MATERIALS × INFORMATICS

TAC-MI
Tokyo Tech Academy for Convergence of Materials and Informatics

Pioneers for Future Creation

TAC-MI

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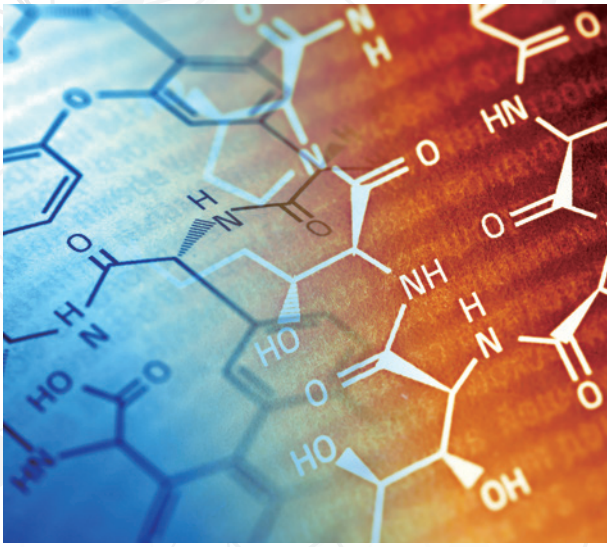
English version



Tokyo Tech

[Material×Information]
Multitalented Individuals Development

The TAC-MI program is a seamless educational program provided throughout graduate learning. It aims to empower students to become multitalented individuals capable of promoting creative, interdisciplinary research in materials science and informatics.

Message from the Program Director

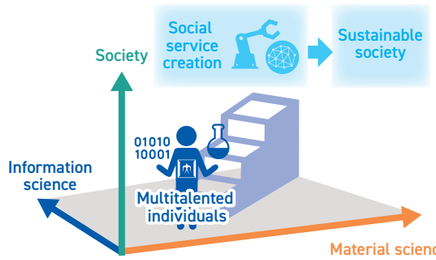
Takeo Yamaguchi
Director of TAC-MI

The WISE program, which began in the 2018 academic year, is a MEXT promotion project for collaborations with universities, research institutions, and private corporations in Japan and the around the world. It leverages each university's strengths to establish the world's highest standards of education and research and produce exceptional doctoral individuals. For the first academic year of the project, the program entitled "Creating sustainable societies through [Material×Information] multi-talented human resource development" by the Tokyo Institute of Technology, was selected as a WISE Program. The Tokyo Tech Academy for Convergence of Materials and Informatics (TAC-MI) began operating in January 2019.
TAC-MI is comprised of six schools and two institutes: 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, and the Institute for Liberal Arts and Institute of Innovative Research.
Furthermore, "Materials" in TAC-MI encompass not only materials and devices but also living things, life forms, and construction materials. All graduate students from the Tokyo Institute of Technology can apply to the Program.

Japan is a world leader in manufacturing (unique Japanese *monotsukuri**) industry and research, but the increasing production power of other countries and the shortened product cycles makes it difficult to sustain competitiveness. It is necessary to devise a new way of thinking. Relevant social implementation requires effective utilization of information technology, including big data and AI/IoT, which begins in the design process to connect molecules to manufacturing and society. Furthermore, by utilizing our strength in *monotsukuri**, Japan will create new industry with the added value of information technology.

In our Program, we manipulate materials (r) and information (i) freely, and train "multitalented individuals" who can connect *monotsukuri** and social services. "Multitalented individuals" mean those capable of utilizing the strengths of *monotsukuri** by manipulating information science/information technology and/or creating new information technology. Furthermore, such individuals can innovate not only materials design and production processes but also the services necessary for society. Consequently, multitalented individuals can devise new industries that contribute to a sustainable society and create new areas of study.

In cooperation with industry, national research institutions, and overseas universities, we provide a consistent education across masters and doctoral level programs, which are internationally exceptional by leveraging our superior research and educational strengths related to materials and informatics as showcased in the Element Strategy Initiative and the supercomputer TSUBAME. We provide practical education in cooperation with industry in fields that are important for the future. Hence, there should be a high demand for doctoral students who complete the educational curriculum. In addition, the three years in the doctoral program are supplemented by scholarships, allowing students to focus on research and education without worrying about tuitions and living expenses. As society changes dynamically, those aiming to be world leaders are encouraged to participate in the TAC-MI program.



