



OTTO VON GUERICKE  
UNIVERSITÄT  
MAGDEBURG

VST

FAKULTÄT FÜR VERFAHRENS-  
UND SYSTEMTECHNIK

# Publikationsbericht 2016

# FAKULTÄT FÜR VERFAHRENS- UND SYSTEMTECHNIK

Universitätsplatz 2, Gebäude 10, 39106 Magdeburg  
Tel. +49 (0)391 67 58443, Fax +49 (0)391 67 41252

## 1. Leitung

Prof. Dr. rer. nat. habil. Helmut Weiß (Dekan)  
Prof. Dr.-Ing. habil. Dominique Thévenin (Prodekan)  
Prof. Dr.-Ing. Eckehard Specht (Studiendekan)

## 2. Veröffentlichungen

### *Dissertationen*

#### **Addai, Emmanuel Kwasi; Krause, Ulrich [GutachterIn]**

Investigation of explosion characteristics of multiphase fuel mixtures with air. - Powell, Wyoming: Western Engineering, Inc., 2016; XXVI, 238 Seiten: Illustrationen, ISBN 978-0-9913782-2-7;  
[Literaturverzeichnis: Seite 173-187];

#### **Al-Hasnawi, Adnan Ghareeb Tuaamah; Specht, Eckehard [GutachterIn]**

Mixing behaviour of side injection of air jets and gaseous fuel jets into the axial flow of tunnel kilns. - Magdeburg, 2016; XIV, 170 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 163-167];

#### **Becker, Friedherz Hartmut; Specht, Eckehard [GutachterIn]**

Brenntechnologie für Geschirr unter besonderer Berücksichtigung des Glattbrands von Porzellan Flachware im Schnellbrandofen. - Magdeburg, 2016; 340 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 257-268];

#### **Bensmann, Astrid Lilian; Sundmacher, Kai [GutachterIn]; Kienle, Achim [GutachterIn]**

Modellbasierte Analysen zur Gestaltung und Betriebsführung von Biogasanlagen. - München: Dr. Hut, 2016; xiv, 149 Seiten: Illustrationen; 21 cm x 14.8 cm, 280 g - (Verfahrenstechnik); [http://www.dr.hut-verlag.de/978-3-8439-2908-0](http://www.dr.hut-verlag.de/978-3-8439-2908-0.html); ISBN 978-3-8439-2908-0;  
[Literaturverzeichnis: Seite 135-144];

#### **Eicke, Matthias J.; Seidel-Morgenstern, Andreas [GutachterIn]**

Process strategies for batch preferential crystallization. - Aachen: Shaker Verlag, 2016, 1. Auflage; XII, 154 Seiten: 68 Illustrationen, Diagramme; 21 cm, 252 g - (Forschungsberichte aus dem Max-Planck-Institut für Dynamik komplexer technischer Systeme; Band 47), ISBN 978-3-8440-4896-4;  
[Literaturverzeichnis: Seite 141-145];

#### **Erdrich, Philipp; Reichl, Udo [GutachterIn]; Kienle, Achim [GutachterIn]**

Modellbasierte Bestimmung von Interventionsstrategien zur Optimierung der Produktion von Biokraftstoffen in Cyanobakterien. - Magdeburg, 2016; xx, 158 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 131-158];

#### **Gaßmann, Jochen; Mörl, Lothar [Gutachter]; Tsotsas, Evangelos [Gutachter]**

Wirbelschichttrocknung pastöser Biomasse mit überhitztem Wasserdampf bis 4 bar. - Magdeburg, 2016; XV, 282 Seiten:

Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 212-225];

**Hahn, Sarah-Katharina; Krause, Ulrich [GutachterIn]**

Entwicklung einer Methodik zur Bestimmung des Verbrennungseffizienzfaktors von Feststoffen. - Magdeburg, 2016; XVI, 183 Blätter: Illustrationen  
[Literaturverzeichnis: Blatt 135-142];

**Kröber, Tina; Reichl, Udo [GutachterIn]; Seidel-Morgenstern, Andreas [GutachterIn]**

Purification of cell culture-derived influenza virus using simulated moving bed chromatography. - Magdeburg, 2016; XX, 171 Seiten: Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 132-148];

**Medeiros de Souza, Luís Guilherme; Janiga, Gábor [GutachterIn]; Seidel-Morgenstern, Andreas [GutachterIn]**

Model optimization and techniques for the simulation of multiphase chemical reactors. - Magdeburg, 2016; xii, 130 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 121-130];

**Meye, Thomas; Krause, Ulrich [GutachterIn]**

Untersuchungen zu Gasdetonationen in Kapillaren für die Mikroreaktionstechnik. - Magdeburg, 2016; XIII, Blatt 14-86: Illustrationen  
[Literaturverzeichnis: Blatt 81-85];

**Muth, Thilo; Weiß, Helmut [GutachterIn]; Reichl, Udo [GutachterIn]**

Novel computational methods for the analysis and interpretation of MS/MS data in metaproteomics. - Magdeburg, 2016; XVI, 197 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 151-175];

**Pech, Sabine; Reichl, Udo [GutachterIn]**

Proteomanalytik der Adaption tierischer Zelllinien an Suspensionswachstum und optimierte Medien im Kontext der Impfstoffproduktion. - Magdeburg: Otto-von-Guericke-Universität Magdeburg, 2016; XXIV, 192, lxxvii Seiten: Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 161-186];

**Temmel, Erik; Lorenz, Heike [GutachterIn]**

Design of continuous crystallization processes. - Aachen: Shaker Verlag, 2016, 1. Auflage; ix, 175 Seiten: 19 Illustrationen; 21 cm, 284 g - (Forschungsberichte aus dem Max-Planck-Institut für Dynamik komplexer technischer Systeme; Band 46), ISBN 978-3-8440-4700-4;  
[Literaturverzeichnis: Seite [157]-169];

**Yazdi, Samira; Naumann, Michael [GutachterIn]; Weiß, Helmut [GutachterIn]**

The structural dynamics of soluble and membrane proteins explored through molecular simulations. - Magdeburg, 2016; iv, 131 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 107-129];

**Zhou, Teng; Sundmacher, Kai [GutachterIn]**

Systematic methods for reaction solvent design and integrated solvent and process design. - Magdeburg, 2016; 115 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 100-109];

# INSTITUT FÜR STRÖMUNGSTECHNIK UND THERMODYNAMIK

Universitätsplatz 2, 39106 Magdeburg  
Tel. +49 (0)391 67 58576, Fax +49 (0)391 67 12762  
frank.beyrau@ovgu.de

## 1. Leitung

Prof. Dr.-Ing. F. Beyrau (geschäftsführender Leiter)  
Prof. Dr.-Ing. D. Thévenin  
Prof. Dr.-Ing. E. Specht

## 2. Veröffentlichungen

### Begutachtete Zeitschriftenaufsätze

#### **Abdelsamie, Abouelmagd; Fru, Gordon; Oster, Timo; Dietzsch, Felix; Janiga, Gabor; Thévenin, Dominique**

Towards direct numerical simulations of low-Mach number turbulent reacting and two-phase flows using immersed boundaries

In: Computers & fluids: an international journal. - Amsterdam [u.a.]: Elsevier Science, Bd. 131.2016, S. 123-141;  
[Imp.fact.: 1,619]

#### **Abdelsamie, Abouelmagd; Thévenin, Dominique**

Direct numerical simulation of spray evaporation and autoignition in a temporally-evolving jet  
In: Proceedings of the Combustion Institute. - Amsterdam [u.a.]: Elsevier, 2016; <http://dx.doi.org/10.1016/j.proci.2016.06.030>;  
[Imp.fact.: 2,796]

#### **Al-Khalaf, Mohsan Rhida; Specht, Eckehard**

Prediction of cross flow mixing in the structured packed bed through CFD simulation using (FBM and PMM) and validation with experiments  
In: Engineering applications of computational fluid mechanics. - Hong Kong: CSE Dept., the H.K. PolyU, Bd. 11.2017, 1, S. 1-14;  
[Imp.fact.: 1,033]

#### **Al-Khalaf, Mohsan Rhida; Woche, Hermann; Specht, Eckehard**

Experimental investigation of cross flow mixing in an unstructured packed bed  
In: Journal of chemical technology and metallurgy. - Sofia: University of Chemical Technology and Metallurgy, Bd. 51.2016, 6, S. 639-648;

#### **Attalla, Mohamed; Maghrabie, Hussein M.; Specht, Eckehard**

An experimental investigation on fluid flow and heat transfer of rough mini-channel with rectangular cross Section  
In: Experimental thermal and fluid science: international journal of experimental heat transfer, thermodynamics and fluid mechanics: ETF science. - New York, NY: Elsevier, Bd. 75.2016, S. 199-210;  
[Imp.fact.: 2,128]

#### **Berg, Philipp; Iosif, Christina; Ponsonnard, Sébastien; Yardin, Catherine; Janiga, Gábor; Mounayer, Charbel**

Endothelialization of over- and undersized flow-diverter stents at covered vessel side branches - an in vivo and in silico study  
In: Journal of biomechanics: affiliated with the American Society of Biomechanics, the European Society of

Biomechanics, the International Society of Biomechanics, the Japanese Society for Clinical Biomechanics and Related Research and the Australian and New Zealand Society of Biomechanics. - Amsterdam [u.a.]: Elsevier Science, Bd. 49.2016, 1, S. 4-12;  
[Imp.fact.: 1,233]

**Daróczy, László; Janiga, Gábor; Thévenin, Dominique**

Analysis of the performance of a H-Darrieus rotor under uncertainty using Polynomial Chaos Expansion  
In: Energy: the international journal. - Amsterdam [u.a.]: Elsevier Science, Bd. 113.2016, S. 399-412;  
[Imp.fact.: 4,292]

**Dunker, Christina; Roloff, Christoph; Grassmann, Arne**

Interferometric laser imaging for in-flight cloud droplet sizing  
In: Measurement science and technology: devoted to the theory, practice and application of measurement in physics, chemistry, engineering and the environmental and life sciences from inception to commercial exploitation. - Bristol: IOP Publ; Vol. 27.2016, 12, Art. 124004, insgesamt 11 S.;  
[Imp.fact.: 1,492]

**Eger, Toni; Bol, Thomas; Daróczy, László; Janiga, Gábor; Schroth, Rüdiger; Thévenin, Dominique**

Numerical investigations of entropy generation to analyze and improve heat transfer processes in electric machines  
In: International journal of heat and mass transfer. - Amsterdam [u.a.]: Elsevier, Bd. 102.2016, S. 1199-1208;  
[Imp.fact.: 2,857]

**Elattar, Hassan F.; Specht, Eckehard; Fouad, Ali; Bin-Mahfouz, Abdullah S.**

CFD modeling using PDF approach for investigating the flame length in rotary kilns  
In: Heat and mass transfer: research journal. - Berlin: Springer, Bd. 52.2016, 12, S. 2635-2648;  
[Imp.fact.: 1,044]

**Elattar, Hassan F.; Specht, Eckehard; Fouad, Ali; Bin-Mahfouz, Abdullah S.**

Study of parameters influencing fluid flow and wall hot spots in rotary kilns using CFD  
In: The Canadian journal of chemical engineering: CJChE. - Ottawa, Ontario: Soc, Bd. 94.2016, 2, S. 355-367;  
[Imp.fact.: 1,231]

**Eshghinejadfar, Amir; Abdelsamie, Abouelmagd; Janiga, Gábor; Thévenin, Dominique**

Direct-forcing immersed boundary lattice Boltzmann simulation of particle/fluid interactions for spherical and non-spherical particles  
In: Particuology. - Amsterdam: Elsevier, Bd. 25.2016, S. 93-103;  
[Imp.fact.: 0,682]

**Eshghinejadfar, Amir; Daróczy, László; Janiga, Gábor; Thévenin, Dominique**

Calculation of the permeability in porous media using the lattice Boltzmann method  
In: International journal of heat and fluid flow. - Amsterdam [u.a.]: Elsevier Science, 2016; <http://dx.doi.org/10.1016/j.ijheatfluidflow.2016.05.010>;  
[Imp.fact.: 1,596]

**Eshghinejadfar, Amir; Thévenin, Dominique**

Numerical simulation of heat transfer in particulate flows using a thermal immersed boundary lattice Boltzmann method  
In: International journal of heat and fluid flow. - Amsterdam [u.a.]: Elsevier Science, Bd. 60.2016, S. 31-46;  
[Imp.fact.: 1,596]

**Glaßer, Sylvia; Berg, Philipp; Voß, Samuel; Serowy, Steffen; Janiga, Gábor; Preim, Bernhard; Beuing, Oliver**

From imaging to hemodynamics - how reconstruction kernels influence the blood flow predictions in intracranial aneurysms  
In: Current directions in biomedical engineering. - Berlin: De Gruyter, Bd. 2.2016, 1, S. 679-683;

**Glaßer, Sylvia; Hoffmann, Thomas; Boese, Axel; Voß, Samuel; Kalinski, Thomas; Skalej, Martin; Preim, Bernhard**

**Virtual inflation of the cerebral artery wall for the integrated exploration of OCT and histology data**

In: Computer graphics forum: the international journal of the Eurographics Association. - Oxford: Wiley-Blackwell, 2016; <http://dx.doi.org/10.1111/cgf.12994>; [Imp.fact.: 1,542]

**Hallak, Bassem; Herz, Fabian; Specht, Eckehard; Gröpler, Robin; Warnecke, Gerald**

Simulation of limestone calcination in normal shaft kilns, Part 3: Influence of particle size distribution and type of limestone

In: Cement, lime, gypsum. - Gütersloh: Bauverl. BV, Bd. 69.2016, 3, S. 64-68; [Imp.fact.: 0,071]

**Henkel, S.; Beyrau, Frank; Hardalupas, Y.; Taylor, A. M. K. P.**

Novel method for the measurement of liquid film thickness during fuel spray impingement on surfaces

In: Optics express: the international electronic journal of optics. - Washington, DC: Soc, Bd. 24.2016, 3, S. 2542-2561; [Imp.fact.: 3,488]

