European Commission

Southeast Asia-Europe

Joint Funding Scheme for Research and Innovation

Brief Introduction &
Funded Research Projects
Calls 1-4

Research and Innovation

Southeast Asia – Europe Joint Funding Scheme for Research and Innovation: Brief Introduction & Funded Research Projects Calls 1-4

European Commission
Directorate-General for Research and Innovation
Directorate Directorate RTD – Research and Innovation
Unit F.2 – International Cooperation II

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EUROPEAN COMMISSION

Southeast Asia-Europe

Joint Funding Scheme for Research and Innovation

Brief Introduction &
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2021

Directorate General for Research and Innovation
Supported by the European Commission through Horizon 2020

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IN **BRIEF**

What is the JFS?

The JFS is an instrument to launch bi-regional, multilateral Joint Calls for Research Proposals on an annual basis. The thematic areas are of common interest and jointly decided by the participating funders for each call. So far, seven JFS Calls have been launched.

Funding for research projects is provided by funding organizations at national, regional or local level from Southeast Asia and Europe.

The JFS uses a virtual common pot with a just-retour principle. This means that each participating funding organization funds „its own researchers". There is no cross-funding. Exemptions can apply only for the optional support of partners from Cambodia, Lao PDR and Myanmar.

Usually, the following costs are eligible for funding: Personal costs, Mobility, Workshops and Consumables

All funders agree to follow certain basic principles such as the topics selected for a call or the so-called 2+1 rule, which ensures the bi-regional and multilateral dimension of each project consortium funded by the JFS. But the specific funding of researchers is according to the own rules of each participating funder which are laid down in the National Regulations.

The central management of the JFS is supported by the European Commission (EC) under ist Service Facility in Support of the Strategic Development of International Cooperation in Research and Innovation. Since 2018, the JFS Call Secretariat is located in Southeast Asia.

JOINT FUNDING SCHEME – Phase 1 (2017-2018)

The JFS 1 fully focussed on implementing Joint Calls for Proposals. In 2017 and 2018, one JFS Call per year has been launched. The first joint call attracted 50 proposal submissions (10 projects funded) and 38 proposals were submitted to the second joint call (9 projects funded).

Call name	Topics	Launch date	Deadline	Participating countries
2017 1st Joint Call for Proposals on STI	Health, Environment, Climate Change	03. April 2017	30. June 2017	Belgium, Cambodia, France, Germany, Lao PDR, Philippines, Poland, Spain, Sweden, Switzerland, Thailand, Turkey
2018 2nd Joint Call for Proposals on STI	Bioeconomy, Infectious Diseases	18. June 2018	18. September 2018	Belgium, Brunei Darussalam, Bulgaria, Cambodia, France, Germany, Indonesia, Lao PDR, Myanmar, Philippines, Poland, Sweden, Switzerland, Thailand, Turkey

The enhanced JOINT FUNDING SCHEME – Phase 2 (2019-2021)

The first phase of the JFS (JFS 1) ended in June 2019. Due to the high success and the growing interest of funding organizations in the JFS, the EC decided to support the continuation of the JFS for another 2,5 years. The **second phase of the JFS (JFS 2)** is an **enhanced version of JFS 1** and includes a number of new activities to diversify the opportunities of joint project funding, further extend the already existing network of Southeast Asian and European science, technology and innovation institutions and lift the research cooperation between the two regions to the next level.

In 2019 and 2020, the JFS 2 launched two specific calls in parallel, one for S&T projects, which are closer to basic research (lower TRL) and one for innovation projects, which are closer to the market (higher TRL).

Call name	Topics	Launch date	Deadline	Participating countries
2019 3rd Joint Call for Proposals on S&T	Integrated Water Resource Management (IWRM), Nanotechnologies	25. June 2019	18. October 2019	Brunei Darussalam, Cambodia, Czech Republic, Germany, Indonesia, Lao PDR, Myanmar, The Philippines, Switzerland, Thailand, Turkey, Vietnam
2019 4th Joint Call for Proposals on Innovation	Infectious Diseases (incl. AMR), Smart Cities	25. June 2019	18. November 2019	Cambodia. Czech Republic, Indonesia, Lao PDR, Myanmar, The Philippines, Spain, Thailand, Turkey, Vietnam

UPCOMING JOINT CALLS FOR PROPOSALS

The projects of Call 5 and Call 6 have just started or are in the final phase of being granted. More details about the project information will be available soon, e.g. on our JFS website.

