# ImPACT "Advanced Information Society Infrastructure Linking Quantum Artificial Brains in Quantum Network"
## The 1st Annual Meeting
### March 25 - 27, 2015 at JST Tokyo Headquarters, Main Conference Room

| DATE | TIME | | SPEAKER (AFFILIATION) | TITLE |
|---|---|---|---|---|
| 3/25 (Wed) | 9:15 - 9:30 | (15) | Opening remarks by Yoshihisa Yamamoto PM | |
| | 9:30 - 16:10 **Quantum Secure Network** | | | |
| | 9:30 - 10:10 | (40) | Masahide Sasaki (NICT) | Current status of R&D on physical layer cryptography |
| | 10:10 - 10:40 | (30) | Yuichi Nakamura, Akio Tajima (NEC) | Quantum secure network in ICT system enabling future social infrastructure |
| | 10:40 - 11:10 | (30) | Tomoatsu Sugitaya (Toshiba) | 都市圏QKDプラットフォーム向けQKDシステムの開発 |
| | 11:10 - 11:40 | (30) | Mitsuru Matsui (Mitsubishi Electric) | Mitsubishi Electric's activities on quantum cryptography |
| | 11:40 - 12:10 | (30) | Kiyoshi Tamaki (NTT) | Practical security of quantum key distribution |
| | 12:10 - 14:00 | | lunch break | |
| | 14:00 - 14:30 | (30) | Masato Koashi (The University of Tokyo) | Round-robin differential phase-shift QKD protocol |
| | 14:30 - 15:00 | (30) | Ryutaroh Matsumoto (Tokyo Institute of Technology ) | Wiretap channel coding and its application to optical communications |
| | 15:00 - 15:30 | (30) | Akihisa Tomita (Hokkaido University) | Security certification of quantum key distribution systems |
| | 15:30 - 16:10 | (40) | Takuya Hirano (Gakushuin University, *substitute speaker for Tohoku University* ) | QKD and optical secure communications with quadrature amplitude modulation technology |
| | 16:10 - 18:10 | | Poster Session: Quantum Secure Network & Quantum Artificial Brain (theory) | |
| 3/26 (Thu) | 9:00 - 16:30 **Quantum Artificial Brain** | | | |
| | 9:00 - 9:50 | (50) | shun-ichi Amari (RIKEN BSI) | Mathematical neuroscience and quantum artificial brain |
| | 9:50 - 10:30 | (40) | Shoko Utsunomiya (National Institute of Informatics) | Coherent Ising machine for solving combinatorial optimization problems |
| | 10:30 - 11:10 | (40) | Kazuyuki Aihara (The University of Tokyo) | Neurocomputational approach to quantum artificial brain |
| | 11:10 - 11:50 | (40) | Ken-ichi Kawarabayashi (National Institute of Informatics) | Tackling Large Graphs: Structure and Efficient Algorithm. |
| | 11:50 - 12:30 | (40) | Hiroki Takesue (NTT) | Large-scale time-division multiplexed optical parametric oscillators |
| | 12:30 - 14:00 | | lunch break | |
| | 14:00 - 14:50 | (50) | Toshio Yanagida (Graduate School of Frontier Biosciences Osaka Univ., QBiC RIKEN and CiNet NICT) | What is a biological principle to control complex systems with extremely low energy consumption and high robustness ? |
| | 14:50 - 15:30 | (40) | Kyo Inoue (Osaka University) | Quantum measurement feedback circuits |
| | 15:30 - 16:10 | (40) | Alireza Marandi (Stanford University) | OPO based Ising machines: Progress and outlook |
| | 16:10 - 16:30 | (20) | Hiroshi Ohta (Alnair Labs) | Mode-locked fiber laser network for Ising/ XY machine |
| | 16:30 - 18:30 | | Poster Session: Quantum Artificial Brain (experiment) & Quantum Simulation | |
| | 18:30 - 20:00 | | Reception @ cafeteria of JST Tokyo Headquarters | |
| 3/27 (Fri) | 9:00 - 17:30 **Quantum Simulation** | | | |
| | 9:00 - 9:40 | (40) | Naoto Nagaosa (RIKEN) | Quantum simulations of correlated electronic systems |
| | 9:40 - 10:20 | (40) | Seigo Tarucha (RIKEN) | Quantum simulation with quantum dots |
| | 10:20 - 11:00 | (40) | Yoshiro Takahashi (Kyoto University) | Cold atom quantum simulation |
| | 11:00 - 11:40 | (40) | Yasunobu Nakamura (RIKEN) | Quantum simulation using superconducting circuit |
| | 11:40 - 12:20 | (40) | Jaw-Shen Tsai (RIKEN) | Analog quantum simulation with superconducting system |
| | 12:20 - 14:00 | | lunch break | |
| | 14:00 - 14:50 | (50) | Norio Kawakami (Kyoto University ) | Real-time dynamics of one-dimensional quantum systems |
| | 14:50 - 15:30 | (40) | Tetsuo Ogawa (Osaka University) | Toward quantum simulations revealing micro-macro interconnection |
| | 15:30 - 16:00 | (30) | Hideo Aoki (The University of Tokyo) | Quantum simulation for non-equilibrium correlated systems |
| | 16:00 - 16:30 | (30) | Franco Nori (RIKEN) | An efficient tool for the numerical study of quantum open systems |
| | 16:30 - 17:00 | (30) | Sven Höfling (The University of Würzburg) | A Semiconductor cavity quantum electrodynamics platform for quantum information and simulation |
| | 17:00 - 17:30 | (30) | Takeshi Fukuhara (RIKEN) | Optical-lattice quantum simulator with local manipulation |
| | 17:30 - 18:30 | | Steering Committee (PM, Adviser, all PIs) | |