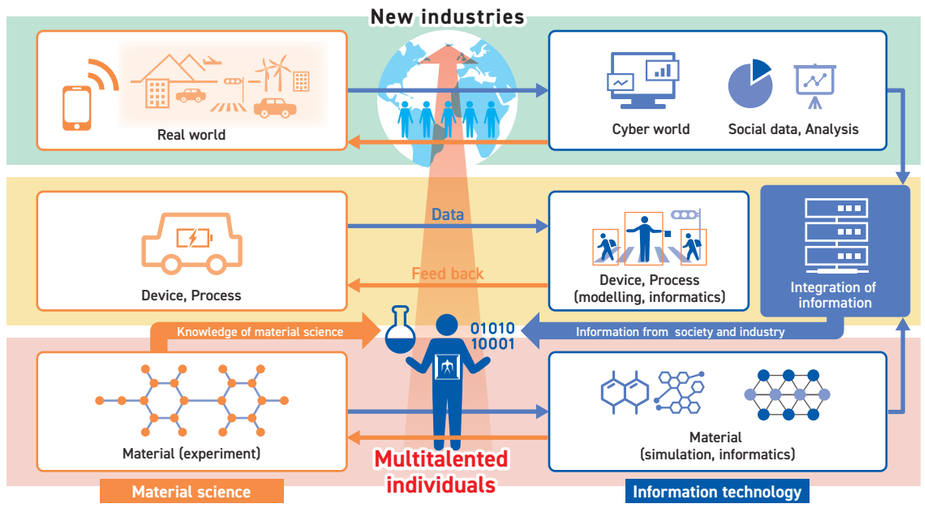
*"*Monotsukuri* " is a term used for the Japanese work ethic and philosophy in which one possesses the spirit or state of mind to manufacture goods with the utmost quality and excellence as well as the ability to continue improving the accompanying processes.

Purpose and Overview of the Program

The Tokyo Tech Academy for Convergence of Materials and Informatics (TAC-MI), trains "**multitalented individuals**" who can work on unique materials research by understanding new social services and innovate new ideas through multifaceted thinking and from a broad perspective utilizing information science. "**Multitalented individuals**" will create new industry that links materials and information to build a sustainable society. Therefore, the TAC-MI degree is designed to encompass the entire university.

Advances in information science such as data science, simulations, and machine learning lead to the discovery and design of new materials. In addition, optimization and product management of devices/processes by market demand are becoming attainable. As social services can be created by consumer trends, manipulation of information technology has become essential in this era. Unlike the real world, virtual space should not have hierarchies. Nevertheless, conventional thinking about materials and information creates hierarchies and separation among molecules, materials, devices, processes, and virtual society. Consequently, it does not create a broad perspective that encompasses molecules to social services as a whole. **Interdisciplinary graduate school education that combines materials science and informatics by understanding different perspectives from molecules to social services from a broader perspective** is necessary to address this shortcoming.

Creating sustainable societies through [Material×Information] multitalented individuals development



Cultivate the Desired Attributes as Multitalented Individuals

The Program provides education that utilizes our strong academic base and overall strengths. We produce **multitalented individuals**. Not only do they possess highly specialized knowledge in fields related to materials and informatics but also embody the following characteristics:

01 Creativity to produce new multifaceted ideas across the fields of materials and informatics. P06

02 Broad Perspective to accurately identify social challenges from vast amounts of information. P07

03 Practical Ability to solve challenges towards a sustainable society that encompasses both the atomic/molecule level and social services and their interconnected relationships. P08

04 Global Leadership Ability to introduce new services into the world. P09

Fostering a Challenge-Mind Across Disciplinary Differences

Furthermore, through teamwork with exceptional students from other graduate schools or organizations, students work together to solve a wide variety of problems. In this setting, they also learn from a diverse range of opinions, resulting in a broad mindset to effortlessly see across disciplinary differences.

All six graduate schools as well as education and research institutes within Tokyo Tech provides education in collaboration with industry, the National Research and Development Agency, and the world's best overseas universities. The seamless education through the master's and doctoral curriculum at the Program enables students to not only acquire high research abilities in their major field of study, but also become **multitalented individuals**.

Environment Where Students Can Easily Concentrate on the TAC-MI Program

By leveraging the collaboration of all graduate schools, the Program provides some credits that count towards the completion requirements of both their specialization and the Program to make sure students are not overloaded. In addition, we provide financial support for enrolled Academy students, including living expenses to offer comfortable environment where students can be dedicated to their education and build the fundamentals to become future leaders.

Please consider participating TAC-MI to nourish your talent to become an expert in materials informatics fields, which are important in the future. Here you will learn how to become a leader in the future society and to explore new fields of studies.

Learn from the real world across research disciplines and become individuals capable of utilizing acquired knowledge.

TAC-MI aims to produce “multitalented individuals” who can connect *monotsukuri* to social services by manipulating knowledge of materials and information. Takeo Yamaguchi, Director, interviewed students who studied at TAC-MI.

Yamaguchi (Director) The TAC-MI program began one year ago. Do you feel that participating in the program has influenced your research or provided growth towards a multitalented individual?

Yasuda Yes. At TAC-MI, I work with the latest computational technology. My research target is materials design, but I have incorporated a method not usually employed in the area of materials science. I feel that TAC-MI has brought a new perspective into my specialized field.

Qu I am working on device development research, which is a hybrid of materials science and information science. Information science technology already incorporates signaling processing technology and Python programming in experiments, so TAC-MI has been useful.

Watanabe When individuals specializing in materials science can obtain knowledge about information science, their research perspective can be widened. I am considering working in a boundary area between materials and informatics to expand the research frontier, and the TAC-MI program exactly suited my needs.

