Poster Sessions Tuesday, June 25

Presentation time is organized by whether the last part (suffix) of Poster Session number is odd/even.
Odd number: 13:50-14:50 Even number: 14:50-15:50

Abstracts marked with * in the abstract number eligible for IUPAB2024 Student and Early Career Researcher Poster Award voting
Ex) *25P-999

Protein: Structure

***25P-001** **The molecular strucutre of an axle-less F1-ATPase**
Emily Furlong, Ian Reiniger-Chatzigian, Yi Zeng, Simon Brown, Meghna Sobti, Alastair Stewart
Molecular, Structural and Computational Biology Division, The Victor Chang Cardiac Research Institute, Darlinghurst, Australia/Division of Biomedical Science and Biochemistry, Research School of Biology, Australian National University, Acton, ACT, Australia

***25P-002** **The role of charges in the enzymatic mechanism of acetoacetate decarboxylase**
Masato Ishizaka, Sören Rindfleisch, Florian Auer, Lukas Gingeleit, Tat Cheng, Michael Bielecki, Fabian Rabe von Pappenheim, Elke Penka, Ronald Kluger, Eri Sakata, Kai Tittmann
Department of Molecular Enzymology, Georg-August University Göttingen, Göttingen, Germany./Max-Planck-Institute for Multidisciplinary Sciences, Göttingen, Germany.

***25P-003** **Structural insights into the allosteric inhibition of P2X4 receptors**
Cheng Shen, Yuqing Zhang, Wenwen Cui, Yimeng Zhao, Danqi Sheng, Xinyu Teng, Miaoqing Shao, Muneyoshi Ichikawa, Jin Wang, Motoyuki Hattori
Fudan University, Shanghai, China

Tuesday, June 25

***25P-004** **Cryo-EM Structure of P-glycoprotein Bound by Three Elacridar P-gp-Inhibitor Molecules**

Norie Hamaguchi, Naruhiko Adachi, Toshio Moriya, Masato Kawasaki, Satoshi Yasuda, Naohiko Anzai, Toshiya Senda, Satoshi Ogasawara, Takeshi Murata

Graduate School of Medical and Pharmaceutical Sciences, Chiba University/Graduate School of Medicine, Chiba University/Graduate School of Science, Chiba University

***25P-005** **Structural insights into the orthosteric inhibition of P2X receptors by classical non-ATP-analog antagonists**

Danqi Sheng, Chenxi Yue

Fudan University, Shanghai China

***25P-006** **Ion selectivity mechanism of the MgtE channel for Mg2+ over Ca2+**

Xinyu Teng, Danqi Sheng, Ye Yu, Jin Wang, Motoyuki Hattori

Fudan University, Shanghai, China

***25P-007** **Tracking the glucose/ xylose isomerase mechanism using freezing under high pressure**

Agnieszka Klonecka, Joanna Slawek, Philippe Carpentier, Christoph Mueller-Dieckmann, Katarzyna Kurpiewska, Maciej Kozak

SOLARIS National Synchrotron Radiation Centre, Kraków, Poland/Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University, Kraków, Poland/ Doctoral School of Exact and Natural Science, Jagiellonian University, Kraków, Poland

***25P-008** **Structure-activity relationship (SAR) study of hydrophobic moiety of nonsecosteroidal VDR ligands using diphenylsilane scaffold**

Narasinghe Mudiyanselage Hansaka Nirupama Thilakarathne, Takashi Misawa, Yosuke Demizu, Yuya Hanazono, Nobutoshi Ito, Hiroyuki Kagechika, Shinya Fujii

Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University/ Medical Research Institute, Tokyo Medical and Dental University

***25P-009** **Structural transformation of a dipeptide Gly-Phe by coffee-ring effect**

Ayaka Sako, Masaki Saito, Kazuo Eda, Atsuo Tamura

Kobe University, Graduate School of Science

Poster Sessions

25P-010 **Exploring the Continuous Conformational Variability of Glutamate Dehydrogenase Using Cryo-EM Single-particle Images and MD Simulations**
Tingting Wang, Osamu Miyashita, Hideki Shigematsu, Masaki Yamamoto, Florence Tama
Computational Structural Biology Research Team, R-CCS, RIKEN, Japan

25P-011 **Preliminary Cryo-EM study of Arabidopsis Magnesium Transporter MRS2-1**
Hexin Xu, Xinyu Teng, Cheng Shen, Yimeng Zhao, Xiaoyu Yang, Natsuko I. Kobayashi, Keitaro Tanoi, Motoyuki Hattori
Fudan University, Shanghai, China

25P-012 **Application of de novo protein design to structural analysis of non-canonical MgtE Mg2+ channel**
Zhixuan Zhao, Kimiho Omae, Ziyi Zhang, Xinyu Teng, Cheng Shen, Danqi Sheng, Wataru Iwasaki, Motoyuki Hattori
Fudan University, Shanghai, China

25P-013 **Native lipid NanoDisc application for structural determination of RND transporter**
Kenta Tsutsumi, Atsushi Nakagawa, Eiki Yamashita
Institute for Protein Research, Osaka, Japan

25P-014 **Preliminary cryo-EM study of the MgtE Mg2+ channel with the PRC-barrel domain**
Ziyi Zhang, Kimiho Omae, Cheng Shen, Wataru Iwasaki, Motoyuki Hattori
Fudan University, Shanghai, China

Protein: Structure & Function

***25P-015** **Interpretation of Protein-Corona Formation and Inhibition of Fibrillation by Polyphenol Capped Gold Nanoparticles**
Atanu Singha Roy, Kakali Baruah, Ajit Kumar Singh, Anupam Nath Jha
Department of Chemistry, National Institute of Technology Meghalaya, Shillong 793003, India

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***25P-016** **CryoEM-sampling of metastable conformations appearing in cofactor-ligand association and catalysis of glutamate dehydrogenase**
Taiki Wakabayashi, Mao Oide, Masayoshi Nakasako
Dept. Phys., Keio Univ., Kanagawa, Japan/RIKEN RSC, Hyogo, Japan

***25P-017** **Coarse-Grained Molecular Dynamics Simulations of Rotational Asymmetry in FOF1 ATPase**
Shintaroh Kubo, Yasushi Okada
the University of Tokyo

***25P-018** **Predicting enzyme function using an empirical approach with machine learning**
Suguru Fujita, Tohru Terada
Graduate School of Agricultural and Life Science, Faculty of Agriculture, The university of Tokyo.

***25P-019** **Ca2+-induced formation of ice-like water network on the surface of type II antifreeze protein from Japanese smelt**
Tatsuya Arai, Yue Yang, Sakae Tsuda, Kazuhiro Mio, Yuji Sasaki
Graduate School of Frontier Sciences, The University of Tokyo/AIST-UTokyo Advanced Operando-Measurement Technology Open Innovation Laboratory (OPERANDO-OIL)

***25P-020** **Predicting protein conformational motions with AlphaFold2 dictated by physical energy landscape**
Xingyue Guan, Qianyuan Tang, Weitong Ren, Wenfei Li, Wei Wang
Department of Physics, National Laboratory of Solid State Microstructure, Nanjing University, Nanjing 210093, China/Wenzhou Key Laboratory of Biophysics, Wenzhou Institute, University of Chinese Academy of Sciences, Wenzhou, Zhejiang 325000, China

***25P-021** **Thermodynamic insights into the antiamyloid activity of lobeline on lysozyme fibrillation**
Vibeizonuo Rupreo, Jhimli Bhattacharyya, Ria Saha, Rajib Kumar Mitra
Department of Chemistry, National Institute of Technology Nagaland, Dimapur, Nagaland - 797103, India

***25P-022** **Functional mechanism of a short wavelength absorbing cation channelrhodopsin, KnChR**
Koki Natsume, Shoko Hososhima, Yuzhu Wang, Tatsuki Tanaka, Wataru Shihoya, Osamu Nureki, Hideki Kandori, Satoshi Tsunoda
Nagoya Institute of Technology

Poster Sessions

***25P-023** **Structural basis of inhibition and transport in Organic Cation Transporter 1**

Yi Cheng Zeng, Meghna Sobti, Ada Quinn, Esther Kristianto, Simon Brown, Nicola Smith, Jamie Vandenberg, Renae Ryan, Alastair Stewart

Molecular, Structural and Computational Biology Division, The Victor Chang Cardiac Research Institute, Darlinghurst, NSW, Australia/School of Clinical Medicine, Faculty of Medicine and Health, UNSW Sydney, Sydney, NSW, Australia

***25P-024** **Rational Design of High-Affinity Protein Binders by Side Chain Dihedral Correlation Network**

Yun-Jung Hsieh, Ta I Hung, Wei-Lin Lu, Chia-en Chang, Kuen-Phon Wu

Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan/Institute of Biochemical Sciences, National Taiwan University, Taipei, Taiwan

***25P-025** **Cytoplasmic domain of GtACR1 regulations the channel gating.**

Hana Maruyama, Shoko Hososhima, Satoshi Tsunoda, Yuya Ohki, Takashi Kikukawa, Takashi Tsukamoto, Hideki Kandori

Graduate School of Engineering, Nagoya Institute of Technology

***25P-026** **Beyond the Active site: The addition of a remote loop reveals a new complex biological function for chitinase enzymes**

Dan Kozome, Adnan Sljoka, Paola Laurino

Protein Engineering and Evolution Unit, Okinawa Institute of Science and Technology Graduate University, Okinawa, Japan

***25P-027** **Towards the Cryo-EM Structures of Viral Annealase Proteins**

Lucy Johanna Fitschen, Jodi Brewster, Jordan Nicholls, Stefan Mueller, Gökhan Tolun

School of Chemistry and Molecular Bioscience, and Molecular Horizons, University of Wollongong, Wollongong, Australia/ARC Industrial Transformation Training Centre for Cryo-electron Microscopy of Membrane Proteins (CCeMMP)

***25P-028** **Targeting the oncoprotein GOLPH3**

Anastasia Theodoropoulou, Luciano Abriata, Anita Nasrallah, Francesco Talotta, Sarah Vacle, Fernando Meireles, Maria J. Marcaida, Giovanni D'Angelo, Matteo Dal Peraro

Laboratory for Biomolecular Modeling, Institute of Bioengineering, EPFL, Switzerland

25P-029 **IgG subclass oligomerization upon antigen binding – Full biophysical characterization of the missing link between antibody binding and complement activation**

Jürgen Strasser, Nikolaus Frischauf, Aran F. Labrijn, Frank J. Beurskens, Johannes Preiner

University of Applied Sciences Upper Austria, Linz, Austria

25P-030 **Regulation of enzyme structure and function by weak metal-ion binding**