Call name	Topics	Launch date	Deadline	Participating countries
2020 5th Joint Call for Proposals on S&T	Infectious Diseases (Incl. COVID-19), Nanotechnologies	15. June 2020	15. December 2020	Belgium, Brunei Darussalam, Bulgaria, Cambodia, Czech Republic, Germany, Indonesia, Lao PDR, Myanmar, The Philippines, Switzerland, Thailand, Turkey, Vietnam
2020 6th Joint Call for Proposals on Innovation	Digital Health (Incl. Infectious Diseases), Bioeconomy (Incl Application of ICT-Based Technologies)	15. June 2020	15. January 2021	Brunei Darussalam, Bulgaria, Cambodia, Czech Republic, Indonesia, Lao PDR, Myanmar, The Philippines, Spain, Thailand, Turkey, Vietnam

With the kind support of the Indonesian Science Fund (DIPI) and the National Science Technology and Innovation Agency (NSTDA) from Thailand, a 7th JFS Call was launched. The results of the Call are envisaged to be published in May 2022.

Call name	Topics	Launch date	Deadline	Participating countries
2021 7th Joint Call for Proposals on STI	Sustainable Food Production, Climate Change: Resilience & Adaptation.	15. June 2021	15. October 2021	Belgium, Brunei Darussalam, Bulgaria, Cambodia, Czech Republic, Germany, Indonesia, Lao PDR, Malaysia Myanmar, The Netherlands, The Philippines, Spain, Switzerland, Thailand, Turkey

New under the JFS 2: Networking and matchmaking

In order to broaden the already existing network and support the setup of new powerful consortia for the submission of joint proposals, the EC funded two types of events.

CONFERENCE-ATTACHED JFS NETWORKING EVENTS

The JFS Service Delivery Team organized networking events attached to Southeast Asian and European International Conferences, such as the

- 14th Joint Conference on Chemistry (Solo, Indonesia)
- Bio Investment Asia 2019 (Bangkok, Thailand)
- Global Bioeconomy Summit 2020 (virtual)
- World Health Summit 2020 (virtual)

The events allowed excellent researchers to present their organization, research activities and project ideas to an international professional audience of their respective field. During discussions, partners for joint proposals were identified.

ASEAN LAB EXPLORATION TOURS

In September 2021, the JFS Service Delivery Team also organized two virtual „ Meet-My-Lab“ lab exploration tours in cooperation with EURAXESS ASEAN:

- Sustainable Food Production
- Climate Change: Resilience & Adaptation

During the events, 16 ASEAN researchers guided the audience through their laboratories and facilities demonstrating their equipment and test stands. The audience had the chance to learn about the impressing infrastrucure available in Southeast Asian laboratories and to get in touch with the researchers. The tour videos will be available at the media section of the JFS website soon

Meet My Lab x JFS on Climate Change: *Mrs. Dr. Saidina Amin from Universiti Teknologi Malaysia shows samples of biomass in the lab of the School of Chemical and Energy Engineering*

Meet My Lab x JFS on Climate Change: *Ms. Devanti from the Indonesia International Institute for Life-Sciences shows the bioreactor in the lab*

PARTNERING TOOL

A JFS Partnering Tool has been launched on the JFS website. Until now, more than 170 profiles of scientists and innovators from all around Southeast Asia, Europe and even beyond have registered.

Through their researcher profiles or even project ideas or partner requests, the registered researchers can easily be discovered by other researchers. Filter functions allow them to scan all profiles and identify their perfect partner.

https://www.sea-eu-jfs.eu/info-partnering-tool .

