

12th RIEC International Workshop on Spintronics

June 25 (Wed.) - 27 (Fri.), 2014

Conference Room, Laboratory for Nanoelectronics and Spintronics

Research Institute of Electrical Communication, Tohoku University

<http://www.ohno.riec.tohoku.ac.jp/riecworkshop12.htm>

Organized by

Research Institute of Electrical Communication (RIEC), Tohoku University
WPI-Advanced Institute for Materials Research (WPI-AIMR), Tohoku University
Center for Spintronics Integrated Systems (CSIS), Tohoku University

Confirmed Invited Speakers

Johan Åkerman

(University of Gothenburg)

Geoffrey S. D. Beach

(Massachusetts Institute of Technology)

Lin Chen

(Tohoku University)

Michael Coey

(University of Dublin)

Andrew Ferguson

(University of Cambridge)

Shunsuke Fukami

(Tohoku University)

Kevin Garello

(ETH)

Masamitsu Hayashi

(National Institute for Materials Science)

Can-Ming Hu

(University of Manitoba)

Yoshihiro Iwasa

(The University of Tokyo)

Tomas Jungwirth

(Institute of Physics ASCR)

Shun Kanai

(Tohoku University)

Kyung-Jin Lee

(Korea University)

Christopher Marrows

(University of Leeds)

André Thiaville

(The University of Paris)

Hyunsoo Yang

(National University of Singapore)

John Xiao

(University of Delaware)

Poster Session

Poster session will be held in the afternoon on June 26 (Thu.).

Committee and Secretariat

Committee: H. Ohno, G.E.W. Bauer, M. Hayashi, Y. Ando, S. Ikeda, and F. Matsukura

Local staffs: H. Sato, S. Fukami, and S. Kanai

Secretariat: N. Sato

Sponsor

Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University



12th RIEC International Workshop on Spintronics

June 25 (Wednesday) - 27 (Friday), 2014
Conference Room, Laboratory for Nanoelectronics and Spintronics, RIEC, Tohoku University

Time table

June 25 (Wednesday)			June 26 (Thursday)			June 27 (Friday)		
			9:00 - 9:40	T-1	Lee	9:00 - 9:40	F-1	Iwasa
			9:40 - 10:20	T-2	Xiao	9:40 - 10:10	F-2	Kanai
			Break			Break		
			10:40 - 11:20	T-3	Garello	10:30 - 11:10	F-3	Hu
			11:20 - 12:00	T-4	Ferguson	11:10 - 11:50	F-4	Åkerman
			Lunch			11:50 -	Closing	
12:30 - 13:30	Registration							
13:30 -	Opening							
13:40 - 14:20	W-1	Fukami				13:40 - 14:20	T-5	Coey
14:20 - 15:00	W-2	Marrows				14:20 - 15:00	T-6	Jungwirth
15:00 - 15:40	W-3	Beach	15:00 - 15:30	T-7	Chen			
Break			15:30 - 17:20	P-1 ~ P-27	Poster session			
16:00 - 16:40	W-4	Hayashi						
16:40 - 17:20	W-5	Thiaville						
17:20 - 18:00	W-6	Yang	Transfer					
			18:00 - 19:30	Banquet				

June 25th (Wednesday)

			page
12:30-13:30		Registration	
13:30-13:40		Opening Hideo Ohno (<i>Organizer, Tohoku University</i>)	
13:40-14:20	W-1	Shunsuke Fukami and Hideo Ohno (<i>Tohoku University</i>) Current induced domain wall motion in Co/Ni wires for nonvolatile memories and logic circuits	1
14:20-15:00	W-2	Aleš Hrabec,¹ Serban Lepadatu,¹ Nicholas A. Porter,¹ Adam Wells,¹ Maria Jose Benitez Romero,² Robert Beacham,² Damien McGrouther,² Stephen McVitie,² Henri Saarikoski,³ Gen Tatara,³ Gavin Burnell,¹ Thomas A. Moore,¹ and <u>Christopher H. Marrows¹</u>, (¹<i>University of Leeds</i>, ²<i>University of Glasgow</i>, ³<i>RIKEN</i>) Domain wall motion in multilayer films	2
15:00-15:40	W-3	Geoffrey S. D. Beach (<i>MIT</i>) Current driven dynamics of chiral domain walls	3
15:40-16:00		Break	
16:00-16:40	W-4	Masamitsu Hayashi,¹ Jacob Torrejon,¹ Junyeon Kim,¹ Jaivardhan Sinha,¹ Seiji Mitani,¹ Saburo Takahashi,² Sadamichi Maekawa³, Michihiko Yamanouchi,² and Hideo Ohno² (¹ <i>National Institute for Materials Science</i> , ² <i>Tohoku University</i> , ³ <i>Japan Atomic Energy Agency</i>) Current induced spin orbit torques and chiral magnetic texture in magnetic heterostructures	4
16:40-17:20	W-5	André Thiaville (<i>Université Paris-Sud</i>) Role of chiral micromagnetic structures in ultrathin films	5
17:20-18:00	W-6	Hyunsoo Yang (<i>National University of Singapore</i>) Spin-orbit torque engineering in magnetic multilayers	6

