

Program

Day 1: September 27 (Tue)

9:00-9:15	Oral Presentations Chair: Kazushige Yamana Univ. of Hyogo	10-01 Pinpoint modification of 6-NH ₂ of the adenine in RNA by the functionality transfer oligonucleotides and its impact on reverse-transcription and translation <u>Ikuya Oshiro</u> , Daichi Jitsuzaki, Takuya Matsumoto, Yosuke Taniguchi, Shigeki Sasaki Graduate school of pharmaceutical sciences, Kyushu university
9:15-9:30		10-02 Novel function of tRNA: A regulator of oncogenes expression through switching hairpin-G-quadruplex equilibrium <u>Ambadas B Rode</u> ¹⁾ , Tamaki Endoh ¹⁾ , Naoki Sugimoto ¹⁾²⁾ 1) Frontier Institute for Biomolecular Engineering Research(FIBER), Konan University, Kobe, Japan, 2) Graduate School of Frontiers of Innovative Research in Science and Technology(FIRST), Konan University, Kobe, Japan
9:30-9:45		10-03 In vitro selection of pre-miR-29a loop mutant against the cyclic mismatch binding ligand(CMBL) <u>Sanjukta Mukherjee</u> , Asako Murata, Kazuhiko Nakatani Department of Regulatory Bioorganic Chemistry, ISIR, Osaka University
9:45-10:00		10-04 An anti-parallel RNA G-quadruplex induced by specific incorporation of 8-bromoguanosine <u>Chao-da Xiao</u> , Takumi Ishizuka, Yan Xu Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki
10:00-10:15	Break	
10:15-10:55	Invited Lecture Chair: Mitsuo Sekine Tokyo Inst. of Tech.	11L-01 Oligonucleotide Synthesis Interfaced with Molecular Biology <u>Marvin H. Caruthers</u> Department of Chemistry and Biochemistry, University of Colorado
10:55-11:10	Oral Presentations Chair: Yuichi Ohya Kansai Univ.	10-05 Evaluation of orthogonal modular adaptors for assembling proteins on DNA scaffold <u>Thang Minh Nguyen</u> , Eiji Nakata, Masayuki Saimura, Takashi Morii Institute of Advanced Energy, Kyoto University
11:10-11:25		10-06 Enhanced strand invasion into double-stranded DNA by PNA-NLS peptide conjugates <u>Yuichiro Aiba</u> ¹⁾ , Gerardo Urbina ¹⁾ , Yoshihito Watanabe ²⁾ 1) Department of Chemistry, Graduate School of Science, Nagoya University, 2) Research Center for Materials Science, Nagoya University
11:25-11:40	Break	
11:40-12:20	Invited Lecture Chair: Shigeori Takenaka Kyushu Inst. of Tech.	11L-02 Plasmonics Enhanced Spectroscopic and Electrochemical Bioanalysis <u>Xing-Hua Xia</u> State Key Lab of Analytical Chemistry for Life Science, School of Chemistry and Chemical Engineering, Nanjing University

