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Japan Science and Technology Agency (JST)

## **JST and UK's EPSRC to Jointly Fund Four Research Projects under the ASPIRE Program on “Advancing Human-Centered AI”**

The Japan Science and Technology Agency (JST) has approved funding for four new research projects jointly supported by the Engineering and Physical Sciences Research Council (EPSRC) of the United Kingdom and the ASPIRE Japan-UK Joint Call in the field of Artificial Intelligence and Information.

The ASPIRE program aims to maintain and improve Japan's scientific and technological capabilities by connecting top researchers in Japan with those in advanced STI countries and regions through international joint research and talent circulation. The program focuses on promoting cutting-edge R&D, fostering the next generation of research leaders, and supporting their international mobility.

This partnership program aims to support internationally competitive collaborative research projects between Japan and the UK focusing on the development of AI and data science, building leading international researcher networks, and nurturing early-career researchers to invigorate the AI sector in both countries.

JST and EPSRC received a total of 85 proposals for this call, and four projects were selected for funding after assessment by a panel of experts in Japan and the UK and a joint funding meeting. The research period will be five years and three months (63 months).

### **Attachments**

Appendix 1. List of the Funded Projects

Appendix 2. Experts in Japan for the Evaluation

Annex. Evaluation Criteria

### **Contact**

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### **“Empowering Science, Inspiring Futures”**

Our world faces unprecedented global challenges — such as climate change, energy crises, and emerging infectious diseases — that demand innovative solutions. JST will rise to these challenges through “Science and Technology,” as a national research and development agency that plays a central role in implementing Japan’s science, technology, and innovation policy. We support fundamental research and startups to create new value, develop R&D strategies, foster the next generation of talent, disseminate vital information, and manage the Japan University Fund. Like a compass guiding ships through turbulent waters, JST will chart the way towards a vibrant and secure future by empowering science through a multifaceted approach.

## List of the Funded Projects

Project Title		Principal Investigator (Japan)	Affiliation	Research Outline
		Project Lead (United Kingdom)		
1	Statistical Safeguarding: A Japan-UK Collaboration Towards the Responsible Data- driven Learning Paradigm	ISHIDA Takashi	Associate Professor, Graduate School of Frontier Sciences, The University of Tokyo	<p>This collaboration aims to establish a new paradigm for learning systems that maintain robustness in real-world environments, even when data quality is compromised. It will advance human-centered AI by designing statistical methods that enhance reliability, transparency, and ethical integrity. The project focuses on the mathematical understanding of data corruption, theoretical modelling of its impact on learning, and the development of mitigation strategies.</p> <p>To foster the next generation of researchers, the program will implement structured bilateral exchanges of early-career researchers and students between Japan and the UK. It will also organize summer schools, workshops, and retreats to provide mentoring opportunities and strengthen international collaboration networks.</p>
		Wenkai Xu	Assistant Professor, Department of Statistics, University of Warwick	

Project Title		Principal Investigator (Japan)	Affiliation	Research Outline
		Project Lead (United Kingdom)		
2	Neuro-Symbolic Debates for Safeguarded Generative AI (NeSyDebates)	SATOH Ken	Director, Center for Juris-Informatics, Joint Support-Center for Data Science Research, Research Organization of Information and Systems	<p>In recent years, with the rapid advancement of generative AI models, the social application of AI has entered a new stage. Challenges, however, remain regarding their safety, security and alignment with human values. For instance, large language models (LLMs) have risks such as hallucinations that produce false information and prompt misuse that may lead to the unlawful acquisition of personal data.</p> <p>To solve these problems, we will develop a Neuro-Symbolic Debate System called "NeSyDebates." This system automatically extracts machine-readable normative argument structures from cases of violations of norms—such as policies, regulations, and laws—described in natural language. It then applies these extracted normative arguments to new cases to detect, explain, and prevent potential violations.</p> <p>As specific applications, we will verify the effectiveness of this system in legal document processing using LLMs and text-to-image generation AI used in online image creation.</p>
		Francesca Toni	Professor, Department of Computing, Imperial College London	

