

**The 5th International Symposium on
Advanced Magnetic Materials and Applications
ISAMMA 2024**

Program and Abstracts

04-07th August 2024, Quang Binh, Vietnam

WELCOME MESSAGE

Dear Colleagues,

It is my great pleasure and honor to extend to you a warm invitation to attend the 5th International Symposium on Advanced Magnetic Materials and Applications (ISAMMA), which will be held from August 04 to 07, 2024 in Quang Binh Province - an exceptional location for the congress and dream vacation destination. ISAMMA 2024 aims to bring together leading scientists and engineers working on magnetic materials and their applications and facilitate the exchange of recent results and new ideas around the topics. This symposium will feature plenary, keynote, and invited talks on topical areas of magnetism from the world-leading scientists, including five IEEE Magnetics Distinguished Lecturers. It will also offer a unique opportunity to network, allowing you to meet and interact with colleagues and friends, as well as sponsors and exhibitors. I hope you will join us for an excellent science symphony and spend a little more time enjoying the spectacular and unique beauty of Quang Binh province.

Sincerely,



Nguyen Huu Duc
General Chair of ISAMMA 2024
President of Vietnam Magnetics Society

TABLE OF CONTENTS

WELCOME MESSAGE	III
TABLE OF CONTENTS	III
ABOUT ISAMMA	V
Historical aspects	v
Scope	v
Publication	v
Best Poster Award.....	v
ORGANIZATION	VI
Organizer.....	vi
Co-organizers	vi
SPONSORS	VII
ISAMMA 2024 COMMITTEE	IX
Chairman.....	ix
Steering Committee	ix
International Advisory Committee	ix
Organizing Committee	x
Program Committee.....	x
Guest Editors.....	xi
Secretariat.....	xi
INVITED SPEAKERS	XII
ISAMMA 2024 VENUE	XV
FOCUSED WORKSHOP ON BIOTECHNOLOGY	XVI
Scope.....	xvi
Time and Location.....	xvi
Co-Chairs	xvi
Invited speakers for focused workshop.....	xvi
PROGRAM	1
Overall Program	3
Detailed Timelines for Parallel Sessions	8
POSTER PRESENTATIONS	34
ABSTRACTS	49

ABOUT ISAMMA

Historical aspects

The International Symposium on Advanced Magnetic Materials and Applications (ISAMMA) provides an important event not only for the Asian Community on the Physics of Magnetism but also for the International Magnetic Community. It is a consolidation of previous international symposia under three different organizations: ISPM (International Symposium on Physics of Magnetic Materials) of Japan, SOMMA (International Symposium on Magnetic Materials and Application) of Korea, and ISAMT (International Symposium on Spintronics and Advanced Magnetic Technologies) of Taiwan.

ISAMMA has been organized since 2007, in Jeju - Korea (2007), Sendai - Japan (2010), Taichung - Taiwan (2013), and Phu Quoc - Vietnam (2017). Due to the COVID-19 pandemic, the 5th ISAMMA scheduled in the Okinawa Convention Center, Japan (14-17th December 2020) was canceled. In 2023, the Steering Committee of ISAMMA met and decided to organize the 5th ISAMMA 2024 in Vietnam.

Scope

The key topics of ISAMMA include:

- Spintronics and Spin-driven Phenomena
- Two-dimensional Materials and Heterostructures
- Soft/Hard Magnetic Materials and Applications
- Emerging Materials for Energy Harvesting and Related Applications
- Bio-Nanomagnetism in Human Healthcare
- AI and Machine Learning for Materials Design

Publication

Selected papers (after peer reviews) presented at the symposium will be published in ISI journals, including the Journal of Science: Advanced Materials and Devices (Impact Factor: 8.0).

Best Poster Award

An award for best poster will be made based on an evaluation of the scientific merit of the displayed work and the quality of the presentation of the work by the author. The winning author will be presented with a certificate and a \$100 cash prize sponsored by the Vietnam Magnetics Society. All participants in the poster sessions are eligible to receive the award, however the author(s) must be present during their specified poster session time to be considered.

ORGANIZATION

Organizer



Vietnam National University Ho Chi Minh City

Co-organizers



Vietnam Magnetics Society



Vietnam National University – Hanoi



VNU-University of Engineering and Technology



Center for Innovative Materials and Architectures,
Vietnam National University Ho Chi Minh City



Vietnam Materials Research Society



Nguyen Tat Thanh University



Vingroup Innovation Foundation

SPONSORS



The VNU University of Engineering and Technology
Website: <https://uet.vnu.edu.vn/en/>



Vingroup Innovation Foundation
Website: <https://vinif.org/>



Nguyen Tat Thanh University
Website: <https://ntt.edu.vn/>



LMS Technologies Vietnam Co., Ltd
Website: www.lmstech.com.vn



DGIST Magnetic Initiative Life Care Research Center
Website: <https://www.dgist.ac.kr/mcare/>



Journal of Science: Advanced Materials and Devices
<https://www.sciencedirect.com/journal/journal-of-science-advanced-materials-and-devices>



Institute of Materials Science
Website: <https://ims.ac.vn/>



T&N Trading and Investment Company Limited
Website: <https://tnic.com.vn/>



Linseis Messgeräte GmbH
Website: <https://www.linseis.com/en/>



DADA Korea Co. Ltd
Website: <http://www.thinfilms.co.kr/>



Horiba Vietnam Company Limited
Website: <http://www.horiba.com>



Advanced Materials Science and Technology Company Limited
Website: www.amst.com.vn



Metrohm VN Technology Company Limited
Website: https://www.metrohm.com/vi_vn.html



M TECHNOLOGY CO., LTD
Website: www.mtechnology.vn

ISAMMA 2024 COMMITTEE

Chairman

Nguyen Huu Duc Vietnam National University - Hanoi, Vietnam

Steering Committee

Koki Takanashi	Chairperson Japan Atomic Energy Agency and Tohoku University, Japan
Akira Kikitsu	Toshiba, Japan
Shin Saito	Tohoku University, Japan
Kyung-Ho Shin	Korea Institute of Science and Technology, South Korea
CheolGi Kim	Daegu Gyeongbuk Institute of Science and Technology, South Korea
Young Keun Kim	Korea University, South Korea
Te-Ho Wu	National Yunlin University of Science and Technology, Taiwan
Wen-Chen Chang	National Chung Cheng University, Taiwan
Ching-Ray Chang	National Taiwan University, Taiwan
Xiaofeng Jin	Fudan University, China
Wei Li	Central Iron and Steel Research Institute, China
Zhao-hua Cheng	Institute of Physics Chinese Academy of Sciences, China
Shao-Xiong Zhou	Advanced Technology & Materials Co., Ltd. China
Tiejun Zhou	Data Storage Institute, Singapore

International Advisory Committee

Julie A. Borchers	NIST, USA
Ekkes Brück	TU Delft, Netherlands
Bach Thanh Cong	VNU University of Science, Vietnam
Hung-The Diep	CY Cergy Paris University, France
Nguyen Hoang Hai	Vietnam National University, Hanoi
Jongill Hong Yonsei	University, South Korea
Young Keun Kim	Korea University, South Korea
Vu Dinh Lam	Vietnam Academy of Science and Technology, Vietnam
Nguyen Hoang Luong	VNU University of Science, Vietnam
David Mandrus	University of Tennessee, USA
Xavier Moya	Cambridge University, UK
S.N. Piramanayagam	Nanyang Technological University, Singapore
Nikolai Perov	Lomonosov Moscow State University, Russia
Budi Purnama	Sebelas Maret University, Indonesia
Ivan Škorvánek	Slovak Academy of Sciences, Slovakia

Hariharan Srikanth	University of South Florida, USA
Yasushi Takemura	Yokohama National University, Japan
Shan Xiang Wang	Stanford University, USA
Te-ho Wu National	Yunlin University of Science and Technology, Taiwan
Arkady Zhukov	The University of Basque Country, Spain

Organizing Committee

Phan Bach Thang	Chairman Vietnam National University Ho Chi Minh City, Vietnam
Manh-Huong Phan	Co-Chairman University of South Florida, USA
Do Thi Huong Giang	Co-Chairman VNU University of Engineering and Technology, Vietnam
Nguyen Hoang Nam	Co-Chairman VNU University of Science, Vietnam
Le Duc Anh	Co-Chairman University of Tokyo, Japan
Nguyen Huy Dan	Vietnam Academy of Science and Technology, Vietnam
Nguyen Ngoc Dinh	VNU University of Science, Vietnam
Bach Long Giang	Nguyen Tat Thanh University, Vietnam
Anh-Tuan Le	Phenikaa University, Vietnam
Le Van Lich	Hanoi University of Science and Technology, Vietnam
Do Hung Manh	Vietnam Academy of Science and Technology, Vietnam
Minh-Hai Nguyen	Kepler Computing, USA
Van-Dai Nguyen	IMEC, Belgium
Mai Phuong Nguyen	Tohoku University, Japan
Vu Thanh Tra	Can Tho University, Vietnam
Duc H. Tran	VNU University of Science, Vietnam
Le Manh Tu	Phenikaa University, Vietnam
Le Tuan Tu	VNU University of Science, Vietnam
Hoa Phan	Hanoi University of Science and Technology, Vietnam

Program Committee

Manh-Huong Phan	University of South Florida, USA, Chairman
Nguyen Hoang Nam	VNU University of Science, Vietnam, Co-Chairman
Pham Nam Hai	Tokyo Institute of Technology, Japan, Co-Chairman
Anh-Tuan Le	Phenikaa University, Vietnam, Co-Chairman
Nguyen Ngoc Anh	Vietnam Academy of Science and Technology, Vietnam
Nguyen Thi Van Anh	Tohoku University, Japan

Le Viet Bau	Hong Duc University, Vietnam
Loc Dinh Duong	North Dakota University, USA
Ton That Loi	Tohoku University, Japan
Phan The Long	VNU University of Engineering and Technology, Vietnam
Nguyen Thuy Trang	VNU University of Science, Vietnam
Dang Ngoc Toan	Duy Tan University, Vietnam
Tran Dang Thanh	Vietnam Academy of Science and Technology, Vietnam

Guest Editors

Manh-Huong Phan	University of South Florida, USA
Xavier Moya	Cambridge University, UK
Nguyen Hoang Nam	VNU University of Science, Vietnam

Secretariat

Lai Thi Hoa	INOMAR, Vietnam National University Ho Chi Minh City, Vietnam
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INVITED SPEAKERS

Sang-Wook Cheong	Rutgers University, USA EiC, npj Quantum Materials - Nature Journal
G. Jeffrey Snyder	Northwestern University, USA (The Notable Scientist in Thermoelectrics)
Liesl Folks	The University of Arizona, USA (Vice President, Semiconductor Strategy)
Mathias Kläui	University Mainz, Germany (IEEE Magnetics Society Distinguished Lecturer for 2022)
Hyunsoo Yang	National University of Singapore, Singapore (IEEE Magnetics Society Distinguished Lecturer for 2021)
Masahiro Yamashita	Tohoku University, Japan (The Notable Scientist in Quantum Molecular Magnets)
Ken-ichi Uchida	National Institute for Materials Science, Japan
Sara Majetich	Carnegie Mellon University, USA
Kyung-Jin Lee	Korea Advanced Institute of Science and Technology, South Korea
Masaaki Tanaka	The University of Tokyo, Japan
Chih-Huang Lai	National Tsing Hua University, Taiwan
CheolGi Kim	Daegu Gyeongbuk Institute of Science and Technology, South Korea
Claire Donnelly	Max Planck Institute for Chemical Physics of Solids, Germany
Young Keun Kim	Korea University, South Korea
Atsufumi Hirohata	Tohoku University, Japan
Arkady Zhukov	The University of Basque Country, Spain
Nicholas Bingham	University of Maine, USA
Ivan Škorvánek	Slovak Academy of Sciences, Slovakia
Pham Nam Hai	Tokyo Institute of Technology, Japan
Javier Campo	Universidad de Zaragoza, Spain
Ramanathan Mahendiran	National University of Singapore, Singapore
Takeshi Seki	Tohoku University, Japan
Byong-Guk Park	Korea Advanced Institute of Science and Technology, South Korea
Yuya Sakuraba	National Institute for Materials Science, Japan
Jeehoon Kim	Postech, South Korea
Hossein Sepehri-Amin	National Institute for Materials Science, Japan
Javier Alonso	The University of Cantabria, Spain
Se Kwon Kim	Korea Advanced Institute of Science and Technology, South Korea
Hiroshi Naganuma	Tohoku/Nagoya University, Japan
Chanyong Hwang	KRISS South Korea
Tomoyasu Taniyama	Nagoya University, Japan
Yaroslav Tserkovnyak	University of California, Los Angeles, USA

The 5th International Symposium on Advanced Magnetic Materials and Applications
04-07th August 2024, Quang Binh, Vietnam

Shinobu Ohya	The University of Tokyo, Japan
Michael Osofsky	Towson University, USA
Samik DuttaGupta	Saha Institute of Nuclear Physics, India
Venkata Kamalakar	Mutta Uppsala University, Sweden
Jongill Hong	Yonsei University, South Korea
Tran Xuan Bao	DGIST, South Korea
Takahiro Moriyama	Nagoya University, Japan
Tuson Park	Sungkyunkwan University, South Korea
Anh-Tuan Le	Phenikaa University, Vietnam
Masaki Kobayashi	The University of Tokyo, Japan
Le Manh Tu	Phenikaa University, Vietnam
Soong-Geun Je	Chonnam National University, South Korea
Hoa Phan	Hanoi University of Science and Technology, Vietnam
Sawssen Slimani	University of Genova, Italy
Vu Dinh Lam	Vietnam Academy of Science and Technology, Vietnam
Donghun Lee	Korea University, South Korea
Shin Yabukami	Tohoku University, Japan
Le Van Lich	Hanoi University of Science and Technology, Vietnam
Marienette Morales Vega	University of the Philippines Diliman, Philippines
Nguyen Quang Hung	Duy Tan University, Vietnam
W. Busayaporn	Synchrotron Light Research Institute, Thailand
Loi Tonthat	Tohoku University, Japan
Dang Ngoc Toan	Duy Tan University, Vietnam
Nguyen Tuan Hung	Tohoku University, Japan
Do Thi Huong Giang	VNU University of Engineering and Technology, Vietnam
Hiroshi Imamura	National Institute of Advanced Industrial Science and Technology Japan
Nguyen Thi Van Anh	Tohoku University, Japan
Nguyen Hoang Nam	VNU Hanoi University of Science, Viet Nam
Yuki Shiomi	The University of Tokyo, Japan
Masaki Mizuguchi	Nagoya University, Japan
Thanh D. Nguyen	University of Connecticut, USA
Yuki Wakabayashi	NTT Basic Research Lab, Japan
Hiroki Morishita	Tohoku University, Japan
Takahiro Chiba	Tohoku University, Japan
Nguyen Duy Khanh	The University of Tokyo, Japan
Hiroyasu Nakayama	National Institute of Advanced Industrial Science and Technology Japan
Ya-Ping Hsieh	IAMS, Academia Sinica, Taiwan
Dong-Hyun Kim	Chungbuk National University, South Korea

The 5th International Symposium on Advanced Magnetic Materials and Applications
04-07th August 2024, Quang Binh, Vietnam

Ki-Suk Lee	Ulsan National Institute of Science and Technology, South Korea
Shinji MIWA	The University of Tokyo, Japan
Quoc Huy Thi	The Hong Kong Polytechnic University, Hong Kong
Ady Suwardi	The Chinese University of Hong Kong, Hong Kong
Ssu-Yen Huang	National Taiwan University, Taiwan
Sarah Manton	Unité Mixte de Physique CNRS/Thales, France
Adler Gamzatov Amirkhanov	Institute of Physics, Russia
Sergey A. Nikitov	Russian Academy of Sciences, Russian
Nguyen Huy Dan	Vietnam Academy of Science and Technology, Vietnam
Nikolai Perov	Lomonosov Moscow state university, Russian
Duc Hai Tran	VNU University of Science, Vietnam
Junichi Shiogai	Osaka University, Japan
Aidan An-Cheng Sun	Yuan Ze University
Hideto Yanagihara	University of Tsukuba, Japan
Chun-Yeol You	DGIST, South Korea
Jeongyong Kim	Sungkyunkwan University, South Korea
Dario Arena	University of South Florida, USA
Se Young Park	Soongsil University, South Korea
Khanh Kieu	University of Arizona, USA
Suraj Thyagarajan Sumaraj	National University of Singapore, Singapore
Nguyen Tran Thuat	VNU University of Science, Vietnam
Le Duc Anh	The University of Tokyo, Japan
Manh-Huong Phan	University of South Florida, USA
Faxiang QIN	Zhejiang University, China
Anh Duc Phan	Phenikaa University, Vietnam
Lan-Anh T. Nguyen	Sungkyunkwan University, South Korea
Tae Hee Kim	Ewha Womans University, South Korea
Kyung Ho Shin	DGIST, South Korea

ISAMMA 2024 VENUE

ISAMMA 2024 takes place at Celina Peninsula Resort, Vo Nguyen Giap Street, Bao Ninh Commune, Dong Hoi City, Quang Binh Province (Website: <https://celinaresort.com/>)

FOCUSED WORKSHOP ON BIOTECHNOLOGY

Recent Advances in Biomedically Driven Nanodevices and Technologies

(partially supported by Magnetics Initiative Life Care Research Center in DGIST)

Scope

This workshop focuses on recent developments in materials, devices and biochemical progress for biomedical diagnosis, prognosis, and other applications. Researchers and experts in these areas of interest are welcome to participate in and present new findings at the event. The workshop is organized in conjunction with ISAMMA2024.