12:20-12:35	Oral Presentations Chair: Shinsuke Sando Univ. of Tokyo	10-07 Structural optimization of pseudorotaxane-forming oligo DNA targeting on nucleic acids <u>Kazumitsu Onizuka</u> , Takuya Miyashita, Fumi Nagatsugi Institute of Multidisciplinary Research for Advanced Materials, Tohoku University
12:35-12:50		10-08 Non-coding RNA/DNA recognition by TLS/FUS that causes repression of <i>cyclin D1</i> transcription and telomere elongation <u>Keiko Kondo</u> ¹⁾ , Tsukasa Mashima ¹⁾²⁾ , Takanori Oyoshi ³⁾ , Ryoma Yoneda ⁴⁾ , Riki Kurokawa ⁴⁾ , Takashi Nagata ¹⁾²⁾ , Masato Katahira ¹⁾²⁾ 1) Institute of Advanced Energy, Kyoto University, 2) Graduate School of Energy Science, Kyoto University, 3) Department of Chemistry, Shizuoka University, 4) Research Center of Genomic Medicine, Saitama Medical University
12:50-13:50	Lunch Break	
13:50-15:20	Poster Presentations (1P-n)	
15:20-15:35	Oral Presentations Chair: Takeshi Wada Tokyo Univ. of Sci.	10-09 Base-resolution analysis of 5-hydroxymethylcytosine by peroxotungstate-mediated oxidative C-to-T conversion <u>Gosuke Hayashi</u> ¹⁾ , Kenta Koyama ¹⁾ , Akimitsu Okamoto ¹⁾²⁾ 1) Department of Chemistry and Biotechnology, The University of Tokyo, 2) RCAST, The University of Tokyo
15:35-15:50		10-10 Deformability analysis of chemically modified RNA and its applicability for estimation of RNA duplex stability <u>Yoshiaki Masaki</u> , Ryuta Miyasaka, Keishi Yamamoto, Keita Yoshida, Akihiro Ohkubo, Mitsuo Sekine, Kohji Seio Department of Life Science and Technology, Tokyo Institute of Technology
15:50-16:30	Invited Lecture Chair: Shigeki Sasaki Kyushu Univ.	11L-03 A Novel Polysaccharide Carrier for Immuno-Controlling Therapeutic Oligonucleotides to Antigen Presenting Cells <u>Kazuo Sakurai</u> , Shinichi Mochizuki Department of Chemistry and Biochemistry, University of Kitakyushu
16:30-16:45	Break	
16:45-17:25	Invited Lecture Chair: Toshihiro Ihara Kumamoto Univ.	11L-04 The Molecular Foundation of Cancer: A Chemical Biology Approach <u>Weihong Tan</u> ¹⁾²⁾ 1) Molecular Science and Biomedicine Laboratory, State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, College of Biology, and Collaborative Innovation Center for Molecular Engineering and Theranostics, Hunan University, 2) Department of Chemistry and Dept. of Physiology Functional Genomics, Health Cancer Center and Center for Research at the Interface of Bio/nano, H. Lee Moffitt Cancer Center & Research Institute, UF Genetics Institute and McKnight Brain Institute, University of Florida

17:25-17:40	Oral Presentations Chair: Junji Kawakami Konan Univ.	10-11 Highly sensitive electrochemical microRNAs sensor based on triple signal amplification strategy <u>Qingming Shen</u> ¹⁾ , Mengxing Fan ¹⁾ , Yin Yang ²⁾ , Hui Zhang ²⁾ 1) Institute of Advanced Materials, Nanjing University of Posts & Telecommunications, 2) College of Chemistry and Materials Science, Nanjing Normal University
17:40-17:55		10-12 Evaluation of exon 23 skipping in <i>Dmd</i> gene transcript using LNA-modified antisense oligonucleotides <i>in vitro</i> and <i>in vivo</i> <u>Rakesh Naduvile Veedu</u> ¹⁾ , Abbie Adams ¹⁾ , Susan Fletcher ¹⁾ , Tri Le Bao ¹⁾ , Arun Shastry ¹⁾ , Jesper Wengel ²⁾ , Steve D Wilton ¹⁾ 1) Centre for Comparative Genomics, Murdoch University & Western Australian Neuroscience Research Institute, 2) Nucleic Acid Center, University of Southern Denmark, Odense M, 5230, Denmark

Day 2: September 28 (Wed)

