

- Andrä, Heiko; Fink, Andreas; Glatt, Erik; Kabel, Matthias; Linden, Sven; Schneider, Matti; Staub, Sarah; Wiegmann, Andreas  
**Simulation of Elastic Deformations with Damage Effects for External and Pore Pressure**  
8th International Conference on Porous Media, May, Cincinnati (USA)
- Andrä, Heiko; Fink, Andreas; Kabel, Matthias; Staub, Sarah  
**Pore-scale simulation of damage effects for porous rocks under external and pore pressure**  
Data-driven modeling and numerical simulation of microstructured materials (GAMM AG DATA), Kick-Off Workshop, September, Stuttgart
- Andrä, Heiko; Kabel, Matthias; Schneider, Matti; Steiner, Konrad  
**Microstructure Simulation for the Determination of Nonlinear Material Parameters of Composites for Crash Simulation**  
Automotive CAE Grand Challenge, Hanau, April
- Arne, Walter; Hietel, Dietmar  
**Modellierung, Simulation und Optimierung von Spinnprozessen**  
Vliesstofftage, Hof, November
- Arne, Walter; Marheineke, Nicole; Wegener, Raimund  
**Viscoelastic law for Cosserat rod models with application in rotational spinning processes**  
ECMI, Santiago de Compostela (E), June
- Balzer, M.; Burger, M.; Däuwel, T.; Ekevid, T.; Steidel, S.; Weber, D.  
**Coupling DEM Particles to MBS Wheel Loader via Co-Simulation**  
Kaiserslautern, March
- Bartsch, Valeria  
**Programming Models for Exascale Supercomputers – A Slow Transition or Complete Disruption?**  
ISC'16, Bof 11.; Frankfurt, June
- Biedinger, C.; Feth, S.  
**Usage Modeling of Commuters on Basis of Geographical Data for Vehicle Engineering**  
Kaiserslautern, April
- Biedinger, C.; Weyh, T.; Opalinski, A.; Wagner, M.  
**Simulation of customer-specific vehicle usage**  
Kaiserslautern, March
- Biedinger, C.; Weyh, T.; Speckert, M.  
**Simulation der kundenspezifischen Fahrzeugnutzung**  
München, November
- Bortz, Michael  
**Calculating and navigating pareto sets: A versatile approach to support decisions in chemical engineering and beyond**  
Mathematical Methods in Process Engineering, International Workshop, Kaiserslautern, September
- Bortz, Michael  
**Kosten und Nutzen balancieren: Entscheidungsunterstützung angefangen vom Handykauf bis hin zur Strahlentherapie**  
Physikalisches-Kolloquium WS/2017, Dortmund, November
- Bortz, Michael; Schwientek, Jan; Burger, Jakob; Blagov, Sergej; Böttcher, Roger; Asprien, Norbert; Hasse, Hans  
**What is the cost of a robust process design?**  
Jahrestagung der ProcessNet-Fachgemeinschaft "Prozess-, Apparate- und Anlagentechnik", Karlsruhe, November
- Brand, A.; Bäcker, M.  
**Simulation des Reifenabriebs zur Bewertung von Nachlaufkackonzepten**  
Kaiserslautern, March
- Calabrese, F.; Bäcker, M.; A., G.  
**Thermo-mechanical Tire Model to Predict Temperature Creation-Propagation and Rolling Resistance**  
Sterrebeek/Brussels (B), April
- Calabrese, F.; Bäcker, M.; Gallrein, A.  
**Advanced structural MBD tire modelling for complex vehicle simulation scenarios**  
Hannover, February
- Dalheimer, Mathias  
**Wie man ein Blackout verursacht**  
Security Tagung, Centrum für Informatik und Informationstechnik, TU Braunschweig, June
- Dobrovolskij, Dascha  
**Simulation of Ultrasonic Materials Evaluation Experiments in Complex Media**  
19th World Conference on Non-Destructive Testing, München, June
- Dobrovolskij, Dascha  
**Simulation of Ultrasonic Wave Propagation in Polycrystalline Material**  
French German Workshop, Kaiserslautern, November
- Dörlich, V.; Linn, J.; Diebels, S.  
**Investigation of Finite Deformations of Multi-Component Cables**  
Châtenay-Malabry (F), April
- Dreßler, K.  
**Fraunhofer ITWM - related products and technologies**  
Göteborg (S), June
- Dreßler, K.  
**Simulationsqualität, Sensitivität und optimale Modellkomplexität**  
Hamburg, May
- Dreßler, K.; Calabrese, F.; Bäcker, M.; Gallrein, A.  
**Transient structural tire simulation for complex vehicle simulation scenarios**  
Hanau, April
- Dreßler, K.; Speckert, M.  
**Lastdatenanalyse und Beanspruchungsstatistik für variable Betriebslasten**  
München, November
- Easwaran, Prakash  
**Representative domain size study on simulated 3D fiber systems**  
FILTECH Conference, Köln, October
- Easwaran, Prakash  
**Stochastic modeling of 3D fiber systems incorporating interaction**  
The 19th European Conference on Mathematics for Industry, Santiago de Compostela (E), June
- Eisenräger, Almut  
**Finite Pointset Method**  
British Applied Mathematics Colloquium (BAMC), Oxford (GB), April
- Erlwein-Sayer, Christina  
**Investment and trading strategies for equities within a regime switching model**  
APMOD, Brno (CZ), June
- Erlwein-Sayer, Christina  
**Methods for calculating the extent of financial losses due to healthcare fraud**  
EHFCN Open House, Lissabon (P), June
- Etrrich, Norman  
**ACE – RTM at extreme scale**  
2016 Seam Workshop, Houston TX (USA), September
- Fassbender, Achim; Orlik, Julia; Pietsch, Kathrin; Rief, Stefan; Shamanskiy, Alexander  
**Simulation of Elastic Properties of Spacer Fabrics and the Effective Permeability at different Compression Rates**  
The 7th World Conference in 3D Fabrics and Their Applications, Roubaix (F), September
- Finhold, Elisabeth; Borgwardt, Steffen; De Loera, Jesús A.  
**The diameters of transportation polytopes satisfy the Hirsch Conjecture**  
SIAM Workshop on Network Science, Boston (USA), July
- Fütterling, Valentin  
**Cluster-based Photo-realistic Real Time Rendering**  
IRTG General Meeting, Kaiserslautern, June und IRTG General Meeting, Berkeley (USA), October
- Fütterling, Valentin  
**Parallel Spatial Splits in Bounding Volume Hierarchies**  
Eurographics Symposium on Parallel Graphics and Visualization in Groningen (NL), June
- Fütterling, Valentin  
**Photo-realistic image synthesis with Path Tracing – An optimization problem?**  
Supercomputing Seminar, TU Kaiserslautern, July
- Fütterling, Valentin  
**Towards Cluster-based Real Time Photo-realistic Rendering**  
Invited Talk, Computer Research Division Berkeley Lab (USA), Sept.

Gallrein, A.; Bäcker, M.; Calabrese, F.  
**Advanced tire modeling from multi body dynamics to linearization of the rotating tire**  
Coventry (GB), June

Gilberg, Dominik  
**On segregation in dry granular material flows in mixing processes**  
Talk at Young Researchers Symposium, Kaiserslautern, April

Gramsch, Simone  
**Virtual Nonwoven Production Processes**  
Mathematical Methods in Process Engineering, Kaiserslautern, September

Grün, Sarah  
**Estimating Discrete Dividends by No-Arbitrage**  
Second Quantitative Finance Symposium "Quattro Pole++", Trier, April und 9th European Summer School in Financial Mathematics Pushkin, St. Petersburg (RUS), September

Grünwald, Daniel  
**ACE – Reverse Time Migration at Extreme Scale**  
78th EAGE Conference & Exhibition, Dedicated - Towards Exascale Geophysical Applications, Wien (A), May

Grünwald, Daniel  
**GASPI: Bringing FDTD Simulations to Extreme Scale**  
Platform for advanced scientific computing conference, Minisymposium – Asynchronous Dataflow Driven Programming With GASPI, Lausanne (CH), May

Grünwald, Daniel; Machado, Rui  
**Tutorial: Efficient Parallel Programming with GASPI**  
HLRS, Stuttgart, June

Halfmann, T.  
**Prediction of tire performance for vehicle usage in the field**  
Sterrebeek/Brussels (B), April

Halfmann, T.; Steidel, S.; Gallrein, A.; Dreßler, K.; Pasalkar, V.  
**Extrapolation of rolling resistance for truck tires from specific load cases to vehicle usage in the field**  
Kaiserslautern, March

Haziza, Frédéric; Holik, Lukas; Meyer, Roland; Wolff, Sebastian  
**Pointer Race Freedom**  
POPL, St. Petersburg, Florida, (USA), January

