List of Faculty
Tokyo Institute of Technology International Graduate Program (A)
Commencing in September 2023

A3 Interdisciplinary Education Program on Material Research and Development Synergized by Data Science for Advanced Human Resource (Id-MatD2)

(1) Dept. of Materials Science and Engineering

Academic Supervisor		Research Field	Remarks	Graduate Major
Professor	AZUMA, Masaki	Solid State Chemistry		・Materials Science and Engineering
Professor	IKOMA, Toshiyuki	Bioceramics, Biosensing, Nanomedicine, Tissue Engineering		・Human Centered Science and Biomedical Engineering ・Materials Science and Engineering
Professor	INAMURA, Tomonari	Martensitic Transformation, Kink Deformation, Geometry of Microstructure		・Materials Science and Engineering ・Energy Science and Engineering
Professor	OBA, Fumiyasu	Computational Design of Electronic and Energy Materials		・Materials Science and Engineering
Professor	KAMIYA, Toshio	Semiconductors, Optoelectronic Devices, Computer simulation		・Materials Science and Engineering
Professor	KITAMOTO, Yoshitaka	Nanoparticles, Magnetic Materials and Devices, Biomedical Devices, Biosensors		・Human Centered Science and Biomedical Engineering
Professor	KIMURA, Yoshisato	Materials Design based on Phase Diagrams and Microstructure Control, Intermetallics, Thermoelectric Materials, Heat Resistant Alloys		・Energy Science and Engineering ・Materials Science and Engineering
Professor	CROSS, JEFFREY S.	Biofuels, Catalyst, Materials Informatics, Waste to Renewable Energy Conversion, Energy Policy, Educational Technology, Learning Analytics		・Materials Science and Engineering
Professor	KOBAYASHI, Yoshinao	Metal Refining and Recycling, Safety Metallurgy for Nuclear Reactors, Phase Stability, Degradation of Materials in Reactors, Waste Management		・Nuclear Engineering ・Materials Science and Engineering
Professor	SHI, Ji	Metallic Functional Materials, Nanoheterostructures, Magnetic Thin Films		・Energy Science and Engineering ・Materials Science and Engineering
Professor	SONE, Masato	Metallic Material Design for Medical Device and the Evaluation Methodology, Hybrid Materials for Wearable Device, High Sensitive Sensor Material		・Human Centered Science and Biomedical Engineering ・Materials Science and Engineering
Professor	TADA, Eiji	Materials Electrochemistry, Corrosion and Protection, Corrosion Monitoring and Simulation, Surface Treatment		・Materials Science and Engineering
Professor	NAKADA, Nobuo	Microstructure and Mechanical Properties of Iron and Steels		・Materials Science and Engineering
Professor	VACHA, Martin	Optical Properties of Organic Materials		・Materials Science and Engineering ・Energy Science and Engineering
Professor	HAYAKAWA, Teruaki	Polymer Synthesis, Polymer Thin Films, Self-Organizing Organic and Polymeric Materials		・Materials Science and Engineering
Professor	HAYASHI, Miyuki	Physicochemical Properties of Materials, High Temperature Process Control		・Energy Science and Engineering ・Materials Science and Engineering
Professor	HARA, Michikazu	Catalysis, Surface Science		・Materials Science and Engineering ・Energy Science and Engineering
Professor	HIRAMATSU, Hidenori	Semiconductors, Thin film growth, Optoelectronic properties, Devices		・Materials Science and Engineering
Professor	FUJII, Toshiyuki	Mechanical Properties of Structural Materials, Crystallography and Crystal Defects, Electron Microscopy		・Materials Science and Engineering
Professor	FUNAKUBO, Hiroshi	Functionla Inorganic Materials , Thin Film Devices		・Materials Science and Engineering
Professor	HOSODA, Hideki	Materials Design, Shape Memory and Superelastic Alloys, Intermetallic Compounds, Smart Materials, Smart Composites, Biomaterials		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering ・Energy Science and Engineering
Professor	MAJIMA, Yutaka	Single Nanoscale Electronic Materials and Devices, THz Transistor, Nanogap Gas Sensor, DNA Sequencer, Ferroelectric Memory, Nanostructure Induced L10-Ferromagnetic Nanowire		・Materials Science and Engineering
Professor	MATSUSHITA, Nobuhiro	Novel Material Processes for Energy and Environmental, Biomedical, Electronic Applications		・Materials Science and Engineering

