

# PROGRAMME

## Sunday, June 24

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15:00–18:30 Registration (1<sup>st</sup> floor)

## Monday, June 25

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9:00–10:30 Registration (room S10)

10:30–11:00 *Coffee Break*

11:00–12:30 **Opening of the Conference** (aula)

*Chairman: Viktor Beneš*

**Opening Lecture**

Stereology of Tensors *by Eva B. Vedel Jensen*

12:30–13:00 Take Photos

13:00–14:30 *Lunch*

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14:30–16:00 **Current Topics in Biomedical Stereology** (hall S9)  
*Minisymposium organized by Jens Randel Nyengaard, chairman*

14:30–15:00 Estimating the Vascularisation of the Heart: a Practical Stereological Approach  
*by Christian Mühlfeld*

15:00–15:30 Quantifying Lung Emphysema by Stereology *by Matthias Ochs*

15:30–16:00 Brain Cells, Synapses and Vesicles *by Jens Randel Nyengaard*

16:00–16:30 *Coffee Break*

16:30–18:00 **Analysis, Modelling and Simulation of Materials  
Microstructures I.** (hall S9)  
*Minisymposium organized by Katja Schladitz, chairman*

16:30–17:00 Segmentation of FIB/SEM Data *by Torben Prill*

17:00–17:30 Modeling Rigid Closed-Cell Foams by Random Laguerre Tessellations  
*by Irene Vecchio*

17:30–18:00 Modelling the Local Strut Thickness of Open Foams Based on 3D Image Data  
*by André Liebscher*

14:30–16:00 **Random Tessellations and Random Polytopes** (hall S3)  
*Minisymposium organized by Pierre Calka, chairman*

14:30–15:00 About some Extreme Values of Poisson-Voronoi Cells *by Pierre Calka*

15:00–15:30 Fractal Random Series Generated by Poisson-Voronoi Tessellations  
*by Yann Demichel*

15:30–16:00 Markov Processes of Tessellations that are Generated by Cell Division  
*by Werner Nagel*

16:00–16:30 *Coffee Break*

16:30–18:00 **Lévy Based Modelling in Spatial Statistics** (hall S3)  
*Minisymposium organized by Johanna Ziegel, chairman*

16:30–17:00 Lévy Particles: Modelling and Simulation Star-Shaped Random Sets  
*by Thordis L. Thorarinsdottir*

17:00–17:30 Lévy Based Isotropic Random Fields on Spheres *by Johanna Ziegel*

17:30–18:00 Statistics for Lévy driven Cox Point Processes *by Michaela Prokešová*

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## Monday, June 25

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18:00–19:00 **Poster Session** (1<sup>st</sup> floor)

Shape Analysis of an Incompletely Preserved Skull *by Jiří Janáček*

Shape of Norway Spruce Needle Cross-Sections under Different CO<sub>2</sub> Concentration and Light Irradiation *by Zuzana Kubínová*

Analysis of Spatial Distribution Selected Services of Municipalities in the Czech Republic *by Radka Lechnerová*

Quantitative Characterization of Chloroplast Thylakoid Membrane System: Application of the Multiple Point Grid Module in Ellipse Software *by Zuzana Lhotáková*

Study of the Size of LDL Particles in Patients with Dyslipidaemia *by Eva Tvrzická*

Spatial Distribution of Cementite Particles in Fe-0.67% C Steel *by Piotr Matusiewicz*

Experimental Point Spread Function and Real Cell Image Reconstruction of Living Cell *by Tomáš Náhlík*

Advanced Analysis of Electrical and Structural Properties of Nanocomposite Films *by Stanislav Novák*

Optimizing Outcomes of the Combinatorial Effect of Viral Chemotherapy in an In Vitro Model by using the Fractionator *by Monica G. Pessanha*

Alteration Scenarios using a Stochastic Trabecular Bone *by Anne Ricordeau*

Spatial Point Process Modelling for Solving the Minicolumn Hypothesis in Neuroscience *by Farzaneh Safavimanesh*