Time and Location

The workshop will be held on August 4, 2024, at Celina Peninsula Resort in Quang Binh.

Co-Chairs

Prof. CheolGi Kim	Daegu Gyeongbuk Institute of Science & Technology, South Korea Email: cgkim@dgist.ac.kr Website: https://nbest.dgist.ac.kr/
Prof. Thanh D. Nguyen	University of Connecticut, USA Email: nguyentd@uconn.edu Website: http://www.nguyenresearchgroup.com/
Prof. Shinbuhm Lee	Daegu Gyeongbuk Institute of Science & Technology, South Korea Email: lee.shinbuhm@dgist.ac.kr Website: https://xlab.dgist.ac.kr

Invited speakers

Anh Duc Phan	Phenikaa University, Vietnam
Faxiang QIN	Zhejiang University, China
Khanh Kieu	University of Arizona, USA
Thanh D. Nguyen	University of Connecticut, USA
Sungwon Lee	DGIST, South Korea
Byunghwa Lim	DGIST, South Korea
Jaesok Yu	DGIST, South Korea
Kieu The Loan Trinh	Gachon University, South Korea

PROGRAM

Overall Program

04-Aug

14:00 - 17:00 Meetings

14:00 - 19:00 Welcome and Registration

05-Aug

07:15 - 07:40 Registration

07:40 - 08:30 Opening

Welcome speeches from Chairs of ISAMMA 2024 and distinguished guests
Social Value Creation inspired by Innovation, Kyung Ho Shin, Kor

08:30 - 09:30 Plenary Session 1

Chairs Phan Manh Huong, Liesl Folks

08:30 - 09:00 PL1

Altermagnetism and Kinetomagnetism

Sang-Wook Cheong and Fei-Ting Huang

Rutgers Center for Emergent Materials, Rutgers University, USA

09:00 - 09:30 PL2

Spin devices for nonvolatile memories and beyond

Hyunsoo Yang, Qu Yang, Guoyi Shi and Yuchen Pu

National University of Singapore, Singapore

09:30 - 09:45 Coffee break - Group Photo

09:45 - 11:05 Parallel Sessions

<i>Venue</i>	<i>Room 1</i>	<i>Room 2</i>	<i>Room 3</i>	<i>Room 4</i>
<i>Session</i>	<i>SSp 1</i>	<i>SSp 7</i>	<i>TMh 1</i>	<i>SMA 1</i>
<i>Chairs</i>	Michael Osofsky, Chih Huang Lai	Javier Campo, Thi Van Anh Nguyen	CheolGi Kim, Sawssen Slimani	Arcady Zhukov, Ivan Skorvanek
	SSp-K1: Chih-Huang Lai, Tw	SSp-K4: Sara Majetich, US	TMh-K1: CheolGi Kim, Kor	SMA-K1: Nguyen Hoang Luong, VN
	SSp-I1: Masaki Kobayashi, JP	SSp-I23: Thi Van Anh Nguyen, JP	TMh-I1: Sawssen Slimani, Ita	SMA-I1: Arcady Zhukov, Spn
	SSp-I2: Se Kwon Kim, Kor	SSp-I24: Ki-Suk Lee, Kor	TMh-I2: Quoc Huy Thi, VN	SMA-I2: Ivan Skorvanek, Slv
	SSp-I3: Michael Osofsky, US	SSp-I25: Javier Campo, Spn	TMh-O1: Kota Ejiri, JP	SMA-O1: Hiroaki Kikuchi, JP

11:05 - 11:15 Coffee break

11:15 - 12:30 Parallel Sessions

<i>Venue</i>	<i>Room 1</i>	<i>Room 2</i>	<i>Room 3</i>	<i>Room 4</i>
<i>Session</i>	<i>SSp 2</i>	<i>SSp 8</i>	<i>TMh 2</i>	<i>SMA 2</i>
<i>Chairs</i>	Takahiro Moriyama, Ramanathan Mehendiran	Nguyen Phuc Duong, Masaki Mizuguchi	Yuki Shiomi, Lan Anh T. Nguyen	Le Van Lich, Hossein Sepehri-Amin
	SSp-I4: Takahiro Moriyama, JP	SSp-I26: Masaki Mizuguchi, JP	TMh-I3: Yuki Shiomi, JP	SMA-I3: Le Van Lich, VN
	SSp-I5: Ramanathan Mahendiran, Sgp	SSp-I27: Soong-Geun Je, Kor	TMh-I4: Lan Anh T. Nguyen, Kor	SMA-I4: Hossein Sepehri-Amin, JP

The 5th International Symposium on Advanced Magnetic Materials and Applications
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	SSp-I6: Tran Xuan Bao, Kor	SSp-O7: Jyh-Shen Tsay, Tw	TMh-I5: Tomoyasu Taniyama, JP	SMa-O2: Ngo Tran, VN
	SSp-O1: Andi Gumarilang, Idn	SSp-O8: Nguyen Phuc Duong, VN	TMh-O2: Doan Le Hoang Tan, VN	SMa-O3: Mariya Matyunina, Rus
12:30 - 13:30	Lunch			
13:30 - 15:05	Parallel Sessions			
Venue	Room 1	Room 2	Room 3	Room 4
Session	SSp 3	SSp 9	TMh 3	SMa 3
<i>Chairs</i>	<i>Jongill Hong, Ssu-Yen Huang</i>	<i>Young Keun Kim, Junichi Shioagai</i>	<i>Ya-Ping Hsieh, Hiroshi Nagamura</i>	<i>Duc Hai Tran, Wuttthikrai Busayaporn</i>
	SSp-I7: Jongill Hong, Kor	SSp-K5: Young Keun Kim, Kor	TMh-I6: Hiroshi Naganuma, JP	SMa-I5: Duc Hai Tran, VN
	SSp-I8: Ssu-Yen Huang, Tw	SSp-I28: Junichi Shioagai, JP	TMh-I7: Marienette Morales Vega, Phi	SMa-I6: Wuttthikrai Busayaporn, Thl
	SSp-I9: Donghun Lee, Kor	SSp-I29: Chanyong Hwang, Kor	TMh-I8: Ya-Ping Hsieh, Tw	SMa-O4: Phuc Ly Nguyen, VN
	SSp-I10: Nguyen Duy Khanh, JP	SSp-O9: Aleksei Yu. Samardak, Rus	TMh-I9: Se Young Park, Kor	SMa-O5: Alexander P. Kamantsev, Rus
	SSp-O2: Thanh-Huong Thi Nguyen, Kor	SSp-O10: Takahiro Saeki, JP	TMh-O3: Dinh Chuong Nguyen, VN	SMa-O6: Sung-Min Ahn, Kor
15:05 - 15:15	Coffee break			
15:15 - 17:00	Parallel Sessions			
Venue	Room 1	Room 2	Room 3	Room 4
Session	SSp 4	SSp 10	TMh 4	SMa 4
<i>Chairs</i>	<i>Pham Nam Hai, Takahiro Chiba</i>	<i>Atsufumi Hirohata, Chun-Yeol You</i>	<i>Nguyen Thanh Tung, Hyejin Ryu</i>	<i>Le Manh Tu, Shin Yabukami</i>
	SSp-K2: Yaroslav Tserkovnyak, US	SSp-K6: Atsufumi Hirohata, JP	TMh-I10: Samik Dutta Gupta, Ind	SMa-I7: Le Manh Tu, VN
	SSp-I11: Takahiro Chiba, JP	SSp-I30: Dang Ngoc Toan, VN	TMh-I11: Jeongyong Kim, Kor	SMa-I8: Shin Yabukami, JP
	SSp-I12: Suraj Thyagarajan Sumaraj, Sgp	SSp-I31: Shinji Miwa, JP	TMh-I12: Nguyen Thanh Tung, VN	SMa-O7: Lusi Safriani, Idn
	SSp-I13: Pham Nam Hai, JP	SSp-I32: Chun-Yeol You, Kor	TMh-I13: Hyejin Ryu, Kor	SMa-O8: Tuan Nguyen -Van, VN
	SSp-I14: Byong-Guk Park, Kor	SSp-I33: Sarah Mantion, Fr	TMh-O4: Huang Tzu Tai, Tw	SMa-O9: Syarifah Nihlah Yahya, Idn
17:00 - 18:00	Poster Session			
<i>Chairs</i>	<i>Takahiro Moriyama, Jongill Hong, Sawssen Slimani, Ya-Ping Hsieh, Le Van Lich, Wuttthikrai Busayaporn, Yuya Sakuraba, Pedro Gorria</i>			
18:00 - 19:00	Plenary Session 2			
<i>Chairs</i>	<i>Nguyen Hoang Luong, Sang-Wook Cheong</i>			
18:00 - 18:30	PL3			
	<i>Restructuring the Global Microelectronic Supply Chain for Resilience - Risks and Opportunities</i>			
	<u>Liesl Folks</u>			
	Semiconductor Strategy, The University of Arizona, USA			

The 5th International Symposium on Advanced Magnetic Materials and Applications
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18:30 - 19:00 PL4
Strategies for Engineering Complex Thermoelectric Materials
G. Jeffrey Snyder
Northwestern University, USA

19:30 - 21:30 **Banquet**

06-Aug

08:00 - 10:15 Parallel Sessions

<i>Venue</i>	Room 1	Room 2	Room 3	Room 4
Session	SSp 5	SSp 11	EEr 1	SMA 5
<i>Chairs</i>	<i>Sergey A. Nikitov, Hoa Phan</i>	<i>Dario A. Arena, Le Duc Anh</i>	<i>Nguyen Tuan Hung, Ady Suwardi</i>	<i>Do Thi Huong Giang, Hideto Yanagihara</i>
	SSp-K3: Masaaki Tanaka, JP	SSp-I34: Le Duc Anh, JP	EEr-K1: Ken-ichi Uchida, JP	SMA-I9: Do Thi Huong Giang, VN
	SSp-I15: Hoa Phan, VN	SSp-I35: Hiroki Morishita, JP	EEr-I1: Ady Suwardi, HK	SMA-I10: Hideto Yanagihara, JP
	SSp-I16: Yuki K. Wakabayashi, JP	SSp-I36: Dario A. Arena, US	EEr-I2: Nguyen Tuan Hung, JP	SMA-O10: Nugraheni Puspita Rini, Idn
	SSp-I17: Sergey A. Nikitov, Rus	SSp-I37: Shoya Sakamoto, JP	EEr-I3: Nagalakshmi Ramamoorthi, Ind	SMA-O11: Tien Ngoc Phuc Nguyen, VN
	SSp-I18: Hiroyasu Nakayama, JP	SSp-O11: Baigutlin Danil Rasulovich, Rus	EEr-I4: Takeshi Seki, JP	SMA-O12: Vladimir Sokolovskiy, Rus
	SSp-O3: Yosephine Novita Apriati, JP	SSp-O12: Nga T. Do, Kor	EEr-O1: Linh Ho Thuy Nguyen, VN	SMA-O13: Togar Saragi, Idn
	SSp-O4: Masayuki Ishida, JP		EEr-O2: Risdiana Risdiana, Idn	SMA-O14: Tran T Tung, Aus

10:15 - 10:25 Coffee break

10:25 - 12:30 Parallel Sessions

<i>Venue</i>	Room 1	Room 2	Room 3	Room 4
Session	SSp 6	Focused Workshop 1	EEr 2	SMA 6
<i>Chairs</i>	<i>Dong-Hyun Kim, Nikolai Perov</i>	<i>Thanh Duc Nguyen, Byeonghwa Lim</i>	<i>Tuson Park, Vu Dinh Lam</i>	<i>An-Cheng Aidan Sun, Nguyen Ngoc Dinh</i>
	SSp-I19: Hiroshi Imamura, JP	FWB-I1: Khanh Kieu, US	EEr-K2: Vu Dinh Lam, VN	SMA-I11: An-Cheng Aidan Sun, Tw
	SSp-I20: Nikolai Perov, Rus	FWB-I2: Thanh Duc Nguyen, US	EEr-I5: Tuson Park, Kor	SMA-O15: Luu Manh Quynh, VN
	SSp-I21: Dong-Hyun Kim, Kor	FWB-I3: Sungwon Lee, Kor	EEr-I6: Nguyen Quang Hung, VN	SMA-O16: Sung-Min Ahn, Kor
	SSp-I22: Shinobu Ohya, JP	FWB-I4: Kieu The Loan Trinh, Kor	EEr-I7: Adler Gamzatov, Rus	SMA-O17: Lin Luo, Chn
	SSp-O5: Zhang Junwei, JP	FWB-I5: Byeonghwa Lim, Kor	EEr-O3: Sophie Guillemot, UK	SMA-O18: Phan The Long, VN
	SSp-O6: Chau Nguyen Dao, US	FWB-O1: Chun-Yeol You, Kor	EEr-O4: Athul Sunitha Raveendran, Ind	SMA-O19: Shijie Wei, Chn
			EEr-O5: Ngoc Quang Tran, VN	SMA-O20: Nguyen Thi Kim Cuc, VN

The 5th International Symposium on Advanced Magnetic Materials and Applications
04-07th August 2024, Quang Binh, Vietnam

12:30 - 13:30	Lunch			
13:30 - 15:00	Parallel Sessions			
Venue	Room 1	Room 2	Room 3	Room 4
Session	BNh 1	Focused Workshop 2	EEr 3	SMa 7
<i>Chairs</i>	<i>Javier Alonso, Loi Tonthat</i>	<i>CheolGi Kim, Anh Duc Phan</i>	<i>Yuya Sakuraba, Pedro Gorria</i>	<i>Nguyen Huy Dan, Arcady Zhukov</i>
	BNh-I1: Anh-Tuan Le, VN	FWB-I6: Faxiang Qin, Chn	EEr-I8: Yuya Sakuraba, JP	SMa-I12: Nguyen Huy Dan, VN
	BNh-I2: Javier Alonso, Spn	FWB-I7: Jaesok Yu, Kor	EEr-I9: Pedro Gorria, Spn (online?)	SMa-I13: Jeehoon Kim, Kor
	BNh-I3: Loi Tonthat, JP	FWB-I8: Anh Duc Phan, VN	EEr-I10: Michitaka Ohtaki, JP	SMa-O21: Sung-Min Ahn, Kor
	BNh-O1: Ngoc Xuan Dat Mai, VN	FWB-O2: CheolGi Kim, Kor	EEr-O6: Thanh Hai Phan, VN	SMa-O22: Hongxian Shen, Chn
		FWB-O3: Tuan-Anh Nguyen, VN	EEr-O7: Tran Quang Minh Nhat, VN	SMa-O23: Liudmila Makarova, Rus
15:00 - 15:15	Coffee break			
15:15 - 16:50	Parallel Sessions			
Venue	Room 1	Room 2	Room 3	Room 4
Session	BNh 2	TMh 6	TMh 5	SMa 8
<i>Chairs</i>	<i>Shin Yabukami, Anh-Tuan Le</i>	<i>Nguyen Tran Thuat, Tae Hee Kim</i>	<i>Faxiang Qin, M. Venkata Kamalakar</i>	<i>Nguyen Ngoc Dinh, Wuttthikrai Busayaporn</i>
	BNh-I4: Nguyen Hoang Nam, VN	TMh-I16: Nguyen Tran Thuat, VN	TMh-I14: Manh-Huong Phan, US	SMa-O24: Yulin Chai, Chn
	BNh-O2: Sang-Suk Lee, Kor	TMh-I17: Tae Hee Kim, Kor	TMh-I15: M. Venkata Kamalakar, Swe	SMa-O25: Anton Bolyachkin, JP
	BNh-O3: Trinh Thi Ngoc Diep, VN	TMh-O8: Aleksei Kozlov, Rus	TMh-O5: Thi Luu Luyen Doan, VN	SMa-O26: Dong Quoc Viet, VN
		TMh-O9: Xinghui Liu, Chn	TMh-O6: Shi Qing, JP	SMa-O27: Yueqing Liu, Chn
			TMh-O7: Dmitry A. Kuzmin, Rus	
17:00 - 18:00	Plenary session 3			
<i>Chairs</i>	<i>Sara Majetich, Jeffrey Snyder</i>			
17:00 - 17:30	PL5 <i>Reading, writing and transporting spins in antiferromagnets and altermagnets</i> <u>M. Kläui</u> ^{1,2} ¹ <i>Institute of Physics, Johannes Gutenberg University Mainz, Germany</i> ² <i>Center for Quantum Spintronics, Norwegian University of Science and Technology, Norway</i>			
17:30 - 18:00	PL6 <i>Molecular Spin Qubits toward Quantum Computer and High-Density Memory Devices Based on Molecular Magnets</i> <u>Masahiro Yamashita</u> <i>Department of Chemistry, Graduate School of Science, Tohoku University, Japan</i>			
18:00 - 18:30	Poster Awards & Closing			

07-Aug

8:00 - 17:00 Sightseeing tours

Abbreviation of sessions

BNh	Bio-Nanomagnetism in Human Healthcare
EEr	Emerging Materials for Energy Harvesting and Related Applications
SMa	Soft/Hard Magnetic Materials and Applications
SSp	Spintronics and Spin-driven Phenomena
TMh	Two-dimensional Materials and Heterostructures

Detailed Timelines for Parallel Sessions

05-Aug

SSp 1

Chairs: Michael Osofsky, Chih Huang Lai

09:45 – 10:10 SSp-K1

Néel tensor torque at the ferromagnet/ antiferromagnet interface

Chao-Yao Yang^{1,3}, Sheng-Huai Chen¹, Chih-Hsiang Tseng¹, Chang-Yang Kuo^{4,5},
Hsiu-Hau Lin² and Chih-Huang Lai^{1,6}

¹Department of Materials Science and Engineering, National Tsing Hua University, Taiwan

²Department of Physics, National Tsing Hua University, Taiwan

³Department of Materials Science and Engineering, National Yang Ming Chiao Tung University, Taiwan

⁴Department of Electrophysics, National Yang Ming Chiao Tung University, Taiwan.

