

## Physics of Socio-economic Systems Division Fachverband Physik sozio-ökonomischer Systeme (SOE)

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### Overview of Invited Talks and Sessions

(Lecture halls H3 and H17; Poster A)

#### Plenary Talk by Cristopher Moore

PLV XIII Thu 14:00–14:45 H2 **The Physics of Inference and Community Detection** — ●CRISTOPHER MOORE

#### Young Scientist Award for Socio- and Econophysics (YSA) - Award Session and Prize Talk

SOE 11.1 Tue 14:00–14:45 H17 **From individual models of attitude change to patterns and dynamics of opinion landscapes** — ●JAN LORENZ  
SOE 11.2 Tue 15:00–15:45 H17 **The Dynamics of Social Conventions: From Names to Cryptocurrencies** — ●ANDREA BARONCHELLI

#### Invited Tutorial talks

SOE 1.1 Sun 16:00–16:50 H3 **Statistical network inference and community detection** — ●TIAGO PEIXOTO  
SOE 1.2 Sun 16:50–17:40 H3 **Network filtering for big data** — ●TIZIANA DI MATTEO  
SOE 1.3 Sun 17:40–18:30 H3 **Multiscale simulations of soft matter augmented by data-driven methods** — ●TRISTAN BEREAU

#### Invited and Topical Talks

SOE 13.1 Wed 9:30–10:00 H17 **Inhibition induced explosive synchronization in multiplex network** — ●SARIKA JALAN  
SOE 13.2 Wed 10:00–10:30 H17 **Percolation on multi-layer networks** — ●FILIPPO RADICCHI  
SOE 13.3 Wed 10:45–11:15 H17 **Mean field phase synchronization across multilayer networks in chimera states** — ●RALPH GREGOR ANDRZEJAK, GIULIA RUZZENE, KASPAR SCHINDLER, ECKEHARD SCHÖLL, ANNA ZAKHAROVA  
SOE 15.1 Wed 15:00–15:30 H17 **Delay controls chimera relay synchronization in multiplex networks** — ●ECKEHARD SCHÖLL, JAKUB SAWICKI, IRYNA OMELCHENKO, ANNA ZAKHAROVA  
SOE 19.1 Thu 15:00–15:45 H17 **Ecosystem stability and altruistic advantage** — ●NICK JONES  
SOE 19.4 Thu 16:15–16:45 H17 **Topological Hindrance and Jamming Transitions in Multi-Species Transport** — ●ERWIN FREY  
SOE 19.5 Thu 17:00–17:45 H17 **Seeing and believing at super-resolution** — ●SUSAN COX  
SOE 19.7 Thu 18:00–18:30 H17 **Reconstructing the topographic landscape of epithelial-mesenchymal plasticity** — ●FRANCESC FONT-CLOS, STEFANO ZAPPERI, CATERINA A. M. LA PORTA

### Invited talks of the joint Symposium SKM Dissertation-Prize 2019

See SYSD for the full program of the symposium.

SYSD 1.1	Mon	9:30– 9:50	H2	<b>Synchronization and Waves in Confined Complex Active Media</b> — ●JAN FREDERIK TOTZ
SYSD 1.2	Mon	9:50–10:10	H2	<b>Spin scattering of topologically protected electrons at defects</b> — ●PHILIPP RÜSSMANN
SYSD 1.3	Mon	10:10–10:30	H2	<b>Beyond the molecular movie: Revealing the microscopic processes behind photo-induced phase transitions</b> — ●CHRIS W. NICHOLSON
SYSD 1.4	Mon	10:30–10:50	H2	<b>Thermodynamic bounds on current fluctuations</b> — ●PATRICK PIETZONKA
SYSD 1.5	Mon	10:50–11:10	H2	<b>Lightwave-driven quasiparticle acceleration</b> — ●FABIAN LANGER
SYSD 1.6	Mon	11:10–11:30	H2	<b>Ultrafast plasmon-driven point-projection electron microscopy</b> — ●JAN VOGELSANG
SYSD 1.7	Mon	11:30–11:50	H2	<b>Helimagnets, sand patterns and fingerprints linked by topology</b> — ●PEGGY SCHÖNHERR

### Invited talks of the joint Symposium Patterns in Nature: Origins, Universality, Functions

See SYPN for the full program of the symposium.

