SCNAC 2014 Program

Monday, 9.6.2014

Chairman: ***Michal Hocek***

8:30 - 8:50 M. Hocek
Opening

8:50 - 9:30 **PL 1** H. Sugiyama
Chemical Biology that Controls DNA Structure and Function: DNA Origami and Artificial Genetic Switch

9:30 - 9:50 **OC 1** A. Taladriz Sender
Synthesis and interaction studies of cationic glyco -oligoamide DNA binders

9:50 - 10:10 **OC 2** J. W. Park
Fluorescence Modification of the AAAA (4A) Loop to Probe the Structural Transition of the i -Motif

10:10 - 10:40 Coffee Break

Chairman: ***Andreas Marx***

10:40 - 11:20 **PL 2** A. Ono
Syntheses and characterizations of DNA duplexes having metal ion mediated base pairs

11:20 - 11:40 **OC 3** M. Etheve -Quelquejeu
Peptidyl -RNA conjugates to explore non -ribosomal peptide synthesis in bacteria.

11:40 - 12:00 **OC 4** J. Heemstra
Harnessing RNA -Small Molecule Recognition for Covalent RNA Modification

12:00 - 12:20 **OC 5** T. Lavergne
Template assembled synthetic antiparallel G -quadruplex

12:20 - 12:40 **OC 6** G. Hayashi
Metal -mediated reactions to detect 5 -methylcytosine and 5 -hydroxymethylcytosine in DNA

12:40 - 14:20 Lunch

Chairman: ***Hiroshi Sugiyama***

14:20 - 15:00 **PL 3** H. Sleiman
Three -dimensional DNA structures: design and biological applications

15:00 - 15:20 **OC 7** J. Riedl
Site -specific labeling of DNA base modifications for amplification of DNA damage

15:20 - 15:40 **OC 8** S. Sturla
Synthetic nucleosides for probing stability and polymerase processing of DNA adducts

15:40 - 16:00 **OC 9** I. Hirao Generation of high affinity DNA aptamers by the expansion of the genetic alphabet

16:00 - 16:30 Coffee Break

Chairman: ***Annemieke Madder***

16:30 - 17:10 **PL 4** O. Seitz
DNA/RNA -controlled reactions and assemblies for the interrogation of biology

17:10 - 17:50 **CL 1** J. Balintová, P. Ménová, J. Dadová, P. Kielkowski
Polymerase synthesis of base -modified DNA: new methods and new applications

17:50 - 18:10 **OC 10** A. Marx
DNA polymerases in action with modified substrates

18:10 - 18:30 **OC 11** M. Hollenstein
Modified nucleoside triphosphates in rolling circle amplification

19:00 - 23:00 Jena Bioscience Beer Party and Dinner

Tuesday, 10.6.2014

Chairman: ***David M. Williams***

8:30 - 9:10 **PL 5** V. Schramm
Enzymatic transition states and drug design

9:10 - 9:30 **OC 12** D. Hocková
Acyclic nucleoside bisphosphonates as inhibitors of 6 -oxopurine phosphoribosyltransferases: potential antimalarial and antibacterial agents

9:30 - 9:50 **OC 13** J. M. Swarbrick
Cyclic adenosine 5‘ -diphosphate ribose signalling: towards drug -like analogues to modulate CD38 and calcium release

9:50 - 10:10 **OC 14** D. Rejman
Insights into the mechanism of action of bactericidal lipophosphonoxins

10:10 - 10:40 Coffee Break

Chairman: ***Jean -Jacques Vasseur***

10:40 - 11:20 **PL 6** E. Murakami
Nucleoside/Nucleotide Analogues for HCV

11:20 - 11:40 **OC 15** R. Nencka
Novel conformationally locked nucleosides and nucleotides

11:40 - 12:00 **OC 16** L. Beigelman
Derisking the potential for mitochondrial toxicity of ribonucleoside analogs in antiviral screens

12:00 - 12:20 **OC 17** T. Tichý
Tyrosine -based prodrugs of acyclic nucleoside phosphonates

12:20 - 12:40 **OC 18** T. -C. Chien
Synthesis of 6 -Substituted Uracil and Uridine Derivatives

12:40 - 14:20 Lunch

Chairman: ***Zdenek Hostomsky***

14:20 - 14:40 **OC 19** C. Dupouy
A straightforward synthesis of RNA prodrugs bearing biolabile pivaloyloxymethyl groups