⁵National Synchrotron Radiation Research Center, Taiwan

⁶College of Semiconductor Research, National Tsing Hua University, Taiwan

10:10 – 10:30 SSp-I1

Elucidation of the Electronic States of Ferromagnetic Semiconductors Using Synchrotron Radiation X-Ray Spectroscopy

Masaki Kobayashi^{1,2}

¹Department of Electrical Engineering and Information Systems, The University of Tokyo, Japan

²Center for Spintronic Research Network, The University of Tokyo, Japan

10:30 – 10:50 SSp-I2

Intrinsic Magnon Orbital Hall Effect in Honeycomb Antiferromagnets

Gyungchoon Go¹, Daehyeon An¹, Hyun-Woo Lee² and Se Kwon Kim¹

¹Department of Physics, Korea Advanced Institute of Science and Technology, South Korea

²Department of Physics, Pohang University of Science and Technology, South Korea

10:50 – 11:10 SSp-I3

Use of PCAR to measure the transport spin polarization of Pt/ferromagnetic insulator bilayers

M. S. Osofsky¹, J. C. Prestigiacomo², C. Stephen Hellberg², P. Li³, L. Riddiford⁴ and Y. Suzuki⁴

¹Department of Physics, Astronomy and Geosciences, Towson University, USA

²Materials Physics and Chemistry Section, Naval Research Laboratory, USA

³Department of Electrical and Computer Engineering, Auburn University, USA

⁴Department of Applied Physics, Stanford University, USA

SSp 7

Chairs: Javier Campo, Thi Van Anh Nguyen

09:45 – 10:10 SSp-K4

Artificial Spin Ice Based on Superparamagnetic Tunnel Junctions

Sara A. Majetich, Connor Sullivan and Hao Chen

Department of Physics, Carnegie Mellon University, USA

10:10 – 10:30 SSp-I23

Spin-current generation in triple-domain structured RuO₂

T. V. A. Nguyen^{1,2}, V. T. N. Huyen³, S. DuttaGupta^{1,4,5}, Y. Saito², D. Vu⁶, Y.

Endo^{1,7}, H. Naganuma^{1,2}, S. Ikeda^{1,2} and T. Endoh^{1,2,5,7}

¹Center for Science and Innovation in Spintronics (Core Research Cluster), Tohoku University, Japan

²Center for Innovative Integrated Electronic Systems, Tohoku University, Japan

³Institute for Materials Research, Tohoku University, Japan

⁴Saha Institute of Nuclear Physics, India

⁵Research Institute of Electrical Communication, Tohoku University, Japan

⁶Institute of Physics, Vietnam Academy of Science and Technology, Vietnam

⁷Graduate School of Engineering, Tohoku University, Japan

10:30 – 10:50 SSp-I24

Role of topological singularity in magnetization dynamics

Ki-Suk Lee^{1,2}, Hee-Sung Han^{2,3}, Myounghwan Kang², Ganghwi Kim², Suyeong Jeong², Younggun Park¹ and Mi-Young Im⁴

¹Graduate School of Semiconductor Materials and Devices Engineering, Ulsan National Institute of Science and Technology, Republic of Korea

²School of Materials Science and Engineering, Ulsan National Institute of Science Technology, Republic of Korea

³Department of Materials Science and Engineering, Korea National University of Transportation, Republic of Korea

⁴Center for X-ray Optics, Lawrence Berkeley National Laboratory, USA

10:50 – 11:10 SSp-I25

Dzyaloshinskii-Moriya Chiral Magnets

V. Laliena¹ and J. Campo²

¹Department of Applied Mathematics, University of Zaragoza, Spain

²Aragon Nanoscience and Materials Institute (CSIC-University of Zaragoza) and Condensed Matter Physics Department, University of Zaragoza, Spain

TMh 1

Chairs: CheolGi Kim, Sawssen Slimani

09:45 - 10:10 TMh-K1

Advances in Planar Hall Magnetoresistive sensors for robust on-demand applications

Byeonghwa Lim¹, Taehyeong Jeon², Changyeop Jeon², Mijin Kim², Pranita Sharma, Jinwoo Kim² and CheolGi Kim²

¹Department of Smart Sensor Engineering, Andong National University, South Korea

²Department of Physics and Chemistry, DGIST, South Korea

10:10 - 10:30 TMh-I1

Exploring Surface Effects in Hollow Iron Oxide Nanoparticles: A Magnetic Study

Sawssen Slimani^{1,2}, Marianna Vasilakaki³, Eoin Dolan⁴, Kalliopi N Trohidou³, Rodaina Sayed Hassan⁵, Nader Yaacoub⁵ and Davide Peddis^{1,2}

¹Department of Chemistry and Industrial Chemistry & Genova, INSTM RU, nM2-Lab, University of Genova, Italy

²Institute of Structure of Matter, National Research Council, nM2-Lab, Italy

³Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Greece

⁴CIC nanoGUNE BRTA, 20018 Donostia-San Sebastian, Basque Country, Spain

⁵Le Mans Université, IMMM, CNRS UMR-6283, France

10:30 - 10:50 TMh-I2

Interface between two-dimensional ice and two-dimensional materials enables clean transfer and ultrahigh lubricity

Quoc Huy Thi^{1,2,3,4}, Jiong Zhao^{1,2} and Thuc Hue Ly^{3,4}

¹Department of Applied Physics, The Hong Kong Polytechnic University, China

²The Hong Kong Polytechnic University, Shenzhen Research Institute, China

³Department of Chemistry & Center of Super-Diamond & Advanced Films (COSDAF) & State Key Laboratory of Marine Pollution, City University of Hong Kong, China

⁴City University of Hong Kong, Shenzhen Research Institute, China

10:50 - 11:02 TMh-O1

Detection of Fe-induced impurity band in Bi-doped (InFe)(SbBi) ferromagnetic semiconductor using infrared magnetic circular dichroism spectroscopy

Kota Ejiri¹, Yota Endo¹, Kenta Takabayashi¹, Masaaki Tanaka² and Pham Nam Hai¹

¹Department of Electrical and Electronic Engineering, Tokyo Tech, Japan

²Univ. Tokyo, Japan

SMa 1

Chairs: Arcady Zhukov, Ivan Skorvanek

09:45 - 10:10 SMA-K1

Recent advances in Fe-based hard magnetic nanomaterials

Nguyen Hoang Luong

Nano and Energy Center, University of Science, Vietnam National University - Hanoi, Vietnam

10:10 - 10:30 SMA-I1

Controlling Domain Wall Dynamics in Magnetic Microwires

A. Zhukov^{1,2,3,4}, P. Corte-Leon^{1,5}, M. Ipatov^{1,2}, J.M. Blanco^{2,3} and V. Zhukova^{1,2,3}

¹Dept. Polymers & Advanced Materials, University of Basque Country, UPV/EHU, Spain

²Department of Applied Physics, EIG, University of Basque Country, UPV/EHU, Spain

³Quantum Center, University of Basque Country, UPV/EHU, Spain

⁴IKERBASQUE, Basque Foundation for Science, Spain

⁵Dept. Mater. Science & Metallurgy, Univ. Cambridge, UK

10:30 - 10:50 SMA-I2

Rapidly Annealed High-Bs Soft Magnetic Fe(Co)-Based Nanocrystalline Alloys for High Temperature Applications

Ivan Škorvánek¹, Branislav Kunca¹, Jozef Marcin¹ and Peter Švec²

¹Institute of Experimental Physics, Slovak Academy of Sciences, Slovakia

²Institute of Physics, Slovak Academy of Sciences, Slovakia

10:50 - 11:02 SMA-O1

Controllability of anisotropy localized and reversibility on thin-film magnetoimpedance element by Joule heating

H. Kikuchi, K. Sato and Y. Tanaka

Faculty of Engineering, Iwate University, Japan

Coffee break

SSp 2

Chairs: Takahiro Moriyama, Ramanathan Mehendiran

11:15 - 11:35 SSp-I4

Electrical detection of antiferromagnetic dynamics

Takahiro Moriyama

Department of Materials Physics, Nagoya University, Japan

11:35 - 11:55 SSp-I5

Magnetoimpedance: A poor man's tool to investigate magnetic resonance in bulk oxides

Ramanathan Mahendiran

Department of Physics National University of Singapore, Singapore

11:55 - 12:15 SSp-I6

Voltage Control of Magnetism Through Ionic Migration

Bao Xuan Tran^{1,2}, June-Seo Kim², Jae-Hyun Ha¹, Won-Chang Choi¹, Seongsoo Yoon¹, Tae-Hwan Kim¹ and Jung-Il Hong¹

¹Department of Physics and Chemistry, Daegu Gyeongbuk Institute of Science and Technology (DGIST), Republic of Korea

²Division of Nanotechnology, Daegu Gyeongbuk Institute of Science and Technology (DGIST), Republic of Korea

12:15 - 12:27 SSp-O1

Four-Magnon Interactions and Gilbert Damping in Antiferromagnetic Insulator NiO

A. Gumarilang¹, K. Nawa^{1,2} and K. Nakamura¹

¹Faculty of Engineering, Mie University, Japan

²National Institute for Materials Science, Japan

SSp 8 Chairs: Nguyen Phuc Duong, Masaki Mizuguchi

11:15 - 11:35 SSp-I26

Vortex-Nernst effect in superconductor-ferromagnet bilayer heterostructure

M. Mizuguchi

Institute of Materials and Systems for Sustainability, Nagoya University, Japan

11:35 - 11:55 SSp-I27

The Skyrmion Hall Effect of the Skyrmion Family

S.-G. Je

Department of Physics, Chonnam National University, Republic of Korea

11:55 - 12:07 SSp-O7

Ferro-ionic control of Co/graphene with a preferred orientation and related application

Cheng-Hsun-Tony Chang^{1,2}, Yu-Ting Chow², Pei-Cheng Jiang³, Ting-Xun Yang¹ and Jyh-Shen Tsay¹

¹Department of Physics, National Taiwan Normal University, Taiwan

²Department of Electronic Engineering, Minghsin University of Science and Technology, Taiwan

³Department of Mechanical Engineering, Minghsin University of Science and Technology, Taiwan

12:07 - 12:19 SSp-O8

Domain structure and spin polarization in La- and Zn-doped Sr₂FeMoO₆ nanoparticles

Nguyen Phuc Duong, Dao Thi Thuy Nguyet, To Thanh Loan and Luong Ngoc Anh

Faculty of Electronic Materials and Devices, School of Materials Science and Engineering, Hanoi University of Science and Technology, Viet Nam

TMh 2 Chairs: Yuki Shiomi, Lan Anh T. Nguyen

11:15 - 11:35 TMh-I3

Amorphous ferromagnetic metallic state of 2D semiconductor CrGeTe₃

Yuki Shiomi¹, Siyue Zhang¹, Kazuya Harii², Tomoyuki Yokouchi¹ and Satoru Okayasu³

¹Department of Basic Science, University of Tokyo, Japan

²Quantum Materials and Applications Research Center, National Institutes for Quantum Science and Technology, Japan

³Advanced Science Research Center, Japan Atomic Energy Agency, Japan

11:35 - 11:55 TMh-I4

Electrically tunable magnetic fluctuations in multilayered V-doped WSe₂

Lan-Anh T. Nguyen^{1,2}, Tuan Dung Nguyen^{1,2}, Philip Kim³, Min-kyu Joo⁴, Dinh Loc Duong^{1,2} and Young Hee Lee^{1,2,5}

¹Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science (IBS), Republic of Korea

²Department of Energy Science, Sungkyunkwan University, Republic of Korea

³John A. Paulson School of Engineering and Applied Sciences, Harvard University, USA

⁴Department of Applied Physics, Sookmyung Women's University, Republic of Korea

⁵Department of Physics, Sungkyunkwan University, Republic of Korea

11:55 - 12:15 TMh-I5

Electric field control of interlayer exchange coupling in multiferroic multilayers

T. Taniyama

Department of Physics, Nagoya University, Japan

12:15 - 12:27 TMh-O2

Design and Modification of Porous Nanomaterials as Drug Carriers in Cancer Therapy

Nguyen Tran Hanh Vy^{1,2}, Mai Ngoc Xuan Dat^{1,2}, Nguyen Ho Thuy Linh^{1,2} and Doan Le Hoang Tan^{1,2}

¹Center for Innovative Materials and Architectures, Vietnam

²Vietnam National University Ho Chi Minh City, Ho Chi Minh City, Viet Nam

SMa 2

Chairs: Le Van Lich, Hossein Sepehri-Amin

11:15 - 11:35 SMA-I3

Topological magnetic field textures induced by three-dimensional magnetic nanostructures

Le Van Lich¹ and Do Thi Huong Giang²

¹School of Materials Science and Engineering, Hanoi University of Science and Technology, Vietnam

²Laboratory for Micro-Nano Technology, VNU University of Engineering and Technology, Vietnam National University - Hanoi, Vietnam

11:35 - 11:55 SMA-I4

Design and development of high performance permanent magnets; Solving rare-earth criticality while considering new demands

H. Sepehri-Amin

National Institute for Materials Science, Japan

11:55 - 12:07 SMA-O2

Fabricating SrMeFe₁₁O₁₉ hexaferrite-based tri-layer microwave absorbing materials with high efficiency

T.D. Thanh¹, N. Tran^{2,3}, N.T.V. Chinh¹, T.T.H. Giang¹, D.H. Manh¹, N.T.N. Anh¹ and N.Q. Tuan⁴

¹Institute of Materials Science, Vietnam Academy of Science and Technology, Viet Nam

²Institute of Research and Development, Duy Tan University, Viet Nam

³Faculty of Natural Sciences, Duy Tan University, Viet Nam

⁴The University of Danang - University of Science and Education, Viet Nam

12:07 - 12:19 SMA-O3

Effect of local disorder in the A2 structure of Fe-Ga alloys on magnetic properties

M. V. Matyunina, M. A. Zagrebin, V. V. Sokolovskiy and V. D. Buchelnikov

Department of Physics, Chelyabinsk State University, Russia

Lunch break

SSp 3 Chairs: Jongill Hong, Ssu-Yen Huang

13:30 - 13:50 SSp-I7

Modulating Magnetic Anisotropy Energy of Co via VCMA Effect at the interface between HfO₂ and Co

B. Kang¹, J. Park², K-W. Moon³, M. Park² and J. Hong¹

¹Department of Materials Science and Engineering, Yonsei University, Korea

²Department of Materials Science and Engineering, Seoul University, Korea

³Quantum Spin Team, Korea Research Institute of Standards and Science, Korea

13:50 - 14:10 SSp-I8

Spin-to-charge conversion induced by a magnonic spin current

Ssu-Yen Huang^{1,2} and Danru Qu^{2,3}

¹Department of Physics, National Taiwan University, Taiwan

²Center of Atomic Initiatives for New Materials, National Taiwan University, Taiwan

³Center for Condensed Matter Sciences, National Taiwan University, Taiwan

14:10 - 14:30 SSp-I9

Novel magnetic imaging methods based on solid-state spin qubits, diamond NV centers

Donghun Lee

Department of Physics, Korea University, South Korea

14:30 - 14:50 SSp-I10

Topological spin textures in centrosymmetric magnets

Nguyen D. Khanh

Department of Applied Physics, The University of Tokyo, Japan

14:50 - 15:02 SSp-O2

Enhancement of Spin-Orbit Torque Switching Efficiency in Mn₃Sn/W Bilayer through Interface Engineering

Thanh-Huong Thi Nguyen¹, Siha Lee¹, Subin Im², Wonyeong Choi¹, Asif Ullah¹, Nyun Jong Lee¹ and Sanghoon Kim¹

¹Department of Physics, University of Ulsan, Korea

²ASKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University, Korea

SSp 9 Chairs: Young Keun Kim, Junichi Shiogai

13:30 - 13:55 SSp-K5

Materials Engineering of β -W Alloy Systems to Increase Spin-Orbit Torque Efficiency

