



Nestlé Research, Conference Room Pasteur March 5 -7, 2019

Agenda March 5th, 2019

| Time | Title | Author | Institute |
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| 8:30 | Welcome coffee | All | |
| 9:00 | Welcome, safety, introduction | Gerhard Niederreiter Isabelle Bureau-Franz | |
| 9:10 | MCPD in fried and smoked fishery products | Prof. Jan Fritsche | Max Rubner-Institut Kiel, Institut für Sicherheit und Qualität bei Milch und Fisch |
| 9:35 | High pressure-based pasteurization and sterilization as tools to create safe and healthy foods | Dr. Robert Sevenich | TU Berlin, Berlin |
| 10:00 | Dynamic aroma release from a foamed dairy matrix monitored by headspace gas chromatography-ion mobility spectrometry (HS GC-IMS) | Christine Thomas Ellen Scheeff Yanyan Zhang Prof. Jörg Hinrichs | Universität Hohenheim, Institut für Lebensmittel - wissenschaft und Biotechnologie |
| 10:25 | Impact of structural aspects of encapsulated fish oil particles on the oxidative stability – experimental and simulation approach | Annika Linke Heike Teichmann Prof. Jochen Weiss Prof. Reinhard Kohlus | University of Hohenheim |
| 10:50 | <i>Nescafe Break</i> | | |
| 11:15 | Impact of pH and ionic strength on temperature dependent diffusion of micellar bound casein monomers into the serum phase | Simon Schiffer Prof. Ulrich Kulozik | TU München, Lehrstuhl für Lebensmittel- und Bioprozesstechnik |
| 11:40 | Influence of different diafiltration media on milk protein fractionation and functionality of micellar casein | Michael Reitmaier Prof. Ulrich Kulozik | TU München, Lehrstuhl für Lebensmittel- und Bioprozesstechnik |
| 12:05 | How Grinding Processes Influence Sucrose Particle Surfaces and Resulting Chocolate Mass Properties | Dr. Dana Middendorf Knut Franke | Deutsches Institut für Lebensmitteltechnik e.V., Quakenbrück |

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| 12:30 | Modelling the refining of chocolate and related molecular mechanisms with impact on rheology | Moritz Kindlein Philip Schmid Dr. Ekaterina Elts Prof. Heiko Briesen | TU München, Lehrstuhl für Systemverfahrens- technik und Verfahrenstechnik dispenser Systeme |
| 12:55 | <i>Lunch Break in Foyer Pasteur</i> | | |
| 13:45 | Poster LVT: Guided poster tour with 5 min presentations | | |
| 15:00 | Mechanically susceptible particles in agitated flowing suspensions analysed using experiments and simulation | Lennart Vulprecht Thies Wölken Prof. Cornelia Rauh | TU Berlin, Institut für Lebensmittel- technologie und Lebensmittelchemie |
| 15:25 | Influence of the Fat Content on the Changes of Physical Properties of Meat Emulsions during Heating | Felix-Alexander Katz Prof. Christian Gerhards Prof. Jochen Weiss | Hochschule Albstadt- Sigmaringen & Universität Hohenheim |
| 15:50 | Detection of Single Crystallization Events in Emulsions by means of a Thermo-Optical Method | Jasmin Reiner Serghei Abramov Prof. Heike Karbstein | Karlsruher Institut für Technologie, Institut für Bio- und Lebensmitteltechnik, Karlsruhe |
| 16:15 | <i>Nescafe Break</i> | | |
| 16:40 | Whey protein-pectin complexes as new fat-replacers: Up-scaling, structure analysis and functionality for fat-reduced food systems | Kristin Protte Britta Graf Nadine Zachert Prof. Jochen Weiss Prof. Jörg Hinrichs | Universität Hohenheim, Institut für Lebensmittel- wissenschaft und Biotechnologie |
| 17:05 | Influence of thermomechanical treatment on the emulsifying properties of whey proteins | Maria-Gabriela Quevedo- Barahona Prof. Heike Karbstein Dr. M. Azad Emin | Karlsruher Institut für Technologie, Institut für Bio - und Lebensmitteltechnik, Lebensmittel- verfahrenstechnik |
| 17:30 | Compositional variations of technical emulsifiers and influence on technofunctional properties | Max Blankart Prof. Jörg Hinrichs | Universität Hohenheim - Institut für Lebensmittel- wissenschaft und Biotechnologie |
| 18:15 | Meeting LVT / POSTER | | All |
| 19:30 | Bus Transfer to Restaurant "Chalet Suisse" in Lausanne | | |

