

Program

Day 1: November 12 (Wed)

9:55-10:00	Opening Remarks for the Main Sessions		
10:00-10:15	Oral Presentations Chair: Yoshiaki Kitamura Gifu University	10-01	Shining Light on Life: Designing Emissive Nucleic Acids for Biomolecular Insight Tomotaka Kumagai,¹ Tatum Melati Andini,² Hiroshi Sugiyama,³ <u>Soyoung Park</u>^{4*} ¹ Department of Chemistry, Graduate School of Science, Kyoto University, ² Research Institute for Microbial Diseases (RIMD), The University of Osaka, ³ Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University, ⁴ Immunology Frontier Research Center (IFReC), The University of Osaka
10:15-10:30		10-02	Crystal structure of 28-silver-atom nanocluster stabilized by DNA <u>Hiroki Kanazawa</u>,¹ Giacomo Romolini,² Cecilia Cerretani,² Jiro Kondo,^{1*} Tom Vosch^{2*} ¹ Department of Materials and Life Sciences, Sophia University, ² Department of Chemistry, University of Copenhagen
10:30-10:45		10-03	Characterization of Glycidamide-adducted Bases in DNA <u>Shigenori Iwai</u>,^{1-3*} Yumi Miyake,⁴ Masayuki Yokoi,² Jun-ichi Akagi⁵ ¹ Graduate School of Engineering Science, The University of Osaka, ² Biosignal Research Center, Kobe University, ³ Frontiers of Innovative Research in Science and Technology, Konan University, ⁴ Forefront Research Center, Graduate School of Science, The University of Osaka, ⁵ National Institute of Health Sciences
10:45-11:25	Invited Lecture Chair: Kenzo Fujimoto Japan Advanced Institute of Science and Technology (JAIST)	IL-01	Development of tissue-specific DNA nanostructures and their applications for drug delivery <u>Dae-Ro Ahn</u>[*] Chemical and Biological Integrative Research Center, Korea Institute of Science and Technology (KIST)
11:25-11:40	Break		
11:40-11:55	Oral Presentations Chair: Takehiko Wada Tohoku University	10-04	Stereocontrolled synthesis of boranophosphate DNAs by using an oxazaphospholidine approach without nucleobase protection <u>Tomoki Kameya</u>, Keisuke Sudo, Ryouta Kasahara, Kiyoshi Kakuta, Kazuki Sato, Takeshi Wada[*] Department of Medicinal and Life Sciences, Faculty of Pharmaceutical Sciences, Tokyo University of Science
11:55-12:10		10-05	Automated Multi-Trimer Incorporation for Combinatorial DNA Encoding Using MAS Photolithographic DNA Synthesis for Scalable Data Storage <u>Hamed Sabzalipoor</u>,¹ Sharon Istvanffy,¹ Roy Shafir,² Ben Galili,^{2,3} Eitan Yaakobi,^{2,3} Mark Somoza^{1,4} ¹ LSB at Technical University of Munich, ² Technion - Israel Institute of Technology, ³ School of Computer Science, Reichman University, ⁴ University of Vienna, Department of Inorganic Chemistry