SYPN 1.1	Mon	15:00–15:30	H1	<b>Engineering spatial-temporal organization of bacterial suspensions</b> — ●IGOR ARONSON
SYPN 1.2	Mon	15:30–16:00	H1	<b>Collective behaviour and pattern formation in phoretic active matter</b> — ●RAMIN GOLESTANIAN
SYPN 1.3	Mon	16:00–16:30	H1	<b>Control and selection of spatio-temporal patterns in complex systems</b> — ●SVETLANA GUREVICH
SYPN 1.4	Mon	16:45–17:15	H1	<b>Self-organization of Active Surfaces</b> — ●FRANK JÜLICHER
SYPN 1.5	Mon	17:15–17:45	H1	<b>Front instabilities can reverse desertification</b> — ●EHUD MERON

### Invited talks of the joint Symposium Czech Republic as Guest of Honor

See SYCZ for the full program of the symposium.

SYCZ 1.1	Thu	9:30–10:00	H4	<b>Crystal symmetries and transport phenomena in antiferromagnets</b> — ●TOMAS JUNGWIRTH
SYCZ 1.2	Thu	10:00–10:30	H4	<b>Terahertz subcycle charge and spin control</b> — ●RUPERT HUBER
SYCZ 1.3	Thu	10:30–11:00	H4	<b>1D molecular system on surfaces</b> — ●PAVEL JELINEK
SYCZ 1.4	Thu	11:15–11:45	H4	<b>Tunneling microscopy on insulators provides access to out-of-equilibrium charge states</b> — ●JASCHA REPP
SYCZ 1.5	Thu	11:45–12:15	H4	<b>Occam’s razor and complex networks from brain to climate</b> — ●JAROSLAV HLINKA
SYCZ 1.6	Thu	12:15–12:45	H4	<b>Long range temporal correlations in complex systems</b> — ●HOLGER KANTZ

### Sessions

SOE 1.1–1.3	Sun	16:00–18:30	H3	<b>Tutorial: Statistical Physics Methods for Data Science in Physics (joint SOE/DY/ CPP/BP/jDPG) (joint session SOE/DY/TUT)</b>
SOE 2.1–2.4	Mon	9:30–11:00	H17	<b>Computational Social Science and Data Science I</b>
SOE 3.1–3.2	Mon	11:00–12:00	H17	<b>Financial Markets and Risk Management I</b>
SOE 4.1–4.3	Mon	12:00–12:45	H17	<b>Computational Social Science and Data Science II</b>
SOE 5.1–5.2	Mon	15:00–16:00	H17	<b>Financial Markets and Risk Management II</b>
SOE 6.1–6.10	Mon	15:00–17:45	H20	<b>Networks: From Topology to Dynamics (joint session DY/SOE)</b>
SOE 7.1–7.5	Mon	16:00–17:15	H17	<b>Social Systems, Opinion and Group Formation I</b>
SOE 8.1–8.4	Mon	17:15–18:30	H17	<b>Social Systems, Opinion and Group Formation II</b>
SOE 9.1–9.4	Tue	9:30–11:30	H17	<b>Economic Models</b>
SOE 10.1–10.2	Tue	11:30–12:30	H17	<b>Evolutionary Game Theory (joint SOE/BP/DY) (joint session SOE/BP)</b>

SOE 11.1–11.2	Tue	14:00–16:00	H17	<b>Award Session: Young Scientist Award for Socio-and Economics (YSA)</b>
SOE 12.1–12.17	Tue	16:00–19:00	Poster A	<b>Poster</b>
SOE 13.1–13.5	Wed	9:30–12:00	H17	<b>Dynamics of Multilayer Networks I (Focus Session SOE/DY/BP) (joint session SOE/DY/BP)</b>
SOE 14	Wed	12:00–13:00	H17	<b>Annual Member’s Assembly</b>
SOE 15.1–15.5	Wed	15:00–16:45	H17	<b>Dynamics of Multilayer Networks II (Focus Session SOE/DY/BP) (joint session SOE/DY/BP)</b>
SOE 16.1–16.5	Thu	9:30–11:30	H17	<b>Networks and Systemic Risks (joint SOE/DY)</b>
SOE 17.1–17.3	Thu	10:30–11:15	H6	<b>The Physics of Power grids (joint session DY/SOE)</b>
SOE 18.1–18.4	Thu	11:30–12:30	H17	<b>Energy Networks (joint SOE/DY) (joint session SOE/DY)</b>
SOE 19.1–19.8	Thu	15:00–18:45	H17	<b>Focus Session: Theory of Stochastic Processes with Applications in Biology (joint session SOE/BP/DY/AKjDPG)</b>

## Annual General Meeting of the Physics of Socio-economic Systems Division

Wed 12:00–13:00 H17

- Report on activities and general announcements.
- Miscellaneous and Disussion.
- Elections.