

Frontiers of Molecular Magnetism

Pacifichem Symposium #109

Program

Oral Session #1 – 4

Dec. 17-18 2015

Mid-Pacific Center, Coral 1 - Hilton Hawaiian Village

Poster Session

Dec. 17 2015

Hawaii Convention Center

Message from Chair

Magnetism is one of the fundamental physical properties of matter, and the field of molecule based magnetism has played an important role not only for the characterization of molecular species but also for the development of new functional materials. In particular, the discoveries of molecule based magnets, photo-switchable magnetism, single molecule and single chain magnetism were epoch-making in inorganic chemistry. It is, however, important to discuss what we have done and to consider new physical properties and functions which may be found in such materials. In this symposium, up-and-coming chemists will gather to discuss new findings in the fields of molecule based bulk magnets, quantum magnets, organic radicals and high-spin molecules, magnetic switching through spin-crossover and electron transfer, and multi-functional behavior. We will discuss the state-of-the-art and attempt to predict the goals and future waves of molecular magnetism research over the next decade.

Hiroki Oshio

Chair, Organizing Committee of Symposium “Frontiers of Molecular Magnetism”

Organizers

Hiroki Oshio | Joel Miller | Richard Oakley | Sally Brooker | Song Gao | Masaaki Ohba

in alphabetical order

Program

Thu, Dec. 17

8:00 – 12:00	Oral session #1 <i>at Mid-Pacific Center, Coral 1 - Hilton Hawaiian Village</i>	Abstract ID INOR 541 – 550
13:00 – 17:00	Oral session #2 <i>at Mid-Pacific Center, Coral 1 - Hilton Hawaiian Village</i>	INOR 804 – 812
19:00 – 21:00	Poster session <i>at Hawaii Convention Center</i>	INOR 952 – 1006

Fri, Dec. 18

8:00 – 12:00	Oral session #3 <i>at Mid-Pacific Center, Coral 1 - Hilton Hawaiian Village</i>	INOR 1169 – 1178
13:00 – 17:00	Oral session #4 <i>at Mid-Pacific Center, Coral 1 - Hilton Hawaiian Village</i>	INOR 1373 – 1382
19:00 – 21:00	Banquet	

Oral session #1 Thu, Dec. 17, 8:00 – 12:00

INOR 541 – 550

Presiders: George Christou, Hiroki Oshio

Time	Title	Presenter
8:00 – 8:05	Opening Remarks	Hiroki Oshio
8:05 – 8:35	INOR 541: New homo- and heterometallic single-molecule magnets and related clusters (<i>Invited Lecture</i>)	George Christou
8:35 – 8:55	INOR 542: Symmetry strategy to enhance the magnetic anisotropy of single-molecule magnets	Ming-Liang Tong
8:55 – 9:15	<i>Coming soon</i>	
9:15 – 9:35	INOR 544: Magnetically interesting coordination complexes of macrocyclic ligands - from single ion magnets to MRI contrast agents	Melanie Pilkington
9:35 – 9:55	INOR 545: Molecule-based quantum magnets composed of poly-HF ligands	Jamie L. Manson
9:55 – 10:10	Break 15 min	
10:10 – 10:30	INOR 546: New trends and advances in single-molecule magnets	Muralee Murugesu
10:30 – 10:50	INOR 547: We can get higher spins and higher anisotropy but how can we get higher blocking temperatures for SMMs?	Annie Powell
10:50 – 11:10	INOR 548: SMM behaviors of isostructural Zn(II)-Ln(III)-Zn(II) tri-nuclear complexes (Ln = Ce, Nd, Tb, and Dy)	Takashi Kajiwara
11:10 – 11:30	INOR 549: Molecular magnets based on a modular approach	Kim Dunbar
11:30 – 12:00	INOR 550: Lanthanide single-molecule magnets: Design and relaxation dynamics (<i>Invited Lecture</i>)	Jinkui Tang
12:00 – 13:00	Lunch 60 min	