Masayuki Oda, Yumi Kitagawa, Takuji Oyama, Kosuke Morikawa

Kyoto Prefectural University

25P-031 **Structure and function of stomatin-like protein FliL to assist flagellar motor stator PomAB in marine Vibrio**

Norihiro Takekawa, Tatsuro Nishikino, Ray Burton-Smith, Yuki Tajimi, Mitsuru Ikeda, Kazuyoshi Murata, Seiji Kojima, Takayuki Uchihashi, Katsumi Imada, Michio Homma

Div Material Sci, Grad Sch Sci, Nagoya Univ

25P-032 **Factors influencing pH-sensitive color changes in firefly bioluminescence were studied through computational analysis of hydrogen bond networks in close proximity to catalytic centers of luciferase and its mutants using QM/MM**

Kota Nosaka, Naohisa Wada

kyoto Luminous Science Laboratory, Kyoto, Japan

25P-033 **A double-edged sword: Bacteriophage PlyGRCS endolysin targeting MRSA Staphylococcus aureus isolates and serendipitous discovery of its interaction with a cold shock protein C (CspC)**

Padmanabhan Balasundaram

Department of Biophysics, National Institute of Mental Health and Neuro Sciences (NIMHANS)

25P-034 **Deciphering Protein Dynamics and Evolution: Insights from AlphaFold 2's Predicted Aligned Error**

Qian-Yuan Tang, Liangxu Xie, Xiangze Zeng

Hong Kong Baptist University, Hong Kong, China

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25P-035 **Conformational Heterogeneity and Fluorescence Resonance Energy Transfer in the Calcium Indicator Yellow Cameleon YC3.60**
Hiroki Tsubota, Yuna Kinoshita, Mamoru Shigeno, Haruko Hosoi
Toho University

25P-036 **Protein Dynamics and Mechanisms from Multiple Structures**
Robert L Jernigan, Mesih Kilinc, Kejue Jia, Weixia Deng, Pradeep Bk, Rthan Bush
Department of Biochemistry, Biophysics and Molecular Biology, Iowa State University, Ames, IA, USA

Protein: Physical property

***25P-037** **Role of aggregation-prone segments in fibril formation of the amyloidogenic apolipoprotein A-I variant**
Norihiro Namba, Takashi Ohgita, Hiroko Tamagaki-Asahina, Toshinori Shimanouchi, Takeshi Sato, Hiroyuki Saito
Laboratory of Biophysical Chemistry, Kyoto Pharmaceutical University

***25P-038** **Feasibility of immunoglobulin A purification using phosphate-modified zirconia particles**
Shogo Kanoh, Kentaro Shiraki, Katsuya Kato, Atsushi Hirano
Nanomaterials Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki 305-8565, Japan/Faculty of Pure and Applied Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8573, Japan

***25P-039** **Development of a high-throughput data collecting system for antibody optimization: thermal stability and interaction kinetics**
Sae Ito, Ryo Matsunaga, Makoto Nakakido, Daisuke Komura, Hiroto Katoh, Shumpei Ishikawa, Kouhei Tsumoto
Department of Bioengineering, School of Engineering, The University of Tokyo.

***25P-040** **Air/water-interface-induced self-assembly of biosurfactant protein RolA from filamentous fungus Aspergillus oryzae**
Nao Takahashi, Yuki Terauchi, Takumi Tanaka, Akira Yoshimi, Hiroshi Yabu, Keietsu Abe
Grad. Sch. Agric. Sci., Tohoku Univ, Sendai, Japan

***25P-041** **pKa, stretching vibrational frequencies, and nuclear magnetic resonance chemical shifts in H-bond networks of protein environments**
Masaki Tsujimura, Keisuke Saito, Hiroshi Ishikita
Graduate School of Engineering, The University of Tokyo, Tokyo, Japan

25P-042 **The common feature of fibril formation mechanism of α-synuclein and apolipoprotein A-I**
Takashi Ohgita, Norihiro Namba, Hiroki Kono, Hiroyuki Saito
Kyoto Pharmaceutical University

Protein: Function

***25P-043** **Regulatory mechanism of HADH and its localization in cell organelles during temperature acclimation in Caenorhabditis elegans**
Yukina Mori, Misaki Okahata, Akihisa Fukumoto, Yohei Minakuchi, Atsushi Toyoda, Akane Ohta, Atushi Kuhara
Faculty of Science and Engineering Konan University & Institute for Integrative Neurobiology, Kobe, Japan

***25P-045** **Proposed design of kinetic parameters for agonist antibodies that induce OX40 clustering.**
Kan Ujiie, Aki Tanabe, Satoru Nagatoishi, Ryo Matsunaga, Kouhei Tsumoto
Department of Bioengineering, School of Engineering, The University of Tokyo, Japan

***25P-046** **In vitro assembly of a protein capsule and cargo molecules into virus-like particles.**
Kenya Tajima, Yusuke Sakai, Naohiro Terasaka
Earth-Life Science Institute, Tokyo Institute of Technology, Tokyo, Japan

25P-047 **FHL complex as a cell strategy to regulate proton motive force and survive under energy limited fermentative conditions**
Heghine Gevorgyan, Anna Poladyan, Anait Vassilian, Karen Trchounian
Laboratory of Microbiology, Bioenergetics and Biotechnology, Research Institute of Biology, Yerevan State University

25P-048 **Regulation Mechanism of Liquid-Liquid Phase Separation and Following Aggregation of Fused in Sarcoma by RNA Revealed by Raman Microscopy**
Shinya Tahara, Uchu Matsuura, Shinji Kajimoto, Takakazu Nakabayashi
Graduate School of Pharmaceutical Sciences, Tohoku University

Poster Sessions

Protein: Measurement & Analysis

***25P-049** **Platinum (II) stabilizes a molten-globule conformation of a small globular cytosolic protein**
Suman Tiwari, A.S.R. Koti
Department of Chemical Sciences, TIFR, Mumbai, India.

***25P-050** **Visualization and quantitative analysis of protein-protein interaction and cell fusion events using split Akaluc complementation in deep tissues**
Yiling Li, Genki Kawamura, Qiaojing Li, Takeaki Ozawa
Department of Chemistry, School of Science, The University of Tokyo, Japan

***25P-051** **Time-resolved study of the interaction mechanism between α1-acid glycoprotein and membrane by vacuum-ultraviolet circular-dichroism spectroscopy**
Satoshi Hashimoto, Koichi Matsuo
Graduate School of Advanced Science and Engineering, Hiroshima University

25P-052 **Real-time Visualization of Structural Maintenance of Chromosomes Complexes by High-Speed Atomic Force Microscopy**
Kenichi Umeda, Yumiko Kurokawa, Yasuto Murayama, Noriyuki Kodera
Nano Life Science Institute, Kanazawa University, Japan/PRESTO/JST, Japan

25P-053 **Sensitivity of various occupancy estimation for synthetic data related to time-resolved serial femtosecond crystallography.**
Sriram Srinivasa Raghavan, Florence Tama, Osamu Miyashita
RIKEN Center for Computational Science, Kobe, Japan.

25P-054 **A state of partial Rb inactivation and intermediate E2F activation safeguards proliferation commitment**
Yumi Konagaya
RIKEN Center for Biosystems Dynamics Research

25P-055 **Real-time HS-AFM observation of EEA1-mediated vesicle fusion in the absence of canonical regulators**
Tareg Omer Mohammed, Prem Babu, Shingo Fukuda, Toshio Ando
Nano Life Science Institute, Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan

Protein: Design & Engineering

***25P-056** **PMBiT: A Bioluminescent Probe for Large Antigen Detection**
Cheng Qian, Ayumu Ninomiya, Natsuki Shibukawa, Hiroshi Ueda, Takanobu Yasuda, Bo Zhu, Tetsuya Kitaguchi
Graduate School of Life Science and Technology, Tokyo Institute of Technology, Kanagawa, Japan

***25P-057** **Stabilizing Talin R3 in its Folded State: De Novo Design of a Peptide Binder as a Molecular Lock**
Yuze Sun, Jie Yan
National university of singapore mechanobiology institute

***25P-058** **Hibody: A Bioluminescent Immunosensor Based on "Trap & Release" of Luciferase-derived Peptide Fused to Antibody**
Takanobu Yasuda, Bo Zhu, Hiroshi Ueda, Tetsuya Kitaguchi
Laboratory for Chemistry and Life Science, Institute of Innovative Research, Tokyo Institute of Technology, Kanagawa, Japan

***25P-059** **Increased reaction efficiency by external stimuli-sensitive linker**
Momoka Takazawa, Koki Kamiya
Graduate School of Science and Technology, Gunma University, Kiryu, Gunma, Japan

***25P-060** **Design of Proteins that adopt interconvertible two distinct functional conformations**
Toma Ikeda, Tatsuya Nojima, Hideki Taguchi
School of Life Science and Technology, Tokyo Institute of Technology, Japan

***25P-061** **The symmetric SAKe protein scaffold**
Staf Wouters, Andreu Mor Maldonado, Hiroki Noguchi, Kenichi Kamata, Wim Maes, Karen Vanhoorelbeke, Jeremy Tame, Steven De Feyter, Arnout Voet
Laboratory for Biomolecular Modeling and Design, KU Leuven, Heverlee, Belgium

***25P-062** **Characterization of novel scFv×VHH format of biparatopic antibody against MtsA from Streptococcus pyogenes**
Risa Asano, Miyu Takeuchi, Makoto Nakakido, Chihiro Aikawa, Takeshi Yokoyama, Yoshikazu Tanaka, Ichiro Nakagawa, Kouhei Tsumoto
Dept of Bioeng.Eng., Sch. of Eng., The Univ of Tokyo

Poster Sessions

25P-063 **Functional protein complexes from symmetric designer proteins**
Arnout RD Voet, Staf Wouters, Bram Mylemans, Hiroki Noguchi
KU Leuven, Belgium

25P-064 **Development of a general methodology to design sensor proteins**
Rie Tatsumi, Nobuyasu Koga
Institute for Protein Research (IPR), Osaka University, Osaka, Japan

25P-065 **A one-pot detection system using β-glucuronidase-based enzyme switch and label-free antibody**
Bo Zhu, Yukihiko Yamasaki, Takanobu Yasuda, Cheng Qian, Zhirou Qiu, Hiroshi Ueda, Tetsuya Kitaguchi
Laboratory for Chemistry and Life Science, Institute of Innovative Research, Tokyo Institute of Technology, Yokohama, Japan

Protein: Intrinsic disorder

***25P-066** **The Relationship between Self-assembly and Local Dynamics of Intrinsically Disordered Proteins**
Ryoga Kobayashi, Takashi S. Kodama, Norio Yoshida, Hideki Nakamura, Yohei Miyanoiri, Hidehito Tochio, Naotaka Sekiyama
Department of Biophysics, Graduate School of Science, Kyoto University, Kyoto, Japan

***25P-067** **Interaction Mechanism of α-Synuclein with Synapsin in the Liquid Condensates**
Shunki Takaramoto, Keiichi Inoue
The Institute for Solid State Physics, University of Tokyo, Kashiwa, Japan

25P-068 **Global Analysis of Disordered Proteome in Cells**
Shouxiang Zhang, Tze Cin Owyong, Yuning Hong
La Trobe University, Melbourne, Australia

Heme proteins

***25P-069** **Crystal structures of bovine heart cytochrome c oxidase with inhibitor complex**
Tomohiro Ide, Kyoko Shinzawa-Itoh, Kazumasa Muramoto
School of Science, University of Hyogo, Hyogo, Japan.

