



The 4th Polish-Slovenian International Seminar on

26th - 27th January 2026

Soft Matter

SCIENTIFIC PROGRAM

ONLINE EDITION



DIRECTORS: Aleksandra DROZD-RZOSKA (POLAND) & Samo KRALJ (SLOVENIA)



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26th - 27th January 2026



Schedule | 4th PSIS on Soft Matter

“Faces of Soft Matter”

1st DAY

January 26th

09:30 – 10:00

OPENING | INTRODUCTION

10:00 – 11:00

Ewa GÓRECKA _ OPENING LECTURE

SESSION I

Liquid Crystalline Anisotropic Soft Matter?

11:00 – 11:30

Microhydrodynamics of Nematic Liquid Crystals

Uroš Tkalec _ Slovenia

11:30 – 12:00

The Interplay Between Flexoelectricity and Electrostatic Effects in Antiferroelectric Nematic Liquids

Alenka Mertelj _ Slovenia

12:00 – 12:30

From Dual Frequency Nematics to Ferroelectric Twist-Bend Nematics - the Short Story

Przemysław Kula _ Poland

12:30 – 13:00

Chargeless Nematic Line Defects

Samo Kralj _ Slovenia



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SESSION II

Soft Materials & Phase Transitions

13:30 – 14:00

Soft Matter Characterization via Routine and Advanced Neutron Scattering

Wojciech Zajac _ Poland

14:00 – 14:30

Self-Shaping Liquid Crystal Soft Matter

Venkata Subba Rao Jampani _ Slovenia

14:30 – 15:00

Phase Transitions and Giant Caloric Effects in Anisotropic Soft Materials

Eva Klemencic _ Slovenia

15:00 – 15:30

Caloric Materials for New Heat-Management Technologies

Brigita Rožič _ Slovenia

SESSION III

Bridging Soft Matter & Materials Physics

15:30 – 16:00

Thermodynamic Theory of Dislocation-Mediated Plasticity

Alexander Umantsev _ USA

16:00 – 16:30

Depletion Forces Beyond the Diluted Limit

Ramon Castañeda-Priego _ Mexico

16:30 – 17:00

Soft Matter Under Compression – The New Philosopher's Stone

Sylwester J. Rzoska _ Poland

17:00 - 17:15

CLOSING REMARKS



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2nd DAY

January 27th

09:00 – 10:00

Aleš Iglič _ OPENING LECTURE

SESSION IV

Specific Complexity in Soft Materials

10:00 – 10:30

*The Formation of Supramolecular Chiral Materials from Achiral Molecules
Using a Liquid-Crystalline System*

Atsushi Yoshizawa _ Japan

10:30 – 11:00

Geometry and Field Dependent Percolation of Anisotropic Particles

Blaž Švajger _ Slovenia

11:00 – 11:30

Patterns and Complexity in High-Entropy Alloys

Andreja Jelen _ Slovenia

SESSION V

Biological & Living Soft Matter

11:30 – 12:00

Dielectric Probe in Intraoperative Breast Cancer Detection

Kazimierz Orzechowski _ Poland

12:00 – 12:30

*Mechanisms of Formation of Extracellular Particles: Vesiculation, Fragmentation,
and Extracellular Assembly*

Veronika Kralj-Iglic _ Slovenia

12:30 – 13:00

Fluidization Transitions in Soft Active Matter

Teboul Victor, Quoc Tuan Truong _ France



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SESSION VI

Population Dynamics & Soft Matter

13:00 - 13:30

Nonlinear Local Event Dynamics: from Supercooled Liquids to Human Population Growth

Alessio Zaccone _ Italy

13:30 - 14:00

Complex Systems Perspective on Population Growth: A New Scaling Framework

Aleksandra Drozd-Rzoska _ Poland

SUMMARY & OUTLOOK



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