Quantitative Stereological Differences Between Blood and Lymphatic Microvessels in Normal Human Prostate *by Luis Santamaría*

Sensitivity Analysis of Morphological Methods Applied to Thin Film Data *by Jindřich Soukup*

Sliced Inverse Regression for Random Marked Sets *by Jakub Staněk*

19:00–21:00 **Opening Party** (aula foyer)

## Tuesday, June 26

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|-------------|---|-------------|--|
| 9:00–10:30  | <b>Spatial Statistics in Meteorological Applications (hall S9)</b><br><i>Minisymposium organized by Michael Scheuerer, chairman</i>                       | 9:00–10:30  | <b>Asymptotics in Stochastic Geometry (hall S3)</b><br><i>Minisymposium organized by Zbyněk Pawlas, chairman</i>         |
| 9:00–9:30   | Spatial Predictive Distribution for Precipitation Based on Numerical Weather Predictions (NWP) and Quantile Regression <i>by Ingelin Steinsland</i>       | 9:00–9:30   | Empirical Mark Covariance and Product Density Function of Stationary Marked Point Processes <i>by Lothar Heinrich</i>    |
| 9:30–10:00  | Postprocessing of Precipitation Forecasts using a Spatio-Temporal Model for Large Data Sets <i>by Fabio Sigrist</i>                                       | 9:30–10:00  | Asymptotic Properties of the Approximate Inverse Estimator for Directional Distributions <i>by Malte Spiess</i>          |
| 10:00–10:30 | Modelling the Spatial Dependence Structure of Precipitation Fields <i>by Michael Scheuerer</i>  | 10:00–10:30 | Self-Crossing Points of a Line Segment Process <i>by Zbyněk Pawlas</i>   |
| 10:30–11:00 | <i>Coffee Break</i>   | 10:30–11:00 | <i>Coffee Break</i>  |
| 11:00–13:00 | <b>Contributed Session I (hall S9)</b><br><i>Chairman: Matthias Ochs</i>  | 11:00–13:00 | <b>Contributed Session II (hall S3)</b><br><i>Chairman: Rouben V. Ambartzumian</i>                                       |
| 11:00–11:20 | Fabric Analysis of Carbonate Rocks Using Multiradial Imaging and Intercepts <i>by Eric Pirard</i>   | 11:00–11:20 | New Parametric Models for Random Convex Polytopes <i>by Felix Ballani</i>  |
| 11:20–11:40 | Quantitative Evaluation of the Brain Structures in Schizophrenic Patients using Stereological Methods on Magnetic Resonance Images <i>by Amani Elfaki</i> | 11:20–11:40 | Estimation of the Percolation Threshold of Several Continuous Boolean Models <i>by Christian Lantuéjoul</i>              |
| 11:40–12:00 | Estimation of Geometrical Characteristics of Blood Capillary Network and their Visualization by 3D Mapping <i>by Lucie Kubínová</i>                       | 11:40–12:00 | Dimension Walks and Schoenberg Spectral Measures for Isotropic Random Fields <i>by Daryl J. Daley</i>                    |
| 12:00–12:20 | Capillary Supply of Human Masseter Muscle <i>by Ida Eržen</i>   | 12:00–12:20 | Small Cells in a Special Class of Poisson Hyperplane Tessellations <i>by Mareen Beermann</i>                             |
| 12:20–12:40 | Quantitative Micro-CT of Microvascular Corrosion Casts <i>by Zbyněk Tonar</i>   | 12:20–12:40 | Testing for Common Geodesic Leaf Shape Evolution <i>by Stephan F. Huckemann</i>  |
| 12:40–13:00 | Application of Stereology in Plant Anatomy: Geometrical Parameters of Mesophyll under Changing Environmental Conditions <i>by Jana Albrechtová</i>        | 12:40–13:00 | Frenet-Serret and the Estimation of Curvature and Torsion <i>by Kwang-Rae Kim</i>  |
| 13:00–14:30 | <i>Lunch</i>  | 13:00–14:30 | <i>Lunch</i>   |
| 14:30–16:00 | <b>Recent Theoretical Developments on Mathematical Morphology (hall S9)</b><br><i>Minisymposium organized by Jesús Angulo, chairman</i>                   | 14:30–16:00 | <b>Spatio-Temporal Modeling and Statistics (hall S3)</b><br><i>Minisymposium organized by Viktor Beneš, chairman</i>     |
| 14:30–15:00 | Morphological Scale-Spaces Image Analysis with Robust and Adaptive PDEs <i>by El Hadji S. Diop</i>  | 14:30–15:00 | Estimating Second-Order Characteristics of Inhomogeneous Spatio-Temporal Point Processes <i>by Edith Gabriel</i>         |
| 15:00–15:30 | Generating Multivariate Boolean Random Model by $h$ -ordering <i>by Santiago Velasco-Forero</i>   | 15:00–15:30 | Aspects of Second-Order Analysis of Structured Inhomogeneous Spatio-Temporal Point Processes <i>by Mohammad Ghorbani</i> |
| 15:30–16:00 | Non-negative Sparse Mathematical Morphology for Processing Multivariate Boolean Textures <i>by Jesús Angulo</i>   | 15:30–16:00 | On the Use of Particle Markov Chain Monte Carlo in Stochastic Geometry <i>by Markéta Zikmundová</i>                      |
| 16:00–16:30 | <i>Coffee Break</i>   | 16:00–16:30 | <i>Coffee Break</i>  |

