

Sunday, May 19, 2013

15:45 Registration (Kyoto Royal Hotel & SPA)

17:45 – 19:45 Welcome Reception

Monday, May 20, 2013

8:30 Registration (Kyoto Research Park)

9:00 **Opening Address** K. Takanashi (Tohoku U)
Welcome Address S. Kusumoto (President of the Yamada Science Foundation)

Chair: S. Maekawa

9:15 Mo-1 **Using flow of heat to create spin-transfer torque (*Invited*)**
J. Slonczewski (Katonah Research Center)

9:45 Mo-2 **Longitudinal spin Seebeck effect (*Invited*)**
K. Uchida (Tohoku U)

10:15 – 10:45 Break and Photo

Chair: S. Yuasa

10:45 Mo-3 **Readout method from perpendicular media composed of synthetic antiferromagnet with zero remanent magnetization (*Invited*)**
H. Suto, T. Yang, K. Kudo, T. Nagasawa, K. Mizushima, R. Sato (Toshiba)

11:15 Mo-4 **Multiple soliton propagation through a magnetic superlattice (*Invited*)**
R. Lavrijsen, J. Lee, A. Fernandez-Pacheco, D. Petit, R. Mansell, R. Cowburn (U Cambridge)

11:45 Mo-5 **Electrical control of magnetism in oxide semiconductors**
A. Ruotolo, X. Wang, S. Qi, C. Leung, R. Lortz (City U Hong Kong/The Hong Kong Polytechnic U/Hong Kong U Science and Technology)

12:00 Mo-6 **Spin electronics sensors for ultra-sensitive magnetometry**
M. Pannetier-Lecoeur, P. Campiglio, L. Parkkonen, A. Solignac, R. Guerrero, C. Fermon, P. Lecoeur (SPEC-CEA Saclay/Aalto U School of Science and Technology/IEF-U Paris-Sud)

12:15 – 14:00 Lunch

Chair: B. Hjörvarsson

14:00 Mo-7 **Elastic stiffness of magnetic superlattice studied by picosecond ultrasonics (*Invited*)**
N. Nakamura, M. Wakita, H. Ogi, M. Hirao (Osaka U)

14:30	Mo-8	Perpendicular magnetic anisotropy and its electrical modulation of MgO/Co₂FeAl interface: A first principles study M. Tsujikawa, D. Mori, Y. Miura, M. Shirai (Tohoku U)
14:45	Mo-9	Enhancement of perpendicular magnetic anisotropy of ultrathin Tb-Fe-Co Films with Pt underlayers B. Do, H. Awano (Toyota Technological Inst.)
15:00	Mo-10	Switching behavior of exchange coupled composite of Fe/MnGa J. Lu, J. Xiao, L. Zhu, J. Zhao (Chinese Academy of Science)
15:15	Mo-11	Surfactant-mediated growth of L1₀-FeNi films on metallic single-crystal substrates and their magnetic anisotropy T. Kojima, M. Ogiwara, M. Mizuguchi, M. Kotsugi, K. Takanashi (Tohoku U/JASRI)
15:30	Mo-12	Spin ordering and magnetization processes in nanostructures from ultrathin films into multilayers A. Maziewski, M. Kisielewski, F. Stobiecki, A. Stupakiewicz, M. Tekielak, V. Zablotskii (U Bialystok/Polish Academy of Sciences/ASCR)
15:45 – 17:45		Poster Session 1 (No. 2 – 75)

Tuesday, May 21, 2013

8:30 Registration (Kyoto Research Park)

Chair: K. Rhie

9:00 Tu-1 **Electric field effect on ferromagnetism in ultra-thin transition metal films (*Invited*)**

D. Chiba (Kyoto U)

9:30 Tu-2 **Isothermal switching of perpendicular exchange bias using Pt/Co/Cr₂O₃ thin film (*Invited*)**

Y. Shiratsuchi, K. Wakatsu, T. Nakamura, T. Kinoshita, M. Suzuki, C. Mitsumata, Y. Narumi, H. Nojiri, R. Nakatani (Osaka U/JASRI/NIMS/Tohoku U)

10:00 Tu-3 **Electric-field control of domain wall nucleation and pinning in a metallic ferromagnet**

