



10th International Conference Drug Delivery Systems

Nanotechnology for Healthcare: Progress in Recombinant Vaccines, Molecular Adjuvants and Modern Drug Delivery Systems

28th to 31th May 2017, Masaryk University Conference Centre,
Jesuit College, Telč, Czech Republic

Organising Committee:

- **Chairman: Jaroslav Turánek** (Veterinary Research Institute, Brno, Czech Republic) turanek@vri.cz
- **Andrew D. Miller** (King's College London, UK; Veterinary Research Institute, Brno, Czech Republic)
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- **Milan Raška** (Palacky University, Olomouc, Czech Republic) raskamil@uab.edu
- **Daniel Růžek** (Veterinary Research Institute, Brno, Czech Republic) ruzek@vri.cz
- **Mirek Machala** (Veterinary Research Institute, Brno, Czech Republic) machala@vri.cz

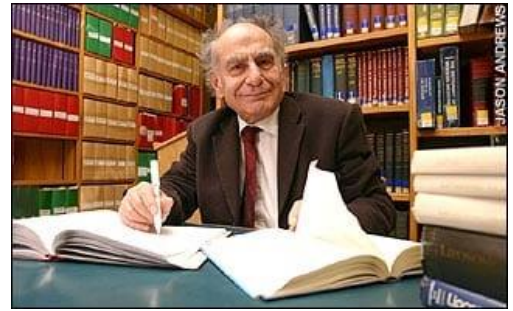
Programme:

Sunday 28th May 2017

17:00 – 20:00 Registration

Monday 29th May 2017

Monday's session is dedicated to **Prof. Gregory Gregoriadis (1934 –)**, who pioneered the field of liposomes as carriers of antigens and opened the door to the development of lipid-based vaccines



Organizers:

- **Jaroslav Turánek** (Veterinary Research Institute, Brno)
- **Milan Raška** (Palacky University, Olomouc)

Challenging viral infections and cancer by vaccination nanotechnologies

- **Chairmen:** Milan Raška and Andrew D. Miller

8:00 Breakfast

Morning session

- 9:00 – 9:30** Jeff Ulmer (GSK, USA) – mRNA vaccination of HIV and Flu with LNPs and microemulsions
- 9:30 – 10:00** Heinrich Hass (BioNTech, Germany) – mRNA vaccination for cancer
- 10:00 – 10:30** Jan Novak (University of Alabama at Birmingham, Birmingham, AL, USA) – Antigen glycosylation heterogeneity and humoral immune responses – HIV-1 vaccine as an example
- 10:30 – 10:50** **Coffee Break**
- 10:50 – 11:20** Yuhong Xu (Shanghai Jiaotong University, China) – HBV vaccination – **to be confirmed**
- 11:20 – 11:50** Alan Parker (Cardiff University School of Medicine, UK) – Present stage of gene therapy
- 11:50 – 12:00** Discussion

12:00 Lunch

Short presentations session – Project FIT

- 13:00 – 13:15** Jaroslav Turánek (Veterinary Research Institute, Czech Republic) – Biocompatible nanomaterials and molecular adjuvants for construction of recombinant vaccines and application for noninvasive vaccination
- 13:15 – 13:30** Katerina Nechvatalová (Veterinary Research Institute, Czech Republic) – Pig models for preclinical testing at VRI animal facility
- 13:30 – 13:45** Daniela Lubasová (Technical University Liberec, Czech Republic) – Nanofibre technology: production, characterisation & bioapplications
- 13:45 – 14:00** **Coffee break**
- 14:00 – 14:20** Milan Raška (Palacky University, Olomouc, Czech Republic) – Recombinant proteins and antibody epitope-mimicking polypeptides for nanoparticulate vaccine formulations
- 14:20 – 14:40** Nigel Temperton (University of Kent, UK) – Production & characterisation of virus pseudotypes
- 14:40 – 15:00** Jana Macková (Institute of Hematology and Blood Transfusion, Prague, Czech Republic) – In vitro generation of HCMV specific T-lymphocytes using IVT mRNA

15:00 – 15:20

Petr Malý (Biocev, Prague, Czech Republic) – Protein binders derived from albumin-binding domain scaffold as immunosuppressive non-IgG alternatives controlling the IL-23/Th-17 pro-inflammatory axis

Social events

19:00 – 20:00

Concert of classical music in the church of St. Jacob (Stamitz Quartet with Prof. Karel Plocek – viola and Prof. Andrew D. Miller - oboe, as guests)



Tuesday 30th May 2017

Tuesday's session is dedicated to deceased **Prof. Jan Svoboda (1934 – 2017)**, who pioneered the field of retroviruses and oncogenic viruses linking viral infections to cancerogenesis. His followers were awarded by Nobel prize.