## Tuesday, June 26

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- 16:30–18:00 **Monte Carlo Methods for Spatial Stochastic Modeling** (hall S9)  
*Minisymposium organized by Volker Schmidt, chairman*
- 16:30–17:00 Multiscale Bottom-Up Simulations of Charge and Energy Transport in Disordered Organic Semiconductors *by Björn Baumeier*
- 17:00–17:30 Discrete Particle Modeling of Spatially Random Granular Systems *by Gary W. Delaney*
- 17:30–18:00 Model-Based 3D Simulation of Tomographic Image Data, with Applications to Virtual Materials Design *by Volker Schmidt*

- 16:30–18:00 **Inhomogeneity in Spatial Point Processes** (hall S3)  
*Minisymposium organized by Tomáš Mrkvička, chairman*
- 16:30–17:00 Optimal Estimation of the Intensity Function of an Inhomogeneous Spatial Point Process *by Yongtao Guan*
- 17:00–17:30 Realizability: Truncated Moment Problem for Point Processes *by Tobias Kuna*
- 17:30–18:00 Goodness-of-Fit Test of the Non-Stationary Mark Distribution *by Tomáš Mrkvička*

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19:00–20:30 Concert (Church of the Saviour)

20:30–22:30 Dinner (Restaurant U Vltavy)

## Wednesday, June 27

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- 9:00–10:30 **Intrinsic Statistics of Shape** (hall S9)  
*Minisymposium organized by Stephan Huckemann, chairman*
- 9:00–9:30 Two Sample Tests for 3D Projective Shapes from Digital Camera Images *by Vic Patrangenaru*
- 9:30–10:00 How do fingerprints grow? *by Thomas Hotz*
- 10:00–10:30 Backward Nested Spheres Approaches for PCA of Directional and Shape Data *by Sunkyung Jung*

- 9:00–10:30 **Model Validation and Testing for Spatial Point Processes** (hall S3)  
*Minisymposium organized by Michaela Prokešová, chairman*
- 9:00–9:30 Nonparametric Tests of Inhomogeneous Spatial Point Process Model Classes *by Ute Hahn*
- 9:30–10:00 Bayesian Model Selection for Point Process Models *by Thordis L. Thorarinsdottir*
- 10:00–10:30 Residuals and Goodness-of-Fit Tests for Stationary Marked Gibbs Point Processes *by Frédéric Lavancier*

