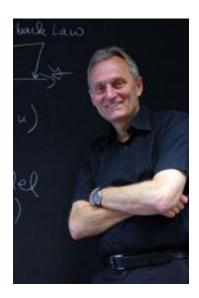
### **Session Program**

26-28 May 2025



# EMOSC 25: Energy-based modeling, simulation, and control of dynamical systems - Workshop in honor of Volker Mehrmann's 70th birthday

# **Talks**

Faculty of Mathematics TU Berlin

# **Monday 26 May**

13:30

**Talks** 

Session | Location: Faculty of Mathematics, TU Berlin

13:30-14:00

Linear Systems with Symmetry Structures: Reciprocal, Relaxation, and Input-Output Hamiltonian systems

**Speaker** 

Arjan van der Schaft

14:00-14:30

Port-based modeling and discretization of thermo-visco-elasticity from various perspectives

Speaker

Paul Kotyczka

14:30-15:00

Port-Hamiltonian Formulation of Cable Harnesses with Radiation Effects

Speaker

Timo Reis

15:00

17:00

15:30 Talks

Session | Location: Faculty of Mathematics, TU Berlin

15:30-16:00 Model reduction of bilinear port-Hamiltonian systems

Speaker

Serkan Gugercin

16:00-16:30 Recent developments in multiterm matrix equations solvers

**Speaker** 

Valeria Simoncini

16:30-17:00 Adaptive Randomized DEIM

Speaker

Daniel Kressner

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### **Tuesday 27 May**

09:00 **Talks** Session | Location: Faculty of Mathematics, TU Berlin 09:00-09:30 Spectral approximation and generalized eigenvalue problem in operator preconditioning **Speaker** Zdeněk Strakoš 09:30-10:00 Singular and regular operator port Hamiltonian pencils **Speaker** Michał Wojtylak 10:00-10:30 \$M=H+S\$ Speaker Jörg Liesen 10:30 11:00 **Talks** Session | Location: Faculty of Mathematics, TU Berlin 11:00-11:30 Multi-Fidelity Robust Controller Design with Gradient Sampling Speaker Michael Overton 11:30-12:00 Data driven dynamics in trees Speaker Christopher Beattie Zeros, poles and system equivalence of time-delay systems 12:00-12:30 Speaker Rafikul Alam 12:30 14:00 **Talks Session** | Location: Optimal robustness of passive systems 14:00-14:30 Speaker Paul Van Dooren 14:30-15:00 Minimization of the Pseudospectral Abscissa of a Matrix Polynomial with **Applications to Damping Optimization Speaker** Emre Mengi Finding the nearest bounded-real port-Hamiltonian system 15:00-15:30

Speaker

Punit Sharma

15:30-16:00

Characterizing and Computing the Stability Region of Singular Nonlinear **Dynamical Systems** 

Speaker

Hoang Linh Vu

16:00

16:30

**Talks** 

Session | Location: Faculty of Mathematics, TU Berlin

16:30-17:00

Invariant subspace perturbations of Hamiltonian matrices with defective imaginary eigenvalues

Speaker

Hongguo Xu

17:00-17:30

Removing Critical Eigenvalues of Structured Matrix Pencils and Hamiltonian **Matrices with Optimal Perturbations** 

Speaker

Shreemayee Bora

17:30-18:00

New Results on Block Diagonalization of Matrix Pencils

Speaker

Vasile Sima

18:00

# Wednesday 28 May

09:30

**Talks** 

Session | Location: Faculty of Mathematics, TU Berlin

09:30-10:00 Discrete gradient methods for semi-explicit port-Hamiltonian DAEs

Speaker

Riccardo Morandin

10:00-10:30

Structure-preserving model reduction of linear time-varying port-Hamiltonian systems

Speaker

Karim Cherifi

10:30-11:00

A System Node Approach to Port-Hamiltonian Partial Differential Equations

Speaker

Manuel Schaller

11:00

11:30 Talks

Session | Location: Faculty of Mathematics, TU Berlin

11:30-12:00 Bulge chasing is pole swapping

Speaker

**David Watkins** 

12:00-12:30

Short- and long-time behavior in evolution equations: the role of the hypocoercivity index

**Speaker** 

Anton Arnold

12:30-13:00

Polynomial and rational matrices with the invariant rational functions and the 4 sequences of minimal indices prescribed

Speaker

Froilán Dopico

13:00