuke Chiba, **Yasuomi Kiyota**, Mayuko Takeda-Shitaka (*Kitasato University*)

3Pos088 **溶質分子周囲の水分子ダイナミクスの MD シミュレーション：人工的に導入された LJ ポテンシャルパラメタ変化の影響**
MD simulations of water dynamics around solute molecules: Effect of LJ potential parameter changes artificially introduced
Takuya Takahashi, Tetsuro Nagai (*Coll. Life. Sci., Ritsumeikan Univ.*)

発生･分化 / Development & Differentiation

3Pos089 **Wnt/β-catenin と FGF/ERK シグナルは再生皮膚の羽毛原基の発生とパターニングに関与する**
Wnt/β-catenin and FGF/ERK signaling are involved in the feather bud formation and patterning of reconstructed skin
Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

3Pos090 **Mapping elastic modulus of mouse submandibular gland tissue by atomic force microscopy : effect of cytoskeletal modification**
Yu Nakajima[1], Mitsuhiro Nakamura[1], Hiroaki Taketa[2], Takuya Matsumoto[2], Takaharu Okajima[1] ([1]*Grad. Sch. of Inf and Sci., The Univ. of Hokkaido*, [2]*Grad. Sch. Med. Den. and Pham. Sci.,Univ. Okayama*)

3Pos091 **C. elegans 受精卵の極性維持には RING タンパク PAR-2 の膜-細胞質間の local な交換反応が機能する**
Cortical polarity gradient maintenance by local-rapid cortex-cytoplasm exchange of a posterior PAR
Yukinobu Arata[1], Michio Hiroshima[1,2], Chan-Gi Pack[1,8], Ravikrishna Ramanujam[3], Fumio Motegi[3], Kenichi Nakazato[4], Hitoshi Sawa[5], Tetsuya J. Kobayashi[6], Tatsuo Shibata[7], Yasushi Sako[1] ([1]*Cellular Informatics Laboratory, RIKEN*, [2]*Cell Signaling Dynamics, QBiC, RIKEN*, [3]*Temasek Lifescience Laboratory, Mechanobiology Institute, National University of Singapore*, [4]*Theoretical Biology Laboratory, RIKEN*, [5]*Multicellular Organization, National Institute of Genetics*, [6]*Quantitative biology, Institute of Industrial Science, University of Tokyo*, [7]*Physical Biology, QBiC, RIKEN*, [8]*Asan Institute for Life Sciences, University of Ulsan, College of Medicine, Asan Medical Center*)

筋肉 / Muscle

3Pos092 **横紋筋筋原線維束上の２次元 SPOC 波に関するモデルシミュレーション**
Model simulation on the two dimensional SPOC wave in a bundle of striated myofibrils
Koutaro Nakagome[1], Katsuhiko Sato[2], Shin'ichi Ishiwata[1,3] ([1]*Faculty of Sci and Eng, Waseda Univ*, [2]*RIES, Hokkaido Univ*, [3]*WABIOS*)

3Pos093 **水晶振動子上でのアクトミオシンの質量**
Weighing the apparent mass of actomyosin by QCM
Kazuya Soda[1], Takashi Ishiguro[2], Hajime Honda[1] ([1]*Dept. of Bioeng., Nagaoka Univ. Tech.*, [2]*Taiyo Yuden Co., Ltd.*)

3Pos094 **ミオシンサブフラグメント 1 の水和に及ぼす ATP アナログの影響**
Hydration analysis on myosin subfragment-1 with ATP-analogs
Hideyuki Ohsugi[1], George Mogami[1], Tetsuichi Wazawa[2], Makoto Suzuki[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Inst. Sci. Ind. Res., Osaka Univ.*)

3Pos095 **Mg ポリマー再考２**
Revisiting "Mg-Polymer" 2
Mahito Kikumoto, Shuichi Takeda, Yuiticho Maeda (*Struct. Biol. Center, Grad. Sch. Sci., Nagoya-U.*)

3Pos096 **アクチンの集団運動内でのアクチン間の長距離相互作用**
Long range interaction among of actin filaments under their collective movement
Yuto Fujita, Shigeru Sakurazawa (*Grad. Sch. System Info., Future Univ. Hakodate*)

3Pos097 **Inter-subunit coordination around a ring-shaped ATPase**
Liqiang Dai, Jin Yu (*Beijing Computational Science Research Center*)

3Pos098 **Dynamic instability of microtubules in a ROS free environment**
Md. Sirajul Islam[1], Arif Md. Rashedul Kabir[2], Daisuke Inoue[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.*)

3Pos099 **DNA programmed active self-organization of microtubules on kinesin**
Jakia Jannat Keya[1], Daisuke Inoue[2], Arif Md. Rashedul Kabir[2], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Faculty of Sci., Hokkaido Univ.*)

3Pos100 **Observation of the gliding machinery of Mycoplasma mobile by Quick-Freeze Deep-Etch Replica Electron Microscopy**
Clothilde Bertin, Yuhei O. Tahara, Tasuku Hamaguchi, Eisaku Katayama, Makoto Miyata (*Grad. School Sci., Osaka City Univ.*)

3Pos101 **V1-ATPase の A3B3 固定子における鞭毛タンパク質 FliJ の回転軸機能**
Rotor function of flagella protein FliJ in A3B3 of V1-ATPase
Mihori Baba[1], Atsuko Nakanishi[1], Jun-ichi Kishikawa[1], Shou Furuike[2], Ken Yokoyama[1] ([1]*Dept. Mol. Biosci., Kyoto Sangyo Univ.*, [2]*Dept. Phys, Osaka Medical College*)

3Pos102 **試験管内再構築系を用いた細胞膜-アクチンコーテックス複合体変形機構の解明**
Reconstituted actomyosin cortex deformed in size dependent manner
Yukinori Nishigami[1], Hiroaki Ito[1], Seiji Sonobe[2], Masatoshi Ichikawa[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Sci., Univ. Hyogo*)

3Pos103 **高速原子間力顕微鏡を用いた回転軸の無い V_1-ATPase のコンフォメーション変化の観察**
Observation of Conformational changes of rotorless V_1-ATPase using High-Speed Atomic Force Microscopy
Motonori Imamura[1], Kazuya Nakamoto[2], Takayuki Uchihashi[1,3,4], Takeshi Murata[2,5], Toshio Ando[1,3,4] ([1]*Dept. of Phys., Kanazawa Univ.*, [2]*Grad. Sch. Sci., Chiba Univ.*, [3]*Bio-AFM FRC, Kanazawa Univ.*, [4]*CREST, JST*, [5]*PRESTO, JST*)

3Pos104 **アクチンフィラメントに対する HMM とコフィリンの相互排他的結合の定量的解析**
A quantitative analysis of exclusive binding of HMM and Cofilin to actin filament
Hiroaki Ueno[1], Yuusuke Nishikawa[1], Rika Hirakawa[1], Taiga Imai[1], Taro Q.P. Uyeda[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Sustain. Environ. Eng., Muroran Inst.*, [2]*Biomedical Res. Inst., AIST*)

3Pos105 **フォトクロミック分子で変化する有糸分裂キネシン Eg5 の ATP 分解活性経路の光制御ステップのストップドフロウ解析**
Stopped flow analysis on the photo-regulated step in ATPase kinetic pathway of mitotic kinesin Eg5 modified with photochromic molecule
Kentaro Saito, Kei Sadakane, Yuki Tamura, Ryoma Yamamoto, Shinsaku Maruta (*Grad. Sch. Eng., SOKA Univ.*)

