MAKING SCIENCE WORK

Nachrichten und Mitteilungen

International Association for Pharmaceutical Technology
Arbeitsgemeinschaft für Pharmazeutische Verfahrenstechnik e.V.
Gemeinnütziger wissenschaftlicher Verein

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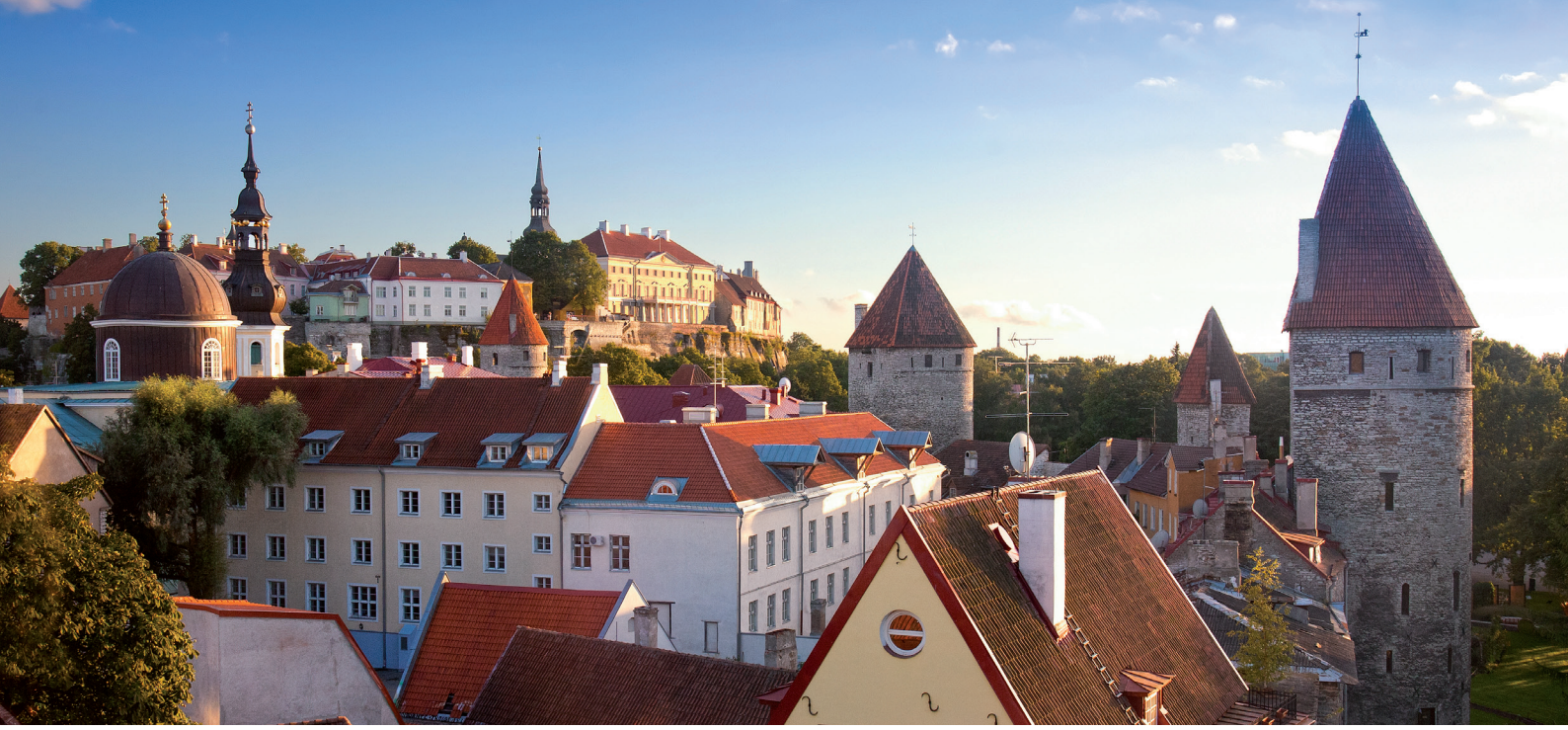
APV NEWS



Skin Forum 2018 Annual Meeting

Skin health and topical formulation - new insights and perspectives

20 to 21 June 2018

Original Sokos Hotel Viru, Tallinn, Estonia

Course no. 6727

sponsoring opportunities

table top exhibition

poster session

For more information, please get in touch with Anna-Maria Pötzl poetzl@apv-mainz.de

A conference organised by
The International Association for Pharmaceutical Technology
in partnership with Skin Forum

APV MAKING SCIENCE WORK

Skin Forum
international skin science network

www.apv-mainz.de

Lokale Gruppen

Donnerstag, 05. April 2018
Lokale APV-Gruppe Mecklenburg-Vorpommern um 19:30 Uhr in der Goldmarie (Fischstraße 11, 17489 Greifswald).
Anmeldung erforderlich bis zum 23. März 2018 bei Katharina Tietz (katharina.tietz@uni-greifswald.de).

