

口頭発表 Oral Presentation

第1日目 (9月19日(火)) / Day 1 (Sep. 19 Tue.)

13:20~16:20 B会場 (全学教育棟2階 B201) / Room B (Room B201, General Education Bldg. 2F)  
1B 筋肉 I, 分子モーター I / Muscle I, Molecular motor I

- 1B1320** ウサギ骨格筋線維のX線赤道反射に対するミオシン阻害剤の効果  
Effects of myosin inhibitors on the X-ray equatorial reflections of rabbit skeletal muscle  
○岩本 裕之 (SPring-8・JASRI)  
**Hiroyuki Iwamoto** (SPring-8・JASRI)
- 1B1332** ミオシン分子の巧みな集団運動によって心筋細胞の高速振動周期は一定に調節される  
Constant beating frequency of sarcomeres in cardiomyocytes regulated ingeniously by collective motion of myosin molecules  
○新谷 正嶺<sup>1,2</sup>, 鷲尾 巧<sup>3</sup>, 樋口 秀男<sup>1</sup> (東大・理学・物理,<sup>2</sup>日本学術振興会・学振PD,<sup>3</sup>東大・新領域・人環)  
**Seine Shintani**<sup>1,2</sup>, Takumi Washio<sup>3</sup>, Hideo Higuchi<sup>1</sup> (<sup>1</sup>Dept. of Phys., Univ. of Tokyo, <sup>2</sup>JSPS Research Fellow, <sup>3</sup>Dept. Human and Eng. Env., Univ. of Tokyo)
- 1B1344\*** 心筋ミオシンの自発的振動の解明  
spontaneous oscillation of cardiac myosins  
○黄 勇太, 樋口 秀男, 茅 元司 (東京大・院理)  
**Yongtae Hwang**, Hideo Higuchi, Motoshi Kaya (Univ. of Tokyo Dep. Science)
- 1B1356\*** アクチンの切断は動的ネットワークの収縮を誘起する  
The fragmentation of actin filaments induces the contraction of the active network  
○松田 恭平, 小林 琢也, 須河 光弘, 豊島 陽子, 矢島 潤一郎 (東京大学大学院 総合文化研究科)  
**Kyohei Matsuda**, Takuya Kobayashi, Mitsuhiro Sugawa, Yoko Y. Toyoshima, Junichiro Yajima (Graduate School of Arts and Sciences, The University of Tokyo)
- 1B1408\*** 細胞質ダイニンのマルチスケールシミュレーション: 全原子から連続体へ  
Multiscale Simulations of Cytoplasmic Dynein: From All-atom to Continuum Mechanics  
○飯田 慎仁<sup>1,3</sup>, Hanson Benjamin<sup>3</sup>, 神谷 成敏<sup>2</sup>, 栗栖 源嗣<sup>1</sup>, 昆 隆英<sup>3</sup>, 中村 春木<sup>1</sup>, Harris Sarah<sup>4</sup> (阪大・蛋白研,<sup>2</sup>兵衛大院・シミュレーション,<sup>3</sup>阪大院・理,<sup>4</sup>Sch. Phys. Astro., Univ. Leeds)  
**Shinji Iida**<sup>1,3</sup>, Benjamin Hanson<sup>3</sup>, Narutoshi Kamiya<sup>2</sup>, Genji Kurisu<sup>1</sup>, Takahide Kon<sup>3</sup>, Haruki Nakamura<sup>1</sup>, Sarah Harris<sup>4</sup> (<sup>1</sup>IPR, Osaka Univ., <sup>2</sup>Grad. Sch. SS., Univ. Hyogo, <sup>3</sup>Grad. Sch. Sci., Osaka Univ., <sup>4</sup>Sch. Phys. Astro., Univ. Leeds)
- 休憩 (Coffee Break) 14:20-14:26
- 1B1426\*** キネシンネックリンカーによる発生力は小さい  
Neck linker of kinesin is low force generator  
○近藤 雄一, 樋口 秀男 (東京大学)  
**Yuichi Kondo**, Hideo Higuchi (Grad. Sch. Sci., Univ. of Tokyo)
- 1B1438\*** N末端側βバレルヘッドバンドがV<sub>1</sub>-ATPaseの非対称性を産み及び協同性を付与する  
An N-terminal β-barrel head-band gives rise to the asymmetrical motor structure of V<sub>1</sub>-ATPase and promotes cooperativity  
○丸山 慎太郎<sup>1</sup>, 鈴木 花野<sup>1</sup>, 佐々木 輝<sup>1</sup>, 水谷 健二<sup>2</sup>, 齋藤 靖子<sup>3</sup>, ヤクシジ ファビアナ・リカ<sup>1</sup>, 石塚 (桂) 芳子<sup>4</sup>, 白水 美香子<sup>4</sup>, 横山 茂之<sup>5</sup>, 山登 一郎<sup>1,3</sup>, 村田 武士<sup>1,6</sup> (千葉大・院理,<sup>2</sup>横浜市大・院生命医科学,<sup>3</sup>東京理科大・院生命理工,<sup>4</sup>理研・ライフサイエンス技術基盤研究センター,<sup>5</sup>理研・構造生物学研究室,<sup>6</sup>JST・さきがけ)  
**Shintaro Maruyama**<sup>1</sup>, Kano Suzuki<sup>1</sup>, Hikaru Sasaki<sup>1</sup>, Kenji Mizutani<sup>2</sup>, Yasuko Saito<sup>3</sup>, Fabiana Lica Yakushiji<sup>1</sup>, Yoshiko Ishiduka-Katsura<sup>4</sup>, Mikako Shirouzu<sup>4</sup>, Shigeyuki Yokoyama<sup>5</sup>, Ichiro Yamato<sup>1,3</sup>, Takeshi Murata<sup>1,6</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Chiba, <sup>2</sup>Grad. Sch. Med. Life. Sci., Univ. Yokohama City, <sup>3</sup>Grad. Bio. Sci. & Tech., Tokyo Univ. of Science, <sup>4</sup>DSSB, RIKEN, <sup>5</sup>Struct. Biol. Lab., RIKEN, <sup>6</sup>JST, PRESTO)
- 1B1450\*** 結晶構造との対応付けを目指したミトコンドリアF<sub>1</sub>-ATPaseの回転解析  
Single-molecule analysis of bovine mitochondrial F<sub>1</sub>-ATPase for direct assignment of crystal structures and rotational pausing states  
○小林 稜平, 上野 博史, 鈴木 俊治, 原 舞雪, 野地 博行 (東大・院工・応化)  
**Ryohei Kobayashi**, Hiroshi Ueno, Toshiharuru Suzuki, Mayu Hara, Hiroyuki Noji (Appl. Chem., Grad. Sch. Eng., Univ. Tokyo)
- 1B1502\*** 腸内連鎖球菌由来の回転分子モーターV<sub>1</sub>-ATPaseのサブステップと化学力学共役機構  
Substeps and chemo-mechanical coupling scheme of rotary molecular motor *Enterococcus hirae* V<sub>1</sub>-ATPase  
○飯田 龍也<sup>1,2,3</sup>, 皆川 慶嘉<sup>4</sup>, 上野 博史<sup>4</sup>, 河合 文啓<sup>3</sup>, 村田 武士<sup>5</sup>, 飯野 亮太<sup>1,2,3</sup> (総合研究大学院大学,<sup>2</sup>分子科学研究所,<sup>3</sup>岡崎統合バイオサイエンスセンター,<sup>4</sup>東京大学,<sup>5</sup>千葉大学)  
**Tatsuya Iida**<sup>1,2,3</sup>, Yoshihiro Minagawa<sup>4</sup>, Hiroshi Ueno<sup>4</sup>, Fumihiko Kawai<sup>3</sup>, Takeshi Murata<sup>5</sup>, Ryota Iino<sup>1,2,3</sup> (<sup>1</sup>SOKENDAI (The Grad. Univ. for Adv. Stud.), <sup>2</sup>Inst. for Mol. Sci., <sup>3</sup>Okazaki Inst. for Integr. Biosci., <sup>4</sup>The Univ. Tokyo, <sup>5</sup>Chiba Univ.)

- 1B1514\*** DNA ナノチューブに沿って一方向に移動する生体分子モーターの設計  
Engineered biomolecular motor that directly moves along DNA nanotubes  
○指宿 良太<sup>1</sup>, 大岩 和弘<sup>1,2</sup>, 小嶋 寛明<sup>2</sup>, 古田 健也<sup>2</sup> (<sup>1</sup>兵庫県大 院生命理学, <sup>2</sup>未来ICT研 情報通信研究機構)  
**Ryota Ibusuki**<sup>1</sup>, Kazuhiro Oiwa<sup>1,2</sup>, Hiroaki Kojima<sup>2</sup>, Ken'ya Furuta<sup>2</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Hyogo, <sup>2</sup>Adv ICT Res Inst, NICT.)

休憩 (Coffee Break) 15:26-15:32

- 1B1532\*** 電圧駆動型モータータンパク質プレスティンの細胞外ループが、作動電圧域を調節する  
Characteristic extracellular loops of prestin modulate its voltage operating point  
○桑原 誠<sup>1</sup>, 和佐野 浩一郎<sup>2</sup>, 高橋 里枝<sup>2</sup>, 小森 智貴<sup>1</sup>, 上村 想太郎<sup>1</sup>, 島 知弘<sup>1</sup>, 本間 和明<sup>2</sup> (<sup>1</sup>東大・理・生物科学, <sup>2</sup>ノースウェスタン大・医)  
**Makoto Kuwabara**<sup>1</sup>, Koichiro Wasano<sup>2</sup>, Satoe Takahashi<sup>2</sup>, Tomotaka Komori<sup>1</sup>, Sotaro Uemura<sup>1</sup>, Tomohiro Shima<sup>1</sup>, Kazuaki Homma<sup>2</sup> (<sup>1</sup>Dep. of Biol. Sci., Grad Sch. of Sci., The Univ. of Tokyo, <sup>2</sup>Feinberg Sch. of Med., Northwestern Univ.)
- 1B1544\*** Motor evolved from F-ATPase for *Mycoplasma mobile* gliding  
**Takuma Toyonaga**<sup>1</sup>, Takayuki Kato<sup>2</sup>, Akihiro Kawamoto<sup>2</sup>, Keiichi Namba<sup>2,3</sup>, Makoto Miyata<sup>1,4</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka City Univ., <sup>2</sup>Grad. Sch. Front. Biosci., Osaka Univ., <sup>3</sup>QBiC, RIKEN, <sup>4</sup>OCARINA, Osaka City Univ.)
- 1B1556\*** 拡散係数の増大を用いた F<sub>1</sub>-ATPase の遷移率の解析  
Analyzing the Transition Rate of F<sub>1</sub>-ATPase from Enhanced Diffusion  
○品川 遼太, 佐々木 一夫 (東北大・院工学)  
**Ryota Shinagawa**, Kazuo Sasaki (Grad. Sch. Eng., Univ. Tohoku)
- 1B1608** シアノバクテリアは光の向きを認識して IV 型線毛を非対称に分布する  
Asymmetric distribution of type IV pili triggered by directional light in unicellular cyanobacteria  
○中根 大介, 西坂 崇之 (学習院大 物理)  
**Daisuke Nakane**, Takayuki Nishizaka (Dept. Phys., Gakushuin Univ.)

13:20~16:20 C 会場 (全学教育棟 2 階 B202) / Room C (Room B202, General Education Bldg. 2F)  
1C 生体膜・人工膜 I, バイオエンジニアリング, 計測 I /  
Biological & Artificial membrane I, Bioengineering, Measurements I

- 1C1320** 分子拡散に対するミクロ空間に閉じ込めと高分子混雑の相乗効果  
A synergistic effect of macromolecular crowding and biomimetic confinement on molecular diffusion  
○渡辺 千穂, 柳澤 実穂 (農工大院工)  
**Chiho Watanabe**, Miho Yanagisawa (Grad. Sch. Eng., Tokyo Univ. Agri. Tech.)
- 1C1332\*** DNA 人工細胞骨格によるリポソームの力学的補強  
DNA cytoskeleton for stabilizing artificial cells and the mechanical reinforcement  
○黒川 知加子<sup>1</sup>, 藤原 慶<sup>2</sup>, 森田 雅宗<sup>5</sup>, 川又 生吹<sup>4</sup>, 川岸 由<sup>4</sup>, 酒井 淳<sup>1</sup>, 村山 能宏<sup>1</sup>, 野村 M 慎一郎<sup>4</sup>, 村田 智<sup>4</sup>, 瀧ノ上 正浩<sup>3</sup>, 柳澤 実穂<sup>1</sup> (<sup>1</sup>東京農工大学大学院工学研究院先端物理工学部門, <sup>2</sup>慶應義塾大学理工学部生命情報学科, <sup>3</sup>東京工業大学情報理工学院情報工学系, <sup>4</sup>東北大学大学院工学研究科バイオロボティクス専攻, <sup>5</sup>産業技術総合研究所バイオメディカル研究部門)  
**Chikako Kurokawa**<sup>1</sup>, Kei Fujiwara<sup>2</sup>, Masamune Morita<sup>5</sup>, Ibuki Kawamata<sup>4</sup>, Yui Kawagishi<sup>4</sup>, Atsushi Sakai<sup>1</sup>, Yoshihiro Murayama<sup>1</sup>, Shin-ichiro Nomura. M<sup>4</sup>, Satoshi Murata<sup>4</sup>, Masahiro Takinoue<sup>3</sup>, Miho Yanagisawa<sup>1</sup> (<sup>1</sup>Department of Applied Physics, Tokyo University of Agriculture and Technology, <sup>2</sup>Department of Bioscience and Informatics, Keio University, <sup>3</sup>Department of Computer Science, Tokyo Institute of Technology, <sup>4</sup>Department of Robotics, Tohoku University, <sup>5</sup>Advanced Industrial Science and Technology, Biomedical Research Institute)
- 1C1344\*** 選択的抗がん作用をもつトレハロース脂質含有リポソームの物性の計算法的解析  
Molecular dynamics analysis of physical properties of mixed liposomes containing trehalose surfactant with selective anticancer effect  
○加々宮 崇 (東工大 バイオセンター)  
**Takashi Kagamiya** (Center for Biol. Res. & Inform., Tokyo Tech)
- 1C1356\*** 電子線による高精細バーチャル電極ディスプレイを用いた膜ドメインと膜形態の動的制御  
Dynamic Control of Membrane Domains and Morphology Using an Electron-beam Induced Fine Virtual Cathode Display  
○宮廻 裕樹, 星野 隆行 (東京大学大学院情報理工学系研究科)  
**Hiroki Miyazako**, Takayuki Hoshino (IST, UTokyo)
- 1C1408** 細菌の膜小胞取り込みに寄与する表面電位と膜弛緩性  
Contribution of surface potentials and membrane looseness on bacterial uptake of membrane vesicles  
○田代 陽介, 高木 航太郎, 長谷川 雄将, 二又 裕之 (静大院・総合科技)  
**Yosuke Tashiro**, Kotaro Takaki, Yusuke Hasegawa, Hiroyuki Futamata (Grad. Sch. Integr. Sci. Technol., Shizuoka Univ.)

休憩 (Coffee Break) 14:20-14:26

- 1C1426** 高速原子間力顕微鏡（高速 AFM）による細菌が生産する膜小胞の物性解析  
Physical heterogeneity of bacterial membrane vesicles revealed by high-speed AFM  
○菊池 洋輔<sup>1</sup>, 清川 達則<sup>2</sup>, 森永 花菜<sup>2</sup>, 諏佐 勇磨<sup>2</sup>, 安田 まり奈<sup>2</sup>, 奥脇 響<sup>3</sup>, 相馬 隆光<sup>3</sup>, 尾花 望<sup>3</sup>, 豊福 雅典<sup>3</sup>, 野村 暢彦<sup>3</sup>, 古寺 哲幸<sup>1</sup>, 安藤 敏夫<sup>1</sup>, 福森 義宏<sup>4</sup>, 田岡 東<sup>1</sup> (<sup>1</sup>金沢大・理工, <sup>2</sup>筑波大・院生命, <sup>3</sup>筑波大・生命, <sup>4</sup>金沢大・理事)  
**Yousuke Kikuchi**<sup>1</sup>, Tatunori Kiyokawa<sup>2</sup>, Kana Morinaga<sup>2</sup>, Yuuma Susa<sup>2</sup>, Marina Yasuda<sup>2</sup>, Hibiki Okuwaki<sup>3</sup>, Ryukou Souma<sup>3</sup>, Nozomu Obana<sup>3</sup>, Masanori Toyohuku<sup>3</sup>, Nobuhiko Nomura<sup>3</sup>, Noriyuki Koderai<sup>1</sup>, Toshio Ando<sup>1</sup>, Yoshihiro Fukumori<sup>4</sup>, Azuma Taoka<sup>1</sup> (<sup>1</sup>Col. of Sci. and Eng., Kanazawa Univ., <sup>2</sup>Grad. Life and Env. Sci., Tsukuba Univ., <sup>3</sup>Life and Env. Sci., Tsukuba Univ., <sup>4</sup>Vice President, Kanazawa Univ.)
- 1C1438** 肺サーファクタントタンパク質 B の N 末端セグメントにより起こる脂質単分子膜の崩壊現象  
Collapse in lipid monolayers induced by N-terminal segments of lung surfactant protein B  
○日比野 政裕<sup>1,2</sup>, 長塚 秀幸<sup>1</sup>, 藤岡 美穂<sup>2</sup>, 王 灝伊<sup>2</sup> (<sup>1</sup>室蘭工大・院環境創生, <sup>2</sup>室蘭工大・応理)  
**Masahiro Hibino**<sup>1,2</sup>, Hideyuki Nagatsuka<sup>1</sup>, Miho Fujioka<sup>2</sup>, Haoyi Wang<sup>2</sup> (<sup>1</sup>Div. Sustain. Environ. Eng., Muroran Inst. Tech., <sup>2</sup>Dept. Appl. Sci., Muroran Inst. Tech.)
- 1C1450** ラクトフェリシン B 由来の抗菌活性を持つヘキサペプチドの大腸菌細胞質への侵入  
Entry of Antimicrobial Hexapeptide Derived from Lactoferricin B into Single cells of *E. coli* without Damaging their Membranes  
○モニルザマン エムディー<sup>1</sup>, イスラム エムディ ザヒドウル<sup>1</sup>, シャーミン サブリナ<sup>1</sup>, 道羅 英夫<sup>2</sup>, 山崎 昌一<sup>1,3,4</sup> (<sup>1</sup>静大・創造院, <sup>2</sup>静大・グリーン研, <sup>3</sup>静大・電研, <sup>4</sup>静大・院理)  
**Md. Moniruzzaman**<sup>1</sup>, Md. Zahidul Islam<sup>1</sup>, Sabrina Sharmin<sup>1</sup>, Hideo Dohra<sup>2</sup>, Masahito Yamazaki<sup>1,3,4</sup> (<sup>1</sup>Grad. Sch. Sci. Tech., Shizuoka Univ., <sup>2</sup>Res. Inst. Green Sci. Tech., Shizuoka Univ., <sup>3</sup>Res. Inst. Ele., Shizuoka Univ., <sup>4</sup>Grad. Sch. Sci., Shizuoka Univ.)
- 1C1502\*** 外側と内側の単分子膜の脂質の充填がマガニン 2 の脂質膜中のポア形成に影響を与える  
Effect of Asymmetric Packing of Lipids in Outer and Inner Monolayer on Magainin 2-Induced Pore Formation in Lipid Bilayer  
○ハーサン モイヌル<sup>1</sup>, カラール モハマド アブ サエム<sup>1</sup>, レバツニー ビクター<sup>1,2</sup>, 山崎 昌一<sup>1,3,4</sup> (<sup>1</sup>静大・創造院, <sup>2</sup>ロシア科学アカデミー, <sup>3</sup>静大・電研, <sup>4</sup>静大・院理)  
**Moynul Hasan**<sup>1</sup>, Mohammad Abu Sayem Karal<sup>1</sup>, Victor Levadny<sup>1,2</sup>, Masahito Yamazaki<sup>1,3,4</sup> (<sup>1</sup>Grad. Sch. Sci. Tech., Shizuoka Univ., <sup>2</sup>Rus. Acad. Sci., <sup>3</sup>Res. Inst. Ele., Shizuoka Univ., <sup>4</sup>Grad. Sch. Sci., Shizuoka Univ.)
- 1C1514** Formation mechanism of "lipid raft" in cell membranes  
**Shunsuke Shimobayashi**<sup>1</sup>, Masatoshi Ichikawa<sup>2</sup>, Takashi Taniguchi<sup>3</sup> (<sup>1</sup>Department of Mathematical Science and Advanced Technology, Japan Agency for Marine-Earth Science and Technology, <sup>2</sup>Department of Physics, Graduate School of Science, Kyoto University, <sup>3</sup>Department of Chemical Engineering, Graduate School of Engineering, Kyoto University)
- 休憩 (Coffee Break) 15:26-15:32
- 1C1532\*** パターン化人工膜を用いた光シグナル伝達中における脂質ラフトの機能解析  
Role of lipid rafts in phototransduction studied with a micropatterned model membrane  
○谷本 泰士<sup>1</sup>, 小嶋 佐妃子<sup>1</sup>, 粟津 暁紀<sup>2</sup>, 林 文夫<sup>3</sup>, 森垣 憲一<sup>1,4</sup> (<sup>1</sup>神戸大・農, <sup>2</sup>広島大・理, <sup>3</sup>神戸大・理, <sup>4</sup>神戸大・バイオシグナル)  
**Yasushi Tanimoto**<sup>1</sup>, Sakiko Kojima<sup>1</sup>, Akinori Awazu<sup>2</sup>, Fumio Hayashi<sup>3</sup>, Kenichi Morigaki<sup>1,4</sup> (<sup>1</sup>Grad. Sch. Agri, Univ. Kobe, <sup>2</sup>Math. and Life Sci. Hiroshima Univ., <sup>3</sup>Grad. Sch. Sci, Univ. Kobe, <sup>4</sup>Biosignal Research Center, Univ. Kobe)
- 1C1544** パターン化人工膜を利用した NAP-22 の膜結合と凝集挙動解析  
Membrane binding and aggregation of neuronal acidic protein of 22kDa (NAP-22) studied with a patterned model membrane  
○小嶋 佐妃子<sup>1</sup>, 谷本 泰士<sup>1</sup>, 林 文夫<sup>3</sup>, 前川 昌平<sup>3</sup>, 森垣 憲一<sup>1,2</sup> (<sup>1</sup>神戸大・院農, <sup>2</sup>神戸大・バイオシグナル, <sup>3</sup>神戸大・院理)  
**Sakiko Kojima**<sup>1</sup>, Yasushi Tanimoto<sup>1</sup>, Fumio Hayashi<sup>3</sup>, Shohei Maekawa<sup>3</sup>, Kenichi Morigaki<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Agri., Univ. Kobe, <sup>2</sup>Biosignal Research Center, Univ. Kobe, <sup>3</sup>Grad. Sch. Sci., Univ. Kobe)
- 1C1556\*** Two-in-one biohybrid microfluidic system for detection and elimination of staphylococcus  
**Huisoo Jang**<sup>1,3</sup>, Sun Min Kim<sup>2,3</sup>, Tae-Joon Jeon<sup>1,3</sup> (<sup>1</sup>Department of Biological Engineering, Inha University, Incheon, Korea, <sup>2</sup>Department of Mechanical Engineering, Inha University, Incheon, Korea, <sup>3</sup>Biohybrid Systems Research Center (BSRC), Inha University, Incheon, Korea)
- 1C1608\*** DNA Hairpin Based Spore Detection through  $\alpha$ -Hemolysin Nanopores  
**Hyunil Ryu**<sup>1,2</sup>, Joongjin Park<sup>1,3</sup>, Min-Cheol Lim<sup>3</sup>, Jiwook Shim<sup>4</sup>, Sun Min Kim<sup>1,5</sup>, Young-Rok Kim<sup>3</sup>, Tae-Joon Jeon<sup>1,2</sup> (<sup>1</sup>Department of Biological Engineering, Inha University, <sup>2</sup>Biohybrid Systems Research Center (BSRC), Inha University, <sup>3</sup>Institute of Life Sciences and Resources & Department of Food Science and Biotechnology, Kyung Hee University, <sup>4</sup>Department of Biomedical Engineering, Rowan University, <sup>5</sup>Department of Mechanical Engineering, Inha University)