3Pos106 **キネシン Eg5 の新規フォトクロミック阻害剤存在下における運動アッセイと速度論的解析**
Kinetic analysis on the mitotic kinesin Eg5 ATPase and in vitro motility assay in the presence of a novel photochromic inhibitor
Kei Sadakane, Yuhki Tamura, Kentaro Saitoh, Ryoma Yamamoto, Shinsaku Maruta (*Soka University, Graduate school of Engineering, Division of Bioinformatics*)

3Pos107 **好熱菌由来の回転モーター F_1 のカップリングスキーム**
Coupling scheme of the rotary motor thermophilic F_1
Kengo Adachi[1], Kazuhiro Oiwa[2], Masasuke Yoshida[3], Kazuhiko Kinosita, Jr.[1] ([1]*Dept. Physics, Waseda Univ.*, [2]*Adv. ICT Res. Inst., NICT*, [3]*Dep. Mol. Biosci., Kyoto Sangyo Univ.*)

3Pos108 **The structure of the flagellar filament of magnetotactic bacterium MO-1 by electron cryomicroscopy**
Juanfang Ruan[1], Takayuki Kato[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*QBiC, RIKEN*)

3Pos109 **鞭毛内腕ダイニンの形成にはアクチンの N 末端側が重要である**
N-terminal sequence of actin is critical for the assembly of flagellar inner-arm dyneins
Takako Kato-Minoura, Yuko Horikoshi, Kaori Imaeda (*Dept. Biol. Sci., Chuo Univ.*)

3Pos110 **Single-molecule analysis of hybrid *Enterococcus hirae* V_1-ATPase toward elucidation of the chemo-mechanical coupling scheme**
Yoshihiro Minagawa[1], Hiroshi Ueno[1], Hiroyuki Noji[1], Takeshi Murata[2], Ryota Iino[3,4] ([1]*Dept. App. Chem., Grad. Sch. Eng., The Univ. Tokyo*, [2]*Grad. Sch., Univ. Chiba*, [3]*Okazaki Inst. Integ. Biosci., NINS*, [4]*Grad. Univ. for Adv. Studies,*)

3Pos111 **マイコプラズマ滑走タンパク質 Gli349 を構成するリピート断片の立体構造解析**
Structural analysis of repeat fragments consisting of the gliding protein Gli349 from *Mycoplasma mobile*
Junichi Inatomi[1], **Yuuki Hayashi**[1], Yoshihiro Nomura[2], Yoshito Kawakita[3], Masaru Yabe[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.*)

3Pos112 **腸内連鎖球菌由来 V-ATPase の Na^+濃度依存の回転**
Na^+-dependent rotation of *Enterococcus hirae* V-ATPase
Hiroshi Ueno[1], Yoshihiro Minagawa[1], Hiroyuki Noji[1], Takeshi Murata[2], Ryota Iino[3,4] ([1]*Dept. App. Chem.,Grad. Sch. Eng., The Univ. Tokyo*, [2]*Dept. Chem., Grad. Sch. Sci., Univ. Chiba*, [3]*Okazaki Inst. Integ. Biosci., IMS, NINS*, [4]*Dept. of Functional Molecular Science, SOKENDAI*)

3Pos113 **カーボンナノチューブを用いたべん毛モーターの抑制的制御**
Carbon nanotube-based deactivation of bacterial flagellar motors
Yuichi Inoue[1], Yoichiro Sawano[2], Hajime Fukuoka[3], Hiroto Takahashi[1], Ishijima Akihiko[1,3] ([1]*IMRAM, Tohoku Univ*, [2]*Grad. Sch. Life Sci., Tohoku Univ.*, [3]*Grad. Sch. Front. Biosci, Osaka Univ.*)

3Pos114 **ゆらぎ計測によるゼブラフィッシュ色素顆粒輸送の力-速度関係**
Force-velocity relation of organelle transport in Zebrafish melanophores: new fluctuation analysis
Shin Hasegawa[1], Kazuho Ikeda[2], Yasushi Okada[2], Kumiko Hayashi[1] ([1]*Sch. Eng., Tohoku Univ.*, [2]*QBiC, RIKEN*)

3Pos115 **ダイニンによって駆動される微小管の polar あるいは nematic 集団運動**
Polar or nematic motion of collective microtubules driven by dyneins
Naoki Kanatani[1], Takayuki Torisawa[2,3], Hiroaki Kozima[2], Kazuhiro Oiwa[1,2,3] ([1]*Univ. Hyogo*, [2]*NICT*, [3]*CREST, Biodynamics*)

3Pos116 **光応答性 DNA を用いた微小管集団運動の時空間制御**
Spatiotemporally controlled collective motion of self-propelled microtubules by using photoresponsive DNA
Ryuhei Suzuki[1], Kyohei Uenishi[1], Daisuke Inoue[2], Kazuki Sada[1,2], Akinori Kuzuya[3], Hiroyuki Asanuma[4], Akira Kakugo[1,2] ([1]*Grad. Sch. Chem. Sci. Eng., Hokkaido Univ.*, [2]*Fac. Sci., Hokkaido Univ.*, [3]*Fac. Chem. Mater. Bioeng., Kansai Univ.*, [4]*Grad. Sch. Eng., Nagoya Univ.*)

3Pos117 **Formation and rupture of a motorized cytoskeletal network**
Daisuke Taniguchi[1,2], Takayuki Torisawa[2,3], Kazuhiro Oiwa[2,3], Shuji Ishihara[1,2] ([1]*Dep. of Physics, Sch. of Science and Technology, Meiji Uni.*, [2]*CREST, JST*, [3]*Advanced ICT Research Institute, NICT*)

3Pos118 **SH1 ヘリックス変異ミオシン II の運動活性と熱安定性**
Motile activity and thermal stability of SH1 helix mutant myosin II
Kotomi Shibata[1], Sosuke Iwai[2], Shigeru Chaen[1] ([1]*Grad. Sch. Sci., Univ. Nihon*, [2]*Edu., Univ. Hirosaki*)

3Pos119 **高速 AFM によるミオシン VI のモーターメカニズムの解明**
Motor mechanism of myosin VI studied by high-speed AFM
Shiori Sano[1], Noriyuki Kodera[2,3], Daniel Safer[4], H.Lee Sweeney[4], Toshio Ando[1,2,5] ([1]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ*, [2]*Bio-AFM FRC, Inst. of Sci. and Eng., Kanazawa Univ*, [3]*PRESTO, JST*, [4]*Dept. of Physiol., Univ. of Pennsylvania Sch. of Med*, [5]*CREST, JST*)

細胞生物学 / Cell biology

3Pos120 **Detection of TRPC and Orai1 proteins in bovine ciliary muscle cells prepared by a Percoll density-gradient centrifugation method**
Motoi Miyazu, Kosuke Takeya, Toshiyuki Kaneko, Akira Takai (*Asahikawa Medical Univ.*)

3Pos121 **ストレス線維における張力依存的な ERK の活性化**
Tension-dependent ERK activation on actin stress fibers
Hiroaki Hirata[1,2], Mukund Gupta[2], Sri Ram Krishna Vedula[2], Chwee Teck Lim[2,3], Benoit Ladoux[2,4], Masahiro Sokabe[2,5] ([1]*R-Pharm Japan*, [2]*Mechanobiol. Inst., Natl. Univ. Singapore*, [3]*Dep. Biomed. Eng., Natl. Univ. Singapore*, [4]*Univ. Paris Diderot*, [5]*Grad. Sch. Med., Nagoya Univ.*)