25P-070 **Gold Nanoparticle Thin Film Electrode Enables Direct Electrochemical Control of Cytochrome P450 Reaction**
Yasuhiro Mie, Chitose Mikami, Yoshiaki Yasutake, Naoki Matsuda
Bioproduction Research Institute, AIST

Membrane proteins

***25P-071** **Engineering cardiolipin binding to an artificial membrane protein reveals determinants for lipid-mediated stabilization**
Mia Louis Abramsson, Robin A Corey, Jan Škerle, Louise Persson, Olivia Andén, Abraham O Oluwole, Rebecca J Howard, Erik Lindahl, Carol V Robinson, David Drew, Kvido Strisovsky, Erik G Marklund, Phillip J Stansfeld, Michael Landreh
Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden

***25P-072** **Identification of Novel Receptor for Polyphenolic Metabolites**
Shota Nishikawa, Yuki Masujima, Ryuji Ohue-Kitano, Ikuo Kimura
Graduate School of Pharmaceutical Sciences, Kyoto University, Kyoto, Japan

***25P-073** **Mechanism of caffeine-induced functional recovery in RyR2 loss-of-function mutant**
Yuya Otori, Raymond Burton-Smith, Nagomi Kurebayashi, Kazuyoshi Murata, Hiroaki Kato, Takashi Murayama, Haruo Ogawa
Graduate School of Pharmaceutical Sciences, Kyoto University

***25P-074** **A proton-transfer mechanism in the malaria parasite lactate/H+ symporter suggests a transporter without conformational changes**
Ciara J F Wallis, Kasimir Gregory, Stephen Fairweather, Ruitao Jin, Sitong He, Giel van Dooren, Adele Lehane, Ben Corry
Research School of Biology, The Australian National University, Canberra, Australia

***25P-075** **Ligand binding mechanism analysis of muscarinic acetylcholine receptors utilizing vibrational spectroscopy**
Moeka Mizuno, Yuya Sugiura, Ryoji Suno, Hideki Kandori, Kota Katayama
Graduate School of Engineering, Nagoya Institute of Technology, Aichi, Japan

Poster Sessions

25P-076 **Structural dynamics of potassium ion selective and cyclic nucleotide binding in a CNG channel SthK using ATR-FTIR**

Tatsuro Nishikino, Hiroto Fukuda, Koki Ogasawara, Yuji Furutani
Grad. Sch. of Eng., Nagoya Inst. of Tech., Aichi, Japan.

25P-077 **Where is the N-tail? A Computational Study of Intrinsically Disordered Regions of Human ATP-sensitive Potassium Channel**

Katarzyna Walczewska-Szewc, Wieslaw Nowak
Institute of Physics, Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun, ul. Grudziadzka 5, 87-100 Torun, Poland

25P-078 **A Novel Gate Operation Pathway of Lipopolysaccharide Transport by Bacterial ABC Transporter MsbA and LptC**

Kien Xuan Ngo, Toshio Ando
Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, Kanazawa, Japan

25P-079 **Pulmonary Surfactant Protein C (SP-C): The role of palmitoyl chains on protein-protein interaction and oligomerization, from time-resolved fluorescence methodologies**

Manuel Prieto, Michelle Morán-Lalangui, Ana Coutinho, Jesús Pérez-Gil, Luís M. S. Loura, Begoña García-Álvarez
2 Univ Lisbon, IBB Inst Bioengn & Biosci, Inst Super Tecn, P-1049001 Lisbon, Portugal/3 Univ Lisbon, Associate Lab I4HB, Inst Hlth & Bioecon, Inst Super Tecn, P-1049001 Lisbon, Portugal

DNA & DNA binding proteins

***25P-080** **Single molecule imaging of DNA higher-order structural formation by human transcription factor Yin Yang 1.**

Yan Xi, Takada Shoji, Terakawa Tsuyoshi
Graduate School of science, Kyoto University, Kyoto, Japan

***25P-081** **Differential dynamics specify MeCP2 function at nucleosomes and methylated DNA**

Gabriella N.L. Chua, John Watters, Paul Dominic Olinares, Joshua Luo, Brian Chait, Shixin Liu
Laboratory of Nanoscale Biophysics and Biochemistry, The Rockefeller University, New York, NY, USA/Tri-Institutional PhD Program in Chemical Biology, New York, NY, USA

25P-082 **Mediator Mei5-Sae3 Stabilizes Dmc1 Recombinase Clusters for Efficient Assembly on RPA-Coated Single-Stranded DNA**
Hung-Wen Li, Chin-Dian Wei, Hao-Yen Chang, Chia-Hua Lu, Chih-Chun Chang, Asako Furukohri, Akira Shinohara, Peter Chi
Department of Chemistry, National Taiwan University, Taiwan

RNA & RNA binding proteins

***25P-083** **Molecular mechanisms of interaction between RNase I and ribosomes**
Atsushi Minami, Takehito Tanzawa, Zhuohao Yang, Takashi Funatsu, Takayuki Kato, Tomohisa Kuzuyama, Hideji Yoshida, Tetsuhiro Ogawa
Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo, Japan

25P-084 **Nascent pre-ribosomal RNA acts as surfactants that suppress fusion of fibrillar centers in nucleolus**
Tetsuya Yamamoto, Tomohiro Yamazaki, Kensuke Ninomiya, Tetsuro Hirose
Institute for Chemical Reaction Design and Discovery, Hokkaido University

DNA/RNA nanotechnology

***25P-085** **Agent model for numerical simulation of the DNA active droplet**
Kei Goraku, Ryohei Furuichi, Masahiro Takinoue
Department of Computer Science, Tokyo Institute of Technology, Tokyo, Japan

***25P-086** **Construction of DNA droplets capable of autonomously moving by sensing nucleic acids**
Kanta Takagi, Tomoya Maruyama, Masahiro Takinoue
Department of Computer Science, Tokyo Institute of Technology, Tokyo, Japan

***25P-087** **Specific cell binding of functionalized DNA droplets**
Ryoya Hasegawa, Jing Gong, Shin–Ichiro M. Nomura, Masahiro Takinoue
Department of Life Science and Technology, Tokyo Institute of Technology

***25P-088** **DNA droplets based on self-assembled DNA nanostructure polymers with programmable multivalency**
Naoki Yoshida, Masahiro Takinoue
School of Life Science and Technology, Tokyo Institute of Technology, Yokohama, Japan

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***25P-089** **DNA Nanostructure-based Chromatin-inspired Heterogeneous Fluid Gel Structures**

Hong Xuan Chai, Masahiro Takinoue
School of Life Science and Technology, Tokyo Institute of Technology, Japan

Nucleic acid: Others

***25P-090** **Mechanical diversity and folding intermediates of parallel-stranded G-quadruplexes with a bulge**

Yashuo Zhang, Huijuan You
School of Pharmacy, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

***25P-091** **Force propagation in dense DNA solution**

Miku Nakao, Saki Matsuyama, Akinori Miyamoto, Yoshihiro Murayama
Department of Biomedical Engineering, Tokyo University of Agriculture and Technology

Chromatin & Chromosomes

***25P-092** **Molecular motor in a box: a model for chromatin remodelers**

Sophie Klempahn, Helmut Schiessel
Cluster of Excellence Physics of Life, TUD Dresden University of Technology, 01307 Dresden, Germany

***25P-093** **Coarse-grained Simulations for Unidirectional Translocation of Bacterial SMC Complex via DNA-segment Capture**

Masataka Yamauchi, Giovanni B. Brandani, Tsuyoshi Terakawa, Shoji Takada
Dept. of Biophysics, Grad. of Sci., Kyoto Univ

25P-095 **Theory of viscoelasticity of chromatin and its surrounding environment**

Soya Shinkai, Shuichi Onami
RIKEN Center for Biosystems Dynamics Research

Water & Hydration & Electrolyte

***25P-096** **Effect of osmolytes on the activity of α-amylase**

Sachika Furukawa, Mafumi Hishida
Department of Chemistry, Faculty of Science, Tokyo University of Science, Tokyo, Japan

25P-097 **Investigations of hydration structures and dynamics around proteins and peptides with MD simulations**

Takuya Takahashi, Ryutaro Inou, Yui Nakamura, Simon Hikiri
College of Life Sciences, Ritsumeikan University, Kusatsu, Japan

Molecular genetics & Gene expression

***25P-098** **Effects of transcription termination elements on in vitro genome transcription**

Keisuke Saito, Yukino Matsui, Nobuhide Doi, Kei Fujiwara
Dept. of Biosci. and Info., Keio University

Morphogenesis and Development

***25P-099** **Three-dimensional Mechanical Cooperativity Optimises Epithelial Wound Healing**

Shu En Lim, Rob Tetley, Yanlan Mao
University College London

Muscle

***25P-100** **Myosin and tropomyosin-troponin complementarily regulate thermal activation of striated muscles**

Shuya Ishii, Kotaro Oyama, Fuyu Kobirumaki-Shimozawa, Tomohiro Nakanishi, Naoya Nakahara, Madoka Suzuki, Shin'ichi Ishiwata, Norio Fukuda
QST, Gunma, Japan/Dept Cell Physiol, Sch Med, Jikei Univ, Tokyo, Japan

25P-101 **Observation of power stroke coordination in DNA Origami based artificial myosin filaments**

Hiroki Fukunaga, Takumi Washio, Keisuke Fujita, Masashi Ohmachi, Hiroaki Takagi, Keigo Ikezaki, Toshio Yanagida, Mitsuhiro Iwaki
Adv ICT Res Inst, NICT

Poster Sessions

Molecular motor

***25P-102** **Spontaneous γ subunit rotation upon conformational changes of the α, β subunits in F1-ATPase**
Masahiro Motohashi, Mao Oide, Chigusa Kobayashi, Jaewoon Jung, Eiro Muneyuki, Yuji Sugita
Fac. Sci. Engineering, Chuo Univ./RIKEN CPR

***25P-103** **Characterization of the motility of tetrahymena kinesin 9A and 9B**
Hiroto Ishii, Masahiko Yamagishi, Junichiro Yajima
Graduate School of Arts and Science, The University of Tokyo, Tokyo, Japan