**Herz, Fabian; Specht, Eckehard**

Simulation thermischer Prozesse in direkt beheizten Drehrohröfen, Teil 1: Modellentwicklung

In: Gaswärme international: Zeitschrift für gasbeheizte Thermoprozesse; GWI; Zeitschrift für das gesamte Gebiet der Gasverwendung und der gasbeheizten Industrieöfen; Organ des Gaswärme-Instituts - GWI -, Essen, des Bereichs Feuerungstechnik des Engler-Bunte-Instituts der Universität Karlsruhe (TH), des Instituts für Industrieanlagenbau und Wärmetechnik im Hüttenwesen der Rhein.-Westf. Techn. Hochschule Aachen, des Instituts für Energieverfahrenstechnik des Lehrstuhls Hochtemperaturanlagen, des Institutes für Wärmetechnik und Thermodynamik der TU Bergakademie, Freiberg, und des Fachverbandes Thermoprozess- und Abfalltechnik im Verband Deutscher Maschinen- und Anlagenbau (VDMA) e.V., Frankfurt. - Essen: Vulkan-Verl, Bd. 65.2016, 3, S. 37-45;

**Herz, Fabian; Specht, Eckehard**

Simulation thermischer Prozesse in direkt beheizten Drehrohröfen, Teil 2: Modellentwicklung

In: Gaswärme international: Zeitschrift für gasbeheizte Thermoprozesse; GWI; Zeitschrift für das gesamte Gebiet der Gasverwendung und der gasbeheizten Industrieöfen; Organ des Gaswärme-Instituts - GWI -, Essen, des Bereichs Feuerungstechnik des Engler-Bunte-Instituts der Universität Karlsruhe (TH), des Instituts für Industrieanlagenbau und Wärmetechnik im Hüttenwesen der Rhein.-Westf. Techn. Hochschule Aachen, des Instituts für Energieverfahrenstechnik des Lehrstuhls Hochtemperaturanlagen, des Institutes für Wärmetechnik und Thermodynamik der TU Bergakademie, Freiberg, und des Fachverbandes Thermoprozess- und Abfalltechnik im Verband Deutscher Maschinen- und Anlagenbau (VDMA) e.V., Frankfurt. - Essen: Vulkan-Verl, Bd. 65.2016, 4, S. 41-46;

**Herz, Fabian; Specht, Eckehard**

Simulation thermischer Prozesse in direkt beheizten Drehrohröfen, Teil 3: Prozessoptimierung

In: Gaswärme international: Zeitschrift für gasbeheizte Thermoprozesse; GWI; Zeitschrift für das gesamte Gebiet der Gasverwendung und der gasbeheizten Industrieöfen; Organ des Gaswärme-Instituts - GWI -, Essen, des Bereichs Feuerungstechnik des Engler-Bunte-Instituts der Universität Karlsruhe (TH), des Instituts für Industrieanlagenbau und Wärmetechnik im Hüttenwesen der Rhein.-Westf. Techn. Hochschule Aachen, des Instituts für Energieverfahrenstechnik des Lehrstuhls Hochtemperaturanlagen, des Institutes für Wärmetechnik und Thermodynamik der TU Bergakademie, Freiberg, und des Fachverbandes Thermoprozess- und Abfalltechnik im Verband Deutscher Maschinen- und Anlagenbau (VDMA) e.V., Frankfurt. - Essen: Vulkan-Verl, Bd. 65.2016, 6, S. 75-81;

**Hunger, Franziska; Zulkifli, Meor F.; Williams, Benjamin A. O.; Beyrau, Frank; Hasse, Christian**

A combined experimental and numerical study of laminar and turbulent non-piloted oxy-fuel jet flames using a direct comparison of the rayleigh signal

In: Flow, turbulence and combustion: an international journal published in association with ERCOFAC. - Dordrecht [u.a.]: Springer Science + Business Media B.V, Bd. 97.2016, 1, S. 231-262; [Imp.fact.: 1,863]

**Iosif, Christina; Berg, Philipp; Ponsonnard, Sébastien; Carles, Pierre; Saleme, Suzana; Pedrolo-Silveira, Eduardo;**

**Mendes, Georges; Waihrich, Eduardo; Trolliard, Gilles; Couquet, Claude-Yves; Yardin, Catherine; Mounayer, Charbel**  
Role of terminal and anastomotic circulation in the patency of arteries jailed by flow-diverting stents: animal flow model evaluation and preliminary results  
In: Journal of neurosurgery: JNS. - Charlottesville, Va: American Assoc. of Neurological Surgeons, Bd. 125.2016, 4, S. 898-908;  
[Imp.fact.: 3,445]

**Karali, Mohamed A.; Herz, Fabian; Specht, Eckhard; Mallmann, Jochen**  
Comparison of image analysis methods to determine the optimum loading of flighted rotary drums  
In: Powder technology: an international journal on the science and technology of wet and dry particulate systems. - Amsterdam [u.a.]: Elsevier Science, Bd. 291.2016, S. 147-153;  
[Imp.fact.: 2,349]

**Leibinger, Alexander; Forte, Antonio E.; Tan, Zhengchu; Oldfield, Matthew J.; Beyrau, Frank; Dini, Daniele; Rodriguez y Baena, Ferdinando**  
Soft tissue phantoms for realistic needle insertion - a comparative study  
In: Annals of biomedical engineering: the journal of the Biomedical Engineering Society. - Dordrecht [u.a.]: Springer Science + Business Media B.V, Bd. 44.2016, 8, S. 2442-2452;  
[Imp.fact.: 2,887]

**Liu, Xiaoyan; Xu, Xuekui; Wu, Weining; Herz, Fabian; Specht, Eckhard**  
A simplified model to calculate the power draw for material movement in industrial rotary kilns  
In: Powder technology: an international journal on the science and technology of wet and dry particulate systems. - Amsterdam [u.a.]: Elsevier Science, Bd. 301.2016, S. 1294-1298;  
[Imp.fact.: 2,759]

**Meuschke, Monique; Voß, Samuel; Beuing, Oliver; Preim, Bernhard; Lawonn, Kai**  
Combined visualization of vessel deformation and hemodynamics in cerebral aneurysms  
In: IEEE transactions on visualization and computer graphics: TVCG. - New York, NY: IEEE, Bd. 23.2017, 1, S. 761-770;  
[Imp.fact.: 2,168]

**Meyer, Jan; Daróczy, L.; Thévenin, Dominique**  
Shape optimization of the pick-up tube in a pitot-tube jet pump  
In: Journal of fluids engineering. - New York, NY: ASME; Vol. 139.2016, 2, Art. FE-16-1089, insgesamt 11 S.;  
[Imp.fact.: 1,283]

**Moldenhauer, A.; Bauer, W.; Specht, Eckhard; Herz, Fabian**  
Thermophysical properties of lime as a function of origin, Part 3: Emissivity  
In: Cement, lime, gypsum. - Gütersloh: Bauverl. BV, Bd. 69.2016, 9, S. 58-62;  
[Imp.fact.: 0,071]

**Nafsun, Aainaa Izyan Binti; Herz, Fabian**  
Experiments on the temperature distribution in the solid bed of rotary drums  
In: Applied thermal engineering: design, processes, equipment, economics. - Amsterdam [u.a.]: Elsevier Science, Bd. 103.2016, S. 1039-1047;  
[Imp.fact.: 2,739]

**Nafsun, Aainaa Izyan Binti; Herz, Fabian; Specht, Eckhard; Scherer, Viktor; Wirtz, Siegmar**  
Heat transfer experiments in a rotary drum for a variety of granular materials  
In: Experimental heat transfer: an international journal. - London: Taylor & Francis, Bd. 29.2016, 4, S. 520-535;  
[Imp.fact.: 1,288]

**Oeltze-Jafra, Steffen; Cebral, Juan R.; Janiga, Gábor; Preim, Bernhard**  
Cluster analysis of vortical flow in simulations of cerebral aneurysm hemodynamics  
In: IEEE transactions on visualization and computer graphics: TVCG. - New York, NY: IEEE, Bd. 22.2016, 1, S. 757-766;  
[Imp.fact.: 2,168]

**Ranga Dinesh, K. K. J.; Shalaby, H.; Luo, K. H.; Oijen, J. A. van; Thévenin, Dominique**

Effects of pressure on cellular flame structure of high hydrogen content lean premixed syngas spherical flames - a DNS study

In: International journal of hydrogen energy: official journal of the International Association for Hydrogen Energy. - New York, NY [u.a.]: Elsevier, Bd. 41.2016, 46, S. 21516-21531;

[Imp.fact.: 1,330]

**Ranga Dinesh, K. K. J.; Shalaby, H.; Luo, K. H.; Oijen, J. A. van; Thévenin, Dominique**

High hydrogen content syngas fuel burning in lean premixed spherical flames at elevated pressures - effects of preferential diffusion

In: International journal of hydrogen energy: official journal of the International Association for Hydrogen Energy. - New York, NY [u.a.]: Elsevier, Bd. 41.2016, 40, S. 18231-18249;

[Imp.fact.: 3,205]

**Redemann, Tino; Specht, Eckhard**

Analytical Approach to Calculate the Heat Fluxes in the Atmosphere and to Quantify the Sensitivity of Earth Temperature due to CO 2 and H 2O

In: Journal of ecosystem & ecography. - [S.I.]: OMICS Publishing Group, insges. 8 S., 2016;

**Schießl, R.; Bykov, V.; Maas, U.; Abdelsamie, Abouelmagd; Thévenin, Dominique**

Implementing multi-directional molecular diffusion terms into Reaction Diffusion Manifolds (REDIMs)

In: Proceedings of the Combustion Institute. - Amsterdam [u.a.]: Elsevier, 2016; <http://dx.doi.org/10.1016/j.proci.2016.07.089>;

[Imp.fact.: 2,796]

**Schulz, Florian; Samenfink, W.; Schmidt, Jürgen; Beyrau, Frank**

Systematic LIF fuel wall film investigation

In: Fuel: the science and technology of fuel and energy. - New York, NY [u.a.]: Elsevier, Bd. 172.2016, S. 284-292; [Imp.fact.: 3,520]

**Specht, Eckhard; Redemann, Tino; Lorenz, Nadine**

Simplified mathematical model for calculating global warming through anthropogenic CO 2

In: International journal of thermal sciences: IJTS. - Amsterdam [u.a.]: Elsevier Science, Bd. 102.2016, S. 1-8; [Imp.fact.: 2,629]

**Theile, Martin; Hassel, Egon; Thévenin, Dominique; Buchholz, Bert; Michels, Karsten; Hofer, Martin**

Analysis of cycle-to-cycle variations of the mixing process in a direct injection spark ignition engine using scale-resolving simulations

In: SAE International journal of engines. - Warrendale, Pa: Soc, Bd. 9.2016, 4, insges. 17 S.:

**Voß, Samuel; Glaßer, Sylvia; Hoffmann, Thomas; Beuing, Oliver; Weigand, S.; Jachau, Katja; Preim, Bernhard; Thévenin, Dominique; Janiga, Gábor; Berg, Philipp**

Fluid-structure simulations of a ruptured intracranial aneurysm - constant versus patient-specific wall thickness

In: Computational and mathematical methods in medicine: an interdisciplinary journal of mathematical, theoretical and clinical aspects of medicine. - New York, NY [u.a.]: Hindawi; Vol. 2016.2016, Art. 9854539, insgesamt 8 S.;

[Imp.fact.: 0,887]

**Yáñez-González, Álvaro; Ruiz-Trejo, Enrique; Wachem, Berend van; Skinner, Stephen; Beyrau, Frank; Heyes, Andrew**

Development of an optical thermal history coating sensor based on the oxidation of a divalent rare earth ion phosphor

In: Measurement science and technology: devoted to the theory, practice and application of measurement in physics, chemistry, engineering and the environmental and life sciences from inception to commercial exploitation. - Bristol: IOP Publ; 27.2016, 11, Art.115103, insgesamt 9 S.;

[Imp.fact.: 1,492]

**Yáñez-González, Álvaro; Wachem, Berend van; Skinner, Stephen; Beyrau, Frank; Heyes, Andrew**  
On the kinetics of thermal oxidation of the thermographic phosphor BaMgAL 100 17: Eu  
In: Materials and design. - Amsterdam [u.a.]: Elsevier Science, Bd. 108.2016, S. 145-150;  
[Imp.fact.: 3,997]

### **Begutachtete Buchbeiträge**

#### **Alam, Umair; Specht, Eckhard**

nfluence of water quality on rate of quenching of metals during continuous casting by pneumatic and hydraulic sprays  
In: Materials Science & Technology Conference and Exhibition 2016 (MS&T 2016): Salt Lake City, Utah, October 23-27, 2016, S. 735-744  
[Kongress: Materials Science & Technology Conference and Exhibition, MS&T 2016, Salt Lake City, Utah, October 23-27, 2016];

#### **Berg, Philipp; Voß, Samuel; Becker, Mathias; Redel, T.; Janiga, Gábor; Skalej, Martin; Beuing, Oliver**

Bringing hemodynamic simulations closer to the clinics - a CFD prototype study for intracranial aneurysms  
In: 2016 38th annual international conference of the IEEE Engineering in Medicine and Biology Society (EMBC). - Piscataway, NJ: IEEE, S. 3302-3305;  
[Kongress: 38th annual international conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando, 16-20 August, 2016];

#### **Cleynen, Olivier; Hoerner, Stefan; Thévenin, Dominique**

Performance mapping of ducted free-stream hydropower devices  
In: Sustainable Hydraulics in the Era of Global Change: proceedings of the 4th IAHR Europe Congress (Liege, Belgium, 27-29 July 2016). - CRC Press, S. 284-289  
[Kongress: 4th IAHR Europe Congress, Liege, Belgium, 27-29 July, 2016];

#### **Glaßer, Sylvia; Hirsch, Jan; Berg, Philipp; Saalfeld, Patrick; Beuing, Oliver; Janiga, Gábor; Preim, Bernhard**

Evaluation of time-dependent wall shear stress visualizations for cerebral aneurysms  
In: Bildverarbeitung für die Medizin 2016: Algorithmen - Systeme - Anwendungen: Proceedings des Workshops vom 13. bis 15. März 2016 in Berlin. - Berlin: Springer Vieweg, S. 236-241;  
[Kongress: Bildverarbeitung für die Medizin 2016, Berlin, 13. bis 15. März, 2016];