Oral session #2 Thu, Dec. 17, 13:00 – 17:00

INOR 804 – 812

Presiders: Rodolphe Clerac, Song Gao

Time	Title	Presenter
13:00 – 13:30	INOR 804: Molecular magnetism controlled by solid-state electrochemistry (<i>Invited Lecture</i>)	Kunio Awaga
13:30 – 13:50	<i>Coming soon</i>	
13:50 – 14:10	INOR 806: Explaining the puzzling magnetism of two-coordinate first row transition metal complexes	Gregory Girolami
14:10 – 14:30	INOR 807: Transport properties of π -stacked radical polymer based on trioxotriangulene neutral radicals	Yasushi Morita
14:30 – 14:45	Break 15 min	
14:45 – 15:05	INOR 808: Lanthanide phosphonates with tunable magnetic behaviors	Li-Min Zheng
15:05 – 15:25	INOR 809: Organometallic single-ion magnets	Song Gao
15:25 – 15:45	INOR 810: Self-assembly of coordination complexes with regular arrays of metal ions: Rings, helices, and grids	Takuya Shiga
15:45 – 16:05	INOR 811: Electronic, electrochemical, and magnetic properties of mixed-valence polyoxometalates with $3d^n/3d^{n-1}$ and $4d^n/4d^{n-1}$ configurations	Diego Venegas-Yazigi
16:05 – 16:35	INOR 812: Protecting molecular spin qubits against dipolar decoherence (<i>Invited Lecture</i>)	Stephen Hill
16:35 – 17:00	<i>Coming soon</i>	

Oral session #3 Fri, Dec. 18, 8:00 – 11:55

INOR 1169 – 1178

Presiders: Masaaki Ohba, Victor Ovcharenko

Time	Title	Presenter
8:00 – 8:30	INOR 1169: Stimuli-responsive magnetic molecular materials (<i>Invited Lecture</i>)	Eugenio Coronado
8:30 – 8:50	<i>Coming soon</i>	
8:50 – 9:10	INOR 1171: Valence tautomerism in polynuclear and polymeric complexes	Colette Boskovic
9:10 – 9:30	INOR 1172: Guest-responsive magnets based on tetracyano-metallate building units	Masaaki Ohba
9:30 – 9:50	INOR 1173: Spin transitions in coordination polymer heterostructures	Daniel Talham
9:50 – 10:05	Break 15 min	
10:05 – 10:25	INOR 1174: Tuning the spin crossover switching temperature by up to 100 K: The importance of pressure, solvent or 'tail'	Sally Brooker
10:25 – 10:45	INOR 1175: Guest dependent spin transition behavior of Fe(II) and Co(II) coordination polymers	Ryo Ohtani
10:45 – 11:05	INOR 1176: New member of inorganic zeolite family, lanthanide-based sodalite-type zeolite of $[\text{Ln}_3(\text{OH})_6\text{CO}_3\text{HCOO}]\cdot 3\text{H}_2\text{O}$ (Ln = Gd, Dy, Tb)	La-Sheng Long
11:05 – 11:25	INOR 1177: Supramolecular assembly for the design of molecular magnets	Hitoshi Miyasaka
11:25 – 11:55	INOR 1178: Breathing crystals (<i>Invited Lecture</i>)	Victor Ovcharenko
11:55 – 13:00	Lunch 65 min	