Project Title		Principal Investigator (Japan)	Affiliation	Research Outline
		Project Lead (United Kingdom)		
3	Understanding Multilingual Communication Spaces (UMCS): Real-Time Translation and Learning Across Signed and Spoken Languages	BONO Mayumi	Associate Professor, Information and Society Research Division, National Institute of Informatics	<p>This project will develop real-time translation and learning technologies that bridge spoken and signed languages. Our goal is to support sign language learning for both Deaf and hearing users and to enable mutual understanding between British Sign Language (BSL) and Japanese Sign Language (JSL).</p> <p>Using lightweight augmented reality (AR) glasses and cutting-edge AI, we will capture and analyze natural conversations to build systems capable of live translation between spoken and signed languages. Our approach integrates generative AI, sociolinguistics, and human-computer interaction (HCI) to reflect the visual, spatial, and cultural complexities of signed languages.</p> <p>The research team brings together world-leading experts from the UK and Japan in AI, sign linguistics, accessibility, and HCI, including Deaf researchers at its core.</p> <p>Through structured collaboration between the UK and Japan, the project will also serve as a platform for early-career researcher development.</p>
		Richard Bowden	Professor, Centre for Vision, Speech and Signal Processing (CVSSP), School of Computer Science and Electronic Engineering, University of Surrey	

Project Title		Principal Investigator (Japan)	Affiliation	Research Outline
		Project Lead (United Kingdom)		
4	CHARISM: Japan-UK Centre for Human-Oriented AI and Robotics in Inclusive and Sustainable Manufacturing	YAMANOBE Natsuki	Team Leader, Integrated Research Center for Wellbeing, National Institute of Advanced Industrial Science and Technology (AIST)	<p>This project aims to establish "Japan-UK Centre for Human-oriented AI and Robotics in Inclusive and Sustainable Manufacturing (CHARISM)". By integrating the complementary strengths of both countries, CHARISM will pursue foundational research in three core areas:</p> <ol style="list-style-type: none"> <li>1. Human-AI collaborative distributed agent systems,</li> <li>2. Evaluation of human wellbeing in AI-augmented workplaces, and</li> <li>3. Ethical AI design for trustworthy human-machine collaboration.</li> </ol> <p>Through bilateral exchanges of early-career researchers, international workshops, shared research testbeds, and collaboration with industry, the CHARISM seeks to build a sustainable international research ecosystem. In this role, it will serve as a collaborative hub to promote knowledge circulation and the development of next-generation talent, advancing AI and robotics technologies that contribute to a human-centered future of manufacturing.</p>
		Niels Lohse	Professor, Manufacturing Automation and Robotics, Department of Mechanical Engineering, School of Engineering, College of Engineering and Physical Sciences, University of Birmingham	

## Experts in Japan for the Evaluation

ASPIRE Program Director

MIYANO Kenjiro: Emeritus Fellow, National Institute for Materials Science

Name	Affiliation	Role
YAGI Yasushi	Specially Appointed Professor, The University of Osaka	Program Officer
AKIYOSHI Masanori	Professor, Kanagawa University	Advisor
BABAGUCHI Noboru	Professor, Fukui University of Technology	Advisor
FUJISHIRO Issei	Professor, Keio University	Advisor
HASHIMOTO Koichi	Professor, Tohoku University	Advisor
HASHIMOTO Manabu	Professor, Chukyo University	Advisor
HIURA Shinsaku	Professor, University of Hyogo	Advisor
ISHIKAWA Hiroshi	Professor, Waseda University	Advisor
KATO Kazuhiko	Professor, University of Tsukuba	Advisor
KONNO Atsushi	Professor, Hokkaido University	Advisor
KURODA Tomohiro	Professor, Kyoto University	Advisor
MAEDA Eisaku	Professor, Tokyo Denki University	Advisor
MASE Kenji	Emeritus Professor, Nagoya University	Advisor
MATSUDA Hideo	Specially Appointed Professor, The University of Osaka	Advisor

