

TOPO2016 WORKSHOP *** TECHNISCHE UNIVERSITÄT DRESDEN, GERMANY

preliminary PROGRAM (last update: 2016-08-04)

Tuesday 16th August 2016

10:00 AM – 05:00 PM	AFM workshop by Oxford Instruments, click here ==> blog post for further information
04:00 PM – 08:00 PM	Registration
06:00 PM	Come Together Party

Locations:

Tuesday, 16th August ... „**Beyer-Bau**“, room **BEY 103**

Wednesday, 17th August – Friday, 19th August ... „**Recknagel-Bau**“ (old name: „Physikgebäude“), room **REC C213** (old: PHY C213)

Use the campus navigator and google maps links on our website <https://topo2016.wordpress.com/venue/> for further information.

Wednesday 17th August 2016 (1st part)

08:00 AM 08:30 AM

Registration

Session 1 – Chair: Prof. Lukas M. Eng

08:30 AM 09:00 AM **Ruck; Eng** Welcome by Prof. Michael Ruck (TU Dresden's Vice-Rector for Structure and Development) and Prof. Lukas M. Eng (Chair of the TOPO2016)

09:00 AM 09:40 AM **Wiesendanger** Nanoscale skyrmions – A new twist for spintronics

09:40 AM 10:10 AM **COFFEE**

Session 2 – Chair: N.N.

10:10 AM 10:50 AM **Hlinka** Skyrmion density, vorticity and divergence of polarization in ferroelectric materials

10:50 AM 11:20 AM **Felser** Heusler compounds: Tunable materials with non trivial topologies

11:20 AM 11:40 AM **Neuber** Scanning Force Microscopy Investigation of Skyrmions

11:40 AM 12:10 PM **Meier** Towards functional ferroic domain walls for all-domain-wall devices

12:10 PM 01:00 PM **LUNCH**

01:00 PM 02:00 PM **POSTERSESSION** (*The posters can stay until the end of the workshop for further discussion.*)

P 01	Alikin	<i>Interplay between the Domain Structure, Local Switching and Bulk Properties of the Lead-Free Ferroelectric Ceramics</i>
P 02	Chezganov	<i>Domain structures created by ion beam irradiation in MgO doped lithium niobate single crystals</i>
P 03	Döring	<i>Low-temperature scattering scanning near-field optical microscopy on barium titanate</i>
P 04	Godau	<i>Enhancing the domain wall conductivity in lithium niobate single crystals</i>
P 05	Hsieh	<i>Heteroepitaxial CoFe₂O₄/Muscovite Bimorph with Large Magnetostriction for Flexible Electronics</i>
P 06	Kämpfe	<i>Giant resistive switching by conductive domain walls in exfoliated thin-film lithium niobate - [...]</i>
P 07	Kehr	<i>Infrared sub-wavelength imaging with ferroelectric superlenses</i>
P 08	Köhler	<i>Topological defects and domain walls of helimagnetic order</i>
P 09	Schönherr	<i>Topological magnetic defects in itinerant helimagnet FeGe</i>
P 10	Uhlig	<i>Fabrication of ferromagnetic nanorod arrays using porous aluminum oxide templates</i>
P 11	Wehmeier	<i>In situ observation of ferroelectric domain wall dynamics close to the Curie temperature in triglycine sulfate(TGS)</i>
P 12	Wolba	<i>Modeling Conductive Domain Walls by means of Random Resistor Networks</i>
P 13	Xiao	<i>Anisotropic Domain Wall Conductivity in LiNbO₃ single crystals</i>

Wednesday 17th August 2016 (2nd part)

Session 3 – Chair: N.N.

02:00 PM	02:40 PM	Loidl	Skyrmions with ferroelectric polarization in multiferroic GaV4S8
02:40 PM	03:10 PM	Matsuno	Interface-driven topological Hall effect in oxide heterostructures
03:10 PM	03:30 PM	Tückmantel	Roughness, dynamics and conduction at domain walls in Pb(Zr _{0.2} Ti _{0.8})O ₃ thin films: understanding the role of defects, [...]
03:30 PM	04:00 PM	Stone	Quantitative Materials Metrology on Picometers Length Scale

04:00 PM 04:30 PM **COFFEE**

Session 4 – Chair: N.N.

