

PROGRAM | workshop



Beyond! Materials Design and Discovery

Dec. 11th, 2016

- 3:00 pm - 6:00 pm Arrival at Castle Ringberg | Check-In
6:00 pm - 7:00 pm *WELCOME DINNER*
7:00 pm - 7:10 pm **Opening - Concept of the "Beyond!" Workshop Series**
| Stuart Parkin

YOUNG RESEARCHERS

Chair | Kyle Shen

- 7:10 pm - 7:30 pm **Towards Novel Dirac/Weyl Devices and Applications** | Mazhar Ali
7:30 pm - 7:50 pm **From Bulk to Thin Films in Two Dimensional Transition Metal Dichalcogenides** | Gaurav Rana
7:50 pm - 8:10 pm **Topological Nonsymmorphic Metals from Band Inversion**
| Lukas Muechler

Dec. 12th, 2016

- 8:00 am - 9:00 am *BREAKFAST* Chair | Jonathan Alaria
9:00 am - 9:10 am **Welcome to "Beyond! Materials Design and Discovery" workshop**
| Stuart Parkin
9:10 am - 10:00 am **Learning Descriptors from Materials-Science (Big) Data**
| Luca M. Ghiringhelli
10:00 am - 10:50 am **Controlling Band Structure and Electronic Correlations by Dimensional Confinement and Epitaxial Strain in Quantum Materials**
| Kyle Shen
10:50 am - 11:20 am *COFFEE & TEA* Chair | Stuart Parkin
11:20 am - 12:10 pm **MBE growth and electronic tuning of Heusler thin films**
| Chris Palmstrøm
12:30 pm - 1:30 pm *LUNCH & Group photograph* Chair | Hardy Gross
1:30 pm - 2:20 pm **Design and Discovery of Engineering Materials from First Principles** | Joerg Neugebauer
2:20 pm - 3:10 pm **Electron Correlations in Magnetic Materials** | Alexander Lichtenstein
3:10 pm - 3:30 pm *COFFEE & TEA* Chair | Roser Valentí
3:30 pm - 4:20 pm **Topological Orbital Ferromagnetism** | Yuiry Mokrousov
4:20 pm - 5:10 pm **Correlated Materials by Design** | Susanne Stemmer
5:20 pm - 6:20 pm **Guided tour of the Castle Ringberg** | Jochen Essl
6:30 pm - 7:30 pm *BAVARIAN NIGHT - BUFFET*
7:30 pm - 8:20 pm **Two-Dimensional Conjugated Polymers and Conducting Polymers: A New Paradigm for Optoelectronics**
| Xinliang Feng

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Dec. 13th, 2016

8:00 am - 9:00 am *BREAKFAST*

SCIENTIFIC SYMPOSIUM IN HONOR OF JÜRGEN KÜBLER'S 80TH BIRTHDAY

Chair | Stuart Parkin &
Claudia Felser

9:00 am - 9:10 am **A life of Heuslers** | Claudia Felser

9:10 am - 10:00 am **Theory of Spin-Orbit Induced Magnetic Phenomena in Solids**
| Peter Oppeneer

10:00 am - 10:50 am **Challenges in Engineering Exotic Spin-Liquid Materials**
| Roser Valentí

10:50 am - 11:20 am *COFFEE & TEA*

11:20 am - 12:10 pm **Topological Quantum Chemistry** | Andrei B. Bernevig

12:10 pm - 1:00 pm **Berry phase effects in Heusler Compounds** | Jürgen Kübler

1:00 pm - 2:00 pm *LUNCH*

Chair | Luca M. Ghiringhelli

2:00 pm - 2:50 pm **Digital Foundry - Predicting New Materials and their Properties
with Supercomputers** | Silvana Botti

2:50 pm - 3:40 pm **Engineering Topological Phases in Coupled Wire and Coupled
Plane Systems** | Jelena Klinovaja

3:40 pm - 4:00 pm *COFFEE & TEA*

Chair | Andrei B. Bernevig

4:00 pm - 4:50 pm **Electronic Structure and Properties of a Few-Layer Black
Phosphorus** | Mikhail Katsnelson

4:50 pm - 5:40 pm **Designing (Non-Composite) Room Temperature "Multiferroics"**
| Jonathan Alaria

6:00 pm - 7:00 pm *DINNER*

7:00 pm - 8:00 pm **Closing Remarks - Future Directions - Scientific Discussions**
| Stuart Parkin

Dec. 14th, 2016

8:00 am - 9:00 am *BREAKFAST* | Check-Out

Departure - Taxi transfer to Tegernsee station