#### **Glaßer, Sylvia; Saalfeld, Patrick; Berg, Philipp; Merten, Nico; Preim, Bernhard**

How to evaluate medical visualizations on the example of 3D aneurysm surfaces  
In: VCBM 16: Eurographics Workshop on Visual Computing for Biology and Medicine. - Eurographics Ass., 2016; <http://dx.doi.org/10.2312/vcbm.20161283>  
[Kongress: Eurographics Workshop on Visual Computing for Biology and Medicine, VCBM 16, Bergen, Norway, 7 - 9 September, 2016];

#### **Hagemeier, Thomas; Zähringer, Katharina; Thévenin, Dominique**

nfluence of wetting behavior on macroscopic film flow pattern  
In: Proceedings of the 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics. - LISBON Simposia, S. 1251-1267, 2016  
[Kongress: 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics, Lisbon, 4 - 7 July, 2016];

#### **Kovats, Peter; Zähringer, Katharina**

Simultaneous 2-Tracer-LIF and PIV for the study of mass transfer around single CO<sub>2</sub>-bubbles  
In: Proceedings of the 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics. - LISBON Simposia, S. 2484-2501, 2016  
[Kongress: 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics, Lisbon, 4 - 7 July, 2016];

#### **Lichtenberg, Nils; Cleynen, Olivier; Thévenin, Dominique**

Numerical investigations of a water vortex hydropower plant implemented as a fish ladder, Part I: The water vortex  
In: Sustainable Hydraulics in the Era of Global Change: proceedings of the 4th IAHR Europe Congress (Liege, Belgium, 27-29 July 2016). - CRC Press, S. 277-283  
[Kongress: 4th IAHR Europe Congress, Liege, Belgium, 27-29 July, 2016];

**Marnani, Abbas Kamranian; Bück, Andreas; Antonyuk, Sergiy; Thévenin, Dominique; Tomas, Jürgen**

Study on the compression, flow and permeation of fine and ultra-fine, cohesive and compressible powders  
In: 9th International Conference on Multiphase Flow: 22.-27 May 2016, Florence, Italy. - Firenze, insges. 6 S.  
[Kongress: 9th International Conference on Multiphase Flow, ICMF-2016, Florence, Italy, 22.-27 May, 2016];

**Marnani, Abbas Kamranian; Idowu, Rahmon; Bück, Andreas; Antonyuk, Sergiy; Thévenin, Dominique; Tomas, Jürgen**

Classification of ultra-fine adhesive particles at fine cohesive powders  
In: ICBMH 2016: 12th International Conference on Bulk Materials Storage, Handling and Transportation; proceedings; Darwin, Australia, 11-14 July 2016 / edited by David Hastie. - The Institution of Engineers, Australia, S. 393-402  
[Kongress: 12th International Conference on Bulk Materials Storage, Handling and Transportation, Darwin, Australia, 11-14 July 2016];

**Wagner, L.-M.; Thévenin, Dominique; Siegmund, P.; Sundmacher, Kai; Zähringer, Katharina**

PIV-measurements for an optimal reactor design and operation in liquid multiphase systems  
In: Proceedings of the 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics. - LISBON Simposia, S. 2128-2137, 2016  
[Kongress: 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics, Lisbon, 4 - 7 July, 2016];

### **Dissertationen**

**Al-Hasnawi, Adnan Ghareeb Tuaamah; Specht, Eckehard [GutachterIn]**

Mixing behaviour of side injection of air jets and gaseous fuel jets into the axial flow of tunnel kilns. - Magdeburg, 2016; XIV, 170 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 163-167];

**Becker, Friedherz Hartmut; Specht, Eckehard [GutachterIn]**

Brenntechnologie für Geschirr unter besonderer Berücksichtigung des Glattbrands von Porzellan Flachware im Schnellbrandofen. - Magdeburg, 2016; 340 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 257-268];

**Daróczy, László; Janiga, Gabór [GutachterIn]**

Practical issues in the optimization of CFD based engineering problems. - Magdeburg, 2016; 212 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 184-202];

**Dragomirov, Plamen; Schmidt, Jürgen [GutachterIn]; Rottengruber, Hermann [GutachterIn]**

Analyse von Gemischbildung und Verbrennung alternativer Dieselkraftstoffe mit optischen Verfahren. - Barleben: docupoint Verlag, 2016; xxii, 175 Seiten: Illustrationen, Diagramme; 21 cm - (Micro-macro transactions; Volume 22), ISBN 978-3-86912-121-5;  
[Literaturverzeichnis: Seite 160-175];

**Dürr, Robert; Kienle, Achim [GutachterIn]; Thévenin, Dominique [GutachterIn]**

Parameter estimation and method of moments for multi dimensional population balance equations with application to vaccine production processes. - Magdeburg, 2016; ii, 151 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 141-150];

**Mann, Hannes; Tomas, Jürgen [GutachterIn]; Thévenin, Dominique [GutachterIn]**

Experimentelle Untersuchung, Modellierung und dynamische Simulation der mehrstufigen turbulenten Partikel-Querstromklassierung. - Magdeburg, 2016; XII, 246 Seiten: Illustrationen, Diagramme; 21 cm  
[Literaturverzeichnis: Seite 234-246];

**Medeiros de Souza, Luís Guilherme; Janiga, Gábor [GutachterIn]; Seidel-Morgenstern, Andreas [GutachterIn]**

Model optimization and techniques for the simulation of multiphase chemical reactors. - Magdeburg, 2016; xii, 130

Seiten: Illustrationen

[Literaturverzeichnis: Seite 121-130];

**Schulz, Florian; Schmidt, Jürgen [GutachterIn]; Rottengruber, Hermann [GutachterIn]**

Untersuchung der Wandfilmbildung bei der Benzindirekteinspritzung unter Nutzung optischer Messverfahren.

- Barleben: docupoint Verlag, 2016; X, 175 Seiten: Illustrationen, Diagramme; 21 cm - (Micro-macro transactions; Volume 25), ISBN 978-3-86912-125-3;

[Literaturverzeichnis: Seite [167]-175];

# INSTITUT FÜR VERFAHRENSTECHNIK

Universitätsplatz 2, 39106 Magdeburg  
Tel. +49 (0)391 67 58784, Fax +49 (0)391 67 11160  
evangelos.tsotsas@ovgu.de

## 1. Leitung

Prof. Dr.-Ing. habil. Dr.h.c. Andreas Seidel-Morgenstern  
Prof. Dr.-Ing. Udo Reichl  
Prof. Dr.-Ing. habil. Kai Sundmacher  
Prof. Dr.-Ing. habil. Evangelos Tsotsas (geschäftsführender Leiter)  
Prof. Dr.-Ing. habil. Jürgen Tomas  
Hon.-Prof. Dr.-Ing. Mirko Peglow  
Jun.-Prof. Dr.-Ing. Andreas Bück  
Jun.-Prof. Dr. Timo Frensing  
Dr. Andreas Voigt  
Dipl.-Phys. Diethard Kürschner

## 2. Veröffentlichungen

### Begutachtete Zeitschriftenaufsätze

**Alvarado Perea, L.; Wolff, T.; Veit, Peter; Hilfert, Liane; Edelmann, Frank T.; Hamel, Christof; Seidel-Morgenstern, Andreas**

Corrigendum to "Alumino-mesostructured Ni catalysts for the direct conversion of ethene to propene" [J. Catal. 305 (2013) 154168]

In: Journal of catalysis. - Amsterdam [u.a.]: Elsevier, Bd. 336.2016, S. 134;  
[Imp.fact.: 6,921]

**Aman, Sergej; Müller, Peter; Tomas, Jürgen; Kozhar, Sergii; Dosta, Maksym; Heinrich, Stefan; Antonyuk, Sergiy**

Combined viscoelastic and elastic wave dissipation mechanism at low velocity impact

In: Advanced powder technology: the international journal of the Society of Powder Technology, Japan. - Amsterdam [u.a.]: Elsevier, Bd. 27.2016, 4, S. 1244-1250;  
[Imp.fact.: 2,478]

**Arndt, Susann; Russell, Alexander; Tomas, Jürgen; Müller, Peter; Shekhar, Shishir; Brandstädter, Knut; Bruns, Christiane; Wex, Cora**

Rupture probability of porcine liver under planar and point loading

In: Biomedical physics & engineering express. - Bristol: IOP Publ; Bd. 2 (2016), 5, insges. 15 S.;

**Bachmann, Mandy; Breitwieser, Theresa; Lipps, Christoph; Wirth, Dagmar; Jordan, Ingo; Reichl, Udo; Frensing, Timo**

Impaired antiviral response of adenovirus-transformed cell lines supports virus replication

In: Journal of general virology: JGV. - Reading: Soc, Bd. 97.2016, 2, S. 293-298;  
[Imp.fact.: 3,183]

**Bachmann, Philipp; Bück, Andreas; Tsotsas, Evangelos**

Investigation of the residence time behavior of particulate products and correlation for the Bodenstein number in

horizontal fluidized beds

In: Powder technology: an international journal on the science and technology of wet and dry particulate systems.

- Amsterdam [u.a.]: Elsevier Science, Bd. 301.2016, S. 1067-1076;

[Imp.fact.: 2,759]

**Bensmann, Astrid; Hanke-Rauschenbach, Richard; Heyer, Robert; Kohrs, Fabian; Benndorf, Dirk; Kausmann, Robert; Plöchl, Matthias; Heiermann, Monika; Reichl, Udo; Sundmacher, Kai**

Diagnostic concept for dynamically operated biogas production plants

In: Renewable energy: an international journal; the official journal of WREN, The World Renewable Energy Network.

- Amsterdam [u.a.]: Elsevier Science; Vol. 96.2016, Part A, S. 479-489;

[Imp.fact.: 3,404]

**Bensmann, Boris; Hanke-Rauschenbach, R.; Müller-Syring, G.; Henel, M.; Sundmacher, Kai**

Optimal configuration and pressure levels of electrolyzer plants in context of power-to-gas applications

In: Applied energy. - Amsterdam [u.a.]: Elsevier Science, Bd. 167.2016, S. 107-124;

[Imp.fact.: 5,613]

**Borne, Sabine Le; Eisenschmidt, Holger; Sundmacher, Kai**

Image-based analytical crystal shape computation exemplified for potassium dihydrogen phosphate (KDP)

In: Chemical engineering science. - Amsterdam [u.a.]: Elsevier Science, Bd. 139.2016, S. 61-74;

[Imp.fact.: 2,613]

**Börnhorst, M.; Walzel, Peter; Rahimi, Arman; Kharaghani, Abdolreza; Tsotsas, Evangelos; Besser, A.; Kleine Jäger, Frank; Metzger, T.**

Influence of pore structure and impregnation-drying conditions on the solid distribution in porous support materials

In: Drying technology: an international journal. - Philadelphia, Pa: Taylor & Francis, Bd. 34.2016, 16, S. 1964-1978;

[Imp.fact.: 1,856]

**Böttcher, Ronny; Müller, Peter; Trüe, Michael; Russell, Alexander; Tomas, Jürgen**

Energiedissipation aufgrund von Biegewellen bei Stoßvorgängen gegen dünne Platten

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 7, S. 1002-1011;

[Imp.fact.: 0,661]

**Bück, Andreas; Dürr, Robert; Schmidt, Martin; Tsotsas, Evangelos**

Model predictive control of continuous layering granulation in fluidised beds with internal product classification

In: Journal of process control: a journal affiliated with IFAC, the International Federation of Automatic Control.

- Amsterdam [u.a.]: Elsevier Science, Bd. 45.2016, S. 65-75;

[Imp.fact.: 2,216]

**Bück, Andreas; Neugebauer, Christoph; Meyer, Katja; Palis, Stefan; Diez, E.; Kienle, Achim; Heinrich, Stefan; Tsotsas, Evangelos**

Influence of operation parameters on process stability in continuous fluidised bed layering with external product classification

In: Powder technology: an international journal on the science and technology of wet and dry particulate systems.

