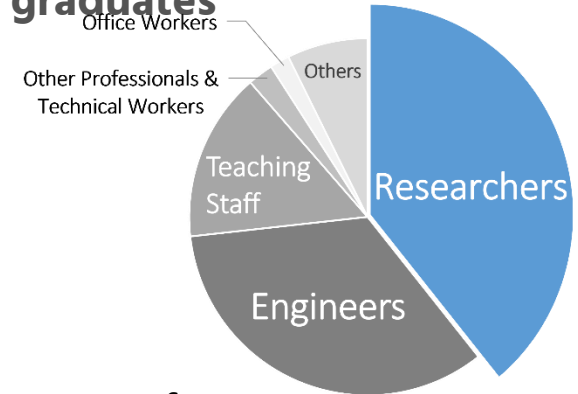# Pursuing Doctoral Studies

Benefits

- Developing your **logical thinking, critical thinking ,and problem-solving skills**, and enabling you to understand **the process of creating new value**
- Training your creativity, while providing the **enjoyment of research** and a **broad perspective** on technology in relation to society
- Helping you gain self-confidence to **work independently** regardless of field, a **wider range of career path options**, and greater chances of finding satisfying and rewarding jobs and success.

Changes in the perception of doctoral degrees

With the goal of **taking advantage of scientific and technological progress**, and **developing capabilities for creating new industries**, the **expectations** for individuals with doctoral degrees are growing. Their advanced sci-tech knowledge, as well as **problem-finding and -solving skills** are sought after by society.

After completing doctoral programs, a **wide range of career paths** can be considered – doctoral graduates work as scientists at higher education or research institutions, active players in companies, entrepreneurs, bureaucrats, politicians, etc. In particular, they are becoming more active in R&D companies.

First occupations for science and engineering doctoral graduates

Office Workers
Other Professionals & Technical Workers
Others
Teaching Staff
Researchers
Engineers

Source: MEXT-NISTP "Japanese Science and Technology Indicators 2023"

Three Takuetsu Programs

Financial support for doctoral students

At Tokyo Tech, almost all doctoral students receive financial support from public or private entities. The TAC-MI, WISE-SSS, and ISE academies engaging in Takuetsu programs offer students opportunities for financial support.

Takuetsu programs and academies

As part of efforts to foster outstanding doctoral graduates, Tokyo Tech has established the aforementioned three academies that function **across academic disciplines at the Institute**, and enable **seamless transition between master's and doctoral degree programs**. With the objective of developing students' abilities and skills required to **create new value and solve social problems**, these academies offer unique programs.   They aim to promote **interdisciplinary research**, and encourage **personnel exchanges** among various organizations such as industrial entities, national institutions, and overseas institutions, while placing value on laboratory work and activities.

Takuetsu programs are waiting to welcome you!

Academy for Convergence of Materials and Informatics (TAC-MI)   TAC-MI

Academy of Super Smart Society (WISE-SSS)   SSS

Academy of Energy and Informatics (ISE)

＊The enrollment examination for the TAC-MI program ended in AY2023.

■ **Joint briefing session of the three academies for Takuetsu programs**
October 23ᵗʰ, 2024 (Wed) 17:30～19:00 (Online)   *in Japanese only*   Application form ▶

* Takuetsu programs: Programs offered by the TAC-MI, WISE-SSS, and ISE academies are supported by MEXT's Doctoral Degree Program for World-leading Innovative & Smart Education (WISE Program). They are commonly called *Takuetsu* (卓越 in Japanese, meaning excellence or superiority) programs.

WISE for Super Smart Society
(since Apr. 2020)

Institute of SCIENCE TOKYO

↑ Educational Research Fields Introduction Video

- **Opportunities for education and advanced research using multiple research & education fields that bring together the best of cutting-edge science and technology**
- **Unique educational programs in cooperation with industry**
- **Substantial financial support**

Register now on the web!

Join us at the Briefing Session for Student Recruiting!
Nov. 6, 2024（Wed） 17：15 - 18：00（ in English ）

Collaboration between WISE-SSS and Super Smart Society Promotion Consortium

Institute of SCIENCE TOKYO

- What is the Super Smart Society Promotion Consortium?
  A next-generation education and research platform
- Students have opportunities to form **interdisciplinary research teams** with the Consortium partners and participate in the team with **financial support.**

SSS Matching Workshop

Held twice a year
Next: Dec. 5th 2024

Internship Information

SSS Consortium Partners (refer to right)
provide internship programs

Company tour for students

Open tour of SSS Consortium Partners
(WISE-SSS Students Limited)

SSS Consortium Partners as of Aug. 2024

Best Seed Award winners of SSS Matching Workshop 2024 Spring

Institute of
SCIENCE TOKYO

- ✓ **Integrated Master's and Doctoral program**
- ✓ **Financial support**
- ✓ **Open for all courses**

Academy of Energy and Informatics
Multi-scope・Energy WISE Professionals

Enrollment Briefing Session and Q&A Session

➢ **Enrollment Briefing Session (online)**
DATE : October 4(Fri) and 7(Mon), 2024
      12:30-13:30 / Japanese and English

➢ **Q&A Session (online)**
DATE : October 24(Thu), 2024
      17:00-18:00 / Japanese and English

For more information, please visit our website.→

Feel free to attend sessions!!

