

Curriculum vitae: Stefan Luding

Personal details

Title(s), initial(s), name: Prof. Dr. rer.-nat. **Stefan Luding**
 Male/female: male
 Date and place of birth: 16.08.1964 born in Selbitz, Germany
 Nationality, family: german, married

Master's ('Diplom/Doctoraal')

University: University of Bayreuth, Germany
 Date: 24.06.1990
 Main subject: Statistical Physics & Reaction Kinetics in Disordered Media

Doctorate ('Doktorarbeit/Promotie')

University: University of Freiburg, Germany
 Date: 27.10.1994
 Supervisor ('Promotor'): Prof. Dr. Alexander Blumen (Theoretical Polymerphysics)
 Title of thesis: Models and Simulations of Granular Materials

Work experience since graduating

Nov. 1994 – Dec. 1995 stipend in Paris, France (granted by the EU)	Post Doc
Dec. 1995 – Sep. 2000 Assistent, BAT IIa, in Stuttgart, Germany <i>Habilitation: January 1998</i>	Assistant Professor (PD) (limited to max. 5 years)
Oct. 2000 – Sep. 2001 C2-professor in Stuttgart, Germany	Associate Prof. (HD) (limited to max. 5 years)
Sep. 2001 – Sep. 2007 DelftChemTech, TU Delft, NL	Assoc. Prof. (UHD) permanent position
Oct. 2007 – now Engineering Technology, MESA+, UTwente, NL	Full Professor (Chairholder) permanent position

Tasks:

Teaching/Organisation of Programming in Engineering, Solid Mechanics, Project Based Learning, Granular Matter, Particle Technology, Multiphase Flows and other courses. Science and research, projects acquisition, and group-management.

Group 2017: 13 PhD-students, 4 PostDocs, and 3 Assistant Profs., 1 Assoc. Prof.

PhD-Promotions: 16

1) Marc Lätzel	2003 (Stuttgart)
<i>From microscopic simulations towards a macroscopic description of granular media</i>	
2) Stefan Miller	2004 (Stuttgart)
<i>Clusterbildung in granularen Gasen</i>	
3) Micha-Klaus Müller	2008 (UTwente)
<i>Long-range interactions in dilute granular systems</i>	
4) Orion Mouraille	2009 (UTwente)
<i>Sound propagation in dry granular materials: DEM simulations, theory & experiments</i>	
5) Fatih Göncü	July 2012 (UTwente)
<i>Mechanics of Granular Materials: Constitutive Behavior and Pattern Transformation</i>	

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| 6) | Kazem Yazdchi | Nov. 2012 (UTwente) |
| | <i>Micro-macro relations for flow through fibrous media</i> | |
| 7) | Sebastian Gonzalez Briones | April 2013 (UTwente) |
| | <i>An Investigation into Clustering and Segregation in Granular Materials</i> | |
| 8) | Remco Hartkamp | May 2013 (UTwente) |
| | <i>MD study of non-Newtonian flow of simple fluids in confined & unconfined geometries</i> | |
| 9) | N. Kumar | March 2014 (UTwente) |
| | <i>Micro-Macro and Jamming Transition in Granular Materials</i> | |
| 10) | O. I. Imole | March 2014 (UTwente) |
| | <i>Discrete Element Simulations & Experiments: To Applications for Cohesive Powders</i> | |
| 11) | Vitaliy Ogarko | May 2014 (UTwente) |
| | <i>Microstructure and Macroscopic Properties of Polydisperse Systems of Hard Spheres</i> | |
| 12) | A. Singh | May 2014 (UTwente) |
| | <i>Micro-Macro and Rheology in Sheared Granular Matter</i> | |
| 13) | Nicolas Rivas | Feb. 2015 (UTwente) |
| | <i>From Discrete to Continuum Models of Shaken Granular Matter</i> | |
| 14) | Deepak Tunuguntla | Oct. 2015 (UTwente) |
| | <i>Polydisperse Granular Flows over Inclined Channels</i> | |
| 15) | Ibrahim Guven | June 2016 (UTwente) |
| | <i>Hydraulical & Acoustical Properties of Porous Sintered Glass Bead Systems: Experiments, Theory, & Simulations</i> | |
| 16) | Matteo Giani | July 2017 (UTwente) |
| | <i>Modeling the self-assembly of clathrin coats</i> | |
| 17) | Sudeshna Roy | scheduled: Jan. 2018 (UTwente) |
| | <i>Modeling of wet granular materials</i> | |

Links to the 16 PhD thesis and 25 MSc student thesis can be found on the website:
<https://www2.msm.ctw.utwente.nl/sluding/THESIS/thesis.html>

International activities

Dr. Luding is invited member of the:

DECHEMA/GVC-VDI Fachausschuss: Agglomerations- und Schüttguttechnik (since 2001), the European Federation of Chemical Engineering (EFCE) Working Party on Mechanics of Particulate Solids (invited Dutch delegate since 2005), the "Association pour L'Etude de la Micromécanique des Milieux Granulaires" (AEMMG), since 2001, and elected President of the AEMMG, 2005 (1st term), 2009 (2nd term), 2013 (3rd term), 2017 (4th term), as well as Dutch representative of the International Federation Measurement & Control of Granular Materials (IFMCGM, since 2006).

Dr. Luding is the managing editor-in-chief of the interdisciplinary Springer journal Granular Matter since 1998 [J1]; he edited seven books [B1-B7], in relation to some of the conferences he has organized. He was invited as Advisory or Scientific Board member for many more conferences and workshops worldwide. Furthermore, he is in the Editorial Advisory Board of the journal Particuology (since 2009) [J2], since 2013 is Editorial Board Member of the new journal Computational Particle Mechanics (Springer) [J3] and the AGEM² Springer book series [J4].

He has presented well above 220 invited lectures/talks/presentations at various conferences and at research-institutes/groups/laboratories worldwide.

Dr. Luding was guest-Prof. in Sydney (Australia), Berlin, WIAS (Germany), Marseille (France), Duke Univ. (North Carolina, USA), and Tel-Aviv (Israel).

Since 1998, he was invited external referee in more than 50 PhD commissions (Netherlands, Belgium, France, Germany, Spain, Switzerland, Ireland, UK) as listed below.