Agenda March 6th, 2019

| Time | Title | Author | Institute |
|-------|---|---|--|
| 8:30 | Welcome coffee | All | |
| 9:00 | Nestlé Research – Introduction | Gerhard Niederreiter Isabelle Bureau-Franz | |
| 9:45 | Wirken von Prof. Jörg Schwedes in der Wissenschaftscommunity | Prof. Karl Sommer | TU München |
| | Entwicklung der Schüttguttechnik in der Ära Schwedes | Dr.-Ing. Harald Wilms | Wilms-ITC Ingenieurbüro |
| | Forschungserfolge von Prof. Schwedes bei der Nasszerkleinerung in Rührwerkskugelmühlen (in honor of Prof. Jörg Schwedes) | Prof. Arno Kwade Dr. Norbert Stehr | TU Braunschweig |
| 11:00 | <i>Nescafe Break</i> | | |
| 11:25 | Structure development of agglomerated spray dried particles by powder addition via fines return system | Jakob Fröhlich Prof. Jörg Hinrichs Prof. Reinhard Kohlus | Universität Hohenheim |
| 11:50 | Modern molecular approaches for analyzing molecular structure and mechanisms during aggregation and gelation of casein micelles | Prof. Ronald Gebhardt | RWTH Aachen, Aachener Verfahrenstechnik |
| 12:15 | Strategies to improve the consumer acceptance of plant protein based yoghurt alternatives | Prof. Stephan Drusch Monika Brückner-Gühmann Martina Klost Moritz Braunwarth | Technische Universität Berlin |
| 12:40 | <i>Lunch Break in Foyer Pasteur</i> | | |
| 13:45 | <i>Nestlé Student Challenge</i> | | |
| 14:45 | LVT Influence of thermomechanical treatment on the gelation properties of extruded apple pomace | Vera Schmid Prof. Heike Karbstein Dr. M. Azad Emin | Karlsruher Institut für Technologie, Institut für Bio- und Lebensmitteltechnik |
| | AGG Upscaling from particles to continuum theory | Prof. Stefan Luding | University of Twente, AE Enschede/NL |
| 15:10 | LVT Impact of enzymatic and mechanical treatment on techno-functional properties of pea hull fibre | Alina Marie Manthei Dr. Rocio Morales Sebastian Schalow Prof. Stephan Drusch | TU Berlin, Institut für Lebensmitteltechnologie & Lebensmittelchemie |