Okubo I want to model solar batteries and fuel cells as well as work on simulations and evaluations towards social implementations. To build a device model, knowledge of materials is required while knowledge of informatics is essential for simulations. I had an opportunity to learn both in the TAC-MI program.

Yamaguchi TAC-MI provides opportunities to meet people from different backgrounds and to listen to diverse opinions. What has your experience been like?

Okubo By participating in the week-long Business Model Training Camp and the International Forum, I made connections with other students. I felt it was useful learning about other fields and exchanging opinions, which broadened my perspective.

Qu International students do not have many opportunities to communicate with other students from other labs due to the language barrier and cultural differences. By participating in the TAC-MI program, I was able to widen my network.

Yamaguchi By attending TAC-MI, did you receive any feedback on your own research?

Yasuda My motivation for enrolling in TAC-MI was to learn how to apply machine learning to my research. As expected, I received feedback from faculty members who specialize in informatics.

Watanabe Through lab rotations, I gained an in-depth understanding of experimental evaluations of information technology. I also received feedback, which I will utilize in my specialization as a future challenge in machine learning.

Yamaguchi One of the features of the TAC-MI program is the mentor system. How was your experience?

Qu I thought it was wonderful! The mentor system allowed me to gain communication skills and provided me with future career information. During the Business Model Training Camp and the International Forum, the international mentor not only pointed out issues in my research report, slides, and presentations but also suggested possible improvements.

Okubo I received practical advice on my research from the industrial mentor. It was an extremely valuable experience to receive advice on economic evaluation methods of my research target system. My research theme is in between materials and informatics, and I learned content that is not available from the academic societies I belong to.

Yamaguchi How was your experience of participating in the Practice School?

Yasuda When working on research as a team, everyone has a different sense of progression. I felt it was very meaningful to actually experience it. I was also involved in processes and improvements for commercial products. The experience was very rewarding.

Watanabe It was a very good experience to handle products similar to those sold in the market. Ordinary internships don’t allow us to handle important data that affect the achievement of the company.

Yamaguchi What was your impression of the Business Model Training Camp and the International Forum?

Okubo I gained an understanding of how to apply logic to think about using technology and systems in society and their benefits. It was the first time I held discussions in English, which was quite difficult.

Qu University research sometimes does not have a clear goal, whereas industry research does. We need to consider the timeframe from research to productization as well as the market size. Through group work at the Business Model Training Camp, I truly felt the difference between university and industry research.

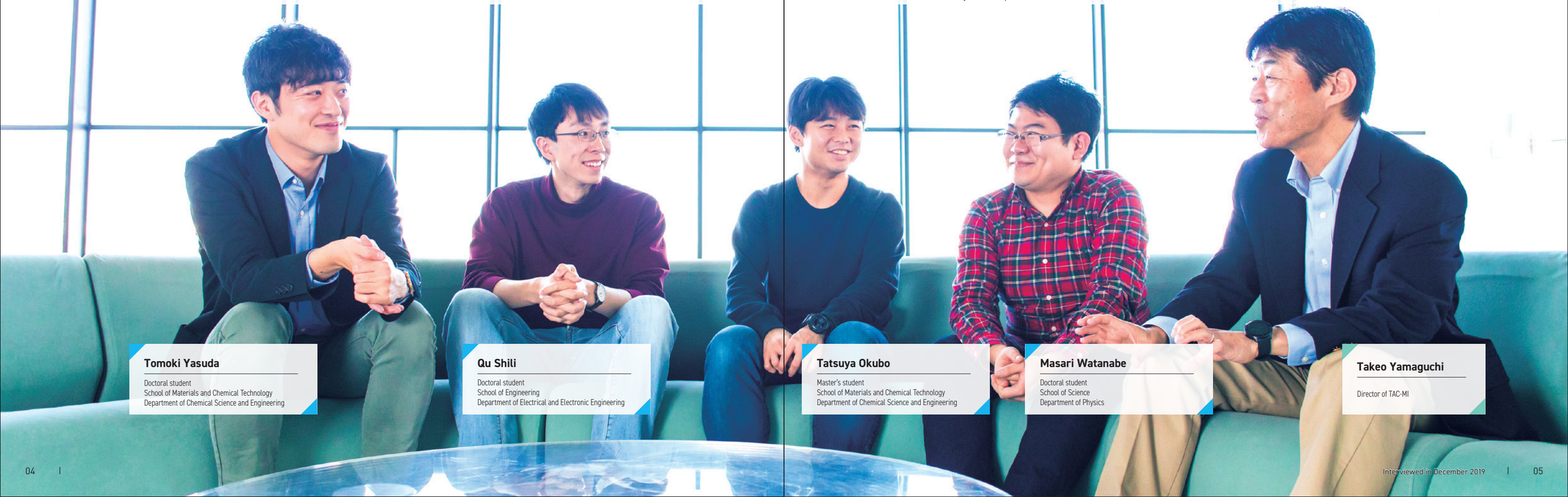
Yamaguchi To conclude this interview, what advice would you give to students considering the TAC-MI program?

Yasuda Researchers in materials science tend to focus on a single issue deeply. At TAC-MI, gaining new knowledge of computational formulas, receiving advice from people in industry, and participating in the International Forum widen your perspectives.

