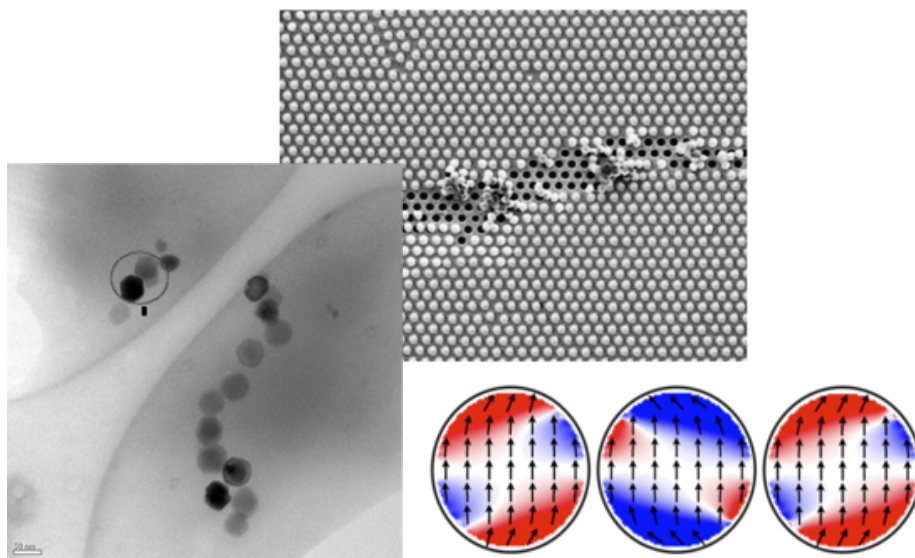


# Workshop on Nanomagnetism

Reykjavík April 7<sup>th</sup> – 8<sup>th</sup> 2015



## Tuesday April 7.

### *Chair: Hannes Jónsson*

- 8:55-9:00** Hannes Jónsson, University of Iceland  
“Introduction”
- 9:00-9:50** Dirk Grundler (invited), Technische Universität München  
“Oxide-based nanomagnonics”
- 9:50-10:10** Sampo Hämäläinen, Aalto University  
“Magnonics in multiferroic BaTiO<sub>3</sub>/CoFeB heterostructures”

**10:10-10:30** Break (tea/coffee)

- 10:30-10:50** Mikko Kataja, Aalto University  
“Cross-coupling of periodic resonances in a two-dimensional magnetic nanoparticle array”
- 10:50-11:10** Simone Borlenghi, KTH Stockholm  
“The magnonics Josephson effect”
- 11:10-11:30** Henning Hammar, Uppsala University  
“Non-equilibrium analysis of a spin in a tunnel junction”

**11:30-13:30** Lunch break (remember tickets)

### *Chair: Unnar Arnalds*

- 13:30-14:20** Olivier Fruchart (invited), Institut Néel  
“Magnetic domain walls in cylindrical nanowires  
– From opportunities for fundamental science towards 3D storage media?”
- 14:20-14:40** Kevin Franke, Aalto University  
“Electric-field driven magnetic domain wall motion”
- 14:40-15:00** Diego Lopez Gonzalez, Aalto University  
“Using pinned domain walls to implement magnetic logic gates in  
ferromagnetic-ferroelectric heterostructures”

**15:00-15:20** Break (tea/coffee)

### *Chair: Sebastiaan van Dijken*

- 15:20-15:40** Unnar Arnalds, University of Iceland  
“Thermal artificial spins in a 2D-Ising geometry”
- 15:40-16:00** Danny Thonig, Uppsala University  
“Generating and controlling frustrated magnetic states in dipolar spin ice arrays”
- 16:00-16:20** Sergei Lyashko, ITMO University  
“Extension of Stoner-Wohlfarth theory”
- 16:20-16:40** Aleksei Ivanov, St. Petersburg State University and University of Iceland  
“Simulation of magnetisation reversal induced by exchange interaction at atomic scale”
- 16:40-17:00** Björgvin Hjörvarsson, Uppsala University  
“Magnetic metamaterials: The next step”

**19:00** Workshop dinner at ‘Reykjavik Restaurant’

## Wednesday April 8.

### *Chair: Valery Uzdin*

**9:00-9:50** Hans-Benjamin Braun (invited), University College Dublin  
"Topological Effects in Nanomagnetism"

**9:50-10:10** Pavel Bessarab, KTH Stockholm  
"Formation and stability of localized, noncollinear states in magnetic nanosystems"

**10:10-10:30** Break (tea/coffee)

**10:30-10:50** Yaroslav Kvashnin, Uppsala University  
"Dzyaloshinski-Moriya interactions in weak ferromagnets"

**10:50-11:10** Attila Szilva, Uppsala University  
"Interatomic magnetic exchange in non-collinear finite temperature systems"

**11:10-11:30** Samara Keshavarz, Uppsala University  
"Layer Resolved Magnetic Exchange Interaction in Itinerant Magnets"

**11:30-13:30** Lunch break (remember tickets)

### *Chair: Björgvin Hjörvarsson*

**13:30-14:20** Markus Münzenberg (invited), Universität Greifswald  
"Driving spins with light on femtosecond timescales"

**14:20-14:40** Bengt Lindgren, Uppsala University  
"Resonant X-ray scattering"

**14:40-15:00** Gabriella Andersson, Uppsala University  
"Magnetic properties of amorphous Tb<sub>x</sub>Co<sub>100-x</sub> thin films grown in an in-plane external magnetic field by combinatorial magnetron sputtering"

**15:00-15:20** Break (tea/coffee)

### *Chair: Tapio Ala-Nissila*

**15:20-16:10** Stefan Blügel (invited), Peter Grünberg Institut and Institute for Advanced Simulation,  
Forschungszentrum Jülich  
"Chiral Magnetic Skyrmions in Ultrathin Films"

**16:10-16:30** Swarup Kumar Panda, Uppsala University  
"Electronic structure of a single Fe atom on a CuN surface"

**16:30-16:50** Sergei Vlasov, ITMO University and University of Iceland  
"Calculations of switching rate and onset temperature for tunneling of magnetization reversal in antiferromagnetic Fe islands on Cu<sub>2</sub>N/Cu"

**16:50-17:20** Discussion

## Reykjavík Restaurant