Hietel, Dietmar  
**Mathematik ist Technologie**  
Kassel, November

Hietel, Dietmar  
**Simulationsbasierte Analyse der Inhomogenitäten in Vliesstoff-Filtermedien: Stochastisches Potenzial und seine Nutzung**  
13. Symposium Textile Filter, Chemnitz, March

Hietel, Dietmar; Antonov, Sergey; Gramsch, Simone; Gebhardt, Rainer; Reichel, Sven  
**Virtual generation of global nonwoven structures: Analysis, potential and chance for tailor-made products**  
Man-made Fibers Congress, Dornbirn (A), September

Hietel, Dietmar; Woltz, Sebastian  
**AKZESS – Aerodynamic Contactless Fiberizing from Melted Glass Strings**  
3rd International Glass Fiber Symposium, Aachen, October

Hoffmann, Anna  
**Novel approach for simulation and optimization of distillation-based flowsheets using fixed-point iterations for stage-to-stage calculations**  
Mathematical Methods in Process Engineering, International Workshop, Kaiserslautern, September

Hoffmann, Tobias; Andrä, Heiko; Fink, Andreas; Kabel, Matthias; Schneider, Matti; Staub, Sarah; Steiner, Konrad  
**Material CAE: Mikrostruktur-simulation der nichtlinearen mechanischen Parameter von Verbundwerkstoffen**  
NAFEMS-Seminar "Simulation von Composites – Bereit für die Industrie 4.0", ZAL, Hamburg, October

Hofmann, Tobias  
**Numerical simulation of phase separation in lithium ion batteries**  
Talk at Young Researchers Symposium, Kaiserslautern, April

Hofmann, Tobias; Andrä, Heiko; Fink, Andreas; Kabel, Matthias; Schneider, Matti; Staub, Sarah; Steiner, Konrad  
**Microstructure simulation of nonlinear mechanical parameters of composites**  
NAFEMS, Hamburg, November

Hofmann, Tobias; Andrä, Heiko; Müller, Ralf  
**Linear elasticity in phase-separating lithium ion batteries**  
EMMC, Brüssel (B), September

Iliev, Oleg  
**Microstructure Simulation and Big Data**  
Felix Klein Conference "Mathematical Methods in Big Data", Kaiserslautern, September

Iliev, Oleg; Despande, Raturaj; Antonyuk, Sergiy  
**Analysis Of Filter Cake Formation Using Computational Fluid Dynamics - Discrete Element Method (CFD-DEM) Simulation**  
Plenary talk at International Conference on Advances in Scientific Computing, Chennai (IND), November

Iliev, O.; Efendiev, Y.; Latz, A.; Maday, Y.; Taralova, V.; Taralov, M.; Zausch, J.; Zhang, S.  
**On some mathematical challenges in studying multiscale electrochemical processes in Li-ion battery**  
Invited presentation, Research seminar of Mitsubishi Electric Research Laboratories, Boston (USA), May

Iliev, O.; Feinauer, J.; Hein, S.; Latz, A.; Maday, Y.; Ohlberger, M.; Rave, S.; Schmidt, S.; Schmidt, V.; Zausch, J.; Westhoff, D.; Zhang, S.  
**MOR approaches for simulation of electrochemical processes in porous electrodes of Li-ion batteries**  
KOMSO Workshop on Model Reduction, Renningen, November

Iliev, Oleg; Iliev, Dimitar; Kabel, Matthias; Kirsch, Ralf; Staub, Sarah  
**Kopplung von CDF und Elastizitätslösern zur Simulation strömungsinduzierten Verformung von Filtermedien**  
NAFEMS DACH Regionalkonferenz, Bamberg, April

Iliev, Oleg; Iliev, Dimitar; Kirsch, R.  
**Numerical simulation of fluid flow and poroelastic deformation in round pleat cartridges**  
Filtech, Köln, October

Iliev, Oleg; Iliev, Dimitar; Kirsch, R.  
**On solving of poroelasticity problems related to simulation of filtration processes**  
Invited talk at Large Scale Scientific Computing, Sozopol (PL), June

Iliev, Oleg; Kabel, Matthias; Kirsch, Ralf; Staub, Sarah  
**CAE for filter elements: From CFD to coupled simulations**  
Internat. Workshop "Mathematical Methods in Process Engineering", Kaiserslautern, September

Iliev, Oleg; Kirsch, Ralf; Osterroth, Sebastian  
**Combined depth and cake filtration coupled to flow simulation**  
Filtech, Köln, October

Iliev, Oleg; Mohring, Jan; Milk, Rene; Ohlberger, Mario; Klein, Oliver; Bastian, Peter  
**Toward Exascale Computations of Uncertainty Quantification for Porous Media Flow Using Multilevel Monte Carlo**  
Plenary talk, III. International Conference «Supercomputer Technologies in Mathematical Modelling», Moscow (RUS), June und Invited talk at Annual Meeting of Bulgarian section of SIAM, December

Iliev, O.; Prill, T.; Nessler, K.; Lakdawala, Z.; Printsypar, G.; Andrä, H.; Kabel, M.; Enzmann, Frieder; Wiegmann, A.; Schwarz, J.-O.  
**On Digital Rock Physics extended with Chemistry**  
Invited presentation, Research seminar of Schlumberger-Doll Research Center, Boston (USA), May und Plenary talk, Digital Core Workshop, Qingdao (CHN), August

Iliev, O.; Prill, T.; Nessler, K.; Dick, V.; Klein, P.; Lakdawala, Z.; Printsypar, G.; Vutov, Y.  
**Pore scale simulation of reactive flows on 3D CT images**  
Kick-off meeting of the German Chapter of InterPore, Erlangen, March

- Iliev, O.; Prill, T.; Nessler, K.; Lakdawala, Z.; Printsypar, G.; Vutov, Y. **On pore scale simulation of reactive flows on 3D CT images of membranes and rocks** Annual meeting of InterPore, Cincinnati (USA), May
- Iliev, O.; Prill, T.; Nessler, K.; Lakdawala, Z.; Printsypar, G. **Pore scale simulation of reactive flow** Workshop on Math. Methods in Process Engineering, Kaiserslautern, September und GeoDict User Meeting, Kaiserslautern, October
- Iliev, Oleg; Prill, Torben; Nessler, Katherine; Lakdawala, Zahra; Printsypar, Galina; Enzmann, Frieder **Pore scale modeling of reactive flows for applications in purification and adsorption of pollutants** Filtech, Köln, October
- Iliev, O.; Zemitis, A.; Nagapetyan, T.; Shklyar, I.; Steiner, K.; Johann, C.; Schuch, H.; Rösch, U. **Numerical simulation as a powerful tool to understand and improve FFF** Invited talk at 18th International Symposium on Field- and Flow-Based Separations, Dresden, May
- Jami, Neil **A model and polynomial algorithm for purchasing and repositing returnable containers** 7th IFAC Conference on Management and Control of Production and Logistics, Bremen, February
- Kabel, Matthias **Composite voxels for nonlinear mechanical problems** MPIE, Düsseldorf, July
- Kabel, Matthias **Recent developments of FFT-based homogenization** Seminar für Numerische Mathematik und Mechanik, Universität Duisburg-Essen, January
- Kabel, Matthias; Kirsch, Ralf; Staub, Sarah **Towards the simulation of manufacturing effects on multi-layered filter media** FILTECH, Köln, October
- Keuper, Janis **Distributed training of deep neural networks: theoretical and practical limits of parallel scalability.** MLHPC Workshop at Supercomputing Conference 16, Salt Lake City, Utah, (USA), November
- Keuper, Janis **Seminar: Introduction to Deep Learning** Birlinghoven, December
- Keuper, Janis **Skalierbare Datenanalyse mit IPython** Data2Day Conference, Karlsruhe, October
- Kleer, M.; Bitsch, G.; Dreßler, K.; Pena Vina, E.; Rothmann, T. **Ein neues Konzept zur Erprobung und Absicherung von Gesamtfahrzeugfunktionen** Baden-Baden, November
- Kleer, M.; Dreßler, K. **Robot Based Driving and Operation Simulator (RODOS) – Excavator development** Eskilstuna (S), September
- Kleer, M.; Gizatullin, A.; Pena Vina, E.; Dreßler, K. **New Environment Generation Techniques for Interactive Driving Simulation** Wiesbaden, April
- Kleer, M. and Dreßler, K. **New Environment Generation Techniques for Vehicle and Machine Development** Stuttgart, April
- Kleer, M. and Dreßler, K. **Upgrading machine development and proving processes with interactive simulations** Sindelfingen, September
- Klein, Matthias **Das Fraunhofer ITWM als attraktiver Arbeitgeber** E-world energy & water, Essen, February
- Köbler, Jonathan; Schneider, Matti; Andrä, Heiko **An efficient multiscale method for computing the effective viscoelastic response of short fiber reinforced thermoplastics** 2016 EMI International Conference, Metz (F), October
- Korn, Ralf **Aspekte der Chancen-Risiko-Klassifizierung** Qx-Club, Wiesbaden, January
- Korn, Ralf **Das Effektivkostenkonzept** Assekuranzforum, Neu-Isenburg, April
- Korn, Ralf **Das Risikobeurteilungsverfahren des EI-QFM** Tag des EI-QFM, Kaiserslautern, October
- Korn, Ralf **Risiko** Nacht, die Wissen schafft, Kaiserslautern, April
- Korn, Ralf **Stochastik und Statistik für Sekundarstufe II** Lehrerfortbildung (Philologenverband), Neustadt, February
- Krüger, Jens **High Performance Tools for Big Data** Big Data Networking Day, Brüssel (B), January
- Krüger, Jens **Smart Data for Smart Energy** Fraunhofer IAO, Stuttgart
- Krüger, Jens **Technologies for High Performance Data Analytics** Fraunhofer IAO, Stuttgart und ComplexWorld, EASA Köln, September
- Kuhnert, Jörg **Finite Pointset Method (FPM) in selected industrial applications** USACM Conference on Isogeometric Analysis and Meshfree Methods, La Jolla (USA), October
- Kuhnert, Jörg **Meshfree numerical simulation in the industrial context: true problems that might arise if a scientific tool goes to the market** International Conference on Advances in Scientific Computing, Chennai (IND), November
- Kuhnert, Jörg **True meshfree simulation in the industrial context** Volkswagen AG, CFD-Seminar, Wolfsburg, January
- Küsters, Ferdinand **Beobachtbarkeit des Schaltsignals bei geschalteten ODEs und DAEs** 10. Elgersburg Workshop, Elgersburg, February
- Küsters, Ferdinand; Trenn, Stephan; Wirsén, Andreas **Constant-input observability of DAEs** GAMM/DMV Jahrestagung, Braunschweig, March
- Küsters, Ferdinand; Trenn, Stephan; Wirsén, Andreas **Gemeinsame Beobachtbarkeit von Zustand und Schaltsignal bei homogenen geschalteten DAEs** GAMM-Fachausschuss "Dynamics and Control", Anif (A), September
- Küsters, Ferdinand; Wirsén, Andreas **Constant-input observability of DAEs with application to power networks** Young Researchers Symposium, Kaiserslautern, April
- Lamann, J.; Weyh, T. **Einsatz der Mehrkörpersimulation in der Entwicklung von Sattelauflegern / Trailerfahrzeugen** Kaiserslautern, March
- Leichner, A.; Andrä, H.; Simeon, B. **Numerical Solution of Contact Problems in Fibrous Microstructures using the Level Set Method on Voxel Discretizations** GAMM-DMV Joint Meeting, Braunschweig, March
- Leithäuser, Christian; Feßler, Robert; Pinnau, René **Optimal Shape Design for Polymer Spin Packs** ECMI, Santiago de Compostela (E), June
- Leoff, Elisabeth **Regime-Switching Models and Filterbased Volatility** 12th German Probability and Statistics Days, Bochum, March

