Exploring the Frontiers of VR, IoT, and AI at Tokyo Tech

May 27, 2019

Dr. Susumu Kajiwara
Vice President, Tokyo Institute of Technology
Tokyo Institute of Technology
138 Years of technical innovation

1881 Founded as **Tokyo Vocational School**

2018 Selected as a **Designated National University Corporation**
(Cf. Exzellenzinitiative)

**Distinguished Researchers**

- **Hideki Shirakawa**
  - Chemical Engineering Doctorate
  - 2000 Nobel Prize in Chemistry

- **Yoshinori Ohsumi**
  - Honorary Professor
  - 2016 Nobel Prize in Physiology or Medicine
  - 2016 Breakthrough Prize in Life Sciences

TSUBAME Supercomputer (2010-)
Department of Electric Engineering in 1941
### Academic organization & numbers

- School of Science
- School of Engineering
- School of Materials and Chemical Technology
- School of Computing
- School of Life Science and Technology
- School of Environment and Society
- Institute for Liberal Arts
- Institute of Innovative Research

<table>
<thead>
<tr>
<th></th>
<th>Faculty</th>
<th>Administrative &amp; technical staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master’s &amp; Doctoral students (International)</td>
<td>5,384</td>
<td>1,191</td>
</tr>
<tr>
<td>Bachelor’s Students (International)</td>
<td>4,828</td>
<td>595</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,094</td>
<td><strong>595</strong></td>
</tr>
</tbody>
</table>

As of May 1, 2018  2018年5月1日付
With the cooperation of strategic partners overseas, Tokyo Tech Annexes identify potential seeds for international collaborative research and educational programs, and promote the Institute’s pioneering research and education.

**ANNEX-E (Education)**
*Recruit excellent students*
*Build alliances with universities and research institutions*

**ANNEX-I (Information)**
*Disseminate information from and about Tokyo Tech*
*Conduct public relations*

**ANNEX-R (Research)**
*Liaise with industry and promote research collaboration*
*Recruit outstanding researchers*

---

**Tokyo Tech ANNEX Aachen**
Aachen, Germany (Located at RWTH Aachen)

---

**Tokyo Tech ANNEX Bangkok**
Pathum Thani District, Thailand (Located at NSTDA)

---

**Bringing Tokyo Tech Innovation to the World**

---

Aachen (2019.3)

---

Bangkok (2018.3)
ASPIRE Forum 2018

Student Exchange
Many activities based on the Agreement since 2007

Summer School 2018
@Aachen

Research Collaborations

Joint Seminar on Robotics and AI

Mar. 2017
Joint Workshop on Material and Chemical Technology and Life Science

March 2018
Joint Workshop on Intelligent Surfaces and Materials
AI & IoT Research at Tokyo Tech

Tokyo Tech Research: Priority fields and Strategic areas

**CPS² (Cyber Physical & Social Systems)**
AI, security, social systems, sensing in social space, HMI/BMI, agents

**Priority fields**

Next-generation element strategy: Realizing a society that effectively utilizes limited resources

Integrated energy science: Realizing a sustainable energy society

Digital society device & system: Creating infrastructure that fuses hardware and software

**Strategic fields**

**CPS² (Cyber Physical & Social Systems)**
AI, security, social systems, sensing in social space, HMI/BMI, agents

**SSI (Sustainable Social Infrastructure)**
Architectural/structural mechanics, robotics, environmental/internal informatics, service/engineering designmanagement

**HLS (Holistic Life Science)**
Mathematical/Physical understanding and control of life phenomena, cell biology, bioinformatics, life science
Our Vision

Human *centered* AI

Enhance human abilities in a human centered way
Just a Few Examples of AI & IoT Research at Tokyo Tech

尖らせる 共鳴する 実装する


Tokyo Tech

President: Kazuya Masu
学長：益 一哉