From Spins to Cooper Pairs:
New Physics of the Spins – StoCP 2014
Zakopane 22/09 - 26/09/2014

Conference Program

	Monday, 22/09
17^{00}- 19^{00}	**Arrival & registration**
19^{00}- 20^{00}	**dinner**
20^{00}- 22^{00}	**Inaugural session:** **Introduction by the representatives from the Jagiellonian University, Prorector Stanisław Kistryn, and from the AGH University of Science and Technology, Prorector Zbigniew Kąkol, of our Universities** **Inaugural lecture: Kai Fauth** **"An element specific look at the fate of Ce 4f spins in a heavy fermion surface intermetallics"**

	Tuesday, 23/09	
8^{00}- 9^{00}	**breakfast**	**No. of abstract**
chair:	***S. Kisryn / J. Spałek***	
9^{00}- 9^{40}	M. Nowak: Spin, momentum and chirality	29
9^{40}- 10^{20}	M. Sadzikowski: Color superconductivity	35
10^{20}- 11^{00}	J. Dudek: Cooper Pairs in Subatomic Systems: To Spin or to Bosonize - That Is the Question	13
11^{00}- 11^{30}	**coffee/tea**	
chair:	***A. Ślebarski***	
11^{30}- 12^{10}	T. Story: Topological phase diagram of Pb_{1-x} Sn_xSe	41
12^{10}- 12^{40}	A. Rycerz: Emergent Dirac fermions in graphene: Pseudospins, time-reversal symmetry, and quantum criticality	33
12^{40}- 13^{10}	M. Rams: Magnetic properties of $(Ph_4P)_2$ [Mn(acacen)M$(CN)_6$] single chain magnets for M=Fe, Os, and M=Co	31
13^{10}- 13^{30}	G. Rut: Minimal conductivity and signatures of quantum criticality in ballistic graphene bilayer	34
13^{30}- 15^{00}	**lunch/ break**	
chair:	***Z. Kąkol***	
15^{00}- 15^{40}	I. Sheikin: Quantum oscillation studies of the Fermi surface of heavy fermion materials	37
15^{40}- 16^{10}	P. Starowicz: Phonons in $TaSe_2$ studied by ARPES and DFT calculations	40
16^{10}- 16^{30}	D. Crivelli: Heat and charge transport in a driven integrable system	10
16^{30}- 17^{00}	**coffee/tea**	
chair:	***K.I. Wysokiński***	
17^{00}- 17^{40}	J. Morkowski: Magnons	28
17^{40}- 18^{10}	M. Samsel-Czekała: Magnetism and superconductivity in strained and doped iron chalcogenides	36
18^{10}- 18^{30}	M. Zegrodnik: Unconventional superconductivity with interband pairing	48
18^{30}- 18^{50}	P. Wójcik: Spin transitor action driven by the helical magnetic field	44
18^{50}- 19^{10}	A. Ptok: Iron base superconductors - the problem of symmetry and pairing	30
19^{10}- 20^{00}	**dinner**	
20^{00}- 22^{00}	**poster session**	

	Wednesday, 24/09	
8^{00}- 9^{00}	**breakfast**	**No. of abstract**
chair:	***M. Maśka***	
9^{00}- 9^{40}	B. R. Bułka: Entanglement, Kondo correlations, and transport in a system of quantum dots	6
9^{40}- 10^{20}	J. Adamowski: Physics of nanowire spintronic devices	4
10^{20}- 11^{00}	M. Krawiec: Silicene - a silicon counterpart of graphene	23
11^{00}- 11^{30}	**coffee/tea**	
chair:	***B. Dąbrowski***	
11^{30}- 12^{10}	K. I. Wysokiński: Intrinsic mechanism of dichroism in chiral multiband superconductors	45
12^{10}- 12^{40}	K. Ruebenbauer: Superconductivity, charge density wave and magnetic order (spin density wave) in iron-based superconductors as seen by Mössbauer spectroscopy	32
12^{40}- 13^{10}	V. H. Tran: Coexistence of ferromagnetism and Kondo effect in f-electron intermetallic compounds	43
13^{10}- 13^{30}	A. Kądzielawa: $(H_2)_n$ molecule system with an ab initio optimization of wave functions in correlated state: Electron-proton couplings and intermolecular microscopic parameters	20
13^{30}- 15^{00}	**lunch/ break**	
	excursion	
19^{00}- 20^{00}	**conference dinner**	
20^{00}- 22^{00}		