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10:30–11:00 *Coffee Break*

11:00–11:55 **Plenary Lecture** (hall S9)

*Chairman: Daryl J. Daley*

Statistical Aspects of Determinantal Point Processes *by Jesper Møller*

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12:00–13:00 **Contributed Session III** (hall S9)

*Chairman: Christoph Thäle*

- 12:00–12:20 A Laurent Series Expansion for the Parallel Volume *by Jürgen Kampf*
- 12:20–12:40 Almost Sure Convergence of the Surface Area of Wiener Sausage *by Ondřej Honzl*
- 12:40–13:00 Geometric Techniques in Shape Classification *by Ximo Gual-Arnau*

13:00–14:30 *Lunch*

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12:00–13:00 **Contributed Session IV** (hall S3)

*Chairman: Joachim Ohser*

- 12:00–12:20 Stochastic 3D Modeling of Fiber-Based Materials *by Gerd Gaiselmann*
- 12:20–12:40 Tracing Mass Segregation in Star Clusters via the Minimum Spanning Tree *by Christoph Olczak*
- 12:40–13:00 Stepwise Optimization of a Multilinear Model *by Hynek Lauschmann*

13:00–14:30 *Lunch*

## Wednesday, June 27

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- 14:30–16:00 **Stereology Characterization of Heterogeneous Materials Microstructures (hall S9)**  
*Minisymposium organized by Petr Ponížil, chairman*
- 14:30–15:00 Stereological Methods of Polycrystalline Materials Analysis *by Petr Ponížil*
- 15:00–15:30 Characterization of Microstructure Inhomogeneity in UFG Copper after Static Annealing and Creep Exposure *by Petr Král*
- 15:30–16:00 Characterization of Grain Boundary Network by Electron Backscatter Diffraction *by Ondřej Šedivý*

- 14:30–16:00 **Random sets (hall S3)**  
*Minisymposium organized by Kateřina Staňková Helisová, chairman*
- 14:30–15:00 Continuum Percolation and Phase Transition for Multi-Type Quermass Model *by David Dereudre*
- 15:00–15:30 Characteristic Function of Random Convex Compact Sets and Goodness-of-Fit Statistical Test *by Lev Klebanov*
- 15:30–16:00 Dimension Reduction in a Model of Random Set given by Union of Interacting Discs *by Kateřina Staňková Helisová*

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16:15–18:45 Prague Sightseeing Walking Tour

19:00–21:30 Conference Dinner (New Town Council)

## Thursday, June 28

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- 9:00–10:30 **Analysis, Modelling and Simulation of Materials Microstructures II. (hall S9)**  
*Minisymposium organized by Dominique Jeulin, chairman*
- 9:00–9:30 Improved Estimation of Fiber Length from 3-Dimensional Images *by Joachim Ohser*
- 9:30–10:00 3D Model and Simulation of Multiscale Polyhedral Granular Media. Application to Concrete Microstructure *by Julie Escoda*
- 10:00–10:30 Algorithms for Computing Volume-Weighted Fiber Orientation Tensors *by Oliver Wirjadi*
- 10:30–11:00 *Coffee Break*
- 11:00–13:00 **Contributed Session V (hall S9)**  
*Chairman: Ida Eržen*
- 11:00–11:20 The Semi-Automatic Surfactor *by Jiří Dvořák*
- 11:20–11:40 Spatial Distribution Analysis and Modelling of Maize Vascular Bundles *by David Legland*
- 11:40–12:00 Spatial Statistical Analysis of P-Body Ultrastructure *by Philippe Andrey*
- 12:00–12:20 Stochastic Graph Model for Molecular Networks Including Charge Hopping Rates *by Ole Stenzel*
- 12:20–12:40 A Survey on Replicated Spatial Point Patterns with a Case Study on Dendritic Spine Distribution in Pyramidal Neurons *by Jesús Pérez-Rodríguez*
- 12:40–13:00 Completeness of Description Testing via Reconstruction in Thin Film Physics *by Jindřich Soukup*