Other academic activities

Prof. Dr. Luding has actively, with major responsibility, organized the following international conferences, workshops, sessions, schools (*session organisations, advisory boards or scientific committee memberships are not mentioned*):

1. DEM8, UTwente, Enschede, NL, 2019
2. Powders & Grains 2017 (President AEMMG), Montpellier, France, July 2017
3. Granular Matter Days 2014, DLR Cologne, Germany & UTwente, NL, Mar. 2014
4. Powders & Grains 2013 (President AEMMG), Sydney, Australia, July 2013
5. YITP Workshop: Physics of glassy & granular materials, Kyoto, Japan, July 2013
6. KITPC Complex Dynamics in Granular Systems, Workshop, China, June 2013
7. DLR/UT German-Dutch Granular Workshop, DLR-Cologne, Germany, April 2013
8. Lorentz workshop on Scale Bridging, Oct., 2009
9. Powders & Grains, 2009, Colorado, USA, July, 2009
10. Lorentz workshop on granulates and colloids, Feb. 2008
11. DEM-5 (Discrete Element Methods), Brisbane, Australia, Aug. 2007
12. Powders and Grains 2005, Stuttgart, Germany
13. Numerical Simulation Methods, within the Granular Matter trimestre at the IHP (Institute Henri Poincare), Paris, France, 2005
14. Traffic and Granular Flow 2003, Delft, NL, 2003
15. Cooperative Grains: From Granular Matter to Nanomaterials, LC Leiden, 2003
16. Winter school on Granular Matter, Korea, 2003
17. Continuous and Discontinuous Modelling of Cohesive Frictional Materials, 2000
18. CECAM Workshop: Statistical physics for dynamic granular media, 2000
19. WEH Workshop: Granular Gases, Bad Honnef, 1999
20. NATO ASI - Physics of dry Granular Media, Cargese, Corsica, 1997

National activities

Dr. Luding is member of the Dutch research groups:

TCSC – Twente Centre for scientific computing (www.tcsc.eu)

MESA+ Nanotechnology Institute (www.utwente.nl/mesaplus)

EM – Engineering Mechanics Research School (www.em.tue.nl)

JMBC – JMBurgersCentrum for Fluid Mechanics (www.jmburgerscentrum.org)

and formerly:

NSPT – Dutch Research School for Process Technology

IMPACT (Institute of Mechanics, Processes and Control-Twente)

Delft Centre for Materials (DCMat), and

Delft Centre for Computational Science and Engineering (DCSE).

Dr. Luding was (until 2007) chairman of the Young Wild Idea (YWI) committee (for sponsoring young/wild materials research ideas of students) and member of the policy-committee in DCMat, as well as member of the “dagelijks bestuur” in DCSE.

Prof. Luding is the president of TCSC (from 2015), elected board-member of the research-school EM (from 2014), i.e. one of the two UT members of this unit; he is the UTwente representative of the 3TU Research Centre Fluid and Solid Mechanics (since Oct. 2013), and board-member of the Netherlands Mechanics Committee (NMC) since Dec. 2013.

Prof. Luding is member of the board of the NWO Graduate School Fluid and Solid Mechanics since 2012, as well as the Twente Graduate School (TGS) Computational Science and Engineering teaching-professor ("onderwijs-hoogleraar") since Nov. 2013.

Funding ID

Prof. Luding has collected various projects, in total valued around 7MEuros since 2002 and 7.7MEuros since 1996, leading to 27 PhD projects, 12 PostDoc projects (main supervisor), and several other projects (co-supervisor). Important to mention are the prestigious personal VICI award (1.5MEuros) that involved two PhD students and six PostDocs, as well as two big interdisciplinary EU FP7 ITN projects PARDEM and T-MAPPP, running since 2009, involving six PhD- and two PostDoc-positions in total.

Funding	Project theme:	Begin	End	k€
STW	Tabletting and additive manufacturing	2017	2021	750
FOM/Oce	Printing technology multiscale modeling	2016	2021	500
STW	Fluid-Solid interaction and penetration	2016	2020	220
FOM-SHELL	Energy storage in solid flow batteries	2014	2018	240
FOM-SHELL	Comput. Science for Energy/Resources	2014	2018	240
EU-FP7 ITN	T-MAPPP – Multiscale Particle Modeling	2014	2018	550
DFG-STW	Discrete-cont. models for wet particles	2012	2018	272
DFG	SPP PIKO: Particles in contact	2009	2017	274
NWO-STW	Bridging from. particles & continuum	2010	2016	1500
FOM-SHELL	Nano-particles flow for oil recovery	2009	Jul. 2016	203
EU-FP7 ITN	PARDEM: Particles & discrete elements	2009	Oct. 2013	775
STW-MUST	Hierarchical multiscale modeling	2008	Aug. 2013	508
FOM-Jam	Jamming rheology	2008	Aug. 2013	220
TUD-PCSE	Computational Modeling	2008	July 2012	200
FOM-GM2	Clustering phase diagram	2007	Dec. 2012	248
FOM-GM1	Shearband rheology	2005	Dec. 2009	272
FOM-SHELL	Sound propagations	2005	Feb. 2010	251
BSIK-mic	Fluids flow in nanochannels	2005	Dec. 2011	215
TUD-DCMat	Self Healing with particle methods	2004	Dec. 2007	160
TUD-DCSE	Long range force modeling	2003	July 2008	210
DFG	Various projects in Stuttgart, Germany	1996	Dec. 2004	600

Table 1: Projects overview – ended projects are in grey, running ones in black.

Member of PhD commissions

- 08.12.98 *Modelisation Physique et Mecanique d'une Couche de Grains Vibres, Specialite: Mecanique*, Mr. Laurent Labous, Jussieu, Paris, France.
- 12.07.02 *Experimental and Numerical Investigation of Shear Localization in Sheared Granular Media*, Konrad Nuebel, Inst. Boden- und Felsmechanik, Karlsruhe, Germany.
- 14.03.03 *Hydrodynamics and spontaneous symmetry breaking in granular fluids*, Ramon Garcia Rojo, Theoretical Physics, Sevilla, Spain.
- 19.05.03 *Breakage Characteristics of Particles and Granules*, Ramanan Pitchumani, Particle Technology, Delft, Netherlands.
- 20.05.03 *From people to plants: Application of Electrospray*, Kees B. Geerse, Particle Technology, Delft, Netherlands.
- 07.11.03 *Sur le probleme de la segregation des milieux granulaires vibres. Etude theorique et phenomenologique*, Mr. L. Trujillo, ESPCI, Paris, France.
- 31.01.05 *Simulation of Crushing Dynamics of an Aggregate Matrix Composite by Compression and Impact Stress*, Manoj Khanal, Magdeburg, Germany.
- 02.12.05 *Numerical Simulations of granular media with polyhedral grains*, Lionel Pournin, Lausanne, Switzerland.
- 04.05.06 *Intruder Granular Dynamics in vibrated granular beds*, Duncan Sanders, Nottingham, UK.
- 05.05.06 *Developing a virtual test environment for granular materials using discrete element modeling*, Liang Cui, Dublin, Ireland.
- 21.11.06 *Vector Stefan Model for 3D*, Etelvina Javierre, Delft, NL.
- 18.12.06 *Contact Models for Apples*, Edward Dintwa, Leuven, Belgium.
- 19.10.07 *Ecoulement de particules dans un milieux poreux*, Franck Lomine, Université de Rennes 1, France.
- 11.01.08 *Annular shear flows: Experiments and Simulations*, Georg Koval, LCPC, Paris, France.
- 30.01.08 *Distributed secondary gas injection via a fractal injector*, Dana Christensen, TUDelft, NL.
- 14.02.08 *Collective Phenomena in vertically shaken Granular Matter*, PhDthesis, Peter Eshuis, UTwente, NL.
- 18.02.08 *Random Packing of Colloid and Granular Matter*, Alan Wouterse, Univ. Utrecht, NL.
- 03.07.08 *Rheology of Aging Suspensions*, Eko Hari Purnomo, UTwente, NL.
- 28.08.08 *Modelling Dune Evolution and Dynamic Roughness in Rivers*, PhDthesis, Andries Parlberg, UTwente, NL.
- 09.09.08 *Microstructure in Powders*, Robert Andersson, R3, TUDelft, NL.
- 18.11.08 *Mean Particle Diameters: From Statistical Definition to Physical Understanding*, Maarten Alderliesten, TUDelft, NL.
- 19.11.08 *Materiaux granulaires cimentes : modelisation et application a l'albumen de ble*, Vincent Topin, Montpellier, France.
- 20.11.08 *Study of the thermal diffusion behavior of simple binary mixtures*, Pavel Polyakov, UTwente, NL.
- 17.12.08 *Constitutive Modeling of Metastable Austenitic Stainless Steel*, E. S. Perdahcioglu, UTwente, NL.
- 17.04.09 *Newton vs. Stokes: Competing Forces in Granular Matter*, H. J. Gerner, UTwente, NL.
- 20.05.09 *Tas et dunes de sable*, (These d'habilitation a diriger des recherches de l'universite Pierre et Marie Curie), P. Claudin, Paris, France.
- 21.08.09 *Jamming in Granular Media: Experiments and Models*, M. Tsukahara, Lausanne, Switzerland.

