

**XVI National Conference on Superconductivity  
and Strongly Correlated Systems  
Zakopane 07/10 - 12/10/2013**

**Conference Program**

<b>Monday, 07/10</b>	
<b>17<sup>00</sup> - 19<sup>00</sup></b>	<b>Arrival &amp; registration</b>
<b>19<sup>00</sup> - 20<sup>00</sup></b>	<b>dinner</b>
<b>20<sup>00</sup> - 22<sup>00</sup></b>	<b>Inaugural session: Introduction by the representatives from the AGH University of Science and Technology, Prorector Zbigniew Kąkol, and from the Jagiellonian University, Dean Andrzej Warczak, about our Universities  Special lecture: Bogdan Sulikowski: Five-fold symmetry in science and art</b>

**XVI National Conference on Superconductivity and Strongly Correlated Systems**

Tuesday, 08/10		
<b>8<sup>00</sup> - 9<sup>00</sup></b>	<b>breakfast</b>	<b>No. of abstract</b>
<b>chair:</b>	<i>A. Kołodziejczyk/J. Spátek</i>	
<b>9<sup>00</sup> - 9<sup>40</sup></b>	D. van der Marel: Strongly interacting fermions and high-T <sub>c</sub> superconductivity in the cuprates	1
<b>9<sup>40</sup> - 10<sup>20</sup></b>	A. Kamiński: Unusual electronic properties of iron arsenic high temperature superconductors	2
<b>10<sup>20</sup> - 11<sup>00</sup></b>	D. Kaczorowski: Quantum critical superconductivity in Ce <sub>2</sub> PdIn <sub>8</sub>	3
<b>11<sup>00</sup> - 11<sup>30</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>B. Dąbrowski</i>	
<b>11<sup>30</sup> - 12<sup>10</sup></b>	Z. Kąkol: Magnetic field induced charge rearrangement in magnetite and its relation to fast electronic processes	4
<b>12<sup>10</sup> - 12<sup>50</sup></b>	K. Conder: Superconductivity in intercalated iron chalcogenides	5
<b>12<sup>50</sup> - 13<sup>30</sup></b>	J. Karpiński: New pnictide superconductor Ln <sub>4</sub> Fe <sub>2</sub> As <sub>2</sub> Te <sub>1-x</sub> O <sub>4</sub> (Ln=Pr, Sm, Gd) with T <sub>c</sub> up to 45 K	6
<b>13<sup>30</sup> - 15<sup>00</sup></b>	<b>lunch/ break</b>	
<b>chair:</b>	<i>D. Kaczorowski</i>	
<b>15<sup>00</sup> - 15<sup>30</sup></b>	M. Przybylski: Manipulating magnetic anisotropy via the density of states at the Fermi level	7
<b>15<sup>30</sup> - 16<sup>00</sup></b>	B. Dąbrowski: Designing transition metal perovskites with favorable properties	8
<b>16<sup>00</sup> - 16<sup>30</sup></b>	T. Cichorek: Evidence for multiple superconducting gaps in the filled skutterudite compound LaRu <sub>4</sub> As <sub>12</sub>	9
<b>16<sup>30</sup> - 17<sup>00</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>M. Cieplak</i>	
<b>17<sup>00</sup> - 17<sup>30</sup></b>	M. Kończykowski: Disorder in Fe-based superconductors: effect on pinning and on pairing	10
<b>17<sup>30</sup> - 18<sup>00</sup></b>	K. Ruebenbauer: Peculiar magnetism of the FeAs – grand parent of the iron-based superconductors	11
<b>18<sup>00</sup> - 18<sup>20</sup></b>	A. Błachowski: Magnetism of the regular and excess iron in Fe <sub>1+x</sub> Te studied by Mössbauer spectroscopy	12
<b>18<sup>20</sup> - 18<sup>40</sup></b>	A. Ptok: The Fulde-Ferrell-Larkin-Ovchinnikov state in iron-pnictides	13
<b>19<sup>00</sup> - 20<sup>00</sup></b>	<b>dinner</b>	
<b>20<sup>00</sup> - 22<sup>00</sup></b>	<b>poster session</b>	

