

e-ASIA Joint Research Program (e-ASIA JRP)
Joint Research Project in the field of “Materials (Nanotechnology)”
on the topic of “Innovative Materials”.

It is our great pleasure to announce the selected projects of the e-ASIA Joint Research Program (e-ASIA JRP)*¹ 8th Call for Proposals in the field of “Materials” on the topic of “Innovative Materials”.

A total of 22 proposals was submitted in response to the 8th joint call for proposals. After careful consideration based on the peer review results by the 7 funding organizations from 7 countries participating in the call*², the following 3 collaborative projects were selected for support with the approval of the e-ASIA JRP Board. Support to the projects will continue for three years.

“Development of innovative nanobiodevices based on hybrid materials by combination of endemic South Asian biomolecules and nanocarbons”

to be conducted jointly by:

Japan: Kazuo Umemura, Professor, Tokyo University of Science

Vietnam: Anh-Tuan Mai, Director, Ministry of Science and Technology

Philippines: Leo Cristobal II Ambolode, Professor, Mindanao State University – Iligan Institute of Technology (MSU-IIT)

Indonesia: Eko Siswoyo, Assistant Professor, Islamic University of Indonesia

This cooperative research project aims to develop innovative nanobiodevices by combining endemic South east Asian biomolecules and nanocarbons. The new hybrids will be applied to various sensors to solve environmental problems in Asia. The nanobiosensors can detect specific pollutants in waters which shall be removed. The hybrids can be integrated with microfluids, and will be enhanced by near infrared sensing system.

“Development of New Functional Polymers from Plant Oils by Efficient Catalytic Carbon-Carbon Bond Formation, Post-Modifications”

to be conducted jointly by:

Japan: Kotohiro Nomura, Professor, Tokyo Metropolitan University

Thailand: Boonyarach Kitiyanan, Professor, Chulalongkorn University

Philippines: Gilbert Yu, Assistant Professor, Ateneo de Manila University

This international cooperative research project aims to develop new biodegradable and recyclable functional polymers from plant oils by precise olefin (metathesis) polymerization in the presence of catalysts, and the subsequent post-modifications for exhibiting the target properties. The project also aims to develop new efficient catalytic process for synthesis of monomers which do not use hazardous reagents, harsh conditions.

“Microfluidic nanowires coupled with gold nanoparticles for Dengue viral disease diagnosis”

to be conducted jointly by:

Japan: Takao Yasui, Associate Professor, Nagoya University

Thailand: Sakon Rahong, Lecturer, King Mongkut’s Institute of Technology Ladkrabang

Indonesia: Mitra Djamal, Professor, Institut Teknologi Bandung

This cooperative research project aims to develop a comprehensive analysis methodology for Dengue viral disease diagnosis using microfluidic oxide nanowires coupled with gold nanoparticles. Since mosquito-borne Dengue viruses have emerging highly contagious, Dengue infection become a worldwide health problem in a recent year. Our approach will provide an efficient tool for highly sensitive, specific, and rapid detection of Dengue infection.

On behalf of the e-ASIA JRP, we would like to offer our sincerest congratulations to the project teams, and look forward to the significant impact their results will bring to the energy situation of the future.

*1 The e-ASIA Joint Research Program (e-ASIA JRP)

Through the acceleration of science and technology research exchange and collaboration in the East Asian region, the e-ASIA Joint Research Program (e-ASIA JRP) aims to strengthen research and development capabilities towards resolution of shared challenges across the region, including those associated with materials, alternative energy, agriculture, health research, disaster risk reduction and management, advanced interdisciplinary research towards innovation, and environment. As part of that objective, the e-ASIA JRP is intended to support collaborative research implemented among 3 or more of its member countries. Through the implementation of joint research among participating countries in agreed fields of research, it is the goal of the e-ASIA JRP to contribute to economic and human resource development, as well as the resolution of various challenges in the region.

e-ASIA JRP’s homepage: <http://www.the-easia.org/jrp/>

*2 The list of organizations participating in the 8th joint call for proposals in the field of “Materials”:

- Ministry of Research and Technology/ National Research and Innovation Agency (RISTEK/BRIN), Indonesia
URL: <https://international.ristekdikti.go.id/>
- Japan Science and Technology Agency (JST), Japan
URL: <http://www.jst.go.jp/EN/index.html>

- Ministry of Science and Technology (MOST), Lao PDR
URL: <https://www.most.gov.la/index.php/en>
- Department of Science and Technology (DOST-PCIEERD), Philippines
URL: <http://pcieerd.dost.gov.ph/>
- Russian Foundation for Basic Research (RFBR), Russia
URL: <http://www.rfbr.ru/rffi/eng/>
- National Science and Technology Development Agency (NSTDA), Thailand
URL: <https://www.nstda.or.th/en/index.php>
- Ministry of Science and Technology (MOST), Vietnam
URL: <https://www.most.gov.vn/en/Pages/home.aspx>

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