Empowering Science, Inspiring Futures

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Japan Science and Technology Agency (JST)

JST and MST (Vietnam) jointly to fund six research projects in the "Semiconductors" field under the NEXUS program

The Japan Science and Technology Agency (JST) has approved funding for six new international joint research projects under the framework of Networked Exchange, United Strength for Stronger Partnerships between Japan and ASEAN (NEXUS[*1]), Japan-Vietnam international joint research in the field of Semiconductors (Appendix 1).

NEXUS is a flexible and multi-layered cooperative framework, leveraged by the long history of science and technology cooperation between Japan and ASEAN. It is aimed to further strengthen the cooperative research relationship between Japan and ASEAN as partners in co-creating innovations in science and technology. One of the initiatives, "International Joint Research," NEXUS supports international joint research in common priority challenges between both sides.

In collaboration with the Ministry of Science and Technology (MST[*2]), JST has conducted a call for proposals for international joint research projects. In addition, this call also supports initiatives for fostering researchers' capacity building that contribute to international joint research. We received 16 applications for this call, and after evaluation by experts from both countries (Appendix 2) and consultations between JST and MST, we have decided to select six projects for funding.

The research period is planned for three and a half years (42 months).
For further details of the funded projects, please refer to the website below.
https://www.jst.go.jp/aspire/nexus/en/project/index.html

*1 NEXUS:
Networked Exchange, United Strength for Stronger Partnerships between Japan and ASEAN
https://www.jst.go.jp/aspire/nexus/en/index.html

*2 MST:
Ministry of Science and Technology, Vietnam
https://beta-en.mic.gov.vn/

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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.

Appendix 1

List of the selected projects

No.	Project Title	Principal Investigator (Japan side) / Principal Investigator (Vietnam side)
1	Research on the Next-Generation Integrated Electronic Devices Utilizing Two-Dimensional/Spintronic Structures	ENDOH Tetsuo (Professor/Director, Center for Innovative Integrated Electronic Systems, Tohoku University)
		Do Thi Huong Giang (Associate Professor, Faculty of Engineering Physics and Nanotechnology, VNU University of Engineering and Technology, Vietnam National University, Hanoi)
2	Co-Design of Two-Dimensional Semiconductor Materials and MEMS Devices for Smart Sensing and Sustainable Energy Applications	ONO Takahito (Professor, Graduate School of Engineering, Tohoku University)
		Tran Van Khai (Associate Professor, Faculty of Materials Technology, Ho Chi Minh City University of Technology, Vietnam National University, Ho Chi Minh City)
3	Research and Development of a Low-Power Event-Driven Artificial Intelligence System-on-Chip for Edge Computing	DANG Nam Khanh (Associate Professor, Department of Computer Science and Engineering, The University of Aizu)
		Hoang Van Phuc (Director/Associate Professor, Institute of System Integration, Le Quy Don Technical University)

No.	Project Title	Principal Investigator (Japan side)
		Principal Investigator (Vietnam side)
4	Establishment of Innovative Material and Process Development Technologies for Next-Generation Compound Semiconductor Devices	HAMAGUCHI Satoshi (Specially Appointed Professor, R^3 Institute for Newly-Emerging Science Design, The University of Osaka)
		Tran Quoc Tien (Associate Professor, Institute of Materials Science, Vietnam Academy of Science and Technology)
5	Development of Highly Sensitive Sensing Technology for DNA Mutations Based on Low-Dimensional Semiconductor Materials	HAYAMIZU Yuhei (Professor, School of Materials and Chemical Technology, Institute of Science Tokyo)
		Nguyen Xuan Viet (Associate Professor, Faculty of Chemistry, VNU University of Science, Vietnam National University, Hanoi)
6	Edge AI Semiconductor: From Materials to System Integration	PHAM Nam Hai (Professor, Department of Electrical and Electronic Engineering, Institute of Science Tokyo)
		Nguyen Tran Thuat (Director/Associate Professor, Semiconductor and Advanced Materials Institute, Vietnam National University, Hanoi)

Appendix 2

Experts for the evaluation (JST side)

Name	Position and organization	Role
HIRAMOTO Toshiro	Senior Fellow, Systems Design Lab (d.lab), School of Engineering, The University of Tokyo	Program Officer
UEDA Akiko	Team Leader, Semiconductor Frontier Research Center, National Institute of Advanced Industrial Science and Technology	Advisor
SAITO Wataru	Professor, Research Institute for Applied Mechanics, Kyushu University	Advisor
SAKAMOTO Noriaki	Senior Director, Strategic Production Planning Division, Renesas Electronics Corporation	Advisor
NAGASHIO Kosuke	Professor, Graduate School of Engineering, The University of Tokyo	Advisor
NUMATA Toshinori	Professor, Graduate School of Engineering, Toyota Technological Institute	Advisor
MIYAJI Kousuke	Professor, Faculty of Engineering, Shinshu University	Advisor
MOTOMURA Masato	Professor, Institute of Integrated Research, Institute of Science Tokyo	Advisor
YAMADA Hirohito	Visiting Professor, Resilient EICT Research Promotion Office, Tohoku University	Advisor

(Advisors are listed in order of the Japanese syllabary.)
(Position and organization are as of the time of evaluation.)