13:20~16:20 D 会場 (全学教育棟 2 階 E201) / Room D (Room E201, General Education Bldg. 2F)  
1D バイオイメージング I / Bioimaging I

- 1D1320\*** ハナガサクラゲ由来の耐酸性・単量体型 GFP  
Acid-tolerant monomeric GFP derived from jellyfish *Olindias formosa*  
○篠田 肇<sup>1</sup>, Ma Yuanqing<sup>1</sup>, 中島 良介<sup>2</sup>, 櫻井 啓介<sup>2</sup>, 松田 知己<sup>1,2</sup>, 永井 健治<sup>1,2</sup> (<sup>1</sup>阪大・工, <sup>2</sup>阪大・産研)  
**Hajime Shinoda**<sup>1</sup>, Yuanqing Ma<sup>1</sup>, Ryosuke Nakashima<sup>2</sup>, Keisuke Sakurai<sup>2</sup>, Tomoki Matsuda<sup>1,2</sup>, Takeharu Nagai<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Eng., Univ. Osaka, <sup>2</sup>ISIR, Univ. Osaka)

- 1D1332\*** 複数の自由行動マウスにおける脳活動計測が可能な化学発光膜電位指示薬の開発  
Development of a chemiluminescent voltage indicator applicable to a brain activity recording in freely-behaving multiple mice  
○稲垣 成矩<sup>1</sup>, 揚妻 正和<sup>2</sup>, 筒井 秀和<sup>3,4</sup>, 大原 慎也<sup>5</sup>, 新井 由之<sup>6</sup>, 神野 有香<sup>4</sup>, 白 貴蓉<sup>6</sup>, 飯島 敏夫<sup>5</sup>, Daniels Matthew<sup>7</sup>, 岡村 康司<sup>1,4</sup>, 松田 知己<sup>6</sup>, 永井 健治<sup>1,6</sup> (<sup>1</sup>阪大・生命,<sup>2</sup>基盤神経・生理研,<sup>3</sup>北陸先端大・マテリアル,<sup>4</sup>阪大・医学,<sup>5</sup>東北大・生命,<sup>6</sup>阪大・産研,<sup>7</sup>Div of Card Med, Univ of Oxford)  
**Shigenori Inagaki**<sup>1</sup>, Masakazu Agetsuma<sup>2</sup>, Hidekazu Tsutsui<sup>3,4</sup>, Shinya Ohara<sup>5</sup>, Yoshiyuki Arai<sup>6</sup>, Yuka Jinno<sup>4</sup>, Guirong Bai<sup>6</sup>, Toshio Ijima<sup>5</sup>, Matthew Daniels<sup>7</sup>, Yasushi Okamura<sup>1,4</sup>, Tomoki Matsuda<sup>6</sup>, Takeharu Nagai<sup>1,6</sup> (<sup>1</sup>FBS, Osaka Univ, <sup>2</sup>Dep of Dev Physiol, NIPS, <sup>3</sup>Dep of Mat Science, JAIST, <sup>4</sup>Grad Sch of Med, Osaka Univ, <sup>5</sup>Grad Sch of Life Sci, Tohoku Univ, <sup>6</sup>ISIR, Osaka Univ, <sup>7</sup>Div of Card Med, Univ of Oxford)
- 1D1344\*** 細胞内グルタチオンの求核付加・解離平衡に基づく超解像蛍光イメージングプローブの開発  
Development of spontaneously blinking fluorophores based on nucleophilic addition of intracellular glutathione for superresolution imaging  
○両角 明彦<sup>1,4</sup>, 神谷 真子<sup>2,5</sup>, 宇野 真之介<sup>1</sup>, 梅澤 啓太郎<sup>1</sup>, 吉原 利忠<sup>3</sup>, 飛田 成史<sup>3</sup>, 浦野 泰照<sup>1,2,4</sup> (<sup>1</sup>東大院薬,<sup>2</sup>東大院医,<sup>3</sup>群馬大院理工,<sup>4</sup>AMED CREST,<sup>5</sup>JST さきがけ)  
**Akihico Morozumi**<sup>1,4</sup>, Mako Kamiya<sup>2,5</sup>, Shin-nosuke Uno<sup>1</sup>, Keitaro Umezawa<sup>1</sup>, Toshitada Yoshihara<sup>3</sup>, Seiji Tobita<sup>3</sup>, Yasuteru Urano<sup>1,2,4</sup> (<sup>1</sup>Grad. Sch. of Pharm. Sci., The Univ. of Tokyo, <sup>2</sup>Grad. Sch. of Med., The Univ. of Tokyo, <sup>3</sup>Grad. Sch. Sci. Tech., Gunma Univ., <sup>4</sup>AMED CREST, <sup>5</sup>JST PRESTO)
- 1D1356\*** 新規微分干渉顕微鏡を用いた生細胞ヘテロクロマチンにおける物質密度のイメージング  
Density imaging of heterochromatin in live cells using orientation-independent-DIC microscopy  
○今井 亮輔<sup>1,2</sup>, 野崎 慎<sup>1</sup>, 谷 知己<sup>3</sup>, 海津 一成<sup>4</sup>, 日比野 佳代<sup>1,2</sup>, 井手 聖<sup>1,2</sup>, 田村 佐知子<sup>1</sup>, 高橋 恒一<sup>4</sup>, Shribak Michael<sup>3</sup>, 前島 一博<sup>1,2</sup> (<sup>1</sup>遺伝研・構造遺伝学研究中心, <sup>2</sup>総研大・生命科学研究所・遺伝学専攻, <sup>3</sup>Marine Biological Lab., Woods Hole, USA, <sup>4</sup>理研・生命システム研究センター)  
**Ryosuke Imai**<sup>1,2</sup>, Tadasu Nozaki<sup>1</sup>, Tomomi Tani<sup>3</sup>, Kazunari Kaizu<sup>4</sup>, Kayo Hibino<sup>1,2</sup>, Satoru Ide<sup>1,2</sup>, Sachiko Tamura<sup>1</sup>, Koichi Takahashi<sup>4</sup>, Michael Shribak<sup>3</sup>, Kazuhiro Maeshima<sup>1,2</sup> (<sup>1</sup>Struct. Biol. Center, Natl. Inst. of Genet., <sup>2</sup>Dept. of Genet., Sch. of Life Sci., SOKENDAI, <sup>3</sup>Marine Biological Lab., Woods Hole, USA, <sup>4</sup>Quant. Biol. Center, RIKEN)
- 1D1408\*** Development of Bioluminescent Low Affinity Ca<sup>2+</sup> Indicators Applicable to Analyze Ca<sup>2+</sup> Dynamics in Endoplasmic Reticulum  
**Nadim Hossain Md**<sup>1</sup>, Kazushi Suzuki<sup>1,2</sup>, Megumi Iwano<sup>2</sup>, Tomoki Matsuda<sup>1,2</sup>, Takeharu Nagai<sup>1,2</sup> (<sup>1</sup>Graduate School of Engineering, Osaka University, <sup>2</sup>The Institute of Scientific & Industrial Research (ISIR), Osaka University)
- 休憩 (Coffee Break) 14:20-14:26
- 1D1426** Single-cell quantitative analysis of ATP concentration by fluorescence lifetime imaging microscopy  
**Hideki Itoh**<sup>1</sup>, Satoshi Arai<sup>2</sup>, Thankiah Sudhaharan<sup>1</sup>, Tetsuya Kitaguchi<sup>3</sup>, E. Birgitte Lane<sup>1</sup> (<sup>1</sup>Inst. of Med. Biol. (Imb), Agcy. for Sci., Tech. and Res. (A\*STAR), Singapore, <sup>2</sup>Res. Inst. Sci. Eng., Waseda Univ., Japan, <sup>3</sup>WASEDA Biosci. Inst. Singapore (WABIOS), Singapore)
- 1D1438** 熱産生する褐色脂肪細胞における Ca<sup>2+</sup>を伴う 3 相のミトコンドリア pH 変化  
Triphasic mitochondrial pH changes associated with Ca<sup>2+</sup> for heat production in stimulated brown adipocytes  
○鈴木 団<sup>1,2</sup> (<sup>1</sup>JST さきがけ, <sup>2</sup>早稲田大・理工研)  
**Madoka Suzuki**<sup>1,2</sup> (<sup>1</sup>PRESTO, JST, <sup>2</sup>Res. Inst. Sci. & Eng., Waseda Univ.)
- 1D1450\*** ヒト 2 型自然リンパ球の 1 細胞実時間イメージングによる 2 型サイトカイン応答観察に基づいた新規アレルギー診断の可能性  
Potentiality for novel allergy diagnosis by real-time single-cell secretion imaging of human type 2 innate lymphoid cells  
○宮田 楓<sup>1</sup>, 白崎 善隆<sup>1,2</sup>, 鈴木 信勇<sup>1</sup>, 馬場 里英<sup>3</sup>, 加畑 宏樹<sup>3</sup>, 山岸 舞<sup>1,2</sup>, 小原 收<sup>2</sup>, 福永 興志<sup>3</sup>, 茂呂 和世<sup>2</sup>, 上村 想太郎<sup>1</sup> (<sup>1</sup>東京大学 大学院理学系研究科, <sup>2</sup>理化学研究所 統合生命医科学研究センター, <sup>3</sup>慶応大学 呼吸器内科)  
**Kaede Miyata**<sup>1</sup>, Yoshitaka Shirasaki<sup>1,2</sup>, Nobutake Suzuki<sup>1</sup>, Rie Baba<sup>3</sup>, Hiroki Kabata<sup>3</sup>, Mai Yamagishi<sup>1,2</sup>, Osamu Ohara<sup>2</sup>, Koichi Fukunaga<sup>3</sup>, Kazuyo Moro<sup>2</sup>, Sotaro Uemura<sup>1</sup> (<sup>1</sup>Graduate School of Tokyo, <sup>2</sup>Institute of Physical and Chemical Research, IMS, <sup>3</sup>Division of Pulmonary Medicine, Keio University)
- 1D1502\*** 生理的条件下の細胞形態変化に伴う ATP レベル変動の定量的解析  
Spatiotemporal quantification of native ATP dynamics during changes in cellular morphology  
○鈴木 李夏, 堀田 耕司, 岡 浩太郎 (慶應義塾大学大学院理工学研究科)  
**Rika Suzuki**, Kohji Hotta, Kotaro Oka (Grad. Sch. Sci and Tech., Keio Univ.)
- 1D1514\*** 独立成分解析 (ICA) を利用したマウス全脳の匂い BOLD 応答検出  
Detection of the odor BOLD response in the mouse whole brain, using independent component analysis (ICA)  
○船津 大嗣, 林 芙優, 吉永 壮佐, 杠 直哉, 草薙 俊輔, 武田 光広, 寺沢 宏明 (熊本大・院生命科学)  
**Hirotsugu Funatsu**, Fuyu Hayashi, Sosuke Yoshinaga, Naoya Yuzuriha, Shunsuke Kusanagi, Mitsuhiro Takeda, Hiroaki Terasawa (Fac. Life Sci. Kumamoto Univ.)

休憩 (Coffee Break) 15:26-15:32

- 1D1532\*** 過渡的刺激に対する2型自然リンパ球 (ILC2) の確率的な分泌応答  
Stochastic Secretion Response to Transient Stimulus of Type-2 Innate Lymphoid Cells (ILC2)  
○依田 和樹, 鈴木 信勇, 上村 想太郎, 白崎 善隆 (東大・院・理・生物学)  
**Kazuki Yoda**, Nobutake Suzuki, Sotaro Uemura, Yoshitaka Shirasaki (*Grad. Sch. Sci., Univ. Tokyo*)
- 1D1544\*** 一粒子輝度イメージングによるグルココルチコイド受容体二量体の生細胞内時空間分布解析  
Shot noise free number and brightness analysis visualizes spatio-temporal distribution of glucocorticoid receptor dimer in living cells  
○福島 綾介<sup>1</sup>, 山本 条太郎<sup>2</sup>, 金城 政孝<sup>2</sup> (<sup>1</sup>北大・生命科学院, <sup>2</sup>北大・先端生命)  
**Ryosuke Fukushima**<sup>1</sup>, Jotaro Yamamoto<sup>2</sup>, Masataka Kinjo<sup>2</sup> (<sup>1</sup>*Grad. Sch. Life Sci., Hokkaido Univ.*, <sup>2</sup>*Fac. Adv. Life Sci., Hokkaido Univ.*)
- 1D1556\*** 顕微ラマン分光法によるバクテリア細胞の代謝活性測定  
Single bacterial cell analysis of metabolic activity by Raman microspectroscopy  
○加藤 陽太<sup>1</sup>, 上野 博史<sup>1</sup>, 野地 博行<sup>1,2</sup> (<sup>1</sup>東大・院工, <sup>2</sup>JST・ImPACT)  
**Yota Kato**<sup>1</sup>, Hiroshi Ueno<sup>1</sup>, Hiroyuki Noji<sup>1,2</sup> (<sup>1</sup>*Grad. Sch. Eng., Univ. Tokyo*, <sup>2</sup>*ImPACT, JST*)
- 1D1608\*** 高速 AFM が大腸がん細胞における核膜孔の選択的なゲートの喪失を明らかにした  
Loss of Nuclear Pore Selective Barrier Revealed by High-Speed Atomic Force Microscopy in Colorectal Cancer Cells  
○モハメド マフムード シャババン<sup>1,2,3,4</sup>, 小林 亜紀子<sup>1,2,3,4</sup>, 田岡 東<sup>4</sup>, 中山 隆宏<sup>2</sup>, 菊池 洋輔<sup>4</sup>, 羽澤 勝治<sup>1,2,3,4</sup>, みなもと としなり<sup>5</sup>, 福森 義宏<sup>4</sup>, 古寺 哲幸<sup>2</sup>, 内橋 貴之<sup>2</sup>, 安藤 敏夫<sup>2</sup>, ウォング リチャード<sup>1,2,3,4</sup> (<sup>1</sup>金沢大学 セルバイオノミクスユニット, <sup>2</sup>金沢大学 バイオAFM フロントティア研究センター, <sup>3</sup>金沢大学 理工研究域 分子細胞生物学研究室, <sup>4</sup>金沢大学 理工研究域, <sup>5</sup>金沢大学がん研究所の翻訳・臨床腫瘍学部門)  
**Mahmoud Shaaban Mohamed**<sup>1,2,3,4</sup>, Akiko Kobayashi<sup>1,2,3,4</sup>, Azuma Taoka<sup>4</sup>, Takahiro Watanabe-Nakayama<sup>2</sup>, Yosuke Kikuchi<sup>4</sup>, Masaharu Hazawa<sup>1,2,3,4</sup>, Toshinari Minamoto<sup>5</sup>, Yoshihiro Fukumori<sup>4</sup>, Noriyuki Kodera<sup>2</sup>, Takayuki Uchihashi<sup>2</sup>, Toshio Ando<sup>2</sup>, Richard Wong<sup>1,2,3,4</sup> (<sup>1</sup>*Cell-Bionomics Research Unit, Kanazawa Univ.*, <sup>2</sup>*Bio-AFM Frontier Research Center, Kanazawa Univ.*, <sup>3</sup>*Lab of Mol. Cell Biol. Institute of Science and Engineering, Kanazawa Univ.*, <sup>4</sup>*Institute of Science and Engineering, Kanazawa Univ.*, <sup>5</sup>*Division of Translational and Clinical Oncology, Cancer Res. Inst., Kanazawa Univ.*)

13:20~16:20 E 会場 (全学教育棟 2 階 E203) / Room E (Room E203, General Education Bldg. 2F)  
1E 水・水和 / 電解質, 蛋白質: 物性, 蛋白質工学, 生命情報科学, 核酸 I /  
Water & Hydration & Electrolyte, Proteins: Property, Engineering, Bioinformatics, Nucleic acid I

- 1E1320\*** 水-タンパク質間相互作用のための連続体モデルによる分散力エネルギー計算  
Continuum-model-based Dispersion Energy Calculation for Protein-Water Interaction  
○パーキン 暖, 水原 志暢, 高野 光則 (早大・物理応物)  
**Dan Parkin**, Yukinobu Mizuhara, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)
- 1E1332** 気液界面におけるタンパク質の変性  
Protein Unfolding at the Air-Water Interface  
○矢野 陽子<sup>1</sup>, 荒川 悦雄<sup>2</sup>, フォグリ ウォルフガング<sup>2</sup>, 亀沢 知夏<sup>2</sup>, 松下 正<sup>3</sup> (<sup>1</sup>近畿大学理工学部物理学コース, <sup>2</sup>東京学芸大学基礎自然科学講座物理学分野, <sup>3</sup>高エネルギー加速器研究機構物質構造化学研究所)  
**Yohko Yano**<sup>1</sup>, Etsuo Arakawa<sup>2</sup>, Wolfgang Voegeli<sup>2</sup>, Chika Kamezawa<sup>2</sup>, Tadashi Matsushita<sup>3</sup> (<sup>1</sup>*Department of Physics, Kindai University*, <sup>2</sup>*Department of Physics, Tokyo Gakugei University*, <sup>3</sup>*Photon Factory, Institute of Materials Structure Science, KEK*)
- 1E1344** Unexpected heterogeneity and slow dynamics of simple poly-alanine peptides detected by single molecule fluorescence spectroscopy  
**Supawich Kamonprasertsuk**<sup>1,2</sup>, Hiroyuki Oikawa<sup>1,2</sup>, Satoshi Takahashi<sup>1,2</sup> (<sup>1</sup>*Institute for Multidisciplinary Research for Advanced Materials, Tohoku University*, <sup>2</sup>*Department of Chemistry, Graduate School and Faculty of Science, Tohoku University*)
- 1E1356** 二次元蛍光寿命相関分光法によるシトクロム c のフォールディング過程の部位選択的な観測  
Site-selective observation of folding dynamics of cytochrome c by two-dimensional fluorescence lifetime correlation spectroscopy  
○坂口 美幸<sup>1</sup>, 山中 優<sup>2</sup>, 廣田 俊<sup>2</sup>, 石井 邦彦<sup>1,3</sup>, 田原 太平<sup>1,3</sup> (<sup>1</sup>理研・田原分子分光, <sup>2</sup>奈良先端大・物質創成, <sup>3</sup>理研・量子工学領域)  
**Miyuki Sakaguchi**<sup>1</sup>, Masaru Yamanaka<sup>2</sup>, Shun Hirota<sup>2</sup>, Kunihiko Ishii<sup>1,3</sup>, Tahei Tahara<sup>1,3</sup> (<sup>1</sup>*Msl, RIKEN*, <sup>2</sup>*Grad. Sch. Mat. Sci., NAIIST*, <sup>3</sup>*RAP, RIKEN*)
- 1E1408\*** Oct4 の 2 つの DNA 結合サブドメインを結ぶ linker 領域の構造多様性  
Structural variety of the linker connecting two DNA-binding subdomains of Oct4  
○速水 智教<sup>1,2</sup>, 高田 彰二<sup>3</sup>, 笠原 浩太<sup>4</sup>, 中村 春木<sup>1</sup>, 肥後 順一<sup>1</sup> (<sup>1</sup>阪大・蛋白研, <sup>2</sup>阪大・院生命機能, <sup>3</sup>京大・院理学・生物物理, <sup>4</sup>立命館大・生命・生情)  
**Tomonori Hayami**<sup>1,2</sup>, Shoji Takada<sup>3</sup>, Kota Kasahara<sup>4</sup>, Haruki Nakamura<sup>1</sup>, Junichi Higo<sup>1</sup> (<sup>1</sup>*IPR, Osaka Univ.*, <sup>2</sup>*Grad. Sch. Fro. Bio., Osaka Univ.*, <sup>3</sup>*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*, <sup>4</sup>*Dept. Bioinfo., Col. Life Sci., Ritsumeikan Univ.*)