Academic Supervisor		Research Field	Remarks	Graduate Major
Professor	MATSUMOTO, Hidetoshi	Functional Nanomaterials, Polymer Membranes and Thin Films, Energy-Related Materials		・Energy Science and Engineering ・Materials Science and Engineering
Professor	MIYAUCHI, Masahiro	Photocatalysis, Artificial Photosynthesis, Green House Gas Conversion, Hydrogen Carrier, Chemical Synthesis of Nanoparticles		・Energy Science and Engineering ・Materials Science and Engineering
Professor	MORIKAWA, Junko	Polymer Processing, Thermal Properties of Polymers		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering
Professor	YANO, Tetsuji	Ion-Dynamics in glass for mechanical and electrochemical use, Optical properties for devices, Glasses for environmental problems		・Materials Science and Engineering
Associate Professor	ISOBE, Toshihiro	Environmental Ceramics, Porous ceramics, Membrane, Functional ceramics		・Materials Science and Engineering
Associate Professor	UEDA, Mitsutoshi	High Temperature Oxidation of Heat Resistant Steels and Alloys Physical Chemistry at High Temperature		・Energy Science and Engineering ・Materials Science and Engineering
Associate Professor	KATASE, Takayoshi	Oxide electronics, Energy materials, Thin film device		・Materials Science and Engineering
Associate Professor	KAMATA, Keigo	Catalytic Chemistry, Environment-Friendly Chemical Process		・Materials Science and Engineering ・Energy Science and Engineering
Associate Professor	KAWAMURA, Kenichi	Fuel Cells, Heat-resisting Alloys, Solid State Ionics, High Temperature Physical Chemistry, Electrochemistry		・Materials Science and Engineering
Associate Professor	GOHDA, Yoshihiro	Electron Theory of Magnetic Materials, Heat-Resistant Alloys, and Nano-Interfaces		・Materials Science and Engineering
Associate Professor	KOBAYASHI, Equo	Non-ferrous Metals (Titanium, Aluminum, Magnesium, and Copper Alloys), Biomedical Materials, Composites, Phase Stability, Alloy Designing, Materials Characterization, and Standardization of Medical Equipmen	indicates person who will retire in March, 2028.	・Human Centered Science and Biomedical Engineering
Associate Professor	KOBAYASHI, Satoru	Heat Resistant Steels and Alloys, Microstructural Control and Design, Physical Metallurgy of Ferrous Alloys		・Materials Science and Engineering
Associate Professor	SAGARA, Yoshimitsu	Organic Supramolecules, Stimuli-responsive Luminescent Materials, Mechanophore		・Materials Science and Engineering
Associate Professor	SASAGAWA, Takao	Strongly Correlated Electron Systems		・Materials Science and Engineering ・Energy Science and Engineering
Associate Professor	SANNOMIYA, Takumi	Nanophotonics, Plasmonic Materials, Nano Materials, Electron Microscopy, Cathodoluminescence		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering ・Energy Science and Engineering
Associate Professor	TAHARA, Masaki	Development of Functional Metallic Materials by Structural Phase Transition, Metallic Materials for Medical and Energy Applications, Metal 3D Printing		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering
Associate Professor	CHANG, Tso-Fu Mark	Electrodeposition, Metal-based Catalyst, Metal/Metal Oxide Composite Photocatalyst, Metal/Polymer Flexible Functional Materials		・Human Centered Science and Biomedical Engineering ・Materials Science and Engineering
Associate Professor	TSUGE, Takeharu	Biodegradable Plastics		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering
Associate Professor	TERADA, Yoshihiro	Microstructure Control and Mechanical Strength of High-Temperature Materials for Aerospace Applications, Alloy Development for Advanced Automobile Powertrain Applications		・Materials Science and Engineering
Associate Professor	NAKATSUJI, Kan	Surface and Interface Physics		・Materials Science and Engineering
Associate Professor	NABAE, Yuta	Organic and polymeric materials for catalysis, electrocatalysts for fuel cells, synthesis of aromatic polymers		・Energy Science and Engineering ・Materials Science and Engineering
Associate Professor	HAYASHI, Tomohiro	Nanobio science, Biointerface & Biomaterials, Materials Informatics		・Human Centered Science and Biomedical Engineering
Associate Professor	HAYAMIZU, Yuhei	Bio-interface, Nano Materials		・Materials Science and Engineering ・Human Centered Science and Biomedical Engineering
Associate Professor	HOSHINA, Takuya	Dielectric and Ferroelectric Materials, Phonon Analysis		・Materials Science and Engineering
Associate Professor	MATSUSHITA, Sachiko	Sensitized Thermal Cell, Plasmonics, Fabrication of Nanostructures		・Materials Science and Engineering ・Energy Science and Engineering
Associate Professor	MATSUDA, Akifumi	Nanomaterials for electronic and energy, Epitaxial thin films and nanostructures, Low-temperature nanomaterials synthesis, Highly-oriented flexible devices		・Energy Science and Engineering ・Materials Science and Engineering