- Amsterdam [u.a.]: Elsevier Science, Bd. 300.2016, S. 37-45;

[Kongress: 7th International Granulation Workshop 2015: Granulation across the length scales];

**Cammann, Clemens; Rath, Alexander; Reichl, Udo; Lingel, Holger; Brunner-Weinzierl, Monika; Simeoni, Luca; Schraven, Burkhardt; Lindquist, Jonathan A.**

Early changes in the metabolic profile of activated CD8+ T cells

In: BMC cell biology. - London: BioMed Central; Bd. 17 (2016), Art.-Nr. 28, insges. 11 S.;

[Imp.fact.: 2,584]

**Casciatori, Fernanda Perpétua; Bück, Andreas; Thoméo, João Cláudio; Tsotsas, Evangelos**

Two-phase and two-dimensional model describing heat and water transfer during solid-state fermentation within

a packed-bed bioreactor

In: *The chemical engineering journal*. - Amsterdam: Elsevier, Bd. 287.2016, S. 103-116;  
[Imp.fact.: 4,321]

**Cristancho, Carlos Andrés Martínez; Seidel-Morgenstern, Andreas**

Purification of single-chain antibody fragments exploiting pH-gradients in simulated moving bed chromatography  
In: *Journal of chromatography / A*. - New York, NY [u.a.]: Science Direct, Bd. 1434.2016, S. 29-38;  
[Imp.fact.: 3,926]

**Eisenschmidt, Holger; Bajcinca, Naim; Sundmacher, Kai**

Optimal control of crystal shapes in batch crystallization experiments by growth-dissolution cycles  
In: *Crystal growth & design*. - Washington, DC: ACS Publ, Bd. 16.2016, 6, S. 3297-3306;  
[Imp.fact.: 4,425]

**Fachet, Melanie; Hermsdorf, Dana; Rihko-Struckmann, Liisa; Sundmacher, Kai**

Flow cytometry enables dynamic tracking of algal stress response - a case study using carotenogenesis in Dunaliella salina  
In: *Algal Research: Biology, Biomass and Biofuels*. - Amsterdam [u.a.]: Elsevier, Bd. 13.2016, S. 227-234;  
[Imp.fact.: 4,694]

**Flassig, Robert; Fachet, Melanie; Höffner, Kai; Barton, Paul I.; Sundmacher, Kai**

Dynamic flux balance modeling to increase the production of high-value compounds in green microalgae  
In: *Biotechnology for biofuels*. - London: BioMed Central; Vol. 9.2016, Art. 165; <http://dx.doi.org/10.1186/s13068-016-0556-4>;  
[Imp.fact.: 6,440]

**Franke, Georg; Weigler, Fabian; Mellmann, Jochen; Müller, Peter**

Kontrollierte Entleerung mit ganzflächigen Austrageeinrichtungen  
In: *Landtechnik*. - Darmstadt: KTBL, Bd. 71.2016, 6, S. 186-193;

**Frensing, Timo; Kupke, Sascha Y.; Bachmann, Mandy; Fritzsche, Susanne; Gallo-Ramirez, Lili E.; Reichl, Udo**

Influenza virus intracellular replication dynamics, release kinetics, and particle morphology during propagation in MDCK cells  
In: *Applied microbiology and biotechnology*. - Berlin: Springer, Bd. 100.2016, 16, S. 7181-7192;  
[Imp.fact.: 3,376]

**Gao, Kaidi; Yang, Jianhua; Seidel-Morgenstern, Andreas; Hamel, Christof**

Methane dehydro-aromatization - potential of a Mo/MCM-22 catalyst and hydrogene-selective membranes  
In: *Chemie - Ingenieur - Technik*: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 1/2, S. 168-176;  
[Imp.fact.: 0,661]

**Hennig, René; Cajic, Samanta; Borowiak, Matthias; Hoffmann, Marcus; Kottler, Robert; Reichl, Udo; Rapp, Erdmann**

Towards personalized diagnostics via longitudinal study of the human plasma N-glycome  
In: *Biochimica et biophysica acta / General subjects*. - Amsterdam [u.a.]: Elsevier, Bd. 1860.2016, 8, S. 1728-1738;  
[Imp.fact.: 5,083]

**Heyer, Robert; Benndorf, Dirk; Kohrs, F.; Vrieze, J. de; Boon, N.; Hoffmann, M.; Rapp, Erdmann; Schlüter, A.; Sczyrba, A.; Reichl, Udo**

Proteotyping of biogas plant microbiomes separates biogas plants according to process temperature and reactor type  
In: *Biotechnology for biofuels*. - London: BioMed Central, Bd. 9.2016, 1;  
[Imp.fact.: 6,040]

**Hoffmann, Marcus; Marx, Kristina; Reichl, Udo; Wuhrer, Manfred; Rapp, Erdmann**

Site-specific O-glycosylation analysis of human blood plasma proteins  
In: *Molecular & cellular proteomics: MCP*. - Bethesda, Md: The American Society for Biochemistry and Molecular

Biology, Bd. 15.2016, 2, S. 624-641;  
[Imp.fact.: 6,464]

**Idakiev, Vesselin; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Inductive heating of a cylindrical fluidized bed

In: Journal of chemical technology and metallurgy. - Sofia: University of Chemical Technology and Metallurgy, Bd. 51.2016, 6, S. 627-638;

**Idakiev, Vesselin; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Modellbasierte Berechnung des Benetzungsgrades in einer zylindrischen Wirbelschicht mit Flüssigkeitseindüsing

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 8, S. 1109-1118;  
[Imp.fact.: 0,661]

**Idakiev, Vesselin V.; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Modellbasierte Untersuchung des Wärmeübergangs in einer induktiv beheizten Wirbelschicht

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 5, S. 656-665;  
[Imp.fact.: 0,661]

**Idakiev, Vesselin V.; Lazarova, Pavleta V.; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Inductive heating of fluidized beds - drying of particulate solids

In: Powder technology: an international journal on the science and technology of wet and dry particulate systems. - Amsterdam [u.a.]: Elsevier Science, Bd. 306.2017, S. 26-33, 2016;  
[Imp.fact.: 2,759]

**Jörke, Andreas; Kohls, Emilia; Triemer, Susann; Seidel-Morgenstern, Andreas; Hamel, Christof; Stein, Matthias**

Resolution of structural isomers of complex reaction mixtures in homogeneous catalysis

In: Chemical engineering and processing. - Amsterdam [u.a.]: Elsevier, Bd. 102.2016, S. 229-237;  
[Imp.fact.: 2,071]

**Kaiser, Nicolas Maximilian; Flassig, Robert J.; Sundmacher, Kai**

Probabilistic reactor design in the framework of elementary process functions

In: Computers & chemical engineering: an international journal of computer applications in chemical engineering. - Amsterdam [u.a.]: Elsevier Science, Bd. 94.2016, S. 45-59;  
[Imp.fact.: 2,581]

**Kiedorf, Gregor; Wolff, T.; Seidel-Morgenstern, Andreas; Hamel, Christofani, Abdolreza**

Adsorption measurements on a CrOx/ -Al2O3 catalyst for parameter reduction in kinetic analysis

In: Chemical engineering science. - Amsterdam [u.a.]: Elsevier Science, Bd. 149.2016, S. 266-276;  
[Imp.fact.: 2,337]

**Kiedorf, Gregor; Wolff, Tanya; Seidel-Morgenstern, Andreas; Hamel, Christof**

Kinetic analysis of the hydrocarbon total oxidation using individually measured adsorption isotherms

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 11, S. 1746-1760;  
[Imp.fact.: 0,661]

**Kiwala, Dawid; Mendrella, Jadwiga; Antos, Dorota; Seidel-Morgenstern, Andreas**

Center-cut separation of intermediately adsorbing target component by 8-zone simulated moving bed chromatography with internal recycle

In: Journal of chromatography / A. - New York, NY [u.a.]: Science Direct, Bd. 1453.2016, S. 19-33;  
[Imp.fact.: 3,926]

**Kiwala, Dawid; Olbrycht, Maksymilian; Balawejder, MMaciej; Piatkowski, Wojciech; Seidel-Morgenstern, Andreas; Antos, Dorota**

Separation of stereoisomeric mixtures of nafronyl as a representative of compounds possessing two stereogenic centers by coupling crystallization, diastereoisomeric conversion and chromatography

In: Organic process research & development: web edition. - Washington, DC: ACS Publ, Bd. 20.2016, 3, S. 615-625;

[Imp.fact.: 2,528]

**Kluge, Sabine; Genzel, Yvonne; Laus, Kim; Serve, Anja; Pflugmacher, Antje; Peschel, Britta; Rapp, Erdmann; Reichl, Udo**  
Ezrin and HNRNP expression correlate with increased virus release rate and early onset of virus-induced apoptosis of MDCK suspension cells

In: Biotechnology journal: BTJ; systems & synthetic biology, nanobiotech, medicine. - Weinheim: Wiley-VCH, Bd. 11.2016, 10, S. 1332-1342;

[Imp.fact.: 3,781]

**Knoop, Claas; Todorova, Zinaida; Tomas, Jürgen; Fritsching, Udo**

Agglomerate fragmentation in high-intensity acoustic standing wave fields

In: Powder technology: an international journal on the science and technology of wet and dry particulate systems.

- Amsterdam [u.a.]: Elsevier Science, Bd. 291.2016, S. 214-222;

[Imp.fact.: 2,349]

**Koch, Sabine; Benndorf, Dirk; Fronk, Karen; Reichl, Udo; Klamt, Steffen**

Predicting compositions of microbial communities from stoichiometric models with applications for the biogas process

In: Biotechnology for biofuels. - London: BioMed Central, Bd. 9.2016, 17, insges. 16 S.:

[Imp.fact.: 6,040]

**Kort, Anne-Kathleen; Lorenz, Heike; Seidel-Morgenstern, Andreas**

Physical-chemical properties of the chiral fungicide fenamidone and strategies for enantioselective crystallization

In: Chirality: the pharmacological, biological, and chemical consequences of molecular asymmetry. - New York, NY [u.a.]: Wiley Interscience, Bd. 28.2016, 6, S. 514-520;

[Imp.fact.: 2,025]

**Kumar, Jitendra; Kaur, Gurmeet; Tsotsas, Evangelos**

An accurate and efficient discrete formulation of aggregation population balance equation

In: Kinetic and related models: KRM. - Springfield, Mo: AIMS, Bd. 9.2016, 2, S. 373-391;

[Imp.fact.: 1,125]

**Kuwertz, Rafael; Martinez, Isai Gonzales; Vidakovi -Koch, Tanja; Sundmacher, Kai; Turek, Thomas; Kunz, Ulrich**

Material development and process optimization for gas-phase hydrogen chloride electrolysis with oxygen depolarized cathode

In: Journal of applied electrochemistry. - Dordrecht [u.a.]: Springer Science + Business Media B.V, Bd. 46.2016, 7, S. 755-767;

[Imp.fact.: 2,223]

**Laske, Tanja; Heldt, Frank Stefan; Hoffmann, Helene; Frensing, Timo; Reichl, Udo**

Reprint of "Modeling the intracellular replication of influenza A virus in the presence of defective interfering RNAs

In: Virus research: an international journal of molecular and cellular virology. - Amsterdam [u.a.]: Elsevier Science, Bd. 218.2016, S. 86-95;

[Imp.fact.: 2,526]

**Le, Kieu Hiep; Kharaghan, Abdolreza; Kirsch, Christoph; Tsotsas, Evangelos**

Pore network simulations of heat and mass transfer inside an unsaturated capillary porous wick in the dry-out regime

In: Transport in porous media: TIPM. - Dordrecht [u.a.]: Springer Science + Business Media B.V, Bd. 114.2016, 3, S. 623-648;

[Imp.fact.: 1,653]

**Malwade, Chandrakant Ramkrshna; Buchholz, Hannes; Rong, Ben-Guang; Qu, Haiyan; Christensen, Lars Porskjær;**

**Lorenz, H.; Seidel-Morgenstern, Andreas**

Crystallization of artemisinin from chromatography fractions of artemisia annua extract

In: Organic process research & development: web edition. - Washington, DC: ACS Publ, Bd. 20.2016, 3, S. 646-652;

[Imp.fact.: 2,528]

**McBride, Kevin; Gaide, Tom; Vorholt, Andreas; Behr, Arno; Sundmacher, Kai**

Thermomorphic solvent selection for homogeneous catalyst recovery based on COSMO-RS

In: Chemical engineering and processing. - Amsterdam [u.a.]: Elsevier, Bd. 99.2016, S. 97-106;

[Imp.fact.: 0,853]

**Meininger, M.; Stepath, M.; Hennig, R.; Cajic, S.; Rapp, E.; Rotering, H.; Wolff, M. W.; Reichl, Udo**

Sialic acid-specific affinity chromatography for the separation of erythropoietin glycoforms using serotonin as a ligand

In: Journal of chromatography / B. - New York, NY [u.a.]: Science Direct, Bd. 1012/1013.2016, S. 193-203;

[Imp.fact.: 2,729]

**Mielke, Lisa; Hoffmann, Torsten; Henneberg, Markus; Peglow, Mirko; Bück, Andreas; Tsotsas, Evangelos**

Reduction of energy consumption in batch fluidized bed layering granulation processes by temporal separation

In: Chemical engineering research and design: CERD. - Amsterdam: Elsevier, Bd. 110.2016, S. 2-11;

[Imp.fact.: 2,525]

**Mirdrikvand, Mojtaba; Moqadam, Saeedeh Imani; Kharaghani, Abdolreza; Roozbehani, Behrooz; Jadidi, Naqi**

Optimization of a pilot-scale amine scrubber to remove SO<sub>2</sub> - higher selectivity and lower solvent consumption

In: Chemical engineering & technology: industrial chemistry, plant equipment, process engineering, biotechnology.