9:00-9:15	Oral Presentations Chair: Noriaki Minakawa Tokushima Univ.	20-01 EFdA: A Supremely Excellent Anti-HIV Active Nucleoside-Design, Synthesis and Biological Activity- <u>Hiroshi Ohrui</u> Yokohama University of Pharmacy
9:15-9:30		20-02 Development of pro-drug type oligonucleotide medicines which are deprotectable in cells <u>Akira Ono</u> , Yuki Hiyoshi, Kazuhiko Kondo, Koich Iketani, Kanami Shimamura, Hisao Saneyoshi Department of material & life chemistry, Faculty of engineering, Kanagawa University
9:30-9:45		20-03 Creation of Ischemia-Specific Oligonucleotide Therapeutics System with Intracellular Environmental Condition - Responsive Peptide Ribonucleic Acids (PRNAs) <u>Takehiko Wada</u> ¹⁾ , Ryohei Uematsu ¹⁾ , Mitsuo Asai ¹⁾ , Masahito Inagaki ¹⁾ , Hiroka Sugai ¹⁾ , Yasuyuki Araki ¹⁾ , Seiji Sakamoto ¹⁾ , Satoru Ishibashi ²⁾ , Takanori Yokota ²⁾ 1) IMRAM, Tohoku University, 2) Department of Neurology and Neurological Science, Tokyo Medical Dental University
9:45-10:00		20-04 Advances in high-throughput ribozyme assay based on deep sequencing <u>Yohei Yokobayashi</u> , Shungo Kobori Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology
10:00-10:15	Break	
10:15-10:55	Invited Lecture Chair: Kazuo Shinozuka Gunma Univ.	2IL-01 TINA-DNA Assemblies in Biomedical and Fluorescence Applications <u>Vyacheslav V. Filichev</u> Institute of Fundamental Sciences, Massey University, Palmerston North, New Zealand
10:55-11:10		20-05 Development of an AND-gate ribozyme that responds to metabolite and RNA inputs <u>Shigeyoshi Matsumura</u> , Takuto Naito, Yoshiya Ikawa Graduate School of Science and Engineering, University of Toyama
11:10-11:25		20-06 Enhancement of DNzyme and MNzyme activity with cationic copolymers <u>Atsushi Maruyama</u> , Ken Saito, Tomoya Oyanagi, Jueyuan Gao, Naohiko Shimada Department of Life Science and Technology, Tokyo Institute of Technology
11:25-11:40	Break	
11:40-12:20	Invited Lecture Chair: Naoki Sugimoto Konan Univ.	2IL-02 Structure and Function of DNA G-quadruplexes and Its Potential as Anticancer Drug Target <u>Danzhou Yang</u> ¹⁾²⁾ 1) Medicinal Chemistry and Molecular Pharmacology, College of Pharmacy, Purdue University, 2) Purdue Center for Cancer Research

12:20-12:35	Oral Presentations Chair: Takashi Morii Kyoto Univ.	20-07 Novel miRNA targeting peptidyl oligonucleotide conjugates <u>Marina A Zenkova</u> ¹⁾ , Olga A. Patutina ¹⁾ , Yaroslav Yu. Staroselets ¹⁾ , Nadejda L. Mironova ¹⁾ , Elena V. Bichenkova ²⁾ , Linda Trivoluzzi ²⁾ , Richard Bryce ²⁾ , Valentin V. Vlassov ¹⁾ 1) Laboratory of nucleic acids biochemistry, Institute of chemical biology and fundamental medicine, SB RAS, 2) School of Pharmacy and Pharmaceutical Sciences, University of Manchester, Manchester, UK
12:35-12:50		20-08 Sequence specific detection and visualization of dengue viral RNA-protein complex by peptide nucleic acid <u>Kunihiro Kaihatsu</u> , Emi Harada, Hiroyo Matsumura, Aya Takenaka, Nobuo Kato The Institute of Scientific and Industrial Research, Osaka University
12:50-13:50	Lunch Break Lunchon Seminar Sponsored by ChemGenes	
13:50-15:20	Poster Presentations (2P-n)	
15:20-15:35	Oral Presentations Chair: Akimitsu Okamoto Univ. of Tokyo	20-09 Synthetic growth factors based on functional oligonucleotides <u>Ryosuke Ueki</u> , Shinsuke Sando Department of Chemistry and Biotechnology, The University of Tokyo
15:35-15:50		20-10 Structural analyses of nicked and gapped DNA duplexes by using orientation dependence of FRET <u>Hiromu Kashida</u> ¹⁾²⁾ , Ayako Kurihara ¹⁾ , Hiroyuki Asanuma ¹⁾ 1) Graduate School of Engineering, Nagoya University, 2) PRESTO, JST
15:50-16:05		20-11 Study of cyclic perylene diimides derivatives as a new type of tetraplex DNA binder <u>Shigeori Takenaka</u> ¹⁾²⁾ , Fuminori Takenaka ¹⁾ , Shinobu Sato ¹⁾²⁾ 1) Department of Applied Chemistry, Kyushu Institute of Technology, 2) Research Center for Bio-microsensing Technology, Kyushu Institute of Technology
16:05-16:45	Invited Lecture Chair: Fumi Nagatsugi Tohoku Univ.	2IL-03 Discovery and Cellular Delivery of Ligands that Bind the DNA and RNA that Cause Disease <u>Steven C. Zimmerman</u> , Long M. Luu, Lien T. Nguyen, Yugang Bai Department of Chemistry, University of Illinois
16:45-17:00	Break	
17:00-18:00	Briefing on the new scientific society of nucleic acids chemistry	
19:00-	Exchange Meeting	Reception at Kumamoto Hotel Castle