Academic Supervisor		Research Field	Remarks	Graduate Major
Associate Professor	MICHINOBU, Tsuyoshi	Polymer Synthesis, Semiconducting Polymers, Biomass Polymers		・Materials Science and Engineering
Associate Professor	MURAISHI, Shinji	Aluminum Alloys, Microstructure and Mechanical Properties, Upgrade Recycling, Dislocation Dynamics Simulation		・Materials Science and Engineering
Associate Professor	YAMAMOTO, Takafumi	Solid state chemistry, functional inorganic materials (magnetism, superconductivity, photofunctionality, catalytic property, etc)		・Materials Science and Engineering
Associate Professor	YOSHIDA, Katsumi	Severe environment resistant materials, Materials for nuclear and fusion applications, Ceramic-based composites, High performance porous ceramics		・Nuclear Engineering
Assistant Professor (Tenure Track)	YASUI, Shintaro	Development of Emerging Functional Materials (Li-ion Battery, Energy Materials, Ferroelectrics, Piezoelectrics, Multiferroics)		・Nuclear Engineering ・Materials Science and Engineering
Assistant Professor (Tenure Track)	YAMAGUCHI, Akira	electrocatalysts, hydrothermal electrochemistry		・Energy Science and Engineering ・Materials Science and Engineering

