

CONTACT INFORMATION	Friedrich-Alexander University Erlangen-Nürnberg Institute for Multiscale Simulation Nägelsbachstraße 49b 91052 Erlangen	Email: MICHAEL.ENGEL@FAU.DE Web: WWW.ENGELLAB.DE Phone: +49 9131 85-20857
ACADEMIC POSITIONS	<p><b>Assistant Professor (W1, tenure-track)</b> since Feb 2016 Research Group: “Modeling of Self-Organization Processes” Department of Chemical and Biological Engineering Friedrich-Alexander University Erlangen-Nürnberg</p> <p><b>Adjunct Research Scientist</b> since Feb 2016 <b>Research Scientist</b> Jul 2011 – Jan 2016 <b>Postdoctoral Fellow (DFG)</b> Jan 2009 – Jun 2011 Department of Chemical Engineering University of Michigan, Ann Arbor, USA</p> <p><b>Visiting Postdoctoral Fellow (JSPS)</b> May – Jul 2008 Condensed Matter Theory and Statistical Physics Group Kyushu University, Fukuoka, Japan</p> <p><b>Research Associate (Wissenschaftlicher Mitarbeiter)</b> 2004 – 2008 <b>Research and Teaching Assistant (Hiwi)</b> 2000 – 2004 Fakultät 8: Mathematik und Physik University of Stuttgart</p>	
EDUCATION	<p><b>Dr. rer. nat. (Physics) mit Auszeichnung</b> 2 Apr 2008 Institute for Theoretical and Applied Physics University of Stuttgart</p> <p><b>Diplom Mathematics</b> 2000 – 2004 <b>Diplom Physics</b> 1999 – 2004 University of Stuttgart</p> <p><b>Correspondence Study of Physics (FiPS)</b> 1998 – 1999 University of Kaiserslautern; parallel to military service</p>	
HONORS AND AWARDS	<p>Rising Star Professorship, Cluster of Excellence Engineering of Advanced Materials since 2016 Postdoctoral Research Fellowship, German Research Foundation (DFG) 2009 – 2011 Short-Term Postdoctoral Fellowship, Japan Society for the Promotion of Science 2008 Graduiertenkolleg Scholarship, Max-Planck-Institute for Metals Research 2004 – 2005 Member of Studienstiftung des Deutschen Volkes 2001 – 2004</p>	
RESEARCH TOPICS	<p><b>Research focus and interests</b></p> <ul style="list-style-type: none"> <li>• <i>Nanoscience and Soft Matter</i>: Nanoparticles, Colloids, Polymers, Molecules</li> <li>• <i>Scientific Computing</i>: Molecular Dynamics, Monte Carlo Simulation, Force Fields</li> <li>• <i>Data Analysis</i>: Visualization, Order Parameters, Machine Learning</li> <li>• <i>Materials Properties</i>: Optimization and Design, Photonics, Rheology</li> <li>• <i>Crystallography</i>: Structure Solution, Group Theory, Quasicrystals</li> <li>• <i>Statistical Physics</i>: Self-Assembly, Topological Defects, Active Matter</li> </ul>	
ACADEMIC AND UNIVERSITY SERVICE	<p><b>Focal Subject Head of Computational Materials Science and Process Simulation</b> since 6/2016 Responsible for computational courses in the 2-year International Master’s program “Advanced Materials and Processes” of the Elite Network of Bavaria</p> <p><b>Member of Interdisciplinary Research Centers at U-Erlangen</b> since 2/2016</p> <ul style="list-style-type: none"> <li>• Engineering of Advanced Materials (EAM) funded by the German Excellence Initiative</li> <li>• Center for Functional Particle Systems (FPS)</li> <li>• Central Institute for Scientific Computing (ZISC)</li> </ul>	

