

	Tuesday 4 <sup>th</sup> October	Wednesday 5 <sup>th</sup> October	Thursday 6 <sup>th</sup> October
08:30		Manuel Weiß	Paul Dunst
08:45			
09:00		S.S. Nanthakumar	Neamul Khansur
09:15			
09:30		Vishal Boddu	Heiko Wende
09:45			
10:00		Coffee Break	Coffee Break
10:15			
10:30		Dinesh Dusthakar	Bai-Xiang Xu
10:45			
11:00	Registration	Karsten Buckmann	Min Yi
11:15			
11:30		Stephan Lange	Marius Wingen
11:45			
12:00			
12:15	Coffee Break	Lunch Break	Lunch Break
12:30			
12:45	Welcome		
13:00	Keynote: Meinhard Kuna	Keynote: Andrew Bell	Barbara Kaeswurm
13:15			
13:30			
13:45	Sergii Kozinov		Benjamin Jurgelucks
14:00			
14:15	Artjom Avakian	Harsh Trivedi	Michael Nierla
14:30			
14:45	Michael Wünsche	Di Chen	
15:00			Closing
15:15	Coffee Break	Coffee Break	
15:30			
15:45	Hans-Dieter Alber	Jan Sladek	
16:00			
16:15	Ashish Sridhar	Matthias Labusch	
16:30			
16:45	Shuai Wang	Matthias Rambašek	
17:00			
17:15	David Schrade		
17:30			
17:45			
18:00		Social Program Guided City Tour: Erlangen	
18:15			
18:30			
18:45			
19:00		Conference Dinner Steinbach Bräu (open end)	
19:15			
19:30			
19:45			
20:00			
20:15			

**Location:**

Registration	SR TM -Seminar room LTM Room: 0.044 Egerlandstraße 5, 91058 Erlangen
Coffee Break	

↕ 3 minutes walking distance

Welcome	H17 Maschinenbau Hörsaal Maschinenbau Haberstraße 1, 91058 Erlangen
Keynote Lectures	
Talks	

## Tuesday 4<sup>th</sup> October

13:00 - 13:45 **Fracture mechanics modeling of ferroelectric materials**  
Meinhard Kuna

13:45 - 14:15 **Failure simulation of ferroelectric ceramics under cyclic electromechanical loading**  
Sergii Kozinov, Meinhard Kuna

14:15 - 14:45 **Numerical simulation of magnetoelectric coupling including damage in multiferroic composites applying phenomenologically and physically motivated constitutive models**  
Artjom Avakian, Andreas Ricoeur

14:45 - 15:15 **Investigations of dynamic crack problems in functionally graded piezoelectric materials by a TDBEM**  
M. Wünsche, J. Sladek, V. Sladek, Ch. Zhang

15:15 - 15:45 *Coffee Break*

15:45 - 16:15 **A study of different phase field models for the evolution of phase interfaces in solids by numerical computations**  
Hans-Dieter Alber

16:15 - 16:45 **A Phase field Approach For Large Deformation Magneto-Mechanically Coupled Material Response**  
A. Sridhar, M.-A. Keip, C. Miehe

16:45 - 17:15 **Phase field simulation of layered relaxor/ferroelectric composite with diffusive interface**  
Shuai Wang, Bai-Xiang Xu

17:15 - 17:45 **Phase field simulations of ferroelectric/ferromagnetic heterostructures**  
David Schrade

## Wednesday 5<sup>th</sup> October

08:30 - 09:00 **Simulation-based homogenization and characterization of piezoelectric actuators**  
Manuel Weiß, Stefan J. Rupitsch, Reinhard Lerch

09:00 - 09:30 **Topology Optimization of Piezoelectric Nanostructures**  
S.S. Nanthakumar, Xiaoying Zhunag, Harold S. Park, Tom Lahmer, Timon Rabczuk

09:30 - 10:00 **Molecular dynamics simulations of domain wall movement in BaTiO<sub>3</sub> single crystals**  
Vishal Boddu, Florian Endres, Paul Steinmann