Mittwoch, 25. April 2018
Lokale APV-Gruppe Basel um 19:30 Uhr im Restaurant „Gifthüttli" (Schneidergasse 11, 4051 Basel (www.gifthuettli.ch/)).
Weitere Informationen und Angaben zu den nächsten Terminen erhalten Sie bei Dr. Lars Restetzki (lars.restetzki@roche.com).

Mittwoch, 30. Mai 2018
Lokale APV-Gruppe Rhein-Main ab 19:30 Uhr. Der Veranstaltungsort wird noch bekanntgegeben.
Weitere Informationen und Angaben zu den nächsten Terminen erhalten Sie bei Cathrin Pauly (pauly@aspiras.de)

Dienstag, 11. September 2018
Lokale APV-Gruppe Berlin um 19:00 Uhr in den Firmenräumen der PDA Europe gGmbH (Am Borsigturm 60, 13507 Berlin).
Anmeldung erforderlich bis zum 04. September 2018 bei Dr. Andreas Sachse (andreas.sachse@cpl-sachse.de).

Lokale APV-Gruppe Westfalen
Weitere Informationen und Angaben zu den nächsten Terminen erhalten Sie bei Dr. Johanna Mosig (johanna.mosig@bayer.com).

Lokale APV-Gruppe Köln/Bonn/Aachen
Weitere Informationen und Angaben zu den nächsten Terminen erhalten Sie bei Dr. Heiko Spilgies (heiko@spilgies.de).

Lokale APV-Gruppe Oberbayern
Weitere Informationen und Angaben zu den nächsten Terminen erhalten Sie bei Dr. (USA) Julia Schulze-Nahrup (jsn@pharmoveo.de).

What´s hot in European Journal of Pharmaceutics and Biopharmaceutics?

Christoph Marschall, Ludwig-Maximilians-Universität, D-München

R. Y. Chang et al./European Journal of Pharmaceutics and Biopharmaceutics 121 (2017) 1–13
Production of highly stable spray dried phage formulations for treatment of Pseudomonas aeruginosa lung infection
Rachel Y. Chang, Jennifer Wong, Ash Mathai, Sandra Morales, Elizabeth Kutter, Warwick Britton, Jian Li, Hak-Kim Chan

The potential of bacteriophage therapy for the treatment of pulmonary infections caused by antibiotic-resistant bacteria has been well recognised. The purpose of this study was to investigate the effect of excipients on stabilisation and aerosolisation of spray dried powders of morphologically different phages – PEV podovirus and PEV myovirus. Seven anti-pseudomonal phages were screened against 90 clinical strains of bacterial hosts and three of the phages were selected for formulation study based on the host range. Design of experiments was utilised to assess the effect of different excipients on the stabilisation and aerosolisation of spray dried phages. Both podovirus and myovirus phages were stable in spray dried formulations containing trehalose or lactose and leucine as excipients with less than 1-log10 titre reduction during spray drying, with lactose providing superior phage protection over trehalose. Furthermore, the spray dried phage formulations dispersed in an Osmohaler at 85 L/min produced a high fine particle fraction of over 50%. The results showed that the phages in this study can form respirable dry powder phage formulations using the same excipient composition. Spray dried various types of lytic phages hold significant potential for the treatment of pulmonary infections.