RESEARCH GROUP MEMBERS	<p><b>Postdocs</b></p> <ul style="list-style-type: none"> <li>• Dr. Alberto Leonardi <span style="float: right;">since 3/2017</span></li> </ul> <p><b>Doctoral Students</b></p> <ul style="list-style-type: none"> <li>• Marco Klement <span style="float: right;">since 2017</span></li> <li>• Zhiyu Song <span style="float: right;">since 2017</span></li> <li>• Chrameh Fru Mbah <span style="float: right;">since 2017</span></li> <li>• Junwei Wang (with Prof. Nicolas Vogel) <span style="float: right;">since 2016</span></li> <li>• Sangmin Lee (with Prof. Sharon Glotzer) <span style="float: right;">since 2015</span></li> </ul> <p><b>Student Assistants and Miniproject Students</b></p> <ul style="list-style-type: none"> <li>• Benedikt Winhard <span style="float: right;">since WS 17/18</span></li> <li>• Grace Liao <span style="float: right;">since SS 17</span></li> <li>• Apostolos Kyrloglou <span style="float: right;">since WS 16/17</span></li> </ul>
RESEARCH GROUP ALUMNI AND SUPERVISED THESES	<p><b>Doctoral Students</b></p> <ul style="list-style-type: none"> <li>• Wenbo Shen, PhD in Physics <span style="float: right;">2016</span> <i>Title: "Plastic Crystals and Chiral Phases of Regular Hard Polygon Systems"</i></li> <li>• M. Eric Irrgang, PhD in Materials Science and Engineering <span style="float: right;">2016</span> <i>Title: "Thermodynamic and structural phase behavior of colloidal and nanoparticle systems"</i></li> <li>• Pablo F. Damasceno, PhD in Applied Physics <span style="float: right;">2015</span> <i>Title: "Using directional entropic forces for target pattern design"</i></li> <li>• Jaime A. Millan, PhD in Materials Science and Engineering <span style="float: right;">2015</span> <i>Title: "Self-assembly of complex structures through competing entropic and enthalpic patchiness"</i></li> </ul> <p><b>Masters Students</b></p> <ul style="list-style-type: none"> <li>• Junwei Wang <span style="float: right;">2016</span></li> </ul> <p><b>Bachelor Students</b></p> <ul style="list-style-type: none"> <li>• Kai Waldmann <span style="float: right;">2017</span></li> </ul> <p><b>Student Assistants and Miniproject Students</b></p> <ul style="list-style-type: none"> <li>• Mikhail Trunov <span style="float: right;">SS 17</span></li> <li>• Daniel Wamser <span style="float: right;">SS 17</span></li> <li>• Eric Görlitzer <span style="float: right;">WS 16/17</span></li> </ul>
TEACHING AT U-ERLANGEN	<p><b>Courses in WS 2017/2018</b></p> <ul style="list-style-type: none"> <li>• Simulation granularer und molekularer Systeme</li> <li>• Basics in Computational Materials Science and Process Simulation 1</li> </ul> <p><b>Courses in SS 2017</b></p> <ul style="list-style-type: none"> <li>• Selbstorganisationsprozesse</li> </ul> <p><b>Courses in WS 2016/2017</b></p> <ul style="list-style-type: none"> <li>• Simulation granularer und molekularer Systeme</li> <li>• Basics in Computational Materials Science and Process Simulation 1</li> </ul>
TEACHING ELSEWHERE	<p><b>"Accelerating Physics Simulations with Deep Learning"</b> <span style="float: right;">23 Sep – 5 Oct 2018</span></p> <p><b>"Creating Animations by Machine Learning and Simulation"</b> <span style="float: right;">17 Sep – 29 Sep 2017</span></p> <p>Ferienakademie Sarntal, Tirol (Summer School, <a href="http://www.ferienakademie.de">www.ferienakademie.de</a>) Student presentations and hand-on work, 17 participants together with Prof. Nils Thurey (Computer Science, TU Munich) and Prof. Miriam Mehl (Computer Science, U Stuttgart)</p> <p><b>"Symmetry and Crystallography"</b> (U-Michigan) <span style="float: right;">SS 2011, WS 2015</span> Special Lecture Series, 2 SWS for Materials Scientists</p> <p><b>"Group Theory in Physics"</b> (U-Stuttgart) <span style="float: right;">SS 2006, WS 2007</span> Hauptseminar, 2 SWS for Physicists (Diplom)</p>

