

Publikationen in Zeitschriften (begutachtete Publikationen)

> 2020	> 2019	> 2018	> 2017	> 2016	> 2015	> 2014	> 2013	> 2012	> 2011	> 2010	> 2009	> 2008
> 2007	> 2006	> 2005	> 2004	> 2003	> 2002	> 2001	> 2000	> 1999	> 1998	> 1997	> 1996	> 1995

Publikationen in Zeitschriften im Jahr 2020

1. **Sommerfeld, M. and Schmalfuß, S.**
Characterisation of Particle Mixing Performance in Fluid Phase Resonance Mixers Applying the Euler/Lagrange Approach. *Advanced Powder Technology*, Vol. 31, 139 – 157 (2020)
2. **Duarte, C.A.R., de Souza, F.J., Venturi, D.N. and Sommerfeld, M.**
A numerical assessment of two geometries for reducing elbow erosion. *Particuology*, Vol. 49, 117 – 133 (2020)
3. **Muniz, M. and Sommerfeld, M.**
On the force competition in bubble columns: A numerical study. *International Journal of Multiphase Flow*, Vol.128, 103256 (2020)
4. **Shi, W., Yang, X., Sommerfeld, M., Yang, J., Cai, X., and Li, G.**
A Modified Bubble Breakage and Coalescence Model Accounting the Effect of Bubble-Induced Turbulence for CFD-PBM Modelling of Bubble Column Bubbly Flows. *Flow, Turbulence and Combustion*, DOI 10.1007/s 10494-020-00163-9 (2020)

Publikationen in Zeitschriften im Jahr 2019

1. **Sgrott Junior, O.L. and Sommerfeld, M.**
Influence of inter-particle collisions and agglomeration on cyclone performance and collection efficiency. *Canadian Journal Chemical Engineering*, Vol. 97, 511 – 522 (2019)
2. **Lain, S. and Sommerfeld, M.**
Numerical prediction of particle erosion of pipe bends. *Advanced Powder Technology*, Vol. 30, 366 – 383 (2019)
3. **Sommerfeld, M., Cui, Y. and Schmalfuß, S.**
Potentials and Constraints for the Application of CFD Combined with Lagrangian Particle Tracking to Dry Powder Inhalers. *European Journal of Pharmaceutical Sciences*, Vol. 128, 299 – 324 (2019)
4. **Cui, Y. and Sommerfeld, M.**
The modelling of carrier-wall collision with drug particle detachment for dry powder inhaler applications. *Powder Technology*, Vol. 344, 741 – 755 (2019)
5. **Ernst, M., Sommerfeld, M. and Lain, S.**
Quantification of preferential concentration of colliding particles in a homogeneous isotropic turbulent flow. *International Journal Multiphase Flow*, Vol. 117, 163 – 181 (2019)
6. **Sommerfeld, M. and Pasternak, L.**
Advances in Modelling of Binary Droplet Collision Outcomes: A review of available results. *International Journal of Multiphase Flow*, Vol. 117, 182 – 205 (2019)
7. **Shi, W., Yang, X., Sommerfeld, M., Yang, J., Cai, X., Li, G., Zong, Y.**
Modelling of mass transfer for gas-liquid two-phase flow in bubble column reactor with a bubble breakage model considering bubble-induced turbulence. *Chemical Engineering Journal*, Vol. 371, 470–485 (2019)

Publikationen in Zeitschriften im Jahr 2018

1. **Koullapis, P., Kassinos, S.C., Muela, J., Segarra, C., Rigola, J., Lehmkuhl, O., Cui, Y., Sommerfeld, M., Elcner, J., Jisha, M., Saveljic, I., Filipovic, N. Lizal, F. and Nicolaou, L.**
Regional aerosol deposition in the human airways: The SimInhale benchmark case and a critical assessment of in silico methods. *European Journal of Pharmaceutical Sciences*, Vol. 113, 77 – 94 (2018)
2. **Cui, Y. and Sommerfeld, M.**
Application of Lattice-Boltzmann Method for Analysing Detachment of Micron-Sized Particles from Carrier Particles in Turbulent Flows. *Flow Turbulence and Combustion*, Vol. 100, 271 – 297 (2018)
3. **Sommerfeld, M. and Qadir, Z.**
Fluid dynamic forces acting on irregular shaped particles: Simulations by the Lattice-Boltzmann method. *International Journal Multiphase Flows*, Vol. 101, 212 – 222 (2018)