OVERVIEW OF FUNDED PROJECTS PROJECTS

1st SEA-EUROPE JOINT CALL (2017)

Thematic Areas	Acronym	Title	Involved countries	Project budget
Impacts of Climate Change on Ecosystems/ Biodiversity	CWSSEA	Assessments of vulnerability of mature and secondary forests to climatic water stress in Southeast Asia	Thailand Sweden France	346.130 €
	FRESHBIO	Freshwater biotas of the insular biodiversity hotspots of Southeast Asia: Diversity, biological states and uses	France 2x Germany The Philippines Indonesia 2x	179.620 €
	RESCuE	Monitoring and optimizing the design quality of mangrove restoration towards a sustainable coastal ecosystem management in Thailand and Mekong delta of Vietnam	France Germany Thailand 2x Vietnam	245.022 €
Adaptation/ Resilience of food production systems	ARC	Strengthening rice breeding programs in Laos and Thailand and developing climate-resilient rice varieties	Thailand 3x France Lao PDR 2x	141.102 €
Emerging infectious diseases	SKUD	The emergence of Skin Ulceration Diseases in Edible Sea Cucumbers in a Global Change Framework	Belgium (Wallonia) 2x Thailand France	178.085 €
	ThaiVacc	Novel Leptospirosis and Dengue Fever Vaccines for Thailand	Thailand Switzerland 2x France	361.254 €
	DeZi	A single component pentavalent Dengue-Zika vaccine preventing antibody-dependent enhancement phenomenon	France 2x Thailand Cambodia	276.600 €
Anti-microbial drug resistance	PlasmID-SEA	Plasmid Identification and Detection in South-East Asia - Enterobacteriaceae resistant to last resort Carbapenems and Colistin	Sweden 3x Thailand Lao PDR Vietnam	306.000 €
	FarmResist	Occupational risks for animal farmers to be colonised with animal-associated resistant bacteria in Thailand, impact on the faecal microbiota.	Switzerland Thailand France	354.628 €
	CAREChild	Containment of antibiotic resistance - measures to improve antibiotic use in pregnancy, childbirth and children	Sweden Lao PDR 4x Vietnam 2x	307.000 €
	Overall			2,7 Mio €

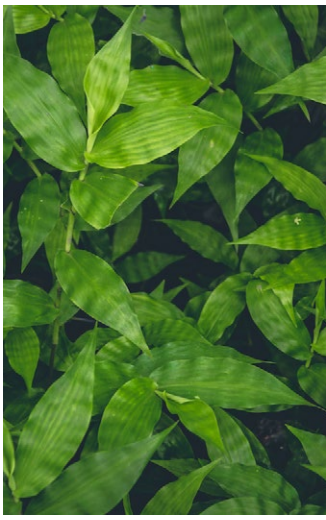
1ST Joint Call: Project Information

TOPIC: IMPACTS OF CLIMATE CHANGE ON ECOSYSTEMS/ BIODIVERSITY

CWSSEA

(2018-2021)

COUNTRIES: THAILAND, SWEDEN, FRANCE



The CWSSEA (Climatic Water Stress – Southeast Asia) project will study the functioning of tropical forests, particularly secondary forests in Thailand, and assess how they will respond to climatic water stress and the potential impacts of future climate scenarios in these ecosystems. This information will then assist in creating model predictions on the long-term scenarios of climate change impacts on forest ecosystem services, and influence future global policies to combat climate change.

The CWSSEA partners are:

- Chulalongkorn University, Bangkok, Thailand (Principal Coordinator)
- Kasetsart University, Bangkok, Thailand,
- National Science and Technology Development Agency, Pathum Thani, Thailand
- Swedish University of Agricultural Sciences, Umeå, Sweden
- Bordeaux Sciences Agro, Bordeaux, France

Contact: Pantana Tor-ngern: Pantana.t@chula.ac.th

FRESHBIO

(2018-2021)