3Pos122 **表層ストレス応答を制御する膜内切断プロテアーゼ RseP による基質切断反応の生細胞内イメージング**
Live-cell imaging of a proteolytic event by an intramembrane protease RseP that regulates extracytoplasmic stress response
Yohei Hizukuri, Yoshinori Akiyama (*Inst. Virus Res., Kyoto Univ.*)

3Pos123 **ハイドロゲルの表面力学場及び表面生化学の両条件に対する分散培養 iPS 細胞の増殖応答性**
Proliferation response of dissociated iPS cells to the dual parameters of surface mechanics and biochemistry of culture hydrogel
Kenta Mizumoto[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE., Univ. Kyushu*)

3Pos124 **Rotational diffusion of proteins in crowded environment: NMR spectroscopy and molecular dynamics simulation**
Po-hung Wang[1], Isseki Yu[1], Hideyasu Okamura[2], Takanori Kigawa[2], Yuji Sugita[1,3,4,5] ([1]*RIKEN Theoretical Molecular Science Laboratory*, [2]*RIKEN Yokohama*, [3]*RIKEN AICS*, [4]*RIKEN QBiC*, [5]*RIKEN iTHES*)

3Pos125 **フィラミンのアクチン結合ドメインは、極性をもった粘菌細胞後部のアクチンフィラメントを認識し特異的に結合する**
Actin binding domain of filamin recognizes and specifically binds to posterior actin filaments in polarized *Dictyostelium* cells
Keitaro Shibata, **Taro Uyeda** (*Biomed. Res. Inst., AIST*)

3Pos126 **心室・心房の組織片による自律拍動の同期化**
Synchronization of spontaneous beating of tissue fragments of atrium and ventricle
Ryuichi Shinozaki, Tomonori Takahashi, Yuichi Asanuma, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

3Pos127 **細胞サイズ球状閉鎖空間内でのアクトミオシンリングの自発形成と収縮**
Cell-sized spherical confinement induces the spontaneous formation of contractile actomyosin rings *in vitro*
Makito Miyazaki[1], Masataka Chiba[1], Hiroki Eguchi[1], Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

3Pos128 **大腸菌走化性シグナル伝達タンパク質の極局在と細胞内シグナル伝達の関係**
Relationship between polar localization of chemotactic proteins and intracellular signaling under steady-state of *Escherichia coli*
Yong-Suk Che[1], Hajime Fukuoka[1], Yuichi Inoue[2], Hiroto Takahashi[2], Akihiko Ishijima[1] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ*, [2]*IMRAM, Tohoku Univ*)

3Pos129 **バクテリア FlgN シャペロンの機能構造スイッチの分子基盤**
Molecular basis for a structural switch of FlgN that regulates its chaperone activity
Miki Kinoshita[1,2], Yuki Nakanishi[2], Yukio Furukawa[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*)

3Pos130 **アクチン結合タンパク質によって変化するアクチン繊維内モノマーの位置ゆらぎ**
ABPs alter the fluctuations of monomer configurations within an actin filament
Hirotaka Ito[1], Kohei Monma[1], Sakura Maesato[1], Kenji Kobayashi[1], Ryoki Ishikawa[2], Hazime Honda[1] ([1]*Dept. of Bioneg., Nagaoka Univ. Tech*, [2]*Gunma Pref. Col. Health Sci.*)

3Pos131 **変異リアノジン受容体における分子動力学解析とカルシウムシグナル可視化解析の相関**
Correlation of molecular dynamics analysis and calcium signaling in mutant ryanodine receptors
Toshiko Yamazawa[1], Takashi Murayama[2], Hideto Oyamada[3], Junji Suzuki[4], Nagomi Kurebayashi[2], Kazunori Kanemaru[4], Maki Yamaguchi[1], Shigeru Takemori[1], Katsuji Oguchi[3], Takashi Sakurai[2], Masamitsu Iino[4] ([1]*Dept Mol. Physiol., Jikei Univ. Sch. Med.*, [2]*Dept. Pharmacol., Juntendo Univ. Sch. Med.*, [3]*Dept. Pharmacol., Sch. Med., Showa Univ.*, [4]*Dept. Pharmacol., Grad. Sch. Med., The Univ. Tokyo*)

3Pos132 **再構成系を用いた WAVE 複合体制御分子機構の解明**
Reconstitution of the WAVE complex regulation mechanism
Tomotaka Komori[1,2], Scott Hansen[2], R. Dyche Mullins[2] ([1]*Univ. of Tokyo*, [2]*UCSF*)

3Pos133 **超解像イメージングを用いた単離ミトコンドリアの膜構造観察**
Super-resolution Imaging of Isolated Mitochondria with Structured Illumination Microscopy
Takahiro Shibata[1], Saki Yamashita[1], Kaoru Katoh[2], Yoshihiro Ohta[1] ([1]*Grad. Sch. Life Sci. & Bio Tech., TUAT*, [2]*AIST*)

3Pos134 **機能的な FRET プローブを用いた一細胞における大腸菌走化性受容体活性の検出**
The detection of chemoreceptor cluster's activity in a single *E. coli* cell by the functional FRET probe
Tomoko Horigome[1], Hajime Fukuoka[2], Hiroto Takahashi[3], Yuichi Inoue[3], Akihiko Ishijima[2,3] ([1]*Grad. Sch. Life Sci., Tohoku Univ.*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*IMRAM, Tohoku Univ.*)

3Pos135 **SOS を介した Ras positive feedback 制御から見た SOS Noonan 症候群変異体の分類**
Classification of molecular dynamics in SOS Noonan syndrome mutants from the properties of SOS-mediated RAS positive feedback
Yuki Nakamura[1,2], Kayo Hibino[3], Yasushi Sako[1,2] ([1]*RIKEN*, [2]*Osaka university*, [3]*NIG*)

3Pos136 **単一心筋細胞の細胞外電位計測**
Measurement of extracellular potential in single cardiomyocyte
Jyunpei Shimada[1], Kenji Yasuda[2], **Tomoyuki Kaneko**[1] ([1]*LaRC, Dept. Frontier Biosci., Hosei Univ.*, [2]*IBB, TMDU*)

3Pos137 **原子間力顕微鏡によるホヤ初期発生胚の弾性率の時空間測定**
Spatial-temporal change in elastic modulus of ascidian embryo during an early stage of development by atomic force microscopy
Yuki Fujii[1], Wataru Koizumi[2], Kohji Hotta[2], Kotaro Oka[2], Takaharu Okajima[1] ([1]*Grad. Sch. Inform. Sci and Tech., Univ. Hokkaido*, [2]*Grad. Sch. Biosci. and Bioinfo., Univ. Keio*)

3Pos138 **接着分子 CADM1 による膵島 α 細胞グルカゴン分泌調節機構の解明**
Cell adhesion molecule 1 (CADM1) regulate glucagon secretion in pancreatic α cells
Satoru Yokawa[1,2], Ryousuke Oguri[2], Yoshikazu Inoh[2], Ryo Suzuki[2], Tadahide Furuno[2], Naohide Hirashima[1] ([1]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [2]*Sch. Pharm., Aichi Gakuin Univ.*)

3Pos139 **HubP は FlhG を極に局在させることで海洋性ビブリオ菌のべん毛本数を制御する**
HubP regulates the flagellar number by localizing FlhG at the cell pole in marine *Vibrio*
Norihiro Takekawa, Soojin Kwon, Seiji Kojima, Michio Homma (*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*)