(2) Dept. of Chemical Science and Engineering

Academic Supervisior		Research Field	Remarks	Graduate Major
Professor	OHTOMO, Akira	Inorganic Solid State Chemistry, Thin Film, Surface and Interface, Device Physics		・Chemical Science and Engineering
Professor	TANAKA, Katsunori	Synthetic Organic Chemistry, Bioorganic Chemistry, Chemical Biology		・Human Centered Science and Biomedical Engineering ・Chemical Science and Engineering
Professor	TANAKA, Ken	Synthetic Organic Chemistry, Asymmetric Synthesis, Organometallic Chemistry		・Chemical Science and Engineering
Professor	TSUKAHARA, Takehiko	Analytical Chemistry, Radiation Chemistry, Environmental Science, Radioactive Waste Management, Micro-Nano Chemistry, Functional Polymer, Nuclear Fuel Cycle, Decommissioning		・Nuclear Engineering
Professor	NAKAMURA, Ryuhei	Origin of life, Earth-life science, Electrocatalysis		~~・Earth-Life Science ★~~ ・Chemical Science and Engineering
Professor	MURAHASHI, Tetsuro	Synthetic Inorganic and Organometallic Chemistry, Coordination Chemistry		・Chemical Science and Engineering
Associate Professor	ITO, Shigekazu	Physical Organic Chemistry, Organic Synthesis, Main Group Chemistry, Muon Science		・Chemical Science and Engineering
Associate Professor	SHIMIZU, Ryota	Inorganic Solid State Physics and Chemistry, Thin films, Materials Informatics		・Energy Science and Engineering ・Chemical Science and Engineering
Associate Professor	TAKAO, Toshiro	Organometallic Chemistry, Inorganic Chemistry		・Chemical Science and Engineering
Associate Professor	TANAKA, Hiroshi	Synthetic Organic Chemistry, Chemical Biology, Natural Product Chemistry		・Chemical Science and Engineering
Associate Professor	TAKAO, Koichiro	Actinide Chemistry, Coordination Chemistry, Nuclear Fuel Cycle, Fuel Reprocessing, Radioactive Wastes, Decontamination		・Nuclear Engineering ・Chemical Science and Engineering
Professor	IHARA, Manabu	Energy Conversion on Chemical Engineering, Electrochemistry, Fuel Cells, Solar Cells, Energy system		・Energy Science and Engineering ・Chemical Science and Engineering
Professor	OKOCHI, Mina	Biochemical Engineering, Peptide Engineering, Biosensing, Biotechnology, Medical and Biological Engineering		・Chemical Science and Engineering ・Human Centered Science and Biomedical Engineering ~~・Earth-Life Science ★~~
Professor	SHIMOYAMA, Yusuke	Molecular crystal & assembly, Pharmaceutical・cosmetic formulation, CO2 utlization, Machine-learning, Information & data technology		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	TAGO, Teruoki	Chemical Reaction Engineering, Catalytic Reaction Engineering, Catalyst & Environmental Chemical Process, Porous Catalyst		・Chemical Science and Engineering ・Energy Science and Engineering
Specially Appointed Professor	OOKAWARA, Shinichi	Microfluidic Transport Phenomena, CFD (Computational Fluid Dynamics), Microreactor		・Chemical Science and Engineering
Associate Professor	AOKI, Saiko	Tribology, Lubricating oil and additives, Surface Engineering, Affective Engineering		・Chemical Science and Engineering ・Energy Science and Engineering
Associate Professor	HARADA, Takuya	Carbon Capture & Utilization, Inorganic Materials, Chemical Pprocess Engineering, Low-carbon Energy System, Nuclear Energy		・Nuclear Engineering ・Chemical Science and Engineering
Associate Professor	MATSUMOTO, Hideyuki	Process Systems Engineering, Process Intensification, Nitrogen Cycle, Process Information, Renewable Energy		・Chemical Science and Engineering ・Energy Science and Engineering
Associate Professor	MANZHOS, Sergei	Materials modeling, machine learning, energy conversion and storage		・Energy Science and Engineering ・Chemical Science and Engineering

