



## 9th Common PhD-Candidates Seminar

Warsaw September 23<sup>th</sup>-25<sup>th</sup> 2024

### Programme

#### Monday, September 23<sup>th</sup>

Faculty of Automotive and Construction Machinery Engineering, 84 Ludwika Narbutta Street, 02-524 Warsaw, Room Multimedialna

9:00	Welcome Vice-Dean for General Affairs of the Faculty Automotive and Construction Machinery Engineering <b>Prof. Michał Hać</b>
Session I	Chairman: <b>prof. von Wagner</b>
9:05	<b>Kamil Cichorek</b> Guidelines on the Applicability and Parametric Identification of the Pendulum Sloshing Model
9:25	<b>Tina Wieczorek</b> Stress-Constrained Topology Optimization - Comparison and Evaluation of Different Constraints
9:45	<b>Pedro Jimenez-Soler</b> Enhancing Aerial Robotics System Identification through Advanced Wavelet Techniques
10:05	<b>Adrian Połaniecki</b> Application of the DMEW Method for Testing the Injectors
10:25	End of session I Coffee Break
Session II	Chairman: <b>prof. Jarzębowska</b>
10:50	<b>Michał Modzelewski</b> Analysis of Wavelet Transform Application in Aircraft Longitudinal Motion Identification
11:10	<b>Frederik Rentzsch</b> Analysis of Large Datasets Measured on Non-Linear Oscillators for Application in Data-Driven Machine Learning
11:30	<b>Mateusz Kukuryka</b> Nonlinear Model of Forces Acting on Spacecraft During Spool-First Boom Deployment
11:50	<b>Lucca Schek</b> Modelling Micropolar Solids at Finite Strains
12:10	End of session II Lunch
13:30	<b>Visit Laboratory of Vehicles (SiMR)</b>

#### Tuesday, September 24<sup>th</sup>

Faculty of Automotive and Construction Machinery Engineering, 84 Ludwika Narbutta Street, 02-524 Warsaw, Room Multimedialna

Session III	Chairman: <b>Prof. Müller</b>
9:00	<b>Prof. Merten Stender</b> Reservoir Computing: Using Nonlinear Dynamics for Machine Learning
9:20	<b>Dr. Mateusz Żurawski</b> The Application of Artificial Neural Networks for Modelling the Adaptive Mechanical System
9:40	<b>Adam Chelchowski</b> Reinforcement Learning Based Steering and Control
10:00	<b>Maciej Słomczyński</b> Control Methods for Nonlinear Systems with Examples of Backstepping and SMC in use for Vehicles
10:20	End of session III Coffee break
Session IV	Chairman: <b>prof. Makowski</b>
10:40	<b>Dr. Piotr Bartkowski</b> SMaRT-lab - Flexible Laboratory of the Future
11:00	<b>Siddhi Chevale, Łukasz Pawliszak, Dr. Piotr Bartkowski</b> Flexible Permanent Magnets for Soft Robotics
11:20	<b>Agata Lusawa, Łukasz Pawliszak, Dr. Piotr Bartkowski</b> Flexible Electrical Energy Storage for Wearable Electronics
11:40	<b>Sabina Sypniewska, Jonathan Ruiz Lu, Łukasz Pawliszak, Dr. Piotr Bartkowski</b> Electrical Energy Storage Structure with Variable Stiffness
12:00	End of session IV Lunch
14:00	<b>Visit Old Town</b>

#### Wednesday, September 25<sup>th</sup>

Faculty of Power and Aeronautical Engineering, 24 Nowowiejska Street, 00-665 Warsaw

9:30	<b>Visit Laboratory of Aerodynamics (MEiL)</b>
11:00	Farewell End of seminar