3Pos140 **ビブリオ菌 PomB 変異に対するべん毛モーター機能へのセリンの影響**
Effect of serine on the flagellar motor function of a PomB mutant in *Vbrio alginolitycus*
Tatsuro Nishikino, Yasuhiro Onoue, Norihiro Takekawa, Shiwei Zhu, Seiji Kojima, Michio Homma (*Nagoya University Graduate School of Science*)

3Pos141 **細胞性粘菌における高感度膜電位イメージング**
High-sensitivity fluorescence imaging of membrane potential in *Dictyostelium*
Yusuke V. Morimoto[1], Masahiro Ueda[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Sci., Osaka Univ.*)

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

3Pos142 **固体 NMR と MD シミュレーションによる抗菌ペプチド ボンビニン H2 および H4 の DMPC 膜結合構造の解析**
Membrane binding structure of Bombinin H2 and H4 peptides in DMPC bilayers as studied by solid-state NMR and MD simulation
Izuru Kawamura[1], Yuki Kitahashi[1], Namsrai Javkhlantugs[1,2], Nyamsambuu Altannavch[2], Kazuyoshi Ueda[1], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Natl Univ. Mongolia*)

3Pos143 **オクタアルギニンの膜透過促進効果を示す曲率誘導性ペプチド**
Curvature Inducing Peptides Accelerating Membrane Translocation of Octaarginine (R8)
Tomo Murayama, Shiroh Futaki (*ICR, Kyoto Univ.*)

3Pos144 **ラマン分光によるスフィンゴミエリンの膜分布に関する研究**
Sphingomyelin distribution in model membranes by Raman Spectroscopy
Koichiro Shirota[1], Kiyoshi Yagi[2], Takehiko Inaba[1], Pai-Chi Li[2], Yuji Sugita[2], Toshihide Kobayashi[1] ([1]*LBL, RIKEN*, [2]*TMSL, RIKEN*)

3Pos145 **合成生物学研究のための一枚膜ベシクル内 DNA コンピュータ基盤遺伝子調節システムの開発**
Development of a DNA computer-based gene-regulatory system confined in a giant unilamellar vesicle for synthetic biology research
Koh-ichiroh Shohda[1], Toru Nishikata[1], Yutetsu Kuruma[2], Akira Suyama[1] ([1]*The University of Tokyo*, [2]*Tokyo Institute of Technology*)

3Pos146 **長鎖リン脂質と短鎖リン脂質で構成される脂質多成分系の相挙動と構造変化**
The phase behavior and the structural changes of lipid multi-component system consisting of long- and short-chain phospholipids
Ryota Kobayashi, Tetsuhiko Ohba (*Dept. of Phys., Tohoku Univ.*)

3Pos147 **膜タンパク質の機能構造解析を指向した安定かつサイズ制御可能なナノディスクの開発**
Development of stable and size-controllable nanodiscs for biophysical analysis of membrane proteins
Hiroaki Kondo, Keisuke Ikeda, Minoru Nakano (*Grad. Sch. Med. Pharm. Sci., Univ. Toyama*)

3Pos148 **アクチン重合によって引き起こされるリポソームの変形に与えるリン脂質組成の影響**
Effect of lipid composition on the actin polymerization-driven shape change of giant liposomes
Shunsuke Tanaka, Masahito Hayashi, Kingo Takiguchi (*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*)

3Pos149 **巨大細胞膜小胞をマニピュレーションするための新規デバイスの開発**
Development of new device for manipulation of giant plasma membrane vesicles
Keishi Sato[1], Rebun Sakane[2], Takayuki Nakaya[2], Takashi Okuno[3] ([1]*Grad. Sch. Sci. Eng., Univ. Yamagata*, [2]*Namiki Precision Jewel Co., Ltd*, [3]*Fac. Sci., Univ. Yamagata*)

生体膜･人工膜：動態 / Biological & Artificial membrane: Dynamics

3Pos150 **抗菌ペプチド・PGLa が誘起する脂質膜中のポア形成とマガイニン２との相乗効果**
Antimicrobial Peptide PGLa-Induced Pore Formation in Lipid Membranes and its Synergistic Effect with Magainin 2
Farliza Parvez[1], Jahangir Md. Alam[2], Hideo Dohra[3], Masahito Yamazaki[1,2,4] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*, [3]*Res. Inst. Green Sci. Tech., Shizuoka University*, [4]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*)

3Pos151 **Activation energy of the tension-induced pore formation in lipid membranes**
Mohammad Abu Sayem Karal[1], Masahito Yamazaki[1,2] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

3Pos152 **Effects of Line Tension on Antimicrobial Peptide Magainin 2-Induced Pore Formation**
Jahangir Md. Alam[1], Mohammad Abu Sayem Karal[2], Victor Levadny[3], Masahito Yamazaki[1,2,4] ([1]*Res. Inst. Electronics, Shizuoka Univ.*, [2]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [3]*Theo. Pro. Center Phys.-Chem. Pharm., Rus. Acad. Sci.*, [4]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*)

3Pos153 **膜タンパク質-脂質相互作用の定量的解析法の開発と応用**
Quantitative analysis of protein-lipid interactions
Takaharu Mori, Yuji Sugita (*RIKEN*)

3Pos154 **脂質二重膜の流動性へのグラフェン酸化物の影響**
Effect of graphene oxide substrate on the fluidity of lipid bilayer membrane
Yoshiaki Okamoto[1], Toshinori Motegi[2], Seiji Iwasa[1], Adarsh Sandhu[2], Ryugo Tero[1,2,3] ([1]*Dept. Environmental and Life Sci., Toyohashi Univ. Tech.*, [2]*EIIRIS, Toyohashi Univ. Tech.*, [3]*CREST, JST*)

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

3Pos155 **Conformational Control of Voltage Sensor Domains**
Morten Bertz, Kazuhiko Kinosita, Jr. (*Waseda University, Dpt. of Physics*)

3Pos156 **電位依存性プロトンチャネルの 2 量体と単量体間のゲーティング特性の違いを増大させる変異体の解析**
Mutation of a hydrophobic residue in S4 enhances the difference between monomeric and dimeric voltage-gated proton channels
Akira Kawanabe, Yasushi Okamura (*Osaka University*)

3Pos157 **イオン透過と選択性を記述する速度論モデル**
A kinetic model describing punch-through of Na^+ through KcsA potassium channel
Takashi Sumikama, Kenichiro Mita, Shigetoshi Oiki (*Univ. of Fukui*)

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

3Pos158 **Proton transfer between cytochrome oxidases and the ATP synthase: examining the role of the membrane environment**
Duncan McMillan[1,2], Sophie Marritt[3], Mengqui Li[2], Sune Jorgensen[4], Rikya Watanabe[1], Nikos Hatzakis[4], Julea Butt[3], Lars Jeuken[2], Gregory Cook[5], Hiroyuki Noji[1] ([1]*Department of Applied Chemistry, University of Tokyo, Tokyo, Japan*, [2]*School of Biomedical Sciences, University of Leeds, Leeds, UK*, [3]*School of Chemistry, Norwich Research Park, University of East Anglia, UK*, [4]*Nanoscience Center, University of Copenhagen, Copenhagen, Denmark*, [5]*Department of Microbiology and Immunology, University of Otago, Dunedin, New Zealand*)