- 28.08.09 *Strain Path Dependency in Sheet Metal: Experiments and Model*, M. van Riel, UTwente, NL.
- 05.02.10 *Discontinuous Galerkin Finite Element Methods for (non-)conservative partial differential equations*, Sander Rhebergen, UTwente, NL.
- 26.05.10 *Particle based evaporation models and wall interaction for microchannel cooling*, Pieter van den Akker, TU Eindhoven, NL.
- 02.07.10 *Etude experimentale de la transition de blocage dans un milieu granulaire vibre*, Rim Harich, l'universite P. et M. Curie, Paris VI, France
- 23.08.10 *Dynamic properties of vibrated dry sand: Sphere penetration experiments and DEM modeling of vibro-fluidized phenomena*, Nicolas Denies, Univ. Louvain-la-Neuve, Belgium.
- 01.10.10 *Dynamik geschütteter Kleinteile*, Beate Muth, Uni-Stuttgart, Germany.
- 01.12.10 *Granular dynamics in rotating drums*, Marleen Arntz, UWageningen, NL.
- 10.12.10 *Viscothermal wave propagation*, Marten Nijhof, UTwente, NL.
- 04.02.11 *Colloidal suspensions under external control*, Burak Eral, UTwente, NL.
- 16.05.11 *Connecting Molecular Dynamics and Computational Fluid Dynamics*, Anton P. Markesteijn, TUDelft, NL.
- 26.09.11 *Multiscale failure modeling of quasi-brittle materials*, Vinh Phu Nguyen, TUDelft, NL.
- 07.10.11 *On meshless and nodal-based numerical methods for forming processes*, Wouter Quak, UTwente, NL.
- 07.12.11 *Sub-micron grinding of a food product*, Stephen Hennart, TUDelft, NL.
- 06.07.12 *Floater on Faraday waves: Clustering and heterogeneous flow*, Ceyda Sanli, UTwente, NL.
- 29.10.12 *Multi-Scale Modeling of Materials*, Lars Beex, TU/e, NL.
- 15.02.13 *Modeling sheet-flow sand transport under progressive surface waves*, Wouter Kranenburg, UT, NL.
- 25.03.13 *Linking DEM with micropolar continuum*, Jia Lin, BOKU Vienna, Austria.
- 30.08.13 *The influence of texture on phase transformation in metastable austenitic stainless steel*, Peter Hilkhuijsen, UT, NL.
- 04.09.13 *Measuring sound absorption using local field assumptions*, Erwin Kuipers, UT, NL.
- 25.09.13 *Fine sand in motion*, Tess Homan, UT, NL.
- 10.12.13 *Experimentelle & numerische Untersuchung des Pulver- & Aerosolverhaltens in einer Luftströmung*, Michael Becker, U. Darmstadt, Germany.
- 03.03.14 *Mesosopic discrete element modelling of cohesive powders for bulk handling applications*, Subash Chandra Thakur, UEdinburgh, UK.
- 20.06.14 *Multiscale Simulations of Star Polymer Melts*, Liu Li, UT, NL.
- 30.07.14 *Adaptiv diskret-kontinuierliche Modellierung von Materialien mit Mikrostruktur*, Annika Sorg, Univ. Stuttgart, Germany.
- 23.02.15 *Experiments and Models for Chute Flows*, Sushil Sirshat, TU/e, NL.
- 19.05.15 *Entwicklung und Anwendung von Methoden zur Simulation des Trocknens von Suspensionen*, Thomas Breinlinger, KIT, Karlsruhe, Germany.
- 10.12.15 *Colloidal dynamics in flow & confinement*, Somnath Ghosh, UTwente, NL.
- 29.04.16 *Particles in polymer functionalized micro-channels: Electrochemical experiments and MD simulations*, Bart Kievit, UTwente, NL.
- 01.07.16 *Numerical Investigation of Heat Transfer Enhancement by Means of High Thermal Conductivity Microstructures*, Nicola Pelevic, UTwente, NL.
- 21.08.16 *Plane shock waves in granular gases and regularized moment equations*, M. H. Lakshminarayana Reddy, JNCASR Bangalore, India.
- 03.02.17 *Methodes numerique pour la simulation des ecoulements de materiaux granulaire par une approche continue*, Stephanie Riber, Nice, F.

- 31.03.17 *On the mechanical interactions between TiO₂ nanoparticles*, Jens Laube, Bremen, Germany.
- 10.05.17 *Excavation of hard deposits and rocks: On the cutting of saturated rocks*, Rudy Helmons, TUDelft, NL.
- 12.09.17 *Permeability models for partly saturated cement*, Kai Li, TUDelft, NL.

Refereeing

Proposals

Since 1997: S. Luding acts as referee/external *advisor* for various funding institutions in Australia, The Americas, Africa, Israel (GIF), and in Europe (Belgium, Germany, Netherlands, Norway, France and UK).

Papers

Since 1993: S. Luding regularly *referees* publications for international journals, including Nature, Physical Review Letters, Science, Physical Review E, Europhysics Letters, Int. J. of Solids and Structures, European Physical Journal E, Physica A, JSTAT, New J. of Physics, Physics of Fluids, Computer Physics Communications, Journal of Computational Physics, Engineering and Computational Mechanics, Engineering Computations, Rheologica Acta, Particle Technology, Particuology, Granular Matter, Chemical Engineering Science, International Journal of Heat and Mass Transfer, International Journal of Multiphase Flow, Int. J. for Numerical and Analytical Methods in Geomechanics, Int. J. for Numerical Methods in Engineering, Modelling Simul. Mater. Sci. Eng., Int. J. for Pavement Engineering, Chemical Physics Letters, Computational Particle Mechanics, Advanced Material Science, Acta Mechanica, Acta Geotechnica, Procs. Royal Society, ZAMM, and for book-publishers like Springer, Wiley, and Cambridge University Press.