- Weinheim: Wiley-VCH Verl.-Ges, Bd. 39.2016, 2, S. 246-254;

[Imp.fact.: 2,442]

**Müller, Peter; Böttcher, Ronny; Russell, Alexander; Trüe, Michael; Aman, Sergej; Tomas, Jürgen**

Contact time at impact of spheres on large thin plates

In: Advanced powder technology: the international journal of the Society of Powder Technology, Japan. - Amsterdam

[u.a.]: Elsevier, Bd. 27.2016, 4, S. 1233-1243;

[Imp.fact.: 2,478]

**Müller, Peter; Böttcher, Ronny; Trüe, Michael; Russell, Alexander; Aman, Sergej; Tomas, Jürgen**

Einfluss der Plattendicke auf die Kontaktzeit beim elastischen Stoßvorgang

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 5, S. 622-630;

[Imp.fact.: 0,661]

**Müller, Peter; Böttcher, Ronny; Trüe, Michael; Russell, Alexander; Tomas, Jürgen**

Einfluss elastischer Wellen beim elastischen Stoßvorgang kugelförmiger Granulate und Glaskugeln gegen dünne Platten

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 7, S. 864-873;

[Imp.fact.: 0,661]

**Müller, Peter; Russell, Alexander; Bergstedt, Johanna; Tomas, Jürgen**

Einfluss zyklischer Befeuchtung auf die mechanischen Eigenschaften hygroskopischer Aluminiumoxid-Granulate

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 7, S. 937-947;

[Imp.fact.: 0,661]

**Müller, Peter; Russell, Alexander; Bergstedt, Johanna; Tomas, Jürgen**

Influence of cyclic moisture loading and unloading on the mechanical properties of alumina oxide granules

In: Granular matter. - Berlin: Springer; Vol. 18.2016, Art. 4, insgesamt 14 S.;

[Imp.fact.: 1,740]

**Müller, Peter; Trüe, Michael; Böttcher, Ronny; Tomas, Jürgen**

Akustische Auswertung des Stoßvorgangs feuchter kugelförmiger Granulate und Partikel

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 7, S. 903-910;

[Imp.fact.: 0,661]

**Münzberg, Stephan; Lorenz, Heike; Seidel-Morgenstern, Andreas**

Multistage countercurrent crystallization for the separation of solid solutions

In: Chemical engineering & technology: industrial chemistry, plant equipment, process engineering, biotechnology.  
- Weinheim: Wiley-VCH Verl.-Ges, Bd. 39.2016, 7, S. 1242-1250;  
[Imp.fact.: 2,385]

**Neugebauer, Christoph; Palis, Stefan; Bück, Andreas; Tsotsas, Evangelos; Heinrich, S.; Kienle, Achim**  
A dynamic two-zone model of continuous fluidized bed layering granulation with internal product classification  
In: Particuology. - Amsterdam: Elsevier, 2016; <http://dx.doi.org/10.1016/j.partic.2016.07.001>;  
[Imp.fact.: 0,682]

**Nikoli , Daliborka; Felischak, Matthias; Seidel-Morgenstern, Andreas; Petkovska, Menka**  
Periodic operation with modulation of inlet concentration and flow rate, Part II: Adiabatic continuous stirred-tank reactor  
In: Chemical engineering & technology: industrial chemistry, plant equipment, process engineering, biotechnology.  
- Weinheim: Wiley-VCH Verl.-Ges, Bd. 39.2016, 11, S. 2126-2134;  
[Imp.fact.: 2,385]

**Nikoli , Daliborka; Seidel-Morgenstern, Andreas; Petkovska, Menka**  
Periodic operation with modulation of inlet concentration and flow rate, Part I: Nonisothermal continuous stirred-tank reactor  
In: Chemical engineering & technology: industrial chemistry, plant equipment, process engineering, biotechnology.  
- Weinheim: Wiley-VCH Verl.-Ges, Bd. 39.2016, 11, S. 2020-2028;  
[Imp.fact.: 2,385]

**Nogueira, Jéssica A.; Peña Arias, Ivonne K.; Hanke-Rauschenbach, Richard; Vidakovic-Koch, Tanja; Varela, Hamilton; Sundmacher, Kai**  
Autonomous voltage oscillations in a direct methanol fuel cell  
In: Electrochimica acta: the journal of the International Society of Electrochemistry (ISE). - New York, NY [u.a.]: Elsevier, Bd. 212.2016, S. 545-552;  
[Imp.fact.: 4,803]

**Olatunji, O. N.; Du, J.; Hintz, Werner; Tomas, Jürgen**  
Application of particle sedimentation analysis in sterically-stabilized TiO<sub>2</sub> particles stability assessment  
In: Advanced powder technology: the international journal of the Society of Powder Technology, Japan. - Amsterdam [u.a.]: Elsevier, Bd. 27.2016, 4, S. 1325-1336;  
[Imp.fact.: 2,478]

**Pashminehazar, Reihaneh; Kharaghani, Abdolreza; Tsotsas, Evangelos**  
Three dimensional characterization of morphology and internal structure of soft material agglomerates produced in spray fluidized bed by X-ray tomography  
In: Powder technology: an international journal on the science and technology of wet and dry particulate systems.  
- Amsterdam [u.a.]: Elsevier Science, Bd. 300.2016, S. 46-60;  
[Kongress: 7th International Granulation Workshop 2015: Granulation across the length scales];  
[Imp.fact.: 2,759]

**Pieler, Michael M.; Frentzel, Sarah; Bruder, Dunja; Wolff, Michael W.; Reichl, Udo**  
A cell culture-derived whole virus influenza A vaccine based on magnetic sulfated cellulose particles confers protection in mice against lethal influenza A virus infection  
In: Vaccine. - Amsterdam: Elsevier, Bd. 34.2016, 50, S. 6367-6374;  
[Imp.fact.: 3,413]

**Pirwitz, Kristin; Rihko-Struckmann, Liisa; Sundmacher, Kai**  
Valorization of the aqueous phase obtained from hydrothermally treated Dunaliella salina remnant biomass  
In: Bioresource technology. - Amsterdam [u.a.]: Elsevier Science, Bd. 219.2016, S. 64-71;  
[Imp.fact.: 4,917]

**Qamar, Shamsul; Seidel-Morgenstern, Andreas**

Extending the potential of moment analysis in chromatography

In: Trends in analytical chemistry: TrAC. - Amsterdam: Elsevier, Bd. 81.2016, S. 87-101;  
[Imp.fact.: 7,487]

**Rahimi, Arman; Metzger, Thomas; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Interaction of droplets with porous structures - pore network simulation of wetting and drying

In: Drying technology: an international journal. - Philadelphia, Pa: Taylor & Francis, Bd. 34.2016, 9, S. 1129-1140;  
[Imp.fact.: 1,854]

**Rieck, Christian; Bück, Andreas**

Mathematische Modellierung der Partikelformulierung in Trommelgranulatoren

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 7, S. 841-849;  
[Imp.fact.: 0,661]

**Rihko-Struckmann, Liisa K.; Datta, Pradyot; Wenzel, Marcus; Sundmacher, Kai; Dharanipragada, N. V. R. A.; Poelman, Hilde; Galvita, Vladimir V.; Marin, Guy B.**

Hydrogen and carbon monoxide production by chemical looping over iron-aluminium oxides

In: Energy technology: generation, conversion, storage, distribution. - Weinheim [u.a.]: Wiley-VCH, Bd. 4.2015, 2, S. 304-313, 2016;  
[Imp.fact.: 2,557]

**Rybka, Julia; Höltzel, Alexandra; Melnikov, Sergey M.; Seidel-Morgenstern, Andreas; Tallarek, Ulrich**

A new view on surface diffusion from molecular dynamics simulations of solute mobility at chromatographic interfaces

In: Fluid phase equilibria: an international journal. - New York, NY [u.a.]: Science Direct, Bd. 407.2016, S. 177-187;  
[Imp.fact.: 1,846]

**Saha, Jitraj; Kumar, Jitendra; Bück, Andreas; Tsotsas, Evangelos**

Finite volume approximations of breakage population balance equation

In: Chemical engineering research and design: CERD. - Amsterdam: Elsevier, Bd. 110.2016, S. 114-122;  
[Imp.fact.: 2,525]

**Salerno, Carlo; Benndorf, Dirk; Kluge, Sabine; Palese, Luigi Leonardo; Reichl, Udo; Pollice, Alfieri**

Metaproteomics applied to activated sludge for industrial wastewater treatment revealed a dominant methylotrophic metabolism of Hyphomicrobium zavarzinii

In: Microbial ecology: official journal of the International Society for Microbial Ecology. - New York, NY: Springer, 2016;  
<http://dx.doi.org/10.1007/s00248-016-0769-x>;  
[Imp.fact.: 2,973]

**Santos da Silva, Francisco Vitor; Seidel-Morgenstern, Andreas**

Evaluation of center-cut separations applying simulated moving bed chromatography with 8 zones

In: Journal of chromatography / A. - New York, NY [u.a.]: Science Direct, Bd. 1456.2016, S. 123-136;  
[Imp.fact.: 3,926]

**Scaar, H.; Franke, G.; Weigler, F.; Delele, M.; Tsotsas, Evangelos; Mellmann, J.**

Experimental and numerical study of the airflow distribution in mixed-flow grain dryers

In: Drying technology: an international journal. - Philadelphia, Pa: Taylor & Francis, Bd. 34.2016, 5, S. 595-607;  
[Imp.fact.: 1,518]

**Schulze, Peter; Seidel-Morgenstern, Andreas; Lorenz, Heike; Leschinsky, Moritz; Unkelbach, Gerd**

Advanced process for precipitation of lignin from ethanol organosolv spent liquors

In: Bioresource technology. - Amsterdam [u.a.]: Elsevier Science, Bd. 199.2016, S. 128-134;  
[Imp.fact.: 4,917]

**Shamaei, Samira; Kharaghani, Abdolreza; Seiiedlou, Seyed Sadegh; Aghbashlo, Mortaza; Sondej, Franziska; Tsotsas,**

### **Evangelos**

Drying behavior and locking point of single droplets containing functional oil

In: Advanced powder technology: the international journal of the Society of Powder Technology, Japan. - Amsterdam [u.a.]: Elsevier, Bd. 27.2016, 4, S. 1750-1760;  
[Imp.fact.: 2,478]

### **Singh, Mehakpreet; Kumar, Jitendra; Bück, Andreas; Tsotsas, Evangelos**

A volume-consistent discrete formulation of aggregation population balance equations

In: Mathematical methods in the applied sciences. - Chichester, West Sussex: Wiley, Bd. 39.2016, 9, S. 2275-2286;  
[Imp.fact.: 0,918]

### **Singh, Mehakpreet; Kumar, Jitendra; Bück, Andreas; Tsotsas, Evangelos**

An improved and efficient finite volume scheme for bivariate aggregation population balance equation

In: Journal of computational and applied mathematics. - Amsterdam [u.a.]: North-Holland, Bd. 308.2016, S. 83-97;  
[Imp.fact.: 1,328]

### **Sun, Yu; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Micro-model experiments and pore network simulations of liquid imbibition in porous media

In: Chemical engineering science. - Amsterdam [u.a.]: Elsevier Science, Bd. 150.2016, S. 41-53;  
[Imp.fact.: 2,337]

### **Suvarov, Paul; Wouwer, Alain vande; Lee, Ju Weon; Seidel-Morgenstern, Andreas; Kienle, Achim**

Control of incomplete separation in simulated moving bed chromatographic processes

In: IFAC-PapersOnLine. - Frankfurt: Elsevier, Bd. 49.2016, 7, S. 153-158;  
[Kongress: 11th IFAC Symposium on Dynamics and Control of Process Systems Including Biosystems, DYCOPS-CAB 2016, Trondheim, Norway, 6-8 June, 2016];

### **Tapia, Felipe; Vázquez-Ramírez, Daniel; Genzel, Yvonne; Reichl, Udo**

Bioreactors for high cell density and continuous multi-stage cultivations: options for process intensification in cell culture-based viral vaccine production

In: Applied microbiology and biotechnology. - Berlin: Springer, Bd. 100.2016, 5, S. 2121-2132;  
[Imp.fact.: 3,337]

### **Thiesler, Christina T.; Cajic, Samanta; Hoffmann, Dirk; Thiel, Christian; Diepen, Laura van; Hennig, René; Sgodda, Malte; Weiβmann, Robert; Reichl, Udo; Steinemann, Doris; Diekmann, Ulf; Huber, Nicolas M. B.; Oberbeck, Astrid; Cantz, Tobias; Kuss, Andreas W.; Körner, Christian; Schambach, Axel; Rapp, Erdmann; Buettner, Falk F. R.**

Glycomic characterization of induced pluripotent stem cells derived from a patient suffering from phosphomannomutase 2 congenital Disorder of glycosylation (PMM2-CDG)

In: Molecular & cellular proteomics: MCP. - Bethesda, Md: The American Society for Biochemistry and Molecular Biology, Bd. 15.2016, 4, S. 1435-1452;  
[Imp.fact.: 6,564]

### **Tran, Thi Thu Hang; Avila-Acevedo, Juan Gabriel; Tsotsas, Evangelos**

Enhanced methods for experimental investigation of single droplet drying kinetics and application to lactose/water

In: Drying technology: an international journal. - Philadelphia, Pa: Taylor & Francis, Bd. 34.2016, 10, S. 1185-1195;  
[Imp.fact.: 1,854]

### **Tulashie, Samuel Kofi; Polenske, Daniel; Seidel-Morgenstern, Andreas; Lorenz, Heike**

Solid-phase and oscillating solution crystallization behavior of (+)- and (-)-N-methylephedrine

In: Journal of pharmaceutical sciences. - Amsterdam: Elsevier, 2016; <http://dx.doi.org/10.1016/j.xphs.2016.08.005>;  
[Imp.fact.: 2,641]

### **Voigt, Andreas; Freund, Romy; Heck, Jennifer; Missler, Markus; Obermair, Gerald J.; Thomas, Ulrich; Heine, Martin**

Dynamic association of calcium channel subunits at the cellular membrane

In: Neurophotonics. - Bellingham, Wash: SPIE, Bd. 3.2016, 4, insges. 14 S.;

**Wang, Wenjing; Voigt, Andreas; Sundmacher, Kai**

The interaction of protein-coated bionanoparticles and surface receptors reevaluated - how important is the number of bonds?