3Pos159 **反転膜ベシクルを用いたべん毛軸構造の構築**
Construction of the flagellar axial structure using inverted membrane vesicles
Chinatsu Tatsumi[1], Hiroyuki Terashima[1], Tohru Minamino[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Grad. Sch. Frontier Biosciences., Univ. Osaka*)

3Pos160 **リン脂質輸送タンパク質 Sec14 のホスファチジルコリン輸送に対する脂質膜組成の影響**
Effect of membrane-components on Sec14-mediated phosphatidylcholine transfer
Taichi Sugiura, Keisuke Ikeda, Minoru Nakano (*Grad. Sch. Med. Pharm. Sci., Univ. Toyama*)

神経科学･感覚 / Neuroscience & Sensory systems

3Pos161 **線虫（C. elegans）がかぎ分けられるにおい濃度差を行動と神経活動から明らかにする**
Specific behavior and neural activity of Caenorhabditis elegans unveil how exactly it detects difference of odor concentration
Hisashi Shidara, Masanari Makino, Kohji Hotta, Kotaro Oka (*Grad. Sch. Sci. and Tech., Keio Univ.*)

3Pos162 **視覚ー味覚条件付けによるモノアラガイの視覚特性の検討**
Experimental study about the visual characteristics of a pond snail, *Lymnaea stagnalis*, by visual-appetitive conditioning
Satoshi Takigami[1], Momoko Koide[2], Tetsuro Horikoshi[2] ([1]*Grad. Sch. Bio., Tokai Univ.*, [2]*Dept. Biomed. Eng., Sch. Engineering, Tokai Univ.*)

3Pos163 **カエル神経筋接合部シナプスでの短期可塑性の二項分布解析: 促通では放出可能な小胞数が増加し、増強では放出確率が増加する**
Binomial distribution analysis of short-term plasticity, facilitation and potentiation, at the frog NMJ: n and p increases, respectively
Naoya Suzuki (*Dept. Phys., Sch. Sci., Nagoya Univ.*)

神経回路･情報処理 / Neuronal circuit & Information processing

3Pos164 **培養神経回路網における神経活動パターンの時間遷移の解析**
Analysis of the transition of electrical activity patterns in cultured neuronal cells
Takumi Okada, Keisuke Izutani, Hidekatsu Ito, Wataru Minoshima, Suguru N. Kudoh (*Sch. Sci. & Tech., Kwansei Gakuin Univ.*)

3Pos165 **やわらかいボディのダイナミクスを用いて情報処理を実装する**
Information Processing Using Soft Body Dynamics
Kohei Nakajima[1,2] ([1]*The Hakubi Center for Advanced Research, Kyoto University*, [2]*Graduate School of Informatics, Kyoto University*)

3Pos166 **ランビエ絞輪近傍の BK チャネルは軸索の高頻度発火を制御する**
Paranodal BK channels regulate high frequency firing in myelinated axons
Moritoshi Hirono, Hiroaki Misonou (*Grad Sch Brain Sci, Doshisha Univ*)

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

3Pos167 **In-situ 光照射固体 NMR による ppR/pHtrII 複合体の光反応過程の解析**
Hotoreaction pathway of ppR/pHtrII as revealed by in-situ photo irradiation solid-state NMR
Yoshiteru Makino[1], Yuya Tomonaga[1], Tetsurou Hidaka[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Yuki Sudo[3], Naoki Kamo[3], Akira Naito[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.*)

3Pos168 **小角 X 線溶液散乱によるアレスチンとロドプシンの相互作用の解析**
Interaction between visual arrestin and membrane-embedded rhodopsin studied by solution small-angle X-ray scattering
Yasushi Imamoto[1], Kojima Keiichi[1], Toshihiko Oka[2,3], Ryo Maeda[1], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Fac. Sci., Shizuoka Univ.*, [3]*Research Inst. Electronics, Shizuoka Univ.*)

3Pos169 **シロイヌナズナ phototropin 2 のＸ線小角散乱による構造研究**
Small-angle X-ray scattering study of Arabidopsis phototropin 2
Mao Oide[1,2], Koji Okajima[1,2], Yuki Sekiguchi[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Takaaki Hikima[2], Masaki Yamamoto[2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*)

3Pos170 **ロドプシンはラフト親和性の短寿命ナノドメインを形成しながら拡散している**
Rhodopsin diffuses in disc membranes by forming raftophilic and transient nanodomains
Fumio Hayashi[1], N. Saito[1], Y. Tanimoto[2], K. Morigaki[2], K. Seno[3] ([1]*Grad. Sch. Sci. Univ. Kobe*, [2]*Grad. Sch. Agri. Univ. Kobe*, [3]*Univ. Sch. Med. Hamamatsu*)

3Pos171 **トランスデューシン活性化能を有するロドプシン褪色中間体と Meta II 中間体の同一性に関する検討**
Does Meta II correspond to R*, the bleaching intermediate activating transducin?
Shuji Tachibanaki[1,2], Ryota Kumakura[1], Whei-Ee Tang[1], Yoichiro Fukunaga[1], Satoru Kawamura[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*)

3Pos172 **Ab initio MD シミュレーションによる PYP の活性部位水素結合ネットワークの解析**
Ab initio MD study on the dynamic structure of the hydrogen bond network in the active site of PYP
Yusuke Kaneta, Hiroshi Watanabe, Tadaomi Furuta, **Minoru Sakurai** (*Center for Biol. Res. & Inform., Tokyo Tech*)

3Pos173 **PYP - Phytochrome Related Protein の発色団が構造へ与える影響**
Effects of chromophores of PYP - Phytochrome Related Protein on the structure
Keito Yoshida, Kento Yonezawa, Yoichi Yamazaki, Mikio Kataoka, Hironari Kamikubo (*Grad. Sch. Mat. Sci., NAIST*)

3Pos174 **液体中ナノ空間拘束下の量子効率増強：色素分子の光学的ホールバーニング過程**
Enhancement of quantum efficiency in a nanometer-sized confinement in liquids: optical hole-burning processes of dye molecules
Hiroshi Murakami (*KPSI, JAEA*)

3Pos175 **Isotope-labeled DNA substrate revealed site-specific interaction with CPD photolyase**
I M. Mahaputra Wijaya[1], Tatsuya Iwata[1], Toshihiko Hamamura[2], Junpei Yamamoto[2], Kenichi Hitomi[3], Shigenori Iwai[2], Elizabeth D. Getsoff[3], Hideki Kandori[1] ([1]*Dept. of Frontier Materials, Nagoya Institute of Technology, Japan*, [2]*Grad. Sch. of Engineering Science, Osaka University, Japan*, [3]*Dept. of Integrative Structural and Computational Biology and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, USA*)

3Pos176 **Crystallographic study of the LM intermediate of squid rhodopsin**
Midori Murakami, Tsutomu Kouyama (*Grad. Sch. Sci., Nagoya Univ.*)

光生物：光合成 / Photobiology: Photosynthesis

3Pos177 **光合成のマルチ時間スケールダイナミクスに対するシステム解析**
Systems approach to the multi-timescale dynamics of photosynthesis
Takeshi Matsuoka[1], Shigenori Tanaka[2], Kuniyoshi Ebina[3] ([1]*KOZO KEIKAKU ENGINEERING Inc.*, [2]*Grad. Sch. Sys. Info., Kobe Univ.*, [3]*Grad. Sch. Hum. Dev. and Env., Kobe Univ.*)