14:40 - 15:00 **OC 20** M. K. Chmielewski
2 -Pyridinyl thermolabile protecting groups as an effective protectant in nucleic acid chemistry
15:00 - 16:00 **Sorm Award lecture** M. Caruthers
Oligonucleotide synthesis interfaced with molecular biology and nanotechnology
16:00 - 21:00 Alios Biopharma Poster Session and Dinner

Wednesday, 11.6.2014

Chairman: ***Jesper Wengel***
8:30 - 9:10 **PL 7** F. Romesberg
Expansion of the Genetic Alphabet
9:10 - 9:30 **OC 21** M. Tomás Gamasa
Reversible covalent bonding allows construction of a new bio -isosteric DNA base pair
9:30 - 9:50 **OC 22** D. M. Williams
Touching base with arginine: recognition of O6 -alkyl guanines by alkyltransferase -like protein Atl1
9:50 - 10:10 **OC 23** J. C. Martins
Towards the de novo design of DNA based catalytic sites using a combined NMR and in silico approach

10:10 - 10:40 Coffee Break

Chairman: ***Hans -Achim Wagenknecht***
10:40 - 11:00 **OC 24** M. Ziemniak
Utility of chemically modified cap analogues in studying Dcp1/2 decap ping complex mechanism of action
11:00 - 11:20 **OC 25** J. Kowalska
Synthesis and properties of nucleotides containing a fluorophosphate moiety
11:20 - 11:40 **OC 26** P. Bartos
The possible pathway of oxone -mediated desulfuration of 2 -thiouridine
11:40 - 12:00 **OC 27** M. Sekine
Synthesis and properties of base or sugar modified RNA derivatives
12:00 - 12:20 **OC 28** K. Murayama
Development of an ultra -sensitive fluorescent probe composed of artificial nucleic acid for the detection of mRNA in cell
12:20 - 13:00 **PL 8** M. Manoharan
Conjugation strategies for systemic delivery of RNAi drugs
13:00 - 14:00 Lunch
14:00 20:00 Free afternoon, trips
20:00 24:00:00 Chemgenes Conference Dinner

Thursday, 12.6.2014

Chairman: ***Shankar Balasubramanian***

8:30 - 9:10 **PL 9** C. He
Reversible DNA and RNA methylation in biological regulation

9:10 - 9:30 **OC 29** T. Carell
DNA Bases Beyond Watson and Crick

9:30 - 9:50 **OC 30** J. Wengel
Novel aptamers based on LNA and UNA

9:50 - 10:10 **OC 31** A. Madder
Furan oxidation cross -linking: A versatile approach for the study and targeting of protein and nucleic acid interactions

10:10 - 10:40 Coffee Break

Chairman: ***Jean -Louis Mergny***

10:40 - 11:20 **PL 10** E. Westhof
Isostericity, Tautomerism and Geometric Selection of Nucleic Acid Base Pairs

11:20 - 11:40 **OC 32** M. Gruen
Fluorescent nucleotides: a powerful toolbox for labeling of biological macromolecules

11:40 - 12:00 **OC 33** R. Micura
From novel RNA modifications to riboswitch function

12:00 - 12:20 **OC 34** H. Asanuma
Orientation -dependent FRET between the intercalated donor and acceptor fluorophores

12:20 - 12:40 **OC 35** H. A. Wagenknecht
Postsynthetic labeling of DNA and RNA by fluorophores

12:40 - 14:20 Lunch

Chairman: ***Floyd Romesberg***

14:20 - 15:00 **PL 11** S. Balasubramanian
G -quadruplex: the DNA quadruple helix

15:00 - 15:20 **OC 36** M. P. Teulade -Fichou
Trapping quadruplexes with highly specific crosslinking agents

15:20 - 15:40 **OC 37** G. Chatelain
Synthesis of a multibranched porphyrin -oligonucleotide scaffold for the construction of DNA -based nano -architecture

15:40 - 16:00 **OC 38** N. Spinelli
Aptasensors for the detection of low mass analytes

16:00 - 16:30 Coffee Break

Chairman: ***Thomas Carell***

16:30 - 16:50 **OC 39** J. Plavec
Influence of 5' -5' inversion of polarity site within d(TG4T) on cation binding

16:50 - 17:10 **OC 40** R. Dembinski

Synthesis of modified nucleosides from 5 -Alkynyl -2‘ -deoxyuridines

17:10 - 17:30 **OC 41** S. Mikhailov
Substrate specificity of E. coli uridine phosphorylase. Evidence of high -syn conformation of substrate.

17:30 - 18:10 **PL 12** J. -L. Mergny
Quadruplexes are everywhere!

18:10 - 18:30 M. Hocek
Concluding Remarks

19:00 20:00 Organ Concert

20:00 21:30 Dinner