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| | AGG Investigation of Mass Transfer between Granulate Particles during Spheronization | Maria Evers Amelie Mattusch Dominik Weis Prof. Markus Thommes Prof. Sergiy Antonyuk | TU Dortmund, Lehrstuhl Feststoff – verfahrenstechnik & TU Kaiserslautern, Lehrstuhl für Mechanische Verfahrenstechnik |
| 15:35 | LVT CFD analysis and reference nets applications of the gas hydrate process in the food industry | Miray Sardogan Jawon Ha Prof. Cornelia Rauh Prof. Antonio Delgado | TU Berlin, Department of Food Biotechnology and Food Process Engineering & Friedrich-Alexander- Universität Erlangen- Nürnberg, Lehrstuhl für Strömungsmechanik |
| | AGG Processing of Model Food Systems Using Eirich Type Mixers | Gerald Michel Jens Buzengeiger Dr.-Ing. Stefan Gerl | Maschinenfabrik Gustav Eirich GmbH & Co KG, Hardheim |
| 16:00 | LVT Foam dynamics in non-Newtonian fluids using Lattice Boltzmann Method and its application in food industry | Prof. Antonio Delgado Mohamed Hussein Bernhard Gattermig Mohammad Mobarak | Friedrich-Alexander- Universität Erlangen- Nürnberg, Lehrstuhl für Strömungsmechanik |
| | AGG Drying of API-Nanosuspensions with a Fluidized Granulation Approach | Martin Wewers Dr. Jan Henrik Finke Dr. Michael Juhnke Prof. Arno Kwade | TU Braunschweig, Institut für Partikeltechnik & Novartis Pharma AG, Virchow/CH |
| 16:25 | <i>Nescafe Break</i> | | |
| 16:50 | LVT High Pressure Foam Extrusion of Gluten-Free Dough | Joël Zink Prof. Erich Windhab | ETH Zürich / CH, Laboratory of Food Process Engineering |

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| | <p style="text-align: center;">AGG</p> <p style="text-align: center;">Lyophilization front structures in frozen particle packings</p> | <p style="text-align: center;">Dr. Nicole Vorhauer Sebastian Gruber Mathias Hilmer Michael Schulz Jürgen Peters Diethard Kürschner Prof. Evangelos Tsotsas Prof. Petra Först</p> | <p style="text-align: center;">Otto-von-Guericke-Universität Magdeburg, Institut für Verfahrenstechnik & Lehrstuhl für Systemverfahrenstechnik, TU München Heinz Maier-Leibnitz Zentrum, TU München</p> |
| 17:15 | <p style="text-align: center;">LVT</p> <p style="text-align: center;">Microwave-Freezing-Drying of Fruit Foams for the Production of Dried Snack</p> | <p style="text-align: center;">Mine Ozelik Sabine Ambros Prof. Ulrich Kulozik</p> | <p style="text-align: center;">Technische Universität München</p> |
| | <p style="text-align: center;">AGG</p> <p style="text-align: center;">Impact of Filling Levels and Silo Characteristics on Mass Flow Fluctuations and Pressure Gradients during Powder Discharge</p> | <p style="text-align: center;">Robert Hesse Fabian Krull Prof. Sergiy Antonyuk</p> | <p style="text-align: center;">TU Kaiserslautern, Lehrstuhl für Mechanische Verfahrenstechnik</p> |
| 17:40 | <p style="text-align: center;">LVT</p> <p style="text-align: center;">The foam formation of partially crystalline fat systems with dynamic membrane aeration</p> | <p style="text-align: center;">Kim Mishra Julia Merkel Prof. Erich Windhab</p> | <p style="text-align: center;">ETH Zürich / CH, Laboratory of Food Process Engineering</p> |
| | Poster AGG | | |
| 18:10 | <p style="text-align: center;">Degassing behaviour of ground coffee</p> | <p style="text-align: center;">Philipp Götje Dr. Stephan Sternowsky Thomas Böckmann</p> | <p style="text-align: center;">Neuhaus Neotec Maschinen- und Anlagenbau GmbH</p> |
| | Poster AGG | | |
| 18:30 | <p style="text-align: center;">Poster LVT / AGG</p> | <p style="text-align: center;">Poster for those, who do not attend meeting AGG</p> | |
| 19:30 | <p style="text-align: center;">Bus Transfer to Restaurant "The Nest Museum" Nestlé challenge prize ceremony</p> | | |