Lietzow, Bernd  
**An Introduction to BeeGFS**  
Des données au BigData: exploitez le stockage distribué, Gif-sur-Yvette (F), December

Linden, Sven; Becker, Jürgen; Liping, Cheng; Wiegmann, Andreas  
**Estimation of Effective Cake Filtration Simulation Parameters from Resolved Filtration Simulations**  
Annual meeting of InterPore, Cincinnati (USA), May

Linn, J.  
**Discrete kinematics of Cosserat rods based on the difference geometry of framed curves**  
Montréal, Québec (CDN), May

Linn, J.  
**The Fraunhofer research project EMMA-CC: »Ergo-dynamic Moving MANikin with Cognitive Control«**  
Heidelberg, October

Linn, J.; Roller, M.; Sadiku, V.; Schneider, F.; Loris, C.; Hoeft, F.  
**Cable dynamics simulation & comparative fatigue analysis**  
Göteborg (S), June

Maag, Volker  
**Designing hybrid energy systems for buildings**  
5th International Conference on Engineering Optimization, Igassu Falls (BR), June

Merten, Dirk  
**A Parallelization Strategy for the 5D Data Mapping Problem in Angle Migration**  
78th EAGE Conference & Exhibition, Dedicated - Towards Exascale Geophysical Applications, Wien (A), May

Mohrbacher, Christian  
**BeeGFS**  
Rice University Oil&Gas HPC Workshop

Mohring, Jan  
**RoMI – Root Cause Analysis of Measurement Issues**  
Symposium Integriertes 3D-Messdatenmanagement, Landau, June

Musolino, Paolo; Orlik, Julia  
**Homogenization of Coulomb-contact in domains with cracks via the periodic unfolding method**  
Minisymposium "Asymptotic analysis: homogenization and thin structures", 14th IMSE, Padova (I), July

Neunzert, Helmut  
**SURPRISES: Problems and theories I had not expected to be so beneficial for industrial mathematics**  
21th International Conference Mathematical Modelling and Analysis (MMA2016), Tartu (EST), June

Neunzert, Helmut; Iliev, Oleg  
**What is industrial mathematics and why should we do it?**  
Plenary talk, International Conference on Advances in Mathematics, Chennai (IND), November

Orlik, Julia; Musolino, Paolo  
**General rescaling of basic inequalities and co-normal derivatives in second order elliptic PDEs in periodic domains**  
4th Workshop of the GAMM Activity Group on Analysis of Partial Differential Equations, TU Dortmund, September

Orlik, Julia; Neusius, David  
**Simulation and Optimization of Textile Membrane via Homogenization and Beam Approximation**  
Multiscale Modeling of Fibrous and Textile Materials, Colloquium 569, 5 April – 7 April, Chateaufort (F)

Orlik, Julia; Shiryayev, Vladimir  
**Simulation and optimization of textile membrane via homogenization and beam Approximations**  
Workshop Multi-Scale and Multi-Physics Testing of High-Performance Materials, TU Berlin, February

Osterroth, S.; Iliev, O.; Pinnau, R.  
**A combined sensitivity analysis and model reduction workflow for the simulation of cake filtration**  
Young Researchers Symposium, Kaiserslautern, April

Pfreundt, Franz-Josef  
**BeeGFS**  
15th HLRS/hww Workshop on Scalable Global Parallel File Systems, HLRS, Stuttgart, April

Pfreundt, Franz-Josef  
**Deep Learning - a Performance and Data Challenge**  
Advanced Analytics Infrastructure Dialog München, December

Pfreundt, Franz-Josef  
**Next Step: Big Data im Kontext der künstlichen Intelligenz**  
Big Data Strategiedialog, Bonn, April

Pfreundt, Franz-Josef  
**Programming large memory machines**  
Hewlett Packard Enterprise, Kalifornien, (USA), October

Prill, Torben; Iliev, Oleg; Nessler, Katherine; Lakdawala, Zahra  
**Scale Simulation of Reactive Transport in Technical and Natural Porous Media**  
InterPore, First German National Chapter Meeting, Leipzig, November

Prill, T.; Zausch, J.; Latz, A.; Becker-Steinberger, K.  
**Simulation of Ion-Transport in Deforming Porous Battery Electrodes**  
ModVal 13, Lausanne (CH), March

Prill, T.; Iliev, O.; Nessler, K.; Lakdawala, Z.; Printsypar, G.; Enzmann, F.  
**Pore-Scale Modeling of Reactive Flows for Applications in Water Purification and Absorption of Pollutants in Soil**  
XXI International Conference Computational Methods in Water Resources, Toronto (CDN), June

Prill, T.; Iliev, O.; Nessler, K.; Lakdawala, Z.; Printsypar, G.; Enzmann, F.; Kersten, M.  
**Pore-Scale Simulation of Reactive Flows**  
French-German Workshop "Mathematische Bildverarbeitung / Traitement d'image mathématique"

Rahn, Mirko  
**GPI-Space – how it works as auto-parallelization framework**  
Hewlett Packard Enterprise, Kalifornien, (USA), October

Rau, S.; Niedziela, D.; Neusius, D., Zausch, J.; Schmidt, S.  
**Granular flow in Food Industries: Simulation of Silo Discharge and pneumatic transport**  
KoMSO Challenge Workshop: Mathematical Modelling, Simulation and Optimization in Food Industries, Trier, March

Rau, S.; Niedziela, D.; Steiner, K.; de Vita, S.; Richter, M.; Lutsche, M.; Schmidt, M.; Stoltz, C.  
**Virtual characterization of dense granular flow through a vertically rotating feeding experiment**  
Partec, Nürnberg, April

Rau, S.; Niedziela, D.; Zausch, J.; Neusius, D.; Gilberg, D.; Schmidt, S.  
**Granular flow simulations with continuum models**  
Mathem. Methods in Process Engineering, Kaiserslautern, September

Rauhut, Markus  
**POD as a Tool Evaluating the Quality of Optical NDT Approaches**  
19th World Conference on Non-Destructive Testing, München, June

