

## Overall schedule

### Saturday 25th July

- 12:00 transfer from Hotel Zollamt (Kaiserslautern) to Villa Denis
- 12:15 Lunch (snacks) at Villa Denis
- 13:00–18:00 scientific program
- 18:15–22:00 dinner party
- 22:00 transfer to Hotel Zollamt (Kaiserslautern)

### Sunday 26th July

- 8:30 transfer from Hotel Zollamt (Kaiserslautern) to Villa Denis
- 9:00–13:00 scientific program
- 13:00–14:30 lunch and farewell drink at Burg Diemerstein
- 14:30–18:15 excursion (Cathedral of Speyer with Emperors' crypt) and transfer to Karlsruhe; arrival time may vary

## Organizing Committee

- Chair: Prof. Dr. Yasuo Ando, Prof. Dr. Claudia Felser  
Prof. Dr. Burkard Hillebrands, Prof. Dr. Koki Takanashi
- Scientific Program: Dr. Jaroslav Hamrle, Dr. Yuya Sakuraba
- Organizational Matters: Dr. Isabel Sattler  
(isattler@rhrk.uni-kl.de; mobile 0160 / 9621 3145 during conference)

## Place of Conference

Villa Denis  
Stiftungshaus der TU Kaiserslautern  
Burg Diemerstein  
Diemerstein 9  
67468 Frankenstein

Koordinaten: 49° 27' N, 7° 57' O

Please note:  
Diemerstein is a part of Frankenstein

## Overnight Stay (if applicable)

Hotel Zollamt  
Buchenlochstr. 1  
67663 Kaiserslautern

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## Joint Workshop

DFG Research Unit 559  
“New Materials with High Spin Polarization”

and

JST Strategic Japanese-German Cooperative Programme  
“Nanoelectronics”

July 25-26, 2009

Villa Denis (Diemerstein, near Kaiserslautern)



## Scientific Program

Oral presentations

### Saturday 25th July 2009

13:00-13:20 Burkard Hillebrands / Koki Takanashi *Opening remarks*

#### **Spin transfer and devices**

Chair: Claudia Felser

13:20-13:45 Martin Aeschlimann - *Spin-injection efficiency and dynamics in advanced Heusler-based spintronics model systems*

13:45-14:10 Yuya Sakuraba - *Giant magnetoresistance in  $\text{Co}_2\text{MnSi}/\text{Ag}/\text{Co}_2\text{MnSi}$  fully-epitaxial CPP-devices*

14:10-14:25 Martin Jourdan - *Interface magnetization and spin polarization of  $\text{Co}_2\text{Cr}_{0.6}\text{Fe}_{0.4}\text{Al}$*

~ student session ~

14:25-14:37 Tatsuya Aoki - *Current-external field diagram of spin transfer switching in the adiabatic regime*

14:37-14:49 Masayuki Nisimura - *Spin-transfer Switching in Magnetic Tunnel Junctions with Synthetic Ferrimagnetic Free Layer of  $\text{CoFe}/\text{RuCoFeB}$*

14:49-15:01 Takuya Ono - *Spin Transfer Switching of Synthetic  $\text{CoFeB}/\text{Ru}/\text{NiFe}$  Free Layer on  $\text{MgO}$  Barrier*

15:01-15:13 Yusuke Ohdaira - *Fabrication of spin transistor using  $\text{Co}_2\text{MnSi}$  electrodes*

15:13-15:25 Atsushi Sugihara - *Peltier cooling effect in sub-micron-sized elements*

#### **Electronic structure and transport properties**

Chair: Masaki Mizuguchi

16:05-16:30 Gerhard Fecher - *Theory of Heusler compounds, with special emphasis on non-collinear magnetism and magnetic instabilities in tetragonal Heusler compounds*

16:30-16:55 Hans-Joachim Elmers - *An experimental investigation of the spin-resolved unoccupied density of states in Heusler alloys*

16:55-17:07 Stanislav Chadov - *First-principle study of local correlations in Heuslers*

17:07-17:22 Gerhard Jakob - *Hall effect and electronic structure of half metallic  $\text{Co}_2\text{Fe}_x\text{Mn}_{1-x}\text{Si}$  films*

17:22-17:37 Feng Wu - *Growth and magnetic properties of  $\text{DO}_{22}$  structured  $\text{Mn-Ga}$  films*

~ student session ~

17:37-17:49 Isamu Sugai - *Spin Hall Effect in Au Doped with Fe and Pt*

17:49-18:01 Jürgen Winterlik  *$\text{Mn}_2\text{YZ}$  compounds*

### Sunday 26th July

#### **Spin dynamics and structure details**

Chair: Hiroshi Naganuma

9:00- 9:25 Shigemi Mizukami - *Gilbert damping in Heusler alloy*

9:25- 9:37 Björn Obry - *Detecting spin waves by Brillouin light scattering microscopy*

9:37- 9:49 Jaroslav Hamrle - *Exchange stiffness in  $\text{Co}_2$ -based Heusler compounds*

9:49-10:01 Vadim Ksenofontov - *Mößbauer Spectroscopy of Heusler compounds*

10:01-10:13 Andrei Gloskovskii - *High Energy Photoemission of Heusler compounds*

#### **Tunnel junctions**

Chair: Martin Aeschlimann

10:50-11:15 Mikihiro Oogane - *Tunnel magnetoresistance effect in magnetic tunnel junctions using Heusler alloy electrodes*

11:15-11:30 Md. Ariful Islam Nahid - *Structural, magnetic and electrical properties of  $\text{Co}_2\text{MnSi}/\text{MgO}/n\text{-Si}$  tunnel junctions*

11:30-11:42 Benjamin Balke - *Investigations on the MTJ interface  $\text{Fe-MgO}$  using electron spectroscopy with x-ray standing waves*

~ student session ~

11:42-11:54 Lixian Jiang - *Characterizations  $\text{CoFeB}/\text{MgO}/\text{CoFe}/\text{MgO}/\text{CoFeB}$  double barrier Magnetic Tunnel Junctions with Large Negative Magnetoresistance*

11:54-12:06 Sumito Tsunegi - *Enhancement of TMR ratio by modification of  $\text{Co}_2\text{MnSi}/\text{MgO}$  interface*

12:06-12:18 Gukcheon Kim - *Tunneling magnetoresistance of magnetic tunnel junctions using perpendicular magnetization  $\text{L1}_0\text{-CoNiPt}$  electrodes*

12:18-12:30 Tetsunori Koda - *Single electron tunneling with spin accumulation in  $\text{Cr}$  nanoparticles*

12:30-12:42 Takahide Kubota - *Tunnel magnetoresistance effect and Gilbert damping constant in  $\text{Co}_2\text{Fe}_x\text{Mn}_{1-x}\text{Si}$  Heusler alloys depending on the film composition*

12:42-12:54 Peter Weisenberg - *Spin-resolved photoemission from clean  $\text{Co}_2\text{MnSi}$  surfaces and spin injection into  $\text{MgO}$*

12:54-13:00 Claudia Felser - *Closing remarks*

Poster presentations

Optional poster exhibit throughout the workshop