Agenda March 7th, 2019

| Time | Title | Author | Institute |
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| 8:30 | Welcome coffee | All | |
| 9:00 | Stiffness and damping characteristics of a bulk solid specimen | Karl Krüger Dr. Thomas Mütze Prof. Urs Peuker Thomas Falke Prof. Matthias Kröger | TU Bergakademie Freiberg, MVT/AT & TU Bergakademie Freiberg, IMKF |
| 9:25 | Powder attrition during lean phase pneumatic conveying | H. Wolf B.A. Kotzur Dr. Tom Simons Prof. Michael Bradley Prof. F. Kleine Jäger | BASF SE, Chemical and Process Engineering, Ludwigshafen & University of Greenwich, Wolfson Centre |
| 09:50 | Simulation of Spray Coating in a Spouted Bed using CFD-DEM and Recurrence CFD | Paul Kieckhefen Dr. Thomas Lichtenegger Dr. Swantje Pietsch Prof. Stefan Pirker Prof. Stefan Heinrich | Hamburg University of Technology, Institute of Solids Process Engineering and Particle Technology & University Linz, Department of Particulate Flow Modelling, Linz /AUT |
| 10:15 | <i>Nescafe Break</i> | | |
| 10:40 | Additive Manufacturing of Ceramics: Tracking of Cluster Orientation through the Printing Process | Bastien Dietemann Dr. Claas Bierwisch Dr. Torsten Kraft | Fraunhofer IWM, Freiburg |
| 11:05 | In-line monitoring of coating quality and quantity in a three-dimensional prismatic spouted bed | Dr. Swantje Pietsch Finn Ole Poppinga Anna Peter Prof. Johannes Khinast Prof. Stefan Heinrich | Hamburg University of Technology, Institute of Solids Process Engineering and Particle Technology & Research Center Pharmaceutical Engineering GmbH (RCPE), Graz / AUT |

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| 11:30 | Stochastic Simulation of Spray Agglomeration Process in a Continuously Operated Horizontal Fluidized Bed by Monte Carlo Method | Jiajie Du Prof. Andreas Bück Prof. Evangelos Tsotsas | Otto-von-Guericke-Universität Magdeburg, Institut für Verfahrenstechnik, & Friedrich-Alexander University Erlangen- Nuremberg, Institute of Particle Technology |
| 11:55 | <i>Lunch Break in Foyer Pasteur</i> | | |
| 12:45 | Development of an energy-efficient and wear-reduced hydraulic piston press for agglomeration of renewable, mineral and fossil resources as well as waste | Franz Fehse André Schmidt Dr. Hans-Werner Schröder | TU Bergakademie Freiberg, ITUN |
| 13:10 | Novel falling particle cloud reactor for powder decontamination | Gene Lam Prof. Erich Windhab | ETH Zürich / CH, Laboratory of Food Process Engineering |
| 13:35 | Development of a new shear and compaction tester to determine powders characteristics on small powder quantities (>1 ml) | Dr. Harald Zetzener Dr. Michael Ostendorf Achim Overbeck Dr. Jan Finke Prof. Arno Kwade | Bayer AG, Leverkusen & TU Braunschweig, Institut für Partikeltechnik |
| 14:00 | <i>Nescafe Break</i> | | |
| 14:25 | Evaluation of the residence time distribution of pharmaceutical powders in paddle feeders of rotary tablet presses | Daniel Puckhaber Dr. Jan Henrik Finke Johannes Stelzner Prof. Arno Kwade | TU Braunschweig, Institut für Partikeltechnik & KORSCH AG, Berlin |
| 14:50 | Effect of Contact Angle and Energy Input on the Selective Spherical Agglomeration of Graphite-Quartz-Mixtures | Prof. Ulrich Bröckel Julia Schreier | Hochschule Trier, Umwelt-Campus Birkenfeld, IMiP |
| 15:15 | Strategy for coating of aerogels | Monika Goslinska Prof. Stefan Heinrich | Hamburg University of Technology, Institute of Solids Process Engineering and Particle Technology |

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Biomolécules,
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& Laboratoire
d'Energétique et de
Mécanique Théorique
et Appliquée,
Université de
Lorraine, Nancy / FR

15:40 Experimental investigation of the fluidization behaviour
of fine particles with differently treated surfaces

Philipp Grohn
Fabian Krull
Prof. Sergiy Antonyuk
Shirin Enferad
Claire Gaiani
Mathieu Jenny

16:05

Wrap-up AGG
