

**MODRED 2019: Wednesday, August 28**

08:50–09:00	<b>Opening remarks</b>		<b>HS 11.02</b>
09:00–09:50	<b>N. Kutz:</b> Machine Learning and Data-Driven Methods for Model Reduction, <b>Chair:</b> P. Benner		<b>HS 11.02</b>
09:50–10:20	<b>Coffee break</b>		
	<b>Chair:</b> C. Himpe	<b>HS 11.01</b>	<b>Chair:</b> J. Saak <span style="float: right;"><b>HS 11.02</b></span>
10:20–10:45	<b>M. Billaud-Fries:</b> Geometry based algorithms for dynamical low-rank approximations	<b>S. Chellappa:</b> Adaptive parameter sampling using surrogate error model	
10:45–11:10	<b>Z. Drmac:</b> Numerical aspects of DMD and data driven Koopman spectral analysis	<b>L. Feng:</b> Efficient Error Estimation for Model Order Reduction of Linear Non-parametric and Parametric Systems	
11:10–11:35	<b>V. Zambrano:</b> A Digital-Twin-Building Kernel for Real-Time Computer-Aided Engineering	<b>M. Hund:</b> An Optimization Approach for Parametric Model Order Reduction	
11:35–12:00	<b>Z. Tomljanovic:</b> Sampling-free parametric model reduction of structured systems	<b>B. Fröhlich:</b> PMOR in high dimensional parameter spaces and application to structural shape optimization	
12:00–14:00	<b>Lunch break</b>		
14:00–14:50	<b>S. Gugercin:</b> Data-driven modeling of dynamical systems, <b>Chair:</b> H. Faßbender		<b>HS 11.02</b>
14:50–15:20	<b>Coffee break</b>		
	<b>Chair:</b> P. Goyal	<b>HS 11.01</b>	<b>Chair:</b> R. Zimmermann <span style="float: right;"><b>HS 11.02</b></span>
15:20–15:45	<b>I.V. Gosea:</b> A data-driven model order reduction approach for linear systems with quadratic output	<b>P. Schwerdtner:</b> Structure Preserving and Realization Independent H-infinity Approximation	
15:45–16:10	<b>D. Karachalios:</b> The Loewner and Volterra frameworks for nonlinear system analysis	<b>P. Benner:</b> Localized Balanced Truncation	
16:10–16:35	<b>Y. Yue:</b> An Adaptive Method for Interpolating Reduced-Order Models Based on Matching and Continuation of Poles	<b>C. Bertram:</b> A link between quadrature based approximate balanced truncation and moment matching	
16:35–17:00	<b>D. Quero:</b> Model reduction of aeroelastic systems in the Loewner framework	<b>I. Pontes Duff:</b> Balanced truncation for linear system with quadratic output: theory, error bounds and numerics	
18:45–22:00	<b>Reception</b> by the Governor of the Federal State of Styria in the <i>Orangerie im Grazer Burggarten</i> .		

**MODRED 2019: Thursday, August 29**

09:00–09:50	<b>L. Iapichino:</b> Reduced Basis approaches for efficient solutions of optimal control problems, <b>Chair:</b> M. Hinze <span style="float: right;"><b>HS 11.02</b></span>	
09:50–10:20	<b>Coffee break</b>	
	<b>Chair:</b> Z. Tomljanovic <span style="float: right;"><b>HS 11.01</b></span>	<b>Chair:</b> V. Simoncini <span style="float: right;"><b>HS 11.02</b></span>
10:20–10:45	<b>C. Lochner:</b> RB methods in optimal control of electromagnetic wave problems	<b>H. Sreekumar:</b> Krylov-Based Model Order Reduction in Vibroacoustics
10:45–11:10	<b>M. Fossati:</b> Model-based Adaptive RBM framework for Unsteady Flow Around Lifting Bodies	<b>D. Palitta:</b> The projected Newton-Kleinman method for the algebraic Riccati equation
11:10–11:35	<b>M. Hinze:</b> Convergence of the reduced basis method for parameter dependent optimal control problems with control constraints	<b>C. Lee:</b> Reduced Order Methods in Medical Imaging
11:35–12:00	<b>D. Korolev:</b> Reduced basis methods for parabolic problems and applications to permanent magnet synchronous machines	<b>S. Marques:</b> Model Order Reduction for Aerodynamic Shape Optimisation
12:00–14:00	<b>Lunch break</b>	
14:00–14:50	<b>U. Wever:</b> Model Order Reduction as a Key Technology for Realizing Digital Twins, <b>Chair:</b> T. Stykel <span style="float: right;"><b>HS 11.02</b></span>	
14:50–15:20	<b>Coffee break</b>	
	<b>Chair:</b> W. Schilders <span style="float: right;"><b>HS 11.01</b></span>	<b>Chair:</b> S. Gugercin <span style="float: right;"><b>HS 11.02</b></span>
15:20–15:45	<b>Q. Aumann:</b> An Adaptive Reduction Method for Poro-acoustic Systems with Frequency Dependent Material Properties	<b>M. Balmaseda:</b> Reduced order models for dynamic analysis of rotating structures with geometrical and contact nonlinearities through a POD based forces correction
15:45–16:10	<b>J. Fehr:</b> Automatic Model Reduction of a Car Crash Model	<b>F. Black:</b> Computation of reduced order models for transport phenomena via shifted proper orthogonal decomposition
16:10–16:35	<b>W. Arter:</b> Surrogate models for MHD and Control	<b>S. Monem:</b> Parametrized POD-reduction for syngas production
16:35–17:00	<b>S. Yildiz:</b> Structure preserving model order reduction of shallow water equation	<b>P. Goyal:</b> Automatic Generation of Minimal and Reduced Models for Structured and Nonlinear Parametric Dynamical Systems

## MODRED 2019: Friday, August 30

09:00–09:50	<b>B. Haasdonk:</b> Kernel-based Surrogate Modelling for Dynamical Systems, <b>Chair:</b> T. Breiten		<b>HS 11.02</b>
09:50–10:20	<b>Coffee break</b>		
	<b>Chair:</b> L. Feng	<b>HS 11.01</b>	<b>Chair:</b> J. Fehr
			<b>HS 11.02</b>
10:20–10:45	<b>A. Grimm:</b> Jointly Optimal Modeling in Frequency and Parameter via Kernel-based Approximation	<b>T. Stykel:</b> Passivity-preserving model reduction of nonlinear magneto-quasistatic field problems	
10:45–11:10	<b>C. Himpe:</b> Empirical Dominant Subspaces	<b>S. Werner:</b> Frequency- and Time-Limited Balanced Truncation for Second-Order Systems	
11:10–11:35	<b>L. Yu:</b> Structure preserving model reduction of linear network systems by eigenvalue assignments	<b>N. T. Son:</b> Balanced truncation for parametric linear systems using interpolation of gramians: a comparison of linear algebraic and geometric approaches	
11:35–12:00	<b>P. Mlinarić:</b> Clustering-Based Model Order Reduction for Nonlinear Network Systems	<b>S. N. Lordejani:</b> Model order reduction for linear time delay systems based on energy functionals	
12:00–12:05	<b>Closing</b>		