休憩 (Coffee Break) 14:20-14:26

- 1E1426\*** フィブリノーゲンによるアミロイド線維形成阻害機構の解明  
Investigation of inhibition mechanism of fibrinogen in the amyloid fibrillation  
○赤井 大気, 山本 直樹, 茶谷 絵理 (神戸大・院・理)  
**Taiki Akai**, Naoki Yamamoto, Eri Chatani (*Grad. Sch. of Sci., Kobe Univ.*)

- 1E1438\*** プリオンアプタマーはアルツハイマー病に関与するプリオン蛋白質と A $\beta$  オリゴマーの複合体の形成を阻害する  
An anti-prion aptamer inhibits the formation of prion protein-amyloid  $\beta$  oligomer complex that is related to Alzheimer's disease  
○飯田 真美子<sup>1,2</sup>, 真嶋 司<sup>1,2</sup>, 山置 佑大<sup>1</sup>, 永田 崇<sup>1,2</sup>, 片平 正人<sup>1,2</sup> (1京都大学 エネルギー理工学研究所, 2京都大学大学院 エネルギー科学研究科)  
**Mamiko Iida**<sup>1,2</sup>, Tsukasa Mashima<sup>1,2</sup>, Yudai Yamaoki<sup>1</sup>, Takashi Nagata<sup>1,2</sup>, Masato Katahira<sup>1,2</sup> (1Inst. of Adv. Energy, Kyoto Univ., 2Grad. Sch. of Energy Sci., Kyoto Univ.)
- 1E1450\*** Photo cross-linking and MS analyses of the amyloid  $\beta$ -peptide oligomers  
**Mai Kawashita**<sup>1</sup>, Shintaro Yoshida<sup>1</sup>, Sosuke Yoshinaga<sup>1</sup>, Mitsuhiro Takeda<sup>1</sup>, Ayumi Tanaka<sup>1</sup>, Takashi Hamaguchi<sup>1</sup>, Hitomi Yamaguchi<sup>1</sup>, Shigeto Iwamoto<sup>1</sup>, Takashi Saito<sup>2</sup>, Yoshihiko Takinami<sup>3</sup>, Toshiyuki Kohno<sup>4</sup>, Takaomi C. Saïdo<sup>2</sup>, Hiroaki Terasawa<sup>1</sup> (1Fac. Life Sci., Kumamoto Univ., 2RIKEN, Inst. Phys. Chem. Res., 3Bruker Daltonics, 4Kitasato Univ. Sch. Med.)
- 1E1502** アミロイド分解能を有する人工ペプチドの設計  
Designing artificial peptides that have ability to hydrolyze amyloid fibrils  
○飯田 禎弘, 田村 厚夫 (神戸大 院理)  
**Yoshihiro Iida**, Atsuo Tamura (Grad. Sch. Sci., Univ. Kobe)
- 1E1514** 再設計法と新規設計法による膜貫通アルファヘリックスペプチドバレルの開発  
Redesign and de novo design of transmembrane alpha-helical peptide barrels  
○新津 藍<sup>1,2</sup>, Mahendran Kozhinjampara<sup>3</sup>, Thomson Andrew R.<sup>4</sup>, Beyley Hagan<sup>3</sup>, 杉田 有治<sup>1</sup>, Woolfson Derek N.<sup>2</sup> (1理研・和光, 2ブリストル大学, 3オックスフォード大学, 4グラスゴー大学)  
**Ai Niitsu**<sup>1,2</sup>, Kozhinjampara R. Mahendran<sup>3</sup>, Andrew R. Thomson<sup>4</sup>, Hagan Beyley<sup>3</sup>, Yuji Sugita<sup>1</sup>, Derek N. Woolfson<sup>2</sup> (1Wako Inst, RIKEN, 2Univ. Bristol, 3Univ. Oxford, 4Univ. Glasgow)

休憩 (Coffee Break) 15:26–15:32

- 1E1532\*** Rational design of a novel affinity ligand for antibody purification by controlling the pH-sensitive antibody interaction  
**Yoshiki Oka**<sup>1</sup>, Taihei Sawada<sup>1</sup>, Takahiro Watanabe<sup>1</sup>, Hisashi Kudo<sup>1</sup>, Manami Wada<sup>1</sup>, Hidenobu Kawai<sup>1</sup>, Mari Chang<sup>2</sup>, Yuuki Hayashi<sup>1</sup>, Munehito Arai<sup>1,2</sup> (1Dept. Life Sci., Univ. Tokyo, 2Dept. Phys., Univ. Tokyo)
- 1E1544** メニーコアプロセッサ向け蛋白質・リガンドドッキングエンジン sievгене\_M の開発  
Development of protein-ligand docking engine sievgene\_M for manycore processors  
○杉原 崇憲<sup>1,2</sup>, 黒澤 隆<sup>2,3</sup>, 中村 寛則<sup>4</sup>, 真下 忠彰<sup>2,5</sup>, 福西 快文<sup>2,6</sup>, 中村 春木<sup>2,7</sup> (1(一社) バイオ産業情報化コンソーシアム, 2次世代天然物化学技術研究組合, 3(株) 日立ソリューションズ東日本, 4(株) バイオモデリングリサーチ, 5(株) 情報数理バイオ, 6産総研molprof, 7阪大蛋白研)  
**Takanori Sugihara**<sup>1,2</sup>, Takashi Kurosawa<sup>2,3</sup>, Hironori Nakamura<sup>4</sup>, Tadaaki Mashimo<sup>2,5</sup>, Yoshifumi Fukunishi<sup>2,6</sup>, Haruki Nakamura<sup>2,7</sup> (1JBIC, 2N2PC, 3Hitachi Solutions East Japan, Ltd., 4Biomodeling Research Co., Ltd., 5IMSBIO Co., Ltd., 6AIST/molprof, 7Inst. for Protein Research, Osaka Univ.)
- 1E1556\*** Analysis of protein pockets using a fast and efficient comparison method with a reduced vector representation  
**Tsukasa Nakamura**<sup>1</sup>, Kentaro Tomii<sup>1,2,3</sup> (1CBMS, GSFS, Univ. Tokyo, 2AIRC, AIST, 3BRD, AIST)
- 1E1608\*** Phase transition in a single giant DNA molecule: Differences between 1-propanol and 2-propanol aqueous solutions  
**Yue Ma**, Yuko Yoshikawa, Koichiro Sadakane, Takahiro Kenmotsu, Kenichi Yoshikawa (Graduate School of Life and Medical Sciences, Doshisha University)

13:20~16:08 F 会場 (全学教育棟 2 階 E205) / Room F (Room E205, General Education Bldg. 2F)

1F 蛋白質: 構造, 構造機能相関 I, 計測・解析の方法論 I

Proteins: Structure, Structure-function relationship I, Measurement & Analysis

- 1F1320\*** 光依存性内向キプロトンポンプ PoXeR の X 線結晶構造解析  
Crystal structure of PoXeR, a light-driven inward proton pump  
○生田 達也, 石谷 隆一郎, 瀧木 理 (東大・院理・生物科学)  
**Tatsuya Ikuta**, Ryuichiro Ishitani, Osamu Nureki (Grad. Sch. Sci., Univ. Tokyo)
- 1F1332\*** Crystal structure of mammalian Claudin3 in complex with a toxin  
**Shun Nakamura**<sup>1</sup>, Katsumasa Irie<sup>1,2</sup>, Hiroo Tanaka<sup>3</sup>, Atsushi Tamura<sup>3</sup>, Sachiko Tsukita<sup>3</sup>, Yoshinori Fujiyoshi<sup>2</sup> (1Grad. Sch. Pharm., Univ. Nagoya, 2CeSPI, Univ. Nagoya, 3Grad. Sch. Med., Univ. Osaka)
- 1F1344\*** Ca<sup>2+</sup>/Zn<sup>2+</sup>結合型ヒト S100A3 蛋白質四量体の X 線結晶構造解析に向けての研究  
The studies for X-ray crystallographic analysis of the Ca<sup>2+</sup> and Zn<sup>2+</sup> bound human S100A3 protein tetramer  
○井手 賢司<sup>1</sup>, 木澤 謙司<sup>2</sup>, 北西 健一<sup>1</sup>, 海野 昌喜<sup>1,3</sup> (1茨城大院理工, 2花王 (株), 3茨城大IFRC)  
**Kenji Ite**<sup>1</sup>, Kenji Kizawa<sup>2</sup>, Kenichi Kitanishi<sup>1</sup>, Masaki Unno<sup>1,3</sup> (1Grad. Sch. Sci. Eng., Ibaraki Univ., 2Kao Corp., 3IFRC, Ibaraki Univ.)

- 1F1356\*** 銅輸送チャネルにおける金属結合モチーフの構造変化と、それに伴う脂質二重膜への埋没  
Structural change of the metal binding motif of copper transporter induces the embedding of the motif into lipid bilayer  
○岡田 稔子<sup>1</sup>, 三浦 隆史<sup>2</sup>, 中林 孝和<sup>1</sup> (<sup>1</sup>東北大学・院薬学, <sup>2</sup>医療福祉大・薬学)  
**Mariko Okada**<sup>1</sup>, Takashi Miura<sup>2</sup>, Takakazu Nakabayashi<sup>1</sup> (<sup>1</sup>Grad. Sch. Pharm. Sci., Tohoku Univ., <sup>2</sup>Dept. of Pharm. Sci., Int'l Univ. of Health and Welfare)
- 1F1408\*** 高速 AFM 観察で明らかにされた  $\alpha 7$  ホモ 14 量体の  $\alpha 6$  による解体過程  
High-speed AFM reveals disassembly process homo-tetradecamer of proteasomal  $\alpha 7$  subunit induced by interaction with  $\alpha 6$  subunit  
○小財 稔矢<sup>1</sup>, 佐藤 匡史<sup>2</sup>, 矢木 宏和<sup>2</sup>, 内橋 貴之<sup>3</sup>, 加藤 晃一<sup>2,4,5</sup> (<sup>1</sup>金沢大・院数物, <sup>2</sup>名市大・院薬, <sup>3</sup>名大・理学, <sup>4</sup>岡崎統合バイオ, <sup>5</sup>総研大)  
**Toshiya Kozai**<sup>1</sup>, Tadashi Satoh<sup>2</sup>, Hirokazu Yagi<sup>2</sup>, Takayuki Uchihashi<sup>3</sup>, Koichi Kato<sup>2,4,5</sup> (<sup>1</sup>Grad. Sch. Math. & Phys., Kanazawa Univ., <sup>2</sup>Grad. Sch. Pharm. Sci., Nagoya City Univ., <sup>3</sup>Dept. Phys., Nagoya Univ., <sup>4</sup>Okazaki Inst. Integ. Biosci., <sup>5</sup>Nat. Univ., SOKENDAI)

休憩 (Coffee Break) 14:20-14:26

- 1F1426\*** コンピュータシミュレーションによるリゾチームと  $\alpha$  ラクトアルブミンのモルテングロビュール状態の構造探索  
Exploring Structures of the Molten Globule State of Lysozyme and  $\alpha$ Lactalbumin by Computer Simulations  
○清水 政宏, 岡本 祐幸 (名古屋大学大学院理学研究科物理学教室)  
**Masahiro Shimizu**, Yuko Okamoto (Dept. Phys., Sch. Sci., Univ. Nagoya)
- 1F1438\*** 乾燥過程における G3LEA モデルペプチドの生体膜保護に関する計算化学的研究  
Molecular dynamics study of the protective function of G3LEA model peptide on dried POPC bilayer  
○高橋 佑太, 古田 忠臣, 櫻井 実 (東京工業大学 バイオ研究基盤支援総合センター 櫻井研究室)  
**Yuta Takahashi**, Tadaomi Furuta, Minoru Sakurai (Center for Biol. Res. & Inform., Tokyo Tech)
- 1F1450\*** 時計タンパク質 KaiC のリン酸化と ATP 加水分解による構造変化メカニズム  
Conformational change by phosphorylation and ATP hydrolysis in the cyanobacterial circadian oscillator KaiC  
○大山 克明<sup>1</sup>, 浅井 智広<sup>2</sup>, 寺内 一姫<sup>1,2</sup> (<sup>1</sup>立命館大学大学院 生命科学研究科, <sup>2</sup>立命館大学 生命科学部)  
**Katsuaki Oyama**<sup>1</sup>, Chihiro Azai<sup>2</sup>, Kazuki Terauchi<sup>1,2</sup> (<sup>1</sup>Graduate School of Life Sciences, Ritsumeikan University, <sup>2</sup>College of Life Sciences, Ritsumeikan University)
- 1F1502\*** Computational investigation of conformational dynamics in Tom20/mitochondrial targeting signal complex  
**Arpita Srivastava**<sup>1</sup>, Osamu Miyashita<sup>2</sup>, Florence Tama<sup>1,2,3</sup> (<sup>1</sup>Grad. Sch. Sci., Nagoya Univ., <sup>2</sup>Adv. Inst. Comp. Sci., RIKEN, <sup>3</sup>Inst. of Transformative Bio-Molecules, Nagoya Univ.)
- 1F1514\*** 分子動力学法による野生型・変異型エリスロポエチン受容体の動的解析  
Dynamical analysis of wild type and mutant erythropoietin receptors by molecular dynamics simulations  
○唐澤 直之, 光武 亜代理, 高野 宏 (慶大・理工)  
**Naoyuki Karasawa**, Ayori Mitsutake, Hiroshi Takano (Grad. Sch. Sci. Technol., Keio Univ.)

休憩 (Coffee Break) 15:26-15:32

- 1F1532\*** 抗原ペプチドの硫酸化がペプチド-抗体間相互作用に与える影響の熱力学的解析  
Thermodynamic analysis of the effect of sulfation on a peptide-antibody interaction  
○宮鍋 一紘<sup>1</sup>, 秋葉 宏樹<sup>2</sup>, 高松 佑一郎<sup>3</sup>, 山下 雄史<sup>3</sup>, ホセ カアベイロ<sup>4</sup>, 津本 浩平<sup>1</sup> (<sup>1</sup>東大院・工, <sup>2</sup>医薬健康研, <sup>3</sup>東大・先端研, <sup>4</sup>九大院・薬)  
**Kazuhiro Miyanabe**<sup>1</sup>, Hiroki Akiba<sup>2</sup>, Yuichiro Takamatsu<sup>3</sup>, Takefumi Yamashita<sup>3</sup>, Caaveiro Jose<sup>4</sup>, Kouhei Tsumoto<sup>1</sup> (<sup>1</sup>Sch. Eng., Univ. Tokyo, <sup>2</sup>NIBIOHN, <sup>3</sup>RCAST, Univ. Tokyo, <sup>4</sup>Grad. Sch. Pharm. Sci., Kyushu. Univ.)
- 1F1544\*** Structure-based analyses of the interaction between the chemokine receptor-regulator FROUNT and novel anti-inflammatory compounds  
**Soichiro Ezaki**<sup>1</sup>, Sosuke Yoshinaga<sup>1</sup>, Norihito Ishida<sup>1</sup>, Mitsuhiro Takeda<sup>1</sup>, Kaori Yunoki<sup>1</sup>, Yuya Terashima<sup>2</sup>, Etsuko Toda<sup>2</sup>, Kouji Matsushima<sup>2</sup>, Hiroaki Terasawa<sup>1</sup> (<sup>1</sup>Fac. Life Sci., Kumamoto Univ., <sup>2</sup>Grad. Sch. Med., Univ. Tokyo)
- 1F1556** Laser processing of protein crystals for native SAD data collection  
**Ayaka Harada**<sup>1</sup>, Naohiro Matsugaki<sup>1,2</sup>, Yoshiaki Kawano<sup>3</sup>, Masaki Yamamoto<sup>3</sup>, Toshiya Senda<sup>1,2</sup> (<sup>1</sup>KEK, PF, Structural Biology Research Center, <sup>2</sup>The Grad. Univ. for Advanced Studies, School of High Energy Accelerator Science, <sup>3</sup>RIKEN/SPring8)

13:20~16:20 G 会場 (全学教育棟 3 階 C301) / Room G (Room C301, General Education Bldg. 3F)

1G 蛋白質: 機能, ヘム蛋白質 I, 核酸結合蛋白質 / Proteins: Function, Heme proteins I, Nucleic acid binding proteins

- 1G1320** 線虫 *C. elegans* の低温耐性から見た不凍タンパク質の機能解析、および生体内 X 線一分子観察  
*In vivo* X-ray single molecule observation and functional analysis of antifreeze proteins for cold tolerance in *C. elegans*  
○倉持 昌弘<sup>1</sup>, 高梨 千晶<sup>1</sup>, 関口 博史<sup>2</sup>, 戸井 基道<sup>3</sup>, 津田 栄<sup>4</sup>, 佐々木 裕次<sup>1</sup> (<sup>1</sup>東京大学・院新領域, <sup>2</sup>高輝度光科学研究センター, <sup>3</sup>産総研・バイオメディカル, <sup>4</sup>産総研・生物プロセス)  
**Masahiro Kuramochi**<sup>1</sup>, Chiaki Takanashi<sup>1</sup>, Hiroshi Sekiguchi<sup>2</sup>, Motomichi Doi<sup>3</sup>, Sakae Tsuda<sup>4</sup>, Yuji C Sasaki<sup>1</sup> (<sup>1</sup>Grad. Sch. Front. Sci., Univ. Tokyo, <sup>2</sup>JASRI, <sup>3</sup>Biomedical R.I., AIST, <sup>4</sup>Bioproduction R.I., AIST)

- 1G1332** A mechanism of enzymatic activation of Cu/Zn-superoxide dismutase by its copper chaperone  
**Yoshiaki Furukawa**, Mami Fukuoka (*Dept. of Chemistry, Keio Univ.*)
- 1G1344** Pin1 の酵素反応におけるタンパク質ダイナミクスの重要性  
 Crucial role of enzyme dynamics in the catalytic reaction mechanism of Pin1  
 ○森 俊文<sup>1,2</sup>, 齊藤 真司<sup>1,2</sup> (<sup>1</sup>分子研, <sup>2</sup>総研大)  
**Toshifumi Mori**<sup>1,2</sup>, Shinji Saito<sup>1,2</sup> (<sup>1</sup>IMS, <sup>2</sup>SOKENDAI)
- 1G1356\*** ラン藻由来炭化水素合成関連酵素の活性と可溶性の向上  
 Improving activity and solubility of cyanobacterial enzymes for hydrocarbon biosynthesis  
 ○工藤 恒, 林 勇樹, 新井 宗仁 (東大・総合文化・生命環境)  
**Hisashi Kudo**, Yuuki Hayashi, Munehito Arai (*Dept. Life Sci., Univ. Tokyo*)
- 1G1408\*** 生細胞直接円偏光二色性測定によるシトクロム c 内多核ヘムの配置変化の追跡  
 Circular Dichroism Spectroscopy of Living Microbe Reveals Redox-Triggered Conformational Change of Heme Cofactors in Cytochromes c  
 ○徳納 吉秀<sup>1</sup>, チノタイクン パンティラー<sup>1</sup>, 服部 伸吾<sup>2</sup>, 橋本 和仁<sup>3</sup>, 石井 和之<sup>2</sup>, 岡本 章玄<sup>3</sup> (<sup>1</sup>東大院工・応用化学, <sup>2</sup>東大・生産技術研究所, <sup>3</sup>物質材料研究機構)  
**Yoshihide Tokunou**<sup>1</sup>, Punthira Chinotaiikul<sup>1</sup>, Shingo Hattori<sup>2</sup>, Kazuhito Hashimoto<sup>3</sup>, Kazuyuki Ishii<sup>2</sup>, Akihiro Okamoto<sup>3</sup> (<sup>1</sup>Department of Applied Chemistry, School of Engineering, The University of Tokyo, <sup>2</sup>Institute of Industrial Science, The University of Tokyo, <sup>3</sup>National Institute for Materials Science)