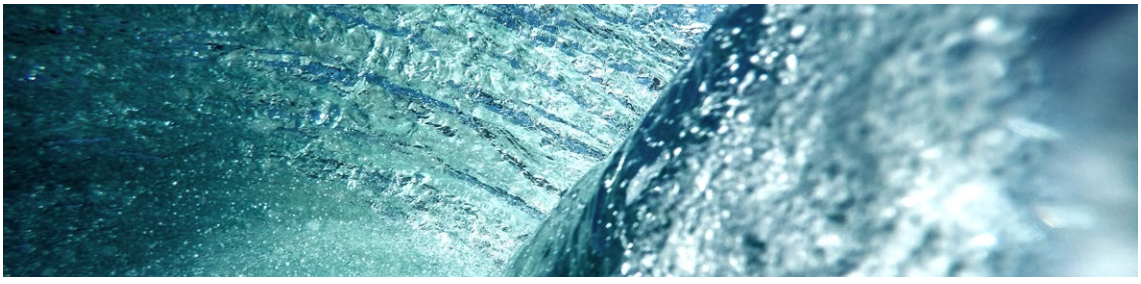
COUNTRIES: INDONESIA, PHILIPPINES, FRANCE, GERMANY

The FRESHBIO project studies the diversity, biological states and uses of freshwater biotas in the insular biodiversity hotspots of Southeast Asia. The team supports the DNA barcoding campaigns to build-up reference libraries for automated species identification and its application in environmental DNA barcoding. The project explores historical trends in population demography and species aggregation in ecological communities to address the state of aquatic biotas (expansion vs. contraction), and to estimate the impact of land conversion on diversity patterns through a geographic information system approach.

The FRESHBIO partners are:

- Institut de Recherche pour le Développement (IRD), France Sud, France (Principal Coordinator)
- Ateneo de Manila University (ADMU), Philippines
- Indonesian Institute of Sciences (LIPI), Indonesia
- Museum für Naturkunde (MfN), Germany
- Muséum National d'Histoire Naturelle (MNHN). France
- Institut de Recherche pour le Développement (IRD), Indonésie, Indonesia

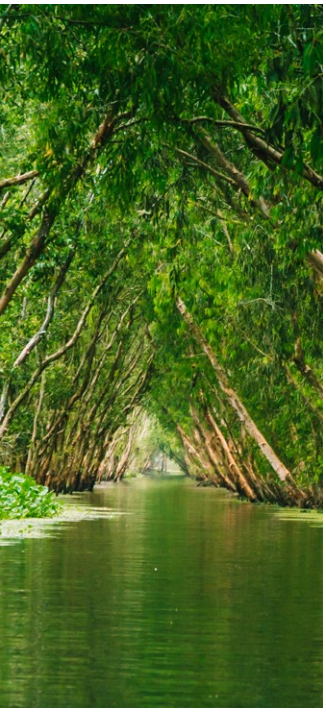
Contact: Nicolas Hubert: Nicolas.hubert@ird.fr



RESCuE

(2018-2021)

COUNTRIES: FRANCE, ITALY, GERMANY, JAPAN, THAILAND, VIETNAM



The RESCuE project will work to mitigate mangrove forest loss and degradation in Thailand and Vietnam. It will do this by developing databases to understand, conserve and rehabilitate mangrove areas. The team will then work with local communities to identify areas which are suitable for replanting mangroves, and hold trainings and workshops for local practitioners to ensure that the coastal ecosystem management in Thailand and Mekong delta of Vietnam remain sustainable in the future.

The RESCuE partners are:

- CIRAD, UPR Forests and Societies (F&S), Montpellier, France (Principal coordinator)
- LETG Rennes COSTEL, France
- European Commission, Joint Research Centre, Ispra (VA), Italy
- Technische Universität Dresden, Faculty of Environmental Sciences Tharandt, Germany
- X-ability Co. Ltd, Tokyo, Japan
- The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology, Bangkok, Thailand
- Department of Silviculture, Faculty of Forestry, Kasetsart University, Bangkok, Thailand
- Department of Land Resource, College of Environment and Natural Resources, Can Tho university, Vietnam
- Royal Forest Department, Bangkok, Thailand

Contact: Prof. Valery Gond: valery.gond@cirad.fr

TOPIC: ADAPTATION/ RESILIENCE OF FOOD PRODUCTION SYSTEMS

Climate-resilient rice

(2018-2021)

COUNTRIES: THAILAND, LAOS, FRANCE

This project works on the strengthening of rice breeding programs in Laos and Thailand and on the development of climate-resilient rice varieties. It uses a varietal improvement process based on the most advanced knowledge of traits which are affected by climate change, such as high temperatures (that cause yield losses due to rice flowers' sterility), and use proven methods of marker-assisted selection on a state of the art breeding data-management system.