***25P-104** **Modeling the motion of heterodimeric kinesins reveals head- head coordination in a KIF1A dimer**
Tomoki Kita, Kazuo Sasaki, Shinsuke Niwa
Tohoku University

***25P-105** **Structural analysis of ATP synthases embedded in a lipid bilayer under proton motive force by cryoEM**
Atsuki Nakano, Jun-ichi Kishikawa, Kaoru Mitsuoka, Ken Yokoyama
Fac. of Life Sci., Kyoto Sangyo Univ

25P-106 **Application of information theory to understand cooperative force generation between skeletal myosin molecules**
Motoshi Kaya, Arun Kasimchetty, Hideo Higuchi
Department of Physics, University of Tokyo

25P-107 **Extreme-Value Analysis of Intracellular Cargo Transport by Motor Proteins**
Takuma Naoi, Yuki Kagawa, Kimiko Nagino, Shinsuke Niwa, Kumiko Hayashi
Institute for Solid State Physics, The University of Tokyo/Department of Applied Physics, Graduate School of Engineering, Tohoku University

25P-108 **Comparative analysis of cilia force production in effective and recovery strokes of isolated Volvox carteri cells**
Ryuta Yamaguchi, Katsuya Shimabukuro
National Institute of Technology, Ube College

25P-109 **Cryo-EM structure of mammalian V-ATPase.**
Yui Nishida, Atsuko Nakanishi, Atsuki Nakano, Fuka Ueda, Kaoru Mitsuoka, Ken Yokoyama
Kyoto Sangyo Univ, Kyoto, Japan

Single Molecule Biophysics

***25P-110** **Regulation of anticalin-CTLA4 binding mechano-stability by altering protein pulling geometry**
Yang Sun
Department of Chemistry, University of Basel/Department of Biosystems Science and Engineering, ETH Zurich

***25P-111** **Versatile peptide probes for labeling cell-surface GPCR**
Toshiki Yoda, Yasushi Sako, Asuka Inoue, Masataka Yanagawa
Molecular and Cellular Biochemistry, Graduate School of Pharmaceutical Sciences, Tohoku University, Miyagi, Japan

***25P-112** **The role of von Willebrand factor-like Domains in Mucin Adhesion**
Rebecca Schlatterer, Oliver Lieleg, Bizan N. Balzer
Institute of Physical Chemistry, University of Freiburg, Freiburg, Germany

***25P-113** **Self-fueled Peptide Assembly Investigated via AFM-based Imaging**
Christiane Wenzel, Mahesh Pol, Kun Dai, Charalampos Pappas, Bizan N. Balzer, Thorsten Hugel
Cluster of Excellence livMatS @ FIT – Freiburg Center for Interactive Materials and Bioinspired Technologies, University of Freiburg, Georges-Köhler-Allee 105, D-79110 Freiburg, Germany /Institute of Physical Chemistry, University of Freiburg, Albertstraße 21, D-79104 Freiburg, Germany

***25P-114** **Force-Dependent Structural Changes of Filamin C Rod Domains Regulated by Filamin C Dimer**
Yunxin Deng, Jie Yan
Mechanobiology Institute, National University of Singapore, Singapore 117411

25P-115 **State-of-the-art high-speed atomic force microscopy for filming faster biomolecular dynamics**
Shingo Fukuda, Akihiro Otomo, Ryota Iino, Toshio Ando
WPI NanoLSI, Kanazawa Univ.

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25P-116 **In-cell single-molecule FRET measurement of cytosolic RAF proteins**
Kenji Okamoto, Yasushi Sako
RIKEN CPR

***25P-117** **Extent of stochasticity in folding dynamics determines the force-tolerance and longevity of mechanosensing proteins**
Pritam Saha, Vishavdeep Vashisht, Ojas Singh, Gaurav Kumar Bhati, Surbhi Garg, Dr. Sabyasachi Rakshit
Department of chemical sciences, Indian Institute of Science Education and research Mohali, India

Cell biology: Adhesion

25P-118 **A Novel Semi-Automatic Software Tool for Focal Adhesion Analysis**
Joanna Hajduk, Patrycja Twardawa, Zenon Rajfur
Doctoral School of Exact and Natural Sciences, Jagiellonian University, Łojasiewicza 11, 30-348 Cracow, Poland/Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University, Łojasiewicza 11, 30-348 Cracow, Poland

Cell biology: Motility

***25P-119** **Effect of Substrate Elasticity on Adhesion and Motility of Cancer Cells**
Shotaro Yamamoto, Tomoko Oyama, Kotaro Oyama, Mitsumasa Taguchi, Hiromi Miyoshi
Tokyo Metropolitan University

***25P-120** **Decoding Antidote Access: Binding/Unbinding Pathways toward Organophosphate-Inhibited HuAChE**
Kowit Hengphasatporn, Nalinee Kongkaew, Thanyada Rungrotmongkol, Yasuteru Shigeta, Ryuhei Harada
Center for Computational Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan

***25P-121** ***β*-arrestin acts as an inhibitor of trimeric G protein signaling in eukaryotic chemotaxis**
Masaki Muromoto, Satomi Matsuoka, Masahiro Ueda
Graduate School of Frontier Biosciences, Osaka University

***25P-122** **Conversion from Linear Contraction to Rotation of Stress Fibers in Migrating Keratocytes**
Chika Okimura, Shu Akiyama, Yukinori Nishigami, Tatsunari Sakurai, Yoshiaki Iwadate
Department of Biology, Yamaguchi University

***25P-123** **Rebirth of Fish Epidermal Keratocyte Sheets**
Norihiko Nishimura, Chika Okimura, Yoshiaki Iwadate
Department of Biology, Yamaguchi University

***25P-124** **Integration between Epidermal Keratocyte Sheets Accompanied by Rapid Disassembly of Actomyosin Cables**
Kazuma Shimizu, Chika Okimura, Yoshiaki Iwadate
Department of Biology, Yamaguchi University

***25P-125** **Side-by-side interaction of adjacent cells dominates the collaborative dynamics and ordering of collective cells**
Mitsuru Sentoku, Miki Takei, Masahru Endo, Kenji Yasuda
Department of Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University, Tokyo, Japan

***25P-126** **Mimicking dynamics of human gastrulation: microprint culture of two types of cells derived from human iPS cells**
Ryo Kojima, Hazuki Tuboi, Miyu Mori, Chihiro Takeuchi, Kiyoshi Ohnuma
Department of Bioengineering, Nagaoka University of Technology

25P-127 **Structural and Functional Insights into Drosophila melanogaster Sperm Flagella: A Focus on Axonemal Architecture and Beating Patterns**
Sho Tamai, Kosei Sato, Kazuhiro Oiwa
Graduate School of Science, University of Hyogo/ National Institute of Information and Communications Technology

25P-128 **Structural Changes of Beating Comb Plates of Ctenophores during Effective and Recovery Strokes as Probed by Time-resolved X-ray Diffraction Recording**
Hiroyuki Iwamoto, Mio Kosaka, Ryo Yokoya, Kei Jokura, Kazuhiro Oiwa, Kazuo Inaba
SPring-8 • JASRI, Hyogo, Japan

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25P-129 **Identifying direct and indirect interactions among collectively moving individuals using pairwise information flow metric**
M. Mohiuddin, Sulimon Sattari, Udoy S. Basak, Tamiki Komatsuzaki
Graduate School of Chemical Sciences and Engineering, Hokkaido University, Japan/ Comilla University, Cumilla-3506, Bangladesh

25P-130 **Structural and functional analyses of the C-terminal cytoplasmic domain of a flagellar export gate protein, FlhB**
Miki Kinoshita, Tomoko Miyata, Keiichi Namba, Tohru Minamino
Graduate School of Frontier Biosciences, Osaka University, Suita, Osaka, Japan/JEOL YOKOGUSHI Research Alliance Laboratories, Osaka University, Suita, Osaka, Japan

Cell biology: Cytoskeleton & Membrane skeleton

***25P-131** **Crosstalk of two bacterial actins composed of the force generation unit of Spiroplasma swimming**
Daichi Takahashi, Makoto Miyata, Ikuko Fujiwara
Research Institute for Interdisciplinary Science, Okayama University, Japan/Graduate School of Science, Osaka Metropolitan University, Japan

***25P-132** **Microtubule Fatigue Under Repetitive Mechanical Stress**
Syeda Rubaiya Nasrin, Akira Kakugo, Neda M. Bassir Kazeruni, Masatoshi Ichikawa
Kyoto University

25P-133 **Dominant negative mutations in γ-tubulin cause partial loss of protofilaments in centriole triplet microtubules**
Yuki Nakazawa, Mao Horii, Akira Noga, Ken-ichi Wakabayashi, Masafumi Hirono
Dep. Frontier Biosci., Hosei Univ., Tokyo, Japan/STG, OIST, Okinawa, Japan

25P-134 **Actin fluctuations regulate cofilin binding**
Akihiro Narita
Nagoya Univ.

25P-135 **Signaling Mechanisms to Regulate Activation of Actin Depolymerization Factor Cofilin in Mast Cells**
Ruriko Suzuki, Satoru Yokawa, Tadahide Furuno, Naohide Hirashima
Grad. Sch. Pharm. Sci., Nagoya City Univ., Nagoya, Japan

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Cell biology: Signal transduction & Cell membrane

***25P-136** **The maximum phagocytic limit of macrophages is determined by the maximum expansion ability of the local cell membrane surrounding antigens.**
Dan Horonushi, Sota Suzuki, Maiha Ando, Haruka Yuki, Kenji Yasuda
Department of Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University, Tokyo, Japan.