Watanabe It is a tough curriculum, but the program is one of a kind. It leads to your personal growth through rewarding experiences and enthusiastic support by faculty members.

Okubo Different fields have many similarities. You can rethink about your field and gain increased awareness through analogies by mapping what other fields are doing into what you are doing in your field and vice versa.

Qu The great thing about this program is all the events. For those who wish to enroll, I would like to say, “Don’t miss the chance”.



Tomoki Yasuda
Doctoral student
School of Materials and Chemical Technology
Department of Chemical Science and Engineering

Qu Shili
Doctoral student
School of Engineering
Department of Electrical and Electronic Engineering

Tatsuya Okubo
Master’s student
School of Materials and Chemical Technology
Department of Chemical Science and Engineering

Masari Watanabe
Doctoral student
School of Science
Department of Physics

Takeo Yamaguchi
Director of TAC-MI

Curriculum Overview | 01

Cultivate Creativity to Produce New Ideas Through Materials and Informatics

To cultivate Creativity, students participate in lectures and practicums where they learn ways of thinking, apply materials informatics, and achieve a practical level of competency. Students acquire materials informatics research skills by conducting research for a short period in a lab that is not related to their own primary lab. Furthermore, students complete an independent small-scale materials informatics research project.

Lectures and Exercises on Materials Science and Information Science

The lectures and exercises are designed to enable students specializing in materials science to understand and apply information science (i.e., big data analysis and simulation techniques), including various mathematical theories and their backgrounds, and to extract hidden values from data accumulated in industry. Meanwhile, students specializing in information science learn the basic physical properties and functions of materials and conduct physical properties simulations and device and process modeling.
The lectures and exercises are closely aligned and they are designed with sufficient time for students to effectively deepen their understanding.

Materials Simulation

Computer simulation is a mandatory tool to understand the structure and functionality of materials. This lecture covers theory and methods of first-principles calculations, which are based on quantum mechanics, and their applications to structures and fundamental properties of molecules and solids. This lecture provides specialized knowledge on material design at the atomic and electronic levels, which is required in current research and development of materials.

Introduction of VDI System

A vast amount of data is used in quantum theory simulations for “Materials simulations”. In this lecture, large-scale data analysis and simulations are performed by introducing the latest VDI system and using the Tokyo Tech supercomputer TSUBAME3.0.

▼ Materials Simulation (upper)
◀ Supercomputer TSUBAME3.0 (lower)

Basic Materials Informatics

This lecture outlines how to combine material science and information science to realize research containing various expert knowledge and to open up new fields. Examples are research currently carried out at the university. The aim is to acquire the basic skills to become "multitalented individuals " to promote creative and interdisciplinary research in materials science and informatics by linking material and information, and thinking from a holistic viewpoint. This lecture is held in the omnibus form.

▲ Basic Materials Informatics

Materials Informatics

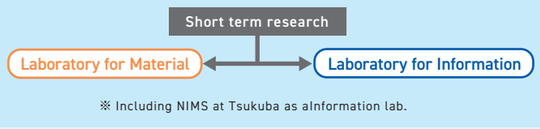
In current society, all fields must appropriately exploit "big data" to find rules and/or make predictions/decisions. This course teaches fundamental knowledge and basic skills for handling large-scale data sets with the aid of computers. Students learn the foundations of statistics and computations to process and analyze a given data set. In addition, students apply various computer software tools for data analysis to obtain new findings.

◀ Materials Informatics

Materials-Informatics Interdisciplinary Research Skill (Laboratory Rotation)

Students participate in two-week laboratory rotations. Those specializing in materials science study at information science laboratories, while those specializing in information science study at materials science laboratories. Students can use these skills in their own research. Some laboratories in the National Institute for Materials Science (NIMS) as well as those in Tokyo Tech are part of this program.

▲Lab rotation in the information science laboratory



Self-Designed Thesis

On their own initiative, students choose a topic different from that of their dissertation and conduct research. They present the research results by the completion of their doctoral degree program, and create a thesis. Through this process, students acquire the ability to independently conduct unique research, transcending their individual specializations, based on new ideas supported by knowledge of materials science and information science.

Curriculum Overview | 02

Cultivate Broad Perspective to Correctly Set Social Issues from Vast Amounts of Information

To cultivate Broad Perspective, students learn lectures on social service creation to understand the necessity of merging materials science and information science. Industry professionals help students by providing mentorship. Through the annual Intelligent Services: A Social Perspective workshop, students team up with foreign students and young industry researchers in the activities. These experiences provide opportunities to explore how to apply their knowledge and experience in the future society.

Lectures on Social Service Creation

Students learn the latest technology topics from materials to social applications to understand the necessity of merging materials science and information science, and to acquire a broad perspective to connect scientific knowledge to social services.

Advanced Course of Social Service Creation

This course focuses on the development of novel social services based on the convergence of materials and informatics. Lectures are given in the omnibus format by instructors from companies, universities, and research institutes, who are active on the front lines of materials/information science and technologies. Students acquire the planning ability to link materials/information science and social services to create new industries.

