

## Program of IWSSD2014

Nov. 5<sup>th</sup>, 2014, Wednesday

Time	Content	Room
14:00 – 20:00	Registration Open	Auditorium, Floor 3, Building 5
18:00 – 19:30	Welcome Reception	Mini Canteen
19:30 - 21:00	IEC-IEEE joint meeting on standardization for superconducting sensors and detectors	Room 315, Building 3

Mini-program for IEC-IEEE joint meeting

Time	Content	Details		
19:30-19:35	Welcome and Introduction	by M. Ohkubo (AIST) and C. Foley (CSIRO)		
19:35-20:35	Sensor/Detector projects and potential market (10 min max each)	US	TBD	
		EU	Joern Beyer (PTB)	
		Asia	Australia	Cathy Foley (CSIRO)
			China	Lixing You (SIMIT)
			Japan	Keiji Tsukada (Okayama University)
Korea	Yong-Ho Lee (KRISS)			
20:35-20:55	<ul style="list-style-type: none"> <li>◆ Discussion on Committee Draft (CD) of IEC/TC90 WG14 - generic specification</li> <li>◆ Introduction of IEC-CD</li> <li>◆ Free discussion (Terms in superconducting electronics, SQUID round-robin test, etc.)</li> </ul>			
20:55-21:00	Future schedule			

\*All the conference attendees are welcome to join this session. However, due to the limit of the space, please contact Dr. Masataka Ohkubo (m.ohkubo@aist.go.jp) for permission in advance.

Nov. 6<sup>th</sup>, 2014, Thursday

Time	Content	Chair
8:30-9:00	Opening Ceremony	Xiaoming Xie
Session I: Plenary talk 9:00-10:20	[9:00-9:40] 1-6am-PL-1: <i>The SQUID at 50: From Cosmology to Medicine</i> Speaker: <b>John Clarke</b> (UC Berkeley, USA) [9:40-10:20] 1-6am-PL-2: <i>Superconducting transition-edge photon detection:            from cosmology to x-ray spectroscopy</i> Speaker: <b>Kent Irwin</b> (Stanford Univ, USA)	Zhen Wang
10:20-10:50	Group Photo & Coffee Break	
Session II: SQUID and Applications 10:50-12:10	[10:50-11:10] 2-6am-SQUID-I1 (Invited): <i>SQUID sensors for precision measurements at low            and ultra-low temperatures</i> Speaker: <b>Joern Beyer</b> (PTB, Germany) [11:10-11:30] 2-6am-SQUID-I2 (Invited): <i>Contaminant Detection System using High Tc            SQUID</i> Speaker: <b>Saburo Tanaka</b> (Toyohashi Univ of Tech, Japan) [11:30-11:50] 2-6am-SQUID-I3 (Invited): <i>Type-II superconducting hysteresis and its            application for ultra-sensitive magnetic field            measurements</i> Speaker: <b>Kiwoong Kim</b> (KRISS, Korea) [11:50-12:10] 2-6am-SQUID-I4 (Invited): <i>Ultra-low Field Magnetic Resonance Imaging: Eddy            Current Cancellation and Tissue Relaxation</i> Speaker: <b>Hui Dong</b> (SIMIT, China)	Yi Zhang & Yong-Ho Lee