12:10-12:25		10-06	Backbone Conformational Entropy of Nucleic Acid Duplexes as the Fundamental Determinant of their Functions <u>Lutan Liu</u> , ¹ Shuntaro Takahashi, ^{1,2*} Marko Trajkovski, ³ Janez Plavec, ³ Naoki Sugimoto ^{1*} ¹ Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ² Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, ³ Slovenian NMR Center, National Institute of Chemistry
12:25-12:40		10-07	Machine Learning and High-Quality Biophysical Techniques Boost Discovery of SAR-Tractable RNA-Targeted Small Molecules <u>Haruhiko Hattori</u> , ¹ Maina Otsu, ¹ Mebuki Narahara, ¹ Koji Imai, ¹ Jiro Kondo, ² Amiu Shino, ¹ Ella Czarina Morishita, ¹ ¹ Veritas In Silico Inc., ² Department of Materials and Life Sciences, Faculty of Science and Technology, Sophia University
12:40-14:00	Lunch Break		
14:00-15:30	Poster Presentations (1P-n)		
15:30-16:10	Invited Lecture Chair: Hirohide Saito The University of Tokyo	IL-02	Structural mechanism of bridge editing by IS110 family recombinases <u>Hiroshi Nishimasu</u> ^{1,2} ¹ Structural Biology Division, Research Center for Advanced Science and Technology, The University of Tokyo, ² Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo
16:10-16:25	Oral Presentations Chair: Fumi Nagatsugi Tohoku University	10-08	Deciphering chemical cues of 5-formylcytosine in nucleosome repositioning <u>Takafumi Furuhashi</u> , Yijing Lin, Genki Hino, Akimitsu Okamoto* Graduate School of Engineering, The University of Tokyo
16:25-16:40		10-09	Sequence-Specific Minor Groove Binders in Labeling and Single-Molecule Analysis of DNA <u>Xiong Chen</u> , ¹ Sergey Abakumov, ¹ Moa Sandberg Wranne, ² Vince Goyvaerts, ¹ Milena Helmer Lauer, ¹ Jana Rubberecht, ¹ Taoufik Rohand, ³ Volker Leen, ⁴ Fredrik Westerlund, ² and Johan Hofkens ^{1,5,*} ¹ Department of Chemistry, KU Leuven, ² Department of Life Sciences, Chalmers University of Technology, ³ Laboratory of Molecular Chemistry, Materials and Environment (LCM2E), Department of Chemistry, Multidisciplinary Faculty of Nador, University Mohammed I, ⁴ Chrometra, ⁵ Max Planck Institute for Polymer Research
16:40-16:55		10-10	New Antigene Tool Using Psoralen: Stable Triplex Formation and Photocrosslinking at Challenging Sites <u>Yu Mikame</u> ,* Asako Yamayoshi* Department of Life Science and Technology, Institute of Science Tokyo
16:55-17:10	Break		
17:10-17:50	Invited Lecture Chair: Takeshi Wada Tokyo University of Science	IL-03	Conjugation of Small Molecules and Proteins to Oligonucleotides <u>Kurt V. Gothelf</u> ^{1,2*} ¹ iNANO, Aarhus University, ² Department of Chemistry, Aarhus

			University
17:50-18:05	Oral Presentations Chair: Masato Katahira Kyoto University	10-11	NMR-based rational drug design of a novel mismatch binding ligand using the intermediate structure <u>Shuhei Sakurabayashi</u> , ^{1,2,3} Kyoko Furuita, ² Takeshi Yamada, ³ Noriaki Sugiura, ³ Makoto Nomura, ⁴ Takanori Nakane, ² Akihiro Kawamoto, ² Genji Kurisu, ² Yohei Miyanoiri, ² Toshimichi Fujiwara, ² Kazuhiko Nakatani, ^{2*} Chojiro Kojima ^{1,2,4*} ¹ Graduate School of Engineering Science, Yokohama National University, ² Institute for Protein Research, Osaka University, ³ Department of Regulatory Bioorganic Chemistry, SANKEN, Osaka University, ⁴ Graduate School of Biological Sciences, Nara Institute of Science and Technology
18:05-18:20		10-12	A click-to-release strategy in nucleic acids: manipulating DNA and RNA structures for biological and biomedical applications <u>Shiyu Wang</u> , Hisao Saneyoshi, Yan Xu* Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki
18:20-18:35		10-13	DNA Recording by Chemical Synthesis for Highly Pure DNA-Encoded <i>N</i>-Methyl Peptide <u>Masumi Shirakawa</u> , ¹ Jumpei Morimoto, ¹ Shinsuke Sando ^{1,2,*} ¹ Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo, ² Department of Bioengineering, Graduate School of Engineering, The University of Tokyo
18:35-18:50		10-14	Polymorphic secondary DNA structures in the regulatory promotor region of the insulin gene affect glucose responsiveness <u>Dilek Guneri</u> , ¹ Yiliang Ding, ² Tim Craggs, ³ Steven S. Smith, ⁴ Christopher J. Morris, ¹ Zoë A. E. Waller ^{1*} ¹ School of Pharmacy, University College London, ² John Innes Centre, Department of Cell and Developmental Biology, ³ The University of Sheffield, Department of Chemistry, ⁴ City of Hope National Medical Center, Department of Stem Cell Biology and Regenerative Medicine

