PL: Plenary lecture, IL: Invited lecture, OP: Oral presentation

Time	Day 1 (Sep. 3)
9:00-	Registration, Coffee, Tea
10:00-10:20	Welcome address (VIP Welcome)
Session 1 (Chair: Piet Herdewijn)	
10:25-10:50	IL1 – Mano Manoharan, Alnylam Pharmaceuticals Biomimetic Chemistry of RNA Therapeutics
10:55-11:20	IL2 – Satoshi Ichikawa, Hokkaido University Discovery of antibacterial drug lead based on nucleoside natural products
Session 2 (Chair: Jean-Jacques Vasseur, Co-chair: Piet Herdewijn)	
11:25-12:15	PL1 – Imbach-Townsend Award Lecture – Peter Nielsen, University of Copenhagen A precision antisense peptide nucleic acid antibiotics platform for fighting infections by multidrug-resistant Gram-negative bacteria
12:15-13:45	Lunch, Posters I
Session 3 (Chair: Noriaki Minakawa)	
13:45-14:10	IL3 – Meena, Stoke Therapeutics Utilization of a Pharmacokinetic (PK) Model for STK-001 (ASO) in Patients with Dravet Syndrome (DS) To Support the Selection of Dosing Regimens in Clinic
14:15-14:30	OP1 – James D. Thorpe, McGill University Sustainable Methods for Oligonucleotide Synthesis
14:35-15:00	IL4 – Christian Ducho, Saarland University New adventures in oligonucleotide modifications
15:05-15:30	IL5 – Kurt V. Gothelf, Aarhus University Modification of oligonucleotides at phosphorus
15:30-16:00	Coffee, tea
Session 4 (Chair: Akimitsu Okamoto)	
16:00-16:15	OP2 – Platinum Sponsor talk: ChemGenes, Yann Thrillier Thiophosphoramidate Morpholino Oligonucleotides (TMOs): A Novel Class of PMOs Compatible with Conventional Automated Oligonucleotide Synthesis
16:20-16:30	OP3 – Platinum Sponsor talk: AM Chemicals, Andrei P. Guzaev TRIDENT – a novel universal solid support for oligonucleotide synthesis
16:35-17:00	IL6 – Marçal Pastor-Anglada, University of Barcelona Membrane transporters for natural nucleosides and nucleoside- derived drugs
17:05-17:30	IL7 – Chandra Vargeese, Wave Life Sciences Base, sugar, and backbone modifications of stereopure oligonucleotides to improve pharmacology across modalities
17:40-18:10	Chu Awards
19:30	Welcome reception at Asakusa view hotel

Time	Day 2 (Sep. 4)
Session 5 (Chair: Jean-Jacques Vasseur, Co-chair: Kathie Seley-Radtke)	
9:00-9:30	PL2 – Montgomery Award Lecture – Eiko Ohtsuka, AIST Studies on nucleic acids syntheses
Session 6 (Chair: Kathie Seley-Radtke)	
9:35-9:50	OP4 – Malgorzata Honcharenko, Karolinska Institutet A Novel Approach for Synthesizing Oligonucleotide Multi-Conjugates Using Combined: SPAAC and IEDDA Click Chemistries
9:55-10:10	OP5 – Suzanne Peyrottes, University of Montpellier, CNRS Carbo- and acyclonucleoside phosphonate analogues as novel chemotypes for Plasmodium falciparum inhibition
10:15-10:30	OP6 – Robert Britton, Simon Fraser University A Rapid, Flexible and Scalable Synthesis of Nucleoside Analogues
10:30-10:55	Coffee, tea
Session 7 (Chair: Hiroyuki Asanuma)	
10:55-11:20	IL8 – Serge Van Calenbergh, Ghent University Tubercidin analogues outsmart protozoan pathogens responsible for important human and livestock diseases
11:25-11:40	OP7 – Nicholas Chim, University of California, Irvine Structural insights into the most efficient TNA polymerase Structural insights into the most efficient TNA polymerase
11:45-12:00	OP8 – Michal Hocek, the Czech Academy of Sciences Enzymatic Synthesis of Base-Modified RNA with Engineered DNA Polymerases
12:00-13:30	Lunch, Posters II
Session 8 (Chair: Fumi Nagatsugi)	
13:30-13:55	IL9 – Roger Strömberg, Karolinska Institutet Artificial RNases based on modified oligonucleotides
14:00-14:15	OP9 – Dong Wang, University of California, San Diego Structural Basis of Transcription Recognition of Expanded Genetic Alphabet by Cellular RNA Polymerases
14:20-14:35	OP10 – Michiko Kimoto, Xenolis Pte. Ltd. Six-Letter DNA Aptamer Generation as an Antibody Alternative
14:40-16:00	Coffee, tea Recruitment/Discussion session
Session 9 (Chair: Ramon Eritja)	
16:00-16:25	IL10 – Kazuo Nagasawa, Tokyo University of Agriculture and Technology Control of functions of dynamically formed high-order nucleic acids by polyoxazole compounds
16:30-16:45	OP11 – M. Carmen Galan, University of Bristol Small molecule G-quadruplex ligands are antibacterial candidates for Gram- negative bacteria
16:50-17:05	OP12 – Shigeori Takenaka, Kyushu Institute of Technology Double-strand structuring of oligo-thymine by cyclic bis-naphthalene diimide
Session 10 (Chair: Takehiko Wada)	
17:10-17:25	OP13 – Vyacheslav V. Filichev, Massey University Structure-guided inhibition of the cancer DNA-mutating enzyme APOBEC3A
17:30-17:55	IL11 – Zlatko Janeba, IOCB Prague Inhibitors of enzymes of the purine salvage pathway