SCIENTIFIC  
COMPUTING

**Programming (>20 years of experience)**

C, C++, Python, Java, Javascript, OpenGL, Mathematica, Matlab, Unix-shell Scripting, CUDA (NVIDIA), TensorFlow (Google)

**Software Development (proprietary code)**

- Monte Carlo, molecular dynamics, and event-driven simulation for anisotropic particles
- automated crystal structure detection and analysis
- interactive 3D visualization of particle data including ambient occlusion

**High-Performance Computing**

Blue Waters (NCSA), XSEDE (NSF), ARC (U-Michigan), RRZE (U-Erlangen)

PUBLICATIONS

**Friedrich-Alexander University Erlangen-Nürnberg**

\* CO-FIRST AUTHOR

[50] Virial Coefficients and Equations of State for Hard Polyhedron Fluids  
M.E. Irrgang, [M. Engel](#), A. Schultz, D.A. Kofke, S.C. Glotzer  
*Langmuir* **33**, 11788–11796 (2017)

Highlighted in: Special issue: Tribute to Keith Gubbins

GOOGLE SCHOLAR:  
H-INDEX = 22  
CITATIONS = 2389

[49] Band gap formation and Anderson localization in disordered photonic materials with structural correlations

L.S. Froufe-Perez, [M. Engel](#), J.J. Saenz, F. Scheffold

*Proceedings of the National Academy of Sciences* **114**, 9570-9574 (2017)

Highlighted in: University of Fribourg Research Story

RESEARCHERID:  
G-1778-2010

SCOPUS ID:  
7102289204

[48] Non-Close-Packed Three-Dimensional Quasicrystals

P.F. Damasceno, S.C. Glotzer, [M. Engel](#)

*Journal of Physics: Condensed Matter* **29**, 234005 (2017)

Highlighted in: Special issue collection “Soft quasicrystals”

[47] Fluid-to-Solid Transition of Hard Regular Polygons

J.A. Anderson, J. Antonaglia, J.A. Millan, [M. Engel](#), S.C. Glotzer

*Physical Review X* **7**, 021001 (2017)

[46] Clathrate Colloidal Crystals

H. Lin\*, S. Lee\*, L. Sun, M. Spellings, [M. Engel](#), S.C. Glotzer, C.A. Mirkin

*Science* **355**, 931-935 (2017)

Highlighted in: Science Perspective and pro-physik.de

[45] Shape-Dependent Ordering of Gold Nanocrystals into Large-Scale Superlattices

J. Gong, R.S. Newman, [M. Engel](#), M. Zhao, F. Bian, S.C. Glotzer, and Z. Tang

*Nature Communications* **8**, 14038 (2017)

[44] Quasicrystalline Nanocrystal Superlattice with Partial Matching Rules

X. Ye\*, J. Chen\*, M.E. Irrgang\*, [M. Engel\\*](#), A. Dong, S.C. Glotzer, C.B. Murray

*Nature Materials* **16**, 214-219, (2017)

Highlighted in: phys.org

[43] Self-Assembly of Colloidal Nanocrystals: From Intricate Structures to Functional Materials

M.A. Boles\*, [M. Engel\\*](#), Dmitri V. Talapin

*Chemical Reviews* **116**, 11220-11289 (2016)

[42] Role of Short-Range Order and Hyperuniformity in the Formation of Band Gaps in Disordered Photonic Materials

L.S. Froufe-Perez, [M. Engel](#), P.F. Damasceno, N. Muller, J. Haberkorn, S.C. Glotzer, F. Scheffold

*Physical Review Letters* **117**, 053902 (2016)

**University of Michigan**

[41] Controlling Chirality of Entropic Crystals

P.F. Damasceno, A.S. Karas, B.A. Schultz, [M. Engel](#), S.C. Glotzer

*Physical Review Letters* **115**, 158303 (2015)