Day 2: November 13 (Thu)

10:00-10:15	Oral Presentations Chair: Hiromu Kashida Nagoya University	2O-01	Synthesis and preclinical development of LAVR-289, a highly potent broad-spectrum antiviral acyclic nucleoside phosphonate <u>Luigi A Agrofoglio</u> Institute of Organic and Analytical Chemistry (ICOA UMR 7311), University of Orleans
10:15-10:30		2O-02	Generalized synthesis and anti-trypanosomal evaluation of 6-functionalized C-nucleoside compound libraries <u>Ewout Van de Velde</u> , ¹ Anouk Van Hauwermeiren, ¹ Lisa Marriottini, ¹ An Mattheussen, ² Natasha Van Pelt, ² Guy Caljon, ² Serge Van Calenbergh ^{1*} ¹ Ghent University, Faculty of Pharmaceutical Sciences, Laboratory for Medicinal Chemistry, ² University of Antwerp, Faculty of Pharmaceutical, Biomedical and Veterinary Sciences, Laboratory of Microbiology, Parasitology and Hygiene.
10:30-10:45		2O-03	Evaluation of RNA-binding property of amiloride using a multiplexed RNA structure library <u>Kosuke Tsuzuki</u> , ^{1,2} Kazumitsu Onizuka, ^{1,2*} Ryosuke Nagasawa, ^{1,2} Emi Miyashita, ³ Kaoru R. Komatsu, ³ Momo Okada, ⁴ Jiro Kondo, ⁴ Hirohide Saito, ³ Fumi Nagatsugi ^{1,2*} ¹ IMRAM, Tohoku University, ² Graduate School of Science, Tohoku University, ³ CIRA, Kyoto University, ⁴ Department of Materials and Life Sciences, Sophia University
10:45-11:00		2O-04	Affinity/Reactivity-based Co-selection of Covalent DNA Aptamers (ARCaDia) <u>Masumi Taki</u> ^{1,2*} ¹ Department of Engineering Science, The Graduate School of Informatics and Engineering, The University of Electro-Communications (UEC), ² Institute for Advanced Science, UEC
11:00-11:15	Break		
11:15-11:55	Invited Lecture Chair: Yohei Yokobayashi Okinawa Institute of Science and Technology (OIST)	IL-04	Molecular architectures, mechanisms and applications of RNA-alkylating ribozymes Hsuan-Ai Chen, ¹ Takumi Okuda, ¹ Carolin Scheitl, ¹ Manisha Walunj, ¹ Evgeniia Dorinova, ¹ Tina Jungnickel, ¹ <u>Claudia Höbartner</u> ^{1,2,*} ¹ Institute of Organic Chemistry, University Würzburg, ² Center for Nanosystems Chemistry, University Würzburg
11:55-12:35	Invited Lecture Chair: Naoki Sugimoto Konan University	IL-05	Genome Therapy: A New Approach for Tumor Growth Inhibition <u>Zhen Xi</u> [*] State Key Laboratory of Elemento-Organic Chemistry and Department of Chemical Biology, National Pesticide Engineering Research Center, Collaborative Innovation Center of Chemical Science and Engineering, College of Chemistry, Nankai University
12:35-14:00	Lunch Break		
14:00-15:30	Poster Presentations (2P-n)		
15:30-15:45	Oral Presentations Chair: Hisae Tateishi-Karimata	2O-05	Studies on the Effects of Junction Positions and Compositions of Chimeric Artificial Nucleic Acids (CANAs) on Complex Stabilities, Cleavage