<p><b>12:15-13:15</b></p>	<p><b>Lunch</b></p>	
<p><b>Session III: SNSPD and SSID 13:30-15:40</b></p>	<p>[13:30-13:50] 3-6pm-SNSPD-I1 (Invited): <i>Superconducting analog and digital applications to analytical sciences: mass spectrometry to synchrotron radiation</i> Speaker: <b>Masataka Ohkubo</b> (AIST, Japan)</p>	<p><b>Lixing You &amp; Masataka Ohkubo</b></p>
	<p>[13:50-14:10] 3-6pm-SNSPD-I2 (Invited): <i>Recent Progress in Superconducting Strip Ion Detectors (SSIDs)</i> Speaker: <b>Nobuyuki Zen</b> (AIST, Japan)</p>	
	<p>[14:10-14:30] 3-6pm-SNSPD-I3 (Invited): <i>Nano-optical experiments on parallel superconducting nanowires: phenomenology and theoretical model</i> Speaker: <b>Roberto Cristiano</b> (CNR, Italy)</p>	
	<p>[14:30-14:50] 3-6pm-SNSPD-I4 (Invited): <i>Development of superconducting nanowire single photon detectors for various applications</i> Speaker: <b>Shigehito Miki</b> (NICT, Japan)</p>	
	<p>[14:50-15:10] 3-6pm-SNSPD-I5 (Invited): <i>Single photon detector with high polarization extinction ratio</i> Speaker: <b>Lixing You</b> (SIMIT, China)</p>	
	<p>[15:10-15:25] 3-6pm-SNSPD-O1 : <i>Superconducting nanowire single-photon detector with various optical spectrum on dielectric multilayer</i> Speaker: <b>Taro Yamashita</b> (NICT, Japan)</p>	
	<p>[15:25-15:40] 3-6pm-SNSPD-O2: <i>Superconducting nanowire single photon detector with nearly total absorption based on dielectric mirrors</i> Speaker: <b>Hao Li</b> (SIMIT, China)</p>	
<p><b>15:40-16:00</b></p>	<p><b>Coffee Break</b></p>	

<b>Session IV: MMC 16:00-17:10</b>	[16:00-16:20] 4-6pm-MMC-I1 (Invited): <i>Metallic Magnetic Calorimeters for atomic, molecular and particle physics</i> Speaker: <b>Andreas Fleischmann</b> (Univ of Heidelberg, Germany)	<b>Shengcai Shi</b>
	[16:20-16:40] 4-6pm-MMC-I2 (Invited): <i>Application of MMC to rare event search experiments</i> Speaker: <b>Yong-Hamb Kim</b> (IBS/KRISS, Korea)	
	[16:40-16:55] 4-6pm-MMC-O1: <i>A field application of Q-spectroscopy to the alpha- emitting radionuclide analysis</i> Speaker: <b>Min-Kyu Lee</b> (KRISS, Korea)	
	[16:55-17:10] 4-6pm-MMC-O2: <i>Development of a superconducting switch for magnetic calorimeters</i> Speaker: <b>Sora Kim</b> (IBS, Korea)	
<b>17:10-18:00</b>	<b>Lab Tour</b>	
<b>18:30-20:30</b>	<b>Banquet</b>	

Nov. 7<sup>th</sup>, 2014, Friday

Time	Content	Chair
<b>Session V:</b> <b>Plenary talk</b> <b>8:30-9:50</b>	[8:30-9:10] 5-7am-PL-3: <i>Recent developments in the application of HTS step edge junctions for SQUIDs, SQIFs and other detectors</i> Speaker: <b>Cathy Foley</b> (CSIRO, Australia)	<b>Yong-Hamb Kim</b>
	[9:10-9:50] 5-7am-PL-4: <i>Cryogenic emitters based on intrinsic Josephson junction arrays for Terahertz detection</i> Speaker: <b>Peiheng Wu</b> (Nanjing Univ, China)	
<b>9:50-10:10</b>	<b>Coffee Break</b>	
<b>Section VI:</b> <b>Posters</b> <b>10:10-12:10</b>	6-7pm-Poster-1: <i>Suppression of the superconducting properties of untrathin NbTiN Films Prepared on oxidized silicon and MgO Substrates</i> Presenter: <b>Lu Zhang</b> (SIMIT, China)	
	6-7pm-Poster-2: <i>Epitaxial Growth of TiN films On MgO (100) with DC Magnetron Sputtering Method</i> Presenter: <b>Rui Sun</b> (SIMIT, China)	
	6-7pm-Poster-3: <i>Co-sputtering NbTiN film on SiO<sub>2</sub>/Si substrate</i> Presenter: <b>Xiaodong Su</b> (Soochow Univ, China)	
	6-7pm-Poster-4: <i>Bias-free True Random Number Generators (TRNG) based on superconductor nanowire single photon detector</i> Presenter: <b>Yuhao He</b> (SIMIT, China)	
	6-7pm-Poster-5: <i>Superconducting nanowire single photon detector with on-chip bandpass filter</i> Presenter: <b>Xiaoyan Yang</b> (SIMIT, China)	
	6-7pm-Poster-6: <i>High efficiency NbTixNI-x superconducting nanowire single photon detectors with various chemical components</i> Presenter: <b>Zhang Weijun</b> (SIMIT, China)	

