Metal and Material Physics Division
Fachverband Metall- und Materialphysik (MM)

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Overview of Invited Talks and Sessions

(Lecture halls H43, H44, H45, and H46; Poster C)

Invited Talks

MM 1.1	Mon	9:30–10:00	H43	**Salient features of phase stability and mechanical properties of high-entropy alloys** — •Easo George
MM 7.1	Mon	15:00–15:30	H43	**Thermodynamics and optical response of nanoscale systems from atomistic simulations** — •Paul Erhart, Tuomas Rossi, Magnus Rahm, Mikael Kuisma
MM 13.1	Tue	9:30–10:00	H43	**Single Nanoparticle Insights to Create the Fastest Hydrogen Sensor in the World** — •Christoph Langhammer
MM 21.1	Wed	9:30–10:00	H43	**Rational design of Cu based shape memory alloys with low functional fatigue properties** — •Xian Chen, Mostafa Karami
MM 30.1	Wed	18:15–18:45	H43	**Advanced *in situ* Electron Microscopy for targeted Battery Development** — •Benjamin Butz
MM 32.1	Thu	9:30–10:00	H43	**The Digital Transformation in Materials Science and Solid State Physics** — •Chris Eberl et al.

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	**Synchronization and Waves in Confined Complex Active Media** — •Jan Frederik Totz
SYSD 1.2	Mon	9:50–10:10	H2	**Spin scattering of topologically protected electrons at defects** — •Philipp Rüssmann
SYSD 1.3	Mon	10:10–10:30	H2	**Beyond the molecular movie: Revealing the microscopic processes behind photo-induced phase transitions** — •Chris W. Nicholson
SYSD 1.4	Mon	10:30–10:50	H2	**Thermodynamic bounds on current fluctuations** — •Patrick Pietzonka
SYSD 1.5	Mon	10:50–11:10	H2	**Lightwave-driven quasiparticle acceleration** — •Fabian Langer
SYSD 1.6	Mon	11:10–11:30	H2	**Ultrafast plasmon-driven point-projection electron microscopy** — •Jan Vogelsang
SYSD 1.7	Mon	11:30–11:50	H2	**Helimagnets, sand patterns and fingerprints linked by topology** — •Peggy Schönherr

Invited talks of the joint Symposium Mechanically Controlled Electrical Conductivity of Oxides

See SYCO for the full program of the symposium.

SYCO 1.1	Mon	9:30–10:00	H1	**Dislocation Dynamics and Their Conductivities in Oxides** — •Yuichi Ikuhara
SYCO 1.2	Mon	10:00–10:30	H1	**Strain effects in ionic conductivity and electrode processes** — •Jürgen Janek
SYCO 1.3	Mon	10:30–11:00	H1	**Elastic dipoles of point defects in materials** — •Celine Varvenne
SYCO 1.4	Mon	11:30–12:00	H1	**Mapping strain/pressure with ZnO nanowire arrays by piezo-phototronic effect** — •Caofeng Pan

SYCO 1.5	Mon	12:00–12:30	H1	**Bulk and Flexo-photovoltaic effect** — •Marin Alexe

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	**Crystal symmetries and transport phenomena in antiferromagnets** — •Tomas Jungwirth
SYCZ 1.2	Thu	10:00–10:30	H4	**Terahertz subcycle charge and spin control** — •Rupert Huber
SYCZ 1.3	Thu	10:30–11:00	H4	**1D molecular system on surfaces** — •Pavel Jelinek
SYCZ 1.4	Thu	11:15–11:45	H4	**Tunneling microscopy on insulators provides access to out-of-equilibrium charge states** — •Jascha Repp
SYCZ 1.5	Thu	11:45–12:15	H4	**Occam's razor and complex networks from brain to climate** — •Jaroslav Hlinka
SYCZ 1.6	Thu	12:15–12:45	H4	**Long range temporal correlations in complex systems** — •Holger Kantz

Invited talks of the joint Symposium Physics of Self-Organization in DNA Nanostructures

See SYDN for the full program of the symposium.