A. Bernand-Mantel, L. Herrera-Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, I.-M. Miron, O. Boulle, S. Auffret, G. Gaudin (Inst. Néel/CEA/SPINTEC)

10:15 Tu-4 **Effect of element size in exchange biased nanostructures**

A. Hirohata, R. Carpenter, G. Vallejo-Fernandez, A. Vick, K. O'Grady (U York)

10:30 – 10:45 Break

Chair: J. Fassbender

10:45 Tu-5 **Graphene as a tunnel barrier: Magnetic tunnel junctions and spin injection into silicon (*Invited*)**

B. Jonker, E. Cobas, O. van 't Erve, A. Friedman, C. Li, J. Robinson (NRL)

11:15	Tu-6	Giant magnetoresistive and spin accumulation effects in Co₂(Fe,Mn)Si-based current-perpendicular-to-plane and lateral spin valve devices <i>(Invited)</i> Y. Sakuraba, M. Ueda, K. Saito, K. Takanashi (Tohoku U)
11:45	Tu-7	Spin injection into superconducting Nb through quasi-particle states T. Wakamura, Y. Niimi, Y. Otani (U Tokyo/RIKEN ASI)
12:00	Tu-8	Permalloy contacted carbon nanotube quantum dots M. Elkin, B. Hickey (U Leeds)
12:15 – 14:00 Lunch		
		Chair: S. Blügel
14:00	Tu-9	Rashba spin-orbit coupling in magnetic bilayers: Emergence and implications <i>(Invited)</i> H.-W. Lee, J.-H. Park, C. Kim, J. Han, K.-W. Kim, S.-M. Seo, J. Ryu, J.-H. Moon, K.-J. Lee (POSTECH/Sungkyunkwan U/Seoul Natl. U/Korea U)
14:30	Tu-10	Reversed direction of current-driven domain-wall motion due to in-plane magnetic field S.-G. Je, S.-C. Yoo, B.-C. Min, K.-H. Shin, S.-B. Choe (Seoul Natl. U/KIST)
14:45	Tu-11	Melting artificial spin ice <i>(Invited)</i> V. Kapaklis, U. Arnalds, A. Harman-Clarke, E. Papaioannou, M. Karimipour, P. Korelis, A. Taroni, P. Holdsworth, S. Bramwell, B. Hjörvarsson (Uppsala U/London Centre for Nanotechnology/U Lyon)
15:15	Tu-12	Nano-skyrmion lattice in ultrathin magnetic films S. Blügel, N. Kiselev, D. Bauer, P. Mavropoulos, G. Bihlmayer, S. Heinze (PGL/Inst. for Advanced Simulation, FZ Jülich/U Kiel)
15:30 – 15:45 Break		
		Chair: Y. Nozaki
15:45	Tu-13	Symmetry breaking in the formation process of magnetic vortex states in permalloy nanodisks <i>(Invited)</i> M.-Y. Im, P. Fischer, T. Sato, K. Yamada, S. Kasai, A. Vogel, Y. Nakatani, T. Ono, G. Meier (LBNL/U Electro-Communications/Kyoto U/NIMS/U Hamburg)
16:15	Tu-14	Coherent spin wave emission from magnetic vortex cores S. Wintz, A. Erbe, J. Lindner, M. Weigand, H. Stoll, G. Schütz, J. Raabe, C. Quitmann, V. Tyberkevych, A. Slavin, J. Fassbender (HZ Dresden-Rossendorf/Max-Planck-Inst. für Intelligente Systeme/Paul Scherrer Inst./Oakland U)
16:30	Tu-15	Wide-range tuning of vortex-core resonance using asymmetric confined potential in a triangular permalloy dot S. Yakata, T. Tanaka, K. Kiseki, K. Matsuyama, T. Kimura (Kyushu U)
16:45	Tu-16	Commensurability and chaos in magnetic vortex oscillations <i>(Invited)</i> J.-V. Kim, S. Petit-Watlot, A. Ruotolo, R. Otxoa, K. Bouzehouane, J. Grollier, A. Vansteenkiste, B. Van de Wiele, V. Cros, T. Devolder (CNRS/U Paris-Sud/City U Hong Kong/CNRS-Thales/Ghent U)
17:15	Tu-17	Resonance fine-splitting in a spin-torque nano-oscillator containing two stacked vortices V. Sluka, A. Kákay, A. Deac, D. Bürgler, C. Schneider, R. Hertel (HZ Dresden-Rossendorf/FZ Jülich/U Strasbourg/CNRS)

