

Research

◆ Grants-in-Aid for Scientific Research

Mathematical Deepening of Audio Source Separation Based on Independence and Amplitude/Phase Modeling and Development of Multimodal Hearing-Aid system
 Research to realize a practical satellite development curriculum using a general-purpose satellite model starting from high school students
 Investigation of optimum arrangement of small-vertical-axis-wind-turbine clusters with interaction between the pairs and trios of turbines
 Application to Smart Machining Systems using Compression of Skill Data for Inheritance of Excellent Technician's Skills
 Perception and recognition of tactile texture through integrated silicon sensory hairs accessible to micro and constricted areas
 Quantitative Evaluation of Radiation trapping by a New Method Using Forbidden Line/Resonance Line Intensity Ratio and X-ray Optical Elements
 Development of resource recycling artificial geomaterial and application to geohazards prevention measures
 Development of assessment methods of both children's independent mobility and safety
 Thermocell using redox-active ionic liquid based electrolyte
 Development of criteria and decision-making measures for the continuation of local railways
 A free boundary problem of the Navier-Stokes equations in unbounded domains
 Higher spin duality and superstring theory with Wilson lines
 Development of a Method to Ensure Segregation Resistance of Concrete Using Unutilized Aggregates with Various Particle Shapes and Sizes
 Demonstration of a Simple and Low-cost Recirculating Aquaculture Systems (RAS) for Developing Countries
 Evaluation of building damage at inland area caused by low water depth tsunami overtopping due to different seawall configurations
 Development of transparent puzzle teaching devices that make EEG external lectures adjustable for individuals
 Exploration of New Pharmaceutical Lead Compounds Based on Catalytic Palladium Enolate Umpolung
 Elucidation of deterioration mechanisms of repair materials and development of technologies to prevent re-deterioration
 Gauge/gravity correspondence and quantum gravity for expanding universe
 A study on anonymization of cue information and inner information in dialogue
 Blood Pressure Measurement Using a Wearable Sensor without skin-contact Based on Fingernail Anatomical Features
 13 another research study, Number of Research Studies 34, Total Funds 29,159,000Yen

◆ Commissioned Research

Acquisition of test data and technical evaluation for CubeSat for innovative satellite technology demonstration experiments
 Installation test of a portable fishway for the upstream migration of *Oncorhynchus keta* and *Oncorhynchus gorbuscha*
 1 another research study, Number of Research Studies 3, Total Funds 6,502,500Yen

◆ Cooperative Research with Private Sector

Development of High-Performance Lead-Acid Batteries
 Extraction Technology of Metal from Abandoned Coated Wires
 On Share Cyber Security Information
 Research on next-generation fundamental technologies for multichannel audio signal processing
 Development of active phased array antenna using printing technology on stratospheric balloon surface
 Study on durability life prediction method of cable conductor/shield wire for moving parts
 Improvement of production line process under "mechasolutions"
 Spatial-information-based mixture sound analysis and separation using multichannel microphones
 A Study on the Visualization of Behavior Analysis in Patrol Inspections at Thermal Power Plants
 Development of generative AI technology for application in design DX
 A Fundamental Study on the Relationship Between Children's Independent Mobility and Urban Structure
 Research on Image Processing Techniques for Elucidating Tacit Knowledge of Experienced Healthcare Professionals
 Sentiment Analysis using Finite State Transducer (A casestudy on Myanmar Language)
 Research on Advancing Infrastructure Maintenance through Digital Transformation
 A Fundamental Study on the Longitudinal Changes in Children's Independent Mobility
 Research on Water Retention Assessment of Irrigation Ponds in Rural Areas and Their Influence on Downstream Hydrological Systems
 Building the operating environment for the autonomous navigation program of the pest control robot
 10 another research studies, Number of Research Studies 27, Total Funds 11,814,860Yen

◆ Other Competitive Funds and Grants

Development of a Versatile Robot Teleoperation Method Utilizing Video Call Applications, and Exploration of Its Potential
 Establishing upstream migration environments for rare Cottus species using a portable fishway system
 Development of technology for early detection of standing difficulty in beef cattle
 Monitoring of school Evacuation Drills using dashcams and reviewing drill plans
 Wide-band Force Control of Robot Arm Considering Sampling Clock Synchronization of Servo Motor
 1 another research studies, Number of Research Studies 6, Total Funds 5,790,000Yen