休憩 (Coffee Break) 14:20-14:26

- 1G1426\*** 基質 DNA の長さ、濃度、及び標的配列位置が APOBEC3F の脱アミノ活性に及ぼす影響  
 Influences of length and concentration of the DNA substrate, as well as the location of the target sequence, on deamination by APOBEC3F  
 ○万里<sup>1,2</sup>, 永田 崇<sup>1,2</sup>, 片平 正人<sup>1,2</sup> (<sup>1</sup>京都大学 エネルギー理工学研究所, <sup>2</sup>京都大学大学院 エネルギー科学研究科)  
**Li Wan**<sup>1,2</sup>, Takashi Nagata<sup>1,2</sup>, Masato Katahira<sup>1,2</sup> (<sup>1</sup>Institute of Advanced Energy, University of Kyoto, <sup>2</sup>Graduate School of Energy Science, University of Kyoto)
- 1G1438\*** (6-4)光回復酵素の光反応過程における基質特異性に関する赤外分光研究  
 FTIR study of photoreaction of Xenopus (6-4) photolyase on substrate specificity  
 ○熊谷 真衣<sup>1</sup>, 山田 大智<sup>1</sup>, 岩田 達也<sup>2</sup>, 山元 淳平<sup>3</sup>, 神取 秀樹<sup>1</sup> (<sup>1</sup>名工大・院工, <sup>2</sup>東邦大・薬, <sup>3</sup>阪大・院基礎工)  
**Mai Kumagai**<sup>1</sup>, Daichi Yamada<sup>1</sup>, Tatsuya Iwata<sup>2</sup>, Junpei Yamamoto<sup>3</sup>, Hideki Kandori<sup>1</sup> (<sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>Fac. Pharm. Sci., Toho Univ., <sup>3</sup>Grad. Sch. Eng. Sci., Osaka Univ.)
- 1G1450\*** 3D-RISM 計算での溶媒分布と MD から導く EcoRV の DNA 切断反応における水分子と Mg<sup>2+</sup>の役割  
 Role of Mg<sup>2+</sup> ion and water in DNA hydrolysis by EcoRV, studied by 3D-RISM and MD  
 ○大西 到<sup>1</sup>, 砂場 俊哉<sup>1</sup>, 本松 良太<sup>1</sup>, 安庭 潤治<sup>1</sup>, 丸山 豊<sup>2</sup>, 吉田 紀生<sup>3</sup>, 皿井 明倫<sup>1</sup>, 平田 文男<sup>4</sup>, 入佐 正幸<sup>1</sup> (<sup>1</sup>九州工大情報工, <sup>2</sup>慶応大, <sup>3</sup>九大理, <sup>4</sup>立命館・分子研)  
**Itaru Onishi**<sup>1</sup>, Shunya Sunaba<sup>1</sup>, Ryota Motomatsu<sup>1</sup>, Junji Yasuniwa<sup>1</sup>, Yutaka Maruyama<sup>2</sup>, Norio Yoshida<sup>3</sup>, Akinori Sarai<sup>1</sup>, Fumio Hitara<sup>4</sup>, Masayuki Iriasa<sup>1</sup> (<sup>1</sup>Kyushu Inst. of Tech., <sup>2</sup>Keio Univ., <sup>3</sup>Kyushu Univ., <sup>4</sup>IMS and Ritsumei Univ.)
- 1G1502** An arginine side chain in the (6-4) photolyase governs formation of a robust repair-active complex with UV-damaged DNA  
**Junpei Yamamoto**<sup>1</sup>, Yuma Terai<sup>1</sup>, Ryuma Sato<sup>2</sup>, Ryuhei Harada<sup>2</sup>, Yasuteru Shigetani<sup>2</sup>, Shigenori Iwai<sup>1</sup> (<sup>1</sup>Grad. Sch. Eng. Sci., Osaka Univ., <sup>2</sup>CCS, Univ. Tsukuba)
- 1G1514** RecA Nucleoprotein Filament Formation on SSB-wrapped DNA Includes RecA-SSB Interaction  
 Hung-Yi Wu, Chih-Hao Lu, **Hung-Wen Li** (*National Taiwan University*)

休憩 (Coffee Break) 15:26-15:32

- 1G1532** テロメア長短縮をもたらす TLS/FUS 蛋白質とテロメア DNA および TERRA のグアニン四重鎖との複合体に関する NMR 解析  
 NMR studies for the complex of TLS/FUS protein and G-quadruplexes of telomeric DNA and TERRA, which induces telomere shortening  
 ○近藤 敬子<sup>1</sup>, 真嶋 司<sup>1,2</sup>, 大吉 崇文<sup>3</sup>, 黒川 理樹<sup>4</sup>, 小林 直宏<sup>5</sup>, 永田 崇<sup>1,2</sup>, 片平 正人<sup>1,2</sup> (<sup>1</sup>京都大学・エネルギー理工学研究所, <sup>2</sup>京都大学・エネルギー科学研究科, <sup>3</sup>静岡大学・理学部, <sup>4</sup>埼玉医科大学・ゲノム医学研究センター, <sup>5</sup>大阪大学・蛋白質研究所)  
**Keiko Kondo**<sup>1</sup>, Tsukasa Mashima<sup>1,2</sup>, Takanori Oyoshi<sup>3</sup>, Riki Kurokawa<sup>4</sup>, Naohiro Kobayashi<sup>5</sup>, Takashi Nagata<sup>1,2</sup>, Masato Katahira<sup>1,2</sup> (<sup>1</sup>Institute of Advanced Energy, Kyoto University, <sup>2</sup>Graduate School of Energy Science, Kyoto University, <sup>3</sup>Department of Chemistry, Shizuoka University, <sup>4</sup>Research Center for Genomic Medicine, Saitama Medical University, <sup>5</sup>Institute for Protein Research, Osaka University)
- 1G1544** The mechanism of R42me2a promoting the transcription  
**Zhenhai Li**, Hidetoshi Kono (*QST*)
- 1G1556** Modeling Sequence-Specific Protein-DNA Interaction from High-Throughput Experiments  
**Cheng Tan**, Shoji Takada (*Graduate School of Science, Kyoto University*)
- 1G1608** Proteomic analysis of the lncRNA-protein complexes in colon cancer cells  
**Lumi Negishi**, Kenzui Taniue, Yoshihiro Kawasaki, Kosuke Matsumura, Akiko Takahashi, Tetsu Akiyama (*IMCB., Univ. Tokyo*)



- 1H1320** Actin polymerization signal emitted at the raft nanodomains of the clusters of the anthrax-toxin-receptor complex: a single-molecule study  
**An-An Liu**<sup>1</sup>, Yukihiko Kudo<sup>2</sup>, Shihui Liu<sup>3</sup>, Kenichi Suzuki<sup>4</sup>, Takahiro Fujiwara<sup>2</sup>, Dai-Wen Pang<sup>5</sup>, Stephen Leppla<sup>3</sup>, Akihiro Kusumi<sup>1,2</sup> (<sup>1</sup>Membrane Cooperativity Unit, Okinawa Institute of Science and Technology Graduate University (OIST), <sup>2</sup>Institute for Integrated Cell-Material Sciences, Kyoto University Institute for Advanced Study, <sup>3</sup>Division of Intramural Research, NIAID, NIH, <sup>4</sup>Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University, <sup>5</sup>College of Chemistry and Molecular Sciences, Wuhan University)
- 1H1332** Functional signaling-fluorescent fusion protein for the dynamics of signaling pathway in E.coli  
**Ryota Shiono**, Akihiko Ishijima, Hajime Hukuoka (*Grad. Sch. Frontier Biosci., Osaka Univ*)
- 1H1344** 高速 AFM によるダイナミン1-アンフィフィジン複合体の動態観察  
 High-Speed AFM imaging of dynamics of Dynamin1-Amphiphysin1 complexes  
 ○石黒 大輝<sup>1</sup>, 竹田 哲也<sup>3</sup>, 小財 稔矢<sup>1</sup>, 背山 佳穂<sup>3</sup>, 楊 惠然<sup>3</sup>, 山田 浩司<sup>3</sup>, 内橋 貴之<sup>4</sup>, 安藤 敏夫<sup>2</sup>, 竹居 孝二<sup>3</sup> (<sup>1</sup>金沢大・院・物理, <sup>2</sup>金沢大・bio-AFM, <sup>3</sup>岡山大・医歯薬, <sup>4</sup>名大理学)  
**Daiki Ishikuro**<sup>1</sup>, Tetsuya Takeda<sup>3</sup>, Toshiya Kozai<sup>1</sup>, Kaho Seyama<sup>3</sup>, Huiran Yang<sup>3</sup>, Hiroshi Yamada<sup>3</sup>, Takayuki Uchihashi<sup>4</sup>, Toshio Ando<sup>2</sup>, Kohji Takei<sup>3</sup> (<sup>1</sup>Grad. Sch. Phys., Kanazawa Univ, <sup>2</sup>Bio-AFM. FRC., Kanazawa Univ, <sup>3</sup>Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama Univ, <sup>4</sup>Dept. Phys., Nagoya Univ)
- 1H1356** 高速 AFM による生細胞表面の分子イメージング  
 Molecular imaging on living bacterial cell surface by high speed AFM  
 ○山下 隼人<sup>1,2</sup>, 田岡 東<sup>3,4</sup>, 福森 義宏<sup>3</sup>, 阿部 真之<sup>1</sup> (<sup>1</sup>阪大・院基礎工, <sup>2</sup>JST さきがけ, <sup>3</sup>金沢大・理工, <sup>4</sup>金沢大・バイオAFMセンター)  
**Hayato Yamashita**<sup>1,2</sup>, Azuma Taoka<sup>3,4</sup>, Yoshihiro Fukumori<sup>3</sup>, Masayuki Abe<sup>1</sup> (<sup>1</sup>Grad. Sch. of Eng. Sci. Osaka Univ., <sup>2</sup>PRESTO, JST, <sup>3</sup>Inst. Sci. and Eng., Kanazawa Univ., <sup>4</sup>Bio-AFM Frontier Research Center, Kanazawa Univ.)
- 1H1408** First evaluation of permeabilities across the actin-based compartment barriers in the plasma membrane  
**Alexey Yudin**<sup>1</sup>, Takahiro Fujiwara<sup>2</sup>, Takaaki Tsunoyama<sup>1</sup>, Akihiro Kusumi<sup>1,2</sup> (<sup>1</sup>Membrane Cooperativity Unit, Okinawa Institute of Science and Technology Graduate University (OIST), <sup>2</sup>Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University)
- 休憩 (Coffee Break) 14:20-14:26
- 1H1426\*** メカノストレスによる歯周組織リモデリング機構の解明  
 Effects of Mechanical Stress on Remodeling of Periodontal Ligament  
 ○藤田 彩乃<sup>1,2</sup>, 森松 賢順<sup>2</sup>, 西山 雅祥<sup>3</sup>, 高柴 正悟<sup>1</sup>, 成瀬 恵治<sup>2</sup> (<sup>1</sup>岡山大学大学院医歯薬学総合研究科歯周病態学分野, <sup>2</sup>岡山大学大学院医歯薬学総合研究科システム生理学, <sup>3</sup>京都大学大学院医学研究科人間健康科学系専攻)  
**Ayano Fujita**<sup>1,2</sup>, Masatoshi Morimatsu<sup>2</sup>, Masayoshi Nishiyama<sup>3</sup>, Shogo Takashiba<sup>1</sup>, Keiji Naruse<sup>2</sup> (<sup>1</sup>Department of Pathophysiology-Periodontal Science, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, <sup>2</sup>Department of Pathophysiology-Periodontal Science, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, <sup>3</sup>Human Health Sciences, Graduate School of Medicine, Kyoto University)
- 1H1438** 加圧・脱圧による芽胞ジピコリン酸の流出: 高圧 NMR によるリアルタイム観測  
 How can pressure release DPA from bacterial spores? A study by high pressure NMR  
 ○赤坂 一之<sup>1</sup>, 前野 寛大<sup>2</sup>, 金折 賢二<sup>3</sup>, 山崎 彬<sup>4</sup> (<sup>1</sup>京都府立医大, <sup>2</sup>関西医大, <sup>3</sup>京都工繊大, <sup>4</sup>越後製菓)  
**Kazuyuki Akasaka**<sup>1</sup>, Akihiro Maeno<sup>2</sup>, Kenji Kanaori<sup>3</sup>, Akira Yamazaki<sup>4</sup> (<sup>1</sup>Kyoto Prefectural University of Medicine, <sup>2</sup>Kansai Medical University, <sup>3</sup>Kyoto Institute of Technology, <sup>4</sup>Echigoseika Co.)
- 1H1450** 光照射によるインアクティブな珪藻細胞の刺激  
 Stimulation of inactive diatom cells by light irradiation  
 ○梅村 和夫<sup>1</sup>, 近藤 駿佑<sup>1</sup>, 熊代 善一<sup>2</sup>, 真山 茂樹<sup>3</sup> (<sup>1</sup>東理大・理, <sup>2</sup>東女医大, <sup>3</sup>東学大)  
**Umemura Kazuo**<sup>1</sup>, Shunsuke Kondo<sup>1</sup>, Yoshikazu Kumashiro<sup>2</sup>, Shigeki Mayama<sup>3</sup> (<sup>1</sup>Tokyo Univ Sci, <sup>2</sup>Tokyo Women's Medical University, <sup>3</sup>Tokyo Gakuji University)
- 1H1502\*** 滑走するヒト肺炎原因菌 *Mycoplasma pneumoniae* の“あし”P1 adhesin  
 P1 adhesin, the leg for gliding of *Mycoplasma pneumoniae*  
 ○松本 優<sup>1</sup>, 川本 晃大<sup>2</sup>, 加藤 貴之<sup>2</sup>, 川北 祥人<sup>1</sup>, 見理 剛<sup>3</sup>, 森 茂太郎<sup>3</sup>, 難波 啓一<sup>2,4</sup>, 宮田 真人<sup>1,5</sup> (<sup>1</sup>大市大・院理, <sup>2</sup>阪大・院生命機能, <sup>3</sup>感染研・武蔵村山, <sup>4</sup>理研・吹田, <sup>5</sup>大市大・複合先端)  
**U Matsumoto**<sup>1</sup>, Akihiro Kawamoto<sup>2</sup>, Takayuki Kato<sup>2</sup>, Yoshito Kawakita<sup>1</sup>, Tsuyoshi Kenri<sup>3</sup>, Shigetaro Mori<sup>3</sup>, Keiichi Namba<sup>2,4</sup>, Makoto Miyata<sup>1,5</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka City Univ., <sup>2</sup>Grad. Sch. Front. Biosci., Univ. Osaka, <sup>3</sup>Dept. Bacteriology II, NIID, <sup>4</sup>QBiC, RIKEN, <sup>5</sup>OCARINA, Osaka City Univ.)
- 1H1514\*** 非熱的に駆動された細胞内部の混み合いガラス状態  
 Molecular crowding glass driven by metabolic activity in cells  
 ○西澤 賢治, 水野 大介 (九大物理)  
**Kenji Nishizawa**, Daisuke Mizino (*Dept. of Phys., Kyushu Univ.*)

- 1H1532\*** NF- $\kappa$ B 転写因子の細胞質 - 核内移行の一細胞動態はその発現量によって自己制御される  
Single-cell cytoplasmic-nuclear shuttling of transcription factor NF- $\kappa$ B is auto-regulated by the expression level  
○宮本 佑<sup>1</sup>, 有吉 哲郎<sup>2</sup>, 稲葉 岳彦<sup>3</sup>, 岩本 一成<sup>4</sup>, 長谷 耕二<sup>1</sup>, 佐甲 靖志<sup>3</sup>, 岡田 康志<sup>2</sup>, 岡田 眞里子<sup>4</sup> ( <sup>1</sup>慶應大院薬, <sup>2</sup>理研 QBiC, <sup>3</sup>理研 和光, <sup>4</sup>大阪大 蛋白研)  
**Yu Miyamoto**<sup>1</sup>, Tetsuro Ariyoshi<sup>2</sup>, Takehiko Inaba<sup>3</sup>, Kazunari Iwamoto<sup>4</sup>, Koji Hase<sup>1</sup>, Yasushi Sako<sup>3</sup>, Yasushi Okada<sup>2</sup>, Mariko Okada<sup>4</sup> (*Keio Univ. Pharmacy, <sup>2</sup>RIKEN QBiC, <sup>3</sup>RIKEN Wako, <sup>4</sup>Osaka Univ. Protein Research*)
- 1H1544\*** 誘引場への追従性能と細胞の前後極性から理解する好中球様 HL60 細胞の走化性運動  
Chemotactic analysis of neutrophil-like HL60 cells based on cells' persistent polarity and immediate responsiveness to chemoattractant  
○石田 元彦<sup>1</sup>, 中島 昭彦<sup>2</sup>, 澤井 哲<sup>1,2</sup> ( <sup>1</sup>東京大学大学院総合文化研究科広域科学専攻, <sup>2</sup>複雑系生命システム研究センター)  
**Motohiko Ishida**<sup>1</sup>, Akihiko Nakajima<sup>2</sup>, Satoshi Sawai<sup>1,2</sup> (*<sup>1</sup>Dept. Basic Sci., Grad. Sch. of Arts & Sci., Univ. of Tokyo, <sup>2</sup>Research Center for Complex Systems Biology, Grad. Sch. of Arts & Sci., Univ. of Tokyo*)
- 1H1556\*** 植物細胞内でシロイヌナズナアクチンアイソフォーム (ACT2, ACT7) は異なった局在を示す  
Arabidopsis vegetative actin isoforms, ACT2 and ACT7, show distinct localization in a living plant cell  
○貴嶋 紗久<sup>1,2</sup>, Staiger Christopher J.<sup>3</sup>, 加藤 薫<sup>1</sup>, 光田 展隆<sup>4</sup>, 上田 太郎<sup>1,5</sup> ( <sup>1</sup>産総研 バイオメディカル, <sup>2</sup>筑波大学 生命環境科学, <sup>3</sup>Purdue大学 生物科学, <sup>4</sup>産総研 生物プロセス, <sup>5</sup>早稲田大学 先進理工)  
**Saku T. Kijima**<sup>1,2</sup>, Christopher J. Staiger<sup>3</sup>, Kaoru Katoh<sup>1</sup>, Nobutaka Mitsuda<sup>4</sup>, Taro Q.P. Uyeda<sup>1,5</sup> (*<sup>1</sup>Biomedical Res. Inst., AIAT, <sup>2</sup>Grad. Sch. Sci., Univ. Tsukuba, <sup>3</sup>Dep. Biol. Sci., Purdue Univ., <sup>4</sup>Bioproduction Res. Inst., AIST, <sup>5</sup>Dep. of Physics, Fac. Sci. Engin., Waseda Univ.*)
- 1H1608\*** 大腸菌走化性受容体クラスターにおける状態発振モデルの作成  
Computational simulation of spontaneous transition between active and inactive in whole chemoreceptor array in *E. coli*  
○濱元 樹<sup>1</sup>, 佐川 貴志<sup>2</sup>, 小口 伸<sup>3</sup>, 福岡 創<sup>1,3</sup>, 石島 秋彦<sup>1,3</sup> ( <sup>1</sup>阪大・基礎工, <sup>2</sup>情報通信研究機構, <sup>3</sup>阪大・生命機能)  
**Tatsuki Hamamoto**<sup>1</sup>, Takashi Sagawa<sup>2</sup>, Shin Koguchi<sup>3</sup>, Hajime Fukuoka<sup>1,3</sup>, Akihiko Ishijima<sup>1,3</sup> (*<sup>1</sup>Sch. Eng. Sci., Osaka Univ., <sup>2</sup>NICT, <sup>3</sup>Grad. Sch. Frontier Biosci., Osaka Univ*)

13:20~16:20 | 会場 (全学教育棟 3 階 E305) / Room I (Room E305, General Education Bldg. 3F)

1I 光生物: 視覚・光受容 I, 光合成 I, 光遺伝学・光制御 I /

Photobiology: Vision & Photoreception I, Photosynthesis I, Optogenetics & Optical Control I

- 1I1320\*** 新たに発見された光駆動型外向きプロトンポンプ DTS ロドプシンの機能解析と分光研究  
Functional analysis and spectroscopic study of newly discovered light-driven outward proton pump DTS rhodopsins  
○片岡 千尋<sup>1</sup>, 井上 圭一<sup>1,2</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名工大院工, <sup>2</sup>JST さきがけ)  
**Chihiro Kataoka**<sup>1</sup>, Keiichi Inoue<sup>1,2</sup>, Hideki Kandori<sup>1</sup> (*<sup>1</sup>Grad. Sch. Eng., Nagoya Inst. Tech., <sup>2</sup>PRESTO, JST*)
- 1I1332\*** FTIR study of the T94I rhodopsin mutant in night blindness  
**Akiko Enomoto**<sup>1</sup>, Kota Katayama<sup>1</sup>, Hiroo Imai<sup>2</sup>, Hideki Kandori<sup>1</sup> (*<sup>1</sup>Grad. Sch. Eng., Nagoya Inst. Tech., <sup>2</sup>Primate Res. Inst., Kyoto Univ.*)
- 1I1344\*** 海洋性真核藻類がもつ光駆動カチオンチャンネル GtCCR4 の分光解析  
Spectroscopic analysis of a light-gated cation channel GtCCR4 from marine algae  
○山内 夢叶<sup>1</sup>, 今野 雅恵<sup>1,2</sup>, 伊藤 奨太<sup>1</sup>, 角田 聡<sup>1,2,3</sup>, 井上 圭一<sup>1,2,3,4</sup>, 神取 秀樹<sup>1,2</sup> ( <sup>1</sup>名工大・院・工, <sup>2</sup>名工大・オプトバイオ, <sup>3</sup>JST・さきがけ, <sup>4</sup>名工大・フロンティア)  
**Yumeka Yamauchi**<sup>1</sup>, Masae Konno<sup>1,2</sup>, Shota Ito<sup>1</sup>, Satoshi Tsunoda<sup>1,2,3</sup>, Keiichi Inoue<sup>1,2,3,4</sup>, Hideki Kandori<sup>1,2</sup> (*<sup>1</sup>Life Sci. Appl. Chem., Grad. Sch. Eng., NIT, <sup>2</sup>OBTRC, NIT, <sup>3</sup>PRESTO, JST, <sup>4</sup>FRIMS, NIT*)
- 1I1356** KR2 の Na<sup>+</sup>輸送経路に位置する水分子の構造変化  
Structural Changes of Water Molecules in the Na<sup>+</sup> Transport Pathway of KR2  
○富田 紗穂子<sup>1</sup>, 伊藤 奨太<sup>1</sup>, 井上 圭一<sup>1,2</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名古屋工業大学 神取研, <sup>2</sup>JST さきがけ)  
**Sahoko Tomida**<sup>1</sup>, Shota Ito<sup>1</sup>, Keiichi Inoue<sup>1,2</sup>, Hideki Kandori<sup>1</sup> (*<sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>PRESTO, JST*)
- 1I1408** 低温赤外分光法を用いた(6-4)光産物の修復中間体の測定  
Low-temperature FTIR study of the repair processes by *Xenopus* (6-4) photolyase  
○山田 大智<sup>1</sup>, 山元 淳平<sup>2</sup>, 岩田 達也<sup>3</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名工大院工, <sup>2</sup>阪大基礎工, <sup>3</sup>東邦大薬)  
**Daichi Yamada**<sup>1</sup>, Junpei Yamamoto<sup>2</sup>, Tatsuya Iwata<sup>3</sup>, Hideki Kandori<sup>1</sup> (*<sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>Grad. Sch. Eng. Sci., Osaka Univ., <sup>3</sup>Fac. Pharm. Sci., Toho Univ.*)

