List of responsible laboratories

Energy and Environment (Graduate School of Energy Sciences)

Laboratory name	Research keywords
Energy Social Engineering (Engineering for Social Systems)	Social engineering, Recycle, Eco-materials, Eco-education, Effective use of energy and resource
Energy Economics	Energy study, Economics, Systems design, Microscopic and macroscopic viewpoints, Sustainability
Energy Ecosystems (Biomass Energy)	Biomass energy, Supercritical fluid, Pyrolysis, Bioethanol, Bio-based products
Energy and Information (Human Interface)	Human interface, Human-machine system, Augmented reality, Intellectual productivity, Pro-environmental behavior
Energy and Environment (Energy Environmental Impact)	Energy and environment, Atmospheric environment, Environmental impact assessment, Life cycle assessment
Energy Policy (RPI)	Energy policy, Nuclear energy, Energy best-mix, Energy security
Societal Energy Education (RRI)	Social energy education, Disaster science, Hazard evaluation, Earthquake disaster prevention strategy
Energy Chemistry	Energy chemistry, Electrochemistry, Molten salt, Ionic liquid, Fuel cell, Secondary battery, Hydrogen energy
Quantum Energy Processes	Organic molecular materials, Inorganic semiconductors, Photochemistry, Solid state physics, Solar energy utilization
Functional and Solid State Chemistry	Inorganic material chemistry, Crystal chemistry, Electrochemistry, Solid state chemistry, Electrochemical materials, Bio-environment adjusted material, Functional material chemistry
Plasma and Fusion Science	Nuclear fusion and plasma theory, Nonlinear and non-equilibrium plasma physics, Hierarchical simulation, Laser-matter interaction
Electromagnetic Energy	Fusion energy, Data analyses of plasma experiments, Measurements and diagnostics, Theory and numerical simulation
Plasma Physics	Microwave spherical torus experiment, Plasma wave physics, Equilibrium, Stability and transport, Plasma diagnostics
Fusion Energy Control (IAE)	Control of high temperature plasma, Boundary plasma physics, Plasma heating and flow control
High-Temperature Plasma Physics (IAE)	Confinement experiment of heliotron plasma, Monte Carlo simulation, Development of fusion plasma diagnostics
Interfacial Energy Processes (IAE)	Genetic engineering, Bioenergy, Surface science, Eletrochemistry
Energy Nano Engineering (IAE)	Nano-science, Nano-materials, Solar energy, Organic photovoltaic cells, Theoretical biophysics, Statistical mechanics of liquids
Biofunctional Chemistry (IAE)	Design of biomacromolecules, Protein engineering, Synthetic biology, Solar energy utilization, Bioenergy
Bioenergy (IAE)	Bioenergy, Biomass, Structural biology, NMR, anti-HIV enzyme, Prion protein, Aptamer. Bioethanol
Fundamental Neutron Science (RRI)	Nuclear reactor experiment and analysis, Development of radiation detection system
Energy Transport (RRI)	Energy conversion, Thermal hydraulics, Multiphase flow, Neutron radiography
Thermal Energy Conversion	Thermal engineering, Power engineering, Internal combustion engine, Pollutant emission control, Alternative fuels
Conversion Systems	Thermo-fluid science, Combustion science and engineering, Alternative fuels, Laser diagnostics and image analysis, Computational fluid dynamics
Materials Design for Energy Systems	Strength of materials, Elastoplasticity, Macro-micro integrated analyses, Fatigue, Ceramic-coated materials

