

III. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

January 20-22nd 2021 Szeged, Hungary

Schedule

Wednesday, 20th January – 9:00-16:15 CET

9:00-9:15 **Opening Ceremony**

9:15-10:15 **Plenary Session: Prof. Dr. Csaba Szántay** (Gedeon Richter Plc.)

The hidden role of the human factor in scientific thinking

10:15-11:00 **Session 1** – **Chairs: Dr. Barbora Vranikova, Dr. Noemi Csaba**

OP-1 – 10:15-10:30 **Ruba Ismail, Ildikó Csóka**

What are the regulatory aspects surrounding nanopharmaceuticals development?

OP-2 – 10:30-10:45

Andrea-Gabriela Crişan, Sonia Iurian, Cătălina Bogdan, Lucia Rus, Alina Porfire, Sebastian Porav, Kinga Ilyés, Ioan Tomuţă

Personalized Fused Deposition Modeling 3D printed (FDM-3DP) tablets: a Quality by Design (QbD) approach

OP-3 – 10:45-11:00

Tamás Kiss, Gábor Katona, Rita Ambrus

Modifying the release of an antiparkinsonian drug by using mesoporous carrier

11:00-10:20 **Break**

11:20-12:35 **Session 2** – **Chair: Dr. Alina Porfire, Dr. Szilvia Berkó**

OP-4 – 11:20-11:35 **Mahwish Mukhtar, Rita Ambrus**

Spray dried hyaluronic acid nanoplexes conjugated with chitosan and its derivatives for the pulmonary administration as dry powder inhalers for tuberculosis

OP-5 – 11:35-11:50

Merima Sirbubalo, Amina Tucak, Edina Vranić

Additive manufacturing of PLA microneedles for transdermal drug delivery

OP-6 – 11:50-12:05

Zorana Mutavski, Senka Vidović

Potential of vinegar as extraction solvent: can we use it for herbal preparation?

OP-7 – 12:05-12:20

Črt Dragar, Tanja Potrč, Sebastjan Nemec, Robert Roškar, Stane Pajk, Slavko Kralj, Mirjana Gašperlin, Petra Kocbek

Development of magnetic nanoparticles for targeted drug delivery

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- OP-8 – 12:20-12:35** **Reihaneh Manteghi**, Katalin Kristó, Gerda Szakonyi, Ildikó Csóka
Strategies for development of antimicrobial peptides and proteins
- 12:35-13:30** **Lunch break**
- 13:30-14:45** **Session 3 – Chair: Dr. Senka Vidović, Dr. Géza Regdon jr.**
- OP-9 – 13:30-13:45** **Hussein Akel**, Ruba Ismail, Gábor Katona, Ildikó Csóka
Lipid-based nanosystems for the nose-to-brain delivery of biological drug, Insulin
- OP-10 – 13:45-14:00** **Zsófia Németh**, Dorina Gabriella Dobó, Edina Pallagi, Ildikó Csóka
Quality-focused formulation - QbD-based liposome design and development
- OP-11 – 14:00-14:15** **Stanislava Simeonova**, Tsenka Grancharova, Plamen Zagorchev, Bissera Pilicheva
Near-infrared light-responsive magnetic nanoparticles - preparation and application in photothermal therapy
- OP-12 – 14:15-14:30** **Erna Turković**, Jelena Parojčić
Application of artificial neural network in understanding critical material properties governing orodispersible film disintegration
- OP-13 – 14:30-14:45** **Kairi Tiirik**, Liis Preem, Kadi Sagor, Marta Putrinš, Tanel Tenson, Karin Kogermann
In vitro and *ex vivo* models for assessing the antibiofilm properties of wound dressings
- 14:45-15:00** **Break**
- 15:00-16:15** **Session 4 – Chair: Dr. Wehad Ibrahim, Dr. Gábor Katona**
- OP-14 – 15:00-15:15** **Davide D’Angelo**, Francesca Buttini, Fabio Sonvico
Inhalable cyclosporine powder for immunosuppressive treatment
- OP-15 – 15:15-15:30** **Eszter L. Kiss**, Mária Budai-Szűcs, Erzsébet Csányi
Mucoadhesive nanostructured lipid carriers for ophthalmic use
- OP-16 – 15:30-15:45** **Gabriela Nistor**, Marius Mioc, Roxana Ghiulai, Roxana Racoviceanu, Codruta Soica
Synthesis of betulinic acid 1,2,4-triazole derivatives suitable for cyclodextrin inclusion complex formulation