Rief Stefan, Aibibu Dilibaier, Kocaman Türkay, Cherif Chokri  
**Experimental and numerical study of high density filter textiles to determine permeability and retention properties under tensile stress.**  
FILTECH, Köln, October

Roller, M.; Linn, J.  
**Discrete geometric modeling of slender flexible structures for interactive assembly simulation in automotive industry**  
Santiago de Compostela (E), June

Rösch, Ronald  
**Blick über den Tellerrand der klassischen Oberflächeninspektion**  
Fraunhofer IOSB Karlsruhe, December

Rösch, Ronald  
**Fehlerdetektion in texturierten Oberflächen im praktischen Einsatz**  
9. Fraunhofer Vision Technologietag, Fürth, October



Sayer, Tilman  
**Beating Markowitz with Sentiment and Downside Risk Control**  
AI, Machine Learning & Sentiment Analysis Applied to Finance, London (GB), July

Sayer, Tilman  
**Data Analytics and Sentiment Analysis as Sources of Business Intelligence**  
Data Analytics and Sentiment Analysis as Sources of Business Intelligence, London (GB), April

Schladitz, Katja  
**3D Bildanalyse der Mikrostruktur komplexer Materialien**  
9. Fraunhofer Vision Technologietag, Fürth, October

Schladitz, Katja  
**3D image analysis and stochastic geometry models for materials structures**  
International Workshop on Characterization of Material Properties based on X-ray Tomography, Panagyurishte (BG), April

Schladitz, Katja  
**Characterization of biological structures by the intrinsic volumes**  
Analysis of image data for diagnostics, Prag (CZ), October

Schladitz, Katja  
**Micro-structural analysis of leather based on 3D image data**  
6. Freiburger Kollagensymposium, Freiberg, September

Schladitz, Katja  
**Natural and man-made multi-scale materials structures**  
From Nano to Macrostructures and Characterisation of Soft Materials, Strömstad (S), August

Schneider, F.; Burger, M.; Linn, J.  
**Efficient and robust co-simulation of geometrically exact Cosserat rod model and multi-body system**  
Santiago de Compostela (E), June

Schneider, Matti  
**Generating fiber-filled volume elements with high fiber volume fraction and prescribed fourth order fiber orientation tensor**

GAMM AG DATA Kick-Off Workshop, Stuttgart, September

Schneider, Matti  
**Numerical homogenization of the viscosity of a fiber suspension**  
Seminar-Serie des GRK 2078 CoDi-CoFRP, KIT, Karlsruhe, January

Schneider, Matti; Kabel, Matthias; Andrä, Heiko  
**Thermal fiber orientation tensors - a novel approach for characterizing the local fiber orientation in paper and paperboard**  
Progress in Paper Physics Seminar, Darmstadt, August

Schneider, Matti; Merkert, Dennis; Kabel, Matthias  
**FFT-based homogenization for microstructures discretized by linear hexahedral elements**  
2016 EMI International Conference, Metz (F), October

Schröder, Simon  
**Visualization of Meshfree Simulations with STRING 3**  
11. SPRING User Conference, Pretoria (ZA), September

Schwientek, Jan  
**Using data in process engineering: Mode building, sensitivity analysis and optimization**  
Mathematical Methods in Process Engineering, International Workshop, Kaiserslautern, September

Siedow, N.; Mohring, J.; Linn, D.; Brüggemann, T.; Heidenbluth, M.  
**Dynamische Netzsimulation zur Effizienzsteigerung und Emissionsreduzierung in der Fernwärmeversorgung**  
UMSICHT: Zur Sache! Strom-Wärme-Kopplung neu denken; Oberhausen, December

Slater, A.; Rief, S.; Steiner, K.  
**Automotive filtration – fibrillation makes the difference**  
55th Dornbirn man-made fibres Congress, Dornbirn (A), September

Speckert, M.; Dreßler, K.  
**Statistische Lastendatenanalyse unter Verwendung von Faktormodellen**  
München, November

Speckert, M.; Dreßler, K.; Lübke, M.; Halfmann, T.  
**Automatisierte und um GEO-Daten angereicherte Auswertung von Messdaten zur Herleitung von Beanspruchungsverteilungen**  
Steyr (A), October

Staub, S.; Andrä, H.; Fink, A.; Kabel, M.; Sliseris, J.; Steiner, K.  
**Stochastic Fiber Network Models for Paper: Generation, Deformation, Permeability**  
Interpore 8th International Conference on Porous Media, Cincinnati (USA), May

Staub, S.; Andrä, H.; Kabel, M.  
**Rate-Dependent Deformation Simulation of Nonwovens**  
Euromech 569, Multiscale modeling of fibrous and textile materials, Paris (F), April

Staub, Sarah; Andrä, Heiko; Kabel Matthias; Steiner, Konrad  
**Structure Generation and Non-linear Deformation Simulation of Thin Nonwoven Structures at the Micro-Scale**  
Interpore 8th International Conference on Porous Media, Cincinnati (USA), May

Staub, Sarah; Andrä, Heiko; Kabel, Matthias  
**Modeling and Nonlinear Deformation Simulation of Thin Nonwoven Textiles**  
GeoDict User Meeting, Kaiserslautern, October

Stephani, Henrike  
**Typischer Aufbau und Beispiele für Algorithmen von Oberflächeninspektionssystemen**  
Fraunhofer IOSB Karlsruhe, December

Wächtler, Timo  
**A Finite Pointset Model For Reactive Mixing**  
USACM Conference on Isogeometric Analysis and Meshfree Methods, La Jolla (USA), October

Wagner, Andreas  
**Integrated Electricity Price Model**  
Energy Finance Italia II, Padua (I), December

Weis, M.; Kleer, M.; von Holst, C.; Gizatullin, A.  
**Interactive Tractor Driving Simulation**  
Kaiserslautern, March

Wirsen, Andreas  
**Matlab Toolbox: Controller Design for Active Vibration Damping**  
Seminar on Modeling, Simulation and Optimization in Automotive and Vehicle Industry, Fraunhofer Chalmers Centre, Göteborg (S), December

Zausch, Jochen  
**Coupled thermal-electrochemical simulation of Li-ion batteries on micro and cell scale**  
Warwick University, Coventry (UK), June

Zausch, Jochen  
**Das Verbundprojekt "TopBat": Temperaturoptimierte Batteriemodule mit instrumentierten Zellen**  
Fraunhofer Symposium Netzwerk, München, February

Zausch, Jochen; Prill, Torben; Latz, Arnulf  
**Modeling of lithium ion batteries on micro and cell scale with emphasis on thermal coupling and spatial fluctuations**  
ISE 67th Annual Meeting, Den Haag (NL), August

Zémerli, C.  
**A simulation framework for optimising wiring harness while accommodating the needs of manufacturing constraints and assembly**  
Bad Nauheim, February

## TEACHING ACTIVITIES

Andrä, Heiko  
**Festigkeitslehre**  
DHBW CAS Heilbronn, Winter term 2015/16

Andrä, Heiko  
**Höhere Mathematik**  
DHBW CAS Heilbronn, Winter term 2015/16

Andrä, Heiko  
**Kontaktmechanik**  
University of Kaiserslautern, Winter term 2016/2017

Bitsch, Gerd  
**Professur für Mechatronik, Robotik und CAE-Simulation**  
University of Applied Sciences Kaiserslautern, Dept. of Applied Engineering Sciences

Burger, Michael  
**Dynamics of Mechanical Multi-body Systems**  
University of Kaiserslautern, Winter term 2015/2016

Burger, Michael  
**Numerik für Bauingenieure**  
University of Applied Sciences Kaiserslautern, Winter term 2015/2016

Burger, Michael  
**Optimal Control of ODEs and DAEs**  
University of Kaiserslautern, Summer term 2016

Dreßler, Klaus  
**Durability Load Data Analysis**  
TU Kaiserslautern, Summer term 2016

Iliev, Oleg  
**PhD Seminar »Technomathematik«**  
University of Kaiserslautern, Dept. of Mathematics

Kabel, Matthias  
**Digital Material Characterization of Composites**  
University Stuttgart, October 2016

Kleer, Michael  
**Robotik 1**  
University of Applied Sciences Kaiserslautern Kaiserslautern, 2015 – 2017

Korn, Ralf  
**Professur für Stochastische Steuerung und Finanzmathematik**  
University of Kaiserslautern, Dept. of Mathematics

Küfer, Karl-Heinz  
**Probability and Algorithms**  
University of Kaiserslautern, Winter term 2016/17

Küfer, Karl-Heinz  
**Theory of Scheduling Problems**  
University of Kaiserslautern, Summer term 2016

Prätzel-Wolters, Dieter  
**Professur für Technomathematik**  
University of Kaiserslautern, Dept. of Mathematics

Steidel, Stefan  
**Mathematik für Bauingenieure**  
University of Applied Sciences Kaiserslautern, Winter term 2015/2016