[40] Metastable Orientational Order of Colloidal Discoids

L.C. Hsiao, B.A. Schultz, J. Glaser, [M. Engel](#), M.E. Szakasits, S.C. Glotzer, M.J. Solomon

*Nature Communications* **6**, 8507 (2015)

- [39] Shape Control and Compartmentalization in Active Colloidal Cells  
M. Spellings, M. Engel, D. Klotsa, S. Sabrina, A.M. Drews, N.H.P. Nguyen, K.J.M. Bishop, S.C. Glotzer  
*Proceedings of the National Academy of Sciences* **112**, E4642-E4650 (2015)  
Highlighted in: Nature Physics Research Highlights
- [38] Symmetry Considerations for the Targeted Assembly of Entropically Stabilized Colloidal Crystals via Voronoi Particles  
B.A. Schultz, P.F. Damasceno, M. Engel, S.C. Glotzer  
*ACS Nano* **9**, 2336-2344 (2015)
- [37] Computational Discovery of a One-Component Quasicrystal via Self-Assembly  
M. Engel, P.F. Damasceno, C.L. Phillips, S.C. Glotzer  
*Nature Materials* **14**, 109-116 (2015)  
Highlighted in: Nature Materials News and Views and Vice Motherboard
- [36] Understanding Shape Entropy through Local Dense Packing  
G. van Anders, N.K. Ahmed, D. Klotsa, M. Engel, S.C. Glotzer  
*Proceedings of the National Academy of Sciences* **111**, E4812-E4821 (2014)  
Highlighted in: Nature Materials News and Views
- [35] Controlled Self-Assembly of Periodic and Aperiodic Cluster Crystals  
K. Barkan, M. Engel, R. Lifshitz  
*Physical Review Letters* **113**, 098304 (2014)  
Highlighted in: Hayadan.org.il
- [34] News & Views: A Triangular Affair  
M. Engel, S.C. Glotzer  
*Nature Physics* **10**, 185-186 (2014)
- [33] Complexity in Surfaces of Densest Packings for Families of Polyhedra  
E.R. Chen, D. Klotsa, M. Engel, P.F. Damasceno, S.C. Glotzer  
*Physical Review X* **4**, 011024 (2014)  
Highlighted in: Physics Synopsis and IOP Physics World and New Scientist
- [32] Emergent Collective Phenomena in a Mixture of Hard Shapes through Active Rotation  
N.H.P. Nguyen, D. Klotsa, M. Engel, S.C. Glotzer  
*Physical Review Letters* **112**, 075701 (2014)
- [31] Entropically Patchy Particles: Engineering Valence through Shape Entropy  
G. van Anders, N.K. Ahmed, R. Smith, M. Engel, S.C. Glotzer  
*ACS Nano* **8**, 931-940 (2014)
- [30] A Directional Entropic Force Approach to Anisotropic Nanoparticle Assembly  
K.L. Young, M.L. Personick, M. Engel, P.F. Damasceno, S.N. Barnaby, R. Bleher, T. Li, S.C. Glotzer, B. Lee, C.A. Mirkin  
*Angewandte Chemie International Edition* **52**, 1-6 (2013)
- [29] Shape Alloys of Nanorods and Nanospheres from Self-Assembly  
X. Ye\*, J.A. Millan\*, M. Engel\*, J. Chen, B.T. Diroll, S.C. Glotzer, C.B. Murray  
*Nano Letters* **13**, 4980-4988 (2013)
- [28] Massively Parallel Monte Carlo for Many-Particle Simulations on GPUs  
J.A. Anderson, E. Jankowski, T.L. Grubb, M. Engel, S.C. Glotzer  
*Journal of Computational Physics* **254**, 27-38 (2013)
- [27] Packing and Self-Assembly of Truncated Triangular Bipyramids  
A. Haji-Akbari, E.R. Chen, M. Engel, S.C. Glotzer  
*Physical Review E* **88**, 012127 (2013)
- [26] Competition of Shape and Interaction Patchiness for Self-Assembling Nanoplates  
X. Ye\*, J. Chen\*, M. Engel\*, J.A. Milan\*, W. Li, L. Qi, G. Xing, J.E. Collins, C.R. Kagan, J. Li, S.C. Glotzer, C.B. Murray  
*Nature Chemistry* **5**, 466-473 (2013)  
Highlighted in: Cover Article and MRS Bulletin