Young Keun Kim

Department of Materials Science and Engineering, Korea University, Republic of Korea

13:55 - 14:15 SSp-I28

Impact of strain on magnetic properties in a freestanding La_{2/3}Sr_{1/3}MnO₃ membrane

Junichi Shiogai^{1,2}, Ryuji Atsumi³, Takumi Yamazaki³, Kohei Ueda^{1,2}, Takeshi Seki^{3,4} and Jobu Matsuno^{1,2}

¹Department of Physics, Osaka University, Japan

²Division of Spintronics Research Network, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Japan

³Institute for Materials Research, Tohoku University, Japan

⁴Center for Science and Innovation in Spintronics, Tohoku University, Japan

14:15 - 14:35 SSp-I29

Skyrmionics towards Quantum

Chanyong Hwang¹, S. Yang¹, K.-W. Moon¹, C. Kim¹ and Sungkyun Park²

¹Institute of Quantum Technology, Korea Research Institute of Standards and Science, Korea

²Physics Department, Pusan National University, Korea

14:35 - 14:47 SSp-O9

Generation and movement of the domain walls in jellyfish-like nanowires

A. Yu. Samardak¹, M. I. Sobirov¹, K. A. Rogachev¹, A. F. Shishelov¹, A. O. Lembikov¹
and N. A. Ognev¹, G. A. Leyko¹, A. V. Ognev^{1,2} and A. S. Samardak^{1,2}

¹Department of General and Experimental Physics, Far Eastern Federal University, Russia

²Sakhalin State University, Russia

14:47 - 14:59 SSp-O10

Topological Dirac semimetal α -Sn/ superconducting β -Sn in-plane heterostructures by laser lithography

Takahiro Saeki¹, Keita Ishihara¹, Le Duc Anh^{1,2,3} and Masaaki Tanaka^{1,3}

¹Dept. of Electrical Engineering and Information Systems, The University of Tokyo, Japan

²PRESTO, Japan Agency of Science and Technology, Japan

³Center for Spintronics Research Network, The University of Tokyo, Japan

TMh 3

Chairs: Ya-Ping Hsieh, Hiroshi Nagamura

13:30 - 13:50 TMh-I6

Interfacial perpendicular magnetic anisotropy by van der Waals force of chemisorption-type at the graphene/L1₀-FePd interface

H. Naganuma^{1,2,3,4}

¹Center for Innovative Integrated Electronic Systems, Tohoku University, Japan

²Center for Science and Innovation Spintronics, Tohoku University, Japan

³Nagoya University Institute for Advanced Study, Japan

⁴Institute of Materials and System for Sustainability, Nagoya University, Japan

13:50 - 14:10 TMh-I7

One-pot synthesis of plasmonic gold – graphene oxide nanosponge substrates for surface – enhanced Raman detection of heavy metal ions

Joven Paolo D. Angeles and Mariénette Morales Vega

Materials Science and Engineering Program, College of Science, University of the Philippines, Philippines

14:10 - 14:30 TMh-I8

High quality 2D Material CVD Growth through confinement enhanced reactivity

Ya-Ping Hsieh

Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan

14:30 - 14:50 TMh-I9

Electronic control of magnetism in Fe_{3-x}GeTe₂/In₂Se₃ van der Waals heterostructures

J. Eom^{1,2}, I. Lee¹, J. Y. Kee^{1,3}, M. Cho⁴, J. Seo⁵, H. Suh⁶, H.-J. Choi⁷, Y. Sim⁸, S. Chen^{9,10}, H. J. Chang⁶, S.-H. Baek⁷, C. Petrovic⁹, H. Ryu¹, C. Jang¹, Y. D. Kim⁴, C.-H. Yang⁵, M.-J. Seong⁸, J. H. Lee¹, S. Y. Park^{3,11,12} and J. W. Choi¹

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²Department of Physics and Astronomy, Seoul National University, Korea

³Department of Physics, Soongsil University, Korea

⁴Department of Physics and Department of Information Display, Kyung Hee University, Korea

⁵Department of Physics, KAIST, Korea

⁶Advanced Analysis Center, Korea Institute of Science and Technology, Republic of Korea

⁷Electronic Materials Research Center, Korea Institute of Science and Technology, Korea

⁸Department of Physics, Chung-Ang University, Korea

⁹Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, USA

¹⁰Department of Physics and Astronomy, Stony Brook University, USA

¹¹Origin of Matter and Evolution of Galaxies (OMEG) Institute, Soongsil University, Korea

¹²Integrative Institute of Basic Sciences, Soongsil University, Korea

14:50 - 15:02 TMh-O3

Activation of Two-Dimensional NiMnO₃ Nanosheets via P-Doping for Oxygen Evolution Reaction toward Enhanced Green H₂ Production

Thi Luu Luyen Doan¹, Nguyen Van Hieu¹, Lam Nguyen-Dinh² and Dinh Chuong Nguyen³

¹The University of Danang, University of Science and Education, Viet Nam

²The University of Da-Nang, University of Science and Technology, Viet Nam

³Faculty of Chemistry, The University of Danang, University of Science and Education, Viet Nam

SMa 3 Chairs: Duc Hai Tran, Wutthikrai Busayaporn

13:30 - 13:50 SMA-I5

Effect of irradiation on local structure and vortex phase diagram of superconducting materials

Duc H. Tran¹, Ha H. Pham¹, An T. Pham¹, Tien Le^{1,2}, Nghia T. Nguyen¹, Nam H. Nguyen¹, Won-Nam Kang³, Tuson Park³, Jungseek Hwang³ and Jeehoon Kim⁴

¹Faculty of Physics, University of Science, Vietnam National University - Hanoi, Vietnam

²Faculty of Engineering Physics, Hanoi University of Science and Technology, Vietnam

³Department of Physics, Sungkyunkwan University, Korea

⁴Department of Physics, Pohang University of Science and Technology, South Korea

13:50 - 14:10 SMA-I6

The structural, electronic, and magnetic properties of defects in Co-doped SrTiO₃: from First-principles calculations

Maneerat Chotsawat¹, Chatree Saiyasombat¹, Pornsawan Sikam², Ruhan Thirayatorn², Pairoot Moontragoon^{2,3,4} and Wutthikrai Busayaporn¹

¹Synchrotron Light Research Institute (Public Organization), Thailand

²Department of Physics, Khon Kaen University, Thailand

³Institute of Nanomaterials Research and Innovation for Energy (IN-RIE),

Research Network of NANOTEC- KKU (RNN), Khon Kaen University, Thailand

⁴Thailand Center of Excellence in Physics, Commission on Higher Education, Thailand

14:10 - 14:22 SMA-O4

Controlling the phase transformations of iron-based catalysts and evaluation of reactive black 5 decolorization activity by photocatalytic and plasma-photocatalytic technique

Phuc Ly Nguyen¹, An Ha Quoc Than¹, Trung Thanh Nguyen^{1,2}, Tien Tran Van¹, Lieu Vu Dinh¹ and Thien Huu Pham¹

¹Institute of Applied Materials Science, Vietnam Academy of Science and Technology, Vietnam

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Vietnam

14:22 - 14:34 SMA-O5

Features of inverse magnetocaloric effect study in high pulsed magnetic fields

A. P. Kamantsev^{1,2}, A. G. Gamzatov², A. M. Aliev² and Yu. S. Koshkid'ko³

¹Kotelnikov Institute of Radioengineering and Electronics of RAS, Russia

²Amirkhanov Institute of Physics of Dagestan Federal Research Centre of RAS, Russia

³Institute of Low Temperature and Structure Research of PAS, Poland

14:34 - 14:46 SMA-O6

Role of MgO thickness on CoFe/MgO and CoFe/MgO/CoFe interfaces

Sung-Min Ahn

*Department of Electrical Engineering and Center for Semiconductor Technology Convergence,
Pohang University of Science and Technology, Korea*

Coffee break

SSp 4

Chairs: Pham Nam Hai, Takahiro Chiba

15:15 - 15:40 SSp-K2

Integrating quantum magnonics with color centers

Yaroslav Tserkovnyak

Department of Physics and Astronomy, University of California, USA

15:40 - 16:00 SSp-I11

Cavity-Free Ultrastrongly Coupled Magnon-Polaritons in Dynamical Inductors

T. Chiba^{1,2}

¹Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan

²Department of Applied Physics, Graduate School of Engineering, Tohoku University, Japan

16:00 - 16:20 SSp-I12

Spectroscopic Studies of Chirality and Resonances in Multilayer Films

T. S. Suraj

Department of Physics, National University of Singapore, Singapore

16:20 - 16:40 SSp-I13

Topological materials for advanced magnetic memory and sensor

Pham Nam Hai

Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan

16:40 - 17:00 SSp-I14

Electric field-controlled spin-orbit torque and its applications

Byong-Guk Park

Department of Materials Science and Engineering, KAIST, Korea

SSp 10

Chairs: Atsufumi Hirohata, Chun-Yeol You

15:15 - 15:40 SSp-K6

New Ferromagnetic Materials for Spintronic Devices Predicted by Machine Learning

A. Hirohata^{1,2,3}, K. Elphick⁴, D. Lloyd⁴, H. Koizumi¹, M. Shirai² and S. Mizukami⁵

¹Center for Science and Innovation in Spintronics, Tohoku University, Japan

²Research Institute of Electrical Communication, Tohoku University, Japan

³Max Planck Institute for Chemical Physics of Solids, Germany

⁴School of Physics, Engineering and Technology, University of York, U.K.

⁵WPI Advanced Institute for Materials Research, Tohoku University, Japan

15:40 - 16:00 SSp-I30

Signature of possible spin liquid state in spin-frustrated Cr_{1-x}Fe_xPSe₃ alloy

Mallesha Baithi^{1,2}, Ngoc Toan Dang^{3,4}, Tuan Dung Nguyen^{1,2}, Tuan Anh Tran⁵, Thanh Khan Dinh⁶, Sungkyun Choi^{1,7,8} and Dinh Loc Duong^{9,10}

¹Center for Integrated Nanostructure Physics (CINAP), Institute for Basic Science (IBS), Sungkyunkwan University, Republic of Korea

²Department of Energy Science, Sungkyunkwan University, Republic of Korea

³Institute of Research and Development, Duy Tan University, Vietnam

⁴Faculty of Environmental and Natural Sciences, Duy Tan University, Vietnam

⁵Ho Chi Minh City University of Technology and Education, Vietnam

⁶University of Science and Education, The University of Danang, Viet Nam

⁷Sungkyunkwan University, Republic of Korea

⁸Center for Epitaxial van der Waals Quantum Solids, Institute for Basic Science, Republic of Korea

⁹MonArk Quantum Foundry, Montana State University, USA

¹⁰Department of Physics, Montana State University, USA

16:00 - 16:20 SSp-I31

Thermally driven spin polarization for chirality-induced spin selectivity

Shinji Miwa

The Institute for Solid State Physics (ISSP), The University of Tokyo, Japan

16:20 - 16:40 SSp-I32

Spin Torque Majority Gate using Spin-Orbit Torque Based Domain Wall Motion

Dongryul Kim¹, Suhyeok An¹, Eunchong Baek¹, Jun-Su Kim¹, Soobeom Lee², June-Seo Kim³ and Chun-Yeol You¹

¹Department of Physics and Chemistry, DGIST, South Korea

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³Division of Nanotechnology, DGIST, South Korea

16:40 - 17:00 SSp-I33

Time of flight spin wave spectroscopy in ferro- and antiferro-magnetic insulators

S. Manton¹, A. El Kanj¹, O. Gomonay², I. Boventer¹, V. Cros¹, P. Bortolotti¹, A. Anane¹ and R. Lebrun¹

¹Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, France

²Institute of Physics, Johannes Gutenberg-University Mainz, Germany

TMh 4

Chairs: Nguyen Thanh Tung, Hyejin Ryu

15:15 - 15:35 TMh-I10

Unconventional magnetotransport phenomena in 2D van der Waals and layered magnetic ferro and antiferromagnets

S. DuttaGupta

Condensed Matter Physics Division, Saha Institute of Nuclear Physics, India

15:35 - 15:55 TMh-I11

Modulation of interlayer coupling and optical properties of van der Waals layered semiconductors

Jeongyong Kim

Department of Energy Science, Sungkyunkwan University, South Korea

15:55 - 16:15 TMh-I12

Optical metamaterials: Ultrafast dynamics, heat transfer, and sensing application

Nguyen Thanh Tung¹, Pham The Linh^{1,2}, Matias Bejide² and Ewald Janssens²

¹Institute of Materials Science, Vietnam Academy of Science and Technology, Vietnam

²Quantum Solid-State Physics, Department of Physics and Astronomy, KU Leuven, Belgium

16:15 - 16:35 TMh-I13

Spin-orbit-splitting-driven nonlinear Hall effect in NbIrTe₄

Ji-Eun Lee^{1,2,3,4}, Aifeng Wang^{5,6}, Shuzhang Chen^{5,7}, Minseong Kwon^{2,8}, Jinwoong Hwang^{1,9}, Minhyun Cho⁸, Ki-Hoon Son², Dong-Soo Han², Jun Woo Choi², Young

Duck Kim⁸, Sung-Kwan Mo¹, Cedomir Petrovic^{5,7,10}, Choongyu Hwang³, Se Young Park^{11,12}, Chaun Jang² and Hyejin Ryu²

¹Advanced Light Source, Lawrence Berkeley National Laboratory, USA

²Center for Spintronics, Korea Institute of Science and Technology, South Korea

³Department of Physics, Pusan National University, South Korea

⁴Max Planck POSTECH Center for Complex Phase Materials, Pohang University of Science and Technology, South Korea

⁵Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, United States

⁶Low Temperature Physics Laboratory, College of Physics and Center of Quantum Materials and Devices, Chongqing University, China

⁷Department of Physics and Astronomy, Stony Brook University, USA

⁸Department of Physics and Department of Information Display, Kyung Hee University, South Korea

⁹Department of Physics and Institute of Quantum Convergence Technology, Kangwon National University, South Korea

¹⁰Shanghai Advanced Research in Physical Sciences, China

¹¹Department of Physics and Origin of Matter and Evolution of Galaxies (OMEG) Institute, Soongsil University, South Korea

¹²Integrative Institute of Basic Sciences, Soongsil University, South Korea

16:35 - 16:47 TMh-O4

Study on structure, magnetic and electric transport properties of epitaxial two dimensional ferromagnet Cr₂Te₃

Huang Tzu-Tai, Shu Hsuan Su, Jung-Te Tai, Jung-Chun-Andrew and Huang
Department of Physics, National Cheng Kung University, Taiwan

SMa 4

Chairs: Le Manh Tu, Shin Yabukami

15:15 - 15:35 SMa-I7

Cobalt electrodeposition from nonaqueous solvents improves magnetic properties of amorphous microwires

Tu Le Manh¹, Hoang Thi Thanh Thuy¹, Tran Bao Trung² and Manh-Huong Phan³

¹Faculty of Materials Science and Engineering, Phenikaa University, Vietnam

²Institute of Materials Science, Vietnam Academy of Science and Technology, Vietnam

³Department of Physics, University of South Florida, USA

15:35 - 15:55 SMa-I8

Magnetic Susceptivity Evaluation of magnetic nanoparticle and protein

S. Yabukami^{1,2,3}, J. Honda¹, T. Murayama¹, L. Tonthat² and K. Okita³

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²Graduate School of Engineering, Tohoku University, Japan

³Tohoku-TMIT Corporation, Japan

15:55 - 16:07 SMa-O7

The ferromagnetic characteristics in active material RR-P3HT:ZnO nanoparticles of hybrid solar cells

Lusi Safriani¹, Sukma Jan Eda¹, Suci Winarsih², Yati Maryati¹, Muhammad Abdan Syakuur³, Annisa Aprilia¹, Utami Widayiswari¹, Dita Puspita Sari^{4,5}, Togar Saragi¹ and Risdiana¹

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²BRIN Research Center for Quantum Physics, Indonesia

³Doctorate Program of Chemistry Department of Chemistry, Padjadjaran University, Indonesia

⁴Graduate School of Engineering and Science, Shibaura Institute of Technology, Japan

⁵Meson Science Laboratory, RIKEN Nishina Centre, Japan

16:07 - 16:19 SMa-O8

Exploring Magnetization Reversal and Coercivity Mechanisms in Two-Step Annealed NdFeB Magnetic Thin Films

T. Nguyen Van^{1,2}, L. Ranno³, I. de Moraes³, Yuan Hong³, N. M. Dempsey³, Do-Thi Huong Giang^{2,4}, Vi Le Dinh¹, Thin PhamVan¹, Dat Tran Quang¹, C. Champeaux⁵ and F. Dumas-Bouchiat⁵

¹Department of Physics, Le Quy Don Technical University, Vietnam

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³University of Grenoble Alpes, CNRS, Néel Institute, France

⁴Faculty of Physics Engineering and Nanotechnology, VNU University of Engineering and Technology, Viet Nam

