



# Division of Quantum Condensed Matter Physics

## Introduction

K. Yabana  
Chief of the Division

# Staff members of Division of Quantum Condensed Matter Physics

## Computational Optical Sciences:

Kazuhiro YABANA (prof., group leader)

Xiao-Ming TONG (assoc. prof. )

Nobuya MAESHIMA (lecturer)

## Computational Nano-Sciences:

Kenji SHIRAIISHI (prof., former group leader, moved to Nagoya Univ. 2013-)

Susumu OKADA (prof., moved to dept. of Physics, 2013, collaborative fellow-)

## Strongly-Correlated Systems:

Hiroyasu KOIZUMI (assoc. prof.)

\*Currently, open recruitment of one associate professor in the division (deadline 3/31)

\*All the members also affiliated to: Graduate School of Pure and Applied Sciences

# Center for Computational Sciences

Computational Science (Application)

Division of Particle Physics

Division of Astrophysics and Nuclear Physics

Division of Quantum Condensed Matter Physics

Division of Life Sciences

Division of Global Environmental Science

Computer Science (System)

Division of High Performance Computing Systems

Division of Computational Informatics

Graduate School of Pure and Applied Sciences

- Dept. of Physics
- Dept. of Frontier Science
- Dept. of Materials Science

Graduate School of Life and Environmental Sciences

- Dept. of Geoenvironmental Sciences
- Dept. of Structural Biosciences

Graduate School of Systems and Information Engineering

- Dept. of Computer Science
- Dept. of Intelligent Interaction Technologies

**All the staff members belong to both CCS and Graduate School:**

(not in this building, but in buildings of departments)

Dept. of Physics, Frontier Science  
K. Yabana  
K. Shiraishi  
S. Okada (Collaborative fellow)

Dept. of Materials Science  
X.-M. Tong  
H. Koizumi  
N. Maeshima

# Central part of Univ. Tsukuba



Dept. of Materials Science  
 X.-M. Tong  
 H. Koizumi  
 N. Maeshima

Dept. of Frontier Science  
 K. Shiraishi, S. Okada

CCS

Dept. of Physics  
 K. Yabana

# Plan of the session

13:00-13:10 K. Yabana

Introduction of Division of Quantum Condensed Matter Systems

13:10-13:40 X.M. Tong

Time-dependent method in laser material interactions

13:40-14:10 K. Yabana

Time-dependent density functional theory for optical sciences

14:10-14:40 N. Maeshima

Photoinduced phase transition and exciton Fano resonance

14:40-15:10 H. Koizumi

Mechanism of cuprate superconductivity

15:10-15:30 break

15:30-16:00 K. Shiraishi

Large-scale first principles calculations of future nano devices

16:00-16:30 S. Okada

First-principles studies on Nano-carbon materials

16:30-17:30 Discussions