- [25] Hard Disk Equation of State: First-Order Liquid Hexatic Transition in Two Dimensions with Three Simulation Methods  
M. Engel, J.A. Anderson, S.C. Glotzer, M. Isobe, E.P. Bernard, W. Krauth  
*Physical Review E* **87**, 042134 (2013)  
 Highlighted in: CNRS Actualité
- [24] Confirmation of the Random Tiling Hypothesis for a Decagonal Quasicrystal  
 A. Kiselev, M. Engel, H.-R. Trebin  
*Physical Review Letters* **109**, 225502 (2012)
- [23] Predictive Self-Assembly of Polyhedra into Complex Structures  
 P.F. Damasceno\*, M. Engel\*, S.C. Glotzer  
*Science* **337**, 453-457 (2012)  
 Highlighted in: Science Perspective and Scientific American and others
- [22] Crystalline Assemblies and Dense Packings of a Family of Truncated Tetrahedra via Directional Entropic Forces  
 P.F. Damasceno\*, M. Engel\*, S.C. Glotzer  
*ACS Nano* **6**, 609-614 (2012)  
 Highlighted in: in Nano
- [21] Brennpunkt: Aus Schaum gebaut  
M. Engel  
*Physik Journal* **6/2012**, 24-25 (2012)
- [20] Low-Temperature Structure of  $\xi$ -Al-Pd-Mn Optimized by Ab Initio Methods  
 B. Frigan, A. Santana, M. Engel, D. Schopf, H.-R. Trebin, M. Mihalkovic  
*Physical Review B* **84**, 184203 (2011)
- [19] Degenerate Quasicrystal of Hard Triangular Bipyramids  
 A. Haji-Akbari, M. Engel, S.C. Glotzer  
*Physical Review Letters* **107**, 215702 (2011)  
 Highlighted in: Cover Article and IOP Physics World
- [18] Phase Diagram of Hard Tetrahedra  
 A. Haji-Akbari, M. Engel, S.C. Glotzer  
*Journal of Chemical Physics* **135**, 194101 (2011)
- [17] Entropic Stabilization of Tunable Planar Modulated Superstructures  
M. Engel  
*Physical Review Letters* **106**, 095504 (2011)
- [16] News & Views: Complex order in soft matter  
 S.C. Glotzer, M. Engel  
*Nature* **471**, 309-310 (2011)
- [15] Eine unmögliche Entdeckung – Nobelpreis für Quasikristalle  
M. Engel, J. Roth, H.-R. Trebin  
*Physik Journal* **12/2011**, 31-34 (2011)  
 Highlighted in: Cover Article
- [14] Dynamics of Particle Flips in Two-Dimensional Quasicrystals  
M. Engel, M. Umezaki, H.-R. Trebin, T. Odagaki  
*Physical Review B* **82**, 134206 (2010)
- [13] Dense Crystalline Dimer Packings of Regular Tetrahedra  
 E. R. Chen, M. Engel, S.C. Glotzer  
*Discrete and Computational Geometry* **44**, 253-280 (2010)  
 Highlighted in: New York Times and SIAM News and MDMV and Frankfurter Allgemeine Zeitung and others
- [12] Phason Dynamics in One-Dimensional Lattices  
 H. Lipp, M. Engel, S. Sonntag, H.-R. Trebin  
*Physical Review B* **81**, 064302 (2010)