***25P-137** **Lipid domains in the inner leaflet of cell plasma membranes serve as a signaling platform for K-Ras**
Toshiki Mori, Koichiro M. Hirosawa, Rinshi S. Kasai, Tomohiko Taguchi, Yasunari Yokota, Kenichi G.N. Suzuki
UGSAS, Gifu Univ., Japan

25P-138 **ERK-mediated STAT3 inhibition causes dynamic heterogeneity in IL-6 signaling**
Keisuke Fujita, Masahiro Ueda
Laboratory for Cell Signaling Dynamics, RIKEN BDR, Osaka, Japan

25P-139 **Intracelluar information flow in RAS-MAPK signaling**
Nobuhisa Umeki, Yoshiyuki Kabashima, Yasushi Sako
Cellular Informatics Laboratory, RIKEN, CPR , Wako, Japan

Biological & Artificial membrane: Structure & Property

***25P-140** **Protein accumulation on amphiphilic protein-phospholipid hybrid leaflet**
Masato Suzuki, Koki Kamiya
Graduate School of Science and Technology, Gunma University

***25P-141** **Creation of Asymmetric Membrane Vesicles with a Protein Inner Membrane Mixed with Phospholipids**
Yuki Nagai, Koki Kamiya
Graduate School of Science and Technology, Gunma Univ., Gunma, Japan

***25P-142** **Triglyceride-Tethered Membrane Lipase Sensor**
Samara Elizabeth Bridge, Upeksha Mirissa Lankage, Bruce Cornell, Stephen Holt, Matt Padula, Charles Cranfield
School of Life Sciences, University of Technology Sydney, Ultimo, NSW 2007, Australia

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25P-143 **Characterization of Lipid Vesicles Adsorbed on Bovine Serum Albumin: Adhesion and Large Nano-indentation**
Eman Ramadan Sarsour, Tomohiro Hayashi
Department of Physics, Faculty of Science, Helwan University, Cairo, Egypt

25P-144 **Decoding functional oligomeric states of membrane-associated protein oligomers forming membrane pores**
Radek Šachl, Vandana Singh, Sabína Čujová, Petra Riegerová, Martin Hof, Julia P. Steringer, Walter Nickel
Department of Biophysical Chemistry, J. Heyrovsky´ Institute of Physical Chemistry of the Academy of Sciences of the Czech Republic, Prague, 182 23, Czech Republic

25P-145 **Solid-Supported-Membrane-Based Electrophysiology: Application to the Analysis of Membrane Binding**
Ronald J Clarke, Francesco Tadini-Buoninsegni
School of Chemistry, University of Sydney, Sydney NSW, Australia

Biological & Artificial membrane: Dynamics

***25P-146** **Unraveling of the mechanisms of hierarchical mesoscale domain organization in cell plasma membranes by super-resolution microscopy and single-molecule tracking.**
Toui Kawai, Rinshi S. Kasai, Koichiro M. Hirosawa, Yasunari Yokota, Takahiro K. Fujiwara, Akihiro Kusumi, Kenichi G. N. Suzuki
United Grad. Sch, Agri, Sci, Gifu Univ., Gifu, Japan

***25P-147** **Impact of peptides on the solubility of Amphotericin B and its sterol-specific membrane activity**
Lissy M. Hartmann, Stephen A. Holt, Robert A. Russell, Anton P. Le Brun, Anneka C. Pereira Schmidt, Chandra H. Chavali, Evelyne Deplazes, Charles G. Cranfield
School of Life Sciences, University of Technology Sydney, 15 Broadway, Ultimo, NSW 2007, Australia

***25P-148** **Acceleration of lipid exchange reaction between human cells and supported lipid bilayers**
Asahi Gono, Takashi Okuno
Faculty of Science, Yamagata Univ.

25P-149 **Antibacterial activity of C-terminal fragments of NEMURI**
Moynul Hasan
Institute for Genetic Medicine, Hokkaido University, Japan.

Biological & Artificial membrane: Excitation & Channels

***25P-150** **Photocaged amino acid method elucidates the potency of individual positively-charged residues in PIP2-dependency of the Kir2.1 inwardly rectifying potassium channel**
Junxian Zhou, Natsuki Mizutani, Kohei Yamamoto, Yoshifumi Okochi, Yasushi Okamura
Graduate School of Medicine, Osaka University

25P-151 **ATP directly regulates the voltage-gated proton channel**
Akira Kawanabe, Kohei Takeshita, Maki Takata, Yuichiro Fujiwara
Faculty of Medicine, Kagawa University

Membraneless Organella, autophage, Liquid-liquid phase separation

***25P-153** **Coalescence of liquid or gel-like DNA-encapsulating micro-droplets**
Takashi Nishio, Helmut Schiessel
Cluster of Excellence Physics of Life, TUD Dresden University of Technology/ Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)

***25P-154** **Aberrant phase transition of stress granules in living cells observed by Raman/Brillouin microscopy and machine learning**
Ren Shibuya, Shinji Kajimoto, Hideyuki Yaginuma, Tetsuro Ariyoshi, Yasushi Okada, Takakazu Nakabayashi
Graduate School of Pharmaceutical Sciences, Tohoku University, Japan

***25P-155** **Molecular weight polydispersity initiates nucleation of polymer blends around the phase separation boundary**
Akari Kamo, Arash Nikoubashman, Miho Yanagisawa
Department of Physics, Graduate School of Science, The University of Tokyo, Japan

***25P-156** **Hyperphosphorylation of nucleolar protein Nopp140 drives mitotic nucleolar disassembly.**
Hisashi Shimamura, Yuki Norizoe, Takahiro Sakaue, Shige H. Yoshimura
Faculty of Integrated Human Studies, Kyoto University

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25P-157 **Molecular dynamics of autophagosomal lipid transfer**

Yuji Sakai, Kazuaki Matoba, Nobuo Noda, Yuji Sugita

Institute for Life and Medical Sciences, Kyoto University/RIKEN iTHEMS/Graduate School of Medicine, The University of Tokyo

25P-158 **Designer coacervates for protein sequestration**

Akihiro Kishimura, Biplab K C, Ryoma Omae, Hiroshi Kamizawa, Gakuto Takeda, Takumi Yamada, Hinano Nakamoto, Teruki Nii, Takeshi Mori, Yoshiki Katayama

Department of Applied Chemistry, Faculty of Engineering, Kyushu University, Fukuoka, Japan/Graduate School of System Life Sciences, Kyushu University, Fukuoka, Japan/Center for Molecular Systems (CMS), Kyushu University, Fukuoka, Japan/Center for Future Chemistry, Kyushu University, Fukuoka, Japan

25P-159 **Highly Charged Proteins and Their Repulsive Interactions in Regulation of Biomolecular Condensation**

Cheng Tan, Jaewoon Jung, Yuji Sugita

RIKEN Center for Computational Science

25P-160 **A Key Role of Less Bulky-Hydrophobic Amphipathic α-helix in Autophagy**

Taki Nishimura, Gianmarco Lazzeri, Noboru Mizushima, Roberto Covino, Sharon A Tooze

PRESTO, Japan Science and Technology Agency, Tokyo, Japan/Department of Biochemistry and Molecular Biology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan/Molecular Cell Biology of Autophagy Laboratory, The Francis Crick Institute, London, UK

Chemoreception

***25P-161** **Ligand recognition of the Vibrio cholerae chemoreceptor for two distinct attractants, pyruvate and serine**

Fuga Omori, Hirotaka Tajima, Ikuro Kawagishi

Grad. Sch. Sci. and Engin., Hosei Univ

Neuroscience & Sensory systems

***25P-162** **HS-AFM reveals the structural role of CaMKII in synaptic structural plasticity**
Taisei Suzuki, Takashi Sumikama, Hideji Murakoshi, Mikihiro Shibata
Grad. Sch. NanoLS., Kanazawa University, Ishikawa, Japan

***25P-163** **Physics of transport through capillaries and the blood-brain barrier: comparative study of hydrogel phantom and living mouse models**
Anastasia S Vanina, Alexander Sychev, Ivan Proskurkin, Anastasia Lavrova, Eugene Postnikov
Kursk State University

25P-164 **Spontaneous depolarization wave in the embryonic CNS: optical imaging with a voltage-sensitive dye**
Yoko Momose-Sato, Katsushige Sato
Kanto-Gakuin University, College of Nutrition

25P-165 **Oscillations in the embryonic chick olfactory bulb: optical imaging with a voltage-sensitive dye**
Katsushige Sato, Yoko Momose-Sato
Komazawa Women's University, Faculty of Human Health

Neuronal circuit & Information processing

***25P-166** **Environmental oxygen information generates temperature response diversity in C. elegans**
Misaki Okahata, Taichiro Iki, Sawako Yoshina, Yohei Minakuchi, Shohei Mitani, Toshie Kai, Toru Miura, Atsushi Toyoda, Akane Ohta, Atsushi Kuhara
Inst. for Integrative Neurobio., Konan Univ, Japan/Graduate School of Frontier Biosciences Osaka Univ., Japan

25P-167 **Construction of Single-Cell Level Linear Neural Network with Agarose Micro Fabrication Technology**
Shion Sakamoto, Kentaro Kito, Masahito Hayashi, Tomoyuki Kaneko
Hosei university/LaRC/FB

Poster Sessions

Behavior

25P-168 **Anticipation Behavior of the Physarum Plasmodia to Periodic Light Stimulus**
Kazuki Moriguchi
Graduate School of Systems Information Science, Future University Hakodate, Hokkaido, Japan

Photobiology: Vision & Photoreception

***25P-169** **The mechanism regulating the binding properties of retinal isomers in opsins**
Chihiro Fujiyabu, Takahiro Yamashita
Kyoto University, Kyoto, Japan

***25P-170** **Light-induced structural changes of a rhodopsin domain in a rhodopsin-bestrophin giant ion channel complex studied by time-resolved infrared spectroscopy**
Honda Nastuki, Rei Yoshizumi, Kandori Hideki, Furutani Yuji
Graduate School of Engineering, Nagoya Institute of Technology

***25P-171** **Exploration of the Diversity of Absorption Spectra in Vertebrate Retinal Photo-isomerase, RGR**
Chunyangguang Li, Takashi Nagata, Naoya Morimoto, Keiichi Inoue
The Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan

***25P-172** **Exploring the spectral tuning mechanism of bestrhodopsin from Phaeocystis antarctica**
Yifan Liu, Masae Konno, Inoue Keiichi, Ariel Chazan, Andrey Rozenberg, Oded Béjà
The Institute for Solid State Physics, The University of Tokyo, Japan

25P-173 **In Vitro Analysis of the Effect of Narrowband and Broadband Light in Visible Range on Lens Epithelial Cell Migration**
Hiromi Miyoshi, Aki Nishida, Masafumi Otomo, Takuto Suzuki, Yuki Tani
Department of Mechanical Systems Engineering, Tokyo Metropolitan University

25P-174 **Insights into light-driven chloride ion pump mechanism of NM-R3 and NpHR by molecular dynamics simulation**
Masahiko Taguchi, Akiya Moriuchi, Hinano Ogawa, Osamu Miyashita, Eriko Nango
IMRAM Tohoku Univ./Grad. Sch. Sci. Tohoku Univ.

