

## Research organization

- Director: Prof. Masahiko TANI
- Vice Director: Prof. Yoshinori TATEMATSU

### Research groups of FIR UF

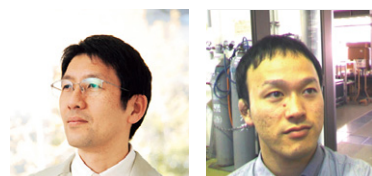
#### Core Research Division

Group for Development of fundamental far-infrared technologies // Prof. Yoshinori TATEMATSU, Assistant Prof. Masafumi FUKUNARI

- Development of high-power far-infrared radiation sources
- Research into the high-efficiency, high-stability, and high-frequency operation of gyrotrons

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Yoshinori TATEMATSU Masafumi FUKUNARI

#### Core Research Division

Group for Applications of THz technologies for research in materials science and sensing // Prof. Masahiko TANI, Associate Prof. Takayuki MAKINO, Assistant Prof. Takashi FURUYA

- Development and application of novel THz-wave emitters and detectors
- THz optical and spectroscopic research using broadband THz waves
- Investigation on photodynamics on renewable-energy-science-related materials by using ultra-fast lasers

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Masahiko TANI Takayuki MAKINO Takashi FURUYA

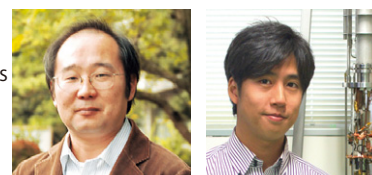
#### Core Research Division

Group for Development of new technologies in the far-infrared region // Prof. Seitaro MITSUDO, Assistant Prof. Yuya ISHIKAWA, Postdoctoral fellow Shigeo HARA

- Further improvements in the gyrotron performance for application as a high power far-infrared radiation source
- Development of high-performance transmission lines for wider application of the gyrotrons

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Seitaro MITSUDO Yuya ISHIKAWA

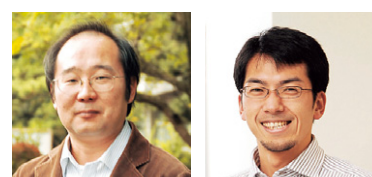
#### Core Research Division

Group for Low-temperature and condensed-matter physics // Prof. Seitaro MITSUDO, Associate Prof. Yutaka FUJII

- Electron spin resonance spectroscopy in the submillimeter wave region
- Millimeter and submillimeter wave material processing
- Development and application of dynamic nuclear polarization-enhanced nuclear magnetic resonance (DNP-NMR)

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Seitaro MITSUDO Yutaka FUJII

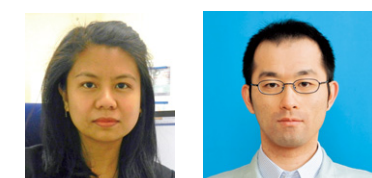
#### International Research Division

Associate Prof. Mary Clare Sison ESCAÑO, Assistant Prof. Yuusuke YAMAGUCHI, Specially Appointed Assistant Prof. Dr. Hideaki KITAHARA, Postdoctoral fellow Dr. Joselite E. MULDERA  
In addition, several foreign researchers are employed as "Specially Appointed Professors" under the Cross-Appointment System or the Researcher Invitation System.

- Development of high-power THz-wave radiation sources: the Gyrotron FU CW Series
- Development of new THz technologies through international collaborations

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Mary Clare Sison ESCAÑO Yuusuke YAMAGUCHI

#### Visiting Professor's Division

Domestic visitor // Leading researchers in Japan are invited as Visiting Professors.

- Applications of high-power THz waves
- Development and applications of novel THz time-domain spectroscopy (TDS)

#### Visiting Professor's Division

Research adviser // Teruo SAITO, Akira FUKUDA

#### Cooperative Research Division

Material physics in the far-infrared region // Prof. Hikomitsu KIKUCHI, Prof. Kazutoshi FUKUI

- Electron spin resonance (ESR) spectroscopy in the submillimeter wavelength range
- Studies of the optical properties of nitride semiconductors using broadband spectroscopy in the far infrared to vacuum ultraviolet range

#### Cooperative Research Division

THz spectroscopy and sensing /  
Millimeter wave communications /  
Optoelectronics // Prof. Kazuyoshi KURIHARA, Senior Assistant Prof. Takeshi MORIYASU /  
Prof. Mitoshi FUJIMOTO /  
Associate Prof. Sakae KAWATO /  
Associate Prof. Kohji YAMAMOTO

- Application study of plasmonics to terahertz spectroscopy
- Study on propagation of terahertz pulse in photoexcited semiconductors
- Study on high performance millimeter wave antennas
- Study on material science by THz spectroscopy

#### Cooperative Research Division

Materials evaluation in the far-infrared region // Associate Prof. Tomomi HONDA

- Mechanical characterization of high-quality ceramics
- Surface characterization of new materials formed using high-power far-infrared technology

#### Cooperative Research Division

Medical and biological application of far-infrared technologies // Associate Prof. Hideki MATSUMOTO

- Evaluation of hyperthermia effect induced by irradiation of electromagnetic wave
- Effect of electromagnetic wave irradiation on biological objects and molecules

#### Research support organization

- Technical staff: Mr. Masashi TOZAWA
- Cryogen supply section: Prof. Seitaro MITSUDO (section head)
- Secretaries: Ms. Miyuki MORITO, Ms. Kaori YOSHIDA, Ms. Yoriko KUWASHIMA, Division of Research Promotion, Department for Strategic Planning & Promotion
- Temporary staff (dispatched from NAKATEC Co., LTD.): Mr. Shigenobu ARAKAWA