<p>6-7pm-Poster-7: <i>Effect of magnetic field fluctuation on ULF-MRI measurements in the unshielded laboratory environment</i> Presenter: <b>Chao Liu</b> (SIMIT, China)</p>
<p>6-7pm-Poster-8: <i>TI Measurement of 1H Nuclear Spins Under Ultra-low Field NMR Using a High-Tc DC-SQUID</i> Presenter: <b>Yirong Jin</b> (IOP, China)</p>
<p>6-7pm-Poster-9: <i>Voltage-biased SQUID Magnetometer Based 36 Channel Magnetocardiograph System</i> Presenter: <b>Xiangyan Kong</b> (SIMIT, China)</p>
<p>6-7pm-Poster-10: <i>Characteristics of Nb/Al Superconducting tunnel junction fabricated by using ozone (O3) gas</i> Presenter: <b>Masahiro Ukibe</b> (AIST, Japan)</p>
<p>6-7pm-Poster-11: <i>Fabrication of superconducting tunnel junction X-ray detector with high absorption yields utilizing silicon pixel absorber</i> Presenter: <b>Shigetomo Shiki</b> (AIST, Japan)</p>
<p>6-7pm-Poster-12: <i>Averaged Neutron Flux Spectrum from a Pulsed Neutron Source revealed by Superconducting Nb Current-Biased Kinetic Inductance Detector with 10B Converter</i> Presenter: <b>Shigeyuki Miyajima</b> (Osaka Prefecture University, Japan)</p>
<p>6-7pm-Poster-13: <i>Alpha spectroscopy using Magnetic Calorimeters</i> Presenter: <b>Jungho So</b> (IBS, Korea)</p>
<p>6-7pm-Poster-14: <i>Large area light detector in patchable MMC design</i> Speaker: <b>Hyejin Lee</b> (IBS, Korea)</p>
<p>6-7pm-Poster-15: <i>Analysis and simulation of AC-biased TES circuits</i> Presenter: <b>Junkang Chen</b> (USTC, China)</p>
<p>6-7pm-Poster-16: <i>Zero-bias conductance peak in InAs nanowire contacted with superconducting electrodes</i> Presenter: <b>Yong-Joo Doh</b> (Korea Univ, Korea)</p>



**2nd International Workshop of Superconducting Sensors and Detectors**

	6-7pm-Poster-17: <i>Vortex anomaly in low-dimensional fermionic condensates: Quantum confinement breaks chirality</i> Presenter: <b>Yajiang Chen</b> (Lishui Univ., China)	
<b>12:15-13:15</b>	<b>Lunch</b>	
<b>13:30-</b>	<b>Excursion to Zhujiajiao (朱家角)</b>	
<b>20:00-</b>	<b>Huangpu River Cruise</b>	

Nov. 8<sup>th</sup>, 2014, Saturday (Auditorium)

