

# International Symposium on Chiral Magnetism ( $\chi$ -mag2018)

July 25th to 28th, 2018

IRAKA - Nara Kasugano International Forum, Nara, Japan

## Program for oral sessions

### 25th July

13:50—14:00 Opening: Yoshihiko Togawa

Plenary session 1 Chair: Jun-ichiro Kishine

14:00—15:00 Laurence D. Barron (University of Glasgow, UK) O01

*Symmetry and Chirality: where Physics Shakes Hands with Chemistry and Biology*

Chiral Science Award session Chair: Jun-ichiro Kishine

15:00—15:30 Yusuke Kousaka (Okayama University, Japan) O02

*Enantiopure crystal growth and helimagnetic chirality in inorganic chiral magnetic materials*

15:00—15:30 Coffee Break

Plenary session 2 Chair: Yoshihiko Togawa

16:00—17:00 Massimo Nespolo (Université de Lorraine & CNRS, France) O03

*Meaning of chirality: messages from a crystallographer*

Poster session 1

17:00-17:50 Poster session

Welcome party

18:00-20:00 Welcome party at Ristorante L'Orchestrata (inside IRAKA)

## 26th July

Structure and dynamics of chiral magnets 1 Chair: Catherine Pappas

09:00—09:30 Kazuki Ohishi (CROSS Tokai, Japan) O04

*Magnetic ordering state in chiral magnet  $\text{CsCuCl}_3$  probed by polarized neutron scattering and muon spin rotation*

09:30—10:00 Victor Laliena (CSIC-University of Zaragoza, Spain) O05

*Monoaxial helimagnets beyond the mean field approximation*

10:00—10:30 Masaki Mito (Kyushu Institute of Technology, Japan) O06

*Nonlinear magnetic responses in chiral spin textures*

10:30—11:00 Coffee Break

Structure and dynamics of chiral magnets 2 Chair: Masaki Mito

11:00—11:30 Catherine Pappas (Delft University of Technology, Netherlands) O07

*New magnetic phase of the chiral skyrmion material  $\text{Cu}_2\text{OSeO}_3$*

11:30—12:00 Javier Campo (CSIC-University of Zaragoza, Spain) O08

*Stability and thermal fluctuations in cubic helimagnets*

12:00—12:30 Shigeo Ohara (Nagoya Institute of Technology, Japan) O09

*Magnetic phase diagram and magnetic structure of  $\text{DyNi}_3\text{Ga}_9$*

12:30—13:30 Lunch

Chiral plasmonics Chair: Donald MacLaren

13:30—14:00 Malcolm Kadodwala (University of Glasgow, UK) O10

*Origins and applications of optical activity in chiral plasmonic structures*

14:00—14:30 Hiromi Okamoto (Institute of Molecular Sciences, Japan) O11

*Nanoscale imaging and control of chiral plasmons*

14:30—15:00 Alexander Govorov (Ohio University, USA) O12

*Bio-plasmonics and bio-excitonics with colloidal nanocrystals: Chirality and long-range energy transfer*

15:00—15:30 Coffee Break

Chiral plasmonics and optics Chair: Malcolm Kadodwala

15:30—16:00 Nobuhiko Yokoshi (Osaka Prefectural University, Japan) O13

*Magnetic structure influenced by optical vortices*

16:00—16:30 Donald MacLaren (University of Glasgow, UK) O14

*Modelling & EELS analysis of Plasmon Excitations in Nanoparticles & Chiral Structures*

16:30—17:00 Shun Hashiyada (Institute of Molecular Sciences, Japan) O15

*Spectral properties of chiral optical fields localized on chiral metal nanostructures*

17:00—17:30 Affar Karimullah (University of Glasgow, UK) O16

*Chiral Plasmonics for Diagnostics*

## 27th July

Structure and dynamics of chiral magnets 3 Chair: Junichiro Ohe

09:00—09:30 Andrey Leonov (Hiroshima University, Japan) O17

*Non-axisymmetric skyrmions and their clusters in chiral magnetic materials*

09:30—10:00 Stephen McVitie (University of Glasgow, UK) O18

*Imaging nanoscale skyrmionics materials using Lorentz microscopy*

10:00—10:30 Shilei Zhang (University of Oxford, USA) O19

*Resonant X-Ray Dichroism Extinction Effect - Measurement of Chirality and Beyond -*