04:30 PM	05:00 PM	Bogdanov	Introduction into Physics of Chiral Magnetic Skyrmions
05:00 PM	05:20 PM	Simons	In-situ 3D nano-imaging of embedded ferroelectric topologies, and their strain and misorientation fields
05:20 PM	05:50 PM	Martin	Complex phase evolution and coexistence in polar vortex structures

Thursday 18th August 2016

Session 1 – Chair: N.N.

08:30 AM	09:10 AM	Goennenwein	Spin Hall Magnetoresistance in Collinear and Canted Magnetic Phases
09:10 AM	09:40 AM	Chu	Multifunctionalities driven by Periodic Ferroic Domain Structures
09:40 AM	10:10 AM	Marrows	Chiral Interactions in Thin Film Magnets

10:10 AM 10:40 AM **COFFEE**

Session 2 – Chair: N.N.

10:40 AM	11:10 AM	Lukyanchuk	Resonance Terahertz Electrodynamics of Domain Walls in Thin Ferroelectric Films: Effect of Negative Capacitance
11:10 AM	11:30 AM	Funakubo	Domain Formation of Epitaxial Tetragonal Pb(Zr, Ti)O ₃ Thin Films Grown Under Tensile Strain
11:30 AM	12:00 PM	Parkin	Giant spin and anomalous Hall conductivities in triangular antiferromagnets

12:00 PM 02:00 PM **LUNCH + SLUB** (*treasure room of the university library*)

Session 3 – Chair: N.N.

02:00 PM	02:30 PM	Ramesh	Observation of Polar Vortices in Oxide Superlattices
02:30 PM	02:50 PM	Weymann	Growth temperature as a tuning parameter for intrinsic polarization orientation in ferroelectric thin films
02:50 PM	03:20 PM	Valanoor	Positive influence of depolarization field : Complex domain structures and switching in ultrathin ferroelectric films
03:20 PM	03:50 PM	Kläui	Spin Dynamics of Topological Spin Structures

03:50 PM 04:20 PM **COFFEE**

Session 4 – Chair: N.N.

04:20 PM	04:40 PM	Dawber	Re-writable Nanoscale Circuitry on Graphene through Flexoelectric Switching of a Ferroelectric Superlattice
04:40 PM	05:10 PM	Lee	Probing the interfacial phases of correlated oxides tuned by ferroelectric polarization and ionic gating
05:10 PM	05:40 PM	Nahas	Underlying topological features in ferroelectrics
05:40 PM	06:00 PM	Polyakov	Resonant and non-resonant AFM oscillatory modes combined with near-field IR microscopy for compositional mapping of surface properties

07:00 PM **DINNER**

Friday 19th August 2016

Session 1 – Chair: N.N.

08:30 AM	09:10 AM	Seki	Control of skyrmions by electric field and mechanical strain
09:10 AM	09:30 AM	Gaponenko	Probing the interaction of surface adsorbates with ferroelectric domains
09:30 AM	10:00 AM	Seidel	Topological structures as nanoscale functional elements: Electrical and mechanical properties of phase boundaries in BiFeO ₃

10:00 AM 10:30 AM **COFFEE**

Session 2 – Chair: N.N.

10:30 AM	11:00 AM	Rößler	Twisting ferroic order-parameters: ubiquity of Lifshitz invariants, frozen gauge background, and proper or improper Dzyaloshinskii textures
11:00 AM	11:20 AM	Haußmann	2D and 3D investigations of novel domain wall functionalities in LiNbO ₃ single crystals
11:20 AM	11:50 AM	Shur	Shape of isolated domains in uniaxial ferroelectrics: From polygons to dendrites

11:50 AM 01:00 PM **LUNCH**

Session 3 – Chair: N.N.

01:00 PM	01:30 PM	Garst	Helimagnetic order: spinwaves and topological defects
01:30 PM	02:00 PM	Bordács	Cycloidal and Néel-type skyrmion glass in multiferroic GaV ₄ S ₈
02:00 PM	02:30 PM	Prokhorenko	Skyrmionic states in ferroelectric nanocomposites
02:30 PM	02:40 PM	Eng	Closing remarks

04:30 PM **EXCURSION**