Design for Functional Systems	Functional and intelligent materials, Computational mechanics, Electromagnetic materials, Nondestructive evaluation by ultrasonics, Micromechanics of solids
Advanced Energy Conversion (IAE)	Plasma science and technology, Fusion technology, Fusion energy conversion, Fusion application, Fusion energy system design, Socio-economic evaluation of energy system, Social and environmental sustainability evaluation
High Quality Energy Conversion (IAE)	Plasma physics, Microwave technology, Accelerator Physics, Charged particle beam physics, Compact fusion neutron/ proton source
Functional Energy Conversion Materials (IAE)	Materials science for environment and energy, Fusion reactor materials, Nuclear materials, Nano-oxide particles dispersion strengthened alloys, Computational material science
Devices Physics	Crystal alignment techniques, Energy materials, Thin film growth, Magnetic alignment, Superconductors
Process and Energy	Applied superconductivity energy apparatus, Advanced electric power system, Thermal hydraulics in liquid gases
Materials Process Science	Materials processing, Aqueous/Electrochemical processing, Electrochemistry, Thin film coatings
Thermochemistry	Chemical thermodynamics, Thermochemistry, Steelmaking, Chemical sensors
Resources and Energy Systems	Eco-materials, Upgrade recycling, Materials nanotechnology
Advanced Processing of Resources and Energy	Thermal fluid engineering, Working processes, Advanced processing of energy, Computational physics, Process simulation
Mineral Processing	Resources processing Physical chemistry, Resource geology, Earth system chemistry, Materials tailoring
Quantum Radiation Energy Science (IAE)	Quantum radiation energy, Free-electron laser, Accelerator science, Radiation measurement
The Physics of Energy Materials (IAE)	Nanotechnology/science, Composite functional materials, Nanomaterials, Solid state physics, Quantum electronics, Environment-resistant materials
Photon Energy Science (IAE)	Laser science, Quantum electronics, Nonlinear optics, Atomic and molecular physics, Material processing

IAE : Institute of Advanced Energy

RRI : Research Reactor Institute

Food and water resources (Graduate School of Agriculture)

Laboratory name	Research keywords
Agronomy and Horticultural Science	Crop production ecology, Introduction to genetic analysis
Forest and Biomaterials Science	Tropical forest environments, Tropical forest resources, Forest management I, Forest management II, Fibrous biomaterials I
Applied Life Sciences	Bioregulation chemistry, Plant nutrients (function and acquisition), Microbial biotechnology
Applied Biosciences	Advanced genetics I, Current topics in marine microbiology, Reproductive biology
Environmental Science and Technology	Forest ecology, Tropical agricultural ecology, Agroecology of tropical crops, Special lecture on ecological information, Special lecture in ecological management, Agricultural facilities engineering, Agricultural process engineering, Physicality of agricultural products, Seminar I on agricultural process engineering, Seminar II on agricultural process engineering

Natural Resource Economics	Regional environmental economics I, Regional environmental economics II
Food Science and Biotechnology	Food engineering (advanced course)
All division	Outline of agricultural sciences in Japan, Agriculture and environment in Japan, Special lecture on comparative agricultural studies 1, Special lecture on comparative agricultural studies 2, Special lecture on comparative agricultural studies 4, Special lecture on comparative agricultural studies 5, Scientific communication 1, Scientific communication 2, Crop protection science, Basic concepts in sustainable agriculture

Public Health (Graduate School of Medicine)

Laboratory name	Research keywords
Global Health and Socio-epidemiology	HIV/AIDS, sexually transmitted infections, wellbeing of youth, epidemiology, mixed methods (qualitative method, quantitative method), social marketing, behavior science, Collaborating Centre for Socio-epidemiological HIV Research of the UNAIDS
Healthcare Epidemiology	Clinical epidemiology, Clinical evaluative science, Observational study, Outcomes research, Quality of life
Healthcare Economics and Quality Management	Health Care System, Quality of Care, Health Economics, Equity in Health Care, Quality Management System, Health Insurance System, , Universal Health Coverage
Health Promotion and Behavioral Medicine	Mental Health, Common mental disorders, Cognitive-behavior therapy, Systematic Review, Meta-analysis, Randomised controlled trial, Clinical epidemiology, Evidence-based medicine
Pharmacoepidemiology	Clinical trial, database research, drug utilization

All Field (Center for Southeast Asian Studies, Graduate School of Asian and African Area Studies)

Laboratory name	Research keywords
Human-nature dynamics	Natural resources, Ecology, Livelihood, Health, Enteric infection, Sustainable humanosphere
Socio-cultural dynamics	Grassroot globalization, Care, Minority, Plantation, Elite, Nationalism
Economic and political dynamics	Rural economy, Social structure, Decentralization, Small business, Financial system