## PUBLICATIONS

**Vollständige bibliografische Angaben finden Sie unter: publica.fraunhofer.de/institute/itwm/2016**

Ackermann, H.; Berenbrink, P.; Fischer, S.; Hoefer, M.:  
**Concurrent imitation dynamics in congestion games**  
In: Distributed computing 29 (2016), Nr.2, S.105-125

Alumur, S.A.; Nickel, S.; Saldanha-Gama, F.; Seçerdin, Y.:  
**Multi-period hub network design problems with modular capacities**  
In: Annals of operations research 246 (2016), Nr.1, S.289-312

Asprion, Norbert; Böttcher, Roger; Pack, R.; Bortz, Michael; Schwientek, Jan; Höller, Johannes:  
**Greybox-Modelle – Neue Möglichkeiten für die Optimierung von Gesamtverfahren**  
In: Chemie-Ingenieur-Technik 88 (2016), Nr.9, S.1312

Bäcker, M.; Gallrein, A.; Calabrese, F.; Mansvelders, R.:  
**Simulation of a sudden tire inflation pressure loss in a full vehicle context as a validation scenario for CAE based ESC development**  
SAE Technical Paper, 2016-01-0447)

Bäcker, M.; Gallrein, A.; Roller, M.:  
**Noise, vibration, harshness model of a rotating tyre**  
In: Vehicle system dynamics 54 (2016), Nr.4, S.474-491

Balzer, M.; Burger, M.; Däuwel, T.; Ekevid, T.; Steidel, S.; Weber, D.:  
**Coupling DEM particles to MBS wheel loader via co-simulation**  
In: Proceedings of the 4th Commercial Vehicle Technology Symposium (CVT 2016), 2016, S.479-490

Bare, Z.; Orlik, Julia; Panasenko, G.:  
**Non homogeneous Dirichlet conditions for an elastic beam: An asymptotic analysis**  
In: Applicable Analysis 95 (2016), Nr.12, S.2625-2636

Bastian, Peter; Engwer, C.; Fahlke, J.; Geveler, M.; Göddeke, D.; Iliev, O.; Ippisch, O.; Milk, R.; Mohring, Jan; Müthing, S.; Ohlberger, M.; Ribbrock, D.; Turek, S.:  
**Hardware-based efficiency advances in the EXA-DUNE project**  
In: Proceedings of the SPPEXA Symposium 2016, S.3-23

Bastian, Peter; Engwer, Christian; Fahlke, Jorrit; Geveler, Markus; Iliev, Oleg; et.al.:  
**Advances concerning multiscale methods and uncertainty quantification in EXA-DUNE**  
In: Proceedings of the SPPEXA Symposium 2016, S.25-43

Belyaev, Alexander:  
**Generation of interior points and polyhedral representations of cones in RN cut by M planes sharing a common point**  
In: Mathematical methods of operations research 83 (2016), Nr.1, S.71-85

Biedinger, C.; Feth, S.:  
**Usage modeling of computers on basis of geographical data for vehicle engineering**  
In: Proceedings of the Young Researchers Symposium 2016, S.33-38

Biedinger, C.; Weyh, T.; Opalinski, A.; Wagner, M.:  
**Simulation of customer-specific vehicle usage**  
In: Proceedings of the 4th Commercial Vehicle Technology Symposium (CVT 2016), S.523-532

Bischoff, Martin; Bamberger, Joachim; Fleuren, Tino; Plociennik, Kai; Leitner, Johannes:  
**Weather sensitivity analyses in layout planning**  
In: European Commission: 32nd European Photovoltaic Solar Energy Conference and Exhibition, EU PVSEC 2016, S.1793-1795

Bischoff, M.; Klug, A.; Küfer, K.-H.; Plociennik, K.; Schüle, I.:  
**Optimized pattern design for photovoltaic power stations**  
In: Selected Papers of the Annual International Conference of the German Operations Research Society (GOR), 2016, S.451-456

- Bock, A.; Korn, Ralf:  
**Improving convergence of binomial schemes and the edge-worth expansion**  
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**Quadratic diameter bounds for dual network flow polyhedra**  
In: Mathematical programming. Series A 159 (2016), Nr.1, S.237-251
- Borgwardt, S.; Loera, J. A. de; Finhold, E.:  
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- Borsche, R.; Kall, J.; Klar, A.; Pham, T.N.H.:  
**Kinetic and related macroscopic models for chemotaxis on networks**  
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**A pareto-based approach to optimal design of experiments**  
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**Analysis of filter cake formation using computational fluid dynamics - discrete element method (CFD-DEM) simulation**  
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- Desmettre, S.; Korn, R.; Varela, J.; Wehn, N.:  
**Nested MC-based risk measurement of complex portfolios: Acceleration and energy efficiency**  
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- Dörlich, V.; Linn, J.; Scheffer, T.; Diebels, S.:  
**Towards viscoplastic constitutive models for cosserat rods**  
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**Extreme scale-out SuperMUC phase 2 - lessons learned**  
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**Combined depth and cake filtration coupled to flow simulation**  
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**Numerical solution of plate poroelasticity problems**  
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**Tactical and operational models for the management of a warehouse**  
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**Towards the simulation of manufacturing effects on multi-layered filter media**  
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- Keuper, J.; Preundt, F.-J.:  
**Distributed training of deep neural networks: Theoretical and practical limits of parallel scalability**  
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**Ein neues Konzept zur Erprobung und Absicherung von Gesamtfahrzeugfunktionen**  
In: 18. Kongress SIMVEC - Simulation und Erprobung in der Fahrzeugentwicklung 2016, S.703-711 (VDI-Berichte 2279)
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**Simulation models provide solutions to manufacturers**  
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**Charakterisierung, Auslegung und Optimierung granularer Strömungsprozesse**  
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**Prüfung von Turbinenteilen für Flugzeuge**  
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**An enhanced tire model for dynamic simulation based on geometrically exact shells**  
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**Constructing valid convex hull inequalities for single parity-check codes over prime fields**  
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**Computation of the Delta of European Options Under Stochastic Volatility Models**  
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**An impact measure for news: Its use in (daily) trading strategies**  
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**On the effective viscosity of a periodic suspension - analysis of primal and dual formulations for Newtonian and non-Newtonian solvents**  
In: Mathematical Methods in the Applied Sciences 39 (2016), Nr.12, S.3309-3327
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In: Geophysical Research Abstracts. Online journal 18 (2016), Paper EGU2016-4552
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**A fast and effective subset sum based improvement procedure for workload balancing on identical parallel machines**  
In: Computers & operations research 73 (2016), S.84-91
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In: Fluid phase equilibria 411 (2016), S.33-42
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**Numerical simulation of wetting phenomena by a meshfree particle method**  
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**Computational analysis of polyurethane foam expansion process in fiber reinforced sandwich structures**  
In: Proceedings of the 2. International Conference Euro Hybrid - Materials and Structures 2016, S.151-156
- Vabishchevich, P.N.; Zakharov, P.E.:  
**Alternating triangular schemes for convection-diffusion problems**  
In: Computational mathematics and mathematical physics 56 (2016), Nr.4, S.576-592
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**Improved models of solid foams based on soap froth**  
In: Computational materials science 120 (2016), S.60-69
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**Interactive tractor driving simulation**  
In: Proceedings of the 4th Commercial Vehicle Technology Symposium (CVT 2016), S.43-50
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**Simultaneous description of bulk and interfacial properties of fluids by the Mie potential**  
In: Molecular physics (2016), 14 S.
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**Estimating fibre direction distributions of reinforced composites from tomographic images**  
In: Image, analysis & stereology 35 (2016), Nr.3, S.167-179
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**Multiscale modeling of macroscopic and microscopic residual stresses in metal matrix composites using 3D realistic digital microstructure models.**  
In: Composite structures 137 (2016), S.18-32