	Konan University		Efficiency with Target RNA, and Functions in Cell Experiments <u>Takehiko Wada</u> , ^{1,2} Bui Hieu Trong, ¹ Kazutoshi Fujita, ¹ Nozomu Ishiwata, ¹ Masahito Inagaki, ³ Hironori Hayashi, ^{4,5} Mitsuyo Matsumoto, ¹ Yasuyuki Araki, ¹ Eiichi Kodama, ^{4,5} ¹ Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University, ² The Advanced Research Center for Innovations in Next-Generation Medicine (INGEM), Tohoku University, ³ Graduate School of Science, Nagoya University, ⁴ IRiDeS, Tohoku University, ⁵ Graduate School of Medicine, Tohoku University
15:45-16:00		2O-06	Nonenzymatic Primer Extension of Acyclic Xeno Nucleic Acids Using Chemical Ligation <u>Keiji Murayama</u> , ^{1*} Hikari Okita, ² Hiroyuki Asanuma ^{1*} ¹ Graduate School of Engineering, Nagoya, ² Institute of Integrated Research, Institute of Science Tokyo
16:00-16:15		2O-07	Chemically Modified mRNA based on Complete Chemical Synthesis for Enhanced Translation and Stability <u>Yasuaki Kimura</u> , ^{1*} Hiroto Iwai, ² Masakazu Honma, ² Hiroki Yamada, ² Kosuke Nakamoto, ¹ Masahito Inagaki, ¹ Fumitaka Hashiya, ¹ Naoko Abe, ¹ Junichiro Yamamoto, ^{2*} Hiroshi Abe, ^{1,3*} ¹ Graduate School of Science, Nagoya University, ² Research Unit, Research Division, Kyowa Kirin Co., Ltd, ³ Institute for Glyco-core Research (iGCORE), Nagoya University
16:15-16:30		2O-08	Light-Inducible Single-Molecule Platform to Visualize Nonsense-Mediated mRNA Decay <u>Md. Dobirul Islam</u> , ¹ Noriyuki Kodera, ² Hikaru Ichida, ² Hiroki Konno, ² Hanae Sato ^{1*} ¹ Life science, ² Nanometrology, Nano Life Science Institute (WPI-NanoLSI), Kanazawa University
16:30-17:30	JASNAC General Meeting		
17:30-18:00	Special Lecture 1 Chair: Toshihiro Ihara Kumamoto University	SL-01	Gene analysis and anticancer drug based on DNA threading intercalator <u>Shigeori Takenaka</u> [*] Department of Applied Chemistry, Kyushu Institute of Technology
18:00-18:30	Special Lecture 2 Chair: Akimitsu Okamoto University of Tokyo	SL-02	Chemical biology research on dynamic nucleic acid structures and small molecule interactions <u>Kazuhiko Nakatani</u> [*] SANKEN, The University of Osaka
18:30-19:00	Special Lecture 3 Chair: Asako Yamayoshi Institute of Science Tokyo	SL-03	Functional fusion of nucleic acids and peptides towards regulation of genetic expression <u>Masayuki Fujii</u> [*] Graduate School of Integrated Science and Technology, Nagasaki University
19:00-19:15	Transit		
19:15-21:15	Exchange meeting at ANA Crowne Plaza Hotel		

Day 3: November 14 (Fri)