3Pos178 **ホウレン草の PSII 反応中心に生成する光電荷分離状態の時間分解 EPR**
Time resolved EPR study on photoinduced primary charge-separated state of the PSII reaction center from spinach
Masashi Hasegawa[1], Takahiro Sakai[2], Hiroki Nagashima[2], Takashi Tachikawa[1], Hiroyuki Mino[2], Kobori Yasuhiro[1] ([1]*Grad. Sch. Sci., Kobe Univ.*, [2]*Grad. Sch. Sci., Nagoya Univ.*)

3Pos179 **Thermochromatium tepidum 由来 LH1-RC 複合体における耐熱化の分子機構：同位体置換体の FTIR 分析**
Molecular mechanisms for the enhanced thermal stability of LH1-RC complex from Thermochromatium tepidum: isotope-edited FTIR spectroscopy
Yukihiro Kimura[1], Yuki Yura[1], Li Yong[1], Seiu Otomo[2], Takashi Ohno[1] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*Fac. Sci., Ibaraki Univ.*)

3Pos180 **Formation of complexes between genetically modified photosystem I and single-walled carbon nanotubes**
Daisuke Nii[1], Yuichiro Shimada[2], Akane Hosokawa[2], Yosuke Nozawa[3], Masahiro Ito[1], Yoshikazu Homma[1], Tatsuya Tomo[1] ([1]*Department of Physics, Graduate School of Science, Tokyo University of Science*, [2]*Department of Industrial Chemisty, Tokyo University of Science*, [3]*Department of Physics, Tokyo University of Science*)

3Pos181 **光合成水分解 Mn_4CaO_5 クラスターの光活性化における Mn^{2+}結合部位の ATR-FTIR 検出**
ATR-FTIR detection of the Mn^{2+} binding site in photoactivation of the water-oxidizing Mn_4CaO_5 cluster in photosystem II
Akihiko Sato, Shin Nakamura, Takumi Noguchi (*Grad. Sch. Sci., Univ. Nagoya*)

3Pos182 **光化学系 II の部位特異的変異導入によるクロロフィル二量体 P680 の電子構造の**
Electronic structure of the chlorophyll dimer P680 modified by site-directed mutation at a nearby amino acid residue in photosystem II
Motoki Yamaguchi, Ryo Nagao, Takumi Noguchi (*Division of Material Science, Graduate School of Science, Nagoya University*)

放射線生物学･活性酸素 / Radiobiology & Active oxygen

3Pos183 **重イオン線照射によってヒト正常線維芽細胞に誘導されるバイスタンダーシグナル**
Heavy-ion induced bystander signaling in normal human fibroblasts
Masanori Tomita[1], Hideki Matsumoto[2], Tomoo Funayama[3], Yuichiro Yokota[3], Kensuke Otsuka[1], Munetoshi Maeda[1,4], Yasuhiko Kobayashi[3] ([1]*Radiat. Safety Res. Cent., CRIEPI*, [2]*Biomed. Imaging Res. Cent., Univ. Fukui*, [3]*Radiat. Biol. Res. Div., QuBS, JAEA*, [4]*R&D, WERC*)

3Pos184 **超音波によるケージド化合物の活性化のメカニズム**
Mechanism of activation of caged compounds induced by ultrasound
Haruko Koura[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.*)

生命の起源･進化 / Origin of life & Evolution

3Pos185 **凍結融解を用いたリポソーム融合手法の確立と継続的な RNA 複製反応を伴う人工細胞増殖システムの構築**
Reconstitution of artificial cell growth by coupling the RNA replication and propagation in liposomes using a freeze-thawing method
Gakushi Tsuji[1], Satoshi Fujii[2], Takeshi Sunami[3], Tetsuya Yomo[1,2] ([1]*Fbs, Osaka University*, [2]*IST, Osaka University*, [3]*IAI, Osaka University*)

3Pos186 **大腸菌クローン集団の抗生物質に対する不均一な応答**
Heterogeneous Responses to Antibiotic stress in a Clonal Population of *Escherichia coli*
Miki Umetani[1], Yuichi Wakamoto[2,3], Chikara Furusawa[1] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Arts and Sci., Univ. of Tokyo*, [3]*Research Center for Complex Systems Biology*)

ゲノム生物：ゲノム構造 / Genome biology: Genome structure

3Pos187 **細胞外刺激前後のクロマチンダイナミクスの変化の 1 分子イメージング解析**
Single molecule imaging analysis of chromatin dynamics in response to extracellular stimulation
Kayo Hibino[1,2], Ryosuke Nagashima[1,2], Kazuhiro Maeshima[1,2] ([1]*NIG*, [2]*SOKENDAI*)

バイオインフォマティクス：ゲノム構造 / Bioinformatics: Structural genomics

3Pos188 **タンパク質における分子トンネルの形状分析**
A Method for Detecting and Analyzing Shapes of Molecular Tunnels in Proteins
Midori Yano[1], Kei Yura[1,2] ([1]*Grad. Sch. Hum. Sci., Univ. Ochanomizu*, [2]*NIG*)

3Pos189 **剛体アンサンブルドッキングによって得られた候補構造群における相互作用残基ペアの特徴の解析**
Analysis of background interaction properties of protein complexes generated by rigid-body ensemble docking
Nobuyuki Uchikoga[1], Yuri Matsuzaki[2], Masahito Ohue[3], Yutaka Akiyama[2,3] ([1]*Dept. of Physics, Chuo Univ.*, [2]*ACLS, Tokyo Tech*, [3]*Grad. Sch. of Inform. Sci. and Eng, Tokyo Tech*)

3Pos190 **アミノ酸プロファイルによるタンパク質ペプチド複合体のポストドッキング解析**
Post-docking analysis of protein-peptide complex structure using amino acid profiles
Masahito Ohue[1], Nobuyuki Uchikoga[2], Yuri Matsuzaki[3], Yutaka Akiyama[1,3] ([1]*Dept. Comput. Sci., Grad. Sch. Inform. Sci. Eng., Tokyo Tech.*, [2]*Dept. Phys., Facul. Sci. Eng., Chuo Univ.*, [3]*ACLS, Tokyo Tech.*)

3Pos191 **タンパク質構造の持つトポロジーの安定性を評価する**
How to estimate topological stability of protein structures
Shintaro Minami[1], George Chikenji[2], Motonori Ota[1] ([1]*Dept. of Comp. Sci., Nagoya Univ.*, [2]*Dept. of Eng., Nagoya Univ.*)

3Pos192 **β-Trefoil タンパクのフォールディングコアの残基間平均距離統計に基づく予測**
Prediction of folding nuclei of beta-Trefoil proteins based on the inter-residue average distance statistics
Takuya Kirioka, Norihiro Kanemaru, Takeshi Kikuchi (*Ritsumeikan University*)

バイオインフォマティクス：ゲノム機能 / Bioinformatics: Functional genomics

3Pos193 **サポートベクターマシンを用いたアミノ酸配列からの脂質結合予測および脂質結合残基予測**
Predicting lipid-binding proteins and lipid-binding residues from amino acid sequences by using support vector machine
Kokoro Ueki, Shugo Nakamura, Kentaro Shimizu (*Grad Sch. of Agr., The Univ. of Tokyo*)

生態･環境 / Ecology & Environment

3Pos194 **少数個体がつくる鮎の群れに内在する相互作用構造**
Interaction Structure of fish schools in a small population
Takayuki Niizato[1], Hisashi Murakami[2], Kazuki Sangu[1], Yuta Nishiyama[3], Kohei Sonoda[4], Yukio Gunji[2] ([1]*Tsukuba University*, [2]*Waseda University*, [3]*Osaka University*, [4]*Shiga University*)