10:00 - 10:30 *Coffee Break*

10:30 - 11:00	<b>External stress-dependent response of ferroelectric materials based on a sequential laminate approach</b> <u>D.K. Dusthakar</u> , A. Menzel, B. Svendsen
11:00 - 11:30	<b>A Micromagnetics Inspired Approach for the Macroscale Finite Element Analysis of Magnetostrictive Materials</b> <u>Karsten Buckmann</u> , Björn Kiefer, Thorsten Bartel, Andreas Menzel
11:30 - 12:00	<b>A condensed micromagneto-electromechanical approach to model the constitutive behavior of ferroelectric, ferromagnetic and multiferroic materials</b> <u>Stephan Lange</u> , Andreas Ricoeur
12:00 - 13:30	<i>Lunch Break</i>
13:30 - 14:15	<b>The Evolution of a New Piezoelectric Material</b> <u>Andrew Bell</u>
14:15 - 14:45	<b>Microscopic perspective of magnetoelectric effect in multiferroic composites</b> <u>Harsh Trivedi</u> , Vladimir V. Shvartsman, Doru C. Lupascu, Robert C. Pullar, Andrei Kholkin, Pavel Zelanovskiy, Vladimir Shur
14:45 - 15:15	<b>Magnetostrictive-piezoelectric coupling of COFe<sub>2</sub>O<sub>4</sub> nanopillars embedded in a BaTiO<sub>3</sub> matrix</b> <u>Heiko Wende</u>
15:15 - 15:45	<i>Coffee Break</i>
15:45 - 16:15	<b>Analyses of coated fibrous composites with piezoelectric and piezomagnetic phases</b> <u>Jan Sladek</u> , Vladimir Sladek, Chuanzeng Zhang, Michael Wünsche
16:15 - 16:45	<b>A multiscale homogenization approach for the characterization of nonlinear magneto-electric composites</b> <u>M. Labusch</u> , J. Schröder
16:45 - 17:15	<b>Magnetorheological elastomers: from multiscale characterization towards macroscopic devices</b> <u>Matthias Rambausek</u> , Marc André Keip
<b>Thursday 6<sup>th</sup> October</b>	
08:30 - 09:00	<b>Numerical and Experimental Investigation of Pre-Stress in Ultrasound Transducers</b> <u>Paul Dunst</u> , Tobias Hemsel, Walter Sextro
09:00 - 09:30	<b>Contrasting strain mechanisms in lead-free piezoelectric ceramics</b> <u>Neamul H. Khansur</u> , Kylie G. Webber, John E. Daniels

09:30 - 10:00	<b>Experimental Investigation of Stain Distributions in Lead-based and Lead-free Ferroelectrics by Digital Image Correlation</b> <u>Di Chen</u> , Azatuhi Ayrikyan, Kyle G. Webber, Marc Kamlah
10:00 - 10:30	<i>Coffee Break</i>
10:30 - 11:00	<b>Monte Carlo simulations of relaxor ferroelectrics based on Ginzburg-Landau type effective Hamiltonian</b> <u>Bai-Xiang Xu</u> , Yang-Bin Ma, Karsten Albe
11:00 - 11:30	<b>Charge-mediated magnetoelectric coupling for 180 degree switching in nanomagnets: a multiscale study</b> <u>Min Yi</u> , Bai-Xiang Xu
11:30 - 12:00	<b>Temperature changes in ferroelectric materials due to domain switching and their influence on mechanical fields</b> <u>Marius Wingen</u> , Andreas Ricoeur
12:00 - 13:30	<i>Lunch Break</i>
13:30 - 14:00	<b>Mechanically induced ferroelectric long range order in relaxor ferroelectrics</b> <u>B. Kaeswurm</u> , F.H. Schader, K.G. Webber
14:00 - 14:30	<b>Increasing the sensitivity of impedance with respect to material parameters of triple-ring electrode piezoelectric transducers using algorithmic differentiation</b> <u>Benjamin Jurgelucks</u> , Leander Claes
14:30 - 15:00	<b>Stageless evaluation of a vector Preisach model on the basis of rotational operators</b> <u>M. Nierla</u> , A. Sutor, S.J. Rupitsch, M. Kaltenbacher