## SCIENTIFIC GRADUATION THESES

- Akinlabi, Emmanuel Olutayo  
**Simulation of Cerebrospinal Fluid (CSF) Flow with the Finite Pointset Method (FPM)**  
Master thesis, African Institute for Mathematical Sciences (AIMS), Senegal
- Barthlen, Andreas Michael  
**Stability Preservation for parametric model order reduction by matrix interpolation**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Becker, Yannick  
**Evaluation der Umsetzung agiler Softwareentwicklung in heterogenen Projektteams und unter besonderer Berücksichtigung der testgetriebenen Entwicklung**  
Bachelor thesis, University of Applied Sciences Trier, Dept. of Environmental Planning and Engineering
- Bergner, Tim  
**Verteilte Algorithmen für gewichtete Matchings**  
Bachelor thesis, University of Kaiserslautern, Dept. of Mathematics
- Brugger, Patrick  
**Testen funktionaler Zusammenhänge von Beanstandungsquoten in der Betrugsdetektion**  
Bachelor thesis, University of Kaiserslautern, Dept. of Mathematics
- Cruz Lopez, Rogelio  
**Electronic Interface for on board Instruments in a Driving Simulator**  
Master thesis, University of Applied Sciences Kaiserslautern, Dept. of Applied Engineering Sciences
- D'Angelo, Phillipp  
**Statistische Lernmethoden zur Bestimmung der Ausfallwahrscheinlichkeiten**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Dondelinger, Fabienne  
**Estimation of the local pore size distribution from granulometric data**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Dürig, Dominik  
**Greybox-Ansatz für chemische Anlagen – Integration von Prozessdaten und Simulation**  
Master thesis, RWTH Aachen, Aachener Verfahrenstechnik (AVT)
- Gnanasambandham, Chandramouli  
**Model Reduction of Nonlinear Systems using Proper Orthogonal Decomposition**  
Master thesis, University of Kaiserslautern, Dept. of Mechanical and Process Engineering
- Gottschalk, Simon  
**One-Shot Methods for ODE/DAE Optimal Control Problems**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Grimm, Stefanie  
**An Interest Rate Model with Regime-Switching Mean-Reversion Level**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Gross, Andreas  
**Aufbau eines Messfahrzeugs (Demonstration zur laserbasierten Umwelterfassung)**  
Bachelor thesis, University of Applied Sciences Kaiserslautern, Dept. of Applied Engineering Sciences
- Hambardzumyan, Hayk  
**Aspects of Surplus Distribution in Life Insurance**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Hauck, Michael  
**Structure optimization for cylindrical multi-scale shell**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Heimfarth, Tobias  
**Integration of shallow water modellings in computational fluid dynamics based on the Finite-Pointset-Method (FPM)**  
Diploma thesis, University of Kaiserslautern, Dept. of Mechanical and Process Engineering
- Hermann, Florian  
**Untersuchung der 3D-Faserarchitektur von trockenen und imprägnierten C-Faser-Textilien mittels Computertomografie**  
Bachelor thesis, University Stuttgart, Institute for Aircraft Construction
- Hinderks, Wieger  
**Factor Models & Electricity Markets – Modeling Mean Reversion and Spikes**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Hoffmann, Anna  
**Integrated simulation and optimization of distillation-based flowsheets**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Hohmann, Raphael  
**Ein volumengemittelttes Modell für Partikeltransportprobleme in Fluiden**  
Master thesis, University of Kassel, Dept. of Mathematics
- Iliev, Dimitar  
**Numerical Algorithms for Fluid Interaction with a Thin Porous Structure**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Jung, Thomas  
**Numerik und Analyse mikroskopischer Verkehrsmodelle**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Kass, Benjamin  
**Modellierung von Hydraulikschläuchen unter Innendruck**  
Master thesis, University of Kaiserslautern, Dept. of Mechanical and Process Engineering
- Keller, Niclas  
**Uniforme Konfidenzintervalle für nicht-homogene Beanstandungsquoten in der Betrugsdetektion**  
Bachelor thesis, University of Kaiserslautern, Dept. of Mathematics
- Leoff, Elisabeth  
**Stochastic Filtering in Regime-Switching Models: Econometric Properties, Discretization and Convergence**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Leoff, Jens  
**Hierarchical scheduling and cutting stock with bounded open orders**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Lichti, Tobias  
**Nichtlineares viskoelastisches Materialmodell für das Kompressionsverhalten von Vliesstoffen**  
Bachelor thesis, DHBW Mannheim, Mechanical Engineering
- Linn, Dominik  
**Reconstruction of three dimensional fiber structures from orthogonal projections**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics
- Migunova, Anastasia  
**Outer-plane properties of thin heterogeneous periodic layers**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Neusius, David  
**Advanced interpolation cut-cell method for numerically solving continuum granular flow equations**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics
- Peters, Christian Dietrich  
**Aerodynamic damping of an oscillating fan blade: Numerical Fluid Structure Interaction Analysis**  
Master thesis, Univ. Stellenbosch, South Africa, Department of Mechanical Engineering
- Roller, Michael  
**Dynamische Reifensimulation mit geometrisch exakten Schalen**  
Doctoral thesis, Karlsruhe Institute of Technology (KIT), Department of Civil Engineering, Geo and Environmental Sciences
- Schäb, Lisa  
**Bewertung der EEX Wind-Futures**  
Bachelor thesis, THM University of Applied Sciences, Friedberg, Dept. MND

## PARTICIPATION IN FAIRS AND CONFERENCES

Schledjewski, Malte  
**MapViewer – eine Softwarekomponente zur Visualisierung statistischer und georeferenzierter Daten**

Bachelor thesis, University of Applied Sciences Kaiserslautern, Dept. of Applied Computer Sciences

Schmeißer, Andre  
**Contact Modeling Algorithms for Fiber Dynamics Simulations**  
Doctoral thesis, University of Kaiserslautern, Dept. of Applied Computer Sciences

Schneider, Fabio  
**A differential-algebraic coupling approach for force-displacement co-simulation of flexible multibody systems with kinematic coupling**  
Doctoral thesis, University of Kaiserslautern, Dept. of Mathematics

Schneider, Johanna  
**Einsatzoptimierung für mobile Röntgeneinheiten im Mammografiescreeningprogramm**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

Schwartz, Patrick  
**Konzeption und prototypische Umsetzung eines Ausdrucksrechners und Faktoreditors für VMC**  
Master thesis, University of Applied Sciences Kaiserslautern, Dept. of Applied Computer Sciences

Seidel, Tobias  
**Construction of Pareto-Frontiers for Risk-Averse Selective Newsvendor Problems**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

Syeda, Sonia  
**Using Business Intelligence Techniques to Analyze Truck Chassis Design Data**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

Volmerg, Kim  
**Scheduling mit Batching – Produktionsplanung in einem Leimholzwerk**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

Wackerle, Stephan  
**Mean-field limit of particle disease spreading models**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

Wagner, Christian  
**GPS-gestützte Positionsschätzung zur autonomen Navigation eines Quadropters**  
Bachelor thesis, University of Applied Sciences Kaiserslautern, Dept. of Applied Engineering Sciences

Wieland, Manuel  
**Modellierung und Simulation der charakteristischen Instabilität beim Elektrospleinprozess**  
Master thesis, FAU Erlangen, Dept. of Mathematics

Zintsova, Anastasia  
**POD-based model reduction for unsteady diffusion in spherical particle subject to linear and nonlinear Robin boundary conditions**  
Master thesis, University of Kaiserslautern, Dept. of Mathematics

**67<sup>th</sup> Annual Meeting of the International Society of Electrochemistry**  
Den Haag (NL), August, Lecture

**60. Bildverarbeitungsforum: Multisensorielle 3D-Datenfusion**  
Wiesbaden, March

**61. Bildverarbeitungsforum: Erfolge, Defizite und Zukunftsthemen der Bildverarbeitung**  
Heidelberg, April

**62. Bildverarbeitungsforum: Hochleistungsbildaufnahmesysteme quer durch das elektromagnetische Spektrum**  
Bensheim, July

**63. Bildverarbeitungsforum: Bildverarbeitung und Robotik**  
Renningen, October

**British Applied Mathematics Colloquium (BAMC)**  
Oxford (GB), April, Lecture

**CMWR 2016**  
Toronto (CDN), June, Lecture

**Felix-Klein-Konferenz: Mathematical Methods in Big Data**  
Kaiserslautern, September

**Control 2016**  
Stuttgart, April, Exhibitor

**CVC-Jahrestagung**  
Mannheim, November, Exhibitor, Lecture

**CVC-Mitgliederversammlung**  
Maynz, March

**DVM Arbeitskreis Betriebsfestigkeit: Potenziale im Zusammenspiel von Versuch und Berechnung in der Betriebsfestigkeit**  
Steyr (A), October, Exhibitor, Lecture

**EAGE 2016**  
Wien (A), May, Exhibitor, Lecture

**ECCOMAS 2016**  
Kreta (GR), June, Lecture, Poster

**ECMI 2016**  
Santiago de Compostela (E), July, Lecture

**EMI 2016**  
Metz (F), October, Lecture

**EMMC**  
Brüssel (B), September, Lecture

**Energy Finance Italia**  
Padua (I), December, Lecture, Poster

**EngOPT 2016**  
Igassu Falls (BR), June, Lecture

**ERWAS Workshop**  
Frankfurt, March

**7<sup>th</sup> European Congress of Mathematics**  
Berlin, July, Exhibitor

**European Symposium on Computer-Aided Process Engineering**  
Portoroz (SLO), June, Lecture

**E-World energy & water**  
Essen, February, Exhibitor, Lecture

**FILTECH 2016**  
Köln, October, Exhibitor, Lecture, Poster

**Fraunhofer-Symposium Netzwerk**  
München, February, Lecture

**9. Fraunhofer Vision Technologietag**  
Fürth, October, Exhibitor, Lecture

**French-German Workshop: Mathematische Bildverarbeitung/Traitement d'image mathématique**  
Kaiserslautern, November, Lecture