数理生物 / Mathematical biology

3Pos195 **マイクロアレイデータに基づく植物の遺伝子発現揺らぎと機能の関係**
Analysis of relationship between noise of gene expression and function of plants based on microarray data
Kodai Hirao[1], Atsushi Nagano[2], Akinori Awazu[1,3] ([1]*Dept. of Mathematical and Life Sciences, Hiroshima Univ*, [2]*Dept. of Plant Life Sciences, Ryukoku Univ*, [3]*RcMcD, Hiroshima Univ*)

3Pos196 **3 次元細胞シミュレーションにおける高次精度・高解像度スキームの評価**
Evaluation of higher order and high resolution schemes for 3D cell simulation
Chikara Sawa[1], Masakazu Tanaka[1], Hayato Takeuchi[1], Kiminori Toyooka[2], **Eisuke Chikayama**[1,3,4] ([1]*Niigata Univ. Inter. Infor. Stud.*, [2]*Mass Spec. Micros. Unit, RIKEN*, [3]*Env. Metab. Aanal. Res. Team, RIKEN*, [4]*Image Proc. Res. Team, RIKEN*)

3Pos197 **分子の種類を識別する細胞情報処理の確率モデルとその情報論的考察**
Stochastic modeling and information-theoretical study of molecular discrimination
Masashi K. Kajita[1], Kazuyuki Aihara[1,2], Tetsuya J. Kobayashi[2] ([1]*Grad. Sch. Inf. Sci. Tech., Univ. Tokyo*, [2]*IIS, Univ. Tokyo*)

3Pos198 **On thermodynamics of macromolecular association in vivo: Theoretical and simulation studies with a coarse-grained model**
Tadashi Ando[1], Yuji Sugita[1,2,3,4], Michael Feig[5] ([1]*RIKEN QBiC*, [2]*RIKEN AICS*, [3]*RIKEN iTHES*, [4]*RIKEN TMS*, [5]*Michigan State Univ.*)

3Pos199 **Clausius Inequality in Population Growth**
Yuki Sugiyama, Tetsuya J. Kobayashi (*IIS, Univ. Tokyo*)

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

3Pos200 **バクテリアケモスタットのためのマイクロ流体デバイスの構築**
Development of microfluidic device for bacterial chemostat
Manami Ito[1], Haruka Sugiura[1], Shotaro Ayukawa[1,2], Daisuke Kiga[1,3], Masahiro Takinoue[1,4] ([1]*Dept. Comput. Intell. Syst. Sci., Tokyo Tech.*, [2]*ACLS, Tokyo Tech.*, [3]*ELSI, Tokyo Tech.*, [4]*PRESTO, JST*)

3Pos201 **匂いを嗅ぎ走り出す走化性液滴：ガス刺激からの逃避行動への応答**
Chemotactic behavior of a liquid droplet: Smelling and escaping against evil gas
Hiroki Sakuta[1], Nobuyuki Magome[2], Yoshihito Mori[3], Kenichi Yoshikawa[1] ([1]*Facul. Lif. Med. Sci., Doshisha Univ.*, [2]*Chem., Dokkyo Med. Univ.*, [3]*Facul. Sci., Ochanomizu Univ.*)

計測 / Measurements

3Pos202 **In situ マイクロ波照射 NMR 法を用いた生体系におけるマイクロ波効果の解析**
Analysis of microwave effects on biological system by in situ microwave irradiation NMR spectroscopy
Yugo Tasei[1], Takuya Yamakami[2], Fumikazu Tanigawa[1], Izuru Kawamura[1], Teruaki Fujito[3], Kiminori Ushida[2], Motoyasu Sato[4], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Department of Chemistry, School of Science, Kitasato University*, [3]*Probe Laboratory Inc.*, [4]*Faculty of Engineering, Chubu University*)

3Pos203 **光制御水素化アモルファスシリコン薄膜上の化学反応性積層ゲルを用いた植物由来分子の検出**
Detection of plant derived molecules using electrochemical laminated gels photo-controlled on hydrogenated amorphous silicon film
Shotaro Minato[1], Yutaka Tsujiuchi[1], Hiroshi Masumoto[2], Takashi Goto[3] ([1]*Material Science and Engineering, Akita University*, [2]*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*, [3]*Institute for Materials Research, Tohoku University*)

3Pos204 **バクテリアプロトプラストとマイクロ膜チャンバーの融合細胞内部の ATP 濃度の測定**
Measurement of ATP concentration in fusion cell of bacterial protoplast into micro-sized lipid membrane chamber
Hiroki Ashikawa[1], Kazuhito Tabata V.[1,2], Rikiya Watanabe[1,3], Hideyuki Yaginuma[3,4], Hiroyuki Noji[1,3] ([1]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, [2]*PRESTO, JST*, [3]*CREST, JST*, [4]*QBiC, RIKEN*)

3Pos205 **超高感度 ELISA の開発：血中 HIV-1 p24 ならびに尿中アディポネクチンの測定**
Ultrasensitive ELISA: Detection of HIV-1 p24 in blood and that of adiponectin in urine at attomole level
Etsuro Ito (*Kagawa Sch. Pharmaceu. Sci., Tokushim Bunri Univ.*)

3Pos206 **原子間力顕微鏡による力学的単一細胞診断：細胞力学量のばらつきの空間依存性**
Single cell mechanical diagnostics using atomic force microscopy: how cell-to-cell mechanical variation depends on the cell position
Maki Sawano[1], Kaori Shigetomi(Kuribayashi)[1], Kinho Shu[1], Ryosuke Takahashi[1], Agusu Subagyo[2], Kazuhisa Sueoka[2], Ryosuke Tanaka[1], Takaharu Okajima[1] ([1]*Grad. Sch. bio., Univ. Hokkaido*, [2]*Grad. Sch. Nano., Univ. Hokkaido*)

バイオイメージング / Bioimaging

3Pos207 **Development of target-specific single-dot chemical probes in live cells via intracellular click reaction**
Yanyan Hou[1], Satoshi Arai[1], Tetsuya Kitaguchi[1,2], Madoka Suzuki[1,2] ([1]*WASEDA Biosci Res Inst Singapore (WABIOS)*, [2]*Org Univ Res Initiatives, Waseda Univ*)

3Pos208 **一分子観察のための高速 AFM /チップ増強蛍光顕微鏡複合機**
Combined system of HS-AFM and tip-enhanced fluorescence microscopy for single molecular imaging
Shingo Fukuda[1], Takayuki Uchihashi[1,2], Ryota Iino[3], Toshio ANdo[1,2] ([1]*Sch. Math. & Phys., Col. Sci. & Eng., Kanazawa Univ.*, [2]*Bio-AFM FRC, Inst. Sci. & Eng., Kanazawa Univ*, [3]*Okazaki Inst. Integr. Biosci., NINS*)

3Pos209 **仮想電子顕微鏡 VEM の開発**
Development of virtual electron microscopy to supply unified user interface
Ayaka Iwasaki (*Kyushu Institute of Technology*)

3Pos210 **大量データ計測技術を用いたシアノバクテリアの低温コヒーレントＸ線回折イメージング**
Cryogenic coherent X-ray diffraction imaging of cyanobacteria using the high-throughput measurement techniques
Amane Kobayashi[1,2], Yuki Sekiguchi[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Yayoi Inui[3], Sachihiro Matsunaga[3], Yuki Takayama[2], Masaki Yamamoto[2] ([1]*Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*, [3]*Sci. Tech., Tokyo Univ. Sci.*)