- 1I1426\*** 過渡回折格子法を用いた光センサータンパク質 EL222 の DNA 結合反応測定  
Transient grating method revealed a DNA binding process of a light sensor protein EL222  
○高門 輝, 中曽根 祐介, 寺嶋 正秀 (京大院理)  
**Akira Takakado**, Yusuke Nakasone, Masahide Terazima (*Grad. Sch. Sci. Kyoto Univ.*)

- 111438** 光回復酵素/クリプトクロムファミリーにおける FAD 酸化還元制御メカニズム研究  
The redox control mechanism of FAD in Photolyase/Cryptochrome family  
○酒井 結衣<sup>1</sup>, 山田 大智<sup>1</sup>, 岩田 達也<sup>2</sup>, 神取 秀樹<sup>1</sup> (<sup>1</sup>名古屋工業大学, <sup>2</sup>東邦大学薬学部)  
**Yui Sakai**<sup>1</sup>, Daichi Yamada<sup>1</sup>, Tatsuya Iwata<sup>2</sup>, Hideki Kandori<sup>1</sup> (<sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>Fac. Pharm. Sci. Toho Univ.)
- 111450** 分光法と QM/MM 計算を用いた Photoactive Yellow Protein 活性部位の構造解析  
Active Site Structures of Photoactive Yellow Protein Revealed by Spectroscopy and QM/MM Calculations  
○原口 翔次郎<sup>1</sup>, Ren Jie<sup>2</sup>, 藤澤 知績<sup>1</sup>, Hoff Wouter D.<sup>2</sup>, 海野 雅司<sup>1</sup> (<sup>1</sup>佐賀大院・工学系, <sup>2</sup>オクラホマ州立大)  
**Shojiro Haraguchi**<sup>1</sup>, Jie Ren<sup>2</sup>, Tomotsumi Fujisawa<sup>1</sup>, Wouter D. Hoff<sup>2</sup>, Masashi Unno<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci. Eng., Saga Univ., <sup>2</sup>Dept. Genet. Mol. Biol., Oklahoma State Univ.)
- 111502\*** Acquirement of the water splitting ability and uni-directionality of the electron transfer pathway in O<sub>2</sub>-evolving photosystem II  
**Keisuke Kawashima**<sup>1</sup>, Hiroshi Ishikita<sup>1,2</sup> (<sup>1</sup>Grad. Sch. Eng., Univ. of Tokyo, <sup>2</sup>RCAST, Univ. of Tokyo)
- 111514\*** フェムト秒過渡吸収分光による光化学系 II dimer のサブユニット間エネルギー移動ダイナミクスの解明  
Intersubunit Energy Transfer Dynamics of Photosystem II Dimer Revealed by Femtosecond Transient Absorption Spectroscopy  
○米田 勇祐<sup>1</sup>, 片山 哲郎<sup>1</sup>, 長澤 裕<sup>2,3</sup>, 宮坂 博<sup>1</sup>, 梅名 泰史<sup>4</sup> (<sup>1</sup>阪大・院基礎工, <sup>2</sup>立命館大・生命科学, <sup>3</sup>JST さきがけ, <sup>4</sup>岡大・異分野)  
**Yusuke Yoneda**<sup>1</sup>, Tetsuro Katayama<sup>1</sup>, Yutaka Nagasawa<sup>2,3</sup>, Hiroshi Miyasaka<sup>1</sup>, Yasufumi Umena<sup>4</sup> (<sup>1</sup>Grad. Sch. Eng. Sci., Osaka Univ., <sup>2</sup>Coll. Life Sci., Ritsumeikan Univ., <sup>3</sup>JST PREST, <sup>4</sup>Research Inst. Interdisciplinary Sci., Okayama Univ.)

休憩 (Coffee Break) 15:26–15:32

- 111532\*** The pH-Dependent Optical Property of Chlorophyll c bound to the Light-Harvesting Complex from a Diatom, *Chaetoceros calcitrans*  
**Nami Yamano**<sup>1</sup>, Tadashi Mizoguchi<sup>2</sup>, Ritsuko Fujii<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka City Univ., <sup>2</sup>Grad. Sch. Life Sci., Ritsumeikan Univ., <sup>3</sup>OCARINA, Osaka City Univ.)
- 111544\*** 光依存的に環状ヌクレオチド分解活性を示す新規酵素型ロドプシン  
A novel enzyme rhodopsin with light- dependent cyclic nucleotide phosphodiesterase activity  
○吉田 一帆<sup>1</sup>, 角田 聡<sup>1,2</sup>, Leonid Brown S.<sup>3</sup>, 神取 秀樹<sup>1</sup> (<sup>1</sup>名工大・院工, <sup>2</sup>JST さきがけ, <sup>3</sup>ゲルフ大学)  
**Kazuho Yoshida**<sup>1</sup>, Satoshi Tsunoda<sup>1,2</sup>, Brown S. Leonid<sup>3</sup>, Hideki Kandori<sup>1</sup> (<sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>JST PRESTO, <sup>3</sup>Univ. Guelph)
- 111556\*** タンパク質間 NO 転移反応を用いた SNO タンパク質の合成及びその機能の光制御  
Photocontrol of SNO protein modified by protein-to-protein transnitrosylation  
○黒田 剛<sup>1</sup>, 佐藤 一平<sup>1</sup>, 黒井 邦巧<sup>1</sup>, 平松 弘嗣<sup>2</sup>, 中林 孝和<sup>1</sup> (<sup>1</sup>東北大・院薬学, <sup>2</sup>交通大・応化学)  
**Takeshi Kurota**<sup>1</sup>, Ippei Sato<sup>1</sup>, Kunisato Kuroi<sup>1</sup>, Hirotsugu Hiramatsu<sup>2</sup>, Takakazu Nakabayashi<sup>1</sup> (<sup>1</sup>Grad. Sch. Pharm. Sci., Tohoku Univ., <sup>2</sup>Dept. Appl. Chem., NCTU)
- 111608** 光制御型 bZIP モジュール Photozipper の構造変化の分子機構  
Molecular mechanisms for the conformational switching of a light-regulated bZIP module, Photozipper  
○久富 修 (阪大・院理)  
**Osamu Hisatomi** (Grad. Sch. Sci., Osaka Univ.)

13:20~16:08 J会場 (全学教育棟 4階 C401) / Room J (Room C401, General Education Bldg. 4F)

1J 非平衡・生体リズム, 数理生物学 I, 化学受容, 神経・感覚 /

Nonequilibrium state & Biological rhythm, Mathematical biology I, Chemoreception, Neuroscience & Sensory systems

- 1J1320** 時計タンパク質概日リズムを表現する素過程ベースの反応モデル  
An elementary-process-based reaction model of the circadian rhythm of clock proteins  
○甲田 信一<sup>1,2</sup>, 斎藤 真司<sup>1,2</sup> (<sup>1</sup>分子研, <sup>2</sup>総研大)  
**Shin-ichi Koda**<sup>1,2</sup>, Shinji Saito<sup>1,2</sup> (<sup>1</sup>IMS, <sup>2</sup>SOKENDAI)
- 1J1332\*** Kai タンパク質間相互作用のリン酸化状態依存性による概日周期の安定性への影響  
The influence of phosphorylation states dependence of Interaction between Kai proteins on stability of the circadian cycle  
○杉山 翔吾<sup>1</sup>, 盛 徹也<sup>2</sup>, Byrne Mark<sup>3</sup>, 内橋 貴之<sup>4</sup>, Johnson Carl H.<sup>2</sup>, 安藤 敏夫<sup>1,5</sup> (<sup>1</sup>金大自, <sup>2</sup>Dept. of Biol. Sci., Vanderbilt Univ., <sup>3</sup>Dept. Chem. Phys. and Eng., Spring Hill Col., <sup>4</sup>名大理, <sup>5</sup>金大バイオAFM FRC)  
**Shogo Sugiyama**<sup>1</sup>, Tetsuya Mori<sup>2</sup>, Mark Byrne<sup>3</sup>, Takayuki Uchihashi<sup>4</sup>, Carl H. Johnson<sup>2</sup>, Toshio Ando<sup>1,5</sup> (<sup>1</sup>Dept. of Phys., Kanazawa Univ., <sup>2</sup>Dept. of Biol. Sci., Vanderbilt Univ., <sup>3</sup>Dept. Chem. Phys. and Eng., Spring Hill Col., <sup>4</sup>Dept. of Phys., Nagoya Univ., <sup>5</sup>Bio-AFM FRC., Kanazawa Univ.)
- 1J1344** 空間形状による Min たんぱく質の非線形波のコントロール  
Geometric control of wave instability in Min oscillations  
○義永 那津人<sup>1,2</sup> (<sup>1</sup>東北大学 材料科学高等研究所, <sup>2</sup>産総研 数理先端材料モデリング オープンイノベーションラボラトリ)  
**Yoshinaga Natsuhiko**<sup>1,2</sup> (<sup>1</sup>WPI-AIMR Tohoku University, <sup>2</sup>MathAM-OIL AIST)
- 1J1356\*** ナノスケールでの化学的非平衡性を利用し、規則運動する c m サイズの液滴：生物が動く仕組みの実空間モデル  
How to generated regular motion from nano-scaled fluctuating chemical machinery: Real-world modeling of motors in living organisms  
○佐藤 志帆, 作田 浩輝, 吉川 研一 (同志社大・生命医科)  
**Shiho Sato**, Hiroki Sakuta, Kenichi Yoshikawa (Grad. Sch. Life and Medical Sciences, Doshisha Univ.)

- 1J1408\*** 力学-化学ハイブリッドモデルによる細胞集団形成ダイナミクス解析  
Dynamic analysis of collective cell migration by mechanochemical hybrid model  
○丸本 萌<sup>1</sup>, 萩原 将也<sup>2</sup> (<sup>1</sup>大阪府大・院理学・生物, <sup>2</sup>大阪府大・Nanosquare拠点研究所)  
**Moegi Marumoto**<sup>1</sup>, Masaya Hagiwara<sup>2</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka Pref. Univ., <sup>2</sup>N2RI, Osaka Pref. Univ.)

休憩 (Coffee Break) 14:20-14:26

- 1J1426** Numerical simulations of one dimensional cell crawling and traction force analysis  
**Hsuan-Yi Chen**<sup>1,2</sup> (<sup>1</sup>Natl. Cent. Univ., Taiwan, <sup>2</sup>Academia Sinica, Taiwan)
- 1J1438** ネットワークのデザイン原理と構成要素の応答性  
Network Designing and Response Sensitivity of Components  
○井上 雅世<sup>1</sup>, 金子 邦彦<sup>2</sup> (<sup>1</sup>明治大 総合数理, <sup>2</sup>東大 総合文化)  
**Masayo Inoue**<sup>1</sup>, Kunihiko Kaneko<sup>2</sup> (<sup>1</sup>IMS, Meiji, <sup>2</sup>Univ. of Tokyo)
- 1J1450** Lag Phase, Stationary Phase の理論モデル  
Transitions among Log, Dormant, and Death Phases: Proposition of a simple model and quantitative characterization of dormancy and lag time  
○姫岡 優介, 金子 邦彦 (東大総文)  
**Yusuke Himeoka**, Kunihiko Kaneko (Tokyo Univ. Department of Arts and Sciences)
- 1J1502** Generalized-Ensemble Simulations of Membrane Proteins  
**Te-Lun Mai**<sup>1</sup>, Chi-Ming Chen<sup>2</sup> (<sup>1</sup>Genomic Research Center, Academia Sinica, Taiwan, <sup>2</sup>Department of Physics, National Taiwan Normal University)
- 1J1514\*** コレラ菌走化性受容体 Mlp24, Mlp37 のリガンド認識機構の差異  
Distinct mechanisms of ligand recognition between Mlp24 and Mlp37, chemoreceptor proteins of *Vibrio cholerae*  
○高橋 洋平<sup>1</sup>, 住田 一真<sup>1</sup>, 西山 宗一郎<sup>2</sup>, 川岸 郁朗<sup>2</sup>, 今田 勝巳<sup>1</sup> (<sup>1</sup>阪大院理, <sup>2</sup>法大 生命科学)  
**Yohei Takahashi**<sup>1</sup>, Kazumasa Sumita<sup>1</sup>, So-ichiro Nishiyama<sup>2</sup>, Ikuro Kawagishi<sup>2</sup>, Katsumi Imada<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Osaka Univ., <sup>2</sup>Dept. Front. Biosci. Sci., Hosei Univ.)

休憩 (Coffee Break) 15:26-15:32

- 1J1532\*** ATR-FTIR 分光測定によるヒト苦味受容体 TAS2R16 のリガンド結合機構の構造解析  
Structural analysis of ligand binding in human bitter taste receptor by ATR-FTIR spectroscopy  
○日置 菜優<sup>1</sup>, 片山 耕大<sup>1</sup>, 大橋 知明<sup>1</sup>, 岩城 雅代<sup>1</sup>, 吉住 怜<sup>1</sup>, 今井 啓雄<sup>2</sup>, 神取 秀樹<sup>1</sup> (<sup>1</sup>名工大・院工, <sup>2</sup>京大・霊長研)  
**Mayu Hioki**<sup>1</sup>, Kota Katayama<sup>1</sup>, Tomoaki Ohashi<sup>1</sup>, Masayo Iwaki<sup>1</sup>, Rei Abe-Yoshizumi<sup>1</sup>, Hiroo Imai<sup>2</sup>, Hideki Kandori<sup>1</sup> (<sup>1</sup>Grad. Sch. Eng., Nagoya Inst. Tech., <sup>2</sup>Primate Res. Inst, Kyoto Univ.)
- 1J1544** グルタミン酸受容体を介した植物の長距離 Ca<sup>2+</sup> シグナル  
Glutamate receptor channels essential for a long-distance Ca<sup>2+</sup> waves in plants  
○豊田 正嗣<sup>1,2</sup> (<sup>1</sup>埼玉大学・院・理, <sup>2</sup>University of Wisconsin-Madison)  
**Masatsugu Toyota**<sup>1,2</sup> (<sup>1</sup>Saitama University, <sup>2</sup>University of Wisconsin-Madison)
- 1J1556** 神経グロビンによる知覚変化の情報処理機構  
Information processing mechanism underlying a perceptual change by a neuroglobin  
○小田 茂和<sup>1</sup>, 豊島 有<sup>2</sup>, デウボノ マリオ<sup>3</sup> (<sup>1</sup>岡崎統合バイオサイエンスセンター 定量生物学研究部門 (基礎生物学研究所), <sup>2</sup>東京大学大学院理学系研究科生物科学専攻, <sup>3</sup>MRC分子生物学研究所)  
**Shigekazu Oda**<sup>1</sup>, Yu Toyoshima<sup>2</sup>, Mario De Bono<sup>3</sup> (<sup>1</sup>Okazaki Institute for Integrative Science, Division of Quantitative Biology (National Institute for Basic Biology), <sup>2</sup>Department of Biological Sciences, Graduate School of Science, University of Tokyo, <sup>3</sup>MRC Laboratory of Molecular Biology)

## 第2日目 (9月20日 (水)) / Day 2 (Sep. 20 Wed.)

13:55~16:25 B会場 (全学教育棟 2階 B201) / Room B (Room B201, General Education Bldg. 2F)  
2B 分子モーター II / Molecular motor II

- 2B1355** 骨格筋ミオシン分子動態の直接可視化に基づく協同的な力発生の解明  
Understanding of cooperative force generation among skeletal myosins based on direct observation of individual myosin dynamics  
○茅 元司, 樋口 秀男 (東京大学 大学院理学系研究科物理学専攻 樋口秀男研究室)  
**Motoshi Kaya**, Hideo Higuchi (Dept Physics, Univ of Tokyo)
- 2B1407** ダイニン - ダイナクチン相互作用について  
Interaction of dynactin complex with dynein  
○斎藤 慧<sup>1</sup>, 小林 琢也<sup>1</sup>, 村山 尚<sup>2</sup>, 豊島 陽子<sup>1</sup> (<sup>1</sup>東大・総合文化, <sup>2</sup>順天堂・医・薬理)  
**Kei Saito**<sup>1</sup>, Takuya Kobayashi<sup>1</sup>, Takashi Murayama<sup>2</sup>, Yoko Y Toyoshima<sup>1</sup> (<sup>1</sup>Grad. Sch. Arts Sci., Univ. Tokyo, <sup>2</sup>Dept. of Pharmacology, Juntendo Univ. Sch. of Med.)

- 2B1419** Yeast cytoplasmic dynein's small group takes a biased random walk toward the left-right  
**Mitsuhiro Sugawa**<sup>1</sup>, Shin Yamaguchi<sup>1</sup>, Hiroaki Takagi<sup>2</sup>, Mitsuhiro Iwaki<sup>3</sup>, Keitaro Shibata<sup>1</sup>, Yoko Y. Toyoshima<sup>1</sup>, Junichiro Yajima<sup>1</sup> (<sup>1</sup>Graduate School of Arts and Sciences, The Univ. of Tokyo, <sup>2</sup>Department of Physics, Nara Medical University, <sup>3</sup>QBiC, RIKEN)
- 2B1431** 単頭ダイニンのステップサイズと微小管結合時間の測定  
The step size and microtubule-binding time of single-headed dynein  
○木下 慶美<sup>1</sup>, 神原 文敏<sup>1,2</sup>, 西川 香里<sup>1</sup>, 茅 元司<sup>1</sup>, 樋口 秀男<sup>1</sup> (<sup>1</sup>東京大学大学院, <sup>2</sup>理化学研究所QBiC)  
**Yoshimi Kinoshita**<sup>1</sup>, Taketoshi Kambara<sup>1,2</sup>, Kaori Nishikawa<sup>1</sup>, Motoshi Kaya<sup>1</sup>, Hideo Higuchi<sup>1</sup> (<sup>1</sup>The University of Tokyo, <sup>2</sup>RIKEN, QBiC)
- 2B1443** Plus-end directionality present in kinesin conserved catalytic motor core  
**Masahiko Yamagishi**, Junichiro Yajima (*Grad. Sch. Arts and Sci., The Univ. of Tokyo*)
- 2B1455** キネシンのエネルギー論  
Nonequilibrium energetics of kinesin  
○有賀 隆行<sup>1</sup>, 重富 道雄<sup>2</sup>, 水野 大介<sup>1</sup> (<sup>1</sup>九大・院理・物理, <sup>2</sup>青山学院大・理工・物理数理)  
**Takayuki Ariga**<sup>1</sup>, Michio Tomishige<sup>2</sup>, Daisuke Mizuno<sup>1</sup> (<sup>1</sup>Dept. Phys., Kyushu Univ., <sup>2</sup>Dept. Phys. Math., Aoyama Gakuin Univ.)
- 休憩 (Coffee Break) 15:07-15:13
- 2B1513** 高圧力で誘起される磁性細菌の遊泳運動能  
Pressure-induced activation of the swimming motility of magnetotactic bacterium  
○西山 雅祥<sup>1</sup>, 阮 娟芳<sup>2,3</sup>, 下權谷 祐児<sup>3</sup>, 加藤 貴之<sup>2</sup>, 南野 徹<sup>2</sup>, 難波 啓一<sup>2</sup>, 石川 拓司<sup>3</sup>, 精山 明敏<sup>1</sup>, Wu Long-Fei<sup>4</sup>, 原田 慶恵<sup>1,2</sup> (<sup>1</sup>京都大学, <sup>2</sup>大阪大学, <sup>3</sup>東北大学, <sup>4</sup>Aix-Marseille University)  
**Masayoshi Nishiyama**<sup>1</sup>, Ruan Juanfang<sup>2,3</sup>, Yuji Shimogonya<sup>3</sup>, Takayuki Kato<sup>2</sup>, Toru Minamino<sup>2</sup>, Keiichi Namba<sup>2</sup>, Takuji Ishikawa<sup>3</sup>, Akitoshi Seiyama<sup>1</sup>, Long-Fei Wu<sup>4</sup>, Yoshie Harada<sup>1,2</sup> (<sup>1</sup>Kyoto University, <sup>2</sup>Osaka University, <sup>3</sup>Tohoku University, <sup>4</sup>Aix-Marseille University)
- 2B1525** 金ナノプローブで明らかになった霊菌 *Serratia marcescens* 由来キチナーゼ A の 1 nm ステップ運動と運動律速段階  
One nanometer steps and the rate-limiting step of *Serratia marcescens* chitinase A resolved by gold nanoprobe  
○中村 彰彦<sup>1,2</sup>, 飯野 亮太<sup>1,2,3</sup> (<sup>1</sup>自然科学研究機構 岡崎統合バイオサイエンスセンター, <sup>2</sup>総合研究大学院大学, <sup>3</sup>分子科学研究所)  
**Akihiko Nakamura**<sup>1,2</sup>, Ryota Iino<sup>1,2,3</sup> (<sup>1</sup>Okazaki Inst. for Integr. Biosci., <sup>2</sup>SOKENDAI, <sup>3</sup>Institute for Molecular Science)
- 2B1537** 腸球菌 V-ATPase 膜内在ローターリングの阻害剤結合型の X 線結晶構造解析  
Crystal structure of inhibitor bound membrane rotor ring of *Enterococcus hirae* V-ATPase  
○魏 川華<sup>1</sup>, 薬師寺 ファビアナ リカ<sup>1</sup>, 森山 克彦<sup>1</sup>, 鈴木 花野<sup>1</sup>, 水谷 健二<sup>2</sup>, 村田 武士<sup>1,3</sup> (<sup>1</sup>千葉大・院理学, <sup>2</sup>横浜市立大・院生命医科学, <sup>3</sup>JST さきがけ)  
**Senka Gi**<sup>1</sup>, Fabiana Lica Yakushiji<sup>1</sup>, Katsuhiko Moriyama<sup>1</sup>, Kano Suzuki<sup>1</sup>, Kenji Mizutani<sup>2</sup>, Takeshi Murata<sup>1,3</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Chiba, <sup>2</sup>Grad. Sch. Med. Life Sci., Yokohama City Univ., <sup>3</sup>PRESTO, JST)
- 2B1549** How fast can bacteria grow their flagella?  
**Chien-Jung Lo** (*Department of Physics, National Central University*)
- 2B1601** 角度分割・時分割 X 線結晶構造解析による、哺乳類 F1-ATPase のリン酸解離駆動の回転力発生機構の分析  
Molecular mechanism of Phosphate-driven rotation of mammalian F1 by the angle-divided and time-resolved X-ray crystallographic studies  
○鈴木 俊治<sup>1,2,3</sup>, 平田 邦生<sup>4</sup>, 山下 栄樹<sup>3</sup>, 飯田 直也<sup>6</sup>, 遠藤 斗志也<sup>2</sup>, 久堀 徹<sup>3</sup>, 吉田 賢右<sup>2</sup>, 野地 博行<sup>1</sup> (<sup>1</sup>東大院・工・応化, <sup>2</sup>京産大・総合生命, <sup>3</sup>東工大・化学生命研, <sup>4</sup>理研・SPRING8センター, <sup>5</sup>阪大・蛋白研, <sup>6</sup>早大・物理)  
**Toshiharu Suzuki**<sup>1,2,3</sup>, Kunio Hirata<sup>4</sup>, Eiki Yamashita<sup>5</sup>, Naoya Iida<sup>6</sup>, Toshiya Endo<sup>2</sup>, Toru Hisabori<sup>3</sup>, Masasuke Yoshida<sup>2</sup>, Hiroyuki Noji<sup>1</sup> (*Shool of Eng. Univ of Tokyo, <sup>2</sup>Dept of Mol Biosci, Kyoto-Sangyo Univ, <sup>3</sup>CLS, Tokyo Inst of Tech, <sup>4</sup>SPRING8 Center, RIKEN, <sup>5</sup>Inst for Protein Res, <sup>6</sup>Dept of Physics, Waseda Univ*)
- 2B1613** Biophysical Characterization of the Chemomechanical Coupling of F<sub>1</sub> ATPase of *Paracoccus denitrificans*  
**Mariel Zarco Zavala**<sup>1</sup>, Duncan G.G. Mcmillan<sup>2</sup>, Toshiharu Suzuki<sup>1</sup>, Hiroshi Ueno<sup>1</sup>, Rikiya Watanabe<sup>1</sup>, Francisco Mendoza Hoffmann<sup>3</sup>, José J. García Trejo<sup>3</sup>, Hiroyuki Noji<sup>3</sup> (<sup>1</sup>Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Department of Biotechnology, Delft University of Technology, <sup>3</sup>Department of Biology, Chemistry Faculty, National Autonomous University of Mexico)