9:45 -9:55	Oral Presentations Chair: Shigenori Iwai University of Osaka	3O-01	Crystallographic capturing of the intermediate state of the hOGG1 mutant-DNA complex: Mechanistic insight <u>Yoshiyuki Tanaka</u>,^{1*} Masayuki Morikawa,¹ Yoshikazu Hattori,¹ Kiriko Zaha,¹ Mizuki Fujimoto,¹ Kota Sakano,¹ Katsuyuki Nakashima,¹ Yasuko Okamoto,¹ Vladimír Sychrovský,² Mami Shimizu,³ Masaki Unno³ ¹ Faculty of Pharmaceutical Sciences, Tokushima Bunri University, ² Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, ³ Graduate School of Science and Engineering, Ibaraki University
9:55-10:10		3O-02	Damaged DNA in Food Finds Its Way to Human Genome <u>Yong Woong Jun</u>* Department of Chemistry, Korea Advanced Institute of Science and Technology (KAIST)
10:10-10:25	Oral Presentations Chair: Kiyohiko Kawai Institute of Science Tokyo	3O-03	An Oligonucleotide Anchor Platform for Rapid Exosome Modification: Dual-Function Uptake Control & Enhanced Targeting Christopher Blum, <u>Subha R. Das</u>* Department of Chemistry and Center for Nucleic Acids Science & Technology, Carnegie Mellon University
10:25-10:40		3O-04	The effect of negative supercoiling DNA on the phase separation <u>Ryusei Senda</u>,¹ Ryu Tashiro,² Satoru Nagatoishi,³ Kouhei Tsumoto,³ Shinnosuke Kawai,^{1*} Takanori Oyoshi^{1,4,5*} ¹ Graduate School of Integrated Science and Technology, Shizuoka University, ² Faculty of Pharmaceutical Sciences, Suzuka University of Medical Science, ³ Graduate School of Engineering, The University of Tokyo, ⁴ Graduate School of Science and Technology, Shizuoka University, ⁵ Research Institute of Green Science and Technology, Shizuoka University
10:40-10:55		3O-05	Structural change of regenerated DNA fibers derived from salmon milt during uniaxial stretching <u>Hayato Nakamura</u> and Kenjiro Yazawa* Division of Textile Science, Graduate School of Science and Technology, Shinshu University
10:55-11:10		3O-06	Reversible control of nucleic acid structures and functions via host-guest interaction Hidenori Okamura,^{1,2,3*} Takeyuki Yao,^{2,3} Yosuke Taniguchi,¹ Fumi Nagatsugi^{2,3*} ¹ Faculty of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, ² Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ³ Department of Chemistry, Graduate School of Science, Tohoku University
11:10-11:25	Break		
11:25-11:40	Oral Presentations Chair: Daisuke Miyoshi	3O-07	Can left-handed triplex structure form involving a Z-DNA duplex and a third ssDNA strand? Mingqing Zhong,¹ Xiaoge Ding,¹ Shiyuan Shi,¹

	Konan University		Mengqin Liu,¹ Shuang Wang,^{1,2} Ran An,^{1,2} <u>Xingguo Liang</u>^{1,2*} ¹ State Key Laboratory of Marine Food Processing and Safety Control, College of Food Science and Engineering, Ocean University of China, ² Laboratory for Marine Drugs and Bioproducts, Qingdao Marine Science and Technology Center
11:40-11:55		3O-08	Split G-triplex/hemin complex as a novel split DNAzyme with peroxidase-like activity for nucleic acid detection <u>Hidetaka Torigoe,</u> [*] Ryo Akiba Graduate School of Science, Tokyo University of Science
11:55-12:10		3O-09	Structural insights into a DNA–RNA hybrid G-quadruplex and its interactions with ligands <u>Yudai Yamaoki,</u> ^{1,2} Kensei Horie, ^{1,2} Taisei Masunaga, ^{1,2} Chihiro Nakayama, ^{1,2} Keiko Kondo, ^{1,2} Takashi Nagata, ^{1,2} Masato Katahira, ^{1,2*} ¹ Institute of Advanced Energy, and ² Graduate School of Energy Science, Kyoto University
12:10-12:25		3O-10	AND-Gated Functional DNA for Plasma Membrane Recruitment: Activated by Mildly Acidic pH and Oxidative Stress <u>Tatsuya Nishihara,</u> [*] Yui Kurozumi, Risa Yamada, Daichi Oka, Kazuhito Tanabe [*] College of Science and Engineering, Aoyama Gakuin University
12:25-12:30	Closing Remarks for the Main Sessions		