List of publications

Status: *ISI-Web of Science* (28.12.2015) **h-index 37**
 259 publications in total, 139 ISI papers & 38 proceedings, 4153 citations.

Status: *Google-Scholar* (28.12.2015) **h-index 47** (5 years/since 2010: 33)
 403 publications in total, 8038 (3866) citations, i-10 index 135 (96)

Status: *ISI-Web of Science* (25.07.2017) **h-index 39**
 7 books and 289 publications in total, 190 ISI papers, 4852 citations.

Status: *Google-Scholar* (25.07.2017) **h-index 53** (5 years/since 2012: 35)
 410 publications in total, 10028 (4507) citations, i-10 index 135 (96)

-Journal Editor

- [J1] Managing Editor-in-Chief: *Granular Matter*, Springer, since 1998.
- [J2] Editor/Advisory Board Member: *Particuology*, since 2009.
- [J3] Editor: *Journal of Computational Particle Mechanics*, since 2013.
- [J4] Editor: *AGEM², Springer Book Series*, since 2013 .

-Books

- [B1] H. J. Herrmann, J-P Hovi, and S. Luding (eds.), *Physics of dry granular media*, NATO-ASI Series E 350, Kluwer academic publishers, Dordrecht, 1998
- [B2] T. Pöschel, S. Luding, (eds.), *Granular gases*, Lecture Notes in Physics 564, Springer Verlag, Berlin, 2001
- [B3] P. A. Vermeer, S. Diebels, W. Ehlers, H. J. Herrmann, S. Luding, E. Ramm (eds.), *Continuous and Discontinuous Modelling of Cohesive-Frictional Materials*, Lecture Notes in Physics 568, Springer Verlag, Berlin, 2001
- [B4] S. P. Hoogendoorn, S. Luding, P. H. L. Bovy, M. Schreckenberg, D. E. Wolf (eds.), *Traffic and Granular Flow '03*, Springer Verlag, Berlin, 2005
- [B5] M. Nakagawa and S. Luding (Eds.), [Powders and Grains 2009, AIP Conference Proceedings #1145, ISBN 978-0-7354-0682-7](#) (1124 pages), 2009
- [B6] A. Yu, K. Dong, R. Yang, and S. Luding (Eds.), [Powders and Grains 2013, AIP Conf. Procs. #1542, ISBN: 978-0-7354-1166-1](#) (1311 pages), 2013
- [B7] F. Radjai, S. Nezamabadi, S. Luding, and J.-Y. Delenne (Eds.), [Powders and Grains 2017, EPJ Web of Conferences, vol. 140, 2017](#) (395 papers, 1620 pages)

Many papers in the electronic version of this document are clickable;
 all papers, also some newer, just submitted ones, are available on:

<http://www2.msm.ctw.utwente.nl/sluding/publications.html>

-International (refereed) journals

- [1] S. Roy, S. Luding, and T. Weinhart, *Towards a general(ized) shear thickening rheology of wet granular materials under small pressure*, [[New J. Phys. 19, 043014, 2017](#)], [[arXiv:1609.03098](#)] (17 pages) .
- [2] A. Merkel and S. Luding, *Enhanced micropolar model for wave propagation in ordered granular materials*, [[IJSS 106-107, 91, 2017](#)], [[arXiv:1604.04914](#)] (15 pages) .
- [3] I. Güven, S. Frijters, J. Harting, S. Luding, and Holger Steeb, *Hydraulic properties of porous sintered glass bead systems*, [[Granular Matter 19\(2\), 28, 2017](#)] (21 pages) .
- [4] S. Luding, *Granular matter: So much for the jamming point*, [[Nature Physics](#)

- [12, 531-532, 2016](#)] (2 pages).
- [5] N. Kumar and S. Luding, *Memory of jamming – multiscale models for soft and granular matter*, [[Granular Matter 18, 58, 2016](#)], [[arXiv:1407.6167](#)].(21 pages) .
- [6] D. Vescovi and S. Luding, *Merging fluid and solid granular behavior*, [[Soft Matter 12, 8616-8628, 2016](#)], [[arXiv:1609.07414](#)] (13 pages) .
- [7] O. I. Imole, D. Krijgsman, T. Weinhart, V. Magnanimo, B. E. Chavez Montes, M. Ramaioli, and S. Luding, *Experiments and discrete element simulation of the dosing of cohesive powders in a simplified geometry*, [[Powder Technology 287, 69-81, 2016](#)], [[\(reprint\) 293, 69-81, 2016](#)] .
- [8] O. I. Imole, M. Paulick, V. Magnanimo, M. Morgeneyer, B. E. Chavez Montes, M. Ramaioli, A. Kwade, and S. Luding, *Slow stress relaxation behavior of cohesive powders*, [[Powder Technology 293, 82-93, 2016](#)] .
- [9] N. Kumar, V. Magnanimo, M. Ramaioli, and S. Luding, *Tuning the bulk properties of bidisperse granular mixtures by small amount of fines*, [[Powder Technology 293, 94-112, 2016](#)], [[arXiv:1506.02982](#)] .
- [10] T. Weinhart, C. Labra, S. Luding, J. Y. Ooi, *Influence of coarse-graining parameters on the analysis of DEM simulations of silo flow*, [[Powder Technology 293, 138-148, 2016](#)] .
- [11] K. Saitoh, V. Magnanimo, and S. Luding, *The effect of microscopic friction and size distributions on conditional probability distributions in soft particle packings*, [[Computational Particle Mechanics, online, 2016](#)], (9 pages) .
- [12] S. Roy, A. Singh, S. Luding, and T. Weinhart, *Micro-Macro Transition and Simplified Contact Models for Wet Granular Materials*, [[Comp. Part. Mech. 3\(4\), 449 - 462, 2016](#)], (14 pages) .
- [13] S. M. Rubio-Largo, F. Alonso-Marroquin, T. Weinhart, S. Luding, and R. C. Hidalgo, *Homogeneous cooling state of frictionless rod particles*, [[Physica A 443, 477-485, 2016](#)] .
- [14] K. Saitoh, V. Magnanimo, and S. Luding, *Master equation for the probability distribution functions of overlaps between particles two-dimensional granular packings*, [[Soft Matter 11, 1253-1258, 2015](#)], [[arXiv:1311.5359](#)] (5 pages)
- [15] S. Gonzalez, C. R. K. Windows-Yule, S. Luding, D. J. Parker, and A. R. Thornton, *Forced axial segregation in axially inhomogeneous rotating systems*, [[Phys. Rev. E 92\(2\), 022202, 2015](#)], [[arXiv:1410.6286](#)] (9 pages)
- [16] J. Y. Ooi, V. Magnanimo, J. Sun, and S. Luding, *Particle Modelling with the Discrete Element Method: A success story of PARDEM (www.pardem.eu)*, [[Powder Technology 293, 1-2, 2016](#)], [[\(Guest Editorial\) Special Issue](#)] .
- [17] J. Zhao, M. Jiang, K. Soga, and S. Luding, *Micro origins for macro behavior in granular media*, [[Granular Matter 18, 59, 2016](#)], [[\(Guest Editorial\) Topical Issue](#)] .
- [18] A. Singh, K. Saitoh, V. Magnanimo, and S. Luding, *Role of gravity or confining pressure and contact stiffness in granular rheology*, [[New J. Phys. 17, 043028, 2015](#)], [[arXiv:1412.0874](#)] (19 pages)
- [19] N. Rivas, A. R. Thornton, S. Luding, and D. van der Meer, *From the granular Leidenfrost state to buoyancy-driven convection*, [[Phys. Rev. E 91\(4\), 042202, 2015](#)], [[arXiv:1504.06426](#)] (9 pages)
- [20] S. Roy, A. Singh, S. Luding, and T. Weinhart, *Micro-Macro Transition and Simplified Contact Models for Wet Granular Materials*, [[J. Comp. Part. Mech. online: DOI 10.1007/s40571-015-0061-8, 2015](#)] (14 pages)
- [21] S. Gonzalez, A. R. Thornton, and S. Luding, *Free Cooling Phase-Diagram of Hard-Spheres with Short- and Long-Range Interactions*, [[Europ. Phys. J. - Special Topics 223\(11\), 2205-2225, 2014](#)], [[arXiv:1407.2370](#)] .