**XVI National Conference on Superconductivity and Strongly Correlated Systems**

Wednesday, 09/10		
<b>8<sup>00</sup> - 9<sup>00</sup></b>	<b>breakfast</b>	<b>No. of abstract</b>
<b>chair:</b>	<i>E. Zipper</i>	
<b>9<sup>00</sup> - 9<sup>40</sup></b>	L. Krusin-Elbaum: Superconductivity of disordered Dirac fermions	14
<b>9<sup>40</sup> - 10<sup>20</sup></b>	G. Zwicknagl: Breaking translational invariance by population Imbalance: The Fulde-Ferrell-Larkin-Ovchinnikov (FFLO) states	15
<b>10<sup>20</sup> - 11<sup>00</sup></b>	K. Kugel: Spin density wave states and phase separation in doped iron pnictides	16
<b>11<sup>00</sup> - 11<sup>30</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>W. Sadowski</i>	
<b>11<sup>30</sup> - 12<sup>10</sup></b>	R. Puźniak: Disappearance of superconductivity in Fe-Te-Se system	17
<b>12<sup>10</sup> - 12<sup>50</sup></b>	M. Cieplak: Transition metal doping of FeSeTe: what can we learn from transport properties	18
<b>12<sup>50</sup> - 13<sup>30</sup></b>	T. Klimczuk: Crystal structure and physical properties of NpPt <sub>2</sub> In <sub>7</sub> and Np <sub>2</sub> PdIn <sub>8</sub>	19
<b>13<sup>30</sup> - 15<sup>00</sup></b>	<b>lunch/ break</b>	
<b>chair:</b>	<i>T. Domański</i>	
<b>15<sup>00</sup> - 15<sup>30</sup></b>	E. Zipper: Nanostructures with highly controllable electronic properties	20
<b>15<sup>30</sup> - 16<sup>00</sup></b>	A. Wójs: Non-Abelian anyon statistics arising from pairing of composite fermions in fractional quantum Hall effect	21
<b>16<sup>00</sup> - 16<sup>30</sup></b>	M. Mierzejewski: Nonequilibrium propagation of single holes and bound pairs in the t-J model	22
<b>16<sup>30</sup> - 17<sup>00</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>G. Zwicknagl</i>	
<b>17<sup>00</sup> - 17<sup>30</sup></b>	J. Bünemann: Linear-response dynamics from the time-dependent Gutzwiller approximation	23
<b>17<sup>30</sup> - 18<sup>00</sup></b>	J. Kaczmarczyk: Superconductivity in the two-dimensional Hubbard model: Gutzwiller wave function solution	24
<b>18<sup>00</sup> - 18<sup>20</sup></b>	M. Zegrodnik: Even parity spin-triplet pairing induced by the combined effect of the Hund's rule and correlations in two-band Hubbard model	25
<b>18<sup>20</sup> - 18<sup>40</sup></b>	M. Abram: d-wave superconductivity and its coexistence with antiferromagnetism in t-J-U model: Statistically consistent Gutzwiller approach	26
<b>19<sup>00</sup> - 20<sup>00</sup></b>	<b>conference dinner</b>	
<b>20<sup>00</sup> - 22<sup>00</sup></b>		