**GAMM/DMV-Jahrestagung 2016**  
Braunschweig, March, Lecture

**GeoDict User-Meeting 2016**  
Kaiserslautern, October, Lecture

**Hannover-Messe**  
Hannover, April, Exhibitor

**31. Hofer Vliesstofftage**  
Hof, November, Exhibitor, Lecture

**7th IFAC Conference on Management and Control of Production and Logistics**  
Bremen, February, Lecture

**International Workshop: Mathematical Methods in Process Engineering**  
Kaiserslautern, September, Lecture



**4. Internationales Commercial Vehicle Technology Symposium**  
Kaiserslautern, March, Exhibitor, Lecture

**Interpore**  
Cincinnati (USA), May, Exhibitor, Lecture

**Interpore Benelux**  
Venlo (NL), October, Exhibitor

**InterPore: 1<sup>st</sup> German National Chapter Meeting**  
Leipzig, November, Lecture

**IPS User Conference 2016**  
Göteborg (S), June, Exhibitor, Lecture

**ISC High Performance 2016**  
Frankfurt, June, Exhibitor

**K 2016**  
Düsseldorf, October

**Man-made Fibers Congress 2016**  
Dornbirn (A), September, Lecture

**ModVal 13**  
Lausanne (CH), March, Lecture

**Multibody Simulation User Group Meeting**  
Darmstadt, November, Exhibitor

**Multiscale phenomena in electrochemical and porous system**  
Coventry (GB), June, Lecture

**Nacht, die Wissen schafft**  
Kaiserslautern, April, Exhibitor

**NAFEMS**  
Hamburg, November, Lecture

**NAFEMS DACH**  
Bamberg, April, Lecture

**PARTEC International congress on Particle Technology**  
Nürnberg, April, Lecture, Poster

**PASC 16**  
Lausanne (F), May, Lecture

**POWTECH 2016**  
Nürnberg, April, Exhibitor

**REC 2016 International Workshop on Reliable Engineering Computing**  
Bochum, June

**SC 16 – Supercomputing 2016**  
Salt Lake City (USA), November, Exhibitor, Lecture

**SCA – Society of Core Analysts**  
Snowmass (USA), August, Exhibitor

**Seam Workshop 2016**  
Houston (USA), September, Lecture

**SEG International Exposition 2016**  
Dallas (USA), October, Exhibitor

**Seminar: Inspektion und Charakterisierung von Oberflächen mit Bildverarbeitung**  
Karlsruhe, December, Exhibitor, Lecture

**Seminar on Modeling, Simulation and Optimization in Automotive and Vehicle Industry**  
Göteborg (S), December, Lecture

**SIAM Workshop**  
Boston (USA), July

**SIMVEC – Simulation und Erprobung in der Fahrzeugentwicklung**  
Baden-Baden, November, Exhibitor, Lecture

**Symposium Computer-Aided Process Optimization**  
Hürth, February

**13. Symposium: Textile Filter**  
Chemnitz, March, Exhibitor, Lecture

**Tag der Mathematik**  
Kaiserslautern, July, Exhibitor

**UMSICHT: Zur Sache! Strom-Wärme-Kopplung neu denken**  
Oberhausen, December, Lecture

**VI-grade Users Conference 2016**  
Wiesbaden, April, Exhibitor, Lecture

**Vision 2016**  
Stuttgart, November, Exhibitor

**7<sup>th</sup> World Conference in 3D Fabrics and Their Applications**  
Roubaix, (F), September

**WORM 2016**  
Bad Herrenalb, August, Lecture

Bortz, Michael; Küfer, Karl-Heinz; Scherrer, Alexander; Süß, Philipp; Teichert, Katrin  
**Stifterverband Science Prize**  
Stifterverband für die Deutsche Wissenschaft e. V.  
May

Gilberg, Dominik  
**Young Researcher Symposium 1<sup>st</sup> Prize Category »Best Talk«**  
TU-Nachwuchsring, Kaiserslautern  
April

Hofmann, Tobias  
**Young Researcher Symposium 3<sup>rd</sup> Prize Category »Best Talk«**  
TU-Nachwuchsring, Kaiserslautern  
April

Kleinert, Jan  
**ICT Dissertation Award**  
Gesellschaft für Informatik e.V. (GI), Klagenfurt (A)  
October

Schulz-Reese, Marion  
**Fraunhofer Taler**  
Fraunhofer-Gesellschaft, München  
June

Zausch, Jochen  
**ELEKTRONIK »Artikel des Jahres«**  
Redaktion ELEKTRONIK  
March

**»Abschiede sind Tore in neue Welten«**  
**Farewell ceremony for Dr. Marion Schulz-Reese**  
Kaiserslautern, June

**»Türen auf für die Maus!« – Lach- und Sachgeschichten aus der »Bildverarbeitung«**  
Kaiserslautern, October

**BeeGFS Usermeeting**  
Kaiserslautern, May

**German-French Workshop: Mathematische Bildverarbeitung/Traitement d'image mathématique**  
Kaiserslautern, November

**Opening ceremony des High Performance Center "Simulation and Software-based Innovation"**  
Kaiserslautern, March

**Felix-Klein-Conference: Mathematical Methods in Big Data**  
Kaiserslautern, September

**Felix-Klein-Annual Conference with Modeling Week**  
Kaiserslautern, September

**Festive Colloquium for Prof. Helmut Neunzert**  
Kaiserslautern, September

**International Workshop: Mathematical Methods in Process Engineering**  
Kaiserslautern, September

**4. Internationales Commercial Vehicle Technology Symposium**  
Kaiserslautern, March

**Nacht, die Wissen schafft**  
Kaiserslautern, April

**Seminar: Data Scientist for Smart Energy Systems**  
Kaiserslautern, November

**Seminar: Introduction to Deep Learning**  
Birlinghoven, November

**Seminar: KL-Regelungstechnik together with professors of the University of Kaiserslautern, monthly since November 2016**

## GUESTS

**Seminar: Lastdaten – Analyse, Bemessung, Simulation**  
Kaiserslautern, May

**Seminar: Statistische Methoden in der Betriebsfestigkeit**  
Kaiserslautern, June

**Seminar: Wissenschaftliche Anwendungen in Python**  
Kaiserslautern, September

**Symposium: Kick-off-Meeting FuE-Lab 2 des Leistungszentrums »Simulations- und Software-basierte Innovation«**  
Kaiserslautern, July

**Technology-Day on geo-referenced Analysis and Usage Simulation for Vehicle Development**  
Kaiserslautern, March

**Tutorial: Efficient Parallel Programming With GASPI**  
Stuttgart, June und Kaiserslautern, October

**Series of lectures of the working group: Bildanalyse und Mustererkennung Kaiserslautern« (BAMEK)**  
Kaiserslautern, January-December

**Workshop: Designing Materials for Mechanical Properties with GeoDict**  
Kaiserslautern, February

**Workshop: Mathematical Methods in Process Engineering**  
Kaiserslautern, September

**Workshop: Neuerungen im Produktinformationsblatt**  
Kaiserslautern, November

**Young Researchers Symposium together with Innovationszentrum Applied System Modeling for Computational Engineering (ASM4CE) and TU-Nachwuchsring, Kaiserslautern, April**

**Series of lectures "Blick über den Tellerrand"**  
Kaiserslautern

Schumacher, Hajo  
Journalist, Berlin  
**Restlaufzeit – wie ein gutes, lustiges und bezahlbares Leben im Alter gelingen kann**  
January

Liessmann, Konrad Paul  
University of Wien (A), Institute of Philosophy  
**Freiheit von Forschung und Lehre - Nostalgie oder Utopie?**  
February

Grützner, Andrea  
Photografer, Berlin  
**Um die Ecke denken – Andere Räume in der Fotografie**  
March

Keßler, Walter  
Kaiserslautern  
**Fraunhofer – Pauli – Denis**  
April

Tetens, Holm  
Freie Universität Berlin, Theoretical Philosophy  
**Ist der Gottesglaube wissenschaftlich betrachtet unvernünftig?**  
May

Ziegler, Günter M.  
Freie Universität Berlin, Institute of Mathematics  
**Das Mädchen mit den Taschenrechnern – Bilder aus der Mathematik**  
June

Goebel, Johannes  
Curtis R. Priem Experimental Media and Performing Arts Center, Rensselaer Polytechnic Institute, Troy, USA  
**Über Unterschiede: Kunst, Wissenschaft und Engineering**  
September

Rentzsch, Oliver  
University of Applied Sciences, Lübeck  
**Kann Medizin wirklich ein »Geschäft« sein?**  
November

Stichweh, Rudolf  
University of Bonn, Forum of International Science  
**Das Wissenschaftssystem der Moderne: Entstehung, Strukturen, gesellschaftliche Einbettung**  
December

Argatov, Ivan  
(University of Oulu (FIN))  
**Contact problems with thin layers**  
October-November

Arnold, Martin  
(Martin-Luther-University of Halle-Wittenberg)  
**Numerics for Multibody systems**  
March, July, November