Photobiology: Photosynthesis

***25P-175** **Structure of S2 High-Spin State Manganese Cluster of Photosystem II by Multi-frequency Electron Paramagnetic Resonance (EPR) Spectroscopy**
Kosaki Shinya, Nakajima Yoshiki, Shen Jian-Ren, Mino Hiroyuki
Grad. Sch. Sci., Nagoya Univ., Aichi, Japan

***25P-176** **Oxygen-evolving photosystem II structures during S1–S2–S3 transitions**
Hongjie Li, Yoshiki Nakajima, Michihiro Suga, Jian-Ren Shen
Research Institute for Interdisciplinary Science and Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan

25P-177 **Theoretical analysis of the light-harvesting process in C. thermophilum type-I reaction center that binds three different species of chlorophyll molecules**
Wataru Shimooka, Hirotaka Kitoh-Nishioka, Shigeru Itoh, Akihiro Kimura
Department of Physics, Graduate School of Science, Nagoya University

25P-178 **Electron Transfer Reactions in the Photosynthetic Reaction Center Complex lacking Iron-Sulfur Cluster Fx of Green Sulfur Bacterium Chlorobaculum tepidum**
Tomomi Inagaki, Yukie Kojima, Kazuki Terauchi, Chihiro Azai
Graduate School of Life Sciences, Ritsumeikan University, Shiga, Japan

Photobiology: Optogenetics & Optical control

***25P-179** **Antitumor effects of photo-induced cell death using an outward proton pump rhodopsin**
Shin Nakao, Keiichi Kojima, Naoya Kenmotsu, Yosuke Togashi, Yuki Sudo
Grad. Sch., Med. Dent. and Pharm. Sci., Okayama Univ., Okayama, Japan.

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25P-180 **Microbial Rhodopsin Engineering through Machine Learning and Automated Experiments**

Keiichi Inoue, Takashi Nagata, Masae Konno, Masayuki Karasuyama, Yu Inatsu, Kazuhito V. Tabata, Ichiro Takeuchi

The Institute for Solid State Physics, The University of Tokyo/RIKEN Center for Advanced Intelligence Project

Radiobiology & Active oxygen

25P-181 **Analysis of Radiation-induced Stem Cell Competition and Bystander Response Using Titanium Characteristic X-ray Microbeam**

Masanori Tomita, Yuki Fujimichi, Atsushi Ito

Sustainable Sys. Res. Lab., CRIEPI, Chiba, Japan

Origin of life & Evolution

***25P-182** **The role of non-biological membraneless polyester microdroplets as protocells at the origins of life**

Tony Z Jia, Kuhan Chandru

Earth-Life Science Institute, Tokyo Institute of Technology, 2-12-1-IE-1 Ookayama, Meguro-ku, Tokyo 152-8550, Japan/Blue Marble Space Institute of Science, 600 1st Ave, Floor 1, Seattle, WA 98104, USA,

***25P-183** **Creation of a Membraneless Protocell with Earth-abundant Transition Metal Catalysts**

Chen Chen, Tony Z. Jia, Ryuhei Nakamura

Biofunctional Catalyst Research Team, RIKEN Center for Sustainable Resource Science (CSRS), Wako, Japan

***25P-184** **Primordial Evolution by Linking Sequence Information and Vesicle Reproduction**

Akiko Baba, Keidai Sato, Shuna Asanuma, Ivo Henkys, Tomoko Kawahata, Ulf Olsson, Anna Wang, Masayuki Imai

Grad. Sch. Sci., Tohoku Univ.

25P-185 **Genetic properties influencing transcriptional variability**

Saburo Tsuru, Chikara Furusawa

Universal Biology Institute, Graduate School of Science, The University of Tokyo, Tokyo, Japan

Synthetic biology & Artificial cells

***25P-186** **Optimizing the in vitro expression profile of central dogma-related proteins**
Chisato Nishizawa, Shunsuke Aburaya, Yuishin Kosaka, Kenji Sugase, Wataru Aoki
Graduate School of Agriculture, Kyoto University, Kyoto, Japan

***25P-187** **Characterization of ribosome biogenesis in vitro**
Yuishin Kosaka, Yumi Miyawaki, Megumi Mori, Shunsuke Aburaya, Chisato Nishizawa, Takeshi Chujo, Tatsuya Niwa, Takumi Miyazaki, Takashi Sugita, Hideki Taguchi, Kazuhito Tomizawa, Kenji Sugase, Mitsuyoshi Ueda, Wataru Aoki
Kyoto University

***25P-188** **Light-Induced Control of Directional Movement in Chlamydomonas-Encapsulated Liposomes**
Hiromasa Shiraiwa, Koichiro Akiyama, Shunsuke Shiomi, Masahito Hayashi, Tomoyuki Kaneko
LaRC, FB, Grad. Sch. Sci. & Eng., Hosei Univ., Tokyo, Japan

***25P-189** **Construction of asymmetric lipid-protein membrane tension sensing system by using mechanosensitive channels**
Kotaro Baba, Koki Kamiya
Graduate School of Science and Technology, Gunma University, Gunma, Japan

25P-190 **Designing a reproduction cycle of vesicles coupled with artificial metabolic pathways**
Minoru Kurisu, Peter Walde, Masayuki Imai
Department of Physics, Graduate School of Science, Tohoku University, Sendai, Japan

25P-191 **Dynamic Instability of Totally-synthetic Supramolecular Dipeptide Fibers upon Hybridization of Surfactant Micelles**
Ryou Kubota, Shogo Torigoe, Kazutoshi Nagao, Yuya Hamanaka, Itaru Hamachi
Graduate School of Engineering, Kyoto University

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Genome biology

***25P-192** **Heterogeneity of Genomic Sequence within Population in Single Plaque of Influenza Virus Revealed by Revio analysis**

Kenji Tamao, Masayuki Su'etsugu, Hiroyuki Noji, Kazuhito Tabata
Appl.Chem., Grad.Sch.Eng., Univ. Tokyo

Computational biology: Bioinformatics

***25P-193** **Improving Protein Complex Prediction through the Generation of Multiple Decoy Structures using Docking Software and Aggressive Refinement by AlphaFold2**

Seiya Tanaka, Masaki Koyama, Hiroki Onoda, Leonard Chavas, George Chikenji
Nagoya University

Computational biology: Molecular simulation

***25P-195** **Elucidating the Binding Pathway of 'Abltide' to Abl Kinase through Enhanced 2D Replica Exchange Molecular Dynamics Simulations**

Yichao Wu
Osaka University, WPI Premium Research Institute for Human Metaverse Medicine (WPI-PRIMe)

***25P-196** **Exploring Protein-Lipid Interactions in Membranes: A Coarse-Grained Perspective with Implicit Solvent Modeling**

Diego Ugarte, Shoji Takada, Yuji Sugita
RIKEN R-CCS, Kobe, Japan/RIKEN BDR, Kobe, Japan/RIKEN CPR, Saitama, Japan

***25P-197** **Investigating TDP43 Condensation and Contributions of Ions: A Multiscale Comparative Analysis of Coarse-Grained Models**

Yangyang Zhang, Cheng Tan, Yuji Sugita
RIKEN Center for Computational Science, Kobe, Japan

***25P-198** **Virtual alanine scan for entire sequence of SARS-CoV-2 main protease complexed with ensitrelvir**

Ayato Mizuno, Tomoki Nakayoshi, Koichi Kato, Eiji Kurimoto, Akifumi Oda
Faculty of Pharmacy, Meijo University, Aichi, Japan

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***25P-199** **Simulation of Lipid Membranes and Their Interaction with Polystyrene**
Nora Kremer, Thorsten Koslowski
University of Freiburg

***25P-200** **Enhancing protein conformation sampling with coevolution**
Antoni Marciniak, Darko Mitrovic, Lucie Delemotte
KTH Royal Institute of Technology/SciLifeLab

***25P-201** **Charge–Charge Interactions in Molecular Dynamics Simulations of Glycans, Glycosaminoglycans, and Lipopolysaccharides**
Denys Biriukov, Miguel Riopedre-Fernández, Hector Martinez-Seara
National Centre for Biomolecular Research, Faculty of Science, Masaryk University, Brno, Czech Republic/Central European Institute of Technology, Masaryk University, Brno, Czech Republic/Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague, Czech Republic

***25P-202** **Quantifying chromosome structural dynamical pathways during cell fate decision making process**
Xiakun Chu
Advanced Materials Thrust, Function Hub, The Hong Kong University of Science and Technology (Guangzhou), Nansha, Guangzhou, Guangdong 511400, China

***25P-203** **Physical determinants of multiphase organisation in protein/RNA condensates**
Pin Yu Chew, Jerelle A. Joseph, Rosana Collepardo-Guevara, Aleks Reinhardt
Yusuf Hamied Department of Chemistry, University of Cambridge, Cambridge, United Kingdom

***25P-204** **Molecular determinants of lipid selectivity of VPS13 lipid transport protein**
Thanchanok Chanachanvong
Thanchanok Chanachanvong, Puey Ounjai, Tanadet Pipatpolkai

***25P-205** **Ligand dependent conformational plasticity that guides substrate transport cycle of ABC transporters**
Sungho Bosco Han, Jim Warwicker, Hao Fan, Stephen Prince
The University of Manchester, Manchester, United Kingdom/Agency for Science, Technology and Research (A*STAR), Singapore

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25P-206 **Exploring 3D cell spreading in supramolecular hydrogels and dynamics-induced hydrogel surface reconfiguration through molecular simulations**

Tianjie Li, Chun Hon Lau, Yi Wang
Department of Physics, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong, China

25P-207 **The role of computational approaches in uncovering mechanisms of ferroptotic cell death signal**

Karolina Mikulska-Ruminska
Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun, Poland

25P-208 **Dimerization of APP-C99 using BE-ABMD simulations**

Shingo Ito, Yuji Sugita
RIKEN, Cluster for Pioneering Research

25P-209 **Computer aided engineering of nonstandard biotechnological enzyme – nitrile hydratase case**

Lukasz Peplowski
Department of Biophysics, Nicolaus Copernicus University, Torun, Poland

25P-210 **Why bestatin inhibitor prefers human carnosinase II (CN2) to human carnosinase I (CN1): Simulation study.**

Borvornwat Toviwek
Department of Chemistry, Faculty of Science, Kasetsart University, Chatuchak, Bangkok, 10900, Thailand

25P-211 **Computational and Biochemical Studies on the Molecular Interactions Between Melanopsin and its AntagonistsC**

Ruisi Zou, Kohei Obayashi, Hisao Tsukamoto, Toshifumi Mori
Interdisciplinary Graduate School of Engineering Sciences, Kyushu University

25P-212 **Atom Filtering Algorithm and GPU-Accelerated Calculation of Simulation Atomic Force Microscopy Images**

Romain Amyot, Noriyuki Kodera, Holger Flechsig
WPI-NanoLSI, Kanazawa University, Kanazawa, Japan/JSPS International Research Fellow

25P-213 **Small GTPase Ran: exploring nucleotide-specific conformations**
Erika Balog, Janka Czigleczki, Balint Dudas, Pedro Tulio de Resende Lara, David Perahia, Hyunbum Jang, Ruth Nussinov
Department of Biophysics and Radiation Biology, Semmelweis University, Budapest, Hungary

25P-214 **Large-scale coarse-grained MD simulations for heterogeneous biomolecular systems by efficient parallelization**
Jaewoon Jung, Cheng Tan, Yuji Sugita
RIKEN R-CCS/RIKEN CPR