Organizers:

- **Andrew D. Miller** (King's College London, UK; Veterinary Research Institute, Brno)
- **Jaroslav Turánek** (Veterinary Research Institute, Brno)

Challenging viral infections and cancer with drugs and nanotechnology

Chairman: Daniel Scherman

8:00 Breakfast

Morning session

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| 9:00 – 9:30 | Abdullah Ely (Wits University, RSA) – Controlling HBV infection with RNA |
| 9:30 - 10:00 | Daniel Růžek (Veterinary Research Institute, Czech Republic) – Treatment of zika and other viral infections with anti-viral drugs |
| 10:00 - 10:30 | Jimmy Bell (University of Westminster, UK) – LITA nanoparticles in cancer therapy |
| 10:30 – 10:50 | Coffee Break |
| 10:50 – 11:20 | Andrew D. Miller (King's College London, UK; Veterinary Research Institute, Czech Republic) – Precision Therapeutic Approaches to cancer treatment |
| 11:20 – 11:50 | Daniel Scherman (René Descartes Institute, Paris, France) – RNA and DNA therapeutic approaches to disease treatment |
| 11:50 – 12:00 | Discussion |

12:00 Lunch

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| 13:00 – 13:30 | Christoph Johann (Wyatt, Germany) – Characterization of colloidal drug delivery systems using field-flow fractionation coupled to light scattering |
| 13:30 – 14:00 | Régis Tournabize (Pasteur Institute, France) – The challenge of bacterial infections |
| 14:00 - 14:15 | Coffee break |
| 14:15 – 14:45 | Miroslav Machala (Veterinary Research Institute, Czech Republic) – In vitro and in vivo nanotoxicology – current challenges |
| 14:45 – 15:15 | Nadia Tagnaouti (Precision Nanosystems, Canada) – Next-generation scalable manufacture of lipid/polymer-based and genetic vaccines |

Social events

19:00

Dinner

21:00

Free joyride through night Telč

Wednesday 31th May 2017

Wednesday's session is devoted to the deceased **Prof. MUDr. Dimitrij Slonim (1926 – 2017)** who was a founder of Czech virology, and earned recognition and merit abroad - for decades cooperating with the World Health Organization (WHO). Teams under his leadership performed research, development and the manufacture of viral vaccines. His activities were crowned by the eradication of polio (1961), the elimination of measles (1982) and reduction of the incidence of mumps (after 2000) in the Czech Republic. Also significant was the development of a new type of vaccine against smallpox, and safer and more effective vaccines against rabies.



Organizers:

- Jaroslav Turánek (Veterinary Research Institute, Brno)
- Miroslav Machala (Veterinary Research Institute, Brno)

Understanding behaviours of pathogenic infections and nanotherapeutics

Chairmen: Pavel Plevka and Pavel Hozák

8:00 Breakfast

Morning session

9:00 – 9:30

Pavel Plevka (CEITEC Brno, Czech Republic) – Application of high resolution cryoTEM for structural virology

9:30 – 10:00

Pavel Hozák (Institute of Genetics, Prague, Czech Republic) – New structures in the cell nucleus defined by advanced microscopy techniques

10:00 - 10:30

Spencer Shorte (Pasteur Institute, Paris, France) – The power of an imaging platform – **to be confirmed**

10:30 – 10:50

Coffee Break

10:50 – 11:20

Jens Waldeck (Bruker BioSpin MRI GmbH, Germany) – Optical/ μ CT imaging can get you in vivo insights in cancer detection, treatment and cure

11:20 – 11:40

(Leica) – in vitro vital cell imaging by confocal microscopy

11:40 – 12:00

Melinda Bartok (Schaefer Technologie GmbH, Germany) Enhanced Darkfield Hyperspectral Microscopy of Label free Nano-Scale Samples in Situ

12:00 Lunch

Company presentations

- 13:00 – 13:20** Marco Portalupi (NanoSurf, Switzerland) – AFM in vitro microscopy and nanoinjection
- 13:20 – 13:50** Jan Vávra (JPK, Germany) – High-resolution and high-speed AFM simultaneous to optical microscopy
- 13:50 – 14:10** Bruker AFM – **title to be announced**
- 14:10 – 14:30** (Milabs) – **title to be announced**
- 14:30 – 15:00** Jens Waldeck (Bruker BioSpin MRI GmbH, Germany) – Advantages of PET/MRI in translational research: Just more than a logic imaging method combination

Social events

afternoon **Visit of the Telč castle** or the trip to the hunting castle Rostejn

20:00 **Gala Dinner - barbecue** and jazz and dance (Jazz Band „U Zdi“)