**XVI National Conference on Superconductivity and Strongly Correlated Systems**

Thursday, 10/10		No. of abstract
<b>8<sup>00</sup> - 9<sup>00</sup></b>	<b>breakfast</b>	
<b>chair:</b>	<i>A. Kamiński</i>	
<b>9<sup>00</sup> - 9<sup>40</sup></b>	H. Suderow: Imaging vortices in superconductors with very low temperature scanning tunneling microscopy and spectroscopy	27
<b>9<sup>40</sup> - 10<sup>20</sup></b>	K. I. Wysokiński: On strontium ruthenate enigma	28
<b>10<sup>20</sup> - 11<sup>00</sup></b>	G. Jung: Inverse proximity effect in hybrid organic-inorganic systems	29
<b>11<sup>00</sup> - 11<sup>30</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>P. Riseborough</i>	
<b>11<sup>30</sup> - 12<sup>10</sup></b>	J. Annett: Odd-frequency spin triplet pairing correlations in ferromagnet/superconductor multilayer systems	30
<b>12<sup>10</sup> - 12<sup>50</sup></b>	M. Maška: Holes in an antiferromagnet: Monte Carlo studies of the Ising t-J model	31
<b>12<sup>50</sup> - 13<sup>30</sup></b>	R. Hlubina: Spectral function of the anomalous propagator	32
<b>13<sup>30</sup> - 15<sup>00</sup></b>	<b>lunch/ break</b>	
<b>chair:</b>	<i>M. Maška</i>	
<b>15<sup>00</sup> - 15<sup>30</sup></b>	A. B. Shick: Unified character of electron correlation effects in unconventional Pu-based superconductors and $\delta$ -Pu	33
<b>15<sup>30</sup> - 16<sup>00</sup></b>	M. Samsel-Czekała: Strain and substitution effects on electronic structure of iron selenide superconductors	34
<b>16<sup>00</sup> - 16<sup>30</sup></b>	B. Wiendlocha: Effect of tetragonal distortion on the electronic structure, phonons and superconductivity in $\text{Mo}_3\text{Sb}_7$	35
<b>16<sup>30</sup> - 17<sup>00</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>K. Krop</i>	
<b>17<sup>00</sup> - 17<sup>30</sup></b>	A. Gabovich: Phase diagram of d-wave superconductors with charge density waves and stationary Josephson current in junctions made of such materials	36
<b>17<sup>30</sup> - 18<sup>00</sup></b>	A. Kołodziejczyk: Coexistence of superconductivity and ferromagnetism in $\text{Y}_9\text{Co}_7$ : a renewed experimental study	37
<b>18<sup>00</sup> - 18<sup>20</sup></b>	J. Mizia: Band magnetism with inter-site correlations and interactions	38
<b>18<sup>20</sup> - 18<sup>40</sup></b>	R. Radwański: Crystal-field interactions in $\text{RPd}_2\text{Al}_3$ intermetallics (R = Pr, Nd, Sm and U)	39
<b>19<sup>00</sup> - 20<sup>00</sup></b>	<b>dinner</b>	
<b>20<sup>00</sup> - 22<sup>00</sup></b>	<b>poster session 2 ?</b>	