Social Service Creation Courses

TAC-MI recommends students take certain social service creation courses (courses to understand value creation activities and intellectual property management in companies to practice social services, courses to learn the thinking of the industrial world, etc.).

Intelligent Services: a Social Perspective*

In this group work, TAC-MI students in the doctoral course consider new social services for the future. Students identify the direction of society by sifting through large amounts of data, contemplating the social contribution of their research, and proposing new businesses or industries based on their findings. A group consisting mainly of researchers and technical experts working in industry will discuss each proposal from various viewpoints. Researchers from NIMS, the National Institute of Advanced Industrial Science and Technology (AIST), and faculty members in charge of TAC-MI project will also participate in the discussion. Awards will be presented to individuals or groups who make outstanding proposals.

▼ Group work

Final presentation ▲

*Until AY2019, "Business Model Training Camp"

Students' voice

School of Engineering
Department of Electrical and Electronic Engineering
Graduate Major in Human Centered Science and Biomedical Engineering

Qu Shili

It was a great experience for me to participate in this group work, which not only broadened my vision on the business and society but also trained our ability of communication and insight. It was my honor to be the leader and won the 'Best Solution Award', thanks to our smooth teamwork and fabulous novel ideas provided by every team member. To me, this platform provided a wonderful mind journey with students and professors all over the world then brought much new thoughts in team works and competition. These will become my fortune and pave the way in the future.

School of Materials and Chemical Technology
Department of Chemical Science and Engineering
Graduate Major in Energy Science and Engineering

Yasutomo Koga

It was a valuable time to learn the process of creating business from social problems around us through practice. I also learned that my future career includes not only companies and research positions, but also the way of life that connects my own research field to business. Although my group had a variety of international values, we were able to propose more sophisticated business models while sharing ideas. I think that the "Best Teamwork Award" could not be won without the cooperation of the members. I value the "connection" that I made through this group work, and I want to continue studying my research hard.

Industrial Mentor System

Students have the opportunity to evaluate their strengths and weakness in a face-to-face meeting with researchers and technical experts from industries. Throughout the duration of this program, each student has an industrial mentor who continuously guides the student from enrollment to program completion.

▲ Interview with an industrial mentor

Curriculum Overview | 03

Cultivate Practical ability to Solve Issues Towards a Sustainable Society

To cultivate Practical Ability, students attend the Practice School. The Practice School is a program at MIT (Massachusetts Institute of Technology) with over one hundred years of history, where a team consisting of several faculty members and approximately eight students stay at a private corporation for about six weeks to resolve the most pressing challenge of the corporation. The Program offers the "Materials Informatics Practice School", which goes further and utilizes information technology to resolve challenges of corporations. Such an attempt is the first in the world. Corporations provide enormous amounts of information directly connected to important challenges, allowing participants to find solutions and devise proposals for future policies. Practice School activities we have implemented so far produced important achievements, which were highly evaluated and very successful.

Practice School

The world's first Practice School courses that specialize in combining materials science and information science are planned.

Faculty members and students work together at a company for 6 weeks. Together, they collect a large volume of information from across the company and solve its most pressing problems by utilizing students' knowledge and experience obtained during their studies at TAC-MI. A prerequisite is that students must acquire the necessary knowledge and skills. Practice School is the most remarkable subject of TAC-MI curriculum. The experience of making proposals to solve company's latest critical issues within a fixed period strongly helps research for doctoral thesis.

▲ Working in the Practice School

Practice School in Materials Informatics I

In this course, students learn about the principles of calculations and computer simulations related to modeling, which are important to design functional materials in industry, including the chemical industry, related to materials and information or in the construction of material manufacturing processes. Students learn how to design functional materials and optimize the manufacturing process. In addition, group work develops the communication skills necessary for collaborative research and development.

Practice School in Materials Informatics II

Over ~6-week stay at a company, students participate in research and development by investigating literature and using data analysis, data processing, and simulations with company employees, propose solutions, and give a final presentation.
This course addresses research issues related to materials and information in the design of functional materials and optimization of manufacturing processes in companies. These are essential skills for research and development by experiencing research actually performed in companies. This course develops problem-solving and communication skills.

Students' voice

School of Materials and Chemical Technology, Department of Chemical Science and Engineering, Graduate Major in Chemical Science and Engineering

Kohsuke Matsumoto

While participating in the Practice School, I handled real big data obtained by a corporation for the first time. The amount of data was enormous, and our team used Python. Because I didn't regularly use Python, it was troublesome in the beginning. Fortunately, my teammates had different backgrounds and we were able to enthusiastically tackle the task. This experience was invaluable in broadening my knowledge and experience. Solving an issue with a deadline in a corporate setting differs from my ordinary research, which strives to find truths of phenomena. This experience will definitely benefit me in the future.