In: Soft matter. - London: Royal Soc. of Chemistry, Bd. 12.2016, 30, S. 6451-6462;  
[Imp.fact.: 3,798]

**Wang, Wenjing; Voigt, Andreas; Wolff, Michael W.; Reichl, Udo; Sundmacher, Kai**

Binding kinetics and multi-bond: finding correlations by synthesizing interactions between ligand-coated bionanoparticles and receptor surfaces

In: Analytical biochemistry: methods in the biological sciences. - San Diego, Calif: Elsevier, Bd. 505.2016, S. 8-17;  
[Imp.fact.: 2,219]

**Weigel, Thomas; Solomaier, Thomas; Wehmeyer, Sebastian; Peuker, Alessa; Wolff, Michael W.; Reichl, Udo**

A membrane-based purification process for cell culture-derived influenza A virus

In: Journal of biotechnology. - Amsterdam [u.a.]: Elsevier Science, Bd. 220.2016, S. 12-20;  
[Imp.fact.: 2,871]

**Wrzosek, Katarzyna; Rivera, Mariel A García; Bettenbrock, Katja; Seidel-Morgenstern, Andreas**

Racemization of undesired enantiomers - immobilization of mandelate racemase and application in a fixed bed reactor

In: Biotechnology journal: BTJ; systems & synthetic biology, nanobiotech, medicine. - Weinheim: Wiley-VCH, Bd. 11.2016, 4, S. 453-463;  
[Imp.fact.: 3,781]

**Wu, Rui; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Capillary valve effect during slow drying of porous media

In: International journal of heat and mass transfer. - Amsterdam [u.a.]: Elsevier, Bd. 94.2016, S. 81-86;  
[Imp.fact.: 2,383]

**Wu, Rui; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Two-phase flow with capillary valve effect in porous media

In: Chemical engineering science. - Amsterdam [u.a.]: Elsevier Science, Bd. 139.2016, S. 241-248;  
[Imp.fact.: 2,613]

**Zhou, Teng; Wang, Yujing; McBride, Kevin; Sundmacher, Kai**

Optimal design of solvents for extractive reaction processes

In: AIChE journal. - Hoboken, NJ: Wiley, Bd. 62.2016, 9, S. 3238-3249;  
[Imp.fact.: 2,980]

**Zhou, Teng; Zhou, Yageng; Sundmacher, Kai**

A hybrid stochastic-deterministic optimization approach for integrated solvent and process design

In: Chemical engineering science. - Amsterdam [u.a.]: Elsevier Science, 2016; <http://dx.doi.org/10.1016/j.ces.2016.03.011>; [Imp.fact.: 1,073]

**Zinser, Alexander; Sundmacher, Kai**

Dynamische Methode zur Berechnung thermodynamischer Gleichgewichte in reaktiven Mehrphasensystemen

In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 11, S. 1617-1627;  
[Imp.fact.: 0,661]

**Begutachtete Buchbeiträge**

**Bremer, Jens; Goyal, Pawan; Feng, Lihong; Benner, Peter; Sundmacher, Kai**

Nonlinear model order reduction for catalytic tubular reactors

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 2373-2378;  
[Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Bück, Andreas; Dürr, Robert; Vorhauer, Nicole; Friese, Larissa; Tsotsas, Evangelos**

Feedback control of microwave drying of solids

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-5-3, insgesamt 7 S.[Beitrag auf USB-Stick];

**Bück, Andreas; Schmidt, Martin; Tsotsas, Evangelos**

Process control of continuous fluidised bed layering with internal product classification by MPC

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Bück, Andreas; Tsotsas, Evangelos**

Agglomeration

In: Encyclopedia of food and health. - Amsterdam [u.a.]: Elsevier, Acad. Press, S. 73-81, 2016;

**Bück, Andreas; Wegner, M.; Neugebauer, Christoph; Palis, Stefan; Tsotsas, Evangelos**

Bifurcation analysis of process stability of continuous fluidized bed agglomeration with external product classification

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 1881-1886;  
[Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Chen, Kaicheng; Schmidt, Martin; Bück, Andreas; Jacob, Michael; Tsotsas, Evangelos**

A model-based investigation of particle drying process in multi-stage fluidized bed

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. D-5-3, insgesamt 8 S.[Beitrag auf USB-Stick];

**Dürr, Robert; Duvigneau, Stefanie; Laske, Tanja; Bachmann, Mandy; Kienle, Achim**

Analyzing the impact of heterogeneity in genetically engineered cell lines for influenza vaccine production using population balance modeling

In: FOSBE 2016: 6th International Conference on Foundations of Systems Biology in Engineering Magdeburg, Germany, October 9-12,2016: program booklet. - Magdeburg; 2016, Art. TuPP.1, S. 32

[Kongress: 6th International Conference on Foundations of Systems Biology in Engineering, FOSBE 2016, Magdeburg, Germany, October 9-12,2016];

**Geyyer, Rostyslaw; Dürr, Robert; Temmel, E.; Li, T.; Lorenz, H.; Palis, Stefan; Seidel-Morgenstern, Andreas; Kienle, Achim**

Control of MSMPR crystallization processes

In: BIWIC 2016: 23rd International Workshop on Industrial Crystallization, September 6-8, 2016, Max Planck Institute for Dynamics of Complex Technical Systems Magdeburg - Germany. - Göttingen: Cuvillier Verlag, S. 335-341

[Kongress: 23rd International Workshop on Industrial Crystallization, BIWIC 2016, Magdeburg, 6-8 September, 2016];

**Hoffmann, Torsten; Mielke, Lisa; Henneberg, Markus; Peglow, Mirko; Bück, Andreas; Tsotsas, Evangelos**

Energy saving potential in batch fluidized bed granulation process by temporal separation of sub-processes

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-5-1, insgesamt 6 S.[Beitrag auf USB-Stick];

**Idakiev, Vesselin V.; Mielke, Lisa; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Applications of inductive energy input in fluidized beds

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-3-2, insgesamt 7 S.[Beitrag auf USB-Stick];

**Jaskulski, Maciej; Meyer, Katja; Tsotsas, Evangelos**

How do thermal effects influence granule properties in a horizontal fluidized bed?

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. P2-71, insgesamt 8 S.[Beitrag auf USB-Stick];

**Jiang, Zhaochen; Bück, Andreas; Hagemeier, Thomas; Tsotsas, Evangelos**

**CFD-DEM study of residence time and collision velocity in a binary Wurster fluidized bed**  
In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-3-2, insgesamt 8 S.[Beitrag auf USB-Stick];

**Jiang, Zhaochen; Hegemeier, Thomas; Bück, Andreas; Tsotsas, Evangelos**

Particle dynamics and mixing behavior in a poly-disperse gas-solid fluidized bed by color-PTV measurements  
In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Kaiser, Nicolas Maximilian; Flassig, Robert; Sundmacher, Kai**

Design and comparison of optimal reactor concepts for the hydroformylation of olefins by use of a probabilistic design framework

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 1365-1370;  
[Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Le, Kieu Hiep; Kharaghani, Abdolreza; Kirch, Christoph; Tsotsas, Evangelos**

Discrete pore network modeling of superheated steam drying

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-2-2, insgesamt 8 S.[Beitrag auf USB-Stick];

**Le, Kieu Hiep; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Pore network simulations of superheated steam drying

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Lukas, Eduard; Roloff, Christoph; Thévenin, Dominique**

Simulation and validation of turbulent flows in zigzag air classifiers

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.

[Kongress: International Congress on Particle Technology, April 19-21, 2016, Nürnberg, Germany];

**Mader-Arndt, Katja; Tomas, Jürgen**

Uniaxial compression tests of modified glass particles

In: ICBMH 2016: 12th International Conference on Bulk Materials Storage, Handling and Transportation; proceedings; Darwin, Australia, 11-14 July 2016 / edited by David Hastie. - The Institution of Engineers, Australia, S. 383-392

[Kongress: 12th International Conference on Bulk Materials Storage, Handling and Transportation, Darwin, Australia, 11-14 July 2016];

**Marnani, Abbas Kamranian; Bück, Andreas; Antonyuk, Sergiy; Thévenin, Dominique; Tomas, Jürgen**

Study on the compression, flow and permeation of fine and ultra-fine, cohesive and compressible powders

In: 9th International Conference on Multiphase Flow: 22.-27 May 2016, Florence, Italy. - Firenze, insges. 6 S.  
[Kongress: 9th International Conference on Multiphase Flow, ICMF-2016, Florence, Italy, 22.-27 May, 2016];

**Marnani, Abbas Kamranian; Idowu, Rahmon; Bück, Andreas; Antonyuk, Sergiy; Thévenin, Dominique; Tomas, Jürgen**

Classification of ultra-fine adhesive particles at fine cohesive powders

In: ICBMH 2016: 12th International Conference on Bulk Materials Storage, Handling and Transportation; proceedings; Darwin, Australia, 11-14 July 2016 / edited by David Hastie. - The Institution of Engineers, Australia, S. 393-402

[Kongress: 12th International Conference on Bulk Materials Storage, Handling and Transportation, Darwin, Australia, 11-14 July 2016];

**Mielke, Lisa; Hoffmann, Torsten; Bück, Andreas; Tsotsas, Evangelos; Henneberg, Markus; Peglow, Mirko**

Process intensification of batch fluidized bed layering granulation processes by temporal separation of sub-processes

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Moghaddam, Alireza Attari; Kharaghani, Abdolreza; Tsotsas, Evangelos; Prat, Marc**

Equivalence of the one-dimensional moisture diffusion model and the three-dimensional pore network drying model  
In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-1-5, insgesamt 8 S.[Beitrag auf USB-Stick];

**Müller, Daniel; Rieck, Christian; Bück, Andreas; Tsotsas, Evangelos**

Modelling of continuous spray-coating in fluidized bed with a vertical tube air classifier

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-3-6, insgesamt 7 S.[Beitrag auf USB-Stick];

**Müller, Peter; Böttcher, Ronny; Trüe, Michael; Russell, Alexander; Tomas, Jürgen**

Influence of plate thickness on contact time at elastic impact

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 5 S.

[Kongress: International Congress on Particle Technology, April 19-21, 2016, Nürnberg, Germany];

**Neugebauer, Christoph; Palis, Stefan; Bück, Andreas; Diez, Eugen; Heinrich, Stefan; Tsotsas, Evangelos; Kienle, Achim**

Influence of mill characteristics on stability of continuous layering granulation with external product classification

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 1275-1280;

[Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Palis, Stefan; Neugebauer, Christoph; Bück, Andreas; Heinrich, Stefan; Tsotsas, Evangelos; Kienle, Achim**

Control of multi-chamber continuous fluidized bed spray granulation

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Pashminehazar, Reihaneh; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Development of 3D morphological descriptors for agglomerate with complex structure

In: 6th Conference on Industrial Computed Tomography (iCT) 2016: 9-12 February 2016, Wels, Austria. - NDT.net, insges. 7 S.;

[Kongress: 6th Conference on Industrial Computed Tomography (iCT) 2016, 9-12 February 2016, Wels, Austria];

**Pashminehazar, Reihaneh; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Influence of process conditions on the morphology of maltodextrin agglomerates investigated by 3D X-ray images

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Pischel, Denis; Flassig, Robert; Sundmacher, Kai**

Efficient simulation of heterogeneity and stochasticity in microbial processes

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 1213-1218;

[Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Radeva, Zheni; Tomas, Jürgen**

Investigation of the influence of pelletizing process parameters on the breakage behavior of [gamma]-Al 2O 3 pellets

In: ICBMH 2016: 12th International Conference on Bulk Materials Storage, Handling and Transportation; proceedings; Darwin, Australia, 11-14 July 2016 / edited by David Hastie. - The Institution of Engineers, Australia, S. 128-138

[Kongress: 12th International Conference on Bulk Materials Storage, Handling and Transportation, Darwin, Australia, 11-14 July 2016];

**Rahimi, Arman; Kharaghani, Abdolreza; Metzger, Thomas; Tsotsas, Evangelos**

Pore network modeling of a salt solution droplet on a porous substrate - imbibition, evaporation, and crystallization

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-2-3, insgesamt 8 S.[Beitrag auf USB-Stick];

**Rieck, Christian; Bück, Andreas; Tsotsas, Evangelos**

Monte Carlo modeling of binder-less agglomeration in fluidized beds

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-3-5, insgesamt 8 S.[Beitrag auf USB-Stick];

**Schack, Dominik; Rihko-Struckmann, Liisa; Sundmacher, Kai**

Structure optimization of power-to-chemicals (P2C) networks by linear programming for the economic utilization of renewable surplus energy

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 1551-1556; [Kongress: 26th European Symposium on Computer Aided Process Engineering];

**Schmidt, Martin; Bück, Andreas; Tsotsas, Evangelos**

Influence of drying conditions on spray fluidized bed agglomeration behavior of amorphous food powders

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. P1-53, insgesamt 6 S.[Beitrag auf USB-Stick];

**Schmidt, Martin; Bück, Andreas; Tsotsas, Evangelos**

Spray fluidized bed agglomeration of amorphous food powders

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Shamaei, Samira; Seidlou, Seyed Sadegh; Aghbashlo, Mortaza; Tsotsas, Evangelos; Kharaghani, Abdolreza**

Optimization of the walnut oil microencapsulation process using the response surface methodology

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. P1-12, insgesamt 8 S.[Beitrag auf USB-Stick];

**Sondej, Franziska; Bück, Andreas; Tsotsas, Evangelos**

Investigation of the microstructure of single particles using [my]-computed tomography and confocal microscopy

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

**Sondej, Franziska; Rieck, Christian; Schmidt, Martin; Bück, Andreas; Tsotsas, Evangelos**

Use of X-ray micro-computed tomography in pharmaceuticals and food industry

In: 6th Conference on Industrial Computed Tomography (iCT) 2016: 9-12 February 2016, Wels, Austria. - NDT.net, insges. 6 S.;

[Kongress: 6th Conference on Industrial Computed Tomography (iCT) 2016, 9-12 February 2016, Wels, Austria];

**Todorova, Zinaida; Hintz, Werner; Tomas, Jürgen**

Improvement of the flowability of cohesive glass particles by surface modification

In: ICBMH 2016: 12th International Conference on Bulk Materials Storage, Handling and Transportation; proceedings;

Darwin, Australia, 11-14 July 2016 / edited by David Hastie. - The Institution of Engineers, Australia, S. 325-334

[Kongress: 12th International Conference on Bulk Materials Storage, Handling and Transportation, Darwin, Australia, 11-14 July 2016];

**Tran, Thi Thu Hang; Jaskulski, Maciej; Kharaghani, Abdolreza; Tsotsas, Evangelos**

Reduction of a model for single droplet drying and application for CFD spray drying simulation

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. A-3-3, insgesamt 8 S.[Beitrag auf USB-Stick];

**Vorhauer, Nicole; Rahimi, Arman; Tsotsas, Evangelos; Prat, Marc**

Non-isothermal drying of thin porous disks

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. P2-1, insgesamt 9 S.[Beitrag auf USB-Stick];

**Wagner, L.-M.; Thévenin, Dominique; Siegmund, P.; Sundmacher, Kai; Zähringer, Katharina**

PIV-measurements for an optimal reactor design and operation in liquid multiphase systems

In: Proceedings of the 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics. - LISBON Simposia, S. 2128-2137, 2016

[Kongress: 18th International Symposium on Applications of Laser Techniques to Fluid Mechanics, Lisbon, 4 - 7 July, 2016];

#### **Zarekar, Sayali; Bück, Andreas; Jacob, Michael; Tsotsas, Evangelos**

CFD simulation of spray dynamics in a fluidized bed operated under reduced pressure

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. P2-11, insgesamt 6 S.[Beitrag auf USB-Stick];

#### **Zarekar, Sayali; Bück, Andreas; Jacob, Michael; Tsotsas, Evangelos**

CFD simulation of the hydrodynamics of fluidized beds operated under reduced pressure