- [22] J. Harting, S. Frijters, M. Ramaioli, M. Robinson, D.E. Wolf, and S. Luding, *Recent advances in the simulation of particle-laden flows*, [[Europ. Phys. J. - Special Topics 223\(11\), 2253-2267, 2014](#)], [[arXiv:1406.6570](#)]
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- [261] M. Müller and S. Luding, *Long range forces in homogeneous granular gases* PARTEC 2007, Nuremberg, Germany, pp. 1-4, CD Proceedings
- [262] S. Luding, C. T. David, R. Garcia-Rojo, and H. J. Herrmann, *Frictional powders: Ratcheting under periodic strain in 3D* PARTEC 2007, Nuremberg, Germany, pp. 1-4, CD Proceedings
- [263] O. Mouraille and S. Luding, *Mechanic waves in sand: Effect of polydispersity* PARTEC 2007, Nuremberg, Germany, pp. 1-4, CD Proceedings
- [264] A. Ghosh, R. Paredes and S. Luding, *Poiseuille flow in a nanochannel - use of different thermostats* PARTEC 2007, Nuremberg, Germany, pp. 1-4, CD Proc.
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-**Others:** conference abstracts/posters (about 300/50 – not listed here)

-Invited lectures/talks (invited talks from 2006)**2006**

- 21.02.2006, IUTAM06: Multiscale problems in multibody contacts, Stuttgart, Germany
A discrete model for long-time sintering
- 24.07.2006, DSM (invited by Dr. R. Janssen), Geleen, Netherlands
Application of DEM in Engineering
- 30.08.2006, Plenary, Conveying & Handling of Bulk Solids 5, Sorrento, Italy
About Particulate Solids Modeling with Discrete Elements
- 14.09.2006, Southern Workshop on Granular Materials, Vina del Mar, Chile
About agitated granular media and the role of friction
- 20.09.2006, VNPT, 8 BePCIS Seminar, Leuven, Belgium
From discrete particle simulations towards continuum models
- 05.10.2006, SF404 Conference on Multi-Field problems, Stuttgart, Germany
From discrete, cohesive and frictional fine powders towards a continuum description of their flow behavior.
- 09.11.2006, DFG-Kolloquium, Behavior of Granular Media, Muenster, Germany
About contact force-laws for cohesive frictional materials in 2D and 3D
- 28.11.2006, iPAT (inv. by Prof. Kwade), Braunschweig, Germany
Discrete Element Models for Particle Technology

2007

- 11.01.2007, Kolloquium (invited by Prof. Tomanek), Regensburg, Germany
From single particle to continuum models
- 06.03.2007, SINTEF (invited by Idar Larsen), Trondheim, Norway
Contact models for cohesive frictional materials: Compression & tension
- 07.05.2007, Kolloquium (invited by Prof. Kassner), Univ. Magdeburg, Germany
From molecular dynamics to continuum theory
- 02.07.2007, Instabilities across the scales '07, (inv. L. Sluys and A. Suiker) Delft, NL,
From particle simulations to continuum models of instabilities
- 06.07.2007, STATPHYS sat., Statics and dynamics of granular media ..., Napoli, Italy
About slow, fast and repeated deformations of granular materials
- 20.08.2007, Talk (invited by Dr. Cleary) Melbourne, Australia
DEM: From contact models to continuum theory
- 23.08.2007, Talk (invited by Prof. Yu) Sydney, Australia
Stress & strain in granular media under compression, tension, vibration
- 30.08.2007, Talk (invited by Prof. H. Muehlhaus) Brisbane, Australia
Stress & strain in granular media due to compression, tension, vibration
- 09.10.2007, Colloid Society 2008 (inv. by Hans-Juergen Butt), Budenheim, Germany
About granular matter and colloidal systems: differences and similarities
- 19.11.2007, Keynote (invited by F. Chevoir) ENPC, Paris, France
From particle simulations to continuum theory for GM

2008

- 30.01.2008, (invited by Ruud van Ommen) TUDelft, NL
From granular and colloidal systems to DENSE multi-phase flow
- 01.02.2008, (invited by Dr. K. B. Geerse) Unilever, Rotterdam, NL
Multiscale Mechanics for Particle Technology
- 11.03.2008, Talk (inv. by Hans Herrmann) ETHZ-Fracture, Monte-Verita, Switzerland
About stress & strain & fracture in granular media
- 21.05.2008, Talk (invited by Matthew Kuhn) EM08, Minnesota, USA
Granular Flow Behavior in a ring shear cell at large strains
- 27.05.2008, Plenary (invited by Hans Herrmann) ETHZ, Zuerich, Switzerland
From discrete particles to continuum theory

- 28.05.2008, Kolloquium (invited by Mario Liu) Kolloquium, Tuebingen, Germany
From DEM particle simulations to a multi-scale continuum theory for GM
- 30.06.2008, Keynote (invited by Vitali Goussev) Acoustics 08, Paris, France
Sound waves in granular media: The role of disorder, friction, adhesion,...
- 06.08.2008, Keynote (invited by Joao Plascak) CCP2008, Ouro Preto, Brazil
Comput. statistical physics for dilute and dense, frictional granular gases
- 10.09.2008, Granular Gases 2008 (invited by Thorsten Poeschel), Thurnau, Germany
From dilute to dense and frictional granular gases
- 08.10.2008, Talk (invited by Marco Ramaioli) Nestle, Lausanne, Switzerland
Discrete Particle models with application to sintering and agglomeration
- 09.10.2008, Lecture (invited by F. Darve and H. Herrmann) ALERT, Aussois, France
Introduction to DEM models of cohesive particle systems
- 01.12.2008, Talk (invited by M. Becker) Boehringer-Ingelheim Pharma, Germany
From particle simulations to industrial applications in powder flow
- 01.12.2008, Kolloquium (invited by Prof. Urbassek) Kaiserslautern, Germany
From granular particle-systems to continuum theory