The "Climate-resilient rice" partners are:

- Rice Gene Discovery Unit, BIOTEC, NSTDA, Pathumthani, Thailand (Principal Coordinator)
- Agriculture Research Center (ARC), National Agriculture and Forestry Research Institute (NAFRI), Vientiane, Lao PDR
- CIRAD, Montpellier, France

Contact: Jonaliza L. Siangliw: jonaliza.sia@biotec.or.th

TOPIC: EMERGING INFECTIOUS DISEASES

SKUD

(2018-2021)

COUNTRIES: BELGIUM, THAILAND, FRANCE

The SKUD project studies the emergence of diseases, especially SKUDs, in edible sea cucumbers outside Madagascar, including Thailand and France, within a global change framework. The team aims to firstly make a survey of parasites and diseases of two edible sea cucumbers (Holothuria forskali in France and Holothuria scabra in Thailand), and will then determine the cause(s) of SKUDs on these species. With this information, the team assesses the effects of increased temperature and decreased pH, at values commensurate with predicted global changes, on SKUD prevalence and development.

The SKUD partners are:

- Igor EECKHAUT/ University of Mons, Belgium (Principal Coordinator)
- Anchana PRATHEP / Prince of Songkla University, Thailand
- Philippe DUBOIS / Free University of Brussels, Belgium
- Nadia AMEZIANE / Muséum National d'Histoire Naturelle, Station de Biologie Marine de Concarneau, France

Contact: Igor Eeckhaut: Igor.Eeckhaut@umons.ac.be

ThaiVacc

(2018-2021)

COUNTRIES: THAILAND, SWITZERLAND, FRANCE

The ThaiVacc project aims to research on and develop novel vaccines for leptospirosis and dengue fever. By working with an international team of researchers in Thailand, Switzerland and France, the project will not only help in strengthening the potential in vaccine research and development in Thailand, but will allow for knowledge and technology transfer between project partners in Europe and Southeast Asia.

The ThaiVacc partners are:

- Chula Vaccine Research Center (Chula VRC), Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand (Principal Coordinator)
- University of Lausanne (UNIL), Lausanne, Switzerland
- University of Geneva (UNIGE), Geneva, Switzerland
- Université Jean Monnet Saint-Etienne (UJM), Saint-Etienne, France

Contact: Assoc. Prof. Dr. Kanitha Patarakul, MD, PhD: Kanitha.Pa@chula.ac.th

DeZi

(2018-2021)

COUNTRIES: FRANCE, THAILAND, CAMBODIA

The DezZi project aims to produce a single component pentavalent Dengue-Zika vaccine preventing antibody-dependent enhancement phenomenon. It aims to address the bottleneck of flavivirus vaccine development starting from the hypothesis that development of these vaccines should be based on an integrative approach by studying cross-reactivity among flaviviruses.

The DeZi partners are:

- Institut Pasteur, Paris, France (Principal Coordinator)
- Bionet Asia, Bangkok, Thailand
- Institut Pasteur Cambodia, Phnom Pehn, Cambodia
- InCellArt, Nantes, France

Contact: Anavaj Sakuntabhai: anavaj@pasteur.fr

TOPIC: ANTI-MICROBIAL DRUG RESISTANCE

PlasmID-SEA

(2018-2021)

COUNTRIES: SWEDEN, THAILAND, LAOS, VIETNAM

This project uses smartphone-based microscopy to study antibiotic resistance. To do this, the researchers use a modern technique, based on optical DNA mapping, to analyse single plasmids through smartphone-based microscopy. The assay will then be transferred to a smartphone-based instrument, thus guaranteeing its long-term sustainable use in the region of Southeast Asia.

The PlasmID-SEA partners are:

- Chalmers University of Technology, Gothenburg, Sweden (Principal Coordinator)
- Siriraj Hospital, Mahidol University, Bangkok, Thailand
- University of Health Sciences, Vientiane, Lao PDR
- Vietnam National Children's Hospital, Hanoi, Vietnam (external partner)
- Karolinska University Hospital, Stockholm, Sweden

Contact: Fredrik Westerlund: fredrikw@chalmers.se

FarmResist

(2018-2021)

COUNTRIES: SWITZERLAND, THAILAND, FRANCE

This project studies the occupational risks for animal farmers to be colonised with animal-associated resistant bacteria, impact on the faecal microbiota. It uses a "One Health" approach, to investigate the occupational risk for pig and poultry farmers of catching animal-associated ESBL-E and colistin-resistant enterobacteria. The research should lead to the development of preventive measures for avoiding the transmission of zoonotic bacteria from animal to farmers, as well as to reducing the spread of antibioresistance in the environment.