- 9:00–10:30 **Chaos Decomposition in Stochastic Geometry (hall S3)**  
*Minisymposium organized by Werner Nagel, chairman*
- 9:00–9:30 The Stein/Malliavin Method for Proving Limit Theorems for some Poisson Functionals *by Raphaël Lachièze-Rey*
- 9:30–10:00 Poisson U-Statistics *by Matthias Reitzner*
- 10:00–10:30 Extreme Values for Poisson Functionals in Stochastic Geometry *by Christoph Thäle*
- 10:30–11:00 *Coffee Break*
- 11:00–13:00 **Contributed Session VI (hall S3)**  
*Chairman: Christian Lantuéjoul*
- 11:00–11:20 The Tail Distributions of Functionals of Random Excursion Sets *by Marie Kratz*
- 11:20–11:40 Limit Theory for Planar Gilbert Tessellations Coming from Poisson and Gibbs Processes *by Natalia Soja*
- 11:40–12:00 Fast Approximation of the Intensity of Gibbs Point Processes *by Gopalan Nair*
- 12:00–12:20 A Marked Point Process Approach to Geometric Analyses of Texture Images *by Eva-Maria Didden*
- 12:20–12:40 Statistical Differences between Three-Dimensional Intensity Maps Computed from Replicated Point Patterns *by Jasmine Burguet*
- 12:40–13:00 On Goodness-of-Fit Tests for Spatial-Temporal Point Process Model *by Petr Volf*

## Thursday, June 28

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13:00–14:20	<i>Lunch</i>	13:00–14:20	<i>Lunch</i>
14:20–15:40	<b>Contributed Session VII</b> (hall S9) <i>Chairman: Gary W. Delaney</i>	14:20–15:20	<b>Contributed Session VIII</b> (hall S3) <i>Chairman: Jesper Møller</i>
14:20–14:40	Efficient Estimation of Charge Carrier Mobility in Deep-Trap Media <i>by Tim Brereton</i>	14:20–14:40	Buffon–Sylvester Problem and Parallel X-Ray Tomography of Planar Convex Domains <i>by Rouben V. Ambartzumian</i>
14:40–15:00	2D and 3D Analysis of Bubbles Imaged using X-Ray Microtomography <i>by Gerard van Dalen</i>	14:40–15:00	Reconstruction of 3-Dimensional Convex Body by Projection Curvatures <i>by Rafik Aramyan</i>
15:00–15:20	Analysis of Anisotropy of Line and Fibre Processes using Fourier Transform <i>by Václav Čejka</i>	15:00–15:20	The Refined Simulation Envelope Test: Is It a worthwhile Alternative to the Deviation Test <i>by Pavel Grabarnik</i>
15:20–15:40	Second-Order Dimension Reduction in Point Processes <i>by Viktor Beneš</i>		
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15:45–16:30	<b>Closing Lecture</b> (aula) <i>Chairman: Katja Schladitz</i> Multi-Scale Random Sets and Random Functions for Physical Applications <i>by Dominique Jeulin</i>		

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## Social Events

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### Monday, June 25

Opening Party, 19:00–21:00, foyer of aula, 1st floor, Malostranské náměstí 25 (the venue)

### Tuesday, June 26

Concert+Dinner

Concert The Prague Singers, 19:00–20:15, Church of the Saviour, Salvátorská 1

Dinner, 20:30–22:00, Restaurant U Vltavy, Břehová 5

### Wednesday, June 27

Sightseeing walking tour for accompanying persons, Prague Castle, 14:00–16:00

Sightseeing walking tour, Old Town, 16:15–18:45. Both walks start at the venue

Conference Dinner, 19:00–22:00, New Town Council, Karlovo náměstí 1