

Feature: Networking Expands Research Potentialities

GREMO advances societal implementation with mobility models designed to meet local needs in the ASEAN region.

An international association that can promote academic exchange and cooperation is essential to challenge international social issues. Green Mobility Research Institute (GREMO) in the Institutes of Innovation for Future Society at Nagoya University has established partnerships with Chulalongkorn University (Chula), Hanoi University of Science and Technology (HUST), and the National University of Laos (NUOL) to address the increasing traffic jams and accidents in the ASEAN region.



Background

Nagoya University concluded agreements for academic exchange and cooperation with Chula in 1992, HUST in 2009, and NUOL in 2001.

In 2013, taking advantage of the adoption of the 2013–2015 JSPS Core-to-Core Program “Establishment of Educational Hub on Biomass-based Material Research for Green Mobility (core institute: GREMO),” Chula, HUST, and Nagoya University concluded a triangular agreement for academic exchange and cooperation. Since then, they have mutually organized seminars and joint research, and facilitated the exchange of young researchers and students.

These universities expanded this agreement by introducing NUOL in 2016, GREMO and these core-partners have established a research hub adopted by the 2016–2018 JSPS Core-to-Core Program, “Establishment of Research Hub for Compact Mobility Model in the ASEAN Region” to develop compact mobility models, especially in the ASEAN region, that pursue safety, comfort, and are environmentally friendly.

For the development of compact mobility models to pursue safety, comfort, and are environmentally friendly in the ASEAN region, a joint research is essential to advance.

International association to challenge increasing traffic jams and accidents in the ASEAN region

With the ASEAN region's growing economy, cars and motorcycles are becoming significant; their popularity amongst the people is increasing. Besides the highly required situation of mobility in society, the increasing number of traffic jams and accidents is also important. This leads us to address the issues regarding mobility model designs and transportation infrastructure and rules.

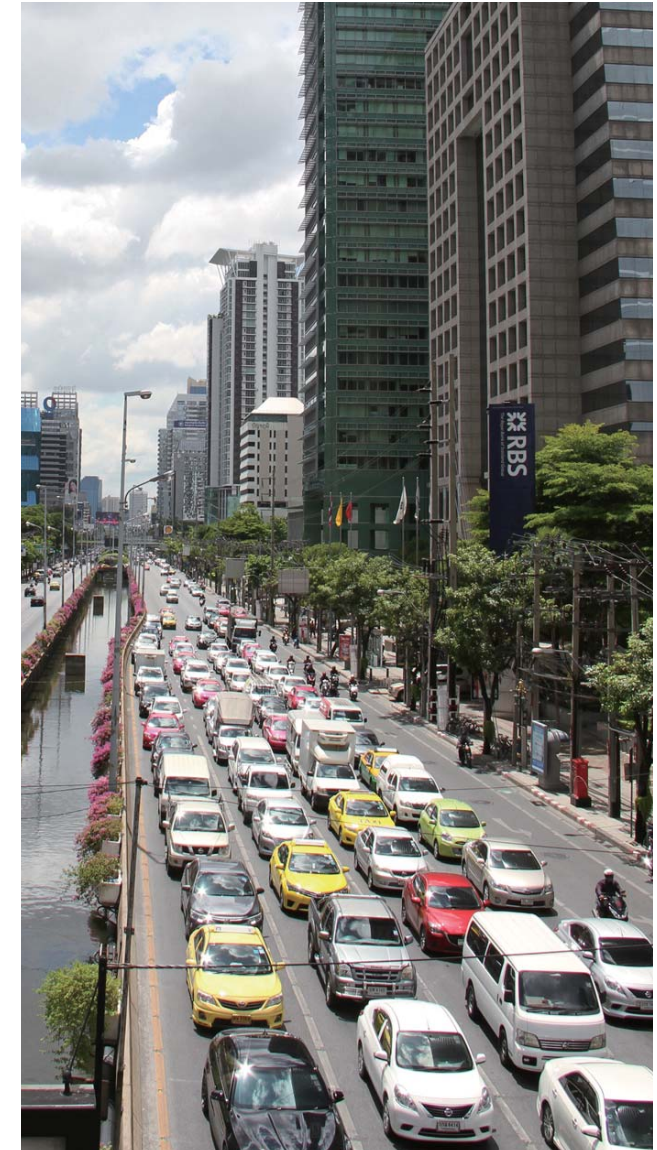


Business–Academia Collaborative Forum was held on February 26, 2016, organized by Smart Mobility Research Center of Chulalongkorn University and GREMO.

GREMO, the core research institute for mobility research at Nagoya University, highlights the strengths of the world-leading nanomaterials, control system, and social infrastructure technologies in the development of innovative personal mobility. Through the advancement of international collaboration between industries, academia, and governments, GREMO directs societal implementation by promoting academic research and fostering young researchers' and students' international perspectives.