17:30 Tu-18 **Current-enabled vortex manipulation in arrays of nanocontacts**
T. Devolder, M. Manfrini, J.-V. Kim, S. Petit-Watelot, W. van Roy, L. Lagae, L. Altimime (IEF, CNRS/U Paris-Sud/IMEC/KU Leuven)

Wednesday, May 22, 2013

8:30 Registration (Kyoto Research Park)

Chair: J. McCord

9:00 We-1 **Magnetic droplet solitons in nano-contact spin-torque oscillators with perpendicular magnetic anisotropy (Invited)**
J. Åkerman, M. Mohseni, S. Sani, J. Persson, A. Nguyen, S. Chung, Y. Pogoryelov, P. Muduli, E. Iacocca, A. Eklund, R. Dumas, S. Bonetti, A. Deac, M. Hoefer (U Gothenburg/KTH Stockholm/NanOsc AB/HZ Dresden-Rossendorf/North Carolina State U)

9:30 We-2 **Time-resolved dynamics of topological solitons in perpendicular magnetic anisotropy nanostructures**
C. Moutafis, F. Büttner, A. Bisig, M. Foerster, M. Mawass, M. Schneider, C. Günther, J. Mohanty, J. Geilhufe, R. Lavrijsen, J. Franken, H. Swagten, M. Weigand, J. Raabe, S. Eisebitt, M. Kläui, C. Korff Schmising, T. Schulz (Paul Scherrer Inst./U Mainz/TU Berlin/U Konstanz/Max Planck Inst. for Intelligent Systems/HZ Berlin/U Cambridge /TU Eindhoven)

9:45 We-3 **Spin waves in artificial band structures of periodically patterned ferromagnets (Invited)**
D. Grundler, H. Yu, F. Brandl, G. Duerr, R. Huber, S. Neusser, T. Schwarze (TU München)

10:15 We-4 **Spin waves in a microstructured metallic magnonic crystal with periodic variation of the saturation magnetization**
B. Obry, T. Brächer, P. Pirro, A. Chumak, F. Ciubotaru, A. Serga, J. Osten, J. Fassbender, B. Hillebrands (TU Kaiserslautern/Graduate School Materials Science in Mainz/HZ Dresden-Rossendorf/TU Dresden)

10:30 – 10:45 Break

Chair: B. Hillebrands

10:45 We-5 **Dynamics of Dzyaloshinskii domain walls in ultrathin magnetic films (Invited)**
A. Thiaville, S. Rohart, E. Jué, V. Cros, A. Fert (U Paris-Sud/SPINTEC Grenoble/CEA-INAC/CNRS-Thales)

11:15 We-6 **Field and current-induced motion of magnetic domain walls in (Co/Ni) nanostrips**
K. Yamada, J.-P. Jamet, Y. Nakatani, K. Ueda, R. Weil, A. Mougin, A. Thiaville, T. Ono (U Paris-Sud, CNRS/U Electro-Communication/Kyoto U)

11:30 We-7 **Temperature dependence of spin polarization in Co/Ni nanowires with different Co and Ni thicknesses determined from magnetic domain wall dynamics**
K. Ueda, R. Hiramatsu, D. Chiba, H. Tanigawa, T. Suzuki, S. Fukami, M. Yamanouchi, H. Ohno, Y. Nakatani, T. Ono (Kyoto U/PRESTO-JST/Renesas Electronics/Tohoku U/U Electro-Communications)

11:45 We-8 **Spin-polarised currents and magnetization textures (*Invited*)**
 C. Marrows, S. Lepadatu, N. Porter, K. Seemann, M. Hickey, V. Baltz, J. Claydon, D. Ciudad, B. Dalton, P. Sinha, M. Ward, R. Brydson, R. Beacham, M. Benitez-Romero, D. McGrouther, T. Charlton, C. Kinane, S. Langridge, A. Dobrynin, A. Potenza, H. Marchetto, S. Dhesi, S. McVitie, B. Hickey, G. Burnell, T. Moore (U Leeds/U Glasgow/ ISIS/Diamond Light Source)