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- OP-17** – 15:45-16:00 **Edit Benke**, Christina Winter, Piroska Szabó-Révész, Eva Roblegg, Rita Ambrus
Effect of solvent compositions on habits and *in vitro* aerodynamic results of spray-dried pulmonary formulations
- OP-18** – 16:00-16:15 **Krisztián Pamlényi**, Katalin Kristó, Orsolya Jójárt-Laczkovich, Géza Regdon jr.
Preparation and investigation of permeability and physical-chemical properties of buccal films with sodium alginate
- 19:00-** **Networking event**

Thursday, 21st January – 9:30-15:45 CET

9:30-10:45 **Session 5** – Chair: **Dr. Francesca Buttini, Dr. Rita Ambrus**

- OP-19** – 9:30-9:45 **S. P. Yamini Kanti**, Ildikó Csóka, Orsolya Jójárt-Laczkovich, Livia Adalbert
Analysis of the regulations for medical devices in Europe & future perspectives
- OP-20** – 9:45-10:00 **Tsenka Grancharova**, Stanislava Simeonova, Bissera Pilicheva, Plamen Zagorchev
Synergistic effect of magnetic nanoparticles and chemotherapeutic drugs in cancer
- OP-21** – 10:00-10:15 **Balázs Attila Kondoros**, Zoltán Aigner
Evaluation of fenofibrate-cyclodextrin complexes prepared by co-grinding method
- OP-22** – 10:15-10:30 **Kaisa Põhako**, Karin Kogermann, Tanel Tenson, Külli Kingo
Towards understanding the safety and biocompatibility of electrospun fibers

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- OP-23** – 10:30-10:45 **Amina Tucak**, Merima Sirbubalo, Edina Vranić, Andreas Zimmer
Solid lipid nanoparticles as drug delivery systems for MicroRNA
- 10:45-11:00** **Break**
- 11:00-12:15** **Session 6** – Chair: **Prof. Dr. Edina Vranić, Dr. Tamás Sovány**
- OP-24** – 11:00-11:15 **Lucia Ruxandra Tefas**, Cătălina Bogdan, Alina Porfire, Tryfon Digkas, Thomas De Beer, Ioan Tomuță
Development of liposomal drug delivery system as a strategy for improving bioavailability and therapeutic efficacy, by Design of Experiments. A case study.
- OP-25** – 11:15-11:30 **Luca Éva Uhljar**, Sheng Yuan Kan, Norbert Radacsi, Rita Ambrus
Preformulation studies of ciprofloxacin loaded PVP nanofibers
- OP-26** – 11:30-11:45 **Nikolay Zahariev**, Bissera Pilicheva
Application of 32 experimental design in the preparation of casein nanoparticles as potential drug carriers
- OP-27** – 11:45-12:00 **Ana Milanović**, Sandra Cvijić
Paediatric PBPK modeling: Prediction of drug exposure following oral dosing of different paracetamol formulations in fasted and fed states
- OP-28** – 12:00-12:15 **Stella Zsikó**, Erzsébet Csányi, Szilvia Berkó
New perspectives of skin penetration testing methods
- 12:15-13:00** **Lunch break**
- 13:00-14:15** **Session 7** – Chair: **Dr. Bissera Pilicheva, Dr. Katalin Kristó**
- OP-29** – 13:00-13:15 **Ernő Máté Benkő**, Ilija German-Ilić, Géza Regdon Jr., Ildikó Csóka, Klára Pintye-Hódi, Stane Srčič, Tamás Sovány
Investigation of drug-matrix interaction in directly compressed matrices
- OP-30** – 13:15-13:30 **Roxana Ghiulai**, Marius Mioc, Gabriela Nistor, Roxana Racoviceanu, Codruta Soica
Design and synthesis of betulinic acid gold nano-particles with enhanced pharmaceutical properties
- OP-31** – 13:30-13:45 **Chiazor Ogadah**, Šklubalová Zdeňka, Vraníková Barbora
Biorelevant dissolution testing of matrix systems based on combination of mucoadhesive polymers