Time	Day 3 (Sep. 5)
Session 11	
09:00-09:45	PL3 – Ikehara Award (JSNAC award) – TBD
Session 12 (Chair: Hidetaka Torigoe)	
09:50-10:15	IL12 – Tigran Chalikian, University of Toronto Conformational Propensities of Double-stranded G- and C-rich DNA Domains
10:20-10:35	OP14 – Claudia Sissi, University of Padova Non-canonical nucleic acids arrangements for targeted therapies
10:35-11:00	Coffee, tea
Session 13 (Chair: Hisae Tateishi-Karimata)	
11:00-11:15	OP15 – Chun Kit Kwok, City University of Hong Kong Mapping and targeting of RNA G-quadruplex structures
11:20-11:45	IL13 – Yan Xu, University of Miyazaki In Cell ^{19}F NMR for Non-Canonical Structures
11:50-12:15	IL14 – Janez Plavec, Slovenian NMR Centre at the National Institute of Chemistry NMR illuminating the dynamics of DNA structural features
12:15-13:45	Lunch, Posters III
14:00-18:00	Tour
18:00	Symposium Dinner at Hotel Conrad Tokyo

Time	Day 4 (Sep. 6)
Session 14 (Chair: Elzbieta Kierzek)	
09:00-09:25	IL15 – Sara N. Richter, University of Padova Non-canonical nucleic acid structures in the XDP neurodegenerative disease nucleic acids
09:30-09:55	IL16 – Katrin Paeschke, University Hospital Bonn Viral hijacking of hnRNPH1 unveils a G-quadruplex driven mechanism of stress control
10:00-10:25	IL17 – Kyeong Kyu Kim, Sungkyunkwan University Noncanonical nucleic acids: structure, function and modulation
10:25-10:55	Coffee, tea
Session 15 (Chair: Asako Yamayoshi)	
10:55-11:20	IL18 – Daniela Montesarchio, University of Napoli Federico II Non-canonical DNA-based aptamers for therapeutic applications
11:25-11:50	IL19 – Xiaogang Qu, Changchun Institute of Applied Chemistry Targeting Non-Canonical Nucleic Acids Structures and Their Applications
11:55-12:10	OP16 – Mélanie Etheve-Quelquejeu, Université Paris Cité, CNRS Synthesis of Bisubstrate Analogues for m6A RNA Methylation Studies
12:10-13:40	Lunch, Posters IV
Session 16 (Chair: Chris Meier)	
13:40-13:55	OP17 – Anna M. Kietrys, Carnegie Mellon University Circular RNAs: an underdog of diagnostics and therapy
14:00-14:15	OP18 – Yusuke Takezawa, The University of Tokyo Strategic design of metal-responsive allosteric DNAzymes utilizing 5-modified uracil nucleobases as metal recognition sites
14:20-14:35	OP19 – Takumi Okuda, University of Würzburg SAMURI: SAM analogue utilizing ribozyme for site-specific RNA click tag incorporation
14:40-15:05	IL20 – Jory Lietard, University of Vienna DNA, RNA and XNA microarrays: high-throughput oligonucleotide chemistry
15:05-15:30	Coffee, tea
Session 17 (Chair: Toshihiro Ihara)	
15:30-15:55	IL21 – Chaoyong Yang, Xiamen University Dendrimeric DNA Coordinate Barcoding Design for Spatial RNA Sequencing
16:00-16:15	OP20 – Yohei Yokobayashi, Okinawa Institute of Science and Technology Controlling RNA function in mammalian cells by small molecules
16:20-16:45	IL22 – Damien Baigl, Ecole Normale Superieure DNA-encoded synthetic systems with life-like properties
16:50-17:20	Poster awards
17:20-17:45	Announcements, presentation of next IRT and ISNAC
17:45	Closing Remarks

Day 1: Sep. 3 (Tue) 12:20 – 13:40

＊Please see abstract for co-author information.

Odd number 12:20-13:00
Even number 13:00-13:40

P001	**Yoanes Maria Vianney** University of Greifswald Ligand- and pH-induced topological transitions of a quadruplex- duplex hybrid: implications for a molecular switch
P002	**Tina-Thien Ho** University of Southampton Selective tumour cell killing with novel antibody-conjugate using self-assembling DNA nanostructures
P003	**Yogesh S. Sanghvi** Rasayan Inc. Development of nucleobase-functionalized molecules for self-assembling hydrogels: Potential applications in controlled drug release
P004	**Danyang Ji** City University of Hong Kong Pre-Defined Stem-Loop Structure Library Expedites Discovery of L-RNA Aptamer that Targets RNA G-quadruplex
P005	**Sebastian Häcker** Karlsruher Institut für Technologie (KIT) Probing of DNA photochemistry with C-nucleosides as photosensitizer
P006	**Andreas Schmidt** Karlsruhe Institute of Technology (KIT) Sequence specific synthesis of DNA-chromophore architectures as light harvesting systems
P007	**Andrea Criscuolo** University of Naples Federico II Tailoring covalent dimers for the optimization of anti-HMGB1 G-quadruplex-forming aptamers
P008	**Vanessa Hanff** Goethe University Frankfurt am Main Visible light-activatable Q-dye molecular beacons for long-term mRNA monitoring in neurons
P009	**Lessandro De Paepe** Ghent University Templated and Sequence-Selective Pre-miRNA G-Quadruplex Targeting
P010	**Jan H. Meffert** Ghent University Multi-Functionalization of Amine-Oligonucleotides using 5HP2Os for Stable and Versatile Bioconjugation
P011	**Mria Chowdhury** The University of Western Ontario Massive red-shifted intrinsically fluorescent nucleobase molecular rotors
P012	**Prince Salvador** University of California, Davis Harnessing ADAR Therapeutic Potential: Cellular Repair of MeCP2 Mutation Linked to Rett Syndrome with a Fully Sugar Modified Guide RNA
P013	**Nazarii Sabat** Institut Pasteur Next-generation chemoenzymatic synthesis of chemically modified oligonucleotides
P014	**Tomasz Czapik** Karolinska Institutet Special delivery: small molecules conjugates
P015	**Christopher Wilds** Concordia University C5 - Propynyl pyrimidine modified arabino - and 2' - fluoroarabino nucleic acids enhance RNA binding and are RNase H competent
P016	**Renata Kasprzyk** University of Konstanz Cell-permeable nicotinamide adenine dinucleotides for exploration of cellular protein ADP-ribosylation
P017	**So Muramoto** Osaka University Synthesis of peptide oligonucleotide conjugates based on the condensation of a lysine side-chain and a thioester
P018	**Sandra Smieszek** Vanda Pharmaceuticals Efficacy and Safety of a Novel ASO Targeting IGHMBP2 Cryptic Splice Variant for the Treatment of CMT2S
P019	**Shun-Ching Wang** National Chung Hsing University Structural basis for water modulating RNA duplex formation in the CUG repeats of myotonic dystrophy type 1
P020	**Shih-Chun Huang** National Chung Hsing University Targeting junction sites in different DNA by bis-intercalators induces topological changes with potent antitumor effects
P021	**Virginia Chiu** Ontario Tech University Investigating Chemically-Modified Short Activating RNAs to Increase Nuclease Stability and Gene Activation
P022	**Soshu Yasuda** The University of Tokyo Development of novel epigenetics drug based on nucleic acid therapeutics
P023	**Ajaya Ram Shrestha** Luxna biotech Co.,Ltd. Promising protecting group for N-(tert-butyl)guanidine-bridgednucleic acid, GuNA™[tBu] to ease its application in antisense oligonucleotides
P024	**Jiro Kondo** Sophia University Educational tools for learning the three-dimensional structure of nucleic acids
P025	**Julia Dietzsch** University of Wuerzburg Orthogonal fluorescence activation of small chromophores by DNA, RNA and proteins
P026	**Takashi Osawa** Osaka University Synthesis of oligonucleotides containing an S-methyl thioimidate-bridged nucleic acid (Me-TIBNA) that control their ability to form duplexes in response to pH and complementary strand
P027	**Akari Endo** Chiba Institute of Technology Improvement of binding activity of an aptamer that binds to IgG1 by chemical modification and in silico analysis of dynamics of the aptamer
P028	**Kazuyuki Kumagai** Chiba Institute of Technology The RNA aptamers against the VβBCC complex
P029	**Kun Chen** Konan University Quantitative analysis of i-motif and G-quadruplex structures on CDH1 gene under pH and K^+ variations
P030	**Lutan Liu** Konan University Elucidating the Role of Groove Hydration on Stability and Functions of Biased DNA Duplexes in Cell-Like Chemical Environments