3Pos211 **細胞内リン酸化タンパク質の多並列超迅速解析法**
Multi-parallel super rapid analysis methods of intracellular phosphoproteins
Naoki Takeuchi[1], Miho Suzuki[1], Akira Kurisaki[2], Koichi Nishigaki[1] ([1]*Grad. Sch. of Sci. and Eng., Saitama Univ.*, [2]*AIST*)

3Pos212 **シグナル分子の時空間的に異なる局在が走化性を調節している**
Spatiotemporal different localizations of multiple signaling molecules mediate chemotaxis in Dictyostelium cells
Yuki Tanabe[1,2], Masahiro Ueda[1,2] ([1]*Graduate school of Science, Osaka University*, [2]*QBiC, RIKEN*)

3Pos213 **CLIP-170 phosphorylation mediates repositioning of microtubule-organizing center during T cell activation**
Wei Ming Lim, Yuma Ito, Makio Tokunaga, Kumiko Sakata-Sogawa (*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*)

3Pos214 **リポ多糖刺激における炎症抑制タンパク質 PDLIM2 活性化のイメージング定量解析**
Quantitative imaging 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]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

3Pos215 **温度上昇に伴うマクロファージ運動の活性化**
Activation of motility of macrophage at temperature jump
Hideo Saitou, Masamine Shintani, Sayaka Kita, Hideo Higuchi (*The university of tokyo*)

3Pos216 **高感度および高解像度電気化学チップデバイスによる幹細胞の機能イメージング**
Electrochemical imaging of stem cell function using high-sensitivity and high-resolution electrochemical chip devices
Yusuke Kanno[1], Kosuke Ino[1], Hitoshi Shiku[1], Tomokazu Matsue[1,2] ([1]*Graduate School of Environmental Studies, Tohoku Univ.*, [2]*WPI-Advanced Institute for Materials Research, Tohoku Univ.*)

3Pos217 **ゼブラフィッシュグリア細胞活動の In vivo イメージング**
In vivo imaging of glial cell activity in zebrafish
Hiroko Bannai, Masashi Tanimoto, Shigeo Sakuragi, Yurie Matsutani, Yoichi Oda (*Grad. Sch. Biol. Sci., Univ. Nagoya*)

3Pos218 **VSFG 検出赤外超解像顕微分光法による羽毛 β-ケラチンの分子配向赤外イメージング**
Orientation-sensitive IR imaging of feather β-keratins by a VSFG-detected IR super-resolution micro-spectroscopy
Yukihisa Watase, Kohei Ushio, Masaaki Fujii, Makoto Sakai (*Chem. Res. Lab, Tokyo. Tech*)

バイオエンジニアリング / Bioengineering

3Pos219 **マイクロ波照射下での酵素反応の出力依存性に関する研究**
The study of microwave output dependence on enzymatic reaction under microwave irradiation
Fujiko Aoki[1], Kenshi Haraguchi[2], Arata Shiraishi[1], Syokichi Ohuchi[1] ([1]*Dept. Lifesci. & Syst. Eng., Kyushu Inst. Tech.*, [2]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*)

3Pos220 **弾性率可変マイクロファイバーゲルマトリックスにおけるがん細胞の三次元運動表現型評価**
Phenotypic differences in 3D movement of tumor cells observed in the microfiber gel matrices with tunable elasticity
Yu Nakamura, Satoru Kidoaki (*Institute for Materials Chemistry and Engineering, Kyushu Univ.*)

3Pos221 **cDNA display 法によるリポソーム結合ペプチドの試験管内進化**
In Vitro Selection of Liposome Anchoring Peptide by cDNA display
Naoto Nemoto, Ryouya Okawa, Yuki Yoshikawa, Toshiki Miyajima, Shota Kobayasi (*Grad. Sch. of Sci. and Eng., Saitama University*)

3Pos222 **Clogging of DNA driven through a nano-scale pore or slit**
Naoto Sakashita, Yuta Kato, Yoshitaka Tanida, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

3Pos223 **明視野/蛍光マルチイメージングフローサイトメーターを用いた形状情報認識を用いた細胞識別技術の検討**
Studies on identification of cells using visible morphological information using bright field/fluorescent multi-imaging flow cytometer
Akihiro Hattori[1], Hyonchol Kim[1], Hideyuki Terazono[2], Masao Odaka[1], Kenji Matsuura[1], Mathias Girault[1], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental University*)

3Pos224 **Multiple-viewpoint analysis of diversity in T cell receptors**
Ryo Yokota[1,2], Yuki Kaminaga[3], Tetsuya J. Kobayashi[1,2,3] ([1]*Inst. Ind. Sci., Univ. Tokyo*, [2]*Res. & Edu. Platf. Dyn. Liv. States*, [3]*Sch. Eng., Univ. Tokyo*)

3Pos225 **DNA とナノポアを用いたマイクロメディカルドロップレットシステムの開発**
Micro-Medical-Droplet system using DNA and biological nanopore
Moe Hiratani, Masayuki Ohara, Ryuji Kawano (*Tokyo Univ. of Agr. and Tech.*)

3Pos226 **モータータンパク質で駆動する運動界面の構築と細胞の力学刺激**
Dynamic substrate driven by motor proteins for mechanical cellular stimuli
Ryuzo Kawamura, Daiki Uehara, Naritaka Kobayashi, Seiichiro Nakabayashi, Hiroshi Yoshikawa (*Dept. Chem., Saitama Univ.*)

3Pos227 **ポリビニルアルコールゲルで固体化されたバクテリオロドプシンの機能・構造特性に関する分光学的研究**
Structural and Functional Characteristics of Bacteriorhodopsin Immobilized with Poly(Vinyl Alcohol) Gel Studied by Spectroscopic Methods
Hikaru Tanaka[1], Yasunori Yokoyama[1], Masashi Sonoyama[2], Koshi Takenaka[1] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Nagoya Univ.*, [2]*Div. Mol. Sci., Fac. Sci. Tech., Gunma Univ.*)

その他 / Miscellaneous topics

3Pos228 **Development of multiple time step integrators in isothermal and isobaric conditions for efficient MD simulations of biological systems**
Jaewoon Jung[1,3], Tadashi Ando[2], Yasuhiro Matsunaga[1], Yuji Sugita[1,2,3,4] ([1]*RIKEN AICS*, [2]*RIKEN QBiC*, [3]*RIKEN TMS*, [4]*RIKEN iTHES*)

3Pos229 **フォトクロミック分子を使った紫外光による細胞死の反応機構**
Reaction mechanism on cell death due to photochromic molecules upon UV irradiation
Satoshi Yokojima[1,4], Ryuhei Kodama[2], Kimio Sumaru[3], Shinichiro Nakamura[4], Kingo Uchida[2] ([1]*Tokyo Univ. Pharmacy and Life Sci.*, [2]*Ryukoku Univ.*, [3]*AIST*, [4]*Riken*)

3Pos230 **Enhanced efflux activity assists E. coli antibiotic tolerance**
Yingying Pu[1], Zhilun Zhao[1], Yingxing Li[1], Jin Zhou[1], Qi Ma[1], Yuehua Ke[1], Yun Zhu[1], Huiyi Chen[2], Hao Ge[1], Yujie Sun[1], Xiaoliang Sunney Xie[1,2], Fan Bai[1] ([1]*Biodynamic Optical Imaging Center, Peking University, Beijing, China*, [2]*Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, USA*)