Time	Content	Chair
<b>Session VII:</b> <b>Plenary talk</b> <b>8:30-9:10</b>	[8:30-9:10] 7-8am-PL-5: <i>Single microwave photon shingle-shot detection</i> Speaker: <b>Jaw-Shen Tsai</b> (RIKEN, Japan)	<b>Irinel Chiorescu</b>
<b>Session VIII:</b> <b>Qubit</b> <b>9:10-10:45</b>	[9:10-9:30] 8-8am-QUBIT-I1 (Invited): <i>Observation of dark states in a superconductor diamond quantum hybrid system</i> Speaker: <b>Xiaobo Zhu</b> (IOP, China)	<b>Wei Chen &amp; Kiwoong Kim</b>
	[9:30-9:50] 8-8am-QUBIT-I2 (Invited): <i>Quantum state measurement, manipulation and spectroscopy of superconducting transmon qubit in circuit QED experiment at KRISS</i> Speaker: <b>Yonuk Chong</b> (KRISS, Korea)	
	[9:50-10:10] 8-8am-QUBIT-I3 (Invited): <i>Photon manipulation of spins and sensitive detection by on-chip methods</i> Speaker: <b>Irinel Chiorescu</b> (FSU, USA)	
	[10:10-10:30] 8-8am-QUBIT-I4 (Invited): <i>Nano-hybrid superconducting junctions of graphene and nanowires</i> Speaker: <b>Yong-Joo Doh</b> (Korea Univ, Korea)	
	[10:30-10:45] 8-8am-QUBIT-O1: <i>Theory of Quantum Metamaterial with Superconducting Qubits</i> Speaker: <b>Shiro Kawabata</b> (AIST, Japan)	
<b>10:45-11:00</b>	<b>Lunch</b>	
<b>Session IX:</b> <b>Sensors and Detectors for Astronomy</b> <b>11:00-12:30</b>	[11:00-11:20] 9-8am-SDA-I1 (Invited): <i>Feedhorn Coupled Multichroic polarimeters for Cosmology</i> Speaker: <b>Hsiaomei Cho</b> (SLAC NAL, USA)	<b>Shigehito Miki &amp; Andreas Fleischmann</b>
	[11:20-11:40] 9-8am-SDA-I2 (Invited): <i>Development of superconducting mixers and detectors</i> Speaker: <b>Shengcai Shi</b> (PMO, China)	



	<p>[11:40-12:00] 9-8am-SDA-I3 (Invited): <i>Development of Superconducting Tunnel Junction Photon Detectors for Cosmic Background Neutrino Decay Search</i> Speaker: <b>Shinhong Kim</b> (Univ of Tsukuba, Japan)</p>	
	<p>[12:00-12:15] 9-8am-SDA-O1 : <i>Calibration System of Polarization Response of MKIDs for CMB Observations</i> Speaker: <b>Chiko Otani</b> (RIKEN, Japan)</p>	
	<p>[12:15-12:30] 9-8am-SDA-O2: <i>Superconducting current biased kinetic inductance detectors for neutrons</i> Speaker: <b>Hiroaki Shishido</b> (Osaka Pref Univ, Japan)</p>	
<b>12:30-13:30</b>	<b>Lunch</b>	
<b>Session X: SQUID and Applications 13:30-15:35</b>	<p>[13:30-13:50] 10-8pm-SQUID-I5 (Invited): <i>Magnetic measurement of magnetic particles in solution using HTS-SQUID</i> Speaker: <b>Keiji Tsukada</b> (Okayama Univ, Japan)</p>	<b>Joern Beyer &amp; Xiaoming Xie</b>
	<p>[13:50-14:10] 10-8pm-SQUID-I6 (Invited): <i>Optimization of readout electronics for detection of low-noise SQUID signals</i> Speaker: <b>Yong-Ho Lee</b> (KRISS, Korea)</p>	
	<p>[14:10-14:30] 10-8pm-SQUID-I7 (Invited): <i>Tens of nanometers resolution of STM-SQUID Microscope</i> Speaker: <b>Hideo Itozaki</b> (Osaka Univ, Japan)</p>	
	<p>[14:30-14:50] 10-8pm-SQUID-I8 (Invited): <i>rf SQUID in Dispersive Mode - Theory vs Experiment</i> Speaker: <b>Hans-Joachim Krause</b> (Juelich Research Center, Germany)</p>	
	<p>[14:50-15:05] 10-8pm-SQUID-O1: <i>Vector sensors for scanning SQUID microscopy</i> Speaker: <b>Takekazu Ishida</b> (Osaka Pref Univ, Japan)</p>	



**2nd International Workshop of Superconducting Sensors and Detectors**

	[15:05-15:20] 10-8pm-SQUID-O2: <i>White noise characterization of Nb-based microwave SQUID multiplexers</i> Speaker: <b>Satoshi Kohjiro</b> (AIST, Japan)	
	[15:20-15:35] 10-8pm-SQUID-O3: <i>High-sensitivity cooled coil system as the low-Tc SQUID alternative in kHz range</i> Speaker: <b>Tingting Lin</b> (Jilin Univ, China)	
<b>15:35-16:00</b>	<b>Coffee Break</b>	
<b>16:00-17:00</b>	<b>Closing Remarks</b>	<b>Zhen Wang &amp; Masataka Ohkubo</b>