P031 **Yuta Chikada** Kyushu University
Synthesis of Nucleotide Derivatives of Cdap for the Specific Recognition of 8-oxo-dG in DNA

P032 **Masahiro Wakano** The University of Tokyo
Reversible optical control of receptor activity by an oligonucleotide based agonist carrying azobenzene

P033 **Juki Nakao** Nagasaki University
Development of Photo-reactive Oligonucleotides with Novel Psoralen N-hydroxysuccinimides for Gemone Editing Tools

P034 **Kerstin Müller** Karlsruhe Institute of Technology
Sydnone-based turn-on fluorogenic probes

P035 **Nazmie Kalisi** University of Southern Denmark
Programmable RNA Loading of Extracellular Vesicles with Toehold-Release Purification

P036 **Ryosuke Nagasawa** Tohoku Univ.
Large-scale analysis of RNA-binding selectivity of a small molecule utilizing structured RNA libraries

P037 **Kazuki Kuwahara** Tohoku University
Formation of pseudorotaxane and catenane by chemically cyclizedoligo DNAs

P038 **Minako Narita** The University of Tokyo
Nano-assembled structures and cellular delivery of fluorocarbon–DNA conjugates

P039 **Glenn A. Burley** University of Strathclyde
Structure and functional profiling of abasic sites: platform for the development of pivot-based therapeutic oligonucleotides

P040 **Kentaro Kobata** Kyoto Institute of Technology
Photo-cross-linking oligonucleotides as a telomerase inhibitor

P041 **Koki Takeda** Kyoto Institute of Technology
Synthesis and evaluation of diazirine-tethering ODNs for selective photo-cross-linking with mutated RNAs

P042 **Tatsuya Ozasa** Aoyama Gakuin University
Preparation of oligodeoxynucleotides bearing azide methyl group and their application

P043 **Chisa Takemori** Tokushima Bunri University
Synthesis and properties of oligonucleotides containing 2′-C,4′-C-methylene-bridged thymidine

P044 **Yuta Ito** Tokushima Bunri University
Synthesis of oligonucleotides containing 5-heteroarylpyrimidine bases by post-synthetic trifluoromethyl conversion and their fluorescence properties

P045 **Arya Das** Technical University of Munich
Ultra-large-scale on-array mapping of off-target cleavage of chemically-modified crRNA in Cas9 and Cas12a

P046 **Masato Sugawara** Aoyama Gukuin University
Installing reactive tags into phosphate backbone to regulate the duplex formation on the bead toward multiplex biomolecular detection

P047 **Katarzyna Frankowska** Centre of New Technologies University of Warsaw
Chemical circularization of full-length mRNA performed by periodate oxidation and reductive amination

P048 **Stefan Vogel** University of Southern Denmark
Programmable mRNA Loading of Extracellular Vesicles

P049 **Jamila A. Osman** NIHS
Synthesis of interstrand crosslinked nucleic acids using 2’-deoxythioguanosine-functionalized oligonucleotides

P050 **Rikuto Maruyama** Osaka University
IImpact of controlling duplex-forming ability toward the target RNA strand on the RNA cleavage activity of 8–17 DNAzyme

P051 **Faith Kivunga** INSERM
Lipid-stapled Oligonucleotide Supramolecular Structures: Baits for Anticancer Therapeutic Application

P052 **Patricia Korczak** INSERM
The oligonucleotide synthesis on automated ÄKTA oligopilot synthesizer at the ARNA Laboratory and their purification process

P053 **Reiko Iwase** Teikyo University of Science
Fluorescent property of 2’-O-methyl RNA containing amide-linked uridine dimer modified with pyrene on hybridization with RNA

P054 **Kento Miyaji** Tokyo Institute of Technology
Synthesis and properties of prodrug-type oligodeoxynucleotides activated by β-galactosidase

P055 **Zumila Hailili** Japan Advanced Institute of Science and Technology
Towards chemical genomic manipulation: photochemical double- duplex invasion using ultra-fast photo-cross-linker

P056 **Jennifer Frommer** University of Oxford
Flexizyme-mediated DNA labelling

P057 **Mizuki Tada** Nagoya university
Evaluation of the structure-activity relationship of minimal mRNA

P058 **Philip K. Wagner** University of Cologne
Exploring Unnatural Nucleic Acids for Enhanced Biomolecular Labeling

P059 **Zimu Zhang** Tokyo Institute of Technology
Exploration of RNA aptamers against photoreceptor protein DrBphP

P060 **Tayler D. Prieto Otoya** University of Reading
Re-pairing DNA: binding of a ruthenium phi complex to a double mismatch

Day 2: Sep. 4(Wed) 12:05 – 13:25

＊Please see abstract for co-author information.