12:15 – 14:00 Lunch

Chair: M. Mizuguchi

14:00 We-9 **Spin Hall effect in Au thin films (*Invited*)**
 X. Jin (Fudan U)

14:30 We-10 **Theory of the spin Hall effect, and its inverse, in a ferromagnetic metal near the Curie temperature (*Invited*)**
 B. Gu, T. Ziman, S. Maekawa (JAEA/Inst. Laue Langevin)

15:00 We-11 **Detection of non-linear spin fluctuations via inverse spin Hall effect**
 Y. Niimi, D. Wei, B. Gu, T. Ziman, S. Maekawa, Y. Otani (U Tokyo/JAEA/ILL, CNRS)

15:15 We-12 **Optimization of YIG/Pt interface for spin pumping-based applications**
 A. Chumak, M. Jungfleisch, V. Lauer, R. Neb, B. Hillebrands (TU Kaiserslautern)

15:30 We-13 **Layer-by-layer magnetization reversal in Co/Al₂O₃ multilayers**
 S. Bedanta, N. Chowdhury, S. Babu (NISER)

15:45 – 17:45 **Poster Session 2 (No. 76 – 153)**

19:00 – 21:00 Banquet (Kyoto Royal Hotel & SPA)

Thursday, May 23, 2013

8:30 Registration (Kyoto Research Park)

Chair: D. Chiba

9:00 Th-1 **Efficient and ultra-fast domain wall manipulation by spin currents (*Invited*)**
 M. Kläui, D. Ilgaz, S. Krzyk, B. Pfau, S. Schaffert, B. Burkard, N. Motzko, P. Laczkowski, L. Vila, S. Eisebitt (U Mainz/U Konstanz/TU Berlin/CEA-INAC)

9:30 Th-2 **Spin Hall effect dominating domain-wall depinning (*Invited*)**
 J. Franken, P. Haazen, E. Murè, R. Lavrijsen, H. Swagten, B. Koopmans (TU Eindhoven)

10:00 Th-3 **Magnetic power inverter using domain wall motion in patterned nanowires**
 J. Ieda, Y. Yamane, S. Maekawa (JAEA)

10:15 Th-4 **Spintronic domain wall based memristor**
 J. Sampaio, S. Lequeux, P. Metaxas, A. Chanthbouala, A. Anane, V. Cros, J. Grollier, A. Fert, K. Zvezdin, R. Matsumoto, A. Fukushima, H. Kubota, K. Yakushiji, S. Yuasa (CNRS-Thales/U Western Australia/Istituto P.M. s.r.l./AIST)

10:30 – 10:45		Break
		Chair: P. Fischer
10:45	Th-5	New insights into nanomagnetism by spin-polarized scanning tunneling microscopy and spectroscopy (<i>Invited</i>) D. Sander, H. Oka, S. Ouazi, M. Corbetta, O. Brovko, G. Rodary, P. Ignatiev, L. Niebergall, V. Stepanyuk, J. Kirschner (MPI Halle)
11:15	Th-6	Giant magnetoresistance through a single molecule (<i>Invited</i>) T. Yamada, S. Schmaus, A. Bagrets, Y. Yamagishi, F. Evers, W. Wulfhekel (Chiba U/ Karlsruhe Inst. of Technology)
11:45	Th-7	Domain wall nucleation and propagation in magnetic cylindrical nanowires S. Da Col, M. Darques, L. Cagnon, N. Rougemaille, J.-C. Toussaint, O. Fruchart (Inst. Néel, CNRS/U Joseph Fourier)
12:00	Th-8	Quantum mechanics of the blocking of antiferromagnetic nanostructures W. Wulfhekel, S. Holzberger, T. Schuh, F. Lambrecht, T. Balashov, S. Lounins, S. Blügel (Karlsruhe Inst. of Technology/FZ Jülich)
12:15 – 14:00		Lunch
		Chair: T. Moriyama
14:00	Th-9	Spin-Hall nano-oscillators (<i>Invited</i>) S. Demokritov, H. Ulrichs, V. Demidov, S. Urazhdin, A. Slavin, V. Tiberkevich (U Muenster/Emory U/Oakland U)
14:30	Th-10	Spin-torque ferromagnetic resonance in various nonmagnetic material K. Kondou, H. Sukegawa, S. Mitani, S. Kasai, Y. Otani (RIKEN ASI/NIMS/U Tokyo)
14:45	Th-11	Theory of spin-current generation from mechanical motion M. Matsuo, J. Ieda, K. Harii, E. Saitoh, S. Maekawa (JAEA)
15:00	Th-12	Anomalous Nernst and Hall effects in ferromagnetic metallic thin films with perpendicular magnetization M. Mizuguchi, K. Hasegawa, K. Uchida, E. Saitoh, K. Takanashi (Tohoku U)
15:15	Th-13	Induced magnetization in fullerene-magnetic multilayers O. Cespedes, T. Khan, M. Wheeler, C. Kinane, S. Langridge, L. Hueso, V. Lazarov, G. Burnell, B. Hickey (U Leeds/Rutherford Appleton Laboratory/CIC NanoGUNE Consolider/U York)
15:30 – 15:45		Break
		Chair: X. Jin
15:45	Th-14	Giant spin Hall effects and spin transfer torques (<i>Invited</i>) D. Ralph, L. Liu, C.-F. Pai, A. Melnik, Y. Li, H.-W. Tseng, O. Lee, R. Buhrman (Cornell U)
16:15	Th-15	Enhancement of spin diode signals from Fe nanoparticles in Fe/MgO/Fe magnetic tunnel junctions S. Miwa, S.-Y. Park, S.-I. Kim, Y. Jo, K. Nawaoka, N. Mizuochi, T. Shinjo, Y. Suzuki (Osaka U/Korea Basic Science Inst.)