13:55~16:13 C 会場 (全学教育棟 2 階 B202) / Room C (Room B202, General Education Bldg. 2F)

2C 生体膜・人工膜 II, 生命の起源・進化, 生態/環境 I

Biological & Artificial membrane II, Origin of life & Evolution/Ecology & Environment

- 2C1355** Characterization of prokaryotic voltage-gated calcium channel  
**Katsumasa Irie**<sup>1,2</sup>, Takushi Shimomura<sup>3</sup>, Yoshiki Yonekawa<sup>2</sup>, Yoshinori Fujiyoshi<sup>1,4</sup> (<sup>1</sup>CeSPI, Nagoya Univ., <sup>2</sup>Grad. Sch. Pharm., Nagoya Univ., <sup>3</sup>Div. Biophys. and Neurobiol., NIPS, <sup>4</sup>CeSPIA Co., Ltd.)

- 2C1407** 電位依存性プロトンチャネルの亜鉛阻害におけるヒスチジンとカルボン酸の役割  
The role of histidine and carboxylate residues for zinc inhibition in the voltage-gated proton channel Hv1/VSOP  
○岩城 雅代<sup>1</sup>, 竹下 浩平<sup>2,3,4</sup>, 有馬 大貴<sup>5</sup>, 岡村 康司<sup>5</sup>, 中川 敦史<sup>2</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名工大, <sup>2</sup>阪大・蛋白研, <sup>3</sup>阪大・未来戦略機構, <sup>4</sup>JST-さきがけ, <sup>5</sup>阪大院・医)  
**Masayo Iwaki**<sup>1</sup>, Kohei Takeshita<sup>2,3,4</sup>, Hiroki Arima<sup>5</sup>, Yasushi Okamura<sup>5</sup>, Atsushi Nakagawa<sup>2</sup>, Hideki Kandori<sup>1</sup> ( <sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>Inst. Protein Res., Osaka Univ., <sup>3</sup>Inst. Acad. Initiat., Osaka Univ., <sup>4</sup>JST-PRESTO, <sup>5</sup>Grad. Sch. Med., Osaka Univ.)
- 2C1419** 光駆動型ナトリウムポンプロドプシンは異なる2つのイオン輸送モードを持つ  
Two distinct ion transporting modes of sodium pumping rhodopsin, NaR  
○小崎 裕子<sup>1</sup>, 細島 頌子<sup>1</sup>, 角田 聡<sup>1,2</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名工大 院工, <sup>2</sup>JST さきがけ)  
**Yuko Kozaki**<sup>1</sup>, Shoko Hososhima<sup>1</sup>, Satoshi Tsunoda<sup>1,2</sup>, Hideki Kandori<sup>1</sup> ( <sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>PRESTO, JST)
- 2C1431** 高速 AFM による K+チャネル KcsA とポア結合性サソリ毒ペプチド Agtx2 の一分子結合動態解析  
HS-AFM revealed single-molecule blocking dynamics of a scorpion toxin on the KcsA potassium channel  
○角野 歩<sup>1,2</sup>, 内橋 貴之<sup>3</sup>, 炭竈 享司<sup>4</sup>, 老木 成稔<sup>4</sup> ( <sup>1</sup>金沢大・新学術創成, <sup>2</sup>金沢大・バイオAFM, <sup>3</sup>名大・院理, <sup>4</sup>福井大・医)  
**Ayumi Sumino**<sup>1,2</sup>, Takayuki Uchihashi<sup>3</sup>, Takashi Sumikama<sup>4</sup>, Shigetoshi Oiki<sup>4</sup> ( <sup>1</sup>InFiniti, Kanazawa Univ., <sup>2</sup>Bio-AFM FRC, Kanazawa Univ., <sup>3</sup>Dept. Phys., Nagoya Univ., <sup>4</sup>Facult. Med. Sci., Univ. Fukui)
- 2C1443** アルギニンペプチド修飾型エクソソームのマクロピノサイトーシス誘導と効率的な細胞内移行  
Exosomal membrane modification with arginine-rich peptides for enhanced macropinocytotic uptake of exosomes  
○中瀬 生彦<sup>1</sup>, 野口 公輔<sup>1,2</sup>, 青木 絢子<sup>1,2</sup>, 中瀬 朋夏<sup>3</sup>, 藤井 郁雄<sup>2</sup>, 二木 史朗<sup>4</sup> ( <sup>1</sup>阪府大 N2RI, <sup>2</sup>阪府大院理, <sup>3</sup>武庫女大薬, <sup>4</sup>京大化研)  
**Ikuhiko Nakase**<sup>1</sup>, Kosuke Noguchi<sup>1,2</sup>, Ayako Aoki<sup>1,2</sup>, Tomoka Takatani-Nakase<sup>3</sup>, Ikuo Fujii<sup>2</sup>, Shiroh Futaki<sup>4</sup> ( <sup>1</sup>N2RI, Osaka Prefecture Univ., <sup>2</sup>Graduate School of Sci., Osaka Prefecture Univ., <sup>3</sup>School of Pharm. Pharm. Sci., Mukogawa Women's Univ., <sup>4</sup>ICR, Kyoto Univ.)
- 2C1455** 微細加工基板上の自立脂質二分子膜における浸透圧変化と相分離  
Phase separation of freestanding planar bilayer lipid membrane on Si microwell under osmotic pressure change  
○大嶋 梓<sup>1</sup>, 住友 弘二<sup>2</sup>, 中島 寛<sup>1</sup> ( <sup>1</sup>NTT物性基礎研, <sup>2</sup>兵庫県大・院工)  
**Azusa Oshima**<sup>1</sup>, Koji Sumitomo<sup>2</sup>, Hiroshi Nakashima<sup>1</sup> ( <sup>1</sup>NTT Basic Res. Labs., <sup>2</sup>Grad. Sch. Eng., Univ. Hyogo)

休憩 (Coffee Break) 15:07-15:13

- 2C1513** Negative chemotaxis molecular robots migrated by osmotic pressure difference  
**Kan Shoji**, Ryuji Kawano (Dept. Biotech. and Life Sci., TUAT)
- 2C1525** アクチン線維封入巨大リポソームの光刺激による可逆的な形態制御  
Light-induced and reversible morphological control of F-actin-encapsulating giant liposomes  
○林 真人<sup>1</sup>, 田中 駿介<sup>2</sup>, 滝口 金吾<sup>2</sup> ( <sup>1</sup>理研・脳科学総合研究センター, <sup>2</sup>名大・理)  
**Masahito Hayashi**<sup>1</sup>, Shunsuke Tanaka<sup>2</sup>, Kingo Takiguchi<sup>2</sup> ( <sup>1</sup>RIKEN BSI, <sup>2</sup>Grad. Sch. Sci., Nagoya Univ.)
- 2C1537** 人工 RNA 複製系を用いて試験管内で宿主・寄生体の進化的軍拡競争を観察する  
Evolutionary arms races between artificial host-parasite RNA replicators in vitro  
○古林 太郎<sup>1</sup>, 番所 洋輔<sup>1</sup>, 市橋 伯一<sup>2</sup> ( <sup>1</sup>阪大・生命機能, <sup>2</sup>阪大・情報科学)  
**Taro Furubayashi**<sup>1</sup>, Yohsuke Bansho<sup>1</sup>, Norikazu Ichihashi<sup>2</sup> ( <sup>1</sup>Grad. Sch. of Frontbio, Osaka Univ., <sup>2</sup>Grad. Sch. of InfoTech, Osaka Univ)
- 2C1549** マイクロデバイスと大腸菌の融合を利用した新規人工細胞系の開発  
Development of a new artificial cell system based on the fusion of micron-scaled device and *E. coli*  
○森泉 芳樹<sup>1,2</sup>, 田端 和仁<sup>1,2,3</sup>, 渡邊 力也<sup>1,3,4</sup>, 堂浦 智裕<sup>5</sup>, 神谷 真子<sup>3,5</sup>, 浦野 泰照<sup>5,6,7</sup>, 野地 博行<sup>1,2</sup> ( <sup>1</sup>東京大・院工学・応用化, <sup>2</sup>内閣府・ImPACT, <sup>3</sup>JST・さきがけ, <sup>4</sup>AMED・PRIME, <sup>5</sup>東京大・院医学, <sup>6</sup>東京大・院薬学, <sup>7</sup>AMED・CREST)  
**Yoshiki Moriizumi**<sup>1,2</sup>, Kazuhito Tabata<sup>1,2,3</sup>, Rikiya Watanabe<sup>1,3,4</sup>, Tomohiro Doura<sup>5</sup>, Mako Kamiya<sup>3,5</sup>, Yasuteru Urano<sup>5,6,7</sup>, Hiroyuki Noji<sup>1,2</sup> ( <sup>1</sup>Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo, <sup>2</sup>ImPACT, Cab. Office, <sup>3</sup>PRESTO, JST, <sup>4</sup>PRIME, AMED, <sup>5</sup>Grad. Sch. Med., Univ. Tokyo, <sup>6</sup>Grad. Sch. Pharm. Sci., Univ. Tokyo, <sup>7</sup>CREST, AMED)
- 2C1601** バクテリアの長期定常期における密度依存的なリサイクリング活動  
Density-dependent recycling in the long-term stationary phase of bacterial populations  
高野 壮太郎<sup>2</sup>, Pawlowska Bogna J.<sup>3</sup>, Gudelj Ivana<sup>3</sup>, 四方 哲也<sup>4</sup>, 津留 三良<sup>1</sup> ( <sup>1</sup>東大・生物普遍性研究機構, <sup>2</sup>筑波大・生命環境系, <sup>3</sup>Biosci., Univ. of Exeter, <sup>4</sup>Inst. of Biol. and Inf. Sci., East China Normal Univ.)  
Sotaro Takano<sup>2</sup>, Bogna J. Pawlowska<sup>3</sup>, Ivana Gudelj<sup>3</sup>, Tetsuya Yomo<sup>4</sup>, **Saburo Tsuru**<sup>1</sup> ( <sup>1</sup>Univ. Biol. Inst., The Univ. of Tokyo, <sup>2</sup>Life and Env. Sci., Univ. of Tsukuba, <sup>3</sup>Biosci., Univ. of Exeter, <sup>4</sup>Inst. of Biol. and Inf. Sci., East China Normal Univ.)

13:55~16:25 D会場 (全学教育棟 2階 E201) / Room D (Room E201, General Education Bldg. 2F)  
2D バイオイメージング II / Bioimaging II

- 2D1355** スマートフォン顕微鏡イノベーション  
Smartphone Microscope Innovation  
○永山 國昭<sup>1,2</sup>, 白根 純人<sup>2</sup> ( <sup>1</sup>LisCo 永山顕微鏡研, <sup>2</sup>Life Is Small. Co)  
**Kuniaki Nagayama**<sup>1,2</sup>, Sumito Shirane<sup>2</sup> ( <sup>1</sup>Nagayama Microsc. Lab., LisCo, <sup>2</sup>Life Is Small. Co)

- 2D1407** 高速 AFM による抗体 IgG のリアルタイム観察と挙動解析  
High-Speed AFM revealed dynamic behavior of antibody  
○小谷 則遠, 川元-尾崎 洋子, Ramanujam Kumaresan, 中塚 涼, 森居 隆史, 岡田 孝夫 (株式会社生体分子計測研究所)  
**Norito Kotani**, Yoko Kawamoto-Ozaki, Kumaresan Ramanujam, Ryo Nakatsuka, Takashi Morii, Takao Okada (*Research Institute of Biomolecule Metrology*)
- 2D1419** High-speed atomic force microscopy (HS-AFM) revealed dynamic structural changes of Bacteriophage T4 sheath  
**Hiroki Watanabe**<sup>1</sup>, Shuji Kanamaru<sup>2</sup>, Takayuki Uchihashi<sup>3</sup> (<sup>1</sup>RIBM, <sup>2</sup>Dept. of Life Sci. and Tech., Tokyo Institute of Technology, <sup>3</sup>Dept. of Phys., Nagoya Univ.)
- 2D1431** 高速 AFM による天然変性タンパク質 CAMP の構造動態観察  
Structural dynamics of the intrinsically disordered protein CAMP revealed by high-speed AFM  
○成田 知恕<sup>1</sup>, 池田 真教<sup>2</sup>, 田中 耕三<sup>2</sup>, 古寺 哲幸<sup>3</sup> (<sup>1</sup>金沢大・院数物, <sup>2</sup>東北大・加齢研・分子腫瘍, <sup>3</sup>金沢大・バイオAFM)  
**Tomoyuki Narita**<sup>1</sup>, Masanori Ikeda<sup>2</sup>, Kozo Tanaka<sup>2</sup>, Noriyuki Kodera<sup>3</sup> (<sup>1</sup>Grad. Sch. Math. & Phys., Kanazawa Univ., <sup>2</sup>Dept. Mol. Oncol., Inst. Dev. Aging Center, Tohoku Univ., <sup>3</sup>Bio-AFM FRC, Kanazawa Univ.)
- 2D1443** 高速 AFM による立体パターン基板を用いたタンパク質の動態観察  
HS-AFM Observations of Protein Dynamics on 3D-patterned Substrate  
○後藤 朱音<sup>1</sup>, 柴田 幹大<sup>2,3</sup>, 角野 歩<sup>2,3</sup>, 古寺 哲幸<sup>3</sup> (<sup>1</sup>金沢大・院数物, <sup>2</sup>金沢大・新学術創成, <sup>3</sup>金沢大・バイオAFM)  
**Akane Goto**<sup>1</sup>, Mikihiro Shibata<sup>2,3</sup>, Ayumi Sumino<sup>2,3</sup>, Noriyuki Kodera<sup>3</sup> (<sup>1</sup>Grad. Sch. Math. & Phys., Kanazawa Univ., <sup>2</sup>InFiniti., Kanazawa Univ., <sup>3</sup>Bio-AFM. FRC., Kanazawa Univ)
- 2D1455** 高速 AFM による脂質膜の曲率に依存したタンパク質-脂質膜の相互作用の直接観察  
Direct observation of proteins-lipid membrane interactions depending on the physical shape of lipid membrane by high-speed AFM  
○豊田 貴大<sup>1</sup>, 後藤 朱音<sup>1</sup>, 角野 歩<sup>2,3</sup>, 柴田 幹大<sup>2,3</sup>, 古寺 哲幸<sup>3</sup> (<sup>1</sup>金沢大・院数物, <sup>2</sup>金沢大・新学術創成, <sup>3</sup>金沢大・バイオAFM)  
**Takahiro Toyoda**<sup>1</sup>, Akane Goto<sup>1</sup>, Ayumi Sumino<sup>2,3</sup>, Mikihiro Shibata<sup>2,3</sup>, Noriyuki Kodera<sup>3</sup> (<sup>1</sup>Grad. Sch. Math. & Phys., Kanazawa Univ., <sup>2</sup>InFiniti., Kanazawa Univ., <sup>3</sup>Bio-AFM FRC, Kanazawa Univ.)

休憩 (Coffee Break) 15:07-15:13

- 2D1513** 生細胞のクロマチン構造の超解像イメージング  
Dynamic organization of chromatin domains revealed by super-resolution live-cell imaging  
野崎 慎, ○前島 一博 (国立遺伝学研究所構造遺伝学研究中心)  
Tadasu Nozaki, **Kazuhiro Maeshima** (NIG)
- 2D1525** G タンパク質共役型受容体 (GPCR) と G タンパク質の二色一分子観察をもとにした GPCR の活性化状態評価  
Evaluation of G-protein coupled receptor (GPCR) signaling activity based on dual color single molecule imaging of GPCR and G-protein  
○西口 知輝, 吉村 英哲, 小澤 岳昌 (東大・院理)  
**Tomoki Nishiguchi**, Hideaki Yoshimura, Takeaki Ozawa (*Grad. Sch. Sci., The Univ. Tokyo*)
- 2D1537** 高光度化学発光タンパク質ナノ-ランタンを用いた走化性タンパク質の新規観察法  
Novel imaging method for chemotaxis protein using a super-duper chemiluminescent protein, Nano-lantern  
○麻生 慎太郎<sup>1</sup>, 中野 雅裕<sup>2</sup>, 福岡 創<sup>1</sup>, 永井 健治<sup>2</sup>, 石島 秋彦<sup>1</sup> (<sup>1</sup>大阪大学生命機能研究科, <sup>2</sup>大阪大学産業科学研究所)  
**Shintaro Aso**<sup>1</sup>, Masahiro Nakano<sup>2</sup>, Hajime Fukuoka<sup>1</sup>, Takeharu Nagai<sup>2</sup>, Akihiko Ishijima<sup>1</sup> (<sup>1</sup>Grad. Sch. Frontier Biosci., Osaka Univ., <sup>2</sup>ISIR, Osaka Univ.)
- 2D1549** Trafficking of endocytic vesicles in live cancer cells  
**Seohyun Lee**<sup>1</sup>, Kohsuke Gonda<sup>2</sup>, Motoshi Kaya<sup>1</sup>, Hideo Higuchi<sup>1</sup> (<sup>1</sup>Dept. of Physics, Graduate School of Science, The University of Tokyo, <sup>2</sup>Dept. of Medical Physics, Graduate School of Medicine, Tohoku University)
- 2D1601** Linking Raman spectroscopy and gene expression profiles for genotype-phenotype prediction  
**Arno Germond**<sup>1</sup>, Takaaki Horinouchi<sup>1</sup>, Chikara Furusawa<sup>1,2</sup>, Toshio Yanagida<sup>1</sup>, Taro Ichimura<sup>1</sup>, Tomonobu M. Watanabe<sup>1,3</sup> (<sup>1</sup>RIKEN, Quantitative Biology Center (QBiC), <sup>2</sup>Universal Biology Institute, The University of Tokyo, <sup>3</sup>Graduate School of Frontier Bioscience, Osaka University)
- 2D1613** 遺伝子コードされた超音波エコーイメージング造影剤の開発  
Development of genetically-encoded contrast agent for ultrasonography  
○水島 良太<sup>1</sup>, 井上 加奈子<sup>2</sup>, 岩根 敦子<sup>1</sup>, 渡邊 朋信<sup>1</sup> (<sup>1</sup>理研-QBiC, <sup>2</sup>阪大超高压電顕センター)  
**Ryota Mizushima**<sup>1</sup>, Kanako Inoue<sup>2</sup>, Atsuko Iwane<sup>1</sup>, Tomonobu Watanabe<sup>1</sup> (<sup>1</sup>RIKEN-QBiC, <sup>2</sup>Uhvem, Osaka Univ)

13:55~16:01 E 会場 (全学教育棟 2 階 E203) / Room E (Room E203, General Education Bldg. 2F)  
2E 計測Ⅱ, 数理生物学Ⅱ, 化学受容, 行動, その他 /  
Measurements II, Mathematical biology II, Chemoreception, Behavior, Miscellaneous topics