⁵University of Limoges, CNRS, France

16:19 - 16:31 SMa-O9

Green synthesis of Fe₃O₄/Ag/TiO₂ nanocomposites utilizing Moringa oleifera leaf extract for photocatalytic degradation of Cr (VI)

Syarifah Nihlah Yahya^{1,2}, Nurul Imani Istiqomah¹, Emi Kurnia Sari¹, Nining Sumawati Asri³, Mahardika Yoga Darmawan^{1,4}, Rivaldo Marsel Tumbelaka¹ and Edi Suharyadi¹

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²Department of Physics, Institut Teknologi Kalimantan, Indonesia

³Research Center for Advanced Materials, National Research and Innovation Agency, Indonesia

⁴Department of Physics, Institut Teknologi Sumatera, Indonesia

06-Aug

SSp 5

Chairs: **Sergey A. Nikitov, Hoa Phan**

08:00 - 08:25 SSp-K3

A new class of Fe-doped III-V ferromagnetic semiconductors with high Curie temperature and their quantum heterostructures

Masaaki Tanaka^{1,2,3}, Kosuke Takiguchi², Nguyen Thanh Tu², Le Duc Anh^{1,2} and Pham Nam Hai^{1,4}

¹Center for Spintronics Research Network (CSRN), Japan

²Department of Electrical Engineering & Information Systems (EEIS), Japan

³Institute for Nano Quantum Information Electronics (NanoQuine), The University of Tokyo, Japan

⁴Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Japan

08:25 - 08:45 SSp-I15

Spin crossover and High spin COFs

Hoa Phan¹, Jishan Wu² and Michael Shatruk³

¹School of Chemistry and Life Science, Hanoi University of Science and Technology, Vietnam

²Department of Chemistry, National University of Singapore, Singapore

³Department of Chemistry, Florida State University, USA

08:45 - 09:05 SSp-I16

4d and 5d magnetic oxides developed by machine-learning-assisted molecular beam epitaxy

Y. K. Wakabayashi¹, T. Otsuka², K. Takiguchi², H. Irie², H. Sawada², Y. Taniyasu¹, Y. Krockenberger¹ and H. Yamamoto¹

¹NTT Basic Research Laboratories, NTT Corporation, Japan

²NTT Communication Science Laboratories, NTT Corporation, Japan

09:05 - 09:25 SSp-I17

Antiferromagnetic Spintronics and Magnonics

S.A. Nikitov^{1,2}, A.R. Safin^{1,3} and D.V. Kalyabin^{1,2}

¹Kotel'nikov Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia

²Moscow Institute of Physics and Technology, National Research University, Russia

³Moscow Power University, National Research University, Moscow, Russia

09:25 - 09:45 SSp-I18

Interfacial engineering using heavy metal doping for voltage-controlled magnetic anisotropy effect

H. Nakayama, T. Nozaki, T. Ichinose, T. Yamamoto, T. Nozaki and S. Yuasa

National Institute of Advanced Industrial Science and Technology (AIST),

Research Center for Emerging Computing Technologies, Japan

09:45 - 09:57 SSp-O3

Tuning Perpendicular Magnetic Anisotropy and Magnetic Damping Constant by Introducing Electrons/holes at the Fe/MgO Interface

Yosephine Novita Apriati¹, Kenji Nawa^{1,2} and Kohji Nakamura¹

¹Mie University, Japan

²National Institute for Materials Science, Japan

09:57 - 10:09 SSp-O4

Spin-Charge Conversion in a Ferromagnetic Metal Fe/Topological Dirac Semimetal α -Sn Heterostructure

Masayuki Ishida¹, Soichiro Fukuoka¹, Masaaki Tanaka^{1,3} and Le Duc Anh^{1,2,3}

¹Dept. of Electrical Engineering and Information Systems, The University of Tokyo, Japan

²PRESTO, Japan Agency of Science and Technology, Japan

³Center for Spintronics Research Network, The University of Tokyo, Japan

SSp 11

Chairs: Darío A. Arena, Le Duc Anh

08:00 - 08:20 SSp-I34

Epitaxial growth and topological transport properties of Sn-based quantum heterostructures

L. D. Anh^{1,2}, K. Ishihara¹, T. Hotta¹, K. Inagaki¹, M. Kobayashi¹, T. Chiba^{3,4}, Y. Kota⁵ and M. Tanaka^{1,2,6}

¹Dept. of Electrical Engineering and Information Systems, The University of Tokyo, Japan

²Center for Spintronics Research Network (CSRN), The University of Tokyo, Japan

³The Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan

⁴Department of Applied Physics, Graduate School of Engineering, Tohoku University, Japan

⁵National Institute of Technology, Fukushima College, Japan

⁶Institute for Nano Quantum Information Electronics (NanoQuine), The University of Tokyo, Japan

08:20 - 08:40 SSp-I35

NV Quantum Sensing with Electrical Detection Technique

Hiroki Morishita^{1,2}

¹Center for Science and Innovation in Spintronics, Tohoku University, Japan

²WPI Advanced Institute for Materials Research, Tohoku University, Japan

08:40 - 09:00 SSp-I36

Spin Dynamics in Magnetic Thin Films and Superlattices: Ferromagnetic Resonance and Pump-Probe Studies

Darío A. Arena

Department of Physics, University of South Florida, USA

09:00 - 09:20 SSp-I37

Spin-torque-driven magnetic resonance in a chiral antiferromagnet Mn₃Sn

S. Sakmaoto¹, T. Nomoto², T. Higo^{3,1}, Y. Hibino⁴, T. Yamamoto⁴, S. Tamaru⁴, Y. Kotani⁵, H. Kosaki¹, M. Shiga¹, D. Nishio-Hamane¹, T. Nakamura^{5,6}, T. Nozaki⁴, K. Yakushiji⁴, R. Arita^{2,7}, S. Nakatsuji^{3,1,8,9} and S. Miwa^{1,8}

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²Research Center for Advanced Science and Technology, The University of Tokyo, Japan

³Department of Physics, The University of Tokyo, Japan

⁴National Institute of Advanced Industrial Science and Technology (AIST),
Research Center for Emerging Computing Technologies, Japan

⁵Japan Synchrotron Radiation Research Institute (JASRI), Japan

⁶International Center for Synchrotron Radiation Innovation Smart, Tohoku University, Japan

⁷RIKEN, Center for Emergent Matter Science (CEMS), Japan

⁸Trans-scale Quantum Science Institute, The University of Tokyo, Japan

⁹Institute for Quantum Matter and Department of Physics and Astronomy,
Johns Hopkins University, USA

09:20 - 09:32 SSp-O11

Machine Learning algorithms for optimization of magnetocaloric effect in all-d Heusler alloys

D. R. Baigutlin, V. V. Sokolovski and V. D. Buchelnikov

Faculty of Physics, Chelyabinsk State University, Russia

09:32 - 09:44 SSp-O12

Doping Engineering in Large-Area Trilayer MoS₂

Nga T. Do¹, Thanh-Xuan Tran^{2,3}, Soo Min Kim⁴, Hyunjung Kim³, Ji-Hee Kim⁵ and Tae Hee Kim¹

¹Department of Physics, Ewha Womans University, Republic of Korea

²Department of Energy Science, Sungkyunkwan University, Republic of Korea

³Center for Ultrafast Phase Transformation, Department of Physics, Sogang University, Republic of Korea

⁴Department of Chemistry, Sookmyung Women's University, Republic of Korea

⁵Department of Physics, Pusan National University, Republic of Korea

EEr 1

Chairs: Nguyen Tuan Hung, Ady Suwardi

08:00 - 08:25 EEr-K1

Transverse Thermoelectrics: from Fundamentals to Applications

Ken-ichi Uchida^{1,2}

¹National Institute for Materials Science, Japan

²Department of Advanced Materials Science, Graduate School of Frontier Sciences, The University of Tokyo, Japan

08:25 - 08:45 EEr-I1

New Angles to Thermoelectric Applications?

Ady Suwardi

Department of Electronic Engineering, The Chinese University of Hong Kong, China

08:45 - 09:05 EEr-I2

Thermoelectric properties of emerging quantum materials

Nguyen Tuan Hung

Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, Japan

09:05 - 09:25 EEr-I3

Rare-earth and Non-rare-earth based Intermetallics for Magnetocaloric Cooling

R. Nagalakshmi¹, T. P. Rashid², S. Swathi¹, U. D. Remya¹, A. Dzubinska³ and M. Reiffers^{4,5}

¹Intermetallics and NLO Laboratory, Department of Physics, National Institute of Technology Tiruchirappalli, India

²Oriental Higher Secondary School, India

³Center for Progressive Materials-Technology and Innovation Park, University Pavol Jozef Šafárik, Slovakia

⁴Faculty of Humanities and Natural Sciences, Presov University, Slovakia

⁵Institute of Experimental Physics, Slovak Academy of Science, Slovakia

09:25 - 09:45 EEr-I4

Giant tunability of magnetoelasticity in Fe₄N system: Platform for unveiling correlation between magnetostriction and magnetic damping

T. Seki^{1,2} and K. Ito¹

¹Institute for Materials Research, Tohoku University, Japan

²Center for Science and Innovation in Spintronics, Tohoku University, Japan

09:45 - 09:57 EEr-O1

Post-synthesis of fluorescent probe-embedded zeolitic imidazole framework for bio-application

Linh Ho Thuy Nguyen^{1,2}, Tien My Thi Le^{1,2}, Dat Xuan Ngoc Mai^{1,2} and Tan Le Hoang Doan^{1,2}

¹Center for Innovative Materials and Architectures, Vietnam

²Vietnam National University-Ho Chi Minh City, Vietnam

09:57 - 10:09 EEr-O2

The Study of Magnetic-Impurities Induced Magnetism in Electron-doped Superconducting Cuprates Eu_{1.84}Ce_{0.16}CuO₄

R. Risdiana¹, H. D. Anggia¹, L. P. Rochman¹, Y. Maryati¹, M. F. Naufal¹, R. Pratama², U. Widyaiswari¹, D. P. Sari^{3,4} and T. Saragi¹

¹Department of Physics, Padjadjaran University, Indonesia

²Doctorate Program of Chemistry Department of Chemistry, Padjadjaran University, Indonesia

³College of Engineering, Shibaura Institute of Technology, Japan

⁴Meson Science Laboratory, RIKEN Nishina Center, Japan

SMa 5

Chairs: Do Thi Huong Giang, Hideto Yanagihara

08:00 - 08:20 SMa-I9

Giant converse magnetoelectric effect and magnetic sensor applications based on micro-porous patterned multiferroics composites

D.T. H. Giang^{1,2}, V.N. Thuc¹, H.A. Tam¹, N.T. Ngoc^{1,3}, N.V. Tuan^{1,4}, N.H. Duc¹, V-H. Dinh⁵ and L.V. Lich⁵

¹Laboratory for Micro-Nano Technology, VNU University of Engineering and Technology, VNU, Hanoi, Vietnam

²Faculty of Engineering Physics and Nanotechnology, University of Engineering and Technology, Vietnam National University, Hanoi, Vietnam

³Department of Advanced Materials Science and Nanotechnology, University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, Vietnam

⁴Department of Physics, Le Quy Don Technical University, Vietnam

⁵School of Materials Science and Engineering, Hanoi University of Science and Technology, Vietnam

08:20 - 08:40 SMa-I10

Synthesis and magnetic properties of FeNi and FeNi nitride compounds

H. Yanagihara^{1,2}

¹Department of Applied Physics, University of Tsukuba, Japan

² Tsukuba Research Center for Energy Materials Science, University of Tsukuba, Japan

08:40 - 08:52 SMa-O10

Photocatalytic Degradation of Rhodamin B using Green-Synthesized Fe₃O₄/rGO/ZnO Magnetic Nanocomposite Utilizing Moringa Oleifera and Amaranthus Viridis Leaf Extract

Nugraheni Puspita Rini¹, Zurnansyah¹, Dyah Ayu Larasati¹, Larrisa Jestha Mahardhika¹, Putri Dwi Jayanti¹, Hafil Perdana Kusumah¹, Rivaldo Marsel Tumbelaka¹, Nurul Imani Istiqomah¹, Nining Sumawati Asri², Takeshi Kato^{3,4}, Daiki Oshima⁴, Hasniah Aliah⁵, Ahmad Kusumaatmaja¹ and Edi Suharyadi¹

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²Research Center for Advanced Materials, National Research and Innovation Agency, Indonesia

³Institute of Materials and Systems for Sustainability, Nagoya University, Japan

⁴Department of Electronics, Nagoya University, Japan

⁵Departement of Physics, UIN Sunan Gunung Djati, Indonesia

08:52 - 09:04 SMa-O11

Preparation of Novel Magnetic-Semiconductor-Optical Core-Shell Fe₃O₄@MoS₂@ZnO Structure

Tien Ngoc Phuc Nguyen¹, Thanh Hong Nhan², Mai Thi Tran^{1,3} and Son Hai Nguyen²

¹College of Engineering and Computer Science, VinUniversity, Vietnam

²School of Mechanical Engineering, Hanoi University of Science and Technology, Vietnam

³VinUni-Illinois Smart Health Center, VinUniversity, Vietnam

09:04 - 09:16 SMa-O12

Influence of the atomic arrangement on the magnetocrystalline anisotropy of Fe-based Heusler alloys

V. V. Sokolovskiy, D. V. Novokreshenov, D. R. Baigutlin, V. D. Buchelnikov

Department of Condensed Matter Physics, Chelyabinsk State University, Russia

09:16 - 09:28 SMa-O13

Surface Modification and Encapsulation of Magnetite Nanoparticle Iron Oxide

Togar Saragi^{1*}, G.A. Pramesti¹, Adi Sugiarto¹, Feni Rahmi¹, Hotmas D Sinaga¹, Trisna Maulana¹, Utami Widyaiswari¹, Dita Puspita Sari², Risdiana¹, Isao Watanabe³ and Tadashi Adachi⁴

¹Department of Physics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia

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³Meson Science Laboratory, RIKEN Nishina Center, Japan

⁴Department of Engineering and Applied Sciences, Faculty of Science and Technology, Sophia University, Japan

09:28 - 09:40 SMa-O14

From bacteria biofilm to low-cost magnetic iron oxide nanoparticles for multiple applications

Tran Thanh Tung, Jimyl Arabit Cruz and Dusan Losic

School of Chemical Engineering, The University of Adelaide, Australia

Coffee break

SSp 6 Chairs: Dong-Hyun Kim, Nikolai Perov

10:25 - 10:45 SSp-I19

Theoretical analysis on 1/f noise of a tiny TMR sensor

Hiroshi Imamura, Hiroko Arai, Rie Matsumoto and Toshiki Yamaji

National Institute of Advanced Industrial Science and Technology (AIST), Research Center for Emerging Computing Technologies (RCECT), Japan

10:45 - 11:05 SSp-I20

Features of chemical reactions with 3d elements in a magnetic field

N. S. Perov¹ and P. A. Chernavskii^{2,3}

¹Faculty of Physics, Lomonosov Moscow State University, Russia

²Department of Chemistry, Lomonosov Moscow State University, Russia

³Institute of Organic Chemistry N.D. Zelinsky, RAS, Russia

11:05 - 11:25 SSp-I21

THz Spin Dynamics in Ferromagnetic Multilayers

Dong-Hyun Kim

Department of Physics, Chungbuk National University, South Korea

11:25 - 11:45 SSp-I22

Colossal magnetoresistive switching induced by d^0 ferromagnetism of MgO in a semiconductor nanochannel device with ferromagnetic Fe/MgO electrodes

Shinobu Ohya^{1,2}, Shun Tsuruoka¹, Masaya Kaneda¹, Hikari Shinya^{1,2,3,4,5}, Tetsuya Fukushima^{3,6,7}, Takahito Takeda¹, Yuriko Tadano¹, Tatsuro Endo¹, Le Duc Anh^{1,2}, Akira Masago^{3,8}, Hiroshi Katayama-Yoshida^{2,3} and Masaaki Tanaka^{1,2}

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⁵Center for Spintronics Research Network (CSRN), Tohoku University, Japan

⁶Research Center for Computational Design of Advanced Functional Materials, National Institute of Advanced Industrial Science and Technology (AIST), Japan

⁷The Institute for Solid State Physics, The University of Tokyo, Japan

⁸Research Institute for Value-Added-Information Generation, Japan Agency for Marine-Earth Science and Technology, Japan

11:45 - 11:57 SSp-O5

Anomalous Nernst effect in permalloy/Cu multilayers

Junwei Zhang, Bowen Qiang, Toshio Miyamachi, and Masaki Mizuguchi

Nagoya University, Japan

11:57 - 12:09 SSp-O6

Topological Transport of Vorticity on Curved Magnetic Membranes

C. Dao¹, J. Zou², E. Kleinherbers¹ and Y. Tserkovnyak¹

¹Department of Physics and Astronomy and Bhaumik Institute for Theoretical Physics, University of California, USA

²Department of Physics, University of Basel, Switzerland

Focused Workshop 1

Chairs: Thanh Duc Nguyen, Byeonghwa Lim

10:25 - 10:45 FWB-I1

Compact ultrafast fiber laser sources for biomedical imaging and characterization of materials