MATSUI Tomoko	Professor, The Institute of Statistical Mathematics	Advisor
MEKADA Yoshito	Professor, Chukyo University	Advisor
MINOH Michihiko	Project Director, RIKEN	Advisor
MORITA Hiroshi	Professor, The University of Osaka	Advisor
NAKAMURA Yuichi	Professor, Kyoto University	Advisor
OKABE Yasuo	Professor, Kyoto University	Advisor
SAITO Masahiko	Professor, Kobe Gakuin University	Advisor
SAKURAI Kouichi	Professor, Kyushu University	Advisor
SATO Yoshinobu	Professor, Nara Institute of Science and Technology	Advisor
SHIMOJO Shinji	Professor, Aomori University	Advisor
SUGIMOTO Akihiro	Professor, National Institute of Informatics	Advisor
TANAKA Masayuki	Professor, Institute of Science Tokyo	Advisor
YAMADA Keiji	Executive Professional, BIRD INITIATIVE, Inc.	Advisor
YAMAMOTO Akihiro	Professor, Kyoto University	Advisor

(Advisors are listed in alphabetical order.)

(Positions and organizations are as of the time of evaluation.)



### Evaluation Criteria

Criteria	Description of the criteria
i. Vision	<p>To what extent has the applicant explained how their proposed work:</p> <ul style="list-style-type: none"> <li>• is of excellent quality and importance within or beyond the field(s) or area(s)</li> <li>• has the potential to advance current understanding, and generates new knowledge, thinking or discovery within or beyond the field or area</li> <li>• is timely given current trends, context, and needs</li> <li>• impacts world-leading research, society, the economy, or the environment</li> <li>• is relevant to the scope of the call including at least one of the priority areas of joint interest for JST and EPSRC</li> </ul>
ii. Approach	<p>To what extent has the applicant demonstrated that they have designed their approach so that it:</p> <ul style="list-style-type: none"> <li>• is effective and appropriate to achieve their objectives</li> <li>• is feasible and comprehensively identifies any risks to delivery and how they will be managed</li> <li>• if applicable, uses a clear and transparent methodology</li> <li>• if applicable, summarizes the previous work and describes how this will be built upon and progressed</li> <li>• will maximize translation of outputs into outcomes and impacts</li> <li>• describes how their, and if applicable their team's, research environment (in terms of the place, and relevance to the project) will contribute to the success of the work</li> </ul>
iii. Research partnership	<p>To what extent has the applicant demonstrated how the research partnership:</p> <ul style="list-style-type: none"> <li>• involves high-level international joint research aimed at enhancing scientific and technological capabilities for both countries</li> <li>• delivers the research strengths, added value and synergies that can be achieved through UK-Japan collaboration</li> <li>• demonstrates a clear and feasible division of roles between the Japanese and UK research, throughout the research period</li> <li>• has an appropriate approach for building and expanding the international collaboration and a world-leading network with clear and concrete mobility plans</li> <li>• involves research exchanges and collaborations that are equitable and mutually beneficial for both countries</li> <li>• advances the research field in both Japan and the UK</li> </ul>

iv. Plan for early career researchers and international researcher mobility	<p>To what extent has the applicant, and if relevant their team, demonstrated they:</p> <ul style="list-style-type: none"> <li>• include appropriate goals set to achieve career development of early career researchers through international mobility activities</li> <li>• involve enough early career researchers</li> <li>• are effective for developing early career researchers to become the next generation of leading researchers (succession planning) and promote the development of early career researchers</li> <li>• demonstrate the ability to support early career researchers and international talent mobility for the proposed project aids with researcher mobility</li> </ul>
v. Applicant and team capability to deliver	<p>To what extent has the applicant, and if relevant their team, demonstrated they have:</p> <ul style="list-style-type: none"> <li>• the relevant experience (appropriate to career stage) to deliver the proposed work</li> <li>• the right balance of skills and expertise to cover the proposed work</li> <li>• the appropriate leadership and management skills to deliver the work and their approach to develop others</li> <li>• contributed to developing a positive research environment and wider community</li> <li>• sufficient research achievements to demonstrate current or potential high level of international standing within global research community within relevant research fields</li> </ul>
vi. Resources and cost justification	<p>To what extent has the applicant demonstrated that the resources needed for the proposed work:</p> <ul style="list-style-type: none"> <li>• are comprehensive, appropriate, and justified</li> <li>• represent the optimal use of resources to achieve the intended outcomes</li> <li>• maximize potential outcomes and impacts</li> </ul>