Outline of Academy of Energy and Informatics

Institute of SCIENCE TOKYO

Expectations
Create, design and lead the future society
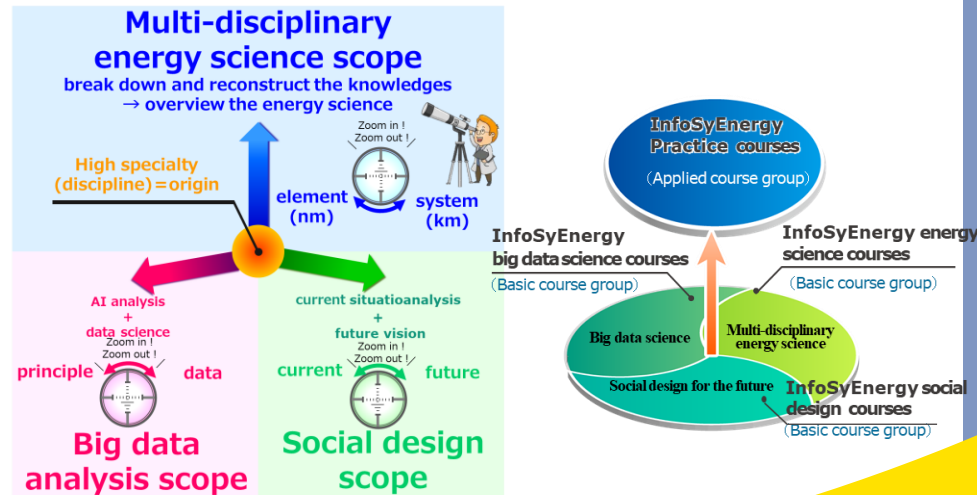**Multi-Scope・Energy WISE Professionals**

=

"Professionals" with "Multi-disciplinary energy science scope" applied by "Big Data Science" (AI analysis+Data science) who can design a new sustainable energy

Our Efforts

- ➤ Hitotsubashi University's cooperation by providing knowledges of social science, educational skills and professional skills
- ➤ **Utilization of energy big-data in smart energy system developed and demonstrated at Science Tokyo**
- ➤ Collaboration with consortium members of 27 companies, 6 public institutes and 16 world's leading universities
- • Cultivating abilities of flexibly handling on the site and finding problems by providing internship and co-research programs with domestic/overseas companies and universities
- • Constructing a global human network centered on **doctoral students by participating in various events such as cutting-edge research workshops and exchange events with consortium member companies and overseas universities**
- • **The business and international mentorship system will help students develop multifaceted viewpoints**

Our Curriculum

Cultivate "3 scopes" by "4 course groups" collaborating with "InfoSy**Energy** Research and Education Consortium"

Multi-disciplinary energy science scope
break down and reconstruct the knowledges
→ overview the energy science

High specialty (discipline)＝origin

Zoom in！ Zoom out！

element (nm) — system (km)

AI analysis + data science
Zoom in！ Zoom out！
principle ⟷ data

Big data analysis scope

current situatioanalysis + future vision
Zoom in！ Zoom out！
current ⟷ future

Social design scope

InfoSyEnergy Practice courses
（Applied course group）

InfoSyEnergy big data science courses
（Basic course group）

InfoSyEnergy energy science courses
（Basic course group）

Multi-disciplinary energy science

Big data science

Social design for the future

InfoSyEnergy social design courses
（Basic course group）

ISE InfoSyEnergy cosortium
Promote the integrative researches of "system" and "devices"

Companies | Public institutions | World's top universities
×
Science Tokyo

- ● **Over 70 Professors/Assoc. Professors participating from across all of Science Tokyo's schools**
- ● **Organized into nine areas, teams design and conduct collaborative research**
- ● **"Multi-scope" energy education through academia-industry cooperation**
- ● **Strategic student-industry matching, and a recurrent education system**

The Aim of InfoSyEnergy
「Synergistic effects from integrated promotion of "energy device development" and "system development
Campus system technology developed and demonstrated at Science Tokyo

Various energy devices and elemental technologies of Science Tokyo
Solid-state batteries | Electrolysis(H_2)/fuel cells | Solar cells

Distributed Energy system | Ene-Swallow