School of Materials and Chemical Technology, Department of Materials Science and Engineering, Graduate Major in Human Centered Science and Biomedical Engineering

Hiroyuki Tahara

I appreciate this valuable experience, which completely differs from a regular internship. Through the Practice School, I was involved in a project to address a challenge that a corporation was facing using real data and machine learning. Because I did not have much experience in machine learning, I built a predictive model through continuous trial and error. In the end, with support from people at a company and the professors from the TAC-MI program, I successfully completed my task. At the Practice School, there are many opportunities to interact with other students from different fields, which tremendously impacted my research. I cherish this experience and will apply it in my future research.

TAC-MI Research Grant (Only applicant)

Doctoral students who wish to take overseas internship courses will submit a research plan. The exact amount of the grant will be determined based on information provided by applicants within the range that does not exceed the actual cost required for the implementation of the internship. By preparing documents for the research plan and report, students can identify and solve problems independently.

Curriculum Overview | 04

Cultivate Global Leadership Ability to Introduce New Services into the World

To cultivate Global Leadership Ability, students gain unique experiences that are only possible through the Program such as participating in discussions at the International Forum, attending overseas internships, and receiving mentorship by faculty members of overseas universities. These result in international competencies and leadership ability.

International Forum

This is a forum for TAC-MI students in doctoral courses to present their research in English.

TAC-MI invites overseas program staff (oversea advisors), renowned researchers from around the world, and doctoral students led by oversea advisors. Excellent research presentations as evaluated by Program staffs from Tokyo Tech and industrial mentors are awarded prizes. TAC-MI students improve both research and international communication skills by presenting research to foreign students from different research fields.

AY2019 TAC-MI 1st International Forum ▼

▲ Student presentation at the International Forum

▲ Lunch with students from overseas

▲ Interview with oversea advisors

International Mentor System

Students have the opportunity to evaluate their strengths and weakness in a face-to-face meeting with faculty from overseas universities.

Overseas advisors

J. M. van Ruitenbeek
Leiden University, Netherlands

Peter Grutter
McGill University, Canada

Hans-Jürgen Butt
Max Planck Institute for Polymer Research, Germany

Sergei Kazarian
Imperial College London, UK

Christopher Kemper Ober
Cornell University, USA

Christel Laberty-Robert
Sorbonne University, France

Xu-Ming Xie
Tsinghua University, China

Liu Wei
Beijing Normal University, China

Natt Leelawat
Chulalongkorn University, Thailand

Michael M Gromiha
Indian Institute of Technology Madras, India

International Internships

Off-Campus Project

Students visit overseas research organizations for internships, and conduct practical training using their knowledge of materials science and information science. This course aims to improve communication, practical, and problem-solving skills by studying abroad at research institutes and universities.
Not only can students choose their destination, but joint research is also possible.

Leadership Development

TAC-MI recommends that students take certain Leadership Courses offered by the Tokyo Tech Academy for Leadership (established in April 2018) as well as select Humanities and Social Science Courses in Liberal Arts.

Leadership Development Courses

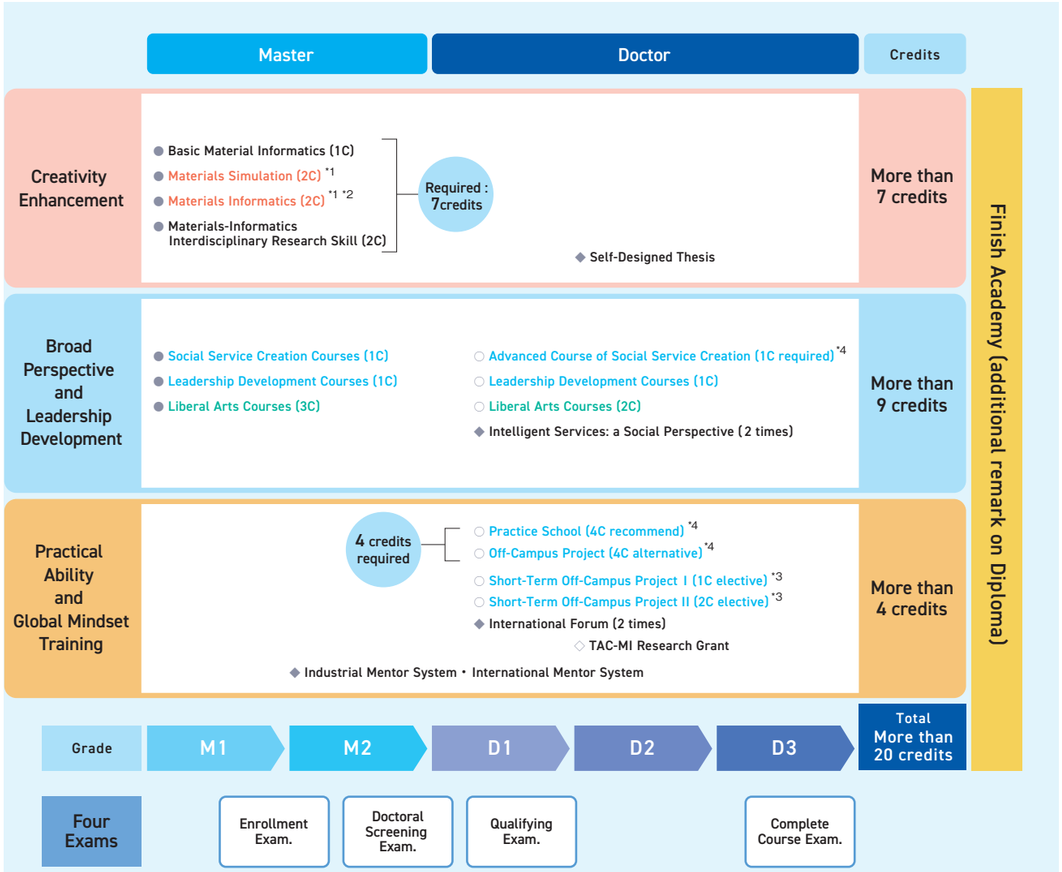
TAC-MI selects Leadership Courses that demonstrate the initiatives among various members and develop internationality and leadership skills.

