

CRIM 2021: Magnetic Skyrmions

15 September 2021

Programme

Presentations from contributed speakers will be made available a week prior to the start of the event. Full details will be sent to registered participants. At the event itself, contributed speakers have been allocated a 5 minute oral-slot to summarise the main points of their presentation, and a further 5 minutes for questions/discussion to explore the topics that they presented. Invited speakers will deliver their full presentation live and have been allocated 25 minutes for the presentation and 5 minutes for questions.

All times are scheduled in BST - British Summer Time

09:15 Welcome and Introduction

Chris Marrows and Peter Hatton

Session 1

Co-Chairs: Karin Everschor-Sitte and Christos Panagopoulos

09:30 (Invited) Skyrmion motions driven by electric current and temperature gradient

Xiuzhen Yu, RIKEN, Japan

10:00 Breathing Modes of Skyrmion Tubes in a Synthetic Antiferromagnet

Christopher Barker, University of Leeds, UK

10:10 Role of an additional interfacial spin-transfer torque for current-driven skyrmion dynamics in chiral magnetic layers

Callum MacKinnon, University of Central Lancashire, UK

10:20 The Effects of Disorder on Hysteresis Loops in Chiral Magnets

Vanessa Nehruji, University of Southampton, UK

10:30 Machine learning informing computational modelling of complex magnetic spin textures

Ondrej Hovorka, Faculty of Engineering and Physical Sciences, UK

10:40 Break

Session 2

Co-chairs: Christian Pfleiderer and Thorsten Hesjedal

11:10 (Invited) Coupling Topological Solitons in Hybrid Thin Film Architectures

Christos Panagopoulos, Nanyang Technological University, Singapore

11:40 Hall Effects from Skyrmions in $[\text{Pt}/(\text{Co}|\text{CoB})/\text{Ir}]_{\text{N}}$ Magnetic Multilayers

Alexandra Huxtable, University of Leeds, UK

11:50 Chiral Helimagnetism and the Hall effect in $\text{Cr}_{1/3}\text{NbS}_2$

Daniel Mayoh, University of Warwick, UK

12:00 Extended Period Surface Spirals in FeGe Lamellae

Luke Turnbull, Durham University, UK

12:10 Magnetic skyrmion lattice in cubic f-electron magnet EuPtSi

Koji Kaneko - MSRC, Japan Atomic Energy Agency, Japan

12:20 Tuning magnetism in the 2D van der Waals magnet Fe_3GeTe_2 by Co-substitution

George Wood, Warwick University, UK

12:30 Lunch

Session 3

Co-Chairs: Chris Marrows and Steve McVitie

13:30 (Invited) Magnetic skyrmions for unconventional computing and revealing latent information

Karin Everschor-Sitte Duisburg-Essen, Germany

14:00 Discrimination of skyrmion chirality via spin-orbit and -transfer torques for logic operation

Keisuke Yamada, Gifu University, Japan

14:10 Electric Field effects on magnetic properties for skyrmions manipulation

Md Golam Hafiz, University of Leeds, UK

14:20 Energy-gap driven low-temperature magnetic and transport properties in $\text{Cr}_{1/3}\text{MS}_2$ (M = Nb or Ta)

Thomas Hicken, Durham University, UK

14:30 Multiple Stable Bloch Points in Confined Helimagnetic Nanostructures

Martin Lang, University of Southampton, UK

14:40 Break

Session 4

Co-Chairs: Peter Hatton and Geetha Balakrishnan

15:10 (Invited) Emergent Landau levels of magnons in a skyrmion lattice

Christian Pfleiderer, TUM, Germany

15:40 Position Dependent Stability and Metastability of the Skyrmion state in Ni substituted Cu_2OSeO_3

Marta Crisanti, TU Delft, The Netherlands

15:50 A comparative study of the magnetic behaviour of intercalated transition metal dichalcogenides

$\text{Cr}_{1/3}\text{NbS}_2$ and $\text{Mn}_{1/3}\text{NbS}_2$

Amelia Hall, University of Warwick, UK

16:00 Investigating skyrmions using muon-spin spectroscopy

Tom Lancaster, Durham University, UK

16:10 Short period magnetization texture of B20-MnGe explained by thermally fluctuating local

Key dates

Abstract submission deadline:

15 June 2021

Registration deadline:

13 September 2021

Organised by the **IOP Magnetism Group**



moments
Eduardo Mendive Tapia, Max-Planck-Institut für Eisenforschung, Germany

16:20 **Magnetic phases in centrosymmetric $\text{Gd}_3\text{Ru}_4\text{Al}_{12}$ investigated using muon-spin spectroscopy**
Benjamin Huddart, Durham University, UK

16:30 **Experimental Evidence of a Change of Exchange Anisotropy Sign with Temperature in Zn-Substituted Cu_2OSeO_3**
Sam Moody, Durham University, UK

16:40 **Close**