Establishment of the educational hub in the 2013–2015 JSPS Core-to-Core Program

“Even a personal relationship between researchers opens up a frontier, which can expand research potentialities into the world,” remarked Assoc. Prof. Dr. Yuki Kamimoto at GREMO. From researchers' personal network, in fact, GREMO has successfully established an educational hub, inspired by the 2013–2015 JSPS Core-to-Core Program, that addresses global social issues with Chula and HUST. Under the triangular agreement for academic exchange and cooperation between the universities, three main activities of seminars, internships, and student exchange were accomplished for enhancing and exchanging research ideas.



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Researchers can develop a deeper understanding of academic interests during seminars held by each university. More specifically, Thai and Vietnamese researchers and students were asked to attend a short-term internship program to understand future scientific research themes from an international perspective. In fact, several themes have already produced research results, which are now the achievements of this program.

The student exchange program was also beneficial for their research activities because they could deepen the bond of friendship and enhance their international perspective to help solve international social issues. During the program, three Ph.D. students from Thailand and a Master's student and a researcher from Vietnam attended and studied in laboratories at Nagoya University, and conducted their research together for three months. With their enthusiasm and

the use of high-performance research instruments at Nagoya University, these students could advance their research and have now achieved research results. Three Master's and Ph.D. students and a Master's student from Nagoya University also participated in the program and studied for three months at Chula and HUST, respectively. They appreciated the lab members' hospitality and could deepen their friendships. Their experiences enhanced their international perspectives, and further motivated them. "Networking expands research potentialities, which can lead to the proposing of further interdisciplinary collaborative research," added Assoc. Prof. Dr. Kamimoto.



Designing mobility models to meet local needs in the ASEAN region

Continuously expecting local industrial development and education based on the established hub, the next challenge was societal implementation with respect to the increasing traffic jams and accidents in the ASEAN region. After inducting NUOL as a new partner, the universities established a research hub to design mobility models in the ASEAN region, which was adopted by 2016–2018 JSPS Core-to-Core Program. They re-concluded an agreement for academic exchange and cooperation between the four universities and began investigating recent mobility models considering their safety, affordable price, comfortability, and environmental friendliness to meet local needs.

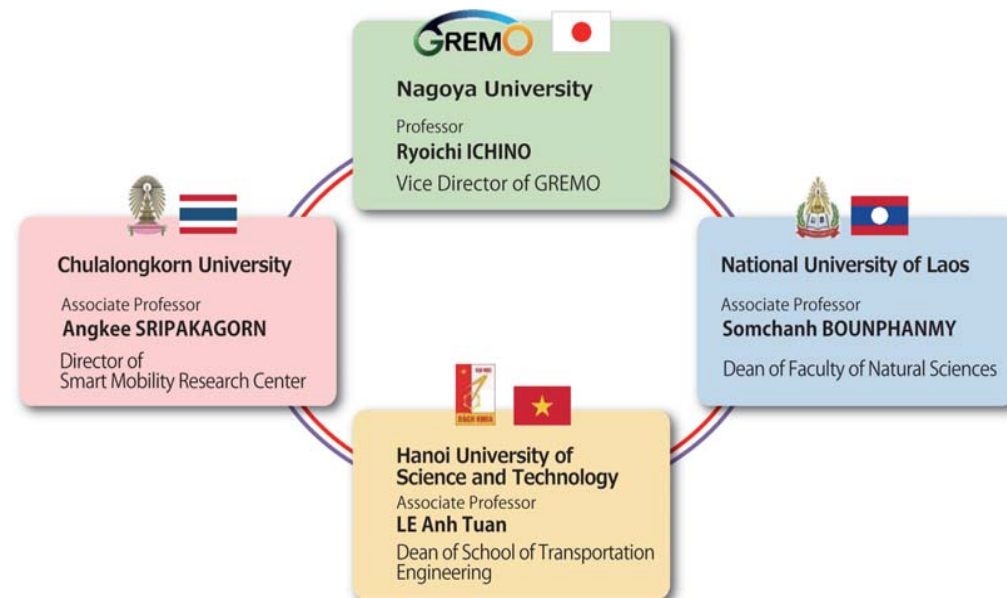
In the ASEAN region, compact mobility, such as the use of motorcycles, has remained a perennial favorite; for example, the motorcycle ownership ratio in Thailand was one-third in 2013 while it was one-eleventh in Japan. Considering its importance in the designing of compact models for mobility for the local needs of society, this hub will advance a joint research in safety and traffic modeling, and energy

production and storage. Moreover, it is essential to collaborate with experts in the fields of economics, legal affairs, diplomatic relations, and education to execute industrial development and education.

“We are not only producing research results, but also expanding networks,” said Assoc. Prof. Dr. Kamimoto. All researchers are encouraged to undertake

interdisciplinary collaborative research, and break down barriers such as researchers’ personal fears and capabilities.

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GREMO, Chula, HUST, and NUOL have established a research hub for compact mobility model in the ASEAN region adopted by the 2016–2018 JSPS Core-to-Core Program.