Academic Supervisor		Research Field	Remarks	Graduate Major
Associate Professor	MORI, Shinsuke	Plasma Processing, Heat Transfer		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	ISHIZONE, Takashi	Polymer Synthesis, Living Polymerization		・Chemical Science and Engineering
Professor	OTSUKA, Hideyuki	Polymer Reactions, Smart Polymeric Materials, Polymer Synthesis		・Chemical Science and Engineering
Professor	SATOH, Kotaro	Polymer Synthesis,Precision Polymerization, Bio-Based Monomer		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	SERIZAWA, Takeshi	Biomacromolecular Chemistry, Biomaterials Science and Engineering, Molecular Assembly		・Chemical Science and Engineering
Professor	TOKITA, Masatoshi	Polymer Structures and Properties, Liquid Crystals, Polymer Brushes		・Chemical Science and Engineering
Professor	NAKAJIMA, Ken	Polymer Physics, Rubber Industry, Atomic Force Microscopy		・Chemical Science and Engineering
Associate Professor	ISHIGE, Ryohei	Structural analysis of polymers, thin film, synchrotron X-ray, vibrational spectroscopy, liquid crystal		・Chemical Science and Engineering
Associate Professor	KONISHI, Gen-ichi	Polymer Synthesis, Photochemistry, Fluorescent Dye, Liquid Crystal, Organic Chemistry		・Chemical Science and Engineering
Associate Professor	SAWADA, Toshiki	Biomacromoleculer Science, Bioorganic Chemisgtry, Biotechnology, Biofunctional Materials		・Chemical Science and Engineering
Professor	ARAI, Hajime	Secondary battery, Metal-air battery, Electrochemistry, Operando (In situ) analysis		・Energy Science and Engineering ・Chemical Science and Engineering
Professor	INAGI, Shinsuke	Organic Electrochemistry, Polymer Chemistry		・Energy Science and Engineering ・Chemical Science and Engineering
Professor	SHISHIDO, Atsushi	Polymer Physical Chemistry, Liquid Crystals, Optical Function, Mechanical Function		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	TOMITA, Ikuyoshi	Polymer Synthetic Chemistry		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	HIRAYAMA, Masaaki	Energy Conversion Materials, Inorganic and Solid State Chemistry, Electrochemical Interface		・Energy Science and Engineering ・Chemical Science and Engineering
Professor	FUKUSHIMA, Takanori	Organic Functional Materials, Nanomaterials, π-Electronic Systems, Molecular Assembly		・Chemical Science and Engineering
Professor	YAMAGUCHI, Takeo	Fuel Cell Engineering, Bio-inspired Materials, Membrane Science		・Chemical Science and Engineering ・Energy Science and Engineering
Professor	YAMAMOTO, Kimihisa	Nano-materials Chemistry, Metallochemistry, Macromolecular Science		・Chemical Science and Engineering
Professor	YOSHIZAWA, Michito	Supramolecular Chemistry, Synthetic Chemistry, Nanospace, Water, Photofunction, Biosensor		・Chemical Science and Engineering
Associate Professor	IMAOKA, Takane	π-Conjugating Molecular Chemistry, Electron Transfer Chemistry, Nanomaterial Science		・Chemical Science and Engineering
Associate Professor	KITAMURA, Fusao	Electrochemistry, Spectroscopy, In-situ Spectroelectrochemistry		・Energy Science and Engineering ・Chemical Science and Engineering
Associate Professor	KUBO, Shoichi	Polymer Chemistry, Materials Chemistcy		・Chemical Science and Engineering ・Energy Science and Engineering
Associate Professor	SAWADA, Tomohisa	Supramolecular Chemistry, Organic Chemistry, Coordination Chemistry, Self-Assembly, Peptide, Topology		・Chemical Science and Engineering
Associate Professor	SHOJI, Yoshiaki	Functional π-Conjugated Molecules and Polymers, Highly Reactive Main-Group Species		・Chemical Science and Engineering
Associate Professor	TANAKA, Masayoshi	Biomolecular Chemistry, Protein Engineering, Applied Microbiology, Multi-Omics Science, Medical and Biological Engineering	New faculty member (Apr. 2022)	・Human Centered Science and Biomedical Engineering ・Chemical Science and Engineering
Associate Professor	TOYODA, Sakae	Environmental Chemistry, Material Cycle Analysis		・Chemical Science and Engineering ・Energy Science and Engineering
Associate Professor	YAMADA, Keita	Organic Geochemistry, Isotope Chemistry		・Chemical Science and Engineering ・Energy Science and Engineering
Associate Professor	YOKOI, Toshiyuki	Catalytic Chemistry, Nanospace Catalysts, Zeolite Science, Green Chemistry		・Chemical Science and Engineering

Academic Supervisor		Research Field	Remarks	Graduate Major
Associate Professor	WADA, Hiroyuki	Optical Materials, Nanoparticles, Solar cell, Optical thin film		・Energy Science and Engineering ・Human Centered Science and Biomedical Engineering ・Chemical Science and Engineering
Associate Professor	NAKAZONO, Kazuko	Polymer synthesis, Supramolecular Chemistry		・Energy Science and Engineering ・Chemical Science and Engineering
Associate Professor	SUZUKI, Kota	Solid State Chemistry, Energy Convertion Materials, Novel Energy Storage Device, and Material Seaerch by Machiene Learning		・Energy Science and Engineering ・Chemical Science and Engineering

★ The Earth-Life Science Graduate Major is an Integrated Doctoral Educational Program (master's and doctoral level).