Liberal Arts Courses

TAC-MI selects Humanities and Social Science Courses offered by the Institute for Liberal Arts (ILA) as courses for developing multitalented individuals.

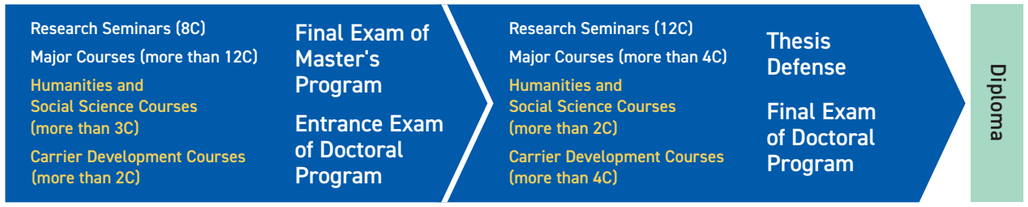
Curriculum of TAC-MI

Curriculum in TAC-MI



● : 400、500 class ○ : 600 class ◆ : Required subjects and events (C: credits)

Curriculum in Own Course



*1. Materials Simulation and Materials Informatics are recommended courses to be taken as major courses in the standard curriculum of the following Graduate Majors: Physics, Chemistry, Mechanical Engineering, Systems and Control Engineering, Electrical and Electronic Engineering, Materials Science and Engineering, Chemical Science and Engineering, Energy Science and Engineering, Engineering Sciences and Design, Human Centered Science and Biomedical Engineering, and Nuclear Engineering. The courses taken as such can be counted towards completion requirements for this educational program.

*2. "Fundamentals of data science" and "Exercises in fundamentals of data science" in the DSAI program are equivalent to TAC-MI's "Materials Informatics." These credits are compatible with each other.

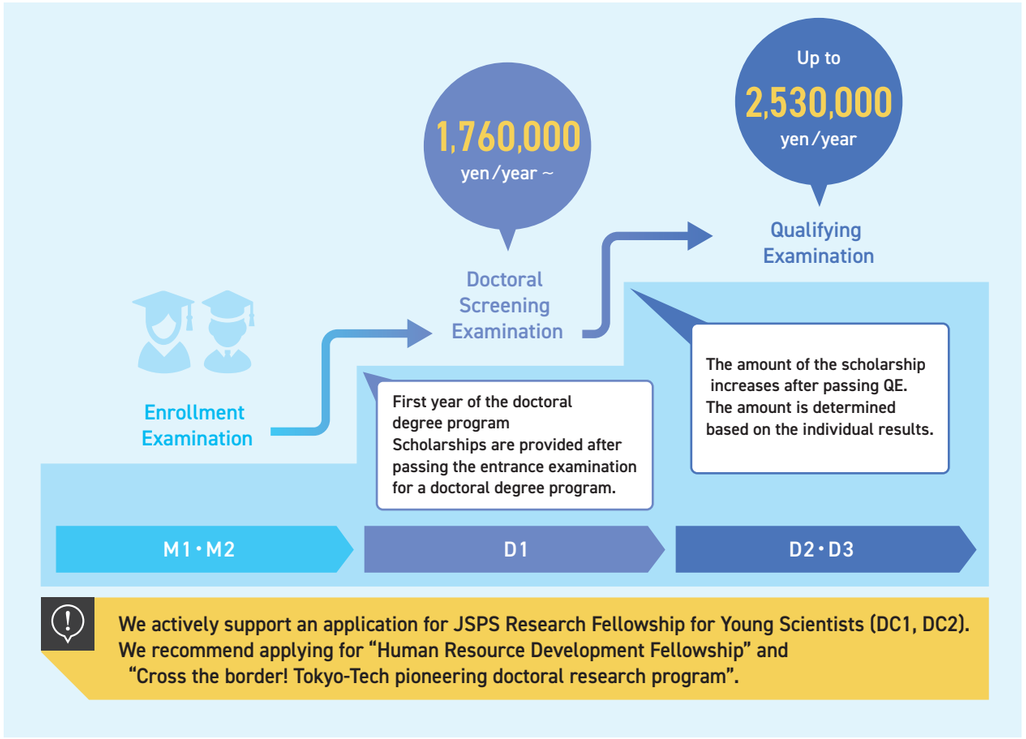
*3. Registration for Short-Term Off-Campus Project I and II is only available to those who have completed Practice School I and II.