16:30	Th-16	Spin torque diode effect of millimeter wave using L1_o-ordered alloy in magnetic tunnel junctions H. Naganuma, K. Hatakeyama, Y. Kawada, G. Kim, I. Khan, N. Inami, M. Oogane, Y. Ando (Tohoku U)
16:45	Th-17	Evidence for non-local damping in magnetic nanostructures (<i>Invited</i>) H. Nembach, J. Shaw, C. Boone, T. Silva (NIST)
17:15	Th-18	Precessional magnetization dynamics for Ta/CoFeB/MgO thin films investigated using all-optical pump-probe detection S. Iihama, S. Mizukami, Q. Ma, T. Kubota, H. Naganuma, M. Oogane, Y. Ando, T. Miyazaki (Tohoku U)
17:30	Th-19	Control of magnetic functionality in spin filter oxides M. Müller, C. Caspers, S. Flade, M. Gorgoi, A. Gloskovskii, W. Drube, C. Schneider (Research Center Jülich/BESSY/DESY)

Friday, May 24, 2013

8:30 Registration (Kyoto Research Park)

Chair: T. Nagahama

9:00	Fr-1	Large energy product in NdFeB/FeCo anisotropic nanocomposite thin film magnet (<i>Invited</i>) Y. Takahashi, W. Cui, K. Hono (NIMS)
9:30	Fr-2	Interface induced orbital moment asymmetry in Co₉₀Fe₁₀/Ni multilayers with perpendicular anisotropy J. Shaw, H. Nembach, T. Silva (NIST)
9:45	Fr-3	Composition dependence of the intrinsic Gilbert damping of Co_{3-x}Fe_xSi Heusler alloy films Y. Kasatani, S. Yamada, H. Itoh, M. Miyao, K. Hamaya, Y. Nozaki (Keio U/Kyushu U/Kansai U/CREST-JST)
10:00	Fr-4	Exchanged biased magnetostrictive multilayers for magnetoelectric composites (<i>Invited</i>) E. Quandt, E. Lage, C. Kirchhof, D. Meyners (U Kiel)

10:30 – 10:45 Break

Chair: H. Ohno

10:45	Fr-5	Semiconductor-based magnetic switching device (<i>Invited</i>) K. Rhie, S. Joo, B. Lee, K. Shin (Korea U/KIST/Inha U)
11:15	Fr-6	Writing energy reduction of MRAMs by perpendicular MTJs and the effect on normally-off computing systems (<i>Invited</i>) H. Yoda, S. Fujita, E. Kitagawa, N. Shimomura, K. Abe, K. Nomura, K. Noguchi, J. Ito (Toshiba)
11:45		Closing Remarks