

YRS 2022

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YOUNG RESEARCHERS SYMPOSIUM 2022

July 22nd, 2022 • Fraunhofer-Zentrum Kaiserslautern



Location

Fraunhofer-Zentrum Kaiserslautern
Fraunhofer-Platz 1
67663 Kaiserslautern
www.itwm.fraunhofer.de

WELCOME TO THE YRS 2022!

After events like this were not possible for a long time through Corona, we are even more happy to welcome you all today! For the 5th time by now this interdisciplinary symposium offers doctoral students the opportunity to present their research work in a comprehensible but also entertaining, interesting and exciting way to young scientists from other research fields. We are especially happy that for the first time some colleagues from Landau will be here today and will present their research together with the participants from Kaiserslautern!

The best contributions will be awarded so don't forget to vote for your favorites. Every vote counts! However, besides the competition the YRS offers a platform for informal exchange and networking and is the perfect opportunity to obtain scientific input from other areas. So use the coffee breaks to establish new contacts and to connect yourself with other researchers!

Finally, get together at our chill out following the event. Enjoy finger food and drinks and listen to live music by the "Claudia Botzner Quartett" before the best posters and talks will be announced!

Wishing you a great Young Researchers Symposium 2022!

Your organization team

Organizers

The YRS 2022 is organized by High Performance Center Simulation and Software Based Innovation and TU-Nachwuchsring (network for the promotion of young scientists) of the Technische Universität Kaiserslautern.

www.leistungszentrum-simulation-software.de
<https://nachwuchsring.uni-kl.de>



Young Researchers Awards 2022

CONFERENCE AGENDA

Friday, July 22nd, 2022, at Fraunhofer Center Kaiserslautern

	8:30 Registration	
	8:45 Welcome speech: Prof. Dr. Werner Thiel und Dr. Konrad Steiner Introduction: Annika Straßner	
TALKS – SESSION 1	9:00 Production of Thermoplastic Structural Foam Parts Maximilian Salmins (Leibniz-Institut für Verbundwerkstoffe GmbH)	T1
	Simulation-based location optimization of ambulance stations Johanna Schneider (Fraunhofer ITWM)	T2
	Effects of antibiotics on hyporheic organic matter processing and greenhouse gas emissions Eric Bollinger (Universität Koblenz-Landau)	T3
	Photoactivatable Zinc Sensors: One Step Closer Towards Understanding Zinc's Role in Neurodegeneration Annika Maria Pick (TU Kaiserslautern)	T4
	Sensory evaluation and identification of climate-related off-flavours in white wine Caterina Szmania (TU Kaiserslautern, DLR Rheinpfalz)	T5
10:15 Coffee break (foyer)		
POSTER PITCH 1	10:45 KS²-Approach for Redesign of Topology Optimized Structures Ali Al-Zuhairi (TU Kaiserslautern)	P1
	X Optimizing channel sensing order Paulo Fernando Aragao Alves Junior (TU Kaiserslautern)	P2
	Toxic Masculinity – A One-Size-Fits-All Theory? Ann Biedermann (Universität Koblenz-Landau)	P3
	Characterization of the air void system of fresh concrete samples by pressurization Sara Blietschau (TU Kaiserslautern)	P4
	Procedural Defects Modeling for Image Synthesis in Visual Surface Inspection Lovro Bosnar (Fraunhofer ITWM)	P5
	New ligands for enantioselective catalysis derived from natural products Samuel Brandstetter (TU Kaiserslautern)	P6
	Systematically evaluating random data augmentation on graph neural networks Billy Franks (TU Kaiserslautern)	P7
	A Service Oriented Architecture on a Modular Agricultural Robot System Eike Gassen (TU Kaiserslautern)	P8
	Warm walls, cool climate Tillman Gauer (TU Kaiserslautern)	P9

X = cancelled

POSTER PITCH 1	Can quantum computers help us to understand images and will they ever? Alexander Geng (Fraunhofer ITWM)	P10
	Sensory significance of aroma carry-over during bottling of aromatized wine-based beverages and regular wine Jörg Gottmann (Weincampus Neustadt/TU Kaiserslautern)	P11
	Optimization of Building Energy Supply Design Elisabeth Halser (Fraunhofer ITWM)	P12
	Optimal sensor placement for dynamic simulation of district heating networks Johanna Heidrich (Fraunhofer ITWM)	P13
	Mössbauer Spectroscopy on Iron-Sulfur Clusters Maren Hook (TU Kaiserslautern), Lukas Knauer (TU Kaiserslautern)	P14
Framework of Dynamic Risk Management for Autonomous Vehicles Anil Patel (TU Kaiserslautern)	P15	
11:30 Coffee break (foyer)		
POSTER PITCH 2	11:45 Design of efficient Shape Memory Alloy Hybrid Composites (SMAHC) for shape adaption Max Kaiser (Leibniz Institut für Verbundwerkstoffe)	P16
	N-macrocyclic ligands leading to multimetallic complexes Moritz Knöringer (TU Kaiserslautern)	P17
	Effects of a mosquito control agent on emerging insect communities in freshwater ponds Sara Kolbensschlag (Universität Koblenz-Landau)	P18
	Cyanobacteria as a natural alternative to artificial fertilizers Jonas Kollmen (TU Kaiserslautern)	P19
	Multinuclear Copper Complexes “From Nature to Industry” Meike Landsiedel (TU Kaiserslautern)	P20
	Programmable Metamaterials – Can we use materials to replace systems? Tobias Lichti (Fraunhofer ITWM)	P21
	Transport Processes of Microplastic in the Oceans – Simulations for a Digital Learning Environment Svenja Müller (Universität Koblenz-Landau)	P22
	Efficient DNA metabarcoding of dipterans: How work-shy scientists identify insects Nina Röder (Universität Koblenz-Landau)	P23
	Removal of Stripe Artifacts in Light Sheet Microscopy Images Niklas Rottmayer (TU Kaiserslautern)	P24
	Does Size Matter? Effects of Microplastic and Fine Particulate Organic Matter on Aquatic Invertebrates - Putting Microplastics into Perspective Tobias Schmitt (Universität Koblenz-Landau)	P25
	Regional planning gamification: an approach for activating formal regional planning strategies Marvin Stiewing, Tobias Weber (TU Kaiserslautern)	P26