**XVI National Conference on Superconductivity and Strongly Correlated Systems**

Friday, 11/10		
<b>8<sup>00</sup> - 9<sup>00</sup></b>	<b>breakfast</b>	<b>No. of abstract</b>
<b>chair:</b>	<i>R. Puźniak</i>	
<b>9<sup>00</sup> - 9<sup>40</sup></b>	A. Ślebarski: Evolution from a magnetically correlated state to a single impurity state in heavy fermion system $Ce_{3-x}La_xCo_4Sn_{13}$	40
<b>9<sup>40</sup> - 10<sup>20</sup></b>	P. Riseborough: A Hund's rule stabilized magnetic nematic phase in $URu_2Si_2$ ?	41
<b>10<sup>20</sup> - 11<sup>00</sup></b>	P. Samuely: Scanning tunneling microscopy and spectroscopy of superconducting molybdenum carbide ultra thin films	42
<b>11<sup>00</sup> - 11<sup>30</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>M. Mierzejewski</i>	
<b>11<sup>30</sup> - 12<sup>10</sup></b>	L. Havela: Superconductivity in $\gamma$ -U alloys	43
<b>12<sup>10</sup> - 12<sup>50</sup></b>	T. Domański: 'To screen or not to screen, That is the question': Kondo impurity on interface with superconductor	44
<b>12<sup>50</sup> - 13<sup>10</sup></b>	M. Wysokiński: Seebeck effect in the graphene - superconductor junction	45
<b>13<sup>10</sup> - 13<sup>30</sup></b>	K. Szałowski: Indirect RKKY interaction in graphene nanoflakes	46
<b>13<sup>30</sup> - 15<sup>00</sup></b>	<b>lunch/ break</b>	
<b>chair:</b>	<i>T. Klimczuk</i>	
<b>15<sup>00</sup> - 15<sup>30</sup></b>	P. Starowicz: Kondo resonance in $Ce_2CoSi_3$ studied by angle resolved photoemission spectroscopy	47
<b>15<sup>30</sup> - 15<sup>50</sup></b>	L. Spątek: Perspectives for ultra-low temperature research at the Academic Centre of Materials and Nanotechnology at AGH UST in Kraków	48
<b>15<sup>50</sup> - 16<sup>00</sup></b>	R. Cortés: Hysteresis of magnetic moment of superconducting Nb and Ta cylinders	49
<b>16<sup>00</sup> - 16<sup>30</sup></b>	G. Pawłowski: Application of ALPS 2.1.1 for simulations in strongly correlated systems	50
<b>16<sup>30</sup> - 17<sup>00</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>A. Ślebarski</i>	
<b>17<sup>00</sup> - 17<sup>30</sup></b>	A. M. Oleś: Exotic spin orders driven by orbital fluctuations in the Kugel-Khomskii model	51
<b>17<sup>30</sup> - 18<sup>00</sup></b>	A. Szytuła: Magnetic and electronic properties of $Ce_{11}Ni_4In_9$ and $CeNi_9In_2$	52
<b>18<sup>00</sup> - 18<sup>20</sup></b>	N.-T.H. Kim-Ngan: Superconductivity in sputtered U-T alloys (T=Mo, Pd, Pt)	53
<b>18<sup>20</sup> - 18<sup>40</sup></b>	J. Piętosa: Tuning of magnetic properties by oxygen content in $(Nd_{1-x}Ca_x)(Ba_{1-y}La_y)Co_2O_{5+\delta}$ layered perovskites ( $\delta = 0.25 - 0.90$ )	54
<b>19<sup>00</sup> - 22<sup>00</sup></b>	<b>dinner/ grill?</b>	

**XVI National Conference on Superconductivity and Strongly Correlated Systems**

<b>Saturday, 12/10</b>		
<b>8<sup>00</sup> - 9<sup>00</sup></b>	<b>breakfast</b>	<b>No. of abstract</b>
<b>chair:</b>	<i>K. I. Wysokiński</i>	
<b>9<sup>00</sup> - 9<sup>40</sup></b>	J. Spałek: 50 years of the Hubbard model: From magnetism to unconventional superconductivity and back	55
<b>9<sup>40</sup> - 10<sup>20</sup></b>	R. Micnas: The boson-fermion resonant model on a lattice	56
<b>10<sup>20</sup> - 11<sup>00</sup></b>	K. Rogacki: Unusual vortex dynamics in magnetic and high-T <sub>c</sub> superconductors	57
<b>11<sup>00</sup> - 11<sup>30</sup></b>	<b>coffee/tea</b>	
<b>chair:</b>	<i>A. Wójs</i>	
<b>11<sup>30</sup> - 11<sup>50</sup></b>	L. M. Tran: Interplay of magnetism and superconductivity in Ca and Co-doped EuFe <sub>2</sub> As <sub>2</sub> -based materials	58
<b>11<sup>50</sup> - 12<sup>10</sup></b>	K. Kapcia: The magnetic field induced phase separation in the zero-bandwidth limit of the extended Hubbard model with pair hopping	59
<b>12<sup>10</sup> - 12<sup>30</sup></b>	A. Kądziaława: Metallization of atomic solid hydrogen within the extended Hubbard model with renormalized Wannier wave functions	60
<b>12<sup>30</sup> - 12<sup>50</sup></b>	M. Bąk: Bound and resonant two-particle states in extended Hubbard model on simple cubic lattice	61
<b>12<sup>50</sup> - 13<sup>30</sup></b>	<b>conference conclusion</b>	
<b>13<sup>30</sup> - 15<sup>00</sup></b>	<b>lunch / departure</b>	