2009

- 27.01.2009, Talk (invited by M. Sperl) DLR, Koeln, Germany
From granular particle-systems to continuum theory
- 29.04.2009, Talk (invited by N. Gray and T. Mullin) University of Manchester, UK
From particles towards continuum theory
- 14.08.2009, Talk (invited by H. Hayakawa), YKIS2009, Kyoto-U, Japan
Continuum kinetic theory for dense, realistic granular matter
- 19.08.2009, Talk (invited by N. Ito), Univ. Tokyo, Tokyo, Japan
Computer models for dense, realistic granular matter
- 08.09.2009, Talk (invited by Lou Kondic) ESMC2009, Lisbon, Portugal
Structure and stress anisotropy in granulates with friction and adhesion
- 14.-18.09.2009, Talk (invited by Joe Goddard) IUTAM-ISIMM, Reggio Calabria, Italy
Discrete and continuum theory for dense granulates, friction, adhesion
- 25.-27.11.2009, Talk (invited by F. Nicot and F. Darve), Barcelona, Spain
Constitutive relations from DEM for dense frictional, cohesive granulates
- 02.12.2009, Talk (invited by R. Soto), Southern Workshop, Vina del Mar, Chile
Towards dense, realistic granular media in 2D
- 10.12.2009, Kolloquium (invited by T. Pöschel) CBI-Erlangen, Germany
Self-Healing of composite materials

2010

- 10.02.2010 Kolloquium (invited by H. Steeb) RUBochum, Germany
From particles to continuum theory
- 04.05.2010 Talk (invited by A. Petri) CECAM, Lausanne, CH
From particles to continuum theory: friction in sheared granular systems
- 11.06.2010, Talk (invited by May Hou) Chin. Acad. Science, Beijing, China
Micro-macro transition for quasi-static slow granular flows
- 13.06.2010, Lecture (invited by N. Yang) MultiScale 2010 conference, Beijing, China
Multiscale phenomena in particle systems
- 09.07.2010, Talk (invited by L. La Ragione) Univ. Bari, Italy
From particles to continuum mechanics for slow flow of cohesive powders
- 10.10.2010, Keynote (invited by M. Jiang) IS-Shanghai, Tongji Univ., Shanghai, China
Critical state yield stress of adhesive powder from a single simulation
- 24.11.2010, Talk (invited by H. Hayakawa) YITP, Kyoto, Japan,
A local constitutive model with anisotropy for 2D biax-deformation modes

2011

- 17.01.2011, Keynote (invited by S. Rojek) KomPlasTech 2011, Zakopane, Poland

- From discrete particles to solids – about sintering and self-healing*
 04.05.2011 Frontiers Seminar (invited by M. Ghadiri), Univ. Leeds, UK
- From particulate simulations to continuum/engineering application*
 07.06.2011, Talk (invited by H. Muhlhaus) IAS3, Cairns (Palm Cove), Australia
- A DEM based constitutive model with anisotropy for granular materials*
 08.07.2011, Talk (invited by B. Todd) Swinburne Univ., Melbourne, Australia
- From atoms/particles to continuum theory and rheology of complex fluids*
 18.07.2011, Seminar (invited by I. Einav) Univ. Sydney, Sydney, Australia
- Micro-macro methods for granular materials*
 21.07.2011, Colloquium (invited by A. Yu) UNSW, Sydney, Australia
- From particles towards continuum theory of particle systems*
 27.07.2011, Keynote (invited by Aibing Yu) PPPI3 conference, Gold Coast, Australia
- About cohesive powders – from particles to continuum theories*
 01.09.2011, Talk (invited by J. Besson) ICMM2, Paris, France
- From particles to continuum theory*
 15.09.2011, Talk (invited by J. Brey and R. Soto) ZCAM workshop, Zaragoza, Spain
- About active, cohesive, self-healing particles and continuum theory*
 28.09.2011, Tandem Lecture (invited by Hermann Feise) ECCE2011, Berlin, Germany
- Modeling of particle systems in industry and academia*
 18.11.2011, Colloquium (invited by Matthias Schroeter) MPI Gottingen, Germany
- About the physics of dilute and dense granular flows*
 22.11.2011, Seminar (invited by Raul Cruz-Hidalgo) Univ. Pamplona, Pamplona, Spain
- Modeling of dynamic and static particles systems*
- 2012**
- 25.01.2012, Talk (invited by Meheboob Alam) IUTAM workshop, Bangalore, India
From particles to continuum theory: shear-bands, jamming and dilatancy
- 27.03.2012, Keynote (invited by Michel Raous) Euromech 514, Cargese, Corse, France
About contacts of adhesive, elasto-plastic, frictional powders
- 30.03.2012, Keynote (invited by Ch.-Yu Wu) 70th Conf. C. Thornton, Birmingham, UK
From granular dynamics to continuum mechanics
- 02.04.2012, Talk (invited by Sebastian Vincent Bonnieu) ESA, Noordwijk, NL
Particle systems rheology – from particles to continuum
- 06.04.2012, Seminaire (invited by Fahrang Radjai) Univ. Montpellier, France
From particles to cont. theory: structure formation, jamming anisotropy
- 29.06.2012, M&M Computational Science Lecture Series, UTwente, NL
From discrete systems to continuum theory - computational methods
- 09.07.2012, Invited Talk (invited by E. Bauer) ESMC2012, Graz, Austria
From discrete particles to continuum mechanics
- 10.07.2012, Invited Talk (invited by L. Kondic) ESMC2012, Graz, Austria
Anisotropic rheology for granular matter
- 12.07.2012, Invited Talk (invited by C. Wilmanski) ESMC2012, Graz, Austria
Sound propagation in discrete particle systems
- 01.10.2012, Plenary (invited by J. Tomas) PIKO Contacts Workshop, Siegen, Germany
DEM contact models, their parameters and how to measure them
- 15.10.2012, Plenary (invited by M. Geers) KIVI-NIRIA Mechanics, Eindhoven, NL
Multiscale modeling of particle systems
- 22.10.2012, Keynote (invited by S. Odorizzi) CAE Conference, Verona, Italy
From particles to continuum theory – crossing multiple scales
- 12.11.2012, Invited Talk (invited by K. Kamrin) ASME2012, Houston, USA
From particles to continuum theory: Shear-bands, anisotropy, dilatancy
- 05.12.2012, Invited Talk (invited by R. Soto) Southern Granular Workshop, Chile
Anisotropic continuum theory for granular flows