Odd number 12:05-12:45
Even number 12:45-13:25

P061 **Yuka Kataoka** Nihon University
Investigation of RNA imaging using the signal amplification by ternary initiation complexes system in cell

P062 **Tatsuya Nishihiara** Aoyama Gakuin University
Intensity-changing fluorescent barcode beads for the multiplex biomolecular analysis using the artificial oligodeoxynucleotide sensor

P063 **Yuho Abe** Nihon University
Design of novel acyclic ESF nucleosides for DNA sequence analysis

P064 **Mark M. Somoza** Leibniz Institute for Food Systems Biology
An open‐source advanced maskless synthesizer for light‐directed chemical synthesis of large nucleic acid libraries and microarrays

P065 **Yusuke Fujiwara** Osaka University
Photoswitchable RNA binding ligands affected the RNA foci formation and the associated RNA binding proteins

P066 **Yoshiaki Masaki** Tokyo Institute of Technology
Quantification of non-canonical nucleotides by next-generation sequencing

P067 **Katarzyna Grab** University of Warsaw
Fluorescent RNAs as molecular probes for monitoring the activity of decapping enzymes

P068 **Van Hai Nguyen** University of Warsaw
Synthesis of novel mRNA 5' cap analogues for improving mRNA-based therapeutics

P069 **Victorio Jauregui-Matos** University of California, Davis
Site-Specific Regulation of RNA Editing with Ribose-Modified Nucleoside Analogs in ADAR Guide Strands

P070 **Halle M. Barber** McGill University
Fluorine-Modified Antisense Oligonucleotides Targeting the C9orf72 Repeat Expansion in C9FTD/ALS

P071 **Kaleena Basran** McGill University
Exploring the Potential Applications of Click Chemistry on siRNA

P072 **Iram M. Ahmad** University of Iceland
Non-covalent spin-labeling of RNA through helical stacking

P073 **Raahul Sriram** Carnegie Mellon University
γPNAs as disrupters of biomolecular condensates associated with Amyotrophic Lateral Sclerosis

P074 **Keisuke Fukunaga** Tokyo Institute of Technology
Development of small molecule- and protein-responsive cell-free riboswitches

P075 **Eliza Filipiak** Karolinska Institutet
Enhancing the delivery of oligonucleotide therapeutics for Duchenne Muscular Dystrophy

P076 **Michelle Vogts** University of Hamburg
Development of a targeted HILIC-MRM Method for the Quantification of TriPPPro Prodrugs and their Metabolites in complex Mixtures

P077 **Elzbieta Kierzek** Institute of Bioorganic Chemistry Polish Academy of Sciences
In cellulo and in virio secondary structure of vRNA of influenza A virus

P078 **Eriks Rozners** Binghamton University
Amide modifications improve on-target specificity of siRNAs

P079 **Kathrin Halter** LMU München
Catalytic RNAs and their role in an RNA-peptide-world

P080 **Randall Ouye** University of California, Davis
Effect of various Phosphoramidate internucleotidic linkages in guide Oligos on ADAR deamination rate

P081 **Jeff Cheng** University of California, Davis
Repurposing ADARs for DNA Base Editing

P082 **Yunsong Xu** The University of Tokyo
Simultaneous detection of multiple miRNAs in cells through self- assembling on-off fluorescent DNA probes

P083 **Yoshiyuki Tanaka** Tokushima Bunri University
Crystallographically captured reactive intermediate of the enzymatic reaction of an hOGG1 mutant

P084 **John C. Chaput** University of California, Irvine
Chemical Evolution as a Generalizable Approach to Improving the Activity of RNA-cleaving DNAzymes in Cells

P085 **Carlos González** CSIC
Structure and dynamics of i-DNA and its junctions with B-DNA

P086 **Tomasz Spiewla** University of Warsaw
An MST-based assay reveals new binding preferences of IFIT1 for canonically and non-canonically capped RNAs

P087 **Shuntaro Takahashi** Konan University
Twisting of helicity induces diverse functionality of i-motif DNA

P088 **Tadashi Umemoto** Luxna Biotech Co. Ltd.
Application of 5'-cyclopropylene deoxyribonucleic acid (5'-CP™) in siRNA to reduce phosphorothioate bonds while maintaining potency and stability

P089 **Tamaki Endoh** Konan University
Interactions between fluorogens and i-motif DNAs depending on loop sequences

P090 **Sinjan Das** Konan University
ATP-mediated regulation of stability and function of i-motif DNA

P091 **Kaifeng Zhao** McGill University
Determining Spatial Distribution of DNA Secondary Structures in Living Cells

P092 **Kosuke Tsuzuki** Toholu University
Exploration of small molecule-RNA pairs that bind through complementary hydrogen bonds

P093 **Kazumitsu Onizuka** Tohoku University
Large-scale analysis of RNA alkylations using multiplexed RNA structure libraries

P094 **Yoshiya Ikawa** University of Toyama
Biochemical characterization of a trans-acting VS ribozyme and its substrate pair designed to be applicable to in droplet laboratory evolution experiments

P095 **Yuuhei Yamano** Tohoku university
Analysis of abasic site generation in DNA by photo-catalytic reaction

P096 **Sunipa Sarkar** Konan University
Gene regulatory mechanisms of imperfect G-quadruplexes with bulges

P097 **Tomoki Sakamoto** Kyoto University
Molecular Crowding Effects on Base Pair Dynamics and Stability in DNA Triplex Structures

P098 **Shin ANDO** Sophia University
X-ray Crystallography of Nucleic Acids by the Counter-diffusion Method in a Microgravity Environment

P099 **Mizuki Fujimoto** Tokushima Bunri University
Catalytic roles of the active residues in an hOGG1 double mutant

P100 **Tomoka Akita** Konan University
Stability and structural analysis of DNA/RNA heteroduplexes containing a bulge

P101 **Krista Urup** University of Southern Denmark
Double-Headed Nucleotides in G-quadruplexes: Double Trouble or Reduced Electrostatic Strain?