- [11] Brennpunkt: Volle Packung  
M. Engel  
*Physik Journal* **9/2010**, 18-19 (2010)
- [10] Disordered, Quasicrystalline and Crystalline Phases of Densely Packed Tetrahedra  
 A. Haji-Akbari\*, M. Engel\*, A.S. Keys, X. Zheng, R.G. Petschek, P. Palffy-Muhoray, S.C. Glotzer  
*Nature* **462**, 773-777 (2009)  
 Highlighted in: BBC Science Image

#### University of Stuttgart

- [9] Simulating Structure and Physical Properties of Complex Metallic Alloys  
 H.-R. Trebin, P. Brommer, M. Engel, F. Gähler, S. Hocker, F. Rösch, J. Roth  
 in *Properties and Applications of Complex Intermetallics*, 293-330, World Scientific (2009)
- [8] Structural Complexity in Monodisperse Systems of Isotropic Particles  
M. Engel, H.-R. Trebin  
*Zeitschrift für Kristallographie* **223**, 721-725 (2008)
- [7] Stability of the Decagonal Quasicrystal in the Lennard-Jones-Gauss System  
M. Engel, H.-R. Trebin  
*Philosophical Magazine* **88**, 1959-1965 (2008)
- [6] Structural Variations in  $\epsilon$ -type Al-Mn-(Pd,Fe) Complex Metallic Alloy Phases  
 M. Heggen, M. Engel, M. Feuerbacher, H.-R. Trebin  
*Philosophical Magazine* **88**, 507-521 (2008)
- [5] Dynamics and Defects of Complex Crystals and Quasicrystals: Perspectives from Simple Model Systems  
M. Engel  
*Doctoral Thesis*, Universität Stuttgart (2008)
- [4] Self-Assembly of Monatomic Complex Crystals and Quasicrystals with a Double-Well Interaction Potential  
M. Engel, H.-R. Trebin  
*Physical Review Letters* **98**, 225505 (2007)
- [3] Structure Factors of Harmonic and Anharmonic Fibonacci Chains by Molecular Dynamics Simulations  
M. Engel, S. Sonntag, H. Lipp, H.-R. Trebin  
*Physical Review B* **75**, 144203 (2007)
- [2] Tiling Models for Metadislocations in AlPdMn Approximants  
M. Engel, H.-R. Trebin  
*Philosophical Magazine* **86**, 979-984 (2006)
- [1] A Unified Projection Formalism for Al-Pd-Mn Quasicrystal  $\Xi$ -Approximants and their Metadislocations  
M. Engel, H.-R. Trebin  
*Philosophical Magazine* **85**, 2227-2247 (2005)

INVITED CONFERENCE AND WORKSHOP PRESENTATIONS	2018	TBA Workshop: Quasicrystals: pattern formation and aperiodic order, Edinburgh, UK (4-8 Jun)
		TBA SFB 762 Functionality of Oxide Interfaces, Benediktinerklost. Frauenwörth (26 Feb-2 Mar)
	2017	“Confinement affects colloid assembly in emulsion droplets” COST: Dynamics of Interfaces in Complex Fluids and Flows, Erlangen (28 Feb-3 Mar)
	2016	“New crystals for soft colloids” CECAM Workshop: Structure Formation in Soft Colloids, Vienna, Austria (19-22 Sep)
		“Formation of band gaps in disordered photonic materials” META '16, the 7th International Conference on Metamaterials, Malaga, Spain (25-28 Jul)