June 26th (Thursday)

9:00-9:40	T-1	Kyung-Jin Lee (<i>Korea University</i>) Theoretical studies on magnetic interfaces subject to spin-orbit coupling	page 7
9:40-10:20	T-2	X. Fan,¹ H. Celik,¹ K.-J Lee,² J. Wu,¹ T. V. O. Lorenz,¹ and <u>John Q. Xiao¹</u> (¹<i>University of Delaware</i>, ²<i>Korea University</i>) Quantifying interface and bulk contributions to spin-orbit torque in magnetic bilayers	8
10:20-10:40		Break	
10:40-11:20	T-3	Kevin Garello,¹ Can Onur Avci,¹ Ioan Mihai Miron,² Olivier Boulle,² Stéphane Auffret,² Abhijit Ghosh,¹ Manuel Baumgartner,¹ Gilles Gaudin², and Pietro Gambardella¹ (¹<i>ETH Zurich</i>, ²<i>SPINTEC</i>) Ultrafast magnetization switching by spin-orbit torques	9
11:20-12:00	T-4	Andrew J. Ferguson (<i>University of Cambridge</i>) An Anti-damping spin-orbit torque originating from the Berry curvature	10
12:00-13:40		Lunch	
13:40-14:20	T-5	J. M. D. Coey (<i>Trinity College, Dublin</i>) Progress with d^0 magnetism; collective magnetic response of CeO₂ nanoparticles	11
14:20-15:00	T-6	Tomas Jungwirth (<i>ASCR and University of Nottingham</i>) Current induced spin-orbit torques in ferromagnets and antiferromagnets	12
15:00-15:30	T-7	Lin Chen,¹ Fumihiko Matsukura,¹ Tomasz Dietl,^{1,2} and Hideo Ohno¹ (¹<i>Tohoku University</i>, ²<i>Polish Academy of Sciences and University of Warsaw</i>) Electrical detection and control of magnetization dynamics in (Ga,Mn)As	13
15:30-17:20		Poster session (Room A401)	

June 27th (Friday)

9:00-9:40	F-1	Yoshihiro Iwasa (<i>University of Tokyo, RIKEN</i>) Two-dimensional crystals for spin-valley functions	page 14
9:40-10:10	F-2	Shun Kanai,¹ Y. Nakatani,² M. Yamanouchi,¹ S. Ikeda,¹ H. Sato,¹ F. Matsukura,¹ and H. Ohno¹ (¹ <i>Tohoku University</i> , ² <i>University of Electro-comminucations</i>) Magnetization switching induced by electric field	15
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10:30-11:10	F-3	P. Hyde,¹ Lihui Bai,¹ D. M. J. Kumar,¹ B. W. Southern,¹ S. Y. Huang,² B. F. Miao,² C. L. Chien,² and <u>Can-Ming Hu</u>¹ (¹ <i>University of Manitoba</i> , ² <i>Johns Hopkins University</i>) Electrical detection of dynamically generated dc and ac spin currents	16
11:10-11:50	F-4	Johan Åkerman (<i>University of Gothenburg</i>) Recent advances in nano-contact spin torque oscillators	17
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P-1	Chaoliang Zhang, M. Yamanouchi, H. Sato, S. Fukami, S. Ikeda, F. Matsukura, and H. Ohno (<i>Tohoku University</i>) In-plane current-induced effective fields and magnetization switching in Ta/CoFeB/MgO structures	page 18
P-2	Samik DuttaGuputa, S. Fukami, M. Yamanouchi, C. Zhang, H. Sato, S. Ikeda, F. Matsukura, and H. Ohno (<i>Tohoku University</i>) Current and field induced domain wall creep in Ta/CoFeB/MgO wire	19
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P-10	Koki Mukaiyama, Hiroshi Naganuma, Mikihiro Oogane, and Yasuo Ando (Tohoku University) Fabrication of magnetic tunnel junctions using perpendicularly magnetized [Co₇₅Fe₂₅/Pd] multilayer	27
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