P102 **Hidetaka Torigoe** Tokyo University of Science
Specific binding of copper ion to mismatched base pair involving 5-fluorouracil in duplex DNA

P103 **Wenjue Fan** Tohoku University
Study on base pairing and polymerase recognition of the unnatural alkynylated purine-pyridazine base pairs

P104 **Asako Murata** Kyushu University
Identification of RNA motifs for small-molecule binding using a combined method of Dicer cleavage of an RNA library and RNA-Seq

P105 **Mitsuki Tsuruta** Konan University
Phase separation of G-quadruplex regulated by epigenetic modification

P106 **Aina Fujiwara** Chiba Institute of Technology
Interaction between a small molecule, ANP77, and double stranded DNAs with the T/CC and C/CC internal loops

P107 **Ayano Tabira** Tokyo Institute of Technology
Effects of single mismatch on RNase H-mediated cleavage

P108 **Jack Barr** Ghent University
Light-triggered stapling of biologically relevant DNA tetraplexes increases topological, thermodynamic and metabolic stability

P109 **Andrea Taladriz-Sender** University of Strathclyde
Chemical Tools for unraveling RNA splicing

P110 **Leo Toutatsu Liu** The University of British Columbia
Expanding the sequence and chemical space of enzymatically synthesized oligodeoxynucleotide utilizing dimeric building blocks

P111 **Hiromu Kashida** Nagoya University
Color-Changing Fluorescent Barcode for Multiplexed Labeling of biomolecules

P112 **Jussara Amato** University of Naples Federico II
Insights into the recognition of G-quadruplex nucleic acid structures by the KHSRP protein

P113 **Ayako Kurimoto** Protein Metrics, LLC
Optimization of a Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) Based Workflow for mRNA Oligonucleotide Sequence Mapping

P114 **Emi Miyashita** Kyoto University
BIVID-MaP identifies variant-specific interaction between small-molecule and RNA structure

P115 **Soumitra Pathak** National Institute for Materials Science (NIMS)
Topology dependent cellular uptake of G-quadruplex scaffolded CpG oligodeoxynucleotides and their immunostimulatory effects

P116 **Minami Kato** Nagoya University
Generation of novel circular mRNA using G-quadruplexes

P117 **Mitsuharu Ooga** Graduate School of Science Kyoto University
Sequence-specific recognition of G-quadruplex structures with dual DNA-binding conjugates

P118 **Philippe Jung** RWTH Aachen University
Dissipative Orchestration of a DNA-Based Cascade for Controlled Biocatalysis

P119 **Gurudas Chakraborty** DWI-Leibniz Institute for Interactive Materials
Formation of i-Motif Structure in Organic Solvents

P120 **Matthias Thijs** McGill University
Hydrazine Oligonucleotides: New Methodology Enables Versatile Hydrazone Conjugation in Water and Organic Solvents

Day 3: Sep. 5 (Thu) 12:20 – 13:40

＊Please see abstract for co-author information.

Odd number 12:20-13:00

Even number 13:00-13:40

P121 **Shigeyoshi Matsumura** University of Toyama
Experimental evolution of a trans RNA‐cleaving ribozyme using droplet screening integrated devices

P122 **Luigi A. Agrofoglio** University of Orleans
Innovative Lyotropic Liquid Crystalline Emulsions of LAVR-289, a Highly Lipophilic Antiviral: Internal Mesophase Impact on the Biological Activity

P123 **Yudai Yamaoki** Kyoto University
In-cell NMR study on structure, dynamics, and ligand interactions of nucleic acids in living human cells

P124 **Yuichiro Aiba** Nagoya University
Parallel-stranded peptide nucleic acids for specific recognition of double-stranded DNA and their structural analysis

P125 **Hiroshi Abe** Nagoya University
Chemistry-based mRNA design for efficient translation

P126 **Tatsuyuki Yoshii** The University of Tokyo
Engineering RNA and RNA-binding protein for mammalian synthetic biology tool

P127 **I-Ren Lee** National Taiwan Normal University
Slippage Dynamics of Trinucleotide Repeat Sequences Studied by Single-molecule FRET Spectroscopy

P128 **Eylon Yavin** Hebrew University of Jerusalem
Challenges in the detection of BRAF V600E mutation using FIT-PNAs

P129 **Amer Fadila** Hebrew University of Jerusalem
New Generation of FIT-PNAs: Cyclopentane backbone modifications of surrogate base for improved RNA sensing

P130 **Masayuki Sakurai** Tokyo University of Science
ICLAMP: a novel technique to explore adenosine deamination via inosine chemical labeling and affinity molecular purification

P131 **Chaofan Zheng** Kyushu university
Investigation of the effect of a small molecule in upregulating the expression of a microRNA cluster

P132 **Poonam Upadhyay** Indian Institute of Technology Bombay
Error-free replication across N2- biphenyl-dG DNA Adducts by Human Translesion Synthesis Polymerase κ

P133 **Nina Allen** University of Bristol
Fishing for G-quadruplexes with Photo-Crosslinking Probes

P134 **Fabienne Levi-Acobas** Pasteur Institute
Exploring the capacity of Human polymerase q to produce chemically modified oligonucleotides

P135 **Yan Badji** UPC Université Paris cité
SELEX of modified aptamers to study the catalytic mechanism underlying peptidoglycan polymerization by transpeptidase

P136 **Atanu Ghosh** Indian Association for the Cultivation of Science A P(III) Platform for the Synthesis of Antisense Morpholino Oligonucleotides in an Automated DNA Synthesizer

P137 **Hermann Neitz** University Würzburg
Photoreactive uridine analogs for nucleic acid crosslinking

P138 **Albert Ferriol Monjo** University of Southampton
Targeting the IRES structure of mRNA for modulating gene translation

P139 **Enrico Cadoni** Ghent University
Tetraplexed Nucleic Acid Structures as Templating Platform for Proximity-enhanced Photochemical Reactions

P140 **Agnieszka Dziergowska** Lodz University of Technology
New approach to the site-specific modification of RNA fragments with f5U/ f5C