In: PARTEC 2016: International Congress on Particle Technology: April 19-21, 2016, Nürnberg, Germany. - Nürnberg, insges. 4 S.[Beitrag auf USB-Stick];

#### **Zarekar, Sayali; Bück, Andreas; Jacob, Michael; Tsotsas, Evangelos**

Model for drying and inactivation of baker's yeast particles in fluidized beds operated under reduced pressure

In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-1-2, insgesamt 8 S.[Beitrag auf USB-Stick];

#### **Zinser, Alexander; Rihko-Struckmann, Liisa; Sundmacher, Kai**

Computationally efficient steady-state process simulation by applying a simultaneous dynamic method

In: Computer aided chemical engineering. - Amsterdam [u.a.]: Elsevier, Bd. 38.2016, S. 517-522;

[Kongress: 26th European Symposium on Computer Aided Process Engineering];

### **Habilitationen**

#### **Müller, Peter; Mörl, Lothar [GutachterIn]; Heinrich, Stefan [GutachterIn]; Altenbach, Holm [GutachterIn]**

Mikro-Makro-Wechselwirkungen bei Beanspruchung, Bruch und beschleunigter Bewegung von Granulaten und Agglomeraten

In: Barleben: docupoint GmbH, 2016; XXIV, 407 Seiten: Diagramme, Illustrationen, ISBN 978-3-86912-218-2; [Literaturverzeichnis: Seite 347-380];

### **Dissertationen**

#### **Bensmann, Astrid Lilian; Sundmacher, Kai [GutachterIn]; Kienle, Achim [GutachterIn]**

Modellbasierte Analysen zur Gestaltung und Betriebsführung von Biogasanlagen. - München: Dr. Hut, 2016; xiv, 149 Seiten: Illustrationen; 21 cm x 14.8 cm, 280 g - (Verfahrenstechnik); [http://www.dr.hut-verlag.de/978-3-8439-2908-0](http://www.dr.hut-verlag.de/978-3-8439-2908-0.html); ISBN 978-3-8439-2908-0;

[Literaturverzeichnis: Seite 135-144];

#### **Eicke, Matthias J.; Seidel-Morgenstern, Andreas [GutachterIn]**

Process strategies for batch preferential crystallization. - Aachen: Shaker Verlag, 2016, 1. Auflage; XII, 154 Seiten: 68 Illustrationen, Diagramme; 21 cm, 252 g - (Forschungsberichte aus dem Max-Planck-Institut für Dynamik komplexer technischer Systeme; Band 47), ISBN 978-3-8440-4896-4; [Literaturverzeichnis: Seite 141-145];

#### **Erdrich, Philipp; Reichl, Udo [GutachterIn]; Kienle, Achim [GutachterIn]**

Modellbasierte Bestimmung von Interventionsstrategien zur Optimierung der Produktion von Biokraftstoffen in Cyanobakterien. - Magdeburg, 2016; xx, 158 Seiten: Illustrationen [Literaturverzeichnis: Seite 131-158];

#### **Gaßmann, Jochen; Mörl, Lothar [Gutachter]; Tsotsas, Evangelos [Gutachter]**

Wirbelschichttrocknung pastöser Biomasse mit überhitztem Wasserdampf bis 4 bar. - Magdeburg, 2016; XV, 282 Seiten:

Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 212-225];

**Kröber, Tina; Reichl, Udo [GutachterIn]; Seidel-Morgenstern, Andreas [GutachterIn]**

Purification of cell culture-derived influenza virus using simulated moving bed chromatography. - Magdeburg, 2016; XX, 171 Seiten: Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 132-148];

**Medeiros de Souza, Luís Guilherme; Janiga, Gábor [GutachterIn]; Seidel-Morgenstern, Andreas [GutachterIn]**

Model optimization and techniques for the simulation of multiphase chemical reactors. - Magdeburg, 2016; xii, 130 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 121-130];

**Muth, Thilo; Weiß, Helmut [GutachterIn]; Reichl, Udo [GutachterIn]**

Novel computational methods for the analysis and interpretation of MS/MS data in metaproteomics. - Magdeburg, 2016; XVI, 197 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 151-175];

**Pech, Sabine; Reichl, Udo [GutachterIn]**

Proteomanalytik der Adaption tierischer Zelllinien an Suspensionswachstum und optimierte Medien im Kontext der Impfstoffproduktion. - Magdeburg: Otto-von-Guericke-Universität Magdeburg, 2016; XXIV, 192, lxxvii Seiten: Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 161-186];

**Rubiera Landa, Héctor Octavio; Kienle, Achim [GutachterIn]**

Development of an efficient method for simulating fixed-bed adsorption dynamics using Ideal Adsorbed Solution Theory. - Magdeburg, 2016; xxii, 227 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 195-222];

**Temmel, Erik; Lorenz, Heike [GutachterIn]**

Design of continuous crystallization processes. - Aachen: Shaker Verlag, 2016, 1. Auflage; ix, 175 Seiten: 19 Illustrationen; 21 cm, 284 g - (Forschungsberichte aus dem Max-Planck-Institut für Dynamik komplexer technischer Systeme; Band 46), ISBN 978-3-8440-4700-4;  
[Literaturverzeichnis: Seite [157]-169];

**Zhou, Teng; Sundmacher, Kai [GutachterIn]**

Systematic methods for reaction solvent design and integrated solvent and process design. - Magdeburg, 2016; 115 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 100-109];

# INSTITUT FÜR APPARATE- UND UMWELTTECHNIK

Universitätsplatz 2, 39106 Magdeburg  
Tel. +49 (0)391 67 18831, Fax +49 (0)391 67 11128  
iaut@ovgu.de  
www.iaut.ovgu.de

## 1. Leitung

Prof. Dr.-Ing. habil. Ulrich Krause (geschäftsführender Leiter)  
Prof. Dr.-Ing. habil. Dr. h. c. Lothar Mörl  
Prof. Dr.-Ing. habil. Heinz Köser  
Dr.-Ing. Dieter Gabel  
Dipl.-Ing. (FH) Michael Schmidt  
Christine Liebich (beratend)

## 2. Veröffentlichungen

### **Begutachtete Zeitschriftenaufsätze**

#### **Addai, Emmanuel Kwasi; Acquah, Francis; Yeboah, Isaac; Addo, Albert**

Reductive leaching of blended manganese carbonate and pyrolusite ores in sulphuric acid  
In: International journal of mining and mineral engineering: IJMME. - [Olney]: Inderscience, Bd. 7.2016, 1;

#### **Addai, Emmanuel Kwasi; Gabel, Dieter; Ali, Haider; Krause, Ulrich**

Minimum ignition temperature of dusts, gases, and solvents hybrid mixtures  
In: Combustion science and technology: CST. - London [u.a.]: Taylor & Francis, Bd. 188.2016, 11/12, S. 1693-1704;  
[Kongress: 25th International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS), Leeds, UK, 2-7 August, 2015];  
[Imp.fact.: 1,193]

#### **Addai, Emmanuel Kwasi; Gabel, Dieter; Kamal, Mustafa; Krause, Ulrich**

Minimum Ignition Energy of hybrid mixtures of combustible dusts and gases  
In: Process safety and environmental protection. - Amsterdam: Elsevier, 2016; <http://dx.doi.org/10.1016/j.psep.2016.05.005>;  
[Imp.fact.: 2,551]

#### **Addai, Emmanuel Kwasi; Gabel, Dieter; Krause, Ulrich**

Experimental investigations of the minimum ignition energy and the minimum ignition temperature of inert and combustible dust cloud mixtures  
In: Journal of hazardous materials: environmental control, risk assessment, impact and management. - New York, NY [u.a.]: Science Direct, 2016; <http://dx.doi.org/10.1016/j.jhazmat.2016.01.018>;  
[Imp.fact.: 4,529]

#### **Addai, Emmanuel Kwasi; Gabel, Dieter; Krause, Ulrich**

Lower explosion limit/minimum explosive concentration testing for hybrid mixtures in the Godbert-Greenwald furnace  
In: Process safety progress: AIChE, American Institute of Chemical Engineers. - New York, NY: Inst, 2016; <http://dx.doi.org/10.1002/prs.11825>;  
[Imp.fact.: 0,464]

**Addai, Emmanuel Kwasi; Gabel, Dieter; Krause, Ulrich**

Models to estimate the lower explosion limits of dusts, gases and hybrid mixtures  
In: Chemical engineering transactions: CEt. - Milano: AIDIC, Bd. 48.2016, S. 313-318;

**Addai, Emmanuel Kwasi; Tulashie, Samuel Kofi; Annan, Joe-Steve; Yeboah, Isaac**

The trends of fire outbreaks in Ghana and ways to prevent these incidences  
In: Safety and health at work: SHaW; international journal. - Incheon: Occupational Safety and Health Research Inst, 2016; <http://dx.doi.org/10.1016/j.shaw.2016.02.004>;

**Chen, Zhongbing; Cuervo, Diego Paredes; Müller, Jochen; Wiesner, Arndt; Köser, Heinz; Vymazal, Jan; Kästner, Matthias; Kuschik, Peter**

Hydroponic root mats for wastewater treatment - a review  
In: Environmental science and pollution research: ESPR. - Berlin: Springer, Bd. 23.2016, 16, S. 15911-15928;  
[Imp.fact.: 2,760]

**Götze, Oliver; Richter, Johannes; Zinke, Ronald; Farnell, D. J. J.**

Ground-state properties of the triangular-lattice Heisenberg antiferromagnet with arbitrary spin quantum number s  
In: Journal of magnetism and magnetic materials: MMM. - Amsterdam: North-Holland Publ. Co, Bd. 397.2016, S. 333-341;  
[Imp.fact.: 1,970]

**Idakiev, Vesselin; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Modellbasierte Berechnung des Benetzungsgrades in einer zylindrischen Wirbelschicht mit Flüssigkeitseindüsung  
In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 8, S. 1109-1118;  
[Imp.fact.: 0,661]

**Idakiev, Vesselin V.; Lazarova, Pavleta V.; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Inductive heating of fluidized beds - drying of particulate solids  
In: Powder technology: an international journal on the science and technology of wet and dry particulate systems. - Amsterdam [u.a.]: Elsevier Science, Bd. 306.2017, S. 26-33, 2016;  
[Imp.fact.: 2,759]

**Kaudelka, Sven; Knaust, Christian; Krause, Ulrich**

Ansätze zur numerischen Berechnung von Brandeinwirkungen auf Bauteile  
In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, Bd. 88.2016, 8, S. 1157-1168;  
[Imp.fact.: 0,661]

**Leutritz, Tobias; Hilmert, Liane; Busse, Ulrich; Smalla, K.-H.; Speck, Oliver; Zhong, K.**

Contribution of iron and protein contents from rat brain subcellular fractions to MR phase imaging  
In: Magnetic resonance in medicine: MRM; an official journal of the International Society for Magnetic Resonance in Medicine. - New York, NY [u.a.]: Wiley-Liss, 2016; <http://dx.doi.org/10.1002/mrm.26288>;  
[Imp.fact.: 3,782]

**Melcher, Thomas; Krause, Ulrich**

A mathematical approach to Estimate the error during calculating the smoke layer height in industrial facilities  
In: Sborník v deckých prací Vysoké Školy Bá ské - Technické Univerzity Ostrava / ada bezpe nostního inženýrství. - Warsaw [u.a.]: De Gruyter, Versita, Bd. 11.2016, 1, S. 1-7;

**Melcher, Thomas; Zinke, Ronald; Trott, Marco; Krause, Ulrich**

Experimental investigations on the repeatability of real scale fire tests  
In: Fire safety journal: official journal of the International Society for Fire Safety Science. - New York, NY [u.a.]: Elsevier, Bd. 82.2016, S. 101-114;  
[Imp.fact.: 1,915]

**Saad, Rania A. B.; Kuschk, Peter; Wiessner, Arndt; Köser, Heinz**

Role of plants in nitrogen and sulfur transformations in floating hydroponic root mats - a comparison of two helophytes  
In: Journal of environmental management. - Amsterdam [u.a.]: Elsevier, Bd. 181.2016, S. 333-342;  
[Imp.fact.: 3,500]

**Tulashie, Samuel Kofi; Addai, Emmanuel Kwasi; Annan, Joe-Steve**

Exposure assessment, a preventive process in managing workplace safety and health, challenges in Ghana  
In: Safety science. - Amsterdam [u.a.]: Elsevier Science, Bd. 84.2016, S. 210-215;  
[Imp.fact.: 1,831]

**Wang, Cheng; Huang, Fenglei; Addai, Emmanuel Kwasi; Dong, Xinzhuang**

Effect of concentration and obstacles on flame velocity and overpressure of methane-air mixture  
In: Journal of loss prevention in the process industries. - Amsterdam [u.a.]: Elsevier Science, 2016; <http://dx.doi.org/10.1016/j.jlp.2016.05.021>  
[Imp.fact.: 1,406]

**Begutachtete Buchbeiträge**

**Gabel, Dieter; Marx, Marcus; Baier, Christian; Krause, Ulrich**

Minimum ignition energy of dust mixtures  
In: Proceedings of the 11th International Symposium of Hazards, Prevention, and Mitigation of Industrial Explosions: 11th ISHMPMIE Dalian, China 24-29 July 2016. - Dalian: Dalian University of Tehcnology, S. 383-392  
[Kongress: 11th ISHMPMIE Dalian, China 24-29 July 2016];

**Idakiev, Vesselin V.; Mielke, Lisa; Bück, Andreas; Tsotsas, Evangelos; Mörl, Lothar**

Applications of inductive energy input in fluidized beds  
In: IDS 2016: 20th International Drying Symposium: August 7 - 10, 2016, Gifu, Japan. - Gifu University; 2016, Art. C-3-2, insgesamt 7 S.[Beitrag auf USB-Stick];

**Löhner, Andrea; Knaust, Christian**

The influence of temperature and ventilation conditions on combustion products of polymers and on smoke toxicity  
In: Materials for Energy Infrastructure. - Singapore [u.a.]: Springer Singapore, S. 113-124, 2016;

