TOKYO TECH RESEARCH MAP 2021-2022

Making all solid-state batteries universally available
Ryoji Kanno
Institute of Innovative Research

Creating new materials by combining metallic elements
Kimihisa Yamamoto
Institute of Innovative Research

Atomistic to real scale for high-temperature alloy design
Masao Takeyama
School of Materials and Chemical Technology

Environmentally benign heterogeneous catalysts
Michikazu Hara
Institute of Innovative Research

Organic synthesis driven by visible light (sunlight)
Munetaka Akita
Institute of Innovative Research

Creation of novel functional materials from a unique perspective
Hideo Hosono
Materials Research Center for Element Strategy

Development of high performance severe environment resistant ceramics
Katsumi Yoshida
Institute of Innovative Research

Development of photo-induced phase transition systems for realizing ultrafast quantum phase tuning
Shinya Koshihara
School of Science

Systems control incorporating advances in information and communication
Hideaki Ishii
School of Computing

Diamond quantum sensors for healthcare and environmental energy fields
Mutsuko Hatano
School of Engineering

Ultra high-speed optical communications and 3D optical sensing with surface emitting lasers
Fumio Koyama
Institute of Innovative Research

Reconstruction of brain functions on computers
Yasuharu Koike
Institute of Innovative Research

Exploiting big data to model socio- and econophysics
Misako Takayasu
Institute of Innovative Research

Exosome in disease etiology and detection
Ayuko Hoshino
School of Life Science and Technology

Understanding the gene expression mechanism in living cells
Hiroshi Kimura
Institute of Innovative Research

Elucidating the molecular mechanisms of autophagy, an intracellular degradation system
Yoshinori Osumi
Institute of Innovative Research

Polymer design for future diagnostic and therapeutic medicine
Nobuhiro Nishiyama
Institute of Innovative Research

How energy organizes chemistry into life
Shawn McGlynn
Earth-Life Science Institute

Nuclear energy systems with safe and less waste
Toru Obara
Institute of Innovative Research

Achieving a low carbon society through solutions research
Takao Kashiwagi
Institute of Innovative Research

Boosting lithium-ion batteries and fuel-cell efficiency
Shuichiro Hirai
School of Engineering

Soft robots that exploit artificial muscles
Koichi Suzumori
School of Engineering

Creative management of water use and environment
Chihiro Yoshimura
School of Environment and Society

Control of large-scale complex network systems and its applications
Jun-ichi Imura
School of Engineering

Functional-continuity buildings and cities that withstand earthquakes
Shoichi Kishiki
Institute of Innovative Research

Differentiation of iPS cells to digestive organs and application to drug discovery
Shoen Kume
School of Life Science and Technology

Studying methods of changing attitudes and behavior through interaction design
Katie Seaborn
School of Engineering

How mathematical science can optimize corporate activities
Shinji Mizuno
School of Engineering

Human studies
Eisuke Wakamatsu
Institute of Innovative Research /Institute for Liberal Arts

Leveraging innovations to build a sustainable society
Yuya Kajikawa
School of Environment and Society

Analyze human motion and support human performance using biomechanics
Takeo Maruyama
Tokyo Tech Academy for Leadership / Institute for Liberal Arts

Evolution of the universe through ultimate elementary particles
Masahiro Kuze
School of Science

Geometric analysis on minimal submanifold and mean curvature flow
Yoshihiro Tonegawa
School of Science

Quantum sensor technologies for ultra-precise inertial navigation
Mikio Kozuma
School of Science

Theory of planet formation and evolution
Shigeru Ida
Earth-Life Science Institute

Photo: N. Escanlar, ELSI

Central hexagon

Chemistry, Materials
254
(Number of regular faculty)

Electrical and Electronic Engineering, Computer Science
195

189
Mechanical Engineering, Civil Engineering, Architecture

112
Mathematics, Physics, Earth and Planetary Sciences

163
Transdisciplinary Science and Engineering, Humanities and Social Science

Life Science and Technology
129