Betsch, Peter  
(University of Siegen)  
**Modeling of tires**  
February

Biegler, Lorenz T.  
(Carnegie Mellon University, Pittsburgh (USA))  
**Advanced nonlinear programming strategies for process optimization**  
September

Cesarek, Peter  
(University of Ljubljana (SLO))  
**Structural Dynamics, Finite Element Analysis, Civil Engineering**  
May

Chabardes, Théodore  
(Centre de Morphologie Mathématique, MINES Paristech (F))  
**Automatic segmentation of granular materials**  
October-December

Delescluse, Matthias  
(École Normale Supérieure, Paris (F))  
**Géologie / Waveform tomography imaging of shallow earth structures using long-streamer seismic data**  
November

Diebels, Stefan  
(Universität des Saarlandes)  
**Technical Mechanics**  
September

Engell, Sebastian  
(TU Dortmund University)  
**Process operation and real-time optimization**  
September

Gauger, Nicolas R. (University of Kaiserslautern)  
**Semi-Automatic Transition from Simulation to Optimization**  
December

Gibali, Aviv  
(ORT Braude College, Karmiel (IL))  
**The Douglas-Rachford algorithm for the unary resource constraint problem**  
January

Griso, Georges (Laboratoire J.-L. Lions, Université Pierre et Marie Curie, BC187, Paris (F))  
**A simplified model for elastic thin shells**  
June

Griso, Georges  
(Laboratoire Lions, Paris (F))  
**Homogenization for thin plates composed of thin beams**  
June

Jenkins, David  
(CSIRO, North Ryde (AUS))  
**Micro-CT Analysis of Metallurgical Coke for Understanding Coke Quality**  
September

Klawonn, Axel  
(University of Köln)  
**Towards Computing on the Extreme Scale in Nonlinear Structural Mechanics**  
June

Knabner, Peter  
(University of Erlangen)  
**Reactive transport and multiphase multicomponent flow in potentially evolving porous media**  
January

Margenov, Svetozar  
(University of Sofia (BG))  
**Supercomputing: Scalable Numerical Methods and Algorithms, and Biomedical and Engineering Applications"**  
October

Musolino, Paolo  
(University of Padova (I))  
**Analysis for multiscale contact problems**  
May-July

Nordbotten, Jan Martin  
(University of Bergen (N))  
**Finite Volume discretizations for elasticity and Biot**  
July

## COLLABORATION IN BOARDS, EDITORSHIPS

Panasenko, Grigory  
(Uni. St. Etienne (F))

**Fluid-solid interaction for spacer fabrics**  
July

Phutane, Uday  
(Universität Erlangen-Nürnberg)  
**Multi-Body Dynamics, Non-Linear Finite Elements**  
January, June

Preissler, Gabi  
(University of Applied Sciences, Stuttgart)  
**Hybrid Energy Systems**  
January

Printsypar, Galina  
(WIAS Institute, Berlin)  
**Micro and Macro Scale Simulation of Osmotic Processes**  
May

Rawal, Amit  
(IIT Delhi (IND))  
**Technical and smart textiles**  
January-July

Schildgen, Johannes (Technische Universität, Kaiserslautern)  
**NoSQL Data Bases**  
October

Siikanen, Milla (Tampere University of Technology (FIN))  
**Liquidity in FX limit order markets**  
June

Silberstein, Mark  
(Technion Computer Engineering Center, Haifa (IL))  
**Providing I/O abstractions to GPUs**  
February

Vabishchevich, Petr  
(Russian Academy of Science, Moskau (RUS))  
**Numerical methods for inverse problems for parabolic equations**  
October

**Dreßler, Klaus**

- Proceedings of the 4rd Commercial Vehicle Technology Symposium (CVT 2016), (Co-Editor)

**Gerwalin, Elmar**

- Wissenschaftlich-Technischer Rat (WTR) der Fraunhofer-Gesellschaft (Member)
- Fachgremium IT-Geschäftsprozessunterstützung der Fraunhofer-Gesellschaft
- Fachgruppe IT-Controlling der Gesellschaft für Informatik (Deputy Speaker)

**Gramsch, Simone**

- KOMMS – Kompetenzzentrum für Mathematische Modellierung in MINT-Projekten in der Schule (Member of the scientific board)
- Wissenschaftlich-Technischer Rat (WTR) der Fraunhofer-Gesellschaft (Member)

**Iliev, Oleg**

- DFG (Reviewer)
- University of Wisconsin-Milwaukee (Reviewer Full Professor Position)
- Journal of Porous Media (Editor)
- Mathematical Methods and Analysis (Editor)
- Transport in Porous Media (Reviewer)
- Computational and Applied Mathematics (Reviewer)
- International Society of Porous Media, InterPore (Chair of Event Committee)

**Kabel, Matthias**

- International Journal for Numerical Methods in Engineering (Reviewer)
- Computer Methods in Applied Mechanics and Engineering (Reviewer)
- Mechanics of Materials (Reviewer)

- Computational Materials Science (Reviewer)

- Journal of Material Science (Reviewer)

- International Journal of Computer and Software Engineering (Editor)

**Keuper, Janis**

- Program Committee MLHPC Workshop
- BMBF Roundtable "Machine Learning"

**Kirsch, Ralf**

- Scientific Committee of the American Filtration Society (Member)

**Korn, Ralf**

- European Actuarial Journal (Editor)
- "Quantitative Finance" Series of books, Imperial College Press, World Scientific (Editor)

**Krüger, Jens**

- Fraunhofer Data Scientist Zertifizierung (Technical committee)

**Küfer, Karl-Heinz**

- BMBF-Programm »Mathematik für Innovationen in Industrie und Dienstleistungen« (Reviewer)

**Kuhnert, Jörg**

- Scientific Visualization Contest 2016 (Member of the jury)

**Maasland, Mark**

- Fraunhofer-Allianz Vision (Member)
- International Journal of Telemedicine and Clinical Practices (IJ1MCP, Reviewer)

**Michel, Isabel**

- Scientific Visualization Contest 2016 (Member of the jury)

**Pfreundt, Franz-Josef**

- ETP4HPC (Member)

**Prätzel-Wolters, Dieter**

- Applied Mathematics Committee (AMC) of the European Mathematical Society (Member)
- BMBF Strategiekomitee für mathematische Modellierung, Simulation und Optimierung (KoMSO) (Member)
- European Research Centres on Mathematics ERCOM (Member)
- Felix-Klein-Zentrum für Mathematik (Chairman)
- Forschungszentrum »Center of Mathematical and Computational Modeling CM<sup>2</sup>« der TU Kaiserslautern (Member)

- Fraunhofer-Chalmers Research Centre for Industrial Mathematics FCC (Member of Advisory Boards)

- Fraunhofer-Gesellschaft: Member of presidential council and senate (until 2016/11/02)

- High Performance Center »Simulation- and Software-based Innovation« (Spokesman of steering committee)

- GAMM-Fachausschuss Dynamik und Regelungstheorie (Member)

- Institut für Verbundwerkstoffe GmbH (Member of the advisory board)

- Kompetenzzentrum für mathematische Modellierung in MINT-Projekten in der Schule, KOMMS (Member of the advisory board)

- Rat für Technologie Rheinland-Pfalz (Member)

- Stiftungsrat »Fraunhofer-Zukunftstiftung« (Member)

- Wissenschaftlich-Technischer Rat und Hauptkommission der Fraunhofer-Gesellschaft (Chairman until 2016/11/02)

**Prill, Torben**

- Steering Committee of German National Chapter of Interpore Society (Member)

**Rösch, Ronald**

- Fraunhofer Vision Alliance (Coordination Board)
- Fraunhofer Lightweight Design Alliance (Member)
- Heidelberger Bildverarbeitungsforum (Advisory board)
- Deutsche Gesellschaft für Materialkunde e. V. (DGM, Member)
- DGM-Arbeitskreis Tomographie (Member)
- DGM-Fachausschuss Strahllinien (Member)
- Deutsche Gesellschaft für Zerstörungsfreie Prüfung e. V. (DGZfP, Member)

**Schladitz, Katja**

- Leichtbau-Cluster (Member)
- Spatial Statistics (Reviewer)
- Journal of Microscopy (Reviewer)
- Image Analysis & Stereology (Editorial Board, Reviewer)
- Journal of the Science of Food and Agriculture (Reviewer)
- Methodology and Computing in Applied Probability (Reviewer)
- Karbala International Journal of Modern Science (Reviewer)

**Schröder, Simon**

- Scientific Visualization Contest 2016 (Jurymember)

**Stephani, Henrike**

- International Conference on Pattern Recognition (ICPR, Reviewer)
- Sensors (ISSN 1424-8220; CODEN: SENSC9, Reviewer)

**Zausch, Jochen**

- Journal of Power Sources (Reviewer)
- Fraunhofer Battery Alliance (Expert Group Leader "Simulation")





## EDITORIAL NOTES

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