Day 3: September 29 (Thu)

9:00-9:15	Oral Presentations Chair: Takehiko Wada Tohoku Univ.	30-01 Development of super-sensitive fluorescent probe composed of SNA for monitoring of RNA in living cell <u>Keiji Murayama</u> ¹⁾ , Yukiko Kamiya ¹⁾ , Hiromu Kashida ¹⁾²⁾ , Hiroyuki Asanuma ¹⁾ 1) Graduate School of Engineering, Nagoya University, 2) JST-PRESTO
9:15-9:30		30-02 Photocurrent enhancement by a localized electric field induced on DNA-modified electrodes with gold nanoparticles <u>Tadao Takada</u> , Kazue Syunori, Mitsunobu Nakamura, Kazushige Yamana Department of Applied Chemistry, University of Hyogo
9:30-9:45		30-03 Conformational Changes of DNA Monitored by Controlling the Fluorescence Blinking <u>Kiyohiko Kawai</u> ¹⁾²⁾ , Atsushi Maruyama ³⁾ , Tetsuro Majima ¹⁾ 1) The Institute of Scientific and Industrial Research, Osaka University, 2) JST-PRESTO, 3) School of Life Science and Technology, Tokyo Institute of Technology
9:45-10:00		30-04 Synthesis and application of N3-modified thioflavin T derivatives <u>Yuka Kataoka</u> , Hiroto Fujita, Masayasu Kuwahara Graduate School of Science and Technology, Gunma University
10:00-10:15	Break	
10:15-10:55	Invited Lecture Chair: Yan Xu Univ. of Miyazaki	3IL-01 Towards synthetic genes and genomes <u>Piet Herdewijn</u> KU Leuven, Rega Institute
10:55-11:10	Oral Presentations Chair: Xingguo Liang Ocean Univ. of China	30-05 Knotting Synthetic Polymers with DNA Helicity <u>Akinori Kuzuya</u> , Yuta Ikeda, Yuta Yamazaki, Naohide Akamatsu, Yuichi Ohya Department of Chemistry and Materials Engineering, Kansai University
11:10-11:25		30-06 Rolling circle translation of Circular RNA <u>Hiroshi Abe</u> ¹⁾ , Naoko Abe ¹⁾ , Ayumi Kodama ¹⁾ , Ken Matsumoto ³⁾ , Minoru Yoshida ³⁾ , Yasuaki Kimura ¹⁾ , Fumiaki Tomoike ¹⁾ , Yoshihiro Ito ²⁾ 1) Department of Chemistry, Graduate School of Science, Nagoya University, 2) Nano Medical Engineering laboratory, RIKEN, 3) Chemical Genetics Laboratory, RIKEN
11:25-11:40	Break	
11:40-12:20	Invited Lecture Chair: Masayuki Fujii Kindai Univ.	3IL-02 Rediscovering Staudinger reaction for nucleic acid chemistry: Old dog taught new tricks Boris Chelobanov ¹⁾²⁾ , Valeria Apukhtina ¹⁾²⁾ , Darya Prokhorova ¹⁾²⁾ , Alyona Zakhryamina ²⁾ , Ekaterina Burakova ¹⁾ , Alesya Fokina ¹⁾ , <u>Dmitry Stetsenko</u> ¹⁾²⁾ 1) Institute of Chemical Biology and Fundamental Medicine, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia, 2) Novosibirsk State University, Novosibirsk, Russia

