ImPACT "Advanced Information Society Infrastructure Linking Quantum Artificial Brains in Quantum Network"
Quantum Information Technology Workshop (Annual Meeting 2017)
March 27 - 29, 2017 / JST Tokyo Headquarters (K's Gobancho), 1F Hall

March 27 (mon) - Quantum Artificial Brain			
9:00 - 9:15	(15)	Opening remarks by Kazuo Kyuma (Full-time Executive Member, CSTI)	
9:15 - 9:45	(30)	Yoshihisa Yamamoto (ImPACT PM)	From coherent Ising machines to quantum neural networks
9:45 - 10:25	(40)	Hiroki Takesue (NTT Basic Research Laboratories)	Current status of large-scale quantum neural network
10:25 - 10:45		break	
10:45 - 11:15	(30)	Alireza Marandi/Martin Fejer (Stanford University)	Toward low-loss quantum neural networks
11:15 - 11:45	(30)	Shoko Utsunomiya (National Institute of Informatics)	Coherent XY machine using an optical parametric oscillator network and CIM simulator for cloud service
11:45 - 12:15	(30)	Kyo Inoue (Osaka University)	Quantum measurement feedback circuit
12:15 - 13:15		lunch break	
13:15 - 13:45	(30)	Kazuyuki Aihara (The University of Tokyo)	Nonlinear dynamics of chaotic and quantum neural networks
13:45 - 14:15	(30)	Ken-ichi Kawarabayashi (National Institute of Informatics)	Theoretical and practical graph algorithms
14:15 - 14:45	(30)	Hidetoshi Nishimori (Tokyo Institute of Technology)	Controlling control errors in optimization machines like quantum annealers
14:45 - 15:05		break	
15:05 - 15:35	(30)	Masayuki Ohzeki (Tohoku University)	Ising and XY-spin computer and its application to machine learning
15:35 - 16:05	(30)	Toru Aonishi (Tokyo Institute of Technology)	Optimal design for CIM-implementation algorithms based on statistical mechanics -The case of ferromagnetic and finite loading Hopfield models-
16:05 - 16:35	(30)	Tetsuo Ogawa (Osaka University)	Phase transition in engineered open quantum systems
16:45 - 18:45		Poster Session: Quantum Artificial Brain & Quantum Simulation	
March 28 (tue) - Quantum Simulation			
9:00 - 9:30	(30)	Seigo Tarucha (Riken)	Progress in quantum simulation with quantum dots
9:30 - 10:00	(30)	Hideo Aoki (The University of Tokyo)	Higher-Tc superconductivity --- Dynamical vertex approximation and flat-band superconductivity
10:00 - 10:30	(30)	Yoshiro Takahashi (Kyoto University)	Cold atom quantum simulation
10:30 - 10:50		break	
10:50 - 11:20	(30)	Takeshi Fukuhara (Riken)	Quantum simulation of spin dynamics with optical lattice systems
11:20 - 11:50	(30)	Yasunobu Nakamura (Riken)	Quantum simulation using superconducting circuits
11:50 - 13:00		lunch break	
13:00 - 14:00	(60)	Special Lecture: Daniel Los (Riken)	Topological quantum computing with Majorana- and Parafermions
14:00 - 14:30	(30)	Franco Nori (Riken)	Improved software for the study of open quantum systems
14:30 - 14:50		break	
14:50 - 15:20	(30)	Naoto Nagaosa (Riken)	Study of strongly correlated electronic systems by quantum Monte Carlo Simulation
15:20 - 15:50	(30)	Sebastian Klembt/Sven Höfling (The University of Würzburg)	Development of semiconductor-based systems for quantum simulation
15:50 - 16:20	(30)	Jaw Shen Tsai (Riken)	Quantum simulation using superconducting bozon sampling
16:30 - 18:30		Poster Session: Quantum Simulation & Quantum Secure Network	
March 29 (wed) - Quantum Secure Network			
9:00 - 9:30	(30)	Masahide Sasaki, Mikio Fujiwara (NICT)	Implementing applications of quantum secure network: current status and remaining issues
9:30 - 10:00	(30)	Soichi Tsumura (NEC Corporation)	(tentative) R&D on quantum key distribution platform
10:00 - 10:30	(30)	Akira Suzuki/Hideyuki Inoue (Toshiba Corporation)	The development of a QKD system for the quantum secure network
10:30 - 10:50		break	
10:50 - 11:20	(30)	Mitsuru Matsui (Mitsubishi Electric Corporation)	Our recent progress on modern and quantum cryptography
11:20 - 11:50	(30)	Takuya Hirano (Gakushuin University)	Quantum key distribution using quadrature amplitude modulation technology
11:50 - 13:00		lunch break	
13:00 - 14:00	(60)	Panel Session Guest panelist: Hiroshi Ito (Ministry of Economy, Trade and Industry) Panelists: M. Sasaki (NICT), M. Matsui (Mitsubishi Electric Corporation), A. Tomita (Hokkaido University)	Cyber Security: Urgent threats, short- and long-term counter-measures
14:00 - 14:30	(30)	Masato Koashi (The University of Tokyo)	Security analysis of QKD protocols using practical light sources
14:30 - 14:50		break	
14:50 - 15:20	(30)	Akihisa Tomita (Hokkaido University)	Error reduction in transmitted photonic states with nest-optical modulators
15:20 - 15:50	(30)	Ryutaroh Matsumoto (Tokyo Institute of Technology)	Channel estimation for secret key agreement over free space optical communications
15:50 - 16:20	(30)	Koji Azuma/Kiyoshi Tamaki (NTT Basic Research Laboratories)	Improving implementation security of quantum key distribution
17:30 - 19:30		Networking Reception	