- 2E1355** 実時間選択的回収による免疫細胞の網羅的遺伝子発現解析  
Single-cell transcriptome analysis of stimulated immune cells with real-time collection  
○田中 優実子<sup>1</sup>, 白崎 善隆<sup>1,2</sup>, 山岸 舞<sup>1,2</sup>, 宮田 楓<sup>1</sup>, 鈴木 信勇<sup>1,2</sup>, 小原 収<sup>2</sup>, 茂呂 和世<sup>2</sup>, 上村 想太郎<sup>1</sup> (<sup>1</sup>東大・院・理, <sup>2</sup>理研・IMS)  
**Yumiko Tanaka**<sup>1</sup>, Yoshitaka Shirasaki<sup>1,2</sup>, Mai Yamagishi<sup>1,2</sup>, Kaede Miyata<sup>1</sup>, Nobutake Suzuki<sup>1,2</sup>, Osamu Ohara<sup>2</sup>, Kazuyo Moro<sup>2</sup>, Sotaro Uemura<sup>1</sup> (<sup>1</sup>Grad. Sch. Sci., Univ. Tokyo, <sup>2</sup>IMS, RIKEN)

- 2E1407** 走査型イオンコンダクタンス顕微鏡による一次繊毛のナノスケール形状測定  
Measuring nanoscale morphology of primary cilia using scanning ion-conductance microscopy  
○周 縁殊<sup>1</sup>, 斎藤 将樹<sup>2</sup>, 宮本 貴史<sup>1</sup>, 福間 剛士<sup>1</sup>, 高橋 康史<sup>1,3</sup> (<sup>1</sup>金沢大・理工・電情, <sup>2</sup>東北大院・医・分子薬理, <sup>3</sup>JST・さきがけ)  
**Yuanshu Zhou**<sup>1</sup>, Masaki Saito<sup>2</sup>, Takafumi Miyamoto<sup>1</sup>, Takeshi Fukuma<sup>1</sup>, Yasufumi Takahashi<sup>1,3</sup> (<sup>1</sup>Fac. of Ele. & Com., Inst. of Sci. & Eng., Univ. Kanazawa, <sup>2</sup>Dept. of Mol. Pharmacol., Grad. Sch. of Med., Univ. Tohoku, <sup>3</sup>JST-PRESTO)
- 2E1419** 夾雑物存在下でマイクロRNAを電気測定により検知する技術の開発  
Detection of target microRNA in a crude sample by electrical measurement  
○藤井 聡志<sup>1</sup>, 三澤 宣雄<sup>1</sup>, 神谷 厚輝<sup>1</sup>, 大崎 寿久<sup>1,2</sup>, 竹内 昌治<sup>1,2</sup> (<sup>1</sup>神奈川県立産業技術総合研究所, <sup>2</sup>東京大学生産技術研究所)  
**Satoshi Fujii**<sup>1</sup>, Nobuo Misawa<sup>1</sup>, Koki Kamiya<sup>1</sup>, Toshihisa Osaki<sup>1,2</sup>, Shoji Takeuchi<sup>1,2</sup> (<sup>1</sup>Kanagawa Institute of Industrial Science and Technology (KISTEC), <sup>2</sup>Institute of Industrial Science (IIS), The University of Tokyo)
- 2E1431** in vitro 三次元培養における計測制御プラットフォームの構築  
In vitro 3D culture platform for environmental control and imaging  
○萩原 将也<sup>1</sup>, 野畑 李奈<sup>2</sup>, 川原 知洋<sup>3</sup> (<sup>1</sup>大阪府大NanoSquare拠点研究所, <sup>2</sup>大阪府大院・生物, <sup>3</sup>九大院生命体工学)  
**Masaya Hagiwara**<sup>1</sup>, Rina Nobata<sup>2</sup>, Tomohiro Kawahara<sup>3</sup> (<sup>1</sup>N2RI, Osaka Pref. Univ., <sup>2</sup>Osaka Pref. Univ., <sup>3</sup>Kyushu Inst. of Tech.)
- 2E1443** バイオメディカルアプリケーションのための8タップ電荷変調画素に関する研究  
An 8-tap Time Resolved CMOS Lock-In Pixel Imager for Biomedical Applications  
○白川 雄也<sup>1</sup>, 徐 珉雄<sup>2</sup>, 安富 啓太<sup>2</sup>, 香川 景一郎<sup>2</sup>, 寺西 信一<sup>2</sup>, 川人 祥二<sup>2</sup> (<sup>1</sup>静岡大・院工学, <sup>2</sup>静岡大・電子工学研)  
**Yuya Shirakawa**<sup>1</sup>, Min-Woong Seo<sup>2</sup>, Keita Yasutomi<sup>2</sup>, Keiichiro Kagawa<sup>2</sup>, Nobukazu Teranishi<sup>2</sup>, Shoji Kawahito<sup>2</sup> (<sup>1</sup>Grad. Sch. Eng., Univ. Shizuoka, <sup>2</sup>Res. Ins. Elec, Univ. Shizuoka)
- 2E1455** A mechanical model for diversified insect wing margin shapes  
**Yukitaka Ishimoto**<sup>1</sup>, Kaoru Sugimura<sup>2</sup> (<sup>1</sup>Akita Pref. U., <sup>2</sup>iCeMS, Kyoto U.)

休憩 (Coffee Break) 15:07-15:13

- 2E1513** アレルゲン免疫療法の理論的解析  
Mathematical study of allergen immunotherapy  
○原 朱音<sup>1</sup>, 巖佐 庸<sup>2</sup> (<sup>1</sup>九大・院・システム生命, <sup>2</sup>九大・院・理学・生物科学)  
**Akane Hara**<sup>1</sup>, Yoh Iwasa<sup>2</sup> (<sup>1</sup>Grad. Sch. Sys. Life Sci. Kyushu Univ., <sup>2</sup>Dept. Biol., Fac. Sci., Kyushu Univ.)
- 2E1525** 機械学習を用いた大腸菌走化性受容体に作用する誘引物質の予測  
Prediction of attractants for the chemoreceptors of *Escherichia coli* using machine learning  
○佐川 貴志<sup>1</sup>, 猿子 良太<sup>2</sup>, 横田 悠右<sup>1</sup>, 成瀬 康<sup>1</sup>, 曾和 義幸<sup>3</sup>, 川岸 郁朗<sup>3</sup>, 岡田 真人<sup>1,4</sup>, 大岩 和弘<sup>1</sup>, 小嶋 寛明<sup>1</sup> (<sup>1</sup>情報通信研究機構, <sup>2</sup>長岡技科大・生物, <sup>3</sup>法政大・生命科学, <sup>4</sup>東大・複雑理工学)  
**Takashi Sagawa**<sup>1</sup>, Ryota Mashiko<sup>2</sup>, Yusuke Yokota<sup>1</sup>, Yasushi Naruse<sup>1</sup>, Yoshiyuki Sowa<sup>3</sup>, Ikuro Kawagishi<sup>3</sup>, Masato Okada<sup>1,4</sup>, Kazuhiro Oiwa<sup>1</sup>, Hiroaki Kojima<sup>1</sup> (<sup>1</sup>NICT, <sup>2</sup>Dept. Bioeng., Nagaoka Univ. Tech., <sup>3</sup>Dept. Frontier Biosci., Hosei Univ., <sup>4</sup>Dept. Complexity Sci. Eng., Univ. Tokyo)
- 2E1537** 二者の同調歩行における歩行パターン分析：受動と能動の中間的状況における身体性の拡張  
Analysis for the changes in the gait patterns in paired walking: Expanded bodily self by the ambiguity of passive/active leadership  
○箕浦 舞<sup>1</sup>, 郡司 幸夫<sup>1</sup>, 白川 智弘<sup>2</sup> (<sup>1</sup>早稲田大学 基幹理工学部 表現工学科 郡司研究室, <sup>2</sup>防衛大学校電気情報学群情報工学科)  
**Mai Minoura**<sup>1</sup>, Yukio-Pegio Gunji<sup>1</sup>, Tomohiro Shirakawa<sup>2</sup> (<sup>1</sup>School of Fundamental Science and Engineering, Waseda University, <sup>2</sup>Department of Computer Science, School of Electrical and Computer Engineering, National Defense)
- 2E1549** Surfactant role on microbead manipulation by saw-tooth shaped electrode  
**Marcos Masukawa**, Masahiro Takinoue (Tokyo Institute of Technology, Takinoue Lab)

13:55~16:25 F 会場 (全学教育棟 2階 E205) / Room F (Room E205, General Education Bldg. 2F)  
2F 蛋白質：構造・構造機能相関Ⅱ / Proteins: Structure, Structure-function relationship II

- 2F1355** Structural analysis of Chrimson, a red-light activated channelrhodopsin  
**Kazumasa Oda**, Satomi Oishi, Reiya Taniguchi, Tomohiro Nishizawa, Ryuichiro Ishitani, Osamu Nureki (Grad. Sch. Sci., Univ. Tokyo)
- 2F1407** A novel enzyme which folds into active form only with its counterpart  
**Kohei Sawada**<sup>1</sup>, Atsushi Minami<sup>2</sup>, Taro Ozaki<sup>2</sup>, Hiroyuki Kumeta<sup>3</sup>, Tomohide Saio<sup>2</sup>, Koichiro Ishimori<sup>2</sup>, Min Yao<sup>3</sup>, Hideaki Oikawa<sup>2</sup>, Katsumi Maenaka<sup>1</sup>, Toyoyuki Ose<sup>1,3</sup> (<sup>1</sup>Faculty of Pharm. Sci, Hokkaido Univ., <sup>2</sup>Faculty of Sci, Hokkaido Univ., <sup>3</sup>Faculty of Adv. Life Sci., Hokkaido Univ.)
- 2F1419** NMR characterization of the substrate-binding domains of protein disulfide isomerase using paramagnetic effects  
**Methanee Hiranyakorn**<sup>1,2</sup>, Saeko Yanaka<sup>1,2</sup>, Maho Yagi-Utsumi<sup>1,2</sup>, Koichi Kato<sup>1,2</sup> (<sup>1</sup>Inst. Mol. Sci, Natl. Inst. Nat. Sci., <sup>2</sup>SOKENDAI)
- 2F1431** X線自由電子レーザー回折像を用いた巨大生体分子三次元構造の復元  
Three-dimensional structure reconstruction of large biological molecule from diffraction images obtained by XFEL using computer simulation  
○中野 美紀<sup>1</sup>, 宮下 治<sup>1</sup>, Jonic Slavica<sup>2</sup>, 徳久 淳師<sup>1</sup>, Tama Florence<sup>1,3,4</sup> (<sup>1</sup>理研 計算科学研究機構, <sup>2</sup>IMPMC, Sorbonne Univ. CNRS, UPMC Univ Paris 6, MNHN, IRD, <sup>3</sup>名古屋大院理学研究科, <sup>4</sup>名古屋大トランスフォーメティブ生命分子研究所)  
**Miki Nakano**<sup>1</sup>, Osamu Miyashita<sup>1</sup>, Slavica Jonic<sup>2</sup>, Astushi Tokuhisa<sup>1</sup>, Florence Tama<sup>1,3,4</sup> (<sup>1</sup>RIKEN AICS, <sup>2</sup>IMPMC, Sorbonne Univ. CNRS, UPMC Univ Paris 6, MNHN, IRD, <sup>3</sup>Grad. Sch. Science, Nagoya Univ., <sup>4</sup>ITbM, Nagoya Univ.)



- 2F1443** Efficient strategy to retrieve potential 3D models directly from a small amount of single particle projection data  
**Sandhya Tiwari**<sup>1</sup>, Florence Tama<sup>1,2,3</sup>, Osamu Miyashita<sup>1</sup> (<sup>1</sup>RIKEN AICS, <sup>2</sup>ITbM, Nagoya University, <sup>3</sup>Dept. of Physics Nagoya University)
- 2F1455** 光回復酵素と DASH 型クリプトクロムにおける紫外線損傷二本鎖 DNA の結合に寄与する因子の特定  
 Identification of the factors that contribute to binding UV-damaged duplex DNA for Photolyase and Cryptochrome-DASH  
 ○佐藤 竜馬, 重田 育照 (筑波大学 計算科学研究センター)  
**Ryuma Sato**, Yasuteru Shigeta (*Center for Computational Sciences, University of Tsukuba*)

休憩 (Coffee Break) 15:07-15:13

- 2F1513** 荷電性アミノ酸の粗視化モデルの開発  
 Development of a coarse-grained model for charged amino acid residues  
 ○川口 一朋, 中川 聖, 長尾 秀実 (金沢大学理工研究域数物科学系)  
**Kazutomo Kawaguchi**, Satoshi Nakagawa, Hidemi Nagao (*Inst. Sci. Eng., Kanazawa Univ.*)
- 2F1525** Dimerization of full-length A $\beta$  peptides by the Hamiltonian replica-permutation method  
**Satoru Itoh**<sup>1,2</sup>, Hisashi Okumura<sup>1,2</sup> (<sup>1</sup>IMS, <sup>2</sup>SOKEENDAI)
- 2F1537** クライオ電子顕微鏡像フィッティングのための新規 MD 法の開発と応用  
 Development of a new method for efficient cryo-EM fitting simulation  
 ○森 貴治<sup>1,2</sup>, 宮下 治<sup>3</sup>, Kulik Marta<sup>1</sup>, Tama Florence<sup>3,4</sup>, 杉田 有治<sup>1,2,3,5</sup> (<sup>1</sup>理研 杉田理論分子科学, <sup>2</sup>理研 iTHES, <sup>3</sup>理研 AICS, <sup>4</sup>名大院・理, <sup>5</sup>理研 QBiC)  
**Takaharu Mori**<sup>1,2</sup>, Osamu Miyashita<sup>3</sup>, Marta Kulik<sup>1</sup>, Florence Tama<sup>3,4</sup>, Yuji Sugita<sup>1,2,3,5</sup> (<sup>1</sup>RIKEN Theor. Mol. Sci. Lab., <sup>2</sup>RIKEN iTHES, <sup>3</sup>RIKEN AICS, <sup>4</sup>Nagoya University, <sup>5</sup>RIKEN QBiC)
- 2F1549** MD シミュレーションを用いた構造サンプリングによるドッキングタンパク質-タンパク質複合体結合自由エネルギー評価の精密化  
 Refining binding free energies of docked protein-protein complexes by sampling conformations during molecular dynamics simulations  
 ○信夫 愛, 竹村 和浩, 北尾 彰朗 (東大・分子研)  
**Ai Shinobu**, Kazuhiro Takemura, Akio Kitao (*Inst. Mol. Cell. Bio., Univ. Tokyo*)
- 2F1601** Improvement of PaCS-MD based Flexible Docking Methods  
**Phuoc Duy Tran**<sup>1</sup>, Akio Kitao<sup>1,2</sup> (<sup>1</sup>Graduate School of Frontier Sciences, The University of Tokyo, <sup>2</sup>Institute of Molecular and Cellular Biosciences, The University of Tokyo)
- 2F1613** アミロイド核前駆体として機能する前駆中間凝集体のキャラクタリゼーション  
 A specific form of prefibrillar aggregates that functions as a precursor of amyloid nucleation  
 ○山本 直樹, 津原 祥子, 田村 厚夫, 茶谷 絵理 (神戸大学大学院理学研究科)  
**Naoki Yamamoto**, Shoko Tshara, Atsuo Tamura, Eri Chatani (*Grad. Sch. Sci.*)

13:55~16:25 H 会場 (全学教育棟 3 階 E303) / Room H (Room E303, General Education Bldg. 3F)  
 2H 光生物: 光合成 II, 電子状態, ヘム蛋白質 II, 細胞生物学的課題 II, 筋肉 II /  
 Photobiology: Photosynthesis II, Electronic state, Heme proteins II, Cell biology II, Muscle II

- 2H1355** 光化学系 I の低温単一分子分光: ブリンキングの起源  
 Single-Molecule Spectroscopy of Photosystem I at Low Temperature: the Origin of the Blinking  
 ジャナ サンカー<sup>1</sup>, 小林 誉宗<sup>1</sup>, 杜 婷<sup>1</sup>, 長尾 遼<sup>2</sup>, 野口 巧<sup>3</sup>, 柴田 穰<sup>1</sup> (<sup>1</sup>東北大学理学研究科化学専攻, <sup>2</sup>岡山大学異分野基礎科学研究所, <sup>3</sup>名古屋大学大学院理学研究科物質理学専攻)  
**Sankar Jana**<sup>1</sup>, Takanori Kobayashi<sup>1</sup>, Ting Du<sup>1</sup>, Ryo Nagao<sup>2</sup>, Takumi Noguchi<sup>3</sup>, **Yutaka Shibata**<sup>1</sup> (<sup>1</sup>Grad. School of Sci. Tohoku Univ., <sup>2</sup>Research Institute for Interdisciplinary Science, Okayama University, <sup>3</sup>Graduate School of Science, Nagoya University)
- 2H1407** 光化学系 II 酸素発生中心における酸素分子放出過程についての QM/MM 解析  
 QM/MM study on the O<sub>2</sub> release mechanism of the oxygen-evolving complex in photosystem II  
 ○庄司 光男<sup>1</sup>, 磯部 寛<sup>2</sup>, 重田 育照<sup>1</sup>, 中嶋 隆人<sup>3</sup>, 山口 兆<sup>4</sup> (<sup>1</sup>筑波大 CCS, <sup>2</sup>岡山大, <sup>3</sup>理研 AICS, <sup>4</sup>阪大)  
**Mitsuo Shoji**<sup>1</sup>, Hiroshi Isobe<sup>2</sup>, Yasuteru Shigeta<sup>1</sup>, Takahito Nakajima<sup>3</sup>, Kizashi Yamaguchi<sup>4</sup> (<sup>1</sup>Univ. Tsukuba, <sup>2</sup>Okayama Univ., <sup>3</sup>RIKEN AICS, <sup>4</sup>Osaka Univ.)
- 2H1419** 単一分子分光で明らかになった光合成光保護機構  
 Photosynthetic photoprotection mechanism revealed by single-molecule spectroscopy  
 ○近藤 徹<sup>1,2</sup>, ピノーラ アルベルタ<sup>3</sup>, チェン ウェイジア<sup>1</sup>, ダロスト ルカ<sup>3</sup>, バッシ ロベルト<sup>3</sup>, シュラウコーエン ガブリエラ<sup>1,2</sup> (<sup>1</sup>マサチューセッツ工科大学, <sup>2</sup>Mit-Harvard エキシトン工学センター, <sup>3</sup>ヴェローナ大学)  
**Toru Kondo**<sup>1,2</sup>, Alberta Pinnola<sup>3</sup>, Wei Jia Chen<sup>1</sup>, Luca Dall'Osto<sup>3</sup>, Roberto Bassi<sup>3</sup>, Gabriela Schlau-Cohen<sup>1,2</sup> (<sup>1</sup>Mit, <sup>2</sup>Mit-Harvard Center for Excitonics, <sup>3</sup>Univ. Verona)
- 2H1431** Monitoring of quinone reduction in the thermophilic purple bacterium *Thermochromatium tedium* by means of isotope-edited FTIR spectroscopy  
 Michie Imanishi<sup>1</sup>, Rikako Kishi<sup>1</sup>, Masayuki Kobayashi<sup>2</sup>, Seiu Otomo<sup>3</sup>, **Yukihiro Kimura**<sup>1</sup> (<sup>1</sup>Grad. Sch. Agro., Kobe Univ., <sup>2</sup>Ariake Nat. Col. Tech, <sup>3</sup>Fac. Sci., Ibaraki Univ.)