*4. Advanced Course of Social Service Creation, Practice School in Materials Informatics I, II and Off-Campus Project in Materials Informatics can be recognized as equivalent to career development courses

*Completion requirements vary for each course. Check your course completion requirements.

Financial Support for TAC-MI Students

To allow students to focus on their studies, TAC-MI has a financial support system for enrolled students.



- The above amount is the total amount of the financial support for TAC-MI students, including TAC-MI scholarship, Tokyo Tech Tsubame Scholarship for Doctoral Students(480,000 yen/year) and the RA salary from the lab, etc.
- TAC-MI will pay RA salary for JSPS DC1/DC2, MEXT Scholarship foreign students, students selected for "Human Resource Development Fellowship" and "Cross the border! Tokyo-Tech pioneering doctoral research program" addition to those financial support.

Partner Organization

The Program strives to develop talented individuals to lead the creation of new industries and build a sustainable society. The Program works in collaboration with partners from industry as well as the National Institute for Materials Science, National Institute of Advanced Industrial Science and Technology, and overseas advisors from overseas universities.

National Research and Development Agency	Overseas University	Company
2	10	33

(as of March 1, 2022)

- National Institute for Materials Science / National Institute of Advanced Industrial Science and Technology
- Leiden University / McGill University / Max Planck Institute for Polymer Research / Imperial College London / Cornell University / Sorbonne University / Tsinghua University / Beijing Normal University / Chulalongkorn University / Indian Institute of Technology Madras
- AGC Inc. / ASAHI KASEI CORPORATION / ENEOS Corporation / FUJIFILM Corporation / Hamamatsu Photonics K.K. / Idemitsu Kosan Co., Ltd. / JEOL Ltd. / JFE Steel Corporation / JX Nippon Mining & Metals Corporation / KANEKA CORPORATION / Kao Corporation / KYOCERA Corporation / LG Japan Lab Inc. / Mitsubishi Chemical Corporation / MITSUBISHI GAS CHEMICAL COMPANY, INC. / MITSUI MINING&SMELTING CO., LTD. / NAGASE & CO., LTD. / NGK INSULATORS, LTD. / NGK SPARK PLUG CO., LTD. / Nissan Motor Co., Ltd. / Panasonic Corporation / Seiko Epson Corporation / SHOWA DENKO K.K. / Showa Denko Materials Co., Ltd. / Sumitomo Electric Industries, Ltd. / SUMITOMO CHEMICAL Co., Ltd. / TAIYO YUDEN CO., LTD. / TDK Corporation / Toshiba Corporation / TOSOH CORPORATION / Toyo Seikan Group Holdings, Ltd. / TOYOTA MOTOR CORPORATION / ZEON CORPORATION

Student Recruitment

TAC-MI provides practical education to oversee social services by collaboration with industry. The word “materials” is not restricted to materials used in chemistry and as resources. It also includes “things” in real society such as living things and building structures. We look forward to the participation of students who want to make a social impact utilizing the unique experience of the Program.

Selection Period

We accept applications twice a year. Fall registration starts in July and spring registration starts in December.

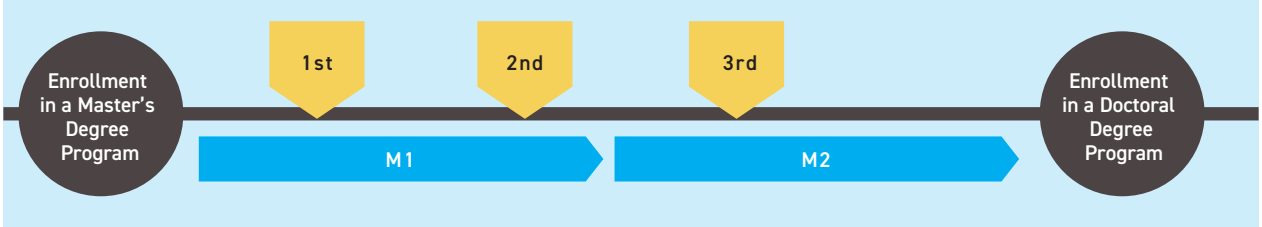
Target Applicants

The application is open to all graduate students in a master's degree program satisfying 1) and 2) below.

(1) At the time of the selection examination and registration, the student must be enrolled in a master's degree program.

(2) The student must intend to progress into a doctoral degree program.

There are three opportunities to take the selection examination.



Selection Examination Steps

For more information, please visit the web site.

TAC-MI WEB

Spring Semester Enrollment	Fall Semester Enrollment		
October to December	April to June	STEP 01	Attend an orientation.
December	July	STEP 02	Submit an application and recommendation from an academic supervisor.
December to January	July to August	STEP 03	Take the selection examination (the document selection and an interview).
Registration date April	Registration date September	STEP 04	After passing the examination, the student is enrolled in TAC-MI.

Contact

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https://www.tac-mi.titech.ac.jp/en/