Khanh Kieu

Wyant College of Optical Sciences, University of Arizona, USA

10:45 - 11:05 FWB-I2

Biodegradable Piezoelectric Polymers at Small Scales for Healthcare and Medical Applications

Thanh Duc Nguyen

Departments of Mechanical Engineering

Department of Biomedical Engineering

Institute of Materials Science, Polymer program

University of Connecticut, CT, USA

11:05 - 11:25 FWB-I3

Highly robust and stretchable electronic skin device based on nanomesh

Sungwon Lee

Department of Physics and Chemistry, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Republic of Korea

11:25 - 11:45 FWB-I4

Recent progress towards portable point-of-care diagnostic devices for infectious pathogens detection

Kieu The Loan Trinh¹, Thi Ngoc Diep Trinh², Nguyen Khoi Song Tran³, Nhu Hoa Thi Tran^{4,5} and Nae Yoon Lee⁶

¹*Bionano Applications Research Center, Gachon University, Korea*

²*Department of Materials Science, School of Applied Chemistry, Vietnam*

³*NTT Hi-Tech Institute, Nguyen Tat Thanh University, Vietnam*

⁴*Faculty of Materials Science and Technology, University of Science Hochiminh city, Vietnam*

⁵*Vietnam National University Ho Chi Minh City, Vietnam*

⁶*Department of BioNano Technology, Gachon University, Korea*

11:45 - 12:05 FWB-I5

Innovation of magnetophoresis for Portable Cell-On-Chip Platforms

Byeonghwa Lim¹, Yumin Kang² and CheolGi Kim²

¹*Department of Smart Sensor Engineering, Andong National University, Korea*

²*Department of Physics and Chemistry, DGIST, Korea*

12:05 - 12:17 FWB-O1

Enhancement of attraction force between water molecule and conductive polymer for bioelectrode applications

Hyeokjoo Choi, Juha Do, Sungwon Lee and Chun-Yeol You

Department of Physics and Chemistry, DGIST, South Korea

EEr 2

Chairs: Tuson Park, Vu Dinh Lam

10:25 - 10:50 EEr-K2

Electromagnetic Metamaterials: From Basic Principles to New Horizons

Vu Dinh Lam¹, Bui Son Tung^{1,2}, Bui Xuan Khuyen^{1,2}, Pham Thanh Son² and Nguyen Thanh Tung^{1,2}

¹*Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Vietnam*

²*Institute of Materials Science, Vietnam Academy of Science and Technology, Vietnam*

10:50 - 11:10 EEr-I5

Irradiation-tolerant Superconductivity in High-entropy Alloy Thin Films

Soon-Gil Jung^{1,2,5}, Yoonseok Han^{1,2,5}, Jin Hee Kim³, Rahmatul Hidayati³, Jong-Soo Rhyee³, Jung Min Lee², Won Nam Kang², Woo Seok Choi², Hye-ran Jeon⁴, Jaekwon Suk⁴ and Tuson Park^{1,2}

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²Department of Physics, Sungkyunkwan University, Republic of Korea

³Department of Applied Physics, Integrated Education Institute for Frontier Science and Technology (BK 21 Four) and Institute of Natural Science, Kyung Hee University, Republic of Korea

⁴Korea Multi-purpose Accelerator Complex, Korea Atomic Energy Research Institute, Republic of Korea

11:10 - 11:30 EEr-I6

Structural modification of ZSM-5 catalyst using electron-beam irradiation

Nguyen Quang Hung¹, Luu Anh Tuyen², La Ly Nguyen², Tran Dong Xuan¹, Cao Van Chung³, Le Phuc Nguyen⁴, Ngo Thuy Phuong⁴, Pham Thi Hue², Nguyen Thi Ngoc Hue², Nguyen Van Tiep⁵ and Nguyen Vu Minh Trung⁵

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³Research and Development Center for Radiation Technology, Vietnam Atomic Energy Institute, Vietnam

⁴Vietnam Petroleum Institute, Vietnam

⁵Institute of Physics, Vietnam Academy of Science and Technology, Vietnam

11:30 - 11:50 EEr-I7

Direct Measurements of Adiabatic Temperature Change in Cyclic Magnetic Fields: Frequency and Cyclic Stability of the Magnetocaloric Effect

A. G. Gamzatov¹, A. M. Aliev¹, J. Wang² and Feng-xia Hu²

¹Amirkhanov Institute of Physics, DFRC, Russia

²State Key Laboratory of Magnetism, Institute of Physics, China

11:50 - 12:02 EEr-O3

Impact of crystal structure on the lattice thermal conductivity of the IV-VI chalcogenides

S. K. Guillemot^{1,2}, A. Suwardi^{2,3}, N. Kaltsoyannis¹ and J. M. Skelton¹

¹Department of Chemistry, University of Manchester, UK

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³Department of Electronic Engineering, The Chinese University of Hong Kong, Shatin, Hong Kong

12:02 - 12:14 EEr-O4

Exploring Ho₆FeSb₂: A Promising Magnetic Refrigerant with Enhanced Magnetocaloric Performance

Athul. S. R¹, Swathi. S¹, Remya. U. D¹, Andrea Dzubinska², Marian Reiffers^{3,4} and Nagalakshmi Ramamoorthi¹

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³Faculty of Humanities and Natural Sciences, Presov University, Slovakia

⁴Institute of Experimental Physics, SAS, Slovakia

12:14 - 12:26 EEr-O5

Multi-Metallic Metal-organic Framework Nanosheets Arrays for Natural Seawater Electrolysis

Ngoc Quang Tran^{1,2}, Tan Le Hoang Doan^{1,2} and Thuy Tien Nguyen Tran^{1,2}

¹Center for Innovative Materials and Architectures, Vietnam

²Vietnam National University, Vietnam

SMa 6 Chairs: An-Cheng Aidan Sun, Nguyen Ngoc Dinh

10:25 - 10:45 SMa-I11

Growth of Perpendicular Magnetic Anisotropy PrFeB Thin Films on Self synthesized Fe-rich Underlayer

An-Cheng Aidan Sun

Department of Chemical Engineering and Materials Science, Yuan Ze University, Taiwan

10:45 - 10:56 SMa-O15

Preparation of NiFe₂O₄-Graphene Quantum Dot/SiO₂ Multifunctional Nanospheres with Core/Shell Structure for Biological Application

Phi Thi Huong^{1,2}, Nguyen Tien Dat², Luong Thi Phuong Thao², Hoang Van Huy^{1,2}, Trinh Thi Hue^{3,4}, Pham Bao Yen⁵, Nguyen Hoang Nam¹ and Luu Manh Quynh²

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⁴Faculty of Environmental and Natural Sciences, Duy Tan University, Vietnam

⁵Key laboratory of Enzyme and Protein Technology, VNU University of Science, Hanoi

10:56 - 11:08 SMa-O16

Effect of interface roughness on magnetic anisotropy of CoFeB/MgO based films

Sung-Min Ahn

Department of Electrical Engineering and Center for Semiconductor Technology Convergence, Pohang University of Science and Technology (POSTECH), Korea

11:08 - 11:20 SMa-O17

The Microstructure and Magnetocaloric effects of Melt-extracted MnFePSi Microwires Near Room Temperature

Lin Luo¹, Hongxian Shen^{1,2}, Jianfei Sun¹ and Manh-Huong Phan²

¹School of Materials Science and Engineering, Harbin Institute of Technology, P. R. China

²Department of Physics, University of South Florida, USA

11:20 - 11:32 SMa-O18

Photocatalytic activity and magnetic ordering in H-doped Zn_{1-x}Co_xO

T. L. Phan¹, Dimitar N. Petrov², N. D. Co¹, N. D. Lam¹, B. D. Tu¹ and T. V. Quang³

¹Faculty of Physics Engineering and Nanotechnology, VNU University of Engineering and Technology, Vietnam

²Department of Physical Chemistry, Plovdiv University "Paisii Hilendarski", Bulgaria

³Faculty of Electronics and Telecommunications, VNU University of Engineering and Technology, Vietnam

11:32 - 11:44 SMa-O19

Magnetocaloric Properties of Melt-extracted Rare Earth based High Entropy Microwires

Shijie Wei, Hongxian Shen and Jianfei Sun

School of Materials Science and Engineering, Harbin Institute of Technology, China

11:44 - 11:56 SMa-O20

E-shaped Inductive Sensors with Enhanced Sensitivity and Linearity for Small Displacement Measurements

Nguyen Thi Kim Cuc, Duong Van Phuc, Nguyen Nhu Thanh, Nguyen Dinh Dai and Nguyen Hai Duong

Precision Engineering & Smart measurements Lab, School of Mechanical, Hanoi University of Science and Technology, Viet Nam

Lunch break

BNh 1 Chairs: Javier Alonso, Loi Tonthat

13:30 - 13:50

BNh-I1

Recent Advances in Spinel Ferrite Nanocrystals (MFe₂O₄) for Smart Electrochemical Sensing Applications Toward Food Safety & Quality Control

Anh Tuan Le, Tuyet Nhung Pham, Ong Van Hoang, Nguyen Le Nhat Trang and Tien Van Manh

Phenikaa University Nano Institute (PHENA), PHENIKAA University, Vietnam

13:50 - 14:10

BNh-I2

Magnetotactic Bacteria: Biorobots for Targeted Cancer Therapy and Diagnostic Applications

J. Alonso¹, D. Gandía², E. M. Jefremovas^{1,3}, L. Gandarias⁴, D. Villanueva⁵, N. Lete⁵, A.G. Gubieda⁴, L. Marcano^{6,7}, A. García-Prieto⁸, I. Orue⁹, D. de Cos Elices¹⁰, A. García-Arribas^{2,5}, L. Fernández Barquín¹, A. Muela⁴, A. Abad⁴ and M.L. Fdez-Gubieda^{2,5}

¹*Departamento CITIMAC, Universidad de Cantabria, Spain*

²*Basque Center for Materials Applications and Nanostructures (BCMaterials) UPV/EHU Science Park Leioa, Spain*

³*Institute of Physics, Johannes Gutenberg University, Germany*

⁴*Departamento de Inmunología, Microbiología y Parasitología, Universidad del País Vasco (UPV/EHU), Spain*

⁵*Departamento de Electricidad y Electrónica, Universidad del País Vasco (UPV/EHU), Spain*

⁶*Departamento de Física, Facultad de Ciencias, Universidad de Oviedo, Spain*

⁷*Center for Cooperative Research in Biomaterials (CIC BiomaGUNE), Spain*

⁸*Departamento de Física Aplicada, Universidad del País Vasco, Spain*

⁹*SGiker Medidas Magnéticas, Universidad del País Vasco, Spain*

¹⁰*Departamento de Física, Universidad del País Vasco, Spain*

14:10 - 14:30

BNh-I3

Enhancing Magneto-Optical Properties of Heterodimer Au-Fe₃O₄ Nanoparticles

Loi Tonthat, Shin Yabukami, Akihiro Kuwahata and Tomoyuki Ogawa

Graduate School of Engineering, Tohoku University, Japan

14:30 - 14:42

BNh-O1

Development of hybrid iron oxide-biodegradable mesoporous organosilica nanoparticles as nanoparticle-based radiosensitizer for radiotherapy applications

Ngoc Xuan Dat Mai^{1,2}, Hanh-Vy Tran Nguyen^{1,2}, Hoa Thi Lai^{1,2}, Tan Le Hoang Doan^{1,2}, Hanh Kieu Thi Ta^{2,3}, Nhu Hoa Tran Thi^{2,3}, Phuoc Vinh Nguyen^{2,6}, Cong Hao Le^{2,4,5} and Bach Thang Phan^{1,2}

¹*Center for Innovative Materials and Architectures (INOMAR), Vietnam*

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³*Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, Vietnam*

⁴*Nuclear Technique Laboratory, University of Science, Ho Chi Minh City, Vietnam*

⁵*Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City, Vietnam*

⁶*School of Medicine, Ho Chi Minh City, Vietnam*

**Focused
Workshop 2**

Chairs: CheolGi Kim, Anh Duc Phan

13:30 - 13:50 FWB-I6

A Novel Induction-Type Pressure Sensor based on Magneto-Stress Impedance and Magnetoelastic Coupling Effect for Monitoring Hand Rehabilitation

Faxiang QIN

Institute for Composites Science Innovation (InCSI), School of Materials Science and Engineering, Zhejiang University, China

13:50 - 14:10 FWB-I7

Sub-nyquist Sampling based Ultrasound Localization Microscopy: in vivo Transcranial Ultrasound Imaging of Rodent Model

Jaesok Yu^{1,2}

¹*Department of Robotics & Mechatronics Engineering, DGIST, South Korea*

²*The Interdisciplinary Studies of Artificial Intelligence, DGIST, South Korea*

14:10 - 14:30 FWB-I8

Accelerating Medical Materials Innovation with Artificial Intelligence: From Design to Diagnosis

Anh D. Phan

Faculty of Materials Science and Engineering, Phenikaa University, Vietnam

14:30 - 14:42 FWB-O2

Recent advances in the diagnosis and prognosis methodologies of cardiovascular disease and beyond

Jaeyeon Choi¹, Minwoo Lee¹, Sunjong Oh², Ferial Terki³ and CheolGi Kim¹

¹*Dept. Physics and Chemistry, DGIST, Daegu, Korea*

²*Korea Institute of Machinery and Materials, Korea*

³*Université de Montpellier 34095 Montpellier Cedex 5, France*

14:42 - 14:54 FWB-O3

An insight into the magnetic field effects on spin-dependent electrochemical redox reactions and electroreduction kinetic parameters by using a magneto-plasmonic Ag@Fe₃O₄ sensing nanoplatfrom

Tuan-Anh Nguyen¹, Ngo Xuan Dinh¹, Tran Van Tan², Jaebeom Lee³ and Anh-Tuan Le¹

¹*Phenikaa University Nano Institute (PHENA), Phenikaa University, Vietnam*

²*Faculty of Biotechnology, Chemistry and Environmental Engineering, Phenikaa University, Vietnam*

³*Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Republic of Korea*

EER 3

Chairs: Yuya Sakuraba, Pedro Gorria

13:30 - 13:50 EER-I8

Analysis of intrinsic and extrinsic mechanisms of anomalous Nernst effect for novel thermoelectric application

Yuya Sakuraba

National Institute for Materials Science (NIMS), Research Center for Magnetic and Spintronic Materials, Japan

13:50 - 14:10 EER-I9

Revisiting the interplay between structure and magnetism in the R₂Fe₁₇ intermetallics: rapid-quenched ribbons versus bulk alloys

Pedro Gorria¹, J. L. Garrido Alvarez¹, P. Alvarez-Alonso¹, J. A. Blanco¹ and J. L. Sanchez Llamazares²

¹Department of Physics, Faculty of Sciences, University of Oviedo, Spain

²División de Materiales Avanzados, IPICYT, Mexico

14:10 - 14:30 EEr-I10

Chemically Manipulating the Thermoelectric Properties of Nb/Ni-doped SrTiO₃ by Selective Reduction of Cations

M. Ohtaki, L. Aoki and K. Suekuni

Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Japan

14:30 - 14:42 EEr-O6

Novel nanomaterials toward (photo)electromechanical water splitting and CO₂ reduction processes

Thanh Hai Phan, Nhat Hieu Hoang, Van Nghia Nguyen, Minh Vuong Nguyen and Thi Mien Trung Huynh

Faculty of Natural Sciences, Quy Nhon University, Vietnam

14:42 - 14:54 EEr-O7

Phonon-Glass Electron-Crystal Like V-doped W₁₈O₄₉ Materials for Energy Harvesting and Waste Heat Recovery

Tran Quang Minh Nhat^{1,3}, Le Nguyen Ngoc Quy^{1,2,3}, Pham Thanh Tuan Anh^{1,3,4}, Lai Thi Hoa^{1,3}, Tran Nguyen Thuy Tien^{1,3}, Nguyen Chi Cuong^{1,3}, Pham Kim Ngoc^{2,3} and Phan Bach Thang^{1,3}

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²Faculty of Materials Science and Technology, University of Science, Vietnam

³Vietnam National University Ho Chi Minh City, Vietnam

⁴Laboratory of Advanced Materials, University of Science, Ho Chi Minh City, Vietnam

SMa 7 Chairs: Nguyen Huy Dan, Arcady Zhukov

13:30 - 13:50 SMa-I12

Magnetic, mechanical and anti-corrosion properties of Ni-Co-Mn-Al ferromagnetic shape memory alloys

Kieu Xuan Hau^{1,2}, Nguyen Hai Yen^{1,2}, Pham Thi Thanh^{1,2}, Nguyen Huy Ngoc¹, Truong Viet Anh¹, Nguyen Van Toan^{1,2} and Nguyen Huy Dan^{1,2}

¹Institute of Materials Science, Vietnam Academy of Science and Technology, Viet Nam

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Viet Nam

13:50 - 14:10 SMa-I13

Investigation of unconventional superconductors using vector-field magnetic force microscope

Jeehoon Kim

Department of Physics, Pohang University of Science and Technology, Korea

14:10 - 14:22 SMa-O21

Compositionally magnetostrictive effect in perpendicularly magnetized CoFe(B)/MgO based stacks