2013

- 05.02.2013, Colloquium (invited by J. Gibmeier) KIT, Karlsruhe, Germany
Anisotropic continuum theory for granular flows
- 09.04.2013, Invited Talk (invited by A. Hoekstra) LC Workshop, Leiden, NL
Multiscale modeling: Bridging the gap from (small-scale) discrete to (large-scale) continuous systems
- 22.04.2013, Keynote (320 audience) (Tandem with H. Feise) ECCE-9, Den Haag, NL
Model Validation - A Key to Successful Simulation
- 25.04.2013, Invited Talk (invited by V. Dutschk) COST Workshop, Enschede, UT, NL
Multi-scale mechanics of nanoparticulate systems
- 28.05.2013, Invited Talk (invited by M. Hou) KITPC Workshop, Beijing, China
From discrete to continuum systems (2 talks)
- 08.06.2013, Keynote (invited by M. Hou) KITPC Workshop, Beijing, China
From discrete to continuum systems
- 04.07.2013, Keynote (invited by Mark Jones) ICBMH 2013, Newcastle, Australia
From particle models to large scale applications
- 16.07.2013, Keynote (invited by H. Hayakawa) YITP Workshop, Kyoto, Japan
Particle systems and continuum modeling
- 19.09.2013, Plenary (invited by M. Bischof) Particles 2013, Stuttgart, Germany
Multiscale particle modeling
- 20.09.2013, Invited Talk (invited by J. Mergenheim) Self-Healing Workshop, Munich, Germany, *A review of discrete self-healing models*
- 13.10.2013, Plenary (invited by J. Socolar) Bob Behringer 65th, Durham, NC, USA
About the memory of jamming and shear-jamming
- 06.12.2013, Keynote (invited by G. Ooms) 3TU Multiscale Conference, Eindhoven, NL
Dispersion of instant food powders as multiscale modeling example

2014

- 09.01.2014, Invited Talk (invited by F. Wittel) Hans Herrmann 60th, ETHZ, CH
From particles and atoms towards continuum Theory
- 30.01.2014, Colloquium (invited by C. Holm) Univ. Stuttgart, Germany
From discrete systems to Continuum Theory
- 14.02.2014, Invited Talk (invited by H. Adhibon) Fraunhofer, Freiburg, Germany
Dispersion of instant food powders as multiscale modeling example
- 21.03.2014, Invited Talk (invited by K. Soga and C. O'Sullivan) Wave Propagation and Soil Stiffness: Particle-Continuum Duality Workshop, Bristol, UK
Wave propagation in disordered granular media
- 04.04.2014, Invited Talk (invited by M. Geers) EMI Colloquium, TU/e, Eindhoven, NL
From micro-mechanics to macro-continuum theory
- 11.04.2014, Invited Talk (invited by P. Schall) UvA, Amsterdam, NL
From particles to flow rheology for frictional cohesive powders
- 23.04.2014, Invited Talk (invited by Jan Astrom) CSC workshop, Helsinki, Finland
Granular material: multi-scale models and theory - particles to continuum
- 20.05.2014, Keynote Talk (invited by Jinghai Li) World Congress on Particle Technology 7, Beijing, China, *Particles, Continuum Theory, Applications*
- 23.05.2014, Invited Talk (invited by Mingjing Jiang), Tongji Univ., Shanghai, China
From particle simulations to continuum theory and applications
- 27.05.2014, Invited Talk (invited by Shuiqing Li) Tsinghua Univ., Beijing, China
Particle systems modeling with discrete and continuous methods
- 03.06.2014, Invited Talk (invited by Xiaoping Jia) Institute Langevin, Paris, France
From particles to the continuum mechanics of wave propagation
- 03.07.2014, Invited Talk (invited by Detlef Lohse) FOM Multiphase, Amsterdam, NL
From particle based multiphase models to applications

- 09.07.2014, Invited Talk (invited by K. Kamrin & F. Radjai) Montpellier, France
Macro-model with anisotropy from the microstructure
- 16.07.2014, Invited Talk (invited by Meijing Hou) RGD29, Xi'An, China
From particles to continuum theory – from slow to rapid flow
- 03.09.2014, Invited Talk (invited by Helmut Brand) Dissipative & Reactive Systems, Merida, Mexico, *Structure formation in dissipative systems with long-range interactions*
- 15.09.2014, Invited Talk (invited by T. Pöschel) Jam-Packed, Erlangen, Germany
Memory of jamming and shear jamming
- 01.10.2014, Lecture (invited by V. Magnanimo) T-MAPPP Training, London, UK
Basic discrete particle modeling for multiscale and multiphase systems
- 15.10.2014, Invited Talk (invited by C. O'Hern and K. Dahmen) KITP, UCSB, CA, USA
About the memory of jamming, dilatancy, elasticity, and plasticity
- 17.10.2014, Invited Talk (invited by Jacek Polewczak) CSUN, Northridge, CA, USA
From discrete particles to continuum theory and applications
- 23.10.2014, Invited Talk (invited by C. O'Hern and K. Dahmen) KITP, UCSB, USA
Wave propagation in 1D and 3D disordered, granular systems
- 12.11.2014, Invited Talk (by H. Steeb and P. Junker) SiMiDe Graduate School, RUBochum, Germany, *From discrete particles to continuum theory*
- 21.11.2014, Invited Talk (by B. Peters) Université du Luxembourg, LUX
Particles and continuum theory for applications
- 12.12.2014, Invited Talk (by M. Schmieder) Düsseldorf, Germany
The memory of jamming in soft matter
- 2015**
- 16.01.2015, Talk (invited by D. Szeliga) KOMPLASTECH Krynica, Poland
Macroscopic model with anisotropy based on micro-macro information
- 26.01.2015 UT-Muenster Computational Science Seminar, Muenster, Germany
Computational science from particle based models to applications
- 19.02.2015, Plenarvortrag (invited by H.-J. Odenthal) Verein Deutscher Eisenhüttenleute (VDEh), SMS Siemag AG, Hilchenbach, Germany; *Die "Discrete Element Method" Vom Teilchen zum Kontinuum – Forschung & Anwendung*
- 24.02.2015, Keynote (by M. Geers) TU/e Euromech Coll. 559, Eindhoven, NL
Macroscopic model with evolution of structural anisotropy based on micro-macro, particle-to-continuum methods
- 18.03.2015, Talk, GVC/DECHEMA Fachausschuss Sitzung, Magdeburg, Germany
Influence of coarse graining parameters on the analysis of DEM results
- 19.03.2015, TireRoadConsortium (TRC), invited by M. Oeser, RWTH Aachen, Germany
Multiscale Mechanics Modeling for Tire and Road/Asphalt
- 07.05.2015, Talk, CHOPS conference, Tel Aviv, Israel
From Cohesive Frictional Particles to Continuum Theory and Applications
- 28.05.2015, Talk (invited by K. Kamrin) ICMM4, Berkeley, USA
Master equations for the mechanics of static disordered systems
- 07.07.2015, Talk (invited by L. Kondic) ESMC 2015, Madrid, Spain
The jamming point: How it changes under tapping, compression & shear
- 18.08.2015, Talk (invited by V. Schmidt) Univ. Ulm, Ulm, Germany; *Die Diskrete Elemente Methode – Teilchen vs. Kontinuum - Forschung & Anwendung*
- 11.09.2015, Keynote (invited by S. Utili) International Symposium on Geohazards and Geomechanics ISGG2015, Warwick, UK; *Understanding the effects of inter-particle contact friction on the elastic moduli of granular materials*
- 22.09.2015, Plenary (invited by J. Grabe) Workshop Morphodynamics, TUHH, Hamburg-Harburg, Germany; *Multi-Scale Models for particles in fluids – micro- and meso-scale particle-fluid models*