- “Designing polyhedral particles for targeted self-assembly”  
Dynamics Days Europe 2016, Corfu, Greece (6-10 Jun)
- “Shape-based modeling of the self-assembly of nanoparticle and molecules”  
SIAM Conf. on Mathematical Aspects of Materials Science, Philadelphia, PA (8-12 May)
- 2015 “Quasicrystals on the computer: The role of complexity for crystal growth”  
Open Space between Heavy Fermions and Quasicrystals, Nagoya, Japan (17-19 Nov)
- “Cabinet of curiosities: self-assembly of unusual crystal structures”  
Aperiodic 2015, Prague, Czech Republic (30 Aug-4 Sep)
- “Packing and crystallization of hard shapes: from disks to tetrahedra”  
Workshop: Crystals and Random Networks, ICERM, Providence, RI (9-13 Feb)
- 2014 “When and how can densest packings be achieved with nanoparticles?”  
Workshop: Jam-Packed, Erlangen (15-18 Sep)
- “Beyond close packing: complex order with simple models”  
Mini Stat Mech Meeting, Berkeley, CA (10-12 Jan)
- 2013 “Self-assembly and packing of polyhedra into complex crystal structures”  
DPG Frühjahrstagung, Regensburg (11-15 Mar)
- “When shapes collide: finding order in disorder”  
CECAM Workshop: Self-assembly, EPFL, Lausanne, Switzerland (4-6 Mar)
- 2012 “Predictive self-assembly of polyhedra into complex structures”  
MRS Fall Meeting, Boston, MA (26-30 Nov)
- “Aperiodic order in self-assembly with anisotropic particles and competing distances”  
Mathematics of Distances and Applications, Varna, Bulgaria (2-5 Jul)
- “Towards structural complexity with colloids”  
APS March Meeting, Boston, MA (27 Feb-2 Mar)
- 2011 “Unusual crystal structures with hard polyhedra”  
22<sup>nd</sup> Congress International Union of Crystallography, Madrid, Spain (22-30 Aug)
- 2010 “Quasicrystalline phase of densely packed tetrahedra”  
11<sup>th</sup> International Conference on Quasicrystals, Sapporo, Japan (13-18 Jun)
- 2009 “Spontaneous formation of a dense aperiodic crystal from hard tetrahedra”  
Aperiodic 2009, Liverpool, United Kingdom (13-18 Sep)
- 2008 “Entropic stabilization of quasicrystals in the Lennard-Jones-Gauss system”  
10<sup>th</sup> International Conference on Quasicrystals, ETH Zürich, Switzerland (6-11 Jul)
- 2007 “Metadislocations in Al-Pd-Mn-phases as examples for partial dislocations in CMAs”  
European Conference on Advanced Materials, Nürnberg (10-13 Sep)
- CONFERENCE AND WORKSHOP CONTRIBUTIONS AS PRESENTER
- 2017 Particle-Based Materials, Leibniz Institute for New Materials, Saarbrücken (9-10 Nov)  
International Congress Engineering of Advanced Materials, Erlangen (10-12 Oct)  
10<sup>th</sup> Liquid Matter Conference, Ljubljana, Slovenia (17-21 Jul)  
2<sup>nd</sup> UMN-FAU Workshop, Erlangen (5-7 Jun)
- 2016 Particle-Based Materials, Fraunhofer Institute for Silicate Research, Würzburg (30 Nov)  
1<sup>st</sup> UMN-FAU Workshop, Minneapolis, MN (16-18 Aug)  
Spring School: Imaging Particles, Erlangen (4-8 Apr)
- 2015 EAM Symposium 2015, Kloster Banz, Bad Staffelstein (23-25 Nov)  
Workshop: Particle Simulations 2015, Erlangen (21-24 Sep)  
Mainz Materials Simulation Days, Mainz (10-12 Jun)  
MRS Spring Meeting, San Francisco, CA (6-10 Apr)  
APS March Meeting, San Antonio, TX (2-6 Mar)
- 2014 23<sup>rd</sup> Congress International Union of Crystallography, Montreal, Canada (5-12 Aug)  
9<sup>th</sup> Liquid Matter Conference, Lisbon, Portugal (21-25 Jul)