P. M. Desai et al./European Journal of Pharmaceutics and Biopharmaceutics 122 (2018) 25–36
Tablet coating by injection molding technology – Optimization of coating formulation attributes and coating process parameters
Parind M. Desai, Vibha Puri, David Brancazio, Bhakti S. Halkude, Jeremy E. Hartman, Aniket V. Wahane, Alexander R. Martinez, Keith D. Jensen, Eranda Harinath, Richard D. Braatz, Jung-Hoon Chun, Bernhardt L. Trout

We developed and evaluated a solvent-free injection molding (IM) coating technology that could be suitable for continuous manufacturing via incorporation with IM tableting. Coating formulations (coating polymers and plasticizers) were prepared using hot-melt extrusion and screened via stress-strain analysis employing a universal testing machine. Selected coating formulations were studied for their melt flow characteristics. Tablets were coated using a vertical injection molding unit. Process parameters like softening temperature, injection pressure, and cooling temperature played a very important role in IM coating processing. IM coating employing polyethylene oxide (PEO) based formulations required sufficient room humidity (>30% RH) to avoid immediate cracks, whereas other formulations were insensitive to the room humidity. Tested formulations based on Eudrajit E PO and Kollicoat IR had unsuitable mechanical properties. Three coating formulations based on hydroxypropyl pea starch, PEO 1,000,000 and Opadry had favorable mechanical (<700 MPa Young's modulus, >35% elongation, >95 × 104 J/m3 toughness) and melt flow (>0.4 g/min) characteristics, that rendered acceptable IM coats. These three formulations increased the dissolution time by 10, 15 and 35 min, respectively (75% drug release), compared to the uncoated tablets (15 min). Coated tablets stored in several environmental conditions remained stable to cracking for the evaluated 8-week time period.

G. F. Petrovick et al./European Journal of Pharmaceutics and Biopharmaceutics 122 (2018) 137–145
Orodispersible tablets containing taste-masked solid lipid pellets with metformin hydrochloride: Influence of process parameters on tablet properties
Gustavo Freire Petrovick, Peter Kleinebudde, Jörg Breitkreutz

Compaction of multiparticulates into tablets, particularly into orodispersible tablets (ODTs), is challenging. The compression of pellets, made by solid lipid extrusion/spheronization processes, presents peculiar difficulties since solid lipids usually soften or melt at relatively low temperature ranges and due to applied mechanical forces. Until now, there are no reports in literature about the development of ODTs based on solid lipid pellets. To investigate the feasibility of producing such tablets, a design of experiment (DoE) approach was performed to elucidate the influence of compression force and amount of two co-processed excipients (Ludiflash® and Parteck® ODT) on properties of the tablets (friability, tensile strength, and disintegration time). ODTs (15 mm, flat-faced) with solid lipid pellets (250–1000 µm in diameter) containing 500 mg of metformin HCl, presenting immediate drug release profile and taste-masked properties, were targeted. During compression, a strong lamination of the tablets containing Parteck® ODT was observed. This phenomenon was prominently observed when high compression forces (≥5 kN) and high excipient amounts (≥40%; w/w) were used. On the other hand, the DoE focused on tablets with

Ludiflash® showed better results regarding the production of ODTs. A positive influence of the compression force on the tensile strength and disintegration time of the tablets, regarding specifications of the Ph. Eur., was observed. The increase in the amount of this excipient resulted in fast disintegrating tablets, however, a negative influence on the tensile strength was noticed. After optimization of the parameters and formulation, based on the DoE results and considering the Ph. Eur. specifications for tablets, ODTs based on lipid pellets containing metformin HCl presenting immediate release profile (85% drug release in less than 30 min) and taste-masked properties (determined by an electronic tongue) were successfully obtained.

T. F. Bahamondez-Canas et al./European Journal of Pharmaceutics and Biopharmaceutics 122 (2018) 167–175
Intranasal immunization with dry powder vaccines
Tania F. Bahamondez-Canas, Zhengrong Cui

Vaccination represents a cost-effective weapon for disease prevention and has proven to dramatically reduce the incidences of several diseases that once were responsible for significant mortality and morbidity worldwide. The nasal cavity constitutes the initial stage of the respiratory system and the first contact with inhaled pathogens. The intranasal (IN) route for vaccine administration is an attractive alternative to injection, due to the ease of administration as well as better patient compliance. Many published studies have demonstrated the safety and effectiveness of IN immunization with liquid vaccines. Currently, two liquid IN vaccines are available and both contain live attenuated influenza viruses. FluMist® was approved in 2003 in the United States, and Nasovac® H1N1 vaccine was approved in India in 2010. Preclinical studies showed that IN immunization with dry powder vaccines (DPVs) is feasible. Although there is not a commercially available DPV yet, DPVs have the inherent advantage of being relatively more stable than liquid vaccines. This review focuses on recent developments of DPVs as next-generation IN vaccines.

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Anna-Maria Pötzl · APV e.V.