Sung-Min Ahn

Department of Electrical Engineering and Center for Semiconductor Technology Convergence, Pohang University of Science and Technology (POSTECH), Korea

14:22 - 14:34 SMa-O22

Advanced Magnetocaloric Microwires: Preparation and Properties

Hongxian Shen^{1, 2}, Lin Luo¹, Jianfei Sun¹ and Manh-Huong Phan²

¹School of Materials Science and Engineering, Harbin Institute of Technology, P. R. China

²Department of Physics, University of South Florida, USA

14:34 - 14:46 SMa-O23

Sandwich-structures based on piezopolymer and magnetic elastomer

L. A. Makarova^{1,2}, Makarin R.A.¹, Salnikov V.D.^{1,2}, Kolesnikova V.V.^{1,2}, Kharlamova A.M.¹, Kostrov S.A.¹, Kramarenko E.Yu.¹, Rodionova V.V.² and Perov N.S.^{1,2}

¹Faculty of Physics, Lomonosov Moscow State University, Russia

²Institute of Physics, Mathematics & IT, Immanuel Kant Baltic Federal University, Russia

Coffee break

BNh 2

Chairs: Shin Yabukami, Anh-Tuan Le

15:15 - 15:35 BNh-I4

Iron-based nanoparticles: synthesis and biomedical applications

N. H. Nam¹, P. T. Huong¹, H. V. Huy^{1,2}, L. M. Quynh² and N. H. Luong¹

¹Nano and Energy Center, University of Science, Vietnam National University, Hanoi, Vietnam

²Faculty of Physics, University of Science, Vietnam National University, Hanoi, Vietnam

15:35 - 15:46 BNh-O2

Novel approach for reducing T-cell-mediated inflammation using microneedle patch with antibody-conjugated magnetic nanoparticles

Sang-Suk Lee¹, Jong-Gu Choi¹ and Mahbub Hasan²

¹Department of Digital Healthcare, College of Health Sciences, Sangji University, South Korea

²Department of Biochemistry and Molecular Biology, Bangabandhu S. M. Rahman Sci. and Tech. Univ., Bangladesh

15:46 - 15:58 BNh-O3

Chemosensor L – A new approach for rapid detection of infectious pathogen

Thi Ngoc Diep Trinh¹, Kieu The Loan Trinh² and Nguyen Khoi Song Tran³

¹Department of Materials Science, School of Applied Chemistry, Tra Vinh University, Vietnam

²BioNano Applications Research Center, Gachon University, Korea

³NTT Hi-Tech Institute, Nguyen Tat Thanh University, Vietnam

TMh 6

Chairs: Nguyen Tran Thuat, Tae Hee Kim

15:15 - 15:35 TMh-I16

Two-dimensional halide perovskites for applications in advanced optical devices

A. T. Vu¹, T. N. Trinh², D. K. Do¹, C. H. Hoang², T. T. Truong¹, V. Q. Le³, L. S. Dang⁴ and T. Nguyen-Tran⁵

¹Faculty of Chemistry, University of Science, Vietnam National University, Vietnam

²Faculty of Physics, University of Science, Vietnam National University, Vietnam

³VinUniversity, Vietnam

⁴Institut Néel, CNRS/UGA UPR2940, France

⁵Nano and Energy Center, University of Science, Vietnam National University, Hanoi, Vietnam

15:35 - 15:55 TMh-I17

Magnetotransport in Chemically Doped Multilayer Graphene

Nga. T. Do¹, Young-Rok Jang², Chanyong Hwang³ and Tae Hee Kim¹

¹Department of Physics, Ewha Womans University, Republic of Korea

²Department of Physics, Incheon National University, Republic of Korea

³Korea Research Institute of Standards and Science, Republic of Korea

15:55 - 16:07 TMh-O8

Effect of WTe₂ underlayer on spin-orbit effects in Pt/Co/MgO

A. G. Kozlov¹, F. Y. Meng², Y. Feng², W. B. Li², T. Zhang², Zh. Zh. Namsaraev¹, M. A. Kuznetsova¹, A. F. Shishelov¹, A.V. Prikhodchenko¹, M. A. Bazrov¹, M. E. Letushev¹, A. V. Davydenko¹, A. V. Ognev^{1,3} and Y. Wang²

¹Department of General and Experimental Physics, Far Eastern Federal University, Isl Russkii, Russia

²Key Laboratory of Materials Modification by Laser, Ion and Electron Beams (Ministry of Education), School of Physics, Dalian University of Technology, China

³Sakhalin State University, Russia

16:07 - 16:19 TMh-O9

Design of low-dimensional materials and advanced catalysts

Xinghui Liu

Hubei Institute of Aerospace Chemotechnology

TMh 5 Chairs: Faxiang Qin, M. Venkata Kamalakar

15:15 - 15:35 TMh-I14

Emerging Two-dimensional van der Waals Magnetic Semiconductors: Challenges and Opportunities

Manh-Huong Phan

Department of Physics, University of South Florida, USA

15:35 - 15:55 TMh-I15

Towards scalable two-dimensional spintronic circuits

M. Venkata Kamalakar

Uppsala University, Sweden

15:55 - 16:07 TMh-O5

Rationally Designed Cu-Doped Two-Dimensional MoS₂ Nanosheets Hybridized Carbon Fibers as Separator Coating for High-Performance Li-S Battery

Thi Luu Luyen Doan¹, Lam Nguyen-Dinh², Nguyen Van Hieu¹ and Dinh Chuong Nguyen³

¹The University of Danang - University of Science and Education, Viet Nam

²The University of Da-Nang, University of Science and Technology, Viet Nam

³Faculty of Chemistry, The University of Danang - University of Science and Education, Viet Nam

16:07 - 16:19 TMh-O6

Growth of epitaxial kagome transition-metal stannides in the two dimensional limit

Q. Shi¹, M. Mizuguchi^{1,2} and T. Miyamachi^{1,2}

¹Graduate School of Engineering, Nagoya University, Nagoya, Japan

²Institute of Materials and Systems of Sustainability (IMaSS), Nagoya University, Japan

16:19 - 16:31 TMh-O7

Magnetic modulation of surface plasmon-polaritons on Au and Ag-based metasurfaces

D. A. Kuzmin¹, M. O. Usik¹, I. V. Bychkov¹ and V. G. Shavrov²

¹Department of Radio-Physics and Electronics, Chelyabinsk State University, Chelyabinsk, Russia

²Laboratory of Magnetic Phenomena in Microelectronics, IRE V.A. Kotelnikov RAS, Russia

SMa 8 Chairs: Nguyen Ngoc Dinh, Wuttthikrai Busayaporn

15:15 - 15:26 SMa-O24

Magnetocaloric Performance of Melt-extracted FeCePrB Microwires Near Room Temperature

Yulin Chai¹, Hongxian Shen¹, Jianfei Sun¹ and Manh-Huong Phan²

¹*School of Materials Science and Engineering, Harbin Institute of Technology, China*

²*Department of Physics, University of South Florida, USA*

15:26 - 15:38 SMA-O25

Coercivity Engineering in Nd-Fe-B Hot-deformed Magnets by Grain Boundary Infiltration: Micromagnetic Viewpoint

A. Bolyachkin^{1,2}, E. Dengina^{1,3}, H. Sepehri-Amin^{1,3}, T. Ohkubo¹ and K. Hono^{1,3}

¹*Research Center for Magnetic and Spintronic Materials, NIMS, Japan*

²*International Center for Young Scientists, NIMS, Japan*

³*Graduate School of Science and Technology, University of Tsukuba, Japan*

15:38 - 15:50 SMA-O26

Studying and enhancing the magnetic and magneto-optical properties of Bi-YIG thin film fabricated via metal organic decomposition method

Viet Dongquoc¹, Bui Dinh Tu¹ and Jong-Ryul Jeong²

¹*Faculty of Physics Engineering and NanoTechnology, VNU University of Engineering and Technology, Vietnam National University, Vietnam*

²*Department of Materials Science and Engineering, Graduate School of Energy Science and Technology, Chungnam National University, Republic of Korea*

15:50 - 16:02 SMA-O27

Effect of Dy-addition on the microstructure and magnetic properties of Alnico alloys

Yueqing Liu, Jiangtao Zhao, Zhihe Zhao, Lei Liu, Min Huang, Bo Zhou, Yong Ding, Yinli Sun and Aru Yan

CISRI & NIMTE Joint Innovation Center for Rare Earth Permanent Magnets, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, PR China

Poster Presentations

BNh-P1 *Antimicrobial magnetic nanoparticles of Fe₃O₄ and ZIF-8 hybrid for the sustainable water treatment*

Le Hong Tho^{1,2,3}, Do Thao Anh^{1,2,3}, Nguyen Tran Truc Phuong^{1,2,3}, Le Thanh Tam^{1,2,3}, Nguyen Bao Tran^{1,2,3}, Hanh Kieu Thi Ta^{1,2,3}, Dung Van Hoang^{2,4}, Bach Thang Phan^{2,3} and Nhu Hoa Thi Tran^{1,2,3}

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²Vietnam National University Ho Chi Minh City, Vietnam

³Center for Innovative Materials and Architectures, HoChiMinh City, Viet Nam

⁴Laboratory of Advanced Materials, University of Science, HoChiMinh City, Viet Nam

BNh-P2 *Enhanced targeted delivery of quercetin through hyaluronic acid surface modification of nano ZIF-8*

Hanh-Vy Tran Nguyen^{1,2}, Son Ninh Pham^{1,2,3}, Ngoc Xuan Dat Mai^{1,2} and Tan Le Hoang Doan^{1,2}

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²Vietnam National University-Ho Chi Minh City, Ho Chi Minh City, Viet Nam

³Faculty of Chemistry, University of Science, Ho Chi Minh City, Viet Nam

BNh-P3 *Magnetic materials derived from metal-organic framework (MIL 100-Fe) applied for biomedical and environmental fields*

Nguyen Vo Truong Duy^{1,2,3}, Nguyen Viet Quynh^{1,2,3}, Nguyen Ho Thuy Linh^{2,3}, Doan Le Hoang Tan^{2,3}, Phan Bach Thang^{2,3} and Ta Thi Kieu Hanh^{1,2,3}

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³Vietnam National University Ho Chi Minh City, Vietnam

BNh-P4 *A green synthesis of carbon dots from Musa paradisiaca cv. Awak banana juice for application in biomedical*

Ky-Vien Le^{1,2}, Ngoc Xuan Dat Mai^{2,3}, Phu-Quan Pham^{2,4}, Ngoc Hong Nguyen^{2,4}, Tan Hoang Le Doan^{2,3}, Linh Ho Thuy Nguyen^{2,4}, Thang Bach Phan^{2,4}, Lan Thi My Nguyen^{1,2} and Ngoc Kim Pham^{2,3}

¹Faculty of Biology and Biotechnology, University of Science, Ho Chi Minh City, Vietnam

²Vietnam National University Ho Chi Minh City, Vietnam

³Center for Innovative Materials and Architectures (INOMAR), Ho Chi Minh City, Viet Nam

⁴Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, Vietnam

BNh-P5 *Development and characteristics of a wrist-finger band type blood flow velocity meter using magnetoplethysmogram and photoplethysmogram*

Sang-Suk Lee¹, Yong-Chan Kim¹, Ha-Jung Lee¹, Jong-Gu Choi¹, Gyu-IL Kim², Do-Young Park³ and Byungjo Jung⁴

¹Department of Digital Healthcare, College of Health Sciences, Sangji University, South Korea

²Department of Oriental-Western Biomedical Engineering, General graduate school, Sangji University, South Korea

³Neuronic, Ltd., Startup Incubation Center, Halla University, South Korea

⁴School of Biomedical Engineering, Yonsei University, South Korea

BNh-P6 *Green Synthesized Magnetic Nanoparticles for Hyperthermia and Targeting Liver Cancer Cells*

An-Cheng Aidan Sun^{1,2,3} and Glemarie C. Hermosa^{1,3}

¹Department of Chemical Engineering & Materials Science, Yuan Ze University, Taiwan

²Graduate School of Biotechnology and Bioengineering, Yuan Ze University, Taiwan

³Ming-Kuan Biomedical Technology Corporation, Taiwan

BNh-P7 *A progress in development of a wearable electronic device using piezoelectric mountable sensor for healthcare application*

Ho Thanh Trung, Vu Ngoc Quy, Pham Thanh Huyen, Pham Minh Phuc, Nguyen Nhat Minh Tri and Dao Thanh Toan

University of Transport and Communications, Vietnam

BNh-P8 *Title Diagnosis Prediction of Stroke Patient Based on Radial Artery Pulse Data Measuring by Magnetic Sensing Smart Pulsimeter*

YouSik Hong¹, Gyu-IL Kim², Soojin Lee³, Byungjo Jung⁴ and Sang-Suk Lee⁵

¹Department of Inform. and Comm. SW Eng., Sangji University, Rep. of Korea

²Department of Oriental-Western Biomedical Engineering, General graduate school, Sangji University, Rep. of Korea

³Department of Korean Medicine, Sangji University, Rep. of Korea

⁴School of Biomedical Engineering, Yonsei University, Rep. of Korea

⁵Department of Digital Healthcare, Sangji University, Rep. of Korea

BNh-P9 *Novel non-invasive diagnosis and clinical test of coronary artery disease*

Seog-San Hyeon¹, Dae-Woong Choi¹, YouSik Hong² and Sang-Suk Lee³

¹IRUMEDI Ltd., Korea

²Department of Inform. and Comm. SW Eng., Sangji University, Korea

³Department of Digital Healthcare, Sangji University, Korea

EEr-P1 *Dopant-Induced Charge Redistribution on the 3D Sponge-like Hierarchical Structure of Quaternary Metal Phosphides Nanosheet Arrays Derived from Metal–Organic Frameworks for Natural Seawater Splitting*

Thuy Tien Nguyen Tran^{1,2}, Nam Hoang Vu² and Ngoc Quang Tran¹

¹Center for Innovative Materials and Architectures, Vietnam National University Ho Chi Minh City, Viet Nam

²Faculty of Materials Science and Technology, University of Science, Vietnam National University Ho Chi Minh City, Viet Nam

- EEr-P2 *Exploring Novel V₂WO₆ for energy harvesting purposes via Thermoelectric effect*
Le Nguyen Ngoc Quy^{1,2,3}, Tran Quang Minh Nhat^{1,3}, Pham Thanh Tuan Anh^{1,3,4}, Lai Thi Hoa^{1,3}, Tran Nguyen Thuy Tien^{1,3}, Nguyen Chi Cuong^{1,3}, Pham Kim Ngoc^{2,3} and Phan Bach Thang

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³Vietnam National University Ho Chi Minh City, Vietnam

⁴Laboratory of Advanced Materials, University of Science, Ho Chi Minh City, Vietnam

- EEr-P3 *Spectroscopic evidence for the Isotropic Superconducting Gap in LaRu₃Si₂*
Vuong Thi Anh Hong, Samreen Rashid, Harim Jang, Jihuyn Kim and Tuson Park
Center for Quantum Materials and Superconductivity (CQMS) and Department of Physics, Sungkyunkwan University, Republic of Korea

- EEr-P4 *The Catalytic Activity of Co-doped YBa₂Cu₃O_{7-δ} for Oxygen Evolution Reaction*
Hiromasa Tahara¹, Taisuke Kaizuka¹, Rei Kuramochi¹, Yoichi Kamihara² and Masanori Matoba²

¹Department of Applied Physics and Physico-Infomatics, Keio University, Japan

²Spintronics Research and Development Center, Keio University, Japan

- EEr-P5 *Local crystal phase analysis in a bismuth ferrite thin film via accurate lattice parameter measurement using scanning transmission electron microscopy*
Yukio Sato¹ and Hiroshi Naganuma²⁻⁵

¹Research and Education Institute for Semiconductors and Informatics, Kumamoto University, Japan

²Center for Innovative Integrated Electronics Systems, Tohoku University, Japan

³Center for Science and Innovation in Spintronics, Tohoku University, Japan

⁴Institute for Advanced Study, Nagoya University, Japan

⁵Institute of Materials and Systems for Sustainability, Japan

- EEr-P6 *Excellent Desalination Capability of Waste-Sugarcane-Bagasse-Derived Carbon Aerogel Electrode Reinforced with Carbon Nanotubes*
Thai Hoang Nguyen^{1,2}, Thanh Tung Nguyen³, Ngan Tuan Nguyen^{1,2,3}, Van Vien Nguyen^{1,2}, Thanh Nhut Tran^{1,2} and Hoang Long Ngo³

¹University of Science, Ho Chi Minh, Vietnam

²Vietnam National University Ho Chi Minh City (VNUHCM), Ho Chi Minh City, Vietnam

³NTT Hi-Tech Institute, Nguyen Tat Thanh University, Vietnam

- EEr-P7 *High Power Density Magnetolectric based on BF-BT Composites Film for Energy Harvesting*

P. Panpho¹, T. Charoonsuk², T. Bongkarn^{3,4} and R. Sumang¹

¹Program of Physics, Faculty of Science and Technology, Pibulsongkram Rajabhat University, Thailand

