



TOWARDS A NEW RNA WORLD

12-14 November 2013, Poznań, Poland

XXVth ANNIVERSARY

OF THE INSTITUTE OF BIOORGANIC CHEMISTRY

POLISH ACADEMY OF SCIENCES

CONFERENCE PROGRAM

TUESDAY, NOVEMBER 12, 2013

- 10.00 – 10.15 Opening - Marek Figlerowicz
- Anniversary Session** Chair: Wojciech T. Markiewicz
- 10.15 – 10.35 Essay: "History of the Institute of Bioorganic Chemistry" - Andrzej B. Legocki
- 10.35 – 10.50 "Institute today and tomorrow" - Marek Figlerowicz
- 10.50 – 11.05 Awards, Medals
- 11.05 – 11.45 Formal Addresses, Speeches, etc.
- 11.45 – 12.00 *Institute's choir performance*
- 12.00 – 12.30 Coffee Break
- 12.30 – 13.30 **Opening Lecture**
Brian F.C. Clark: *40 Years of tRNA Structure and Function*
- 13.30 – 14.30 Lunch
- Session A - RNA-based viruses** Chair: Mariusz Jaskólski
- 14.30 – 15.05 Ben Berkhout: *Every day a new HIV-1 RNA?*
- 15.05 – 15.25 Anna Urbanowicz: *How RNA recombination shapes RNA genomes*
- 15.25 – 12.45 Paulina Jackowiak: *Significance of HCV quasispecies evolution for treatment response*
- 15.45 – 16.05 Mariola Dutkiewicz: *Targeting the highly structured RNA regions of coxsackievirus B3 with oligonucleotide-based tools*
- 16.05 – 16.35 Tea time
- Session B – RNA regulators** Chair: Jerzy Ciesiolka
- 16.35 – 17.10 Jens Kurreck: *Regulation of translation by guanine quadruplex motifs in the 5' UTR of mRNAs*
- 17.10 – 17.35 Mikołaj Olejniczak: *Molecular mechanisms of translation regulation by small RNAs in bacteria*
- 17.35 – 17.55 Anna Kurzyńska-Kokorniak: *RNA as a regulator of human ribonuclease Dicer activity*
- 17.55 – 18.15 Agata Świątkowska: *The role of the 5'-terminal regions of p53 mRNA transcripts in translation initiation*
- 18.15 – 18.35 Kamilla Bąkowska-Żywicka: *Does the RNA world still communicate with translation?*

WEDNESDAY, NOVEMBER 13, 2013

- 9.00 – 10.00 **Special Lecture**
David Baulcombe: *RNA silencing and epigenetics in plants*
- Session C - RNAi in plants** Chair: Tomasz Twardowski
- 10.00 – 10.35 Zofia Szwejkowska-Kulińska: *Posttranscriptional regulation of micro RNA biogenesis in plants*
- 10.35 – 11.00 Paweł Bednarek: *Non-RNA-based mechanism of plant defense*
- 11.00 – 11.20 Agata Tyczeńska: *Molecular basis of maize differential resistance to herbicides*
- 11.20 – 11.40 Marta Gabrylska: *RNA dactyloscopy*
- 11.40 – 12.10 Coffee Break
- Session D - RNAi in mammals** Chair: Włodzimierz Krzyżosiak
- 12.10 – 12.45 Witold Filipowicz: *Mechanisms and regulation of miRNA - mediated repression and miRNA metabolism in mammalian cells*
- 12.45 – 13.10 Krzysztof Sobczak: *Antisense oligomers as therapeutic agents neutralizing toxic RNA*
- 13.10 – 13.30 Agnieszka Fiszer: *Self-duplexing CUG repeats selectively inhibit mutant huntingtin expression*
- 13.30 – 13.50 Małgorzata Marcinkowska-Swojak: *Copy number variation of microRNA genes in human genome*
- 13.50 – 14.50 Lunch
- Session E - RNA in epigenetics** Chair: Jan Barciszewski
- 14.40 – 15.15 Andrzej Jerzmanowski: *Genetic and epigenetic mechanisms behind phenotypic plasticity*
- 15.15 – 15.40 Maciej Figiel: *RNAi-based cell therapy*
- 15.40 – 16.00 Monika Piwecka: *MicroRNA expression profiling studies in brain tumors*
- 16.00 – 16.20 Dorota Kowalczykiewicz: *Characterization of small RNA components present in *Sus scrofa* gonads*
- 16.20 – 17.10 Tea time
- Session F - RNA chemistry and biochemistry** Chair: Wojciech Markiewicz
- 16.30 – 17.05 Mathias Sprinzl: *From Nucleosides to Epigenetics*
- 17.05 – 17.40 Barbara Nawrot: *Desulfuration of wobble 2-thiouridines in relation to tRNA damage in oxidative stress conditions*
- 17.40 – 18.00 Michał Sobkowski: *Diastereoselective esterification of ribonucleoside 3'-H-phosphonates*
- 18.00 – 18.20 Marcin Chmielewski: *Modulating the stability of hydroxyl 2-pyridyl thermolabile protecting groups and their application in oligoribonucleotides synthesis*

THURSDAY, NOVEMBER 14, 2013

- 9.00 – 10.00 **Special Lecture**
Volker A. Erdmann: *Mirror Image Ribozymes and DNAzymes: New Tools to Regulate Gene Expression*
- Session G – RNA structure** Chair: Ryszard Adamiak
- 10.00 – 10.35 Douglas Turner: *Modeling RNA structure: From tetramers to influenza*
- 10.35 – 11.00 Elżbieta Kierzek: *Folding of influenza virus RNA - the origin of rational therapeutics design*
- 11.00 – 11.20 Agnieszka Kiliszek: *Structural studies of RNA CNG repeats associated with pathogenesis of TREDS*
- 11.20 – 11.40 Katarzyna Pachulska-Wieczorek: *Exploring HIV-2 leader RNA / proteins interactions*
- 11.40 – 12.10 Coffee Break
- Session H – RNA structure** Chair: Adam Kraszewski
- 12.10 – 12.45 Janusz Bujnicki: *New methods for computational modeling of 3D structures*
- 12.45 – 13.10 Marta Szachniuk: *Computing in the RNA world. From RNA FRABASE to RNA Composer*
- 13.10 – 13.30 Katarzyna Purzycka: *From secondary to tertiary structure of large RNAs*
- 13.30 – 13.50 Katarzyna Rolle: *Structural and functional propensity of human mature miRNAs*
- 13.50 – 14.20 Coffee Break
- 14.15 – 15.15 **In conclusion:**
Peter Strązewski: *No RNA world without peptides and lipids*

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