- 28.09.2015, Talk (invited by K. Kamrin and F. Radjai) Particles 2015, Barcelona, Spain
Shear bands in dense granular flow: Towards a local rheology; effects of friction, softness, cohesion
- 30.09.2015, Keynote/Review (invited by A. Thornton) Particles 2015, Barcelona, Spain
Vibrated granular systems – overview mixing/segregation, dilute/dense, and mono-/polydisperse situations
- 06.10.2015, Talk (invited by K. Dahmen) MST 2015, Columbus, Ohio, USA
From particles to continuum theory & applications
- 12.11.2015, Talk (invited by H. ter Huerne) TRC symposium, UTwente, NL
Mesoscale simulations of SBR filled rubber compounds
- 30.11.2015, Talk (invited by R. Soto) Southern Granular Workshop, Santiago, Chile
Rheology of soft and cohesive granular materials
- 16.12.2015, Talk (invited by M. Bradley) The Wolfson Centre for Bulk Solids Handling Technology, Chatham, UK; *Multi-Scale Models for particles in fluids – micro- and meso-scale particle-fluid models*
- 17.12.2015, Talk (invited by X. Li and H.-S. Yu) 12th UK Travelling Workshop: Geomechanics: From micro to macro (GM3); *From Particle Simulations to Multi-Scale (Models) and Continuum Theory (Applications)*

2016

- 04.01.2016, Talk (invited by J. Goddard, K. Kamrin), Plasticity 2016, Kona, Hawaii, USA; *Elastic-plastic granular matter with evolution of micro-structure*
- 26.01.2016, Talk (invited by C. Bierwisch), Particles Workshop, Fraunhofer, Freiburg, Germany; *Kontaktmodelle für realistische Teilchensimulationen*
- 28.01.2016, Colloquium (invited by S. Reese), Workshop, Univ. Aachen, Germany.
Elastic-plastic model with evolution of micro-structure for granular matter
- 09.02.2016, Talk (invited by G. Hoomans), Deltares, Delft, NL
Multi-Scale Modeling for particles in fluids – From particles to applications
- 01.03.2016, Plenary, GVC/DECHEMA, Fachausschuss Sitzung, Germany
T-MAPPP Marie Curie ITN – Overview & highlights
- 10.03.2016, Keynote (invited by A. Yu), 1st Computational Particle Technology, Suzhou, China; *From Particle Simulations to Multi-Scale (Models) and Continuum Theory (Applications)*
- 15.03.2016, Keynote (invited by C. Kloss), DEM-CFD workshop, Linz, Austria
Mesoscale modeling of particles and particles in fluids
- 04.04.2016, Glass-day (invited by M. Sperl), DLR, Cologne, Germany; *From particles to continuum: Evolution of micro-structure – flowing or not flowing?*
- 06.04.2016, Kolloquium (invited by O. Paul), Engineering Faculty, Freiburg, Germany
Multi-Scale: From particles to continuum theory and applications
- 19.04.2016, Talk (invited by H. Nirschl), PARTEC 2016, Nuremberg, Germany; *From Particle Simulations to Multi-Scale (Models) and Continuum (Applications)*
- 12.07.2016, Talk (invited by C. Daraio), Granular Metamaterials, Grenoble, France
From particle simulations to continuum theory for soft and granular matter, including the solid-fluid transition and wave propagation
- 14.07.2016, Talk (invited by A. Baule), Workshop on Jamming and Granular Matter (Satellite Meeting of StatPhys26), Queens College, London, UK
Multiscale models for the memory of jamming in soft and granular matter
- 27.07.2016, Invited Lecture (invited by Xikui Li), WCCM, Seoul, Korea
From Particle Simulations to Multi-Scale – The Magic of Anisotropy
- 03.08.2016, Plenary (invited by Xikui Li), DEM conference, Dalian, China
How to Get from DEM to Continuum Models?

- 23.08.2016, Lectures (invited by R. Blumenfeld), Soft and Granular Matter in Ambient and Extreme Conditions, Changsha, China; *1) From Particle DEM to continuum theory: Multi-Scale Models with Anisotrop, and 2) Master equation for force distributions of polydisperse particles*
- 27.08.2016, Keynote (invited by Meijing Hou), Granular Behavior in Microgravity, Beijing, China; *Wave propagation and rheology at various gravity levels*
- 29.08.2016, Keynote (invited by Yujie Wang), Jam-packing, Shanghai, China; *Jamming, un-jamming & elasto-plastic flows with evolution of micro-structure*
- 03.09.2016, Keynote (invited by Meijing Hou and Lei Yang), 1st Intntl. Granular Flow Workshop, Lanzhou, China; *Examples for particle simulation applications*
- 08.09.2016, Session&Talk (invited by V. Kouznetsova), EMMC, Brussels, Belgium
Enhanced micropolar model for wave propagation in granular materials
- 01.12.2016, Keynote (invited by S. S. Mallick), PGBSIA 2016, India
Application examples of DEM particle simulations and micro-macro
- 2017**
- 17.01.2017, Colloquium (invited by K. Kassner), OvG University Magdeburg, Germany; *Particle simulations for meso- and macro-scale models of jamming*
- 24.01.2017, Plenary (invited by M. Louge), IFPRI, AMS, NL; *Fine particle research*
- 14.02.2017, Talk (invited by S. Heinrich) DECHEMA-VDI Fachausschuss, Germany; *Experimental & numerical investigation of sheared cohesive powders*
- 02.03.2017, Talk (invited by J. Harting), COST Workshop, Erlangen, Germany; *Fluid-solid interactions at interfaces for atoms and particles*
- 10.03.2017, Presentation, ITWM-MSM workshop, UTwente, NL; *Multiscale Mechanics*
- 08.05.2017, Talk (invited by R. Al Khoury), INTERPORE, Rotterdam, NL; *Fluid-solid interactions for atoms and particles*
- 29.05.2017, Colloquium (invited by N. Benes), MESA+, UTwente, NL; *Multiscale modeling: From particles and atoms to continuum theory and applications*
- 13.06.2017, Talk (invited by Liv Axelsen and Chandana Ratnayake), RELPOWFLO V, Skien, Norway; *From particles to continuum theory and applications*
- 10.08.2017, Keynote (invited by K. Wayne), Additive Manufacturing, Austin, TX USA; *DEM contact models for cohesive particles and sintering*
- 22.08.2017, Keynote (invited by Zhao Hongwei), 2nd Granular Flow Workshop, Guiyang, China; *From Micro to Macro: From Particles to Continuum Theory*
- 14.09.2017, Keynote (invited by C. Kloss), CFDEM, Linz, Austria; *New DEM models*
- 27.09.2017, Session&Talk (invited by E. Onate), Particles 2017, Hannover, Germany; *Multiscale modeling of particulate materials*