²Department of Materials Science, Faculty of Science, Srinakharinwirot University, Thailand

³Department of Physics, Faculty of Science, Naresuan University, Thailand

⁴Research Center for Academic Excellence in Applied Physics, Faculty of Science, Naresuan University, Thailand

EEr-P8 *Novel hybrid nanogenerators utilizing giant piezoelectric KNNS-xBF-yBNZ materials for self-powered electronics*

R. Sumang¹, N. Vittayakorn² and P. Panpho¹

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EEr-P9 *Oxygen evolution reaction (OER) abilities for Co doped YBa₂Cu₃O_{7-d} samples*

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EEr-P10 *Microstructure, thermal stability, and electrophysical properties of surface-modified polyantimonic acid nanoparticles*

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EEr-P11 *The design of the magnetic refrigerator, utilizing multi-stimulus cooling cycle*

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EEr-P12 *The effect of partial substitution of Co for Zn and Ni on the frequency-bending properties of a magnetorheological elastomer based on cobalt ferrite particles*

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EEr-P13 *Observation of superconducting vortices on Ta-Nb-Hf-Zr-Ti high-entropy alloys films with 0.5% weight C additives*

Tien Le^{1,2}, Dzung T. Tran², Won Nam Kang², Jungseek Hwang², Yeonkyu Lee³, Jinyoung Yun³, Jeehoon Kim³, Jaegu Song⁴, Yunseok Han⁴, Tuson Park⁴, Nhan T. T. Duong⁵, Duc H. Tran⁵ and Soon-Gil Jung⁶

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EER-P14 *A demonstration of piezoelectric renewable energy harvesting road using PZT-CNT-film for smart transportation*

Ho Thanh Trung, Pham Thanh Huyen, Pham Minh Phuc, Nguyen Nhat Minh Tri and Dao Thanh Toan

University of Transport and Communications, Vietnam

EER-P15 *Reliability enhancement of energy harvesting payment structure with piezoelectric PZT nanofiber transducer*

Ho Thanh Trung, Pham Thanh Huyen, Pham Minh Phuc, Nguyen Nhat Minh Tri, and Dao Thanh Toan

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EER-P16 *A bridge circuit design to converting electrical energy to DC voltage in piezoelectric energy harvesting payment structure*

Ho Thanh Trung, Pham Thanh Huyen, Pham Minh Phuc, Nguyen Nhat Minh Tri, Dao Thanh Toan

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EER-P17 *Experimental thermal conductivity of Zirconium metal-organic framework UiO-66*
Hoa Thi Lai^{1,2}, Nhat Quang Minh Tran^{1,2}, Linh Ho Thuy Nguyen^{1,2}, Thu Bao Nguyen Le^{2,3},
Cuong Chi Nguyen^{1,2}, Anh Tuan Thanh Pham^{2,4}, Tan Le Hoang Doan^{1,2}, Sungkyun Park⁵,
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- EEr-P18 *Effect of Fe doping on structural, multiferroic and microwave absorption properties of $BaTi_{1-x}Fe_xO_3$*
N.D. Xuan¹, L.D. Cuong¹; D.X.T. Hieu¹, N.H. Dang¹, N.V. Tien¹, D.C. Chien¹, N.H. Tiep¹, P.D. Thang² and T.A. Ho¹
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- EEr-P19 *Immunizing hybrid Aqueous Zinc-ion Batteries against dendrites formation and side reactions via Dimethyl Sulfoxide (DMSO) as electrolyte additive*
Huong Thu Duong¹, Huong Van Ta¹, Tuan Minh Hoang¹, Bach Huy Phi² and Duong Pham Tung¹
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- EEr-P20 *Titanium nitride nanoparticles incorporated in a solar greenhouse dryer for improving drying performance of agricultural products*
Le Thi Ngoc Loan, Van Thi Thuy Trang, Pham Quynh Nhi and Le Thi Thanh Lieu
Faculty of Natural Sciences, Quy Nhon University, Vietnam
- SMA-P1 *Preparation and Characterization of New Highly Entropy Alloys*
F. Santos¹, M. Rouco¹, X. Lasheras¹, N. Burgos^{2,3}, A. Sota^{2,3}, M. Ipatov^{4,5}, V. Zhukova^{4,5,6} and A. Zhukov^{3,4,5,6,7}
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⁵Department of Applied Physics, EIG, University of Basque Country, Spain
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- SMA-P2 *Conduction in Sn- and Ni-doped yttrium iron garnets: Potential for sensor applications*
Dao Thi Thuy Nguyet¹, Nguyen Phuc Duong¹, Luong Ngoc Anh¹, To Thanh Loan¹, Nguyen Duc Dung¹ and Cao Van Phuoc²
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- SMA-P3 *Fundamental Study on Internal Stress and Magnetization Properties of Vic alloy wires*
Atsuhiko Nishikura^{1,2}, Norimichi Watanabe¹, Shin Saito², Akiyoshi Nakayama¹
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SMA-P4 *A study on optimizing the grain boundary structure of sintered Nd-Dy-Fe-Co-B magnets*
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SMA-P5 *Innovative Potential for Structure and Functionality Through Metallic Glass: New Prospects for NANOMET-Based Alloys*

Haein Yim

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SMA-P6 *Fe and Mn substitution effects on FCC-type Fe₅₀Mn₂₅Ga₂₅ alloy*

Sota Kitahara¹, Hironari Okada¹ and Satoshi Awaji²

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SMA-P7 *Improvement of coercivity for microfabricated Sm(Fe_{0.8}Co_{0.2})₁₂-B thin films with Sm seed layer*

S. Ito, S. Hatanaka, Y. Mori, M. Doi and T. Shima

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SMA-P8 *Contribution of Precipitation Hardening Element Concentration and Heat Treatment Condition to the Properties of Soft Magnetic Stainless Steel*

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SMA-P9 *Investigation of fabrication of Co and Mn-based rare-earth-free hard magnetic materials*

P. T. Thanh¹, N. H. Ngoc¹, T. V. Anh¹, K. X. Hau¹, N. H. Yen¹, N. M. Lam², N. V. Duong², L. T. Hung³, J. G. Lee⁴, H. R. Cha⁴ and N. H. Dan¹

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SMA-P10 *Improvement of coercivity of SmCo₅ thin films fabricated at reduced preparation temperature on thermally oxidized Si substrates*

K. Murakata, Y. Miura, M. Doi and T. Shima

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- SMa-P11 *Escherichia coli* DNA Detection Based on $Fe_3O_4@MoS_2$ Magnetic Composites
Tien Ngoc Phuc Nguyen¹, Mai Thi Tran^{1,2} and Son Hai Nguyen³
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²VinUni-Illinois Smart Health Center, VinUniversity, Vietnam
³School of Mechanical Engineering, Hanoi University of Science and Technology, Vietnam
- SMa-P12 *Electronic structure and magnetic state of layered chalcogenides $(Co,V)_7(Se,Te)_8$ and $(Fe_{1-x}Co_x)_7Se_8$*
V. V. Ogloblichev¹, Yu. V. Piskunov¹, A. F. Sadykov¹, D. F. Akramov^{1,2}, N. V. Selezneva¹
and N. V. Baranov^{1,2}
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²Ural Federal University, Russian Federation
- SMa-P13 *Study of microstresses in sintered NdFeB magnets*
S. E. Guan¹, X. Q. Bao¹, J. H. Li¹, Z. H. Wang¹, Z. M. Guo² and X. X. Gao¹
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²Institute of Advanced Materials and Technology, University of Science and Technology Beijing, China
- SMa-P14 *Microstructure and Magnetic Properties of $La_{0.67}Sr_{0.33}MnO_3/Nd_{0.67}Sr_{0.33}MnO_3$*
Praneetha Balijapalli, Chanti Guguloth and Venkataiah Gorige
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- SMa-P15 *Effect of an agglomeration-suppressed metal island buffer layer on nanostructure of FePt-oxide granular films for heat assisted magnetic recording media*
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- SMa-P16 *Effect of external influences on properties and magnetic microstructure of amorphous magnetic tapes*
L.A.Shendrikova, S.V. Samchenko, N.N.Perova, R.A.Makarin and N.S.Perov
Faculty of Physics, Lomonosov Moscow state university, Russia
- SMa-P17 *Tuning the operating resonant frequency of GMI sensors utilizing Co-based microwires in a planar (2D) spiral architecture for biomedical applications*
N.T. Ngoc^{1,2}, N.V. Tuan^{1,4}, H.A Tam¹, V.N. Thuc¹, P.T. Hien¹, N.T.P. Thao¹, B.T. Sang¹,
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SMa-P18 *Structural characterization, magnetic and magnetocaloric behaviors of Lu-doped $La_{0.7}Ca_{0.3}MnO_3$ ceramics*

D. T. Khan¹, Kim T. H. My², T. D. Thanh³, D. H. Manh³, N. T. Dang^{4,5}, Anabil Gayen⁶, D.-H. Kim⁶ and T. L. Phan²

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SMa-P19 *Critical and magnetocaloric behaviors of $Nd_{0.5}Sr_{0.5}MnO_3/Gd$ composites*

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SMa-P20 *Size-Controlled Solvothermal Synthesis of Superparamagnetic Fe_3O_4 Microclusters for Environmental Remediation*

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SMa-P21 *Research on the fabrication and properties of multiferroic materials CFO/BCT-BZT for application in absorbing and shielding electromagnetic waves*

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- SMa-P22 *Effect of Fe substitution on structure and magneto-impedance properties of Co-based soft magnetic ribbons*
N.Q. Hoa, N.D. Minh, V.V. Hiep, T.V. Thang and B.T. Cong
Faculty of Physics, VNU University of Science, Vietnam
- SMa-P23 *Magnetoelectric Interactions of NiFe₂O₄-Ba_{0.7}Ca_{0.3}TiO₃ Multiferroic Nanocomposites*
Nguyen Thi Viet Chinh¹, Tran Thi Ha Giang¹, Dao Son Lam¹, Ta Ngoc Bach¹, Nguyen Thi Ngoc Anh¹, Do Hung Manh¹, Dang Duc Dung², Ngo Tran^{3,4}, N. N. Poddubnaya⁵ and Tran Dang Thanh¹
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³*Faculty of Natural Sciences, Duy Tan University, Viet Nam*
⁴*The University of Danang - University of Science and Education, Viet Nam*
⁵*Institute of Technical Acoustics of the National Academy of Sciences of Belarus, Belarus*
- SMa-P24 *A Study on improving motor power density using FeCoV material*
Dong-Hoon Jung¹, Ki-Doek Lee², Myung-HwanYoon², Jeong-Jong Lee² and Jae-Kwang Lee²
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²*Intelligent Mechatronics Research Center, Korea Electronics Technology Institute, Korea*
- SMa-P25 *Emergence of magnetic field-influenced critical behavior in the van der Waals ferromagnet Fe₃GeTe₂*
Nivarthana W.Y.A.Y. Mudiyansele¹, Nguyen Thi My Duc², Luis Balicas³, and Manh-Huong Phan¹
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- SMa-P26 *Machine learning of CoFe multilayers on MgO(001): A comprehensive study for high-efficiency prediction*
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- SMa-P27 *Intelligent prediction of remanence in sintered NdFeB magnets through interpretable machine learning model*
Z. H. Wang¹, S. E. Guan¹, X. Q. Bao¹, Z. M. Guo², J. H. Li¹ and X. X. Gao¹
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- SMa-P28 *Magnetocaloric effect and critical parameters of Ni₄₅Co₅Mn₃₂Al₁₈ alloy ribbon*
Nguyen Hai Yen¹, Kieu Xuan Hau^{1,2}, Nguyen Huy Ngoc¹, Truong Viet Anh¹, Pham Thi Thanh¹ and Nguyen Huy Dan¹
¹*Institute of Materials Science, Vietnam Academy of Science and Technology, Viet Nam*
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- SSp-P1 *Spin-dependent transport properties of ferromagnetic high-entropy alloy thin films*
Kazuya Z. Suzuki¹ and Koki Takanashi^{1,2}
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²*Advanced Institute for Materials Research, Tohoku University, Japan*
- SSp-P2 *Spin Wave Excitation in Ni₉₅Cu₅/Ti Bilayer Using Rayleigh-type Surface Acoustic Waves*
S. Sakai¹, K. Yamanoi¹ and Y. Nozaki^{1,2}
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- SSp-P3 *Evaluation of Spin Torque Efficiency in a Si/Pt Compositionally Graded Material*
Ryosuke Sasaki¹, Taisuke Horaguchi¹, Kazuto Yamanoi¹ and Yukio Nozaki^{1,2}
¹*Department of Physics, Keio University, Japan*
²*Center for Spintronics Research Network, Keio University, Japan*
- SSp-P4 *Strain-Induced Magnetization Switching in LSMO/BTO(001) Heterostructures*
Mrinalini¹, Yuki Ohashi², Sogo Suzuki², Sachio Komori², Tomoyasu Taniyama² and Venkataiah Gorige¹
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²*Department of Physics, Nagoya University, Japan*
- SSp-P5 *Orbital-Engineered Anomalous Hall Conductivity in Stable Full Heusler Compounds: A Pathway to Optimized Spintronics*
Quynh Anh T. Nguyen¹, Thi H. Ho^{2,3}, Seong-Gon Kim⁴ and Viet Q. Bui¹
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⁴*Department of Physics & Astronomy and Center for Computational Sciences, Mississippi State University, United States*
- SSp-P6 *Discrete breathers in linear chain of elliptic magnetic nanoparticles*
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SSp-P7 *Control of a Twisted Domain Wall Motion by Topology*

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SSp-P8 *Synthesis and magnetic properties of Ni, Fe, Co nanowire, produced by electrochemical deposition method*

M. I. Sobirov¹, A. Yu. Samardak¹, K. A. Rogachev¹, N.A. Ognev¹, G.A. Leiko¹, A.S. Samardak^{1,2} and A.V. Ognev^{1,2}

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SSp-P9 *Investigating Vertical Composition Gradient-Induced Anomalous Hall Effects in Ta(Al)-TbCo-Ta(Al) Structures*

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SSp-P10 *Influence of Vertical Composition Gradients on the Anomalous Hall Effect in Ta-(GdFeCo)_δ-Ta Thin Films*

Ramesh Chandra Bhatt^{1,2}, Lin-Xiu Ye^{1,2}, Jia-Hong Lin^{1,2} and Te-ho Wu^{1,2}

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TMh-P1 *Synthesis of Co₃O₄/CeO₂ materials for photocatalytic degradation of Tetracycline under visible light irradiation*

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TMh-P2 *The microwave absorption properties of copper ferrite powder synthesised using the oxalate-assisted hydrothermal technique*

Tran Quang Dat, Tran Tuan Vu, Pham Xuan Quang, Nguyen Nguyen Long, Ngo Ngoc Huynh, Vu Tuan Anh, Nguyen Thi Thanh, Nguyen Van Tuan and Pham Van Thin

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TMh-P3 *GaN polycrystalline materials: A combination of molecular dynamic simulation and density function theory method*

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TMh-P4 *Controlled interface of two-dimensional graphene and ferromagnetic nanoparticles heterostructure for spintronics and opto-spintronics*

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TMh-P5 *Ultrafast degradation of rhodamine B using enhanced piezo-catalytic activity of 2H-MoS₂/g-C₃N₄ heterojunction under ultrasonic irradiation*

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TMh-P6 *Electromagnetically induced transparency in a semiconductor quantum well in a three levels lamd configuration*

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TMh-P7 *Dependence on temperature of Hall-effect based measurements of Al, Ga, and In doped ZnO films*

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TMh-P8 *Magnetic and magneto-optical properties of hybrid multilayer nanostructures [(Co₄₁Fe₃₉B₂₀)_{33.9}(SiO₂)_{66.1}]/[ZnO]_n*

N. N. Perova¹, I. M. Pripechenkov¹, E. A. Gan'shina¹, S. N. Nikolaev², A. S. Sitnikov^{2,3}, A. B. Granovskiy^{1,4} and V.V. Ryl'kov^{2,4}

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TMh-P9 *Achieving Ohmic contact and ultralow Schottky contacts in two-dimensional electric metal-semiconductor van der Waals heterostructures*

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TMh-P10 *Effect of M²⁺ Cation in Spinel Cobaltites MCo₂O₄ (M = Zn, Cu, and Mn) on the Electrochemical Performance in Detection of Carbendazim Pesticide*

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TMh-P11 *The pair-breaking effect on superconductivity in epitaxial films of superconducting NbN and ferromagnetic Heusler alloy Co₂Fe_{0.4}Mn_{0.6}Si*

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TMh-P12 *Photoluminescence of Monolayer MoS₂ on Variable Nano Gap*

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TMh-P13 *Mechanism of ferromagnetism enhancement in a La_{2/3}Sr_{1/3}MnO₃ membrane free from epitaxial strain*

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TMh-P14 *Investigation of the SOT effect in Pt/Co/MgO and WTe₂/Pt/Co/MgO nanostructures*
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TMh-P15 *Hydrogen production from CO₂ reforming of methane enhanced by Pr-doped
Co/mesoporous alumina catalysts*

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