Oral session #4 Fri, Dec. 18, 13:00 – 17:00

INOR 1373 – 1382

Presiders: Sally Brooker, Eugenio Coronado

Time	Title	Presenter
13:00 – 13:30	INOR 1373: Spin-crossover framework materials (<i>Invited Lecture</i>)	Cameron Kepert
13:30 – 13:50	INOR 1374: Hofmann-like spin crossover coordination polymer compounds with 4-Xpyridine ligands	Takafumi Kitazawa
13:50 – 14:10	INOR 1375: Spin crossover phenomena in polyanionic molecular Fe(II) complexes with polysulfonated-1,2,4-triazole	Jose Ramon Galan-Mascaros
14:10 – 14:30	INOR 1376: Creating a novel four-coordinated metal complex having spin crossover phenomenon by means of distortion of molecule	Tomohiko Ishii
14:30 – 14:50	INOR 1377: From octahedral to trigonal prismatic: New geometry and new magnetism for manganese(III)	Grace Morgan
14:50 – 15:05	Break 15 min	Li-Min Zheng
15:05 – 15:25	INOR 1378 Structure-property studies in photoresponsive cyanometalates	Stephen Holmes
15:25 – 15:45	INOR 1379: Hetero-spin chain exhibiting synergy between spin-crossover and magnetic coupling tuned by light, pressure, and hydration	Tao Liu
15:45 – 16:05	INOR 1380: Rational design of photomagnetic chains with spin crossover complexes	Corine Mathoniere
16:05 – 16:25	INOR 1381: Novel optical functionalities in cyano-bridged metal assemblies	Shin-ichi Ohkoshi
16:35 – 16:55	INOR 1382: Optical and magnetic molecular switches from solid state to solutions (<i>Invited Lecture</i>)	Rodolphe Clerac
16:55 – 17:00	Closing Remarks	Joel Miller

Poster session Thu, Dec. 17, 19:00 – 21:00**INOR 954 – 1006***Venue: Hawaii Convention Center*

ID	Title	Presenter
954	2,5-Disubstituted transition metal 1,3,4-oxadiazoles for spin crossover compounds	Christian Köhler
955	Research for the relationship between structure and spin crossover phenomena in new type of iron(III) dithiocarbamate complex	Tsutomu Yamabayashi
956	NO responsivity of a Hofmann-type porous coordination polymer and magnetic behavior of its NO clathrate	Akio Mishima
957	Mononuclear and polynuclear spin-crossover iron(II)-bis(pyrazol-1-yl)pyridine complexes	Ivan Salitros
958	Synthesis, structure, and SMM behavior of a Zn(II)-Ce(III)-Zn(II) complex with pseudo threefold symmetry	Natsumi Irie
959	Fe(II) spin crossover complexes with hexadentate tripodal ligands derived from 1R-1,2,3-triazole-4-carbaldehyde and tris(2-aminoethyl)amine	Ryo Minoura
960	Linear two-coordinate transition metal complexes: Potential candidates for single molecule magnets?	Chun-Yi Lin
961	Spin transition behavior of mixed-metal porous magnetic solid solution	Miho Tsuji
962	Magnetic property and optical property of cesium manganese pentacyanonitrosylmolybdate assembly	Masaya Komine
963	Pushing the limits of magnetic anisotropy in monometallic 3d single-molecule magnets	Mark Murrie
964	Effect on the ferromagnetic transition temperature of the cobalt layered hydroxides by employment of the monovalent diarylethene derivative with a carboxyl group	Yu Inada
965	Study of single-chain magnet-like behavior in $(\text{NH}_4)_2\text{MnF}_5$	Junya Satoh
966	High-spin ground state and single-molecule magnet behavior in tri- and hexanuclear iron clusters	Raúl Hernández Sánchez

ID	Title	Presenter
967	Magnetic properties of hydroxyl-bridged heptanuclear complexes	Yasuhiro Tsuji
968	Optical bistability in a photochromic valence tautomeric cobalt cluster	Aiko Kurimoto
969	Spin-crossover Fe ^{II} N ₆ complexes of nonplanar tridentate ligands: An overview	Saleem Javed
970	Multistep phase transition in cyanide-bridged multinuclear complexes	Masayuki Nihei
971	High ionic conductivity on cyano-bridged metal assemblies	Kosuke Nakagawa
972	Synthesis and characterization of a new air stable 1,2,4-triazinyl radical and its coordination complexes	Heikki Tuononen
973	Hysteretic spin crossover with remarkable shift of critical temperature in new iron(II) complexes with 1,2,3-triazole containing tetradentate ligand	Shohei Okada
974	Magnetic properties of dysprosium(III)-yttrium(III) phthalocyaninato quadruple-decker complexes	Yoji Horii
975	Insufficiency of the anisotropy barrier, as the sole criterion, for the design of lanthanide single-molecule magnets	Kasper Pedersen
976	Photoinduced magnetization in spin-crossover Fe-[Nb(CN) ₈]-based assembly	Kenta Imoto
977	Reactivity of novel diiron complex with anthracene framework	Keisuke Fujimoto
978	Syntheses and SMM behaviors of lanthanide(III) azacrown-ether complexes: Correlation between magnetic behaviors and crystal structures	Hisami Wada
979	Magnetic properties of Co ²⁺ ion doped Hofmann-type spin-crossover complex: Fe _{1-x} Co _x (3-Fluoropyridine) ₂ [Au(CN) ₂] ₂	Shinya Matsumoto
980	Structures and magnetic properties of a series of Ln ₄ tetrahedral complexes: A Dy analog with single-molecule magnet behaviour	Hui-Lien Tsai
981	Tuning interchain interaction by ligand manipulation in 2D network assembled with Mn(III) Schiff-base complex and dicarboxylic acids	Koichi Kagesawa
982	Magnetic and guest adsorption properties of porous magnets having dianion-based pseudo-pillared-layer type structure	Narumi Tomokage