10:30—11:00 Coffee Break

Cross correlations and emergent dynamics in chiral magnets Chair: Sergey Grigoriev

11:00—11:30 Tetsuya Furukawa (Tokyo University of Science, Japan) O20

*Observation of current-induced bulk magnetization in non-magnetic trigonal tellurium*

11:30—12:00 Alexander Ovchinnikov (Ural Federal University, Japan) O21

*Theory of magnetoelastic resonance in a monoaxial chiral helimagnet*

12:00—12:30 Junichiro Ohe (Toho University, Japan) O22

*Electromagnet effect induced by the Dynamics of the non-axisymmetric skyrmion*

12:30—13:30 Lunch

Structure and dynamics of chiral magnets 4 Chair: Alexander Ovchinnikov

13:30—14:00 Sergey Grigoriev (Petersburg Nuclear Physics Institute, Russia) O23

*Spin waves stiffness in Dzyaloshinskii-Moriya helimagnet  $Cu_2OSeO_3$  with the ferrimagnetic ordering*

14:00—14:30 Takashi Koretsune (Tohoku University, Japan) O24

*First-principles evaluation of Dzyaloshinskii-Moriya interaction*

14:30—15:00 Takahisa Arima (University of Tokyo, Japan) O25

*Magnetoelectric Effect in Chiral Magnetic Insulators*

15:00—15:30 Coffee Break

Structure and dynamics of chiral magnets 5 Chair: Alexander Ovchinnikov

15:30—16:00 Yuya Sawada (Osaka University, Japan) O26

*ESR measurements of the chiral helimagnet  $CrNb_3S_6$*

Poster session 2

16:00—17:30 Poster session

Banquet

18:30—20:30 Banquet at KOTOWA (around 15min walk from IRAKA)

## 28th July

Structure and dynamics of chiral magnets 6 Chair: Yusuke Kato

09:00—09:30 Hiroaki Shishido (Osaka Prefecture University, Japan) O27

*Epitaxial thin film growth of the heavy fermion chiral magnet  $\text{YbNi}_3\text{Al}_9$*

09:30—10:00 Francisco Goncalves (Osaka Prefecture University, Japan) O28

*Response of chiral helimagnets to (non-) uniform microwave excitations*

10:00—10:30 Rair Macedo (University of Glasgow, UK) O29

*Optics of Canted Magnets with Broken Symmetry*

10:30—11:00 Coffee Break

Structure and dynamics of chiral magnets 7 Chair: Takahisa Arima

11:00—11:30 Alla Petrova (Institute for High Pressure Physics of RAS, Russia) O30

*Application of the ultrasonic techniques to studying magnetic phase diagrams of chiral magnets*

11:30—12:00 Nadya Chubova (Petersburg Nuclear Physics Institute, Russia) O31

*Role of critical helix fluctuations in formation of the skyrmion lattice in FeGe*

12:00—12:30 Vladimir Sinitsyn (Ural Federal University, Japan) O32

*Modelling of spin resonance in a finite size soliton lattice*

12:30—13:30 Lunch

Structure and dynamics of chiral magnets 8 Chair: Victor Laliena

13:30—14:00 Tatsuya Shishidou (University of Wisconsin-Milwaukee, USA) O33

*Spin-orbit effect in the forced ferromagnetic state of  $\text{CrNb}_3\text{S}_6$*

14:00—14:30 Yusuke Kato (University of Tokyo, Japan) O34

*Intrinsic hysteresis due to surface barrier of chiral soliton in monoaxial chiral helimagnets*

14:30—15:00 Coffee Break

Chiral liquid crystals Chair: Stephen McVitie

15:00—15:30 Ivan Smalyukh (University of Colorado Boulder, USA) O35

*3D Topological Solitons in Colloidal Chiral Ferromagnets*

15:30—16:00 Tsuyoshi Kimura (University of Tokyo, Japan) O36

*Liquid crystals as room-temperature magnetoelectrics*

Announcement and closing

16:00—16:15 Announcement of the next DMI: Sergey Grigoriev

16:15—16:20 Closing: Jun Akimitsu (Okayama University, Japan)