4. **Sommerfeld, M. and Lain, S.**
Stochastic modelling for capturing the behaviour of irregular-shaped non-spherical particles in confined turbulent flows. *Powder Technology*, Vol. 332, 253 – 264 (2018)
 5. **Ariane, M., Sommerfeld, M. and Alexiadis, A.**
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 6. **Sommerfeld, M., Muniz, M. and Reichardt, Th.**
On the importance of modelling bubble dynamics for point-mass numerical calculations of bubble columns. *Journal of Chemical Engineering of Japan*, Vol. 51, 301 – 317 (2018)
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1. **Reichardt, Th., Tryggvason, G. and Sommerfeld, M.**
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 2. **Sommerfeld, M. and Stübing, S.**
A novel Lagrangian agglomerate structure model. *Powder Technology*, Vol. 319, 34 – 52 (2017)
 3. **Schmalfuß, S. and Sommerfeld, M.**
Numerical and experimental analysis of Fluid Phase Resonance mixers. *Chemical Engineering Science*, Vol. 173, 570 – 577 (2017)
 4. **Lain, S. and Sommerfeld M.**
Influence of inter-particle collisions on erosion of pipe bends. *ERCOFTAC Bulletin*, No. 112, 10 – 16 (2017)
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1. **Sommerfeld, M. and Schmalfuß, S.**
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 2. **Süverkrüp, R. Eggerstedt, S., Wanning, S., Kuschel, M., Sommerfeld, M. and Lamprecht, A.**
Collisions and coalescence in droplet streams for the production of freeze-dried powders. *Colloids and Surfaces B: Biointerfaces*, Vol. 141, 443–449 (2016)
 3. **Dietzel, M., Ernst, M. and Sommerfeld, M.**
Application of the Lattice-Boltzmann method for particle-laden flows: Point-particles and fully resolved particles. *Flow, Turbulence and Combustion*, Vol. 97, 539–570 (2016), DOI: 10.1007/s10494-015-9698-x, Jan. 2016
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1. **Sommerfeld, M. and Lain, S.**
Parameters influencing dilute-phase pneumatic conveying through pipe systems: A computational study by the Euler/Lagrange approach. *The Canadian Journal of Chemical Engineering*, Vol. 93, 1-17 (2015); John Wiley & Sons, Inc., Oxford, UK; ISSN 0008-4034, Online ISSN: 1939-019X
 2. **Cui, Y. and Sommerfeld, M.**
Forces on micron-sized particles randomly distributed on the surface of larger particles and possibility of detachment. *International Journal Multiphase Flow*, Vol. 72, 39 – 52 (2015); Elsevier Oxford, New York, Amsterdam, Boston, Jena u.a.; ISSN 0301-9322 (Print)
 3. **Sommerfeld, M. and Schmalfuß, S.**
Numerical analysis of carrier particle motion in dry powder inhaler. *ASME Journal of Fluid Engineering*, Vol. 138, April 2016, 041308-1 to 12.
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1. **Horender, S., Schaub, F. und Sommerfeld, M.**
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2. **Cui, Y., Schmalfuß, S., Zellnitz, S., Sommerfeld, M. and Urbanetz, N.**
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3. **Soriano-Palao, O.J., Sommerfeld, M. and Burkhardt, A.**
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4. **Quintero Arboleda, B., Qadir, Z., Sommerfeld, M. and Lain, S.**
Modelling the wall collision of regular non-spherical particles and experimental validation. *Proceedings of the ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting; FEDSM2014*; August 3-7, 2014, Chicago, Illinois, USA, Paper No. FEDSM2014-21610 (2014); Proc. ASME. 46247; Volume 1D, ISBN: 978-0-7918-4623-0; 12 pages
5. **Lain, S. and Sommerfeld, M.**
Prediction of horizontal gas–solid flows under different gravitational fields. *Advances in Space Research*, Vol. 54 1949–1962 (2014); Elsevier,

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1. **Lain, S. and Sommerfeld, M.**
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2. **Kuschel, M. and Sommerfeld, M.**
Investigation of droplet collisions for solutions with different solids content. *Experiments in Fluids*, Vol. 54, 1-17 (2013)
3. **Schomburg, H., Dietzel, M., Sommerfeld, M., Michaelis, B. and Teike, G.**
Lattice-Boltzmann model with dynamic grid refinement for simulating particle deposition on a single fibre. *Journal of Computational Multiphase Flows*, Vol. 5, 1-26, 2013
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Collision between high and low viscosity droplets: Direct Numerical Simulations and experiments. *International Journal of Multiphase Flow*, Vol. 56, 81–92 (2013)
5. **Schlauch, E., Ernst, M., Seto, R., Briesen, H., Sommerfeld, M. and Behr, M.**
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6. **Schmalfuß, S., Säuberlich, R. und Sommerfeld, M.**
Verbesserung des Fluidphasenresonanzmischers mit OpenFOAM. *Chemie-Ingenieur Technik*, Vol. 85, 1934-1940 (2013)
7. **Ernst, M., Dietzel, M. and Sommerfeld, M.**
A lattice Boltzmann method for simulating transport and agglomeration of resolved particles. *Acta Mechanica*, Vol. 224, 2425-2449 (2013)
8. **Dietzel, M. and Sommerfeld, M.**
Numerical calculation of flow resistance for agglomerates with different morphology by the Lattice-Boltzmann Method. *Powder Technology*, Vol. 250, 122–137 (2013)
9. **Sommerfeld, M.**
Report on the 13th Workshop on Two-Phase Flow Predictions. *ERCOFTAC Bulletin*, No. 95 (2013)