ID	Title	Presenter
983	Two Gd ^{III} coordination polymers derived from flexible dicarboxylate ligands as attractive cryogenic magnetorefrigerants	Sui-Jun Liu
984	Proton-induced switching of the SMM properties of a terbium(III)-phthalocyaninato double-decker complex	Yusuke Horie
985	Single ion magnets with multiple relaxation processes based on Co(II) and Ni(II) complexes	Roman Boca
986	Syntheses and magnetic properties of transition-metal complexes with multichelating and high-spin radical ligands	Atsushi Okazawa
987	Hydrogen adsorption and ortho-para conversion in porous magnets	Yuta Ohtsubo
988	Magnetometry on nanoscale iron-oxide deposits in the human brain	Lubor Dihan
989	Correlation between charge transfer on a magnetic layer of the iron mixed valence complex and molecular polarization of cationic intercalants	Masaya Enomoto
990	Magnetic properties of π -stacked pillared layer framework complexes with intercalated [MCp* ₂] ⁺	Hiroki Fukunaga
991	Effect of the direction of naphthalene moiety in [Fe(qnal) ₂] system	Yamao Norifumi
992	Synthesis and physical properties of a cyanide-bridged Fe-Co cage complex	Rong-Jia Wei
993	Bis(tridentate) Schiff-base bridged spin transition iron complexes using "click" chemistry	Hiroaki Hagiwara
994	Crystal structures and physical properties of electron accepting thiadiazole dioxide compounds and their transition metal complexes	Yoshiaki Shuku
995	Modulation of magnetic dynamics of Dy-complexes driven by crystal packing	Mritunjoy Kamila
996	Strongest ferromagnetic exchange coupling in gadolinium(III)-nitroxide coordination compounds	Takuya Kanetomo
997	Effect of the hydrogen-bond network in [Fe(qsal-c) ₂] spin crossover system	Takayoshi Kuroda-Sowa
998	Counter-ion effects on magnetic properties of dicarboxylate-bridged [Mn ^{III} (salen)] complexes having two-dimensional network structure	Yuki Nishimura

ID	Title	Presenter
999	Syntheses and SMM behaviors of linear Zn ^{II} - Ln ^{III} - Zn ^{II} trinuclear complexes with pseudo threefold symmetry (Ln = Pr, Nd)	Saori Kayahara
1000	Crystal structures and magnetic properties of photoresponsive 2p-4f heterospin complexes	Kensuke Murashima
1001	Synthesis, crystal structure, and magnetic properties of the face-shared triply bridged linear trinuclear complexes	Yukinari Sunatsuki
1002	Magnetic properties of heterospin single-molecule magnets (SMMs) in frozen solution: Roles of Stotal value in SMMs	Satoru Karasawa
1003	Chirality-assisted preparation of hetero metallic complexes and their physical properties	Shinji Kanegawa
1004	Unexpected, cooperative spin-crossover in iron(II)/dipyrazolylpyridine complexes with large Jahn-Teller distortions	Malcolm Halcrow
1005	Reversible photomagnetic effect on FeNb-octacyano bimetal assembly	Hiroko Tokoro
1006	Preparations, molecular structures, and magnetic properties of photoresponsive cyclic dinuclear Mn ^{II} , Fe ^{II} , and Ni ^{II} complexes in heterospin systems	Koya Mori