12:20-12:35	Oral Presentations Chair: Hiroshi Abe Nagoya Univ.	3O-07 Is it possible to form stable Z-DNA structure under physiological conditions ? <u>Xingguo Liang</u> ¹⁾²⁾ , Qi Li ¹⁾ , Yiqiao Fan ¹⁾ , Ran An ¹⁾²⁾ , Jing Li ¹⁾ , Ping Dong ¹⁾ 1) College of Food Science and Engineerig, Ocean University of China, 2) Graduate School of Engineering, Nagoya University
12:35-12:50		3O-08 Crystal structure of silver-DNA hybrid nanowire <u>Jiro Kondo</u> ¹⁾²⁾ , Yoshinari Tada ²⁾ , Takenori Dairaku ³⁾ , Hisao Saneyoshi ⁴⁾ , Yoshiyuki Tanaka ^{3) 5)} , Akira Ono ⁴⁾ 1) Department of Materials and Life Sciences, 2) Graduate School of Science and Technology, Sophia University, 3) Graduate School of Pharmaceutical Sciences, Tohoku University, 4) Department of Material and Life Chemistry, Kanagawa University, 5) Faculty of Pharmaceutical Sciences, Tokushima Bunri University
12:50-13:50	Lunch Break	
13:50-14:30	Invited Lecture Chair: Hiroyuki Asanuma Nagoya Univ.	3IL-03 On the Chemistry and Biology of Tricyclo-DNA derivatives Alena Istrate ¹⁾ , Michal Medvecky ¹⁾ , Aurélie Goyenvalle ²⁾ , Luis Garcia ²⁾ , <u>Christian J. Leumann</u> ¹⁾ 1) Department of Chemistry and Biochemistry, University of Bern, 2) Université de Versailles St-Quentin
14:30-14:45	Oral Presentations Chair: Kohji Seio Tokyo Inst. of Tech.	3O-09 Synthesis of diazirine-containing RNA photocrosslinking probes for capturing miRNA targets <u>Kosuke Nakamoto</u> ¹⁾ , Yukihiro Akao ³⁾ , Yoshihito Ueno ¹⁾²⁾ 1) The United Graduate School of Agricultural Science, Gifu University, 2) Graduate School of Applied Biological Sciences and Faculty of Applied Biological Sciences, Gifu University, 3) The United Graduate School of Drug Discovery and Medical Information Sciences, Gifu University
14:45-15:00		3O-10 Activity of the assembled enzyme on DNA scaffold <u>Huyen Thi Thu Dinh</u> , Eiji Nakata, Tien Anh Ngo, Takashi Morii Institute of Advanced Energy, Kyoto University
15:00-15:15		3O-11 Synthesis and Properties of <i>P</i> -stereodefined PO/PB Chimeric Oligoribonucleotides <u>Yohei Nukaga</u> ¹⁾ , Natsuhisa Oka ²⁾ , Takeshi Wada ¹⁾ 1) Department of Medicinal and Life Sciences, Faculty of Pharmaceutical Sciences, Tokyo University of Science, 2) Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University
15:15-15:30		3O-12 Oligodeoxynucleotides that modify lysines to produce fluorescent lactam for DNA-interacting protein labeling <u>Mariko Aso</u> , Chiemi Gatanaga, Bo Yang, Kazuteru Usui, Chiyo Ota, Hiroshi Suemune Graduate School of Pharmaceutical Sciences, Kyushu University
15:30-15:40	Closing Remarks	