P141 **Zhen Xi** Nankai University
Genome Therapy: A New Approach for Tumor Growth Inhibition

P142 **Pauline Pfeiffer** Chalmers University of Technology
Enlightening RNA biology - Insights from Fluorescent Nucleobase Analogues

P143 **Svenja Hehn** Universität Konstanz
Engineering DNA-dependent RNA Polymerases Towards the Acceptance of Modified Nucleotides

P144 **Sahra Tajdar** University of Hamburg
Synthesis and Optimization of potential Inhibitors that target the ADPR-binding Macrodomain Mac1 of SARS-CoV-2

P145 **Kristen Campbell** University of California - Davis
Improving efficiency of ADAR-mediated RNA editing via guide strand modifications probing dsRBD-RNA interactions

P146 **Yuhei Takahashi** Tokyo University of Science
Solution-Phase and Convergent Synthesis of Boranophosphate DNAs by an H-boranophosphonate Method

P147 **Ryuichi Inutake** Tokyo University of Science
Stereocontrolled synthesis of phosphorodiamidate morpholino oligomer

P148 **Simone Rosinus** Saarland University
Lipophilically functionalized analogs of muraymycin nucleoside antibiotics

P149 **Tyler J. Rutherford** Concordia University
Synthesis and Characterization of DNA Tetrahedra Containing O6- Alkylene 2’ -Deoxyguanosine Cross-Links for Controlled Disassembly Triggered by a DNA Repair Protein

P150 **Erika Schaudy** University of Vienna
dNTPs with photosensitive protecting group: Towards light-directed enzymatic oligonucleotide synthesis

P151 **Hisae Tateishi-Karimata** Konan University
Quantify specific interactions determining G-quadruplex function during cancer progression using a pseudo-cellular system

P152 **Takehiko Wada** Tohoku University
Construction of Chimeric Artificial Nucleic Acids (CANA) for the treatment of pancreatic cancer by inhibition of the transcription factor BACH1 IV: Establishment of a molecular design strategy based on in vitro and in vivo analysis

P153 **Kiyoshi Kakuta** Tokyo University of Science
Solid-Phase Synthesis of Oligodeoxynucleotides Using Nucleobase N-Unprotected Oxazaphospholidine Derivatives Bearing a Long Alkyl Chain

P154 **Ettore Napolitano** University of Naples Federico II
Discovery and optimization of anti-HMGB1 G-quadruplex-forming aptamers as potential anticancer therapeutics

P155 **Aya Koshizuka** Sophia University
How does the number of bases in loops of G-rich repeats affect the formation of G-quadruplexes and their stability?

P156 **Surachada Chuaychob** Kyoto University
Extracellular Mimicking of CUG Repeat RNA and MBNL1 Aggregate

P157 **Peng Lin** Kyoto University
Design of DNA-based artificial compartments for implementing metabolic pathways

P158 **Shu Ohno** Osaka University
Application of dynamical FMO calculation to small molecule drug discovery targeting bulged RNA

P159 **Santra Santhosh** Leibniz Institute for Food Systems Biology at TUM Freising, Germany
Optimizing Sequence Fidelity in DNA Microarray Synthesis Through Depurination Reduction Strategies

P160 **Ilaria Frasson** University of Padova
The Dynamic Interplay of G-quadruplexes and i-Motifs in HSV-1 Promoter Regulation in infected cells

P161 **Tomoki Yoshimura** Osaka University
Novel synthetic route for 1′-C,3′-O-propylene-bridged altritol nucleic acid phosphoramidites bearing adenine nucleobase

P162 **Hidenori Okamura** Tohoku University
N^6-guest modified adenosines enable reversible control of gene expression via host-guest interaction

P163 **Masahito Inagaki** Nagoya University
Cap analogs with a hydrophobic photocleavable tag enable facile purification of fully capped mRNA with various cap structure

P164 **Yujun Zhou** Gifu University
Synthesis and antisense activity of LNA gapmers containing 4'-C-aminoetoxy-2'-O-methyl modified nucleoside analogs

P165 **Maryke Fehlau** BioNukleo GmbH
Efficient enzymatic synthesis routes for natural and modified nucleosides and nucleotides

P166 **Felix Marschall** Saarland University
Small Molecule-Oligonucleotide Conjugates with Therapeutic Potential Against Breast Cancer

P167 **Qingwen Chen** SANKEN, Osaka Univ.
Artificial intelligence leading to a cost-effective screening of small molecules targeting nucleic acids

P168 **Clemens Eichler** University of Innsbruck
Advances in RNA labeling with trifluoromethyl groups

P169 **Anna Rázková** University of Innsbruck
Synthesis and properties of xanthosine containing RNA

P170 **Przemyslaw Wanat** University of Innsbruck
Toward fluorophores for photocross-linking to fluorescent light‐up aptamers

P171 **Seojung Cho** The University of Tokyo
A novel strategy to improve in vivo behavior of DNA aptamers based on the modification with immune-evading polymers

P172 **Tomotaka Kumagai** Kyoto University
Evaluation of Enzymatic Incorporation with Fluorescent Thymidine Nucleotide Analogues

P173 **Yukiko Kamiya** Kobe Pharmaceutical University
Design of anti-miR-21 oligonucleotide composed of SNA and artificial nucleobases

P174 **Shuhei Miyakawa** Osaka University
Investigation of the dynamic interactions between SARS-CoV-2 RNA-dependent RNA polymerase and Remdesivir through fragment molecular orbital calculations

P175 **Yaoyao DU** Tokyo institute of technology
Removing barriers in the photooxidation of DNA by biphenyl photosensitizer-PNA conjugates

P176 **Yurina Shimada** Gifu University
Development of DDS-free All-PS modified siRNAs with cholesterol molecules

P177 **Attila Palágyi** IOCB Prague
Enzymatic Synthesis of Hypermodified DNA with Expanded Genetic Alphabet

P178 **Odai Bsoul** Bar-Ilan University
N1 Hyantoinyl-ribose as a Novel Uridine Mime6c. Synthesis and Characteriza6on

P179 **Anna Heib** Saarland University
Towards Lipophilic Prodrugs of Antisense Oligonucleotides

Day 4: Sep. 6(Fri) 12:15 – 13:35

＊Please see abstract for co-author information.