25P-215 **Molecular dynamics simulation of amyloid-β aggregates**
Hisashi Okumura, Satoru G. Itoh
Exploratory Research Center on Life and Living Systems/Institute for Molecular Science/Graduate Institute for Advanced Studies

Computational biology: Biological modeling and simulation

***25P-216** **Mathematical model of glioma cell migration and deformation dependent on adhesion dynamics to extracellular matrix**
Haruna Tagawa, Daisuke Kanematsu, Asako Katsuma, Naoyuki Inagaki, Yonehiro Kanemura, Yuichi Sakumura
Nara Institute of Science and Technology, Nara, Japan

***25P-217** **Reassessing the Exon-Foldon correspondence using Frustration Analysis**
Ezequiel Alejandro Galpern, Hana Jaafari, Carlos Bueno, Peter G. Wolynes, Diego U. Ferreiro
Protein Physiology Lab, Instituto de Química Biológica de la Facultad de Ciencias Exactas y Naturales, CONICET - Universidad de Buenos Aires, C1428EGA, Buenos Aires, Argentina

***25P-218** **Computational study of the agonism/antagonism effect of small molecules to toll-like receptor (TLR) 7**
Ruitao Jin, Sitong He, Ben Corry
Australian National University

***25P-219** **Torsion Angles to Map Protein Conformational Changes**
Katie Blaze O'Flynn, Helen Ginn
Deutsches Elektronen-Synchrotron DESY, Hamburg, Germany

Poster Sessions

***25P-220** **Simulating three dimensional epithelial monolayer tissue deformation using cell center model**

Tomohiro Mimura, Yasuhiro Inoue
Department of Micro Engineering, Graduate School of Engineering, Kyoto University, Kyoto, Japan

***25P-221** **Development and validation of novel anticancer drugs against protein kinase D2**

Ahmed Shemy, Olivia Appelmans, Lauren Voets, Johan Van Lint, Wim De Borggraeve, Arnout Voet
KU Leuven, Department of Chemistry, Biochemistry, Molecular and Structural Biology, Celestijnenlaan 200G - box 2403, B-3001 Leuven, Belgium

***25P-222** **An investigation of the molecular mechanisms underpinning the aggregation of POR-BT isomers within membranes using molecular dynamics simulations**

Manish Kesherwani, Qian Wu, Masayasu Taki, Yoshiki Tanaka, Quan Manh Phung, Sawako Enoki, Yasushi Okada, Shigehiro Yamaguchi, Florence TAMA
Institute of Transformative Bio-Molecules, Nagoya University, Nagoya, Japan

25P-223 **Membrane morphology of Clathrin-Mediated Endocytosis**

Suguru Ushioda, Masashi Tachikawa
Tachikawa Lab, Faculty of Science, Yokohama City Univ.

25P-224 **Novel Dengue Vaccine Development – A Multiscale Simulation Study**

Jan K. Marzinek, Raghuvamsi Palur, Peter Bond
Bioinformatics Institute (A*STAR), Singapore

25P-225 **Navigating Bio-Systems Through A Deep Learnt Lens-Scape of Multiscale Analytics**

Haibin Su
The Hong Kong University of Science and Technology

25P-226 **Exploring intermediate states along binding of inhibitors to protein kinases using large-scale molecular dynamics simulations**

Ai Shinobu, Suyong Re, Hiraku Oshima, Yuji Sugita
WPI Premium Research Institute for Human Metaverse Medicine, Osaka University, Japan /RIKEN Center for Biosystems Dynamics Research, Japan

Tuesday, June 25

Computational biology: machine learning for molecules or cell systems

***25P-227** **Prediction of Olfactory Perception From Learned Molecular Representation**

Zi Hui Lau, Tetsuya J. Kobayashi
Department of Electrical Engineering and Information Systems (EEIS), Graduate School of Engineering, The University of Tokyo, Bunkyo-ku, Tokyo, 113-8656, Japan

***25P-228** **Label-free detection of senescent cells using Raman imaging and machine learning**

Hiroko Kodama, Ren Shibuya, Hiroaki Takahashi, Shinji Kajimoto, Takakazu Nakabayashi
Faculty of Pharmaceutical Science, Tohoku Univ.

Mathematical & Theoretical biology

***25P-229** **Theory for Optimal Estimation and Control with Resource Limitations in Biological Information Processing**

Takehiro Tottori, Tetsuya Kobayashi
Laboratory for Neural Computation and Adaptation, RIKEN Center for Brain Science/ Institute of Industrial Science, The University of Tokyo

***25P-230** **Framework for efficient drug selection using machine learning**

Shunta Nonaga, Koji Tabata, Tamiki Komatsuzaki
Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo, Japan

***25P-231** **THEORETICAL STUDY ON PARTIAL AND TOTAL ADAPTATION OF MULTIPLE TISSUES UNDER FORCE INTERACTION**

Ryunosuke Suzuki, Taiji Adachi
Kyoto University, Kyoto, Japan

25P-232 **Stoichiometric constraints alter thermodynamic fates of growing systems**

Atsushi Kamimura, Yuki Sughiyama, Tetsuya J. Kobayashi
The University of Tokyo

Poster Sessions

25P-233 **Information Geometry of Equilibrium and Nonequilibrium Chemical Reaction Networks**

Tetsuya J. Kobayashi, Dimitri Loutchko, Atsushi Kamimura, Shuhei Horiguchi, Yuki Sughiyama

Institute of Industrial Science, The University of Tokyo, Japan/Department of Mathematical Informatics, Graduate School of Information Science and Technology, The University of Tokyo, Japan/Universal Biology Institute, The University of Tokyo, Japan

Ecology & Environment

***25P-234** **Mutual Reinforcement Between Spatial Structure and Species Coexistence in a Living Soil Model**

Riz Fernando Noronha, Kim Sneppen, Kunihiko Kaneko

Niels Bohr Institute, Copenhagen, Denmark

Nonequilibrium state & Biological rhythm

***25P-235** **Mechanism of scaling behavior of an intracellular reaction-diffusion wave in cell-size space**

Sakura Takada, Shunshi Kohyama, Natsuhiko Yoshinaga, Nobuhide Doi, Kei Fujiwara

Dept. of Biosci. and Info., Keio Univ., Yokohama, Japan

25P-236 **Chaotic Oscillations of Sarcomeres within Cardiomyocytes Induced by Calcium Fluctuations: Identification and Physiological Significance of 'S4C'**

Seine A. Shintani

Department of Biomedical Sciences, College of Life and Health Sciences, Chubu University/Center for Mathematical Science and Artificial Intelligence, Chubu University/Institute for Advanced Research, Nagoya University, Nagoya

Measurements

***25P-237** **Quantitative correspondence between drug-response curves in the REMA test measured fluoromerically and colourimetrically**

Alexander V. Sychev, Anastasia Lavrova, Eugene Postnikov

Kursk State University

***25P-238** **Development of a dual-luciferase indicator for 'Mix-and-read' detection of Cu2+**
Ti Wu, Mitsuru Hattori, Takeharu Nagai
SANKEN, Osaka University, Japan/Graduate school of Pharmaceutical Scinences, Osaka University, Japan

***25P-239** **Combined analysis of static and dynamic cell-mechanics with unbiased transcriptomics for thousands of single cells**
Akifumi Shiomi, Taikopaul Kaneko, Kaori Nishikawa, Dino Di Carlo, Hirofumi Shintaku
Cluster for Pioneering Research, RIKEN, Japan/Department of Bioengineering, University of California, USA

25P-240 **Nanoendoscopy-AFM measurement of nuclear stiffness in living different metastatic cancer cells**
Takehiko Ichikawa, Kundan Sivashanmugan, Takeshi Shimi, Kojiro Ishibashi, Takeshi Yoshida, Akiko Kudo, Eishu Hirata, Rikinari Hanayama, Hiroshi Kimura, Takeshi Fukuma
Nano Life Science Institute (WPI-NanoLSI)

25P-241 **Enzyme reaction measurement using graphene biosensors and its application to SARS-CoV-2 detection**
Takao Ono, Yohei Watanabe, Shin-ichi Nakakita, Yasushi Kanai, Naruto Miyakawa, Ayumi Shinagawa, Shota Ushiba, Shinsuke Tani, Yasuo Suzuki, Masahiko Kimura, Daichi Chiba, Kazuhiko Matsumoto
SANKEN, Osaka Univ., Osaka, Japan

25P-242 **Construction 4 channels polarization-dependent fluorescence correlation spectroscopy for detection of protein interaction.**
Masataka Kinjo, Riku Ando, Akira Kitamura
Hokkaido University, Sapporo, Japan.

Bioimaging

***25P-243** **Development of luminescent glucose sensor and its application**
Tanaka Rikuto, Sugiura Kazunori, Hattori Mitsuru, Nagai Takeharu
Graduate School of Frontier Biosciences, Osaka University

Poster Sessions

***25P-244** **Quantitative chemical and physical imaging of heterochromatin in a living cell using Raman-Brillouin microscopy**
Masato Machida, Atsushi Shibata, Kentaro Fujii, Shinji Kajimoto, Takakazu Nakabayashi
Graduate School of Pharmaceutical Sciences, Tohoku University

***25P-245** **Investigating the Mechanical Properties and Dynamics of Focal Adhesions in Living Cells by Nanoendoscopy-AFM Technique**
Alam Mohammad Shahidul, Tetsuya Shirokawa, Takehiko Ichikawa, Clemens M. Franz, Takeshi Fukuma
Nano Life Sicence Institute, Kanazawa University

***25P-246** **Native molecular properties of full-length SARS-CoV-2 Open Reading Frame 6 (ORF6) protein observed using HS-AFM**
Goro Nishide, Keesiang Lim, Maiki Tamura, Akiko Kobayashi, Qingci Zhao, Masaharu Hazawa, Toshio Ando, Noritaka Nishida, Richard W. Wong
Division of Nano Life Science in the Graduate School of Frontier Science Initiative, WISE Program for Nano-Precision Medicine, Science, and Technology Kanazawa University, Kanazawa, Japan

***25P-247** **Shannon entropy and complexity in describing and visualizing the chemical diversity of surrounding cells by mass spectrometry imaging techniques**
Lili Xu, Manabu Machida, Tomoaki Kahyo, Mitsutoshi Setou
Hamamatsu University School of Medicine, Hamamatsu, Japan

***25P-248** **Label-free detection of supersulfides ina living cell using Raman microscopy**
Keisuke Koga, Shinji Kajimoto, Shinya Tahara, Tomohiro Konno, Takakazu Nakabayashi
Graduate School of Pharmaceutical Sciences, Tohoku University