**Wanke, Christoph; Binkau, Benjamin; Zinke, Ronald; Krause, Ulrich**

The influence of inert materials on the selfignition temperature and maximum reaction temperature of bulk materials  
In: Proceedings of the 11th International Symposium of Hazards, Prevention, and Mitigation of Industrial Explosions: 11th ISHMPMIE Dalian, China 24-29 July 2016. - Dalian: Dalian University of Tehcnology  
[Kongress: 11th ISHMPMIE Dalian, China 24-29 July 2016];

**Abstracts**

**Hahn, Sarah-K.; Rost, Michael; Krause, Ulrich**

Can the combustion efficiency be estimated by small-scale tests? - determining the combustion efficiency with regard to statistical analyses  
In: NFSD: Nordic Fire and Safety Days: June 16th and 17th, 2016 in Copenhagen, Denmark: book of abstracts. - SP Technical Research Institute of Sweden, S. 48  
[Kongress: Nordic Fire and Safety Days, NFSD, Copenhagen, 16. - 17. June, 2016];

**Habilitationen**

**Müller, Peter; Mörl, Lothar [GutachterIn]; Heinrich, Stefan [GutachterIn]; Altenbach, Holm [GutachterIn]**

Mikro-Makro-Wechselwirkungen bei Beanspruchung, Bruch und beschleunigter Bewegung von Granulaten und Agglomeraten  
In: Barleben: docupoint GmbH, 2016; XXIV, 407 Seiten: Diagramme, Illustrationen, ISBN 978-3-86912-218-2;  
[Literaturverzeichnis: Seite 347-380];

## **Dissertationen**

### **Addai, Emmanuel Kwasi; Krause, Ulrich [GutachterIn]**

Investigation of explosion characteristics of multiphase fuel mixtures with air. - Powell, Wyoming: Western Engineering, Inc., 2016; XXVI, 238 Seiten: Illustrationen, ISBN 978-0-9913782-2-7;  
[Literaturverzeichnis: Seite 173-187];

### **Gaßmann, Jochen; Mörl, Lothar [Gutachter]; Tsotsas, Evangelos [Gutachter]**

Wirbelschichttrocknung pastöser Biomasse mit überhitztem Wasserdampf bis 4 bar. - Magdeburg, 2016; XV, 282 Seiten:  
Illustrationen, Diagramme; 30 cm  
[Literaturverzeichnis: Seite 212-225];

### **Hahn, Sarah-Katharina; Krause, Ulrich [GutachterIn]**

Entwicklung einer Methodik zur Bestimmung des Verbrennungseffizienzfaktors von Feststoffen. - Magdeburg, 2016; XVI,  
183 Blätter: Illustrationen  
[Literaturverzeichnis: Blatt 135-142];

### **Meye, Thomas; Krause, Ulrich [GutachterIn]**

Untersuchungen zu Gasdetonationen in Kapillaren für die Mikroreaktionstechnik. - Magdeburg, 2016; XIII, Blatt 14-86:  
Illustrationen  
[Literaturverzeichnis: Blatt 81-85];

# INSTITUT FÜR CHEMIE

Universitätsplatz 2, 39106 Magdeburg  
Tel. +49 (0)391 67 58672, Fax +49 (0)391 67 52223  
ich@uni-magdeburg.de

## 1. Leitung

Prof. Dr. rer. nat. habil. Dieter Schinzer (Institutsleiter)  
Prof. Dr. rer. nat. Franziska Scheffler  
Prof. Dr. rer. nat. habil. Helmut Weiß  
Prof. Dr. rer. nat. habil. Frank T. Edelmann  
PD Dr. Edgar Haak  
Dr. Volker Lorenz  
Frau Uta Jeutes

## 2. Veröffentlichungen

### Begutachtete Zeitschriftenaufsätze

**Alvarado Perea, L.; Wolff, T.; Veit, Peter; Hilfert, Liane; Edelmann, Frank T.; Hamel, Christof; Seidel-Morgenstern, Andreas**

Corrigendum to "Alumino-mesostructured Ni catalysts for the direct conversion of ethene to propene" [J. Catal. 305 (2013) 154168]

In: Journal of catalysis. - Amsterdam [u.a.]: Elsevier, Bd. 336.2016, S. 134;  
[Imp.fact.: 6,921]

**Betke, Ulf; Lieb, Alexandra; Scheffler, Franziska; Scheffler, Michael**

Manufacturing of reticulated open-cellular aluminum nitride ceramic foams from aqueous AlN suspensions  
In: Advanced engineering materials. - Weinheim: Wiley-VCH Verl, insges. 8 S., 2016;  
[Imp.fact.: 1,817]

**Betke, Ulf; Proemmel, Steven; Eggebrecht, Jakob G.; Rannabauer, Stefan; Lieb, Alexandra; Scheffler, Michael; Scheffler, Franziska**

Micro-macroporous composite materials - SiC ceramic foams functionalized with the metal organic framework HKUST-1  
In: Chemie - Ingenieur - Technik: CIT. - Weinheim: Wiley-VCH Verl, 2016; <http://dx.doi.org/10.1002/cite.201500141>;  
[Imp.fact.: 0,661]

**Betke, Ulf; Proemmel, Steven; Rannabauer, Stefan; Lieb, Alexandra; Scheffler, Michael; Scheffler, Franziska**

Silane functionalized open-celled ceramic foams as support structure in metal organic framework composite materials  
In: Microporous and mesoporous materials: the official journal of the International Zeolite Association. - Amsterdam [u.a.]: Elsevier, Bd. 239.2016, S. 209-220;  
[Imp.fact.: 3,349]

**Betke, Ulf; Reschke, Kirsten; Scheffler, Michael**

A novel processing route for alumina/mullite-based refractory materials  
In: Refractories worldforum: manufacturing & performance of high-temperature materials. - Baden-Baden: Göller, Bd.

8.2016, 2, S. 81-85;

**Betke, Ulf; Sharma, Kashyapa S. K.; Rodak, Andreas; Rannabauer, Stefan; Lieb, Alexandra; Scheffler, Franziska; Scheffler, Michael**

Manufacturing of an electrically conducting cellular Cu-SiC material by metal salt infiltration and chemical reduction (MESCAL)

In: Materials letters: an interdisciplinary journal affiliated with the Materials Research Society and the Materials Society Japan, devoted to the rapid publication of short communications on the science, applications and processing of materials. - New York, NY [u.a.]: Elsevier, Bd. 185.2016, S. 201-203;  
[Imp.fact.: 2,437]

**Brüser, Wolfgang; Hilfert, Liane; Lorenz, Volker; Hrib, Cristian G.; Bode, Karin; Adam, Arnold; Vogt, Jochen; Edelmann, Frank T.**

A comparative IR/Raman, X-ray and computational study of diethylzinc pyridine complexes

In: Journal of organometallic chemistry. - New York, NY [u.a.]: Elsevier, Bd. 806.2016, S. 77-82;  
[Imp.fact.: 2,173]

**Edelmann, Frank T.**

Lanthanides and actinides - annual survey of their organometallic chemistry covering the year 2014

In: Coordination chemistry reviews. - Amsterdam [u.a.]: Elsevier Science, Bd. 306.2016, S. 346-419;  
[Part 1];  
[Imp.fact.: 12,239]

**Edelmann, Frank T.**

Lanthanides and actinides - annual survey of their organometallic chemistry covering the year 2015

In: Coordination chemistry reviews. - Amsterdam [u.a.]: Elsevier Science, Bd. 318.2016, S. 329-130;  
[Imp.fact.: 12,239]

**Ehle, Sophie; Lorenz, Volker; Liebing, Phil; Hilfert, Liane; Edelmann, Frank T.**

Synthesis and structural characterization of two complex tantalum(V) siloxides

In: Inorganic chemistry communications: an international journal dedicated to rapid publications in inorganic and organometallic chemistry. - Amsterdam [u.a.]: Elsevier Science, Bd. 74.2016, S. 82-85;  
[Imp.fact.: 1,762]

**Haak, Edgar**

Transition-metal-catalyzed transformations of 1-alkenylpropargyl alcohols and esters - valuable cascade reactions for increasing structural complexity

In: European journal of organic chemistry. - Weinheim: Wiley-VCH Verl, 2016; <http://dx.doi.org/10.1002/ejoc.201601076>;  
[Imp.fact.: 3,068]

**Kühling, Marcel; McDonald, Robert; Liebing, Phil; Hilfert, Liane; Ferguson, Michael J.; Takats, Josef; Edelmann, Frank T.**

Stabilization of molecular lanthanide polysulfides by bulky scorpionate ligands

In: Dalton transactions: a journal of inorganic chemistry, including bioinorganic, organometallic, and solid-state chemistry. - London: Soc, Bd. 45.2016, 25, S. 10118-10121;  
[Imp.fact.: 4,177]

**Leutritz, Tobias; Hilfert, Liane; Busse, Ulrich; Smalla, K.-H.; Speck, Oliver; Zhong, K.**

Contribution of iron and protein contents from rat brain subcellular fractions to MR phase imaging

In: Magnetic resonance in medicine: MRM; an official journal of the International Society for Magnetic Resonance in Medicine. - New York, NY [u.a.]: Wiley-Liss, 2016; <http://dx.doi.org/10.1002/mrm.26288>;  
[Imp.fact.: 3,782]

**Liebing, Phil; Hilfert, Liane; Lorenz, Volker; Edelmann, Frank T.**

Crystal structures and hydrogen bonding of two complexes containing the [Ammine-chlorido-ethylenediamine-bis(pyridine)cobalt(III)]<sup>2+</sup> cation

In: Zeitschrift für anorganische und allgemeine Chemie: ZAAC. - Weinheim: Wiley-VCH, Bd. 642.2016, 20, S. 1178-1183;

[Imp.fact.: 1,261]

**Reschke, Verena; Bordia, Rajendra K.; Scheffler, Franziska; Scheffler, Michael**

Rheology and crosslinking of a low-viscosity SiOC preceramic polymer

In: Ceramics international. - Amsterdam [u.a.]: Elsevier Science, 2016; <http://dx.doi.org/10.1016/j.ceramint.2016.01.171>; [Imp.fact.: 2,605]

**Sroor, F. M.; Liebing, Phil; Hrib, C. G.; Gräsing, D.; Hilfert, Liane; Edelmann, Frank T.**

Formation and structure of the first metal complexes comprising amidinoguanidinate ligands

In: Acta crystallographica / E. - Chester: International Union of Crystallography; Vol. E72.2016, S. 1526-1531;

**Sroor, Farid M.; Hrib, Cristian G.; Liebing, Phil; Hilfert, Liane; Busse, Sabine; Edelmann, Frank T.**

Five different types of [eta] 8-cyclooctatetraenyl-lanthanide half-sandwich complexes from one ligand set, including a giant neodymium wheel

In: Dalton transactions: a journal of inorganic chemistry, including bioinorganic, organometallic, and solid-state chemistry. - London: Soc, Bd. 34.2016, S. 13332-13346;

[Imp.fact.: 4,177]

**Thies, Nora; Stürminger, Martin; Haak, Edgar**

Application of a ruthenium-catalyzed allylation-cycloisomerization cascade to the synthesis of ( $\pm$ )-herbindole A

In: Synlett: accounts and rapid communications in synthetic organic chemistry. - Stuttgart [u.a.]: Thieme, Bd. 27.2016; [Imp.fact.: 2,323]

**Wang, Sida; Sroor, Farid M.; Liebing, Phil; Lorenz, Volker; Hilfert, Liane; Edelmann, Frank T.**

Crystal structures of two ytterbium(III) complexes comprising alkynylamidinate ligands

In: Acta crystallographica / E. - Chester: International Union of Crystallography; Vol. E72.2016, 9, S. 1229-1233;

**Woche, Martin; Scheibe, Norbert; Tümpeling, Wolf von; Schwidder, Michael**

Degradation of the antiviral drug zanamivir in wastewater - the potential of a photocatalytic treatment process

In: The chemical engineering journal. - Amsterdam: Elsevier, Bd. 287.2016, S. 674-679;

[Imp.fact.: 4,321]

**Begutachtete Buchbeiträge**

**Sherepenko, Oleksii; Jüttner, Sven; Betke, Ulf; Mathiszik, Christian; Zschetsche, Jörg; Füssel, Uwe**

Partikelverstärkte Kupferlegierungen - physikalischen Eigenschaften und Einsatzpotential als Elektrodenkappenwerkstoffe zum Widerstandsschweißen

In: Widerstandsschweißen: Vorträge der gleichnamigen 23. Sondertagung in Duisburg am 29. und 30. Juni 2016. - Düsseldorf: DVS Media, S. 151-158 - (DVS Berichte; 1682)

[Kongress: 23. Sondertagung Widerstandsschweißen, Duisburg, 29. - 30. Juni 2016];

**Dissertationen**

**Amusan, Akinwumi Abimbola; Burte, Edmund P. [GutachterIn]; Edelmann, Frank T. [GutachterIn]**

Plasma-assisted atomic layer deposition for microelectronics applications. - Magdeburg, 2016; xviii, 170 Blätter:

Illustrationen

[Literaturverzeichnis: Blatt 153-170];

**Khorkhordin, Oleksandr; Burte, Edmund P. [GutachterIn]; Edelmann, Frank T. [GutachterIn]**

Ferroelektrische Stapelschichten für die Verwendung in nichtflüchtigen Speichern. - Magdeburg, 2016; vii, 116 Blätter

[Literaturverzeichnis: Blatt 109-116];

**Muth, Thilo; Weiß, Helmut [GutachterIn]; Reichl, Udo [GutachterIn]**

Novel computational methods for the analysis and interpretation of MS/MS data in metaproteomics. - Magdeburg,

2016; XVI, 197 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 151-175];

**Yazdi, Samira; Naumann, Michael [GutachterIn]; Weiß, Helmut [GutachterIn]**

The structural dynamics of soluble and membrane proteins explored through molecular simulations. - Magdeburg,  
2016; iv, 131 Seiten: Illustrationen  
[Literaturverzeichnis: Seite 107-129];