- 2H1443** 時間分解 EPR でとらえる光合成反応中心初期電荷分離の制御機構  
Regulation of Initial Charge Separation in Photosynthetic Reaction Center detected by Transient EPR  
○三野 広幸<sup>1</sup>, 佃 弘幸<sup>1</sup>, 武藤 理沙<sup>2,3</sup>, 長嶋 宏樹<sup>1,4</sup>, 小堀 康博<sup>4</sup>, 栗栖 源嗣<sup>2</sup>, 大岡 宏造<sup>5</sup> ( <sup>1</sup>名大院理, <sup>2</sup>阪大蛋白研, <sup>3</sup>福岡大理, <sup>4</sup>神戸大フォト, <sup>5</sup>阪大院理)  
**Hiroyuki Mino**<sup>1</sup>, Hiroyuki Tsukuno<sup>1</sup>, Risa Mutoh<sup>2,3</sup>, Hiroki Nagashima<sup>1,4</sup>, Yasuhiro Kobori<sup>4</sup>, Genji Kurisu<sup>2</sup>, Hirozo Oh-oka<sup>5</sup> ( <sup>1</sup>Grad. School of Sci., Nagoya Univ., <sup>2</sup>Inst. for Protein Res., Osaka Univ., <sup>3</sup>Fac. of Sci., Fukuoka Univ., <sup>4</sup>Mol. Photosci. Res., Kobe Univ., <sup>5</sup>Grad. School of Sci., Osaka Univ.)
- 2H1455** 溶液中のクロロフィル a とフィオフィチン a の励起状態に関する理論的研究  
Theoretical Study on Excited States of Chlorophyll a and Pheophytin a in Solutions  
○水谷 亮, 東 雅大 (琉球大・院理工)  
**Ryo Mizutani**, Masahiro Higashi (Grad. Sch. Univ. The Ryukyus)

休憩 (Coffee Break) 15:07-15:13

- 2H1513** Crystal structure of biliverdin reductase shows unexpected substrate binding manner; two substrates bind to the one catalytic cleft  
**Masakazu Sugishima**<sup>1</sup>, Haruna Takao<sup>2,3</sup>, Yoshinori Hagiwara<sup>4</sup>, Ken Yamamoto<sup>1</sup>, Keiichi Fukuyama<sup>5</sup>, Kei Wada<sup>2</sup> ( <sup>1</sup>Kurume Univ. Sch. Med., <sup>2</sup>Fac. Med., Univ. Miyazaki, <sup>3</sup>Grad. Sch. Med. and Vet. Med., Univ. Miyazaki, <sup>4</sup>Dept. Biochem. and Appl. Chem., Nat. Inst. Tech., Kurume College, <sup>5</sup>Grad. Sch. Eng., Osaka Univ.)
- 2H1525** カンチレバーを用いた高感度多周波 EPR 測定法の開発とヘミンへの応用  
Development of cantilever-detected high-sensitive multi-frequency EPR method and its application to hemin  
○岡本 翔<sup>1</sup>, 高橋 英幸<sup>2</sup>, 大道 英二<sup>1</sup>, 太田 仁<sup>3</sup> ( <sup>1</sup>神戸大・院理, <sup>2</sup>神戸大・先端, <sup>3</sup>神戸大・分子フォトセ)  
**Tsubasa Okamoto**<sup>1</sup>, Hideyuki Takahashi<sup>2</sup>, Eiji Ohmichi<sup>1</sup>, Hitoshi Ohta<sup>3</sup> ( <sup>1</sup>Grad. Sch. Sci., Kobe Univ., <sup>2</sup>Arg. Adv. Integ. Res., Kobe Univ., <sup>3</sup>Mol. Photosci. Res. Ctr., Kobe Univ.)
- 2H1537** 高分解能二次イオン質量分析法による電気細菌代謝の一細胞レベル追跡  
NanoSIMS Analysis of Single Electrogenic Cell Reveals Feedback from Extracellular Electron Transport to Upstream Reactions  
○岡本 章玄<sup>1</sup>, 斎藤 淳貴<sup>2</sup>, 橋本 和仁<sup>1</sup> ( <sup>1</sup>物材機構 エネルギー・環境材料, <sup>2</sup>東京大学院応用化学)  
**Akihiro Okamoto**<sup>1</sup>, Junki Saito<sup>2</sup>, Kazuhito Hashimoto<sup>1</sup> ( <sup>1</sup>National Institute for Material Sciences, <sup>2</sup>Dept. Appl. Chem., Univ. of Tokyo)
- 2H1549** 海洋性ビブリオ菌極べん毛の側における形成を抑制する新規因子 SflB の解析  
Characterization of SflB, a novel factor that prevents peritrichous flagellar formation in marine *Vibrio*  
錦野 達郎, 三野 平, ○小嶋 誠司, 本間 道夫 (名大・院理・生命理学)  
Tatsuro Nishikino, Taira Mino, **Seiji Kojima**, Michio Homma (Div. of Biol. Sci., Grad. Sch. Sci., Nagoya Univ.)
- 2H1601** クライオ電子顕微鏡法で明らかになった、3.8 Å 分解能のアクチン-コフィリン複合体構造  
Actin-cofilin complex structure at 3.8 Å resolution revealed by cryo-EM  
田中 康太郎<sup>1</sup>, 武田 修一<sup>1</sup>, 光岡 薫<sup>3</sup>, 小田 俊郎<sup>2</sup>, 前田 雄一郎<sup>1</sup>, ○成田 哲博<sup>1</sup> ( <sup>1</sup>名大・理、構造生物学研究センター, <sup>2</sup>東海学院大, <sup>3</sup>阪大、超高圧電子顕微鏡センター)  
Kotaro Tanaka<sup>1</sup>, Shuichi Takeda<sup>1</sup>, Kaoru Mitsuka<sup>3</sup>, Toshiro Oda<sup>2</sup>, Yuichiro Maeda<sup>1</sup>, **Akihiro Narita**<sup>1</sup> ( <sup>1</sup>Struct. Biol. Res. Center, Nagoya Univ., <sup>2</sup>Tokai Gakuin Univ., <sup>3</sup>Res. Center for UHV EM, Osaka Univ.)
- 2H1613** 細胞性粘菌のアクチンのカルボキシ末端領域の二型性と Pro109 に導入した変異の関係  
The relationship between the dimorphism of the carboxyl-terminal region and the mutagenesis introduced to Pro109 of *Dictyostelium* actin  
○五味 潤由貴<sup>1</sup>, 上田 太郎<sup>2</sup>, 若林 健之<sup>1</sup> ( <sup>1</sup>帝京大・理工, <sup>2</sup>早稲田・先進理工)  
**Yuki Gomibuchi**<sup>1</sup>, Taro Q.P. Uyeda<sup>2</sup>, Takeyuki Wakabayashi<sup>1</sup> ( <sup>1</sup>Teikyo Univ., <sup>2</sup>Waseda Univ.)

13:55~16:25 | 会場 (全学教育棟 3 階 E305) / Room I (Room E305, General Education Bldg. 3F)  
2I 光生物：視覚・光受容 II, 光遺伝学・光制御 II /  
Photobiology: Vision & Photoreception II, Optogenetics & Optical Control II

- 2I1355** 光駆動型ナトリウムイオンポンプロドプシンで見られる弁別的な機能・光化学特性  
Distinctive functional and photochemical properties among light-driven sodium ion pumping rhodopsins  
○栗原 眞理恵<sup>1</sup>, 橋本 美沙<sup>2</sup>, 吉澤 晋<sup>3</sup>, 小島 慧一<sup>1</sup>, 塚本 卓<sup>1,2</sup>, 菊川 峰志<sup>4,5</sup>, 須藤 雄気<sup>1,2</sup> ( <sup>1</sup>岡大・院・医歯薬 (薬), <sup>2</sup>岡大・薬 (薬), <sup>3</sup>東大・大気海洋研, <sup>4</sup>北大・院・先端生命, <sup>5</sup>北大・国際連携研究教育局)  
**Marie Kurihara**<sup>1</sup>, Misa Hashimoto<sup>2</sup>, Susumu Yoshizawa<sup>3</sup>, Keiichi Kozima<sup>1</sup>, Takashi Tsukamoto<sup>1,2</sup>, Takashi Kikukawa<sup>4,5</sup>, Yuki Sudo<sup>1,2</sup> ( <sup>1</sup>Grad. Sch. of Med. Dent. & Pharm. Sci., Univ. Okayama, <sup>2</sup>Fac. of Pharm. Sci., Univ. Okayama, <sup>3</sup>AORI, The Univ. of Tokyo, <sup>4</sup>Fac. Adv. Life Sci., Univ. Hokkaido, <sup>5</sup>GSS, GI-CoRE, Univ. Hokkaido)
- 2I1407** ナトリウムポンプ型ロドプシン中間体の過渡共鳴ラマン分光法による研究  
Transient Resonance Raman Spectroscopy of a Light-Driven Sodium-Ion-Pump Rhodopsin from *Indibacter alkaliphilus*  
○梶本 航介<sup>1</sup> ( <sup>1</sup>佐賀大 院工学系, <sup>2</sup>北大 先端生命科学研究院, <sup>3</sup>北海道大 国際連携研究教育局 ソフトマターグローバルステーション)  
**Kosuke Kajimoto**<sup>1</sup> ( <sup>1</sup>Grad. Sch. Sci. Eng. Saga-Univ., <sup>2</sup>Fac. Adv. Life Sci., Hokkaido Uni., <sup>3</sup>GSS, GI-CoRE, Hokkaido Univ.)

- 2I1419** 海洋性細菌 *Rubricoccus marinus* SG-29<sup>T</sup> 株由来の内向き H<sup>+</sup>ポンプ型ロドプシン *RmXeR* の分光学的解析  
Spectroscopic analysis of *RmXeR*, an inward H<sup>+</sup> pump rhodopsin from the marine bacterium *Rubricoccus marinus* SG-29<sup>T</sup>  
○井上 紗希<sup>1</sup>, 吉澤 晋<sup>2</sup>, 小島 慧一<sup>1</sup>, 塚本 卓<sup>1</sup>, 菊川 峰志<sup>3,4</sup>, 須藤 雄気<sup>1</sup> ( <sup>1</sup>岡大・院・医歯薬 (薬), <sup>2</sup>東大・大気海洋研, <sup>3</sup>北大・院・先端生命, <sup>4</sup>北大・国際連携教育研究局)  
**Saki Inoue**<sup>1</sup>, Susumu Yoshizawa<sup>2</sup>, Keiichi Kojima<sup>1</sup>, Takashi Tsukamoto<sup>1</sup>, Takashi Kikukawa<sup>3,4</sup>, Yuki Sudo<sup>1</sup> ( <sup>1</sup>Grad. Sch. of Med. Dent. & Pharm. Sci., Okayama Univ., <sup>2</sup>AORI, The Univ. of Tokyo, <sup>3</sup>Fac. Adv. Life Sci., Hokkaido Univ., <sup>4</sup>GSS, GI-CoRE, Hokkaido Univ.)
- 2I1431** ラマン光学活性分光を用いた微生物型ロドプシンにおけるレチナル発色団のコンフォメーション解析  
Raman optical activity probes the conformation of the retinal chromophore in microbial rhodopsins  
○松尾 淳平<sup>1</sup>, 菊川 峰志<sup>2,3</sup>, 海野 雅司<sup>4</sup>, 藤澤 知績<sup>5</sup> ( <sup>1</sup>佐賀大学大学院工学系研究科循環物質化学専攻, <sup>2</sup>北海道大学 先端生命科学研究院, <sup>3</sup>北海道大学国際連携研究教育局ソフトマターグローバルステーション, <sup>4</sup>佐賀大学 工学系研究科, <sup>5</sup>佐賀大学 工学系研究科)  
**Junpei Matsuo**<sup>1</sup>, Takashi Kikukawa<sup>2,3</sup>, Masashi Unno<sup>4</sup>, Tomotsumi Fujisawa<sup>5</sup> ( <sup>1</sup>Grad. Sch. Eng. Saga Univ, <sup>2</sup>Fac. Adv. Life Sci., Hokkaido Univ., <sup>3</sup>GSS, GI-CoRE, Hokkaido Univ., <sup>4</sup>Grad. Sch. Eng. Saga Univ, <sup>5</sup>Grad. Sch. Eng. Saga Univ)
- 2I1443** Towards the structural study of the photocycle of bistable rhodopsin  
**Midori Murakami** (Dept. Physics, Nagoya Univ.)
- 2I1455** In situ 光照射固体NMRによるバクテリオロドプシンとその変異体に生成する光反応中間体の定常捕捉  
Stationary trapping of photo-intermediates during the photo cycles of bR and its mutants by in situ photoirradiation solid-state NMR  
○内藤 晶<sup>1</sup>, 大島 恭介<sup>1</sup>, 大谷 優人<sup>1</sup>, 重田 安里寿<sup>1</sup>, 横野 義輝<sup>1</sup>, 川村 出<sup>1</sup>, 沖津 貴志<sup>2</sup>, 和田 昭盛<sup>2</sup>, 辻 暁<sup>3</sup>, 岩佐 達郎<sup>4</sup> ( <sup>1</sup>横浜国立大学 大学院工学研究科, <sup>2</sup>神戸薬科大学, <sup>3</sup>兵庫県立大学, <sup>4</sup>室蘭工業大学)  
**Akira Naito**<sup>1</sup>, Kyosuke Oshima<sup>1</sup>, Yuto Otani<sup>1</sup>, Arisu Shigeta<sup>1</sup>, Yoshiteru Makino<sup>1</sup>, Izuru Kawamura<sup>1</sup>, Takashi Okitsu<sup>2</sup>, Akimori Wada<sup>2</sup>, Satoru Tuzi<sup>3</sup>, Tatsuo Iwasa<sup>4</sup> ( <sup>1</sup>Yokohama National University, <sup>2</sup>Kobe Pharmaceutical University, <sup>3</sup>University of Hyogo, <sup>4</sup>Muroran Institute of Technology)
- 休憩 (Coffee Break) 15:07-15:13
- 2I1513** メラノプシンの3平衡状態光反応による光量感知  
Melanopsin tristability: a new model of photoresponse for irradiance detection  
○松山オジョス 武<sup>1</sup>, 高橋 政代<sup>1</sup>, 七田 芳則<sup>2</sup> ( <sup>1</sup>理化学研究所CDB, <sup>2</sup>京都大学理学研究科)  
**Takesi Matsuyama Hoyos**<sup>1</sup>, Masayo Takahashi<sup>1</sup>, Yoshinori Shichida<sup>2</sup> ( <sup>1</sup>RIKEN CDB, <sup>2</sup>Kyoto University Graduate School of Science)
- 2I1525** 松果体オプシンパラピノプシンの分子特性の細胞応答への寄与  
Contribution of a molecular property of a pineal opsin parapinopsin to cellular responses  
和田 清二<sup>1</sup>, 沈 宝国<sup>1</sup>, 山下 (川野) 絵美<sup>1</sup>, 永田 崇<sup>1</sup>, 保 智己<sup>2</sup>, 小柳 光正<sup>1</sup>, ○寺北 明久<sup>1</sup> ( <sup>1</sup>大阪市大・院理, <sup>2</sup>奈良女子大・理)  
Seiji Wada<sup>1</sup>, Baoguo Shen<sup>1</sup>, Emi Kawano-Yamashita<sup>1</sup>, Takashi Nagata<sup>1</sup>, Satoshi Tamotsu<sup>2</sup>, Mitsumasa Koyanagi<sup>1</sup>, **Akihisa Terakita**<sup>1</sup> ( <sup>1</sup>Grad. Sch. Sci., Osaka City Univ., <sup>2</sup>Fac. Sci., Nara Women's Univ.)
- 2I1537** 暗所視を司る錐体視物質の低い熱雑音の進化的獲得  
Evolutionary acquisition of low thermal noise of cone pigments for scotopic vision  
○小島 慧一<sup>1,2</sup>, 松谷 優樹<sup>2</sup>, 柳川 正隆<sup>3</sup>, 山下 高廣<sup>2</sup>, 今元 泰<sup>2</sup>, 久富 修<sup>4</sup>, 山野 由美子<sup>5</sup>, 和田 昭盛<sup>5</sup>, 七田 芳則<sup>2,6</sup> ( <sup>1</sup>岡山大学大学院医歯薬学総合研究科, <sup>2</sup>京都大学大学院理学研究科, <sup>3</sup>理研・細胞情報, <sup>4</sup>大阪大学大学院理学研究科, <sup>5</sup>神戸薬科大学, <sup>6</sup>立命館大学・総研機構)  
**Keiichi Kojima**<sup>1,2</sup>, Yuki Matsutani<sup>2</sup>, Masataka Yanagawa<sup>3</sup>, Takahiro Yamashita<sup>2</sup>, Yasushi Imamoto<sup>2</sup>, Osamu Hisatomi<sup>4</sup>, Yumiko Yamano<sup>5</sup>, Akimori Wada<sup>5</sup>, Yoshinori Shichida<sup>2,6</sup> ( <sup>1</sup>Grad. Sch. of Med. Dent. Pharm. Sci., Okayama Univ, <sup>2</sup>Grad. Sch. Sci., Kyoto Univ., <sup>3</sup>Cell. Info. Lab., RIKEN, <sup>4</sup>Grad. Sch. Sci., Osaka Univ., <sup>5</sup>Kobe Pharm. Univ., <sup>6</sup>Ritsumeikan Univ.)
- 2I1549** 光遺伝学に向けた長波長シフト型ナトリウムポンプロドプシンの作製  
Red-shifted sodium pump rhodopsin variants for optogenetic application  
○井上 圭一<sup>1,2</sup>, 中村 良子<sup>1</sup>, 神取 秀樹<sup>1</sup> ( <sup>1</sup>名古屋工業大学, <sup>2</sup>JST・さががけ)  
**Keiichi Inoue**<sup>1,2</sup>, Ryoko Nakamura<sup>1</sup>, Hideki Kandori<sup>1</sup> ( <sup>1</sup>Nagoya Inst. Tech., <sup>2</sup>JST PRESTO)
- 2I1601** 光依存型グアニル酸シクラーゼである微生物型ロドプシン(BeGC1)の機能解析  
Functional characterization of rhodopsin-guanylate cyclase, BeGC1  
○角田 聡<sup>1,2,3</sup>, 吉田 一帆<sup>2</sup>, 神取 秀樹<sup>2,3</sup> ( <sup>1</sup>JST さががけ, <sup>2</sup>名工大 院工, <sup>3</sup>オプトバイオ)  
**Satoshi Tsunoda**<sup>1,2,3</sup>, Kazuho Yoshida<sup>2</sup>, Hideki Kandori<sup>2,3</sup> ( <sup>1</sup>JST, PRESTO, <sup>2</sup>NIT, <sup>3</sup>OBTR)
- 2I1613** ハロロドプシンはヒドロキシオンを輸送できるか?  
Can halorhodopsin pump hydroxyl ions?  
○神山 勉, 鈴木 健太, 成瀬 圭汰, Chan Siu Kit (名古屋大学大学院理学研究科)  
**Tsutomu Kouyama**, Kenta Suzuki, Keita Naruse, Siu Kit Chan (Graduate School of Science, Nagoya University)

13:55~16:01 J会場 (全学教育棟 4階 C401) / Room J (Room C401, General Education Bldg. 4F)  
2J 発生・分化, 核酸II, ゲノム生物学 / Development & Differentiation, Nucleic acid II, Genome biology

- 2J1355** 細胞の異方的なメカノレスポンスが発生過程の精巣上体細管の径を維持する  
Anisotropic Cellular Mechanoresponse Maintains the Radial Size of Developing Epididymal Tubules  
○平島 剛志<sup>1</sup>, 安達 泰治<sup>2</sup> ( <sup>1</sup>京都大学大学院医学研究科 基礎病態学講座 病態生物医学分野, <sup>2</sup>京都大学 ウイルス・再生医科学研究所)  
**Tsuyoshi Hirashima**<sup>1</sup>, Taiji Adachi<sup>2</sup> ( <sup>1</sup>Grad Sch Med, Kyoto Univ, <sup>2</sup>Inst Front Life Med Sci, Kyoto Univ)

- 2J1407** 3次元的な形態の多様性を説明する細胞の力学の理論的な推定  
Theoretical inference of cell mechanics for explaining 3-dimensional morphological diversity  
○小山 宏史<sup>1,2</sup>, 藤森 俊彦<sup>1,2</sup> (<sup>1</sup>基生研 初期発生, <sup>2</sup>総研大)  
**Hiroshi Koyama**<sup>1,2</sup>, Toshihiko Fujimori<sup>1,2</sup> (<sup>1</sup>*Div. Embryology, NIBB*, <sup>2</sup>*SOKENDAI*)
- 2J1419** マウス ES 細胞は、フラッシュラチェット様式をとりながら、集団で分化する  
Flashing ratchet-driven collective cell-state transition in mouse embryonic stem cells  
○岡本 和子<sup>1</sup>, ジェルモン アルノ<sup>1</sup>, 藤田 英明<sup>1,2</sup>, 古澤 力<sup>1,3</sup>, 岡田 康志<sup>1,3,4</sup>, 渡邊 朋信<sup>1,4</sup> (<sup>1</sup>理研 QBIC, <sup>2</sup>阪大 免フコ, <sup>3</sup>東大 院理, <sup>4</sup>阪大 生命機能)  
**Kazuko Okamoto**<sup>1</sup>, Arno Germond<sup>1</sup>, Hideaki Fujita<sup>1,2</sup>, Chikara Furusawa<sup>1,3</sup>, Yasushi Okada<sup>1,3,4</sup>, Tomonobu Watanabe<sup>1,4</sup> (<sup>1</sup>*RIKEN QBIC*, <sup>2</sup>*WPI, IReC, Osaka Univ.*, <sup>3</sup>*Sch. of Sci, Univ. of Tokyo*, <sup>4</sup>*FBS, Osaka Univ.*)
- 2J1431** 植物組織では異方的な細胞成長が滑らかな境界形成を促進する。  
Anisotropic cell growth promotes smooth boundary formation of stem cell tissue in plant roots  
○藤原 基洋, 藤本 仰一 (大阪大・理)  
**Motohiro Fujiwara**, Koichi Fujimoto (*Science Dept. Osaka Univ.*)
- 2J1443** Bicistronic 2A-peptide-based co-expression reporter revealed the gene expression profiles in developing human photoreceptors  
**Kohei Homma** (*Keio Univ. Sch. of Med. Dpt. of Ophthalmol.*)
- 2J1455** Two-dimensional fluorescence lifetime correlation spectroscopy reveals  $\mu$ s-dynamics and distinct folding mechanisms of preQ<sub>1</sub> riboswitch  
**Bidyut Sarkar**<sup>1</sup>, Kunihiko Ishii<sup>1,2</sup>, Tahei Tahara<sup>1,2</sup> (<sup>1</sup>*Molecular Spectroscopy Laboratory, RIKEN*, <sup>2</sup>*RIKEN Center for Advanced Photonics, RIKEN*)

休憩 (Coffee Break) 15:07–15:13

- 2J1513** The reaction mechanism of pH-dependent RecA-mediated DNA strand exchange  
**Hsiu-Fang Fan** (*National Yang-Ming University*)
- 2J1525** DNA ナノデバイスの温度応答性能の設計  
Engineering thermal response of a DNA nanodevice  
○小宮 健<sup>1</sup>, 小林 聡<sup>2</sup>, ローズ ジョン<sup>3</sup> (<sup>1</sup>東工大 情報理工, <sup>2</sup>電通大院情報理工, <sup>3</sup>立命館APU APS)  
**Ken Komiya**<sup>1</sup>, Satoshi Kobayashi<sup>2</sup>, John A. Rose<sup>3</sup> (<sup>1</sup>*Sch. Comp., Tokyo Tech.*, <sup>2</sup>*Dept. Comp. Sci., The Univ. Electro-Commun.*, <sup>3</sup>*College APS, Ritsumeikan APU*)
- 2J1537** Nucleosome Repositioning Investigated by Coarse-Grained MD Simulations and Markov State Modeling  
**Giovanni Brandani**, Toru Niina, Cheng Tan, Shoji Takada (*Dept Biophysics, Div Biology, Grad School Science, Kyoto University*)
- 2J1549** Osmotic mechanism of loop extrusion process  
**Tetsuya Yamamoto**<sup>1</sup>, Helmut Schiessel<sup>2</sup> (<sup>1</sup>*Nagoya Univ., Dep. of Mat. Phys.*, <sup>2</sup>*Leiden U., Inst. Lorentz for Theo. Phys.*)