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- OP-32** – 13:45-14:00 **Nikolett Kis**, Szilvia Berkó, Erzsébet Csányi
Investigation of dermal semisolid in situ film-forming systems containing lidocaine hydrochloride with QbD approach
- OP-33** – 14:00-14:15 **Laura Falkenstein**, Joerg Breitzkreutz, Peter Kleinebudde
Deposition studies on a systematically modified paediatric throat geometry
- 14:15-14:30** **Break**
- 14:30-15:45** **Session 8** – Chair: **Dr. Raphael Wiedey, Dr. Livia Adalbert**
- OP-34** – 14:30-14:45 **Mercedes Vitek**, Mirjam Gosenca Matjaž, Mirjana Gašperlin, Robert Rožkar, Alenka Zvonar Pobirk
Antioxidant efficacy of vitamins loaded lipid-based delivery systems with different microstructure for dermal application
- OP-35** – 14:45-15:00 **Fanni Falusi**, Anita Kovács, Erzsébet Csányi
Investigation of foams for topical use
- OP-36** – 15:00-15:15 **Yousif H-E. Y. Ibrahim**, Katalin Kristó, Géza Regdon jr., Tamás Sovány
Development and optimization of the coating processes of lysozyme loaded pellets for oral delivery
- OP-37** – 15:15-15:30 **Nguyen Viet Khan**, Ivo Laidmäe, Karin Kogermann, Andres Meos, Duc Viet Ho, Ain Raal, Hoai Thi Nguyen, Jyrki Heinämäki
Electrospun amphiphilic nanofibers for stigmaterol-loaded delivery systems
- OP-38** – 15:30-15:45 **Fakhara Sabir**, Gábor Katona, Ruba Ismail, Ildikó Csóka
Nose to brain delivery of n-propylgallate loaded lipid nanoparticles for targeting glioblastoma multiforme via QbD approach
- 19:00-** **Game Night**

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Friday, 22nd January – 9:30-14:30 CET

9:30-10:45 **Session 9** – Chair: Dr. Jelena Djuriš, Dr. Erzsébet Csányi

OP-39 – 9:30-9:45 **Anže Zidar**, Julijana Kristl

Challenges in nanofiber testing *in vitro*

OP-40 – 9:45-10:00 **Carla Garcia-Mazas**, Marcos García Fuentes, Noemi Csaba

New polymeric nanocomplexes against glioblastoma initiating cells

OP-41 – 10:00-10:15 **Stefana Suci**, Sonia Iurian, Rita Ambrus, Catalina Bogdan, Ioan Tomuță

Milk oral lyophilisates with loratadine: screening for new excipients for paediatric use

OP-42 – 10:15-10:30 **Bence Sipos**, Gábor Katona, Ildikó Csóka

Nose-to-brain applicability of Meloxicam-loaded Soluplus polymeric micelles

OP-43 – 10:30-10:45 **Alharith A. A. Hassan**, Katalin Kristó, Tamás Sovány

Printing of peptide-loaded hybrid nanoparticles for oral delivery

10:45-11:00 **Break**

11:00-12:15 **Session 10** – Chair: Prof. Dr. Codruta Soica, Dr. Urve Paaver

OP-44 – 11:00-11:15 **Marija Djuranović**, Svetlana Ibrić

Application of deep learning tools in prediction of printability of 3D printed tablets

OP-45 – 11:15-11:30 **Martin Cseh**, Zsolt Geretovszky, Zoltán Veréb, Ferenc Bari

The 3D Printing Center of the University of Szeged: opportunities and challenges

OP-46 – 11:30-11:45 **Petra Party**, Rita Ambrus

Preparation and characterization of carrier-free dry powder inhalers containing nanosized active ingredient

OP-47 – 11:45-12:00 **Sandra Robla**, Jose Manuel Ageitos, Rubén Varela Calviño, Sulay Tovar, Noemi Csaba

Bioinspired pollen microcapsules to overcome mucosal barriers

OP-48 – 12:00-12:15 **Siniša Simić**, Jelena Vladić

Overview: Supercritical carbon dioxide versus subcritical water extraction of bioactive compounds from herbal material

12:15-13:00 **Lunch break**

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13:00-14:15 **Session 11** – Chair: Prof. Dr. Mirjana Gašperlin, Dr. Mária Budai-Szűcs

OP-49 – 13:00-13:15 **Patrícia Varga**, Rita Ambrus, Csilla Bartos

Development of spray-dried meloxicam-containing microcomposites using biocompatible matrix

OP-50 – 13:15-13:30 **Marius Mioc**, Roxana Ghiulai, Gabriela Nistor, Roxana Racoviceanu, Codruta Soica

Structural design of triterpenic acid 1,2,4-triazole linked gold nanoparticle bioconjugates, as potential treatment for malignant melanoma

OP-51– 13:30-13:45 **Sebastian Pohl**, Peter Kleinebudde

Transfer of twin-screw granulation process using a shear stress description of screw configuration

OP-52 – 13:45-14:00 **Sheila Barrios Esteban**, Sonia Reimondez-Troitiño, Ruman Rahman, Cameron Alexander, Marcos Garcia-Fuentes, Noemi Csaba

Protamine-based nanoparticles: an attractive gene delivery system for 2D and 3D glioblastoma models

OP-53 – 14:00-14:15 **Yasmin Ranjous**, Dóra Kósa, Zoltán Ujhelyi, Géza Regdon jr., Krisztina Anita Nagy, Zoltán Kónya, Ildikó Bácskay, Tamás Sovány

Optimization of the functionalization method of titanate nanotubes in order to use them as drug delivery systems

14:15-14:30 **Closing Ceremony**