***25P-249** **Mechanical properties of human platelets in biochemical confinement**
Vincent Gidlund, Jan Seifert, Johanna Rodriguez, Carmela Rianna, Tilman E. Schäffer
Institute of Applied Physics, University of Tübingen, Tübingen, Germany

***25P-250** **Oblique Line Scan Illumination Enables Expansive, Accurate and Sensitive Single Protein Measurements in Solution and in Living Cells**
Amine Driouchi, Mason Bretan, Brynmor Davis, Alec Heckert, Markus Seeger, Maité Bradley Silva, William Forrest, Jessica Hsiung, Jiongyi Tan, Hongli Yang, Eric Betzig, Xavier Darzacq, Russ Berman, Daniel Anderson
Eikon Therapeutics

***25P-251** **Characterization of a novel membrane voltage sensor in the bacterial flagellar type III export apparatus**
Sakata Kai, Minamino Tohru, Morimoto Yusuke
Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Inst. Tech., Fukuoka, Japan

25P-252 **Atomic force microscopy (AFM)-based nanoindentation of the RSJ2 Ralstonia phage**
Udom Sae-Ueng, Chooseel Bunsuwansakul, Namthip Phironrit, Christian Nehls
National Science and Technology Development Agency, Pathum Thani, Thailand

25P-254 **Scanning-free functional Fluorescence Microscopy Imaging Toward Spatial Mapping of Biomolecular Information in Live Cell**
Sho Oasa, Aleksandar Krmpot, Stanko Nikolic, Andrew Clayton, Igor Tsigelny, Jean-Pierre Changeux, Lars Terenius, Milivoj Belic, Rudolf Rigler, Vladana Vukojevic
Department of Clinical Neuroscience (CNS), Karolinska Institutet, Stockholm, Sweden

25P-255 **Characteristics of extracellular collagen in cartilage revealed by polarization-resolved second harmonic generation imaging**
Ming-Xin Lee
Institute of Translational Medicine and New Drug Development

Bioengineering

***25P-256** **Exploring Biological Changes in Whole and Serum Blood of Healthy and Diabetic Patients Using Drying Droplets**
Anusuya Pal, Amalesh Gope, Miho Yanagisawa
Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan

Poster Sessions

***25P-257** **Fabrication of a Nanobody-based Ratiometric Bioluminescent Immunosensor for Point-of-care Testing**

Yinghui Yang, Akihito Inoue, Takanobu Yasuda, Hiroshi Ueda, Bo Zhu, Tetsuya Kitaguchi

Graduate School of Life Science and Technology, Tokyo Institute of Technology, Kanagawa, Japan

***25P-258** **High-throughput nano/micro biological particle analyzer with unsupervised denoising for enhanced sensitivity**

Yuichiro Iwamoto, Benjamin Salmon, Yusuke Yoshioka, Bin Xu, Ryosuke Kojima, Alexander Krull, Sadao Ota

The University of Tokyo, Tokyo, Japan

***25P-259** **Multicolor autonomous bioluminescence imaging based on bacterial bioluminescence system**

Subhan Hadi Kusuma, Mitsuru Hattori, Takeharu Nagai

Graduate School of Frontier Bioscience, Osaka University, Japan/SANKEN, Osaka University, Japan

25P-260 **Isolation of novel fluorogenic RNA aptamers via affinity- and fluorescence-based in vitro selection**

Ryo Iizuka, Keisuke Ito, Tomotaka Tayama, Sotaro Uemura

Department of Biological Sciences, Graduate School of Science, The University of Tokyo

Crystal growth & Crystallization technique

***25P-261** **Protein – calixarene crystal engineering**

Niamh Maria Mockler, Kiefer Ramberg, Colin Raston, Peter Crowley

School of Biological and Chemical Sciences, University of Galway, H91 TK33, Galway, Ireland

***25P-262** **Investigation of crystallization of crystallized protein expressed using E. coil**

Yume Kosuge, Koki Kamiya

Graduate School of Science and Technology, Gunma University, Kiryu, Gunma, Japan

Virus structure, function, SARS-CoV-2

***25P-263** **Study of the binding site dynamics, druggability and cryptic pocket formation in different human coronaviruses' main protease (Mpro)**

Ahmed Adel Ezat

Biophysics Department, Faculty of Science, Cairo University, 21613 Giza, Egypt

***25P-264** **Cryo-EM structure of the Borna disease virus 1 RNA-free nucleoprotein complex**

Shinya Goto, Yuya Hirai, Keizo Tomonaga, Takeshi Noda, Masayuki Horie, Yukihiko Sugita

Laboratory of Ultrastructural Virology, Institute for Life and Medical Sciences, Kyoto University/Laboratory of Ultrastructural Virology, Graduate School of Biostudy, Kyoto University

25P-266 **Unraveling the Dynamics of SARS-CoV-2 Spike: From Glycosylation States to Cryptic Pockets and Antibody Binding**

Mohd Firdaus Samsudin, Lorena Zuzic, Palur Raghuvamsi, Aishwary Shivgan, Nikhil Tulsian, Himanshi Chawla, Joel Allen, Max Crispin, Paul MacAry, Ganesh Anand, Peter Bond

Bioinformatics Institute, A*STAR, Singapore

Mechanosensing and Mechanobiology, Biological Temperature

***25P-267** **Development of a high-frequency focused ultrasound system for applying noninvasively localized mechanical stimulation to cells in culture**

Natsumi Fujiwara, Shao Ying Tan, Akira Nagakubo, Masahiro Kino-oka, Hirotsugu Ogi

Graduate School of Engineering, Osaka University, Japan

25P-268 **Force transmission by retrograde actin flow-induced dynamic stretching of Talin**

Sawako Yamashiro, David Rutkowski, Kelli Ann Lynch, Ying Liu, Dimitrios Vavylonis, Naoki Watanabe

Laboratory of Single-Molecule Cell Biology, Kyoto University Graduate School of Biostudies, Kyoto, Japan/Department of Pharmacology, Kyoto University Graduate School of Medicine, Kyoto, Japan

Poster Sessions

25P-269 **Modulating E-Cadherin Engagement to Alter Cell Junctional Tension in Spheroids**

Seongho Kim, Isaac T.S. Li
Department of Chemistry, The University of British Columbia, Canada

Biophysics of disease

***25P-270** **Opportunities of Raman spectroscopy in pulmonary arterial hypertension**

Elvin Suleyman oglu Allakhverdiev, Olga Slatinskaya, Oleg Rodnenkov, Tamila Martynyuk, Georgy Maksimov
National Medical Research Center of Cardiology named after academician E.I. Chazov of Ministry of Health of the Russian Federation

***25P-271** **Exploring Dapagliflozin Therapy Effects on Nanomechanics and Morphology of Red Blood Cells in Type I Diabetes Mellitus**

Patrycja Lidia Twardawa, Bartłomiej Matejko, Agata Kubisiak, Katarzyna Cyranka, Tomasz Klupa, Marta Targosz-Korecka
Jagiellonian University, Faculty of Physics, Astronomy and Applied Computer Science, M. Smoluchowski Institute of Physics, Kraków, Poland/Jagiellonian University, Doctoral School of Exact and Natural Sciences, Kraków, Poland

25P-272 **Opposite effects of extracellular chloride and pH on closely related ClC-6 and ClC-7 transporters suggest non-overlapping function in endo-lysosomes**

Maria Antonietta Coppola, Paola Gavazzo, Ilaria Zanardi, Abraham Tettey-Matey, Antonella Liantonio, Paola Imbrici, Peying Fong, Michael Pusch
Institute of Biophysics, CNR, Genoa, Italy

Miscellaneous topics

***25P-273** **Structural and Magneto Absorption Study of Hard and Soft Ferrite**

Usha Praveena V J
Department of Physics, St. Francis College for Women, Hyderabad-500 016, Telangana, India

25P-274 FUNCTIONALIZED CNT AND ACTIVATED CARBON

Shikha Chander, Meenu Mangal

St. Francis Degree & Postgraduate Women's College, Begumpet 500016, Hyderabad, Telangana, India

Single Molecule Biophysics

25P-275 Quantifying ligand binding kinetics in G-quadruplex DNA with fluorescence lifetime correlation analyses

Chao-Han Cheng, Chih-Chieh Ko, Yong-Zhan Hong, Chung-Chieh Wu

Department of Applied Chemistry, National Pingtung University, Pingtung, Taiwan

Cell biology: Motility

25P-276 Inference of cellular traction forces using temporal information

Kazuko Hamaoka, Hirokazu Tanimoto

Grad. Sch. Nanobioscience, Yokohama City Univ.

Computational biology: Molecular simulation

25P-277 Secondary Proton Transfer in the Qo Site of Cytochrome bc1

Guilherme M. Arantes, Sofia Camilo

Department of Biochemistry, Instituto de Quimica, Universidade de Sao Paulo, Brazil

Computational biology: Biological modeling and simulation

25P-278 Phase-field model of Dictyostelium fruiting body formation

Seiya Nishikawa, Satoshi Kuwana, Gen Honda, Satoshi Sawai, Shuji Ishihara

Graduate School of Arts and Sciences, University of Tokyo

25P-279 Topography-mediated cell communication

Aleksandra Ardaševa, Varun Venkatesh, Daiki Matsunaga, Shinji Deguchi, Amin Doostmohammadi

Niels Bohr Institute, University of Copenhagen, Denmark

Poster Sessions

Mathematical & Theoretical biology

25P-280 **Latecomer Killing: Elaborate Response in Yeast Communities**

Tetsuhiro S. Hatakeyama, Kunihiko Kaneko, Kunihiro Ohta, Miki Tamura, Arisa Oda

Earth Life Science Institute (ELSI), Tokyo Institute of Technology

Biophysics of disease

25P-281 **Reinstating heart rate variability improves cardiac output in heart failure - novel insights from proteomics**

David Crossman, George Guo, Julia Shanks, Jizhong Bai, Martin Middleditch, Gus Grey, Julian Paton, Rohit Ramchandra

Manaaki Manawa—The Centre for Heart Research, Department of Physiology, University of Auckland, 85 Park Road, Grafton, Auckland, 1023, New Zealand

25P-282 **Development of the two-fingered microhand and micro fluidic system for measuring the mechanical properties of cell**

Masaru Kojima, Masahiro Totani, Masahiro Kawakami, Toshihiko Ogura, Tatsuo Arai

Osaka University

25P-283 **Targeting Retinal Angiogenesis: Potential of AT11-L0 Aptamer for Drug Delivery**

David Moreira, Jessica Lopes-Nunes, Fátima Santos, Maria Oliveira, António Paulo, Maria Campello, Carla Cruz, Cândida Ascensão Teixeira Tomaz

Departamento de Química, Universidade da Beira Interior, Covilhã, Portugal/CICS-UBI—Health Sciences Research Centre, Universidade da Beira Interior, Covilhã, Portugal