

# QSNS

International Symposium on  
Quantum System and Nuclear Spin Related Phenomena



February 18-20, 2015  
Miyagi-Zao Royal Hotel, Miyagi, Japan



# Preface

This symposium aims to discuss the important results obtained in ERATO Nuclear Spin Electronics Project (ERATO-NSEP) with the researchers of the world, who have interests in the related topics, at the end of the ERATO project. The nuclear spin related phenomena are recently spreading to many fields, such as quantum low-dimensional systems and novel materials. Especially, spintronics field is very important and it is great pleasure to have this symposium together with Graduate Program in Spintronics, Tohoku University. I wish many fruitful discussions through the symposium.

Prof. Yoshiro Hirayama  
Chair, QSNS  
Director, ERATO-NSEP, JST  
Coordinator, GP-Spin, Tohoku University

## Conference Scope

- Quantum transport in low-dimensional systems
- Integer and fractional quantum Hall effects
- Manipulation of nuclear spins in semiconductor quantum systems
- Highly-sensitive NMR measurements of semiconductor quantum systems
- Electron-spin/nuclear-spin interactions
- Nanoprobe characterization and local nuclear resonance

## Organizing & Program Committee

- Yoshiro Hirayama (Chair) *Tohoku Univ., ERATO-NSEP*
- Koji Muraki *NTT Basic Research Labs., ERATO-NSEP*
- Katsushi Hashimoto *Tohoku Univ., ERATO-NSEP*
- Hongwu Liu *Tohoku Univ., ERATO-NSEP*

This symposium is co-sponsored by JST ERATO Nuclear Spin Electronics Project (ERATO-NSEP) and Tohoku University Graduate Program in Spintronics (GP-Spin).

# International Symposium on Quantum System and Nuclear Spin Related Phenomena (QSNS)

February 18th Wed - 20th Fri  
Miyagi-Zao Royal Hotel, Miyagi, Japan

## QSNS Program

### February 18 (Wednesday)

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University of Basel

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<sup>1</sup>Department of physics, Tohoku University, <sup>2</sup>Interdepartmental Doctoral Degree Program for Multi-dimensional Materials Science leaders, Tohoku University, <sup>3</sup>Center for Emergent Matter Science, RIKEN, <sup>4</sup>Department of physics, Kanazawa University, <sup>5</sup>ERATO Nuclear Spin Electronics Project, JST, <sup>6</sup>WPI-AIMR, Tohoku University

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<sup>1</sup>Center for Emergent Matter Science, RIKEN, <sup>2</sup>Institute of Physics, Slovak Academy of Sciences, <sup>3</sup>Department of Physics, University of Basel

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<sup>1</sup>Dept. of Chemistry, University of Florida, <sup>2</sup>Dept. of Physics,  
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<sup>1</sup>Tokyo University of Agriculture and Technology, <sup>2</sup>Tohoku  
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<sup>1</sup>Division of Physics, University of Tsukuba, <sup>2</sup>NTT Basic Research  
 Laboratories, NTT Corporation, <sup>3</sup>Department of Physics, Tohoku  
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 and Institute of Atomic and Molecular Physics, Jilin University,

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Center for Emergent Matter Science, <sup>3</sup>Département de Physique,  
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<sup>4</sup>Nuclear Spin Electronics Project

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<sup>3</sup>Interdepartmental Doctoral Degree Program for Multi-dimensional  
Materials Science Leaders, Tohoku University, <sup>4</sup>WPI-AIMR,  
Tohoku University

Ad Hoc (poster, discussions and others)

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<sup>1</sup>Department of Physics, Tokyo Institute of Technology, <sup>2</sup>NTT  
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<sup>1</sup>Institut für Physik, Johannes Gutenberg-Universität, <sup>2</sup>Graduate School Materials Science in Mainz
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Closing