Odd number 12:15-12:55

Even number 12:55-13:35

P180 **Yuyuan Chen** The University of Tokyo
A pH-Responsive Nucleobase-Modified DNA Aptamer for Selective Inhibition of Cancer Migration

P181 **Malgorzata Wasinska-Kalwa** Centre of New Technologies University of Warsaw
Cap-mediated translation of circular mRNA

P182 **Marcin Warminski** University of Warsaw
Development of novel trinucleotide mRNA 5' end analogs for therapeutic applications and functional studies

P183 **Attila Tortorella** Scuola Superiore Meridionale
Unraveling the physicochemical interplay between G-Quadruplex structures and model membranes

P184 **Concetta Giancola** University of Naples Federico II
Physicochemical study of DNA G-quadruplex stability and energetics of interaction with protein and drugs

P185 **Yo Yano** PeptiStar Inc.
Application of Continuous Chromatography Method to Oligonucleotide Purification

P186 **Sharon Istvánffy** Leibniz Institute for Food Systems Biology at the Technical University of Munich
Large-scale photolithographic synthesis for dense information storage in DNA libraries generated from mixed base and trimer phosphoramidites

P187 **Manisha Patel** Institute of Chemical Technology
Sustainable Synthetic Strategies for Modification of Nucleobases and Nucleoside analogs

P188 **Takeshi Yamada** Tokyo Medical and Dental University
Up-regulating of circular RNA production using CLIP-ON oligonucleotide

P189 **Tony Yan** Brock University
Re-examination of the detritylation reaction in the solid phase synthesis of oligonucleotides by the phosphoramidite chemistry

P190 **Otto Linden** University of Strathclyde
Difluorinated nucleosides: expanding the functional repertoire of therapeutic oligonucleotides

P191 **Arnab Das** Indian Association for the Cultivation of Science
Next Generation Phosphorodiamidate Morpholino Oligomers: Synthesis, Biophysical Properties and Intracellular Delivery

P192 **Pierre P. M. Junghanns** Saarland University
Chemical Probes to Elucidate Cellular Interactions of Muraymycin Nucleoside Antibiotics

P193 **Joseph S. Vyle** Queen's University Belfast
Synthesis and anticancer activity of selenium-substituted dinucleoside pyrophosphate analogues

P194 **Béatrice Roy** University of Montpellier
Solvent-free mechanochemical strategies for the preparation of dinucleotides and analogues

P195 **Grazyna Leszczynska** Institute of Organic Chemistry, Lodz University of Technology
New strategies of post-synthetic RNA modification as a convenient method for installation of troublesome modified groups

P196 **Monta Nakamura** Tokyo university of science
Stereoselective synthesis of nucleotide analog prodrugs (ProTides) by an oxazaphospholidine method

P197 **Sarah Krukenberg** University of Hamburg
Synthesis of different MASTER-NAADP derivatives of the Ca2+ mobilizing second messenger NAADP

P198 **Paul Theodore Ludford III** Trilink Biotechnologies
Exploration, Modification, and Generation of New CleanCap® analogues for mRNA Therapeutics

P199 **Marta Rachwalak** Institute of Bioorganic Chemistry Polish Academy of Sciences
How much more can we get out of dimethoxytrityl chloride? New method for the synthesis of pyridiniumboranephosphonates and related compounds

P200 **Robert H.E. Hudson** The University of Western Ontario
Imidazolocytosine Derivatives: Synthesis, Photophysical Characterization and Evaluation of Complementary Base Binding

P201 **Daniela Verga** Institut Curie
Photoactivatable Warheads for Photoaffinity Labeling of G-quadruplex Structures

P202 **Tun-Cheng Chien** National Taiwan Normal University
Total Synthesis of Pseudouridine

P203 **Natsuhisa Oka** Gifu University
One-step synthesis of truncated carbocyclic nucleosides from sugarderived Julia–Kocienski sulfones

P204 **Yoshiaki Kitamura** Gifu University
Practical synthesis of N-azidomethyl nucleobases and their analogs by direct azidomethylation

P205 **Yosuke Taniguchi** Okayama University
Synthesis and functional evaluation of artificial nucleoside derivatives to form the base pair with 2-hydroxy-adenine

P206 **Yasufumi Fuchi** Tokushima Bunri University
Phenanthrene ring-fused 7-Oxabicyclo [2.2.1]heptane-2,3-diol derivatives as universal linkers for solid-phase oligonucleotide synthesis

P207 **Harumi Okutsu** Tokyo University of Science
Development of chemoselective condensation reaction of nucleoside 3’ -H-phosphonothioate

P208 **Yasuaki Kimura** Nagoya University
Development of Chemically Modified mRNA based on Chemical Synthesis for Highly Efficacious mRNA Therapeutics

P209 **Tomohiko Yamazaki** National Institute for Materials Science (NIMS)
Enhancement of immunostimulatory function of CpG oligodeoxynucleotides by using the guanine quadruplex structure as a scaffold

P210 **Soichiro Kimura** Nagasaki University
Evaluation of photo-crosslinking properties of triplex-forming oligonucleotides and peptide nucleic acids conjugated to a methyl- substituted psoralen derivative

P211 **Yajun Wang** Hangzhou Institute of Medicine, Chinese Academy of Sciences
ASO-Inspired DNAzyme 10-23 Variants for Enhanced Gene Silencing

P212 **Bruno Pagano** University of Naples Federico II
Unlocking the potential of protein-derived peptides to target DNA G-quadruplexes: From recognition to anticancer activity

P213 **Dariusz Wawrzyniak** The Polish Academy of Sciences
The biological assay of pyrimidine nucleoside dimers analogues with a short 1,2,3-triazole linker - the second part of research

P214 **Yu Mikame** Nagasaki University
Novel psoralen-conjugated triplex-forming oligonucleotide enables targeting of HTLV-1 provirus genome sequence in 5'-LTR region

P215 **Jumpei Ariyoshi** Kobe pharmaceutical University
Acyclic Nucleic Acids Substitution Reduces Toxicity and Enhances Antisense Activity of Gapmer-ASOs

P216 **Yousuke Katsuda** Kumamoto University
In Vivo Manipulation of mRNA Using Staple Oligomers: Advancing Nucleic Acid-Based Therapies

