

14th European Congress for Stereology and Image Analysis

September 15–18, 2025, Prague, Czech Republic

Program

Monday, September 15

8:30 – 9:45	Registration (hallway, 1st floor)
9:45 – 11:00	Opening of the congress Plenary talk I , <i>chair: Zbyněk Pawlas</i> Martina Vittorietti : Wicksell’s legacy: Stereological determination of particle size distributions for similar convex bodies in simulated and real microstructures
11:00 – 11:30	<i>Coffee break</i>
11:30 – 12:50	Contributed session I , <i>chair: Jiří Janáček</i>
11:30 – 11:50	Lucie Kubínová : Image analysis of cymatic patterns formed by sound in water
11:50 – 12:10	Matheus V. Nicácio : Geometric feature extraction of wax crystals in oils using image processing algorithms
12:10 – 12:30	Jing Li : Dual-layer-detector spectral CT imaging using ray-wise spectral sensitivity
12:30 – 12:50	Min Le : High-speed MeV-energy X-ray helical CT for container inspection using sparse multi-row detectors
12:50 – 14:00	<i>Lunch</i>
14:00 – 15:30	Image analysis and data-driven stochastic modeling with applications in materials science, part 1 , <i>chair: Benedikt Prifling</i> <i>Minisymposium organized by Benedikt Prifling and Orkun Furat</i>
14:00 – 14:30	Johan Chaniot : Tortuosity: local morphology and global topology
14:30 – 15:00	Anina Dufter : Generative adversarial framework for calibrating excursion set models for the 3D morphology in all-solid-state battery cathodes
15:00 – 15:30	Bruno Figliuzzi : Synthetic-to-real microstructure segmentation with domain adaptation
15:30 – 16:00	<i>Coffee break</i>

16:00 – 17:30	Image analysis and data-driven stochastic modeling with applications in materials science, part 2 , <i>chair: Orkun Furat</i> <i>Minisymposium organized by Benedikt Prifling and Orkun Furat</i>
16:00 – 16:30	Lukas Fuchs: Adversarial learning and Voronoi tessellations: A stereological approach for microstructure generation
16:30 – 17:00	Alex Keilmann: Stochastic modeling of inter-fiber contacts in wood fiber mats
17:00 – 17:30	Yann Gavet: Stochastic image generator for industrial bin-picking simulation

17:30 – 18:30	Welcome drink + poster session
	Igor Böhm: Capacity functionals and the characterization of random simplices
	Aneta Gądek-Moszczak: Pore morphology assessment of oxide coatings on AZ31B magnesium alloy
	Jiří Janáček: Pancreatic islets volume estimation from single images
	Aleš Kladník: Automatic measurement of stomata size
	Martina Petráková: Some properties of Poisson-Laguerre tessellation
	Michaela Prokešová: Space-time cluster point processes: Estimation in case of nonseparability
	Bogdan Radović: Classification of realisations of random sets
	Yingxian Xia: High-frequency prior neural radiance field for CBCT reconstruction