	Thursday, 25/09	
8^{00}- 9^{00}	**breakfast**	**No. of abstract**
chair:	***R. Micnas***	
9^{00}- 9^{40}	M. Maśka: Properties of the fermion-phase model	25
9^{40}- 10^{20}	M. Mierzejewski: Relaxation in one- and two-dimensional spin systems	27
10^{20}- 11^{00}	T. Domański: Electrons' pairing versus long-range coherence from a boson-fermion perspective	12
11^{00}- 11^{30}	**coffee/tea**	
chair:	***K. Tomala***	
11^{30}- 12^{10}	Marta Cieplak: The effects of transition-metal substitutions in iron chalcogenides	8
12^{10}- 12^{40}	A. Kołodziejczyk: Clean Limit Superconductivity and Weak Itinerant Ferromagnetism in Y_9Co_7	22
12^{40}- 13^{10}	B. Dąbrowski: Strongly-Correlated Corner-Shared Networks of Transition Metal and Oxygen	11
13^{10}- 13^{30}	B. Idzikowski: Influence of point defects on electronic structure and magnetic properties of YCo_2 compound	16
13^{30}- 15^{00}	**lunch/ break**	
chair:	***M. Mierzejewski***	
15^{00}- 15^{40}	J. Bünemann: The Gutzwiller Density Functional Theory	7
15^{40}- 16^{10}	J. Kaczmarczyk: Unconventional superconductivity in the Hubbard and t-J models: Gutzwiller wave function solution	18
16^{10}- 16^{30}	M. M. Wysokiński: Microscopic model for ferromagnetism in UGe_2	46
16^{30}- 17^{00}	**coffee/tea**	
chair:	***T. Domański***	
17^{00}- 17^{40}	J. Jędrzejewski: Quantum phase transitions, ground-state correlations, and fidelity in BCS-like models	17
17^{40}- 18^{10}	K. Makuch: Thermodynamics of simple cubic Hubbard model - dynamical mean-field study	24
18^{10}- 18^{30}	J. Skolimowski: Correlated fermions in presence of spin-dependent disorder	38
18^{30}- 18^{50}	O. Dutta: Simulation of anomalous Hall effect in ultracold gases	14
18^{50}- 19^{10}	M. Adamski: Quantum Critical Scaling of Fidelity in 2D BCS-like Models	5
19^{10}- 20^{00}	**dinner/ grill?**	
20^{00}- 22^{00}		

	Friday, 26/09	
8^{00}- 9^{00}	**breakfast**	**No. of abstract**
chair:	***J. Morkowski***	
9^{00}- 9^{40}	A. Ślebarski: Materials with correlated electrons; A pathway from Kondo insulator to superconductivity	42
9^{40}- 10^{20}	R. Micnas: Superconductivity with local electron pairing: BCS-BEC Crossover	26
10^{20}- 10^{40}	M. Abram: Coexistence of superconductivity and antiferromagnetism in cuprates - study of extended t-J model	3
10^{40}- 11^{00}	E. Kądzielawa-Major: Anderson-Kondo lattice Hamiltonian from the Anderson-lattice model: A modiffed Schrieffer-Wolff transformation and the effective exchange interactions	21
11^{00}- 11^{30}	**coffee/tea**	
chair:	***Marta Cieplak***	
11^{30}- 12^{10}	E. Gudowska-Nowak: Heavy-tail distributions, Lévy noises and nonequilibrium stochastic thermodynamics	15
12^{10}- 12^{40}	Marek Cieplak: Nanoindentation of Virus Capsids	9
12^{40}- 13^{00}	A. Kapanowski: Graph theory with Python: selected algorithms and applications	19
13^{00}- 13^{30}	J. Spałek: Summary: From spins to Cooper pairs	39
13^{30}- 15^{00}	**lunch / departure**	