

*FIRST Quantum Spin Information and Technology*

*School for spin and quantum information*

*September 24th, 2013*

*Takeda Hall, The University of Tokyo*

9:00-9:15

**Opening Remarks**

Prof. Seigo Tarucha (The University of Tokyo)

9:15-10:40

**Basics of spin qubits**

Prof. Charles M. Marcus (University of Copenhagen) (45 min)

Qubits and Nanotechnology

Prof. Yasuhiro Tokura (Tsukuba University) (40 min)

Electron spins and magnetic field

10:40-11:10 COFFEE BREAK

11:10-12:35

**Coupling distant qubits**

Prof. Daniel Loss (University of Basel/RIKEN) (45 min)

Spin Qubits and Long-Distance Entanglement

Prof. Christopher Bäuerle (Institut Néel)

Single electron transfer between distant quantum dots (40 min)

12:35-14:00 LUNCH

14:00-15:30

**New materials**

Prof. Leo Kouwenhoven (TU Delft) (45 min)

Physics of Majorana Fermions

Prof. Wilfred van der Wiel (University of Twente) (40 min)

Quantum phenomena in hybrid inorganic-organic systems

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| 15:30-15:50 | COFFEE BREAK |
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15:50-16:55

**Coupling different qubit systems**

Prof. Yoshiro Hirayama (Tohoku University) (40 min)

Hyperfine interaction in semiconductor quantum systems

Prof. Michel Pioro-Ladrière (University of Sherbrooke) (25 min)

Hybrid quantum circuits with single spin qubits

16:55-17:05

**Closing Remarks**

Prof. Seigo Tarucha (The University of Tokyo/RIKEN)