- APS March Meeting, Denver, CO (3-7 Mar)
- 2013 AICHe Annual Meeting, San Francisco, CA (3-8 Nov)  
APS March Meeting, Baltimore, MD (18-22 Mar)
- 2012 Workshop on Packing Problems, Trinity College Dublin, Ireland (2-5 Sep)  
Workshop: Ordered and Non-ordered Superstructures of Nanosized Objects, Max Planck-Institute for the Physics of Complex Systems, Dresden (9-13 Jul)
- 2011 APS March Meeting, Dallas, TX (21-25 Mar)  
Materials and the Imagination, Aspen Center for Physics, Aspen, CO (3-7 Jan)
- 2010 MRS Spring Meeting, San Francisco, CA (5-9 Apr)  
APS March Meeting, Portland, OR (15-19 Mar)  
Mini StatMech Meeting, University of California, Berkeley, CA (8-10 Jan)
- 2009 Foundations of Molecular Modeling and Simulation, Blaine, WA (12-16 Jul)  
Quasiperiodic Tilings and Related Topics, Kochi University, Japan (19-22 Jun)
- 2007 Quasicrystals–The Silver Jubilee, Tel Aviv, Israel (14-19 Oct)  
23<sup>rd</sup> International Conference on Statistical Physics, Genova, Italy (9-13 Jul)  
DPG Frühjahrstagung, Regensburg (26-30 Mar)
- 2006 9<sup>th</sup> Int. Conference on Quasicrystals, Iowa State University, Ames, IA (22-26 May)  
DPG Frühjahrstagung, Dresden (27-31 Mar)
- 2005 DPG Frühjahrstagung, Berlin (4-9 Mar)
- 2004 WE Heraeus Summer School, University of Chemnitz (27 Sep-8 Oct)

#### SEMINAR TALKS

- 2017 Indiana University, Department of Chemistry, Bloomington, IN (15 Aug)  
University of Münster, Center for Nonlinear Science (13 Jun)
- 2016 University of Chicago, Midwest Integrated Center for Computational Materials, IL (15 Aug)  
FAU Erlangen-Nürnberg, Institute for Theoretical Physics (28 Jun)  
FAU Erlangen-Nürnberg, Institute of Materials Simulation (23 Jun)
- 2015 University of Tokyo, Institute of Industrial Sciences, Japan (20 Nov)  
MIT, Mathematics Department, Physical Mathematics Seminar, Boston, MA (6 Oct)  
Carnegie Mellon, Dept. of Materials Science and Engineering, Pittsburgh, PA (17 Sep)  
Fribourg University, Department of Physics, Fribourg, Switzerland (22 Jun)  
Johannes Gutenberg University Mainz, Condensed Matter Theory Group (12 Jun)
- 2014 Iowa State University, Department of Chemistry, IA (4 Dec)  
University of Stuttgart, Institute for Computational Physics (30 Jul)
- 2013 FAU Erlangen-Nürnberg, Institute for Theoretical Physics (8 Mar)  
Case Western Reserve University, Department of Physics, Cleveland, OH (11 Feb)
- 2012 Harvard University, School of Engineering and Applied Sciences, Boston, MA (16 Oct)
- 2011 Max-Planck-Institute for Dynamics and Self-Organization, Göttingen (16 Dec)  
University of Düsseldorf, Department of Physics (27 Jul)
- 2010 New York University, Courant Institute, Geometry Seminar, NY (5 May)  
University of Stuttgart, Theoretical and Applied Physics (26 Feb)
- 2009 Cornell University, Department of Physics, PA (5 May)
- 2008 University of Pennsylvania, Materials Theory Group, Philadelphia, PA (16 Sep)  
University of Michigan, Laboratory for Computational Nanoscience, Ann Arbor, MI (10 Sep)  
Hokkaido University, Department of Engineering, Sapporo, Japan (5 Jun)  
Tohoku University, Institute for Advanced Materials, Sendai, Japan (3 Jun)  
Chuo University, Department of Physics, Tokyo, Japan (30 May)  
Kyoto University, Yukawa Institute for Theoretical Physics, Japan (26 May)
- 2006 Kyushu University, Department of Physics, Fukuoka, Japan (13&17 Oct)



Max-Planck-Institute for Metals Research, Stuttgart (4 Jul)  
Research Center Jülich, Institute for Microstructure Research (8 Feb)  
2005 University of Stuttgart, Theoretical and Applied Physics (12 Feb)  
2004 Graduiertenkolleg Innere Grenzflächen, Ellwangen (18 Oct)

*Erlangen, den 26. November 2017*