Tuesday, September 16

9:00 – 10:00	Plenary talk II , <i>chair: Viktor Beneš</i> François Willot: Homogenization of metrics in random structures and applications to materials science
10:00 – 10:30	<i>Coffee break</i>
10:30 – 12:10	Contributed session II , <i>chair: Aleš Kladník</i>
10:30 – 10:50	Dario Geebelen: Developing a stereology-based approach to quantify particles in ultrathin sections of the planarian <i>Schmidtea mediterranea</i> via STEM-EDX
10:50 – 11:10	Duc Nguyen: Statistical detection of phase transitions in EEG via microstate analysis and sequential testing
11:10 – 11:30	Augusto Coppi: Impact of aerobic exercise on tau, amyloid, iron accumulation, oligodendrocyte ferroptosis, and inflammaging in the hippocampal formation of aged rats
11:30 – 11:50	Dorothy Oorschot: Absolute number of thalamic parafascicular and striatal cholinergic neurons, and the three-dimensional spatial array of striatal cholinergic neurons, in the Sprague-Dawley rat: Modern stereological studies
11:50 – 12:10	Julia Jansson Valter: The Q -score: a magnitude-weighted model evaluation score for earthquake forecasting
12:10 – 13:30	<i>Lunch</i>
13:30 – 15:00	Testing in spatial statistics, part 1 , <i>chair: Tomáš Mrkvička</i> <i>Minisymposium organized by Tomáš Mrkvička</i>
13:30 – 14:00	Jiří Dvořák: Random shift tests in spatial statistics
14:00 – 14:30	Kanghyun Wi: Robust nonparametric testing approaches for spatial regression
14:30 – 15:00	Jorge Mateu: Statistical learning for spatio-temporal point processes: inference and testing
15:00 – 15:30	<i>Coffee break</i>
15:30 – 17:00	Testing in spatial statistics, part 2 , <i>chair: Michaela Prokešová</i> <i>Minisymposium organized by Tomáš Mrkvička</i>
15:30 – 16:00	Mari Myllymäki: False discovery rate envelope with application to road crash hotspot detection
16:00 – 16:30	Martin V. Vejling: Conformal novelty detection for replicate point patterns with FDR or FWER control
16:30 – 17:00	Tomáš Mrkvička: Testing second-order intensity reweighted stationarity
17:15 – 18:15	<i>ISSIA general assembly</i>

Wednesday, September 17

9:00 – 10:00	Plenary talk III , <i>chair: François Willot</i> Orkun Furat: Data-driven stereology: From 2D images to stochastic 3D models of material microstructures
10:00 – 10:30	<i>Coffee break</i>
10:30 – 12:00	Modeling and simulation of polycrystalline materials , <i>chair: Matthias Neumann</i> <i>Minisymposium organized by Matthias Neumann</i>
10:30 – 11:00	Oleksandr Kornijčuk: Nested marked tessellations applied to the modelling and simulation of deformation twinning in polycrystalline materials
11:00 – 11:30	Thomas Wilhelm: Tracking grain boundaries using 3D image data: Quantifying local velocity dynamics in polycrystalline materials
11:30 – 12:00	Lucas Monteiro Fernandes: Data-driven and physics-informed numerical methods for assessing mechanical properties of polycrystalline materials
12:00 – 13:15	<i>Lunch</i>
13:15 – 14:35	Contributed session III , <i>chair: Johan Chaniot</i>
13:15 – 13:35	Benedikt Prifling: Stochastic 3D microstructure modeling and structure-property relationships for polymer-based electrodes
13:35 – 13:55	Viktor Beneš: Statistical analysis of stress and strain fields simulated from virtual polycrystalline materials with crystal defects
13:55 – 14:15	Jelena Zaninović: Geometric models for microstructures of active protective coating
14:15 – 14:35	Matthias Neumann: Parameter estimation for graph-based stochastic structure models by means of convolutional neural networks
19:00	<i>Conference dinner at Strahov Brewery</i>

Thursday, September 18

9:30 – 10:15 **Plenary talk IV**, *chair: Bruno Figliuzzi*
Maiken Krogsbæk Bøgh (ISSIA PhD competition winner):
Olanzapine treatment effects – a molecular and cellular study on the
hypothalamic feeding regulation in rat and human

10:15 – 10:45 *Coffee break*

10:45 – 12:25 **Contributed session IV**, *chair: Jiří Dvořák*

10:45 – 11:05 **Daniela Flimmel:** Hyperuniformity, perturbed lattices and applica-
tions

11:05 – 11:25 **Emily Ewers:** Bayesian inference for Neyman-Scott point processes
with anisotropic clusters

11:25 – 11:45 **Thomas van der Jagt:** Nonparametric inference for Poisson-Laguerre
tessellations

11:45 – 12:05 **Christian Buchta:** The duality of the volumes and the numbers of
vertices of random polytopes

12:05 – 12:25 **Dominik Beck:** On random simplex picking beyond the Blaschke prob-
lem

12:30 – 13:30 *Lunch*