JETZT NEU: Leasing auch für andere Investitionsgüter

Leasing und Finanzierung von Investitionsgütern zu günstigen Konditionen:

- ✓ schont das Eigenkapital
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Kfz-Leasing

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Hersteller/Typ	Listenpreis	mtl. Rate
BMW 218i Gran Tourer 103kW/140PS Euro 6d-Temp inkl. Klimaanlage, Media, Freisprecheinrichtung/Bluetooth, Regensensor, Ablagenpaket, 16" LM-Felgen V-Speiche 471 etc.	25.756,00 €	249,00 €
BMW X2 sDrive18i 103kW/140PS Euro 6d-Temp inkl. Klimaanlage, Nebelscheinwerfer, Freisprecheinrichtung, Sportlederlenkrad+Multifunktion, Ablagenpaket, 17" LM-Felgen etc.	28.613,00 €	299,00 €
BMW 420i Gran Coupé Advantage 135kW/184PS Euro 6d-Temp inkl. Klimaautomatik, PDC hinten, Innenspiegel automatisch abblendend, GRA, 18" LM-Felgen, Ablagenpaket etc.	34.538,00 €	309,00 €
BMW X3 xDrive20i 135kW/184PS Euro 6d-Temp inkl. Automatik, Klimaautomatik, Radio Professional, LED, autom. Heckklappenbetätigung, PDC vorn+hinten, 18" LM-Räder etc.	37.479,00 €	379,00 €
CITROEN DS7 Crossback Business BlueHDI 130kW/177PS Euro 6d-Temp inkl. Automatik, Navigationssystem, Klimaautomatik, PDC, GRA, Sitzheizung vorne, 17" LM-Räder etc.	36.210,00 €	289,00 €
MERCEDES CLS 350d 4M Coupé 210kW/286PS Euro 6d-Temp inkl. Navi COMAND, Klimaautomatik, LED High Performance-Scheinwerfer, 18" LM-Räder 5-Doppelspeichen-Design etc.	59.050,00 €	699,00 €
OPEL Grandland X Business Innovation 130kW/177PS Euro 6d-Temp inkl. Automatik, Navi 5.0 IntelliLink, Leder, Klimaautomatik, Park & Go Premium, GRA, 18" LM-Räder etc.	32.634,00 €	359,00 €
PEUGEOT 3008 Active Business 1,5l BlueHDI 96kW/130PS Euro 6d-Temp inkl. Automatik, Navi, Klimaautomatik, Spurhalteassistent, PDC vorn+hinten/Kamera, GRA, 17" LM-Räder etc.	28.487,00 €	249,00 €
TOYOTA Yaris Hybrid "Team D" 54kW/73PS inkl. Automatik, Klimaautomatik, Multimedia Audiosystem, Bluetooth Audiostreaming, Einparkhilfe vorn + hinten, 15" LM-Räder etc.	17.294,00 €	159,00 €
TOYOTA Auris Touring Sports Hybrid "Team D" 73kW/99PS inkl. Automatik, Klimaautomatik, Voll-LED-Scheinwerfer, Multimediasystem, Sitzheizung vorn, PDC hinten, LM-Räder etc.	25.109,00 €	219,00 €
TOYOTA RAV4 "Team D" 2,5l Hybrid 114kW/155PS inkl. Automatik, Klimaautomatik, PDC vorn+hinten mit Kamera, LED-Scheinwerfer, Sitzheizung vorne, 18" LM-Räder etc.	30.740,00 €	329,00 €
VOLVO XC40 D3 Momentum 110kW/150PS Euro 6d-Temp inkl. Navigationssystem, Harman Kardon Soundsystem, LED-Scheinwerfer, Klimaanlage, 18" LM-Räder etc.	31.765,00 €	259,00 €
VOLVO XC60 D4 AWD Momentum 140kW/190PS Euro 6d-Temp inkl. Automatik, 12,3"Monitor, Navi, LED Scheinwerfer, Klimaautomatik, PDC hinten, Sitzheizung vorne, 18" LM-Felgen, etc.	42.689,00 €	369,00 €
VOLVO XC90 D5 AWD Inscription 173kW/235PS Euro 6d-Temp inkl. Automatik, Lederpolster, Navi, 4-Zonen-Klimaautomatik, Park Assist Pilot, Fahrer-/Beifahrersitz mit Memory etc.	58.067,00 €	549,00 €