P217 **Nana Mihara** Tokushima Univ.
DNA chemical synthesis based on a phosphorofluoridate exchange reaction

P218 **Vincent Roy** Université d'Orléans
Synthesis and biological evaluation of new high potent acyclic nucleoside phosphonate LAVR-289 against DNA viruses

P219 **Anna L. Malinowska** NATA
Novel phosphoramidite linkers for the synthesis of oligonucleotide conjugates via thiol-ene click reaction

P220 **Emma K. Davison** Auckland University of Technology
Practical and concise synthesis of nucleoside analogues

P221 **Risa Yamaguchi** Gifu University
Preparation of thymidine 3′-phosphotriester derivatives for ynamide-mediated oligonucleotide synthesis

P222 **Ramon Eritja** IQAC-CSIC
Biophysical studies of antiparallel clamps for targeting polypyrimidine sequences through triplex formation

P223 **Ilze Kumpina** SUNY Binghamton University
Enhancing Stability in RNA2-PNA Triplexes Through Nucleobase Modifications

P224 **Ugnė Šinkevičiūtė** IOCB Prague
Novel 2,6-disubstituted 7-deazapurine ribonucleosides: synthesis and biological activities

P225 **Yusuke Kawamoto** Kyoto University
Multivalent Dendritic Oligonucleotides for Therapeutic Applications

P226 **Shintaro Inaba** Tokyo University of Agriculture and Technology
Detection of CpG methylation focusing on structural change of G-quadruplex forming DNA oligonucleotide and its binding to myoglobin

P227 **Nanai Yoshida** Tokyo institute of technology
Development of a photoknockdown method using a small photosensitizer-conjugated antisense oligonucleotide

P228 **Qin Ren** Osaka University
Development of simple purification method of chemically synthesized oligonucleotides using highly lipophilic phosphoramidites as capping reagents

P229 **Cheng-Linn Lee** YMC Cooperation, LTD.
The development of continuous purification process for oligonucleotides purification and its potential benefits

P230 **Yuki Suzuki** Mie University
Self-limited assembly of shape-adjustable DNA origami plates into desired polygonal rings

P231 **Kosuke Machida** Tohoku University
Development of Chimeric Artificial Nucleic Acids (CANA) Toward Pancreatic Cancer Therapeutics Targeting Vasohibin-2 II: Investigation of CANA-target RNA Complex Stability and Its Effect on Cleavage Efficiency.

P232 **Sumit Shil** Konan University
Triplex nucleic acid induces liquid-liquid phase separation

P233 **Yuki Igarashi** Tohoku University
Development of Chimeric Artificial Nucleic Acids (CANA) toward Pancreatic Cancer Therapeutics Targeting BACH1

P234 **Jakob Zwicker** University of Constance
Identification of AMPylation proteins

P235 **Andrei P. Guzaev** AM Chemicals LLC
Deprotection of dGib nucleotide residues in synthetic oligonucleotides by aqueous ammonia and methylamine: a kinetic study

P236 **Andrei P. Guzaev** AM Chemicals LLC
TRIDENT – a novel universal solid support for oligonucleotide synthesis

P237 **Paul Caffrey** NEB
Bead Enabled Workflows for Oligonucleotide Analysis and Synthesis

P238 **Alva Abrahamsson** Umeå University
Selectively target individual G-quadruplex DNA structures using G4 - Ligand Oligonucleotides

Program at a Glance

Day 1 September, 3

Registration, Coffee, Tea

10:00-10:20 **Opening Remarks**

10:25-11:20 **Session 1**

Mano Manoharan
Satoshi Ichikawa

11:25-12:15 **Session 2**

Imbach-Townsend Award Lecture
Peter Nielsen

12:15-13:45 **Lunch, Posters I**

13:45-15:30 **Session 3**

Meena
James D. Thorpe
Christian Ducho
Kurt V. Gothelf

15:30-16:00 **Coffee, tea**

16:00-17:30 **Session 4**

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Marçal Pastor-Anglada
Chandra Vargeese

17:45-18:10 **Chu Awards**

19:30- **Welcome reception**
at Asakusa view hotel

Day 2 September, 4

9:00-9:30 **Session 5**
Montgomery Award Lecture
Eiko Ohtsuka

9:35-10:30 **Session 6**

Malgorzata Honcharenko
Suzanne Peyrottes
Robert Britton

10:30-10:55 **Coffee, tea**

10:55-12:00 **Session 7**

Serge Van Calenbergh
Nicholas Chim
Michal Hocek

12:00-13:30 **Lunch, Posters II**

13:30-14:35 **Session 8**

Roger Strömberg
Dong Wang
Michiko Kimoto

14:40-16:00 **Coffee, tea**

Recruitment/ Discussion session

16:00-17:05 **Session 9**

Kazuo Nagasawa
M. Carmen Galan
Shigeori Takenaka

17:10-17:55 **Session 10**

Vyacheslav V. Filichev
Zlatko Janeba

Day 3 September, 5

9:00-9:45 **Session 11**

—TBD—

9:50-10:35 **Session 12**

Tigran Chalikian
Claudia Sissi

10:35-11:00 **Coffee, tea**

11:00-12:15 **Session 13**

Chun Kit Kwok
Yan Xu
Janez Plavec

12:15-13:45 **Lunch, Posters III**

14:00-18:00 **Tour**

18:00- **Symposium Dinner**
at Hotel Conrad Tokyo

Day 4 September, 6

9:00-10:25 **Session 14**

Sara N. Richter
Katrin Paeschke
Kyeong Kyu Kim

10:25-10:55 **Coffee, tea**

10:55-12:10 **Session 15**

Daniela Montesarchio
Xiaogang Qu
Mélanie Etheve-Quelquejeu

12:10-13:40 **Lunch, Posters IV**

13:40-15:05 **Session 16**

Anna M. Kietrys
Yusuke Takezawa
Takumi Okuda
Jory Lietard

15:05-15:30 **Coffee, tea**

15:30-16:45 **Session 17**

Chaoyong Yang
Yohei Yokobayashi
Damien Baigl

16:50-17:20 **Poster awards**

17:20-17:45 **Announcements, presentation of next IRT and ISNAC**

17:45 **Closing Remarks**