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1. **Lain, S. and Sommerfeld, M.**
Numerical calculation of pneumatic conveying in horizontal channels and pipes: Detailed analysis of conveying behaviour. *International Journal of Multiphase Flow*, Vol. 39, 105–120 (2012)
2. **Teike, G., Dietzel, M., Michaelis, B., Schomburg, H. and Sommerfeld, M.**
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3. **Schmalfuß, S., Säuberlich, R. und Sommerfeld, M.**
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4. **Horender, S. and Sommerfeld, M.**
Evaporation of nearly monosized droplets of hexane, heptane, decane and their mixtures in hot air and an air/steam mixture. *International Journal of Spray and Combustion Dynamics*, Vol. 4, 123 – 154 (2012)
5. **Ernst, M. and Sommerfeld, M.**
On the volume fraction effects on inertial colliding particles in homogeneous isotropic turbulence. *Journal of Fluids Engineering*, Transactions of the ASME, Vol. 134, March 2012, Start Page: 031302, DOI No. 10.1115/1.4005681
6. **Eggerstedt, S. N., Dietzel, M., Sommerfeld, M. Süverkrüp, R., Lamprecht, A.**
Protein spheres prepared by drop jet freeze drying. *International Journal of Pharmaceutics* 438, 160– 166 (2012)

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1. **Weickert, M., Sommerfeld, M., Teike, G. and Iben, U.**
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2. **Dietzel, M. Ernst, M. and Sommerfeld, M.**
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3. **Stübing, S., Dietzel, M. and Sommerfeld, M.**
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4. **Lain, S., Sommerfeld, M. and Botina L.**
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2. **Hölzer, A. and Sommerfeld, M.**
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3. **Horender, S. and Sommerfeld, M.**
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1. **Hölzer, A. and Sommerfeld, M.**
Lattice Boltzmann simulations to determine drag, lift and torque acting on non-spherical particles. Computers and Fluids Vol. 38, 572-589 (2009)
2. **Sommerfeld, M. and Bröder, D.**
Analysis of hydrodynamics and micro-structure in a bubble column by planar shadow image velocimetry. Industrial & Engineering Chemistry Research, Vol. 48, 330-340 (2009)
3. **Odenthal, H.-J., Rexroth, C.-H., Sommerfeld, M., Ludwig, A., Baake, E. und Thess, A.**
Optimierte Strömungssimulation ermöglicht verbesserte metallurgische Verfahrensabläufe. Stahl und Eisen, Jahrgang. 129, 37 – 46 (2009)
4. **Sommerfeld, M.**
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5. **Sommerfeld, M. and Lain, S.**
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6. **Ernst, M. and Sommerfeld, M.**
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7. **Lain, S. and Sommerfeld, M.**
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8. **Lain, S., Sommerfeld, M. and Quintero B.**
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1. **Lain, S. and Sommerfeld, M.**
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2. **Lain, S. and Sommerfeld, M.**
Euler/Lagrange computations of pneumatic conveying in a horizontal channel with different wall roughness. Powder Technology, Vol. 184, 76-88 (2008)
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4. **Lain, S. and Sommerfeld, M.**
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5. **Horender, S., Lipowsky, J., Sommerfeld, M., Schwerin, M. and Badeke, K.-U.**
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2. **Bröder, D. and Sommerfeld, M.**
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5. **Lain, S. and Sommerfeld, M.**

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Comparison between Euler-Euler and Euler-Lagrange computations of gas-solid turbulent flow in a horizontal channel with different wall roughness. Proceedings of the ASME Joint U.S.-European Fluids Engineering Summer Meeting, Miami, Florida, Paper No. FEDSM2006-98263 (2006)

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7. **Schaub, F. and Pluschke, W.**

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1. **Blei, S. und Sommerfeld, M.**

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5. **Verdurmen, R.E.M., Verschuren, M., Gunsing, M., Straatmans, H., Blei, S. and Sommerfeld, M.**

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3. **Lain, S. and Sommerfeld, M.**

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4. **Sommerfeld, M. and J. Kussin, J.**

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5. **Lain, S., Sommerfeld, M. and Kussin, J.**

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4. **Hölzer, A. and Sommerfeld, M.**

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5. **Lain, S. and Sommerfeld, M.**

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6. **Sommerfeld, M.**

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7. **Sommerfeld, M., Bourloutski, E. and Bröder, D.**

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10. **Sommerfeld, M. and Kussin, J.**

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2. **Bourloutski, E. and Sommerfeld, M.**

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