# Poster sessions

25th July, 17:00-18:00 & 27<sup>th</sup> July, 16:00-17:30

- P01 Ryuya Aoki (Osaka Prefecture University, Japan)  
*Nonreciprocal electrical transport in a monoaxial chiral magnet CrNb<sub>3</sub>S<sub>6</sub>*
- P02 I. G. Bostrem (Ural Federal University, Russia)  
*Magnetic properties of the triangular antiferromagnetic spin tube: a quantum approach*
- P03 Kayla Fallon (University of Glasgow, UK)  
*Exploring interfacial DMI in in-plane thin film permalloy nanostructures*
- P04 Cameron Gilroy (University of Glasgow, UK)  
*Optically induced chirality in plasmonic nanostructures*
- P05 Masayuki Hagiwara (Osaka University, Japan)  
*Spin-Quadrupolar Excitations in Sr<sub>2</sub>CoGe<sub>2</sub>O<sub>7</sub>*
- P06 Koujiro Hoshi (Toho University, Japan)  
*Spin and charge current induced by the skyrmion dynamics in the presence of the temperature gradient*
- P07 Akito Inui (Osaka Prefecture University, Japan)  
*Control of antisymmetric exchange interaction in chiral magnetic crystal*
- P08 Satoshi Iwasaki (Okayama University, Japan)  
*Crystal growth of chiral materials in Fe<sub>1-x</sub>Co<sub>x</sub>Si by Laser Diode heating Floating Zone method*
- P09 Ryoma Kawahara (Osaka University, Japan)  
*Fabrication and electrical measurements of CrNb<sub>3</sub>S<sub>6</sub> thin films*
- P10 Christopher Kelly (University of Glasgow, UK)  
*Controlling Fluorescence of Europium Oxide Metamaterials*
- P11 Gavin Macauley (University of Glasgow, UK)  
*Macro-ferromagnetism in a novel chiral class of Artificial Spin Ice geometries*
- P12 Hiroyasu Matsuura (University of Tokyo, Japan)  
*Theory of Magnetic Phase Diagram in Chiral Magnet CsCuCl<sub>3</sub> under High Pressures*
- P13 Katie McKay (University of Glasgow, UK)  
*Optical Characterization of Europium Oxide All-Dielectric Metamaterials*
- P14 Remi Murooka (Toho University, Japan)  
*Current-induced dynamics of non-axisymmetric skyrmion*
- P15 Shota Nakamura (Nagoya Institute of Technology, Japan)  
*Heavy fermion YbNi<sub>2</sub>Si<sub>3</sub> without local inversion symmetry*
- P16 Shota Nakayama (Osaka Prefecture University, Japan)  
*Detection of spin motive force in chiral magnetic order using non-local configuration measurement*

- P17 Masahiro Ohkuma (Kyushu Institute of Technology, Japan)  
*Size effects on magnetization process in submillimeter-size single crystals of chiral magnet CrNb<sub>3</sub>S<sub>6</sub>*
- P18 Akira Okumura (Osaka Prefecture University, Japan)  
*Fabrication and evaluation of chiral helimagnet YbNi<sub>3</sub>Al<sub>9</sub> thin films*
- P19 Takao Sangawa (University of Tokyo, Japan)  
*The electromagnetic response of the Dirac electron on graphene*
- P20 Yusuke Shimamoto (Toho University, Japan)  
*Chiral magnetic resonant dynamics in a chiral helimagnet CrNb<sub>3</sub>S<sub>6</sub>*
- P21 Masaya Sugishita (Toho University, Japan)  
*Spin-wave transmission through chiral soliton lattice*
- P22 Rikuho Takeda (University of Tokyo, Japan)  
*Surface barrier and magnon spectrum of uniaxial chiral magnets with antiferromagnetic exchange interaction*
- P23 Kazunori Umeo (Hiroshima University, Japan)  
*Pressure-induced magnetic phases in YbNi<sub>3</sub>Ga<sub>9</sub> with a chiral crystal structure: AC-calorimetric measurements*
- P24 Yuya Yoshitake (Osaka Prefecture University, Japan)  
*Coupling between chiral plasmonic field and chiral magnetic order*
- P25 Hirohisa Takahashi (Open University of Japan, Japan)  
*Landau level spectroscopy by optical vortex beam*