SYDN 1.1	Thu	9:30–10:00	H1	**Functional DNA Nanostructures and Their Applications** — •Itamar Willner
SYDN 1.2	Thu	10:00–10:30	H1	**Gaining control of DNA-based nanodevices** — •Francesco Ricci
SYDN 1.3	Thu	10:30–11:00	H1	**Self-assembly and optical properties of single molecule polymers on DNA origami** — •Kurt Gothelf
SYDN 1.4	Thu	11:15–11:45	H1	**DNA origami route to dynamic plasmonics** — •Laura Liu
SYDN 1.5	Thu	11:45–12:15	H1	**DNA templated metal nanostructures** — •Ralf Seidel

Sessions

MM 1.1–1.1	Mon	9:30–10:00	H43	**Invited talk George**
MM 2.1–2.9	Mon	10:15–13:15	H43	**Topical session (Symposium MM): High entropy and compositionally complex alloys**
MM 3.1–3.5	Mon	10:15–11:30	H44	**Materials for Energy Storage and Conversion**
MM 4.1–4.11	Mon	10:15–13:15	H45	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 5.1–5.10	Mon	10:15–13:00	H46	**Mechanical Properties**
MM 6.1–6.5	Mon	11:45–13:15	H44	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 7.1–7.1	Mon	15:00–15:30	H43	**Invited talk Erhart**
MM 8.1–8.7	Mon	15:45–18:30	H43	**Topical session (Symposium MM): High entropy and compositionally complex alloys**
MM 9.1–9.10	Mon	15:45–19:00	H44	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 10.1–10.11	Mon	15:45–18:45	H45	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 11.1–11.7	Mon	15:45–18:30	H46	**Symposium SYCO of the divisions MM (leading), O, CPP, KFM and DS continued as topical session: Mechanically controlled electrical conductivity of oxides (joint session MM/CPP/O)**
MM 12.1–12.37	Mon	19:15–20:45	Poster C	**Poster session I**
MM 13.1–13.1	Tue	9:30–10:00	H43	**Invited talk Langhammer**
MM 14.1–14.9	Tue	10:15–13:15	H43	**Topical session (Symposium MM): High entropy and compositionally complex alloys**
MM 15.1–15.8	Tue	10:15–13:15	H44	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 16.1–16.11	Tue	10:15–13:15	H45	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 17.1–17.10	Tue	10:15–13:00	H46	**Nanomaterials**

MM 18.1–18.5	Tue	14:15–15:30	H45	**Interfaces**
MM 19.1–19.6	Tue	14:15–15:45	H46	**Miscellaneous: Biomaterials, Magnetic Shape Memory Alloys, Sensors and Actuators (joint session MM/MA)**
MM 20.1–20.36	Tue	18:30–20:00	Poster C	**Poster session II**
MM 21.1–21.1	Wed	9:30–10:00	H43	**Invited talk Chen**
MM 22.1–22.11	Wed	10:15–13:15	H43	**Materials for Energy Storage and Conversion**
MM 23.1–23.11	Wed	10:15–13:15	H44	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 24.1–24.9	Wed	10:15–13:15	H45	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 25.1–25.11	Wed	10:15–13:15	H46	**Transport (Diffusion, conductivity, heat)**
MM 26.1–26.12	Wed	15:00–18:15	H43	**Materials for Energy Storage and Conversion**
MM 27.1–27.12	Wed	15:00–18:15	H44	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 28.1–28.7	Wed	15:00–17:45	H45	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 29.1–29.12	Wed	15:00–18:15	H46	**Microstructure and Phase Transformations**
MM 30.1–30.1	Wed	18:15–18:45	H43	**Invited talk Butz**
MM 31	Wed	19:00–20:00	H43	**General Meeting of the Metal- and Materials Division and Best Poster Award**
MM 32.1–32.1	Thu	9:30–10:00	H43	**Invited talk Eberl**
MM 33.1–33.9	Thu	10:15–13:15	H43	**Topical session (Symposium MM): Big Data Analytics in Materials Science**
MM 34.1–34.10	Thu	10:15–13:00	H44	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 35.1–35.7	Thu	10:15–13:00	H45	**Topical session (Symposium MM): Correlative and in-situ Microscopy in Materials Research**
MM 36.1–36.10	Thu	10:15–13:00	H46	**Liquid and Amorphous Metals**
MM 37.1–37.11	Thu	15:00–18:45	H43	**Topical session (Symposium MM): Big Data Analytics in Materials Science**
MM 38.1–38.9	Thu	15:00–17:30	H44	**Methods in Computational Materials Modelling (methodological aspects, numerics)**
MM 39.1–39.8	Thu	15:00–17:45	H45	**Structural Materials (Steels, light-weight materials, high-temperature materials)**
MM 40.1–40.5	Thu	15:00–16:15	H46	**Liquid and Amorphous Metals**

Annual General Meeting of the Metal and Material Physics Division

Wednesday 19:00–20:00 H43