POSTER PITCH 2	Investigation on the influence of the machining parameters of hard turned radial shaft-seal counter surfaces in their sealing behaviour Thirumanikandan Subramanian (TU Kaiserslautern)	P27
	Novel Highly Flexible Modular Power Electronics for Energy Storage and Conversion Systems (Modular Is Cool!) Nima Tashakor (TU Kaiserslautern)	P28
	Event-oriented and drone-based information acquisition for construction progress control Thomas Tschickardt (TU Kaiserslautern)	P29
	Human-inspired cognitive processing for robust autonomous off-road driving Patrick Wolf (TU Kaiserslautern)	P30
12:30 Lunch (Großer Seminarraum)		
13:30 Postersession (Großer Seminarraum)		
TALKS – SESSION 2	14:00 Learning from Netflix – Recommender Systems for Predicting Thermodynamic Properties Nicolas Hayer (TU Kaiserslautern)	T6
	Numerical Simulation of Li-Ion Battery Degradation Falco Schneider (Fraunhofer ITWM)	T7
	Analyzing Emojis in Feedback to Improve Apps Simon Scherr (Fraunhofer IESE)	T8
	Bti-based mosquito control alters benthic invertebrate communities and reduces dragonfly emergence Verena Gerstle (Universität Koblenz-Landau)	T9
	Digital models of existing structures to facilitate circularity in concrete construction Fabian Kaufmann (TU Kaiserslautern)	T10
15:15 Coffee break (foyer)		
TALKS – SESSION 3	15:45 Pulling a GFRP rebar out of concrete: quantitative analysis based on computed tomography Tin Barisin (Fraunhofer ITWM), Szymon Grzesiak (TU Kaiserslautern)	T11
	X Virtual Field Trips 2.0: Design Criteria for VR Learning Environments in Schools Marc Bastian Rieger (Universität Koblenz-Landau)	T12
	Towards Emotion-aware Personalized Human-Robot Interaction Sarwar Paplu (TU Kaiserslautern)	T13
	Fine aggregate shape characterization by μCT imaging and its effect on mortar mix design Sophie Burgmann (TU Kaiserslautern)	T14
	Climate Change – A New Pinot noir Wine Style Sandra Feifel (TU Kaiserslautern, Weincampus Neustadt)	T15
	17:00 Voting (30 min.) and Chill out with live music by “Claudia Botzner Quartett”	
18:30 Awards ceremony for best poster and best talks		
19:00 End of conference		

X = cancelled

GENERAL INFORMATION

Talks

For each talk 15 min. will be scheduled (12 min. presentation and 3 min. discussion).

Poster presentation

Pitch: The authors present their posters (3 min.). Exhibition: There will be time for more in-depth-discussion during breaks and the postersession.

Lunch

As a participant of the Young Researchers Symposium you will have free lunch. The lunch will be offered in the “Großer Seminarraum”.

Chill out

Our chill out starts at 17:00 with finger food and music by “Claudia Botzner Quartett” in the Atrium G/H.

Voting

The anonymous audience voting runs via the online tool LimeSurvey. Voting is open from 17:00 to 17:30. The link/QR code to the poll is displayed in the conference rooms. You will find your personal access code on the back of your name badge. Please select the short title of your favorite talks/posters there (1st – 3rd place posters/1st – 3rd place talks). The short title can be found in the program booklet on page 2 to 4 behind each talk or poster title (for example, Tx, Px). Please note: Each contribution may only be selected once. Votes where contributions are selected more than once will not be considered in the evaluation! There is no possibility of re-course to legal action towards the final result of the competition. Voting is anonymous.

Prizes

- Category “best poster”: 1st prize: 1.500 Euro, 2nd prize: 1.000 Euro, 3rd prize: 500 Euro
- Category “best talk”: 1st prize: 1.500 Euro, 2nd prize: 1.000 Euro, 3rd prize: 500 Euro

Assessment

For the assessment and selection of the YRS 2022 prizes for the best contributions in each area, the review of the submitted abstracts (35%), the vote of the audience (30%), and that of the scientific committee (35%) will be taken into consideration.

Wi-Fi

You find information about access to Wi-Fi posted on the auditorium door. Eduroam is accessible, too.

Photos

Photos will be taken during the event and used for documentation and post-reporting. If you do not agree, please inform the photographer directly or the reception desk.

Corona Rules

Please observe the displayed Corona rules. Medical masks are available at the reception desk if needed.



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- **Dr. Konrad Steiner,**
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