

Department of Management Science and Technology

Laboratories	Staff	Research Themes
Value Proposition (Technology Strategy and Intelligence)	Prof. Shuichi Ishida	<p>The research domains envisaged within this field are primarily concerned with issues related to "technology strategy" and "research and development organizations" from the perspective of "management systems." Additionally, there is a focus on new business creation and regional revitalization, where "entrepreneurship" is regarded as one of the key areas of study. To explore the relationship between technology and society, the research employs a wide range of methodologies cultivated within the field of engineering.</p> <ul style="list-style-type: none"> • Research and Development Strategy • Technology Marketing • Technology Intelligence • National Innovation Systems
Value Proposition (Management System)	Prof. Akira Nagamatsu	<p>The laboratory will promote research on management systems targeting quality improvement of business processes such as business planning, demand forecasting, and R&D, with the aim of realizing corporate growth in the digital environment.</p> <ul style="list-style-type: none"> • Business Process Research • Business planning • Demand forecasting • Research and development management
Value Proposition (Value Creation Engineering)	Prof. Hirokazu Moriya	<p>In our field of specialization, we are interested in research with a primary focus on organizations and strategies such as corporations and universities that place a strong emphasis on value creation. Our research encompasses the strategy of value creation, educational initiatives aimed at fostering it, and the process for facilitating meaningful experiences. We conduct analyses of corporate and organizational social value creation strategies, leveraging financial statements. Additionally, we research innovative value-creation engineering education to cultivate entrepreneurial creativity and explore technology and social innovation for the purpose of creating a better society, all from a global perspective.</p> <ul style="list-style-type: none"> • Social value creation strategies in corporations and other entities. • Engineering education aimed at nurturing social value creation competence and entrepreneurship. • Technology and social innovation for the creation of an enhanced society.

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Value Proposition (Information affective engineering)	Prof. Takahiro Ishinabe	<p>Our research group focuses on light control technology and its applications, aiming to develop human-friendly information systems for the future sustainable society. We will clarify the relationship between information and human cognition, understanding, and sensitivity and establish functional photonic devices based on the structural control of organic molecules and polymers.</p> <p>Research topics</p> <ul style="list-style-type: none"> • Structural Control of Organic Molecules and Polymers • Functional photonic devices • Clarification of the relationship between information and human cognition, understanding, and sensitivity and information • Human-friendly information display system
Social System Design (Advanced Energy Systems)	Prof. Kenji Nakamura	<p>In this field, we conduct education and research aimed at realizing a sustainable society in harmony with human society and the natural environment. This involves the development of advanced electric equipment to support a series of systems including electricity generation, transportation, conversion, and utilization, as well as the construction of electrical energy application systems that combine these technologies highly tailored to various scales and applications.</p> <p>Specific research areas include:</p> <ul style="list-style-type: none"> • Performance improvement of electric machines • Development of magnetic gears and geared-machines • Variable inductors for voltage stabilization in electric power systems • Offshore wind power generation systems • Next-generation electric mobilities

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Social System Design (Socio-Technical System)	<p>Prof. Makoto Takahashi</p> <p>Assoc. Prof. Daisuke Karikawa</p>	<p>The aim of our research is to enhance the safety of large-scale complex systems by utilizing the methods of risk assessment and management. Focusing on the aspects of interaction between human and machines, we study human factors problems from variety of viewpoints. In addition, dialogue between experts and citizens about science and technology is also studied for promoting mutual better understanding of the risk and benefit of advanced technologies. The examples of our research topics are as follows:</p> <ul style="list-style-type: none"> • Human factors study for air traffic control (ATC) system • Evaluation of human-machine interface using human brain mapping method • Cyber security • Science and technology communication
Social System Design (Intellectual Property Right)	<p>Assoc. Prof. Nobuya Fukugawa</p>	<p>Entrepreneurship and innovation are critical drivers of improved living standards. Recent topics addressed through econometric analysis of data on patents, academic publications, and technology transfer include:</p> <ul style="list-style-type: none"> • Value-added contributions of science parks to tenant firms; • Complementary productivity effects of technology extension services and intangible capital; • The effect of scientific quality on the IPO performance of university spin-offs; • University-level entrepreneurial ecosystems and their regional disparities.

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