The FarmResist partners are:

- IST, Lausanne University, Switzerland (Principal Coordinator)
- Siriraj Hospital, Mahidol University, Thailand
- Kasetsart University, Bangkok, Dpt of Farm Resources and Production Medecine. Thailand
- Chiang Mai University, poultry clinic. Thailand
- Kasetsart University, Bangkok, Faculty Veterinary Technology, Thailand
- URMITE- IHU Méditerranée Infection, Marseille, France
- CNRS- Cirad, France
- IFIK, Bern University, Switzerland

Contact: Anne Oppliger: Anne.Oppliger@unisante.ch

CAREChild

(2018-2021)

COUNTRIES: SWEDEN, LAOS, VIETNAM

The CAREChild project aims to understand and improve antibiotic use in relation to pregnancy, childbirth and children in Lao PDR with the long-term aim of containing antibiotic resistance. The project team explores and assesses perceptions, knowledge, attitudes and actual as well as reported practice among health care providers and in the community. It estimates antibiotic prescribing in order to assess the situation of antibiotic resistance, focusing particularly on ESBLs in Escherichia coli in infections and carriage in faecal samples.

The CAREChild partners are:

- Karolinska Institutet. Sweden (Principal Coordinator)
- Ministry of Health, Department of Food and Drugs, Vientiane, Lao PDR
- University of Health Sciences, Vientiane Lao PDR
- National Institute of Public Health, Vientiane Lao PDR
- Health Department of Vientiane Capital, Vientiane Lao PDR
- Hanoi Medical University, Hanoi, Vietnam
- Hanoi University of Pharmacy, Hanoi, Vietnam

Contact: Cecilia Stålsby Lundborg: Cecilia.Stalsby.Lundborg@ki.se

OVERVIEW OF FUNDED PROJECTS

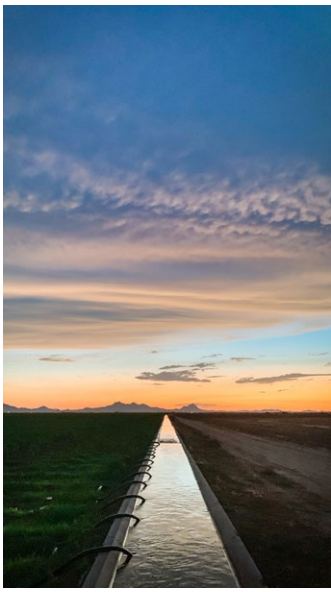
2nd SEA-EUROPE JOINT CALL (2018)

Thematic Areas	Acronym	Title	Involved countries	Project budget
Bioeconomy	Irrigation4.0	Strengthening agricultulture 4.0 technology in a Thailand-Myanmar-Germany collaboration: development of a plant-based irrigation 4.0 platform	Thailand, Germany, Myanmar	199.338 €
	BIOPLATE	Electroplating processes for biodegradable materials obtained from renewable biological resources	Germany, Switzerland, Thailand	426.715 €
	Purge2Value	Development of value added products with low environmental impact from the purge water of microalgae cultivation	Germany, Belgium, Thailand (2x)	253.455 €
Infectious Diseases	Moxistrong	Moxidectin for Strongyloidiasis	Switzerland, Lao PDR, Cambodia	214.680 €
	MalHivPOCT	Development of paper based rapid diagnostic kits for Malaria and HIV drug resistance detection using recombinase polymerase amplification	Thailand, Philippines, Indonesia, Germany	487.849 €
	PHIShiNg	Paper based Hepatitis B Virus Electrochemical Immunosensors using AgNPs enhancement	France, Thailand, Indonesia	49.000 €
	PNEUMOFLUIDICS	Development of a microfluidic chip protein array as a serodiagnostic tool of early detection of pneumococcal infection	Spain, Germany, Indonesia, Myanmar	613.950 €
	SEA-dog-SEA	Socio-Ecological Approach of Dog-borne zoonotic diseases in Southeast Asia	Thailand, Indonesia, Belgium	160.000 €
	NEWTONIAN	New tools for the regional control of Asian liver fluke infection and associated severe liver diseases	Switzerland, Lao PDR, Cambodia. Thailand	322.054 €
Overall				2,7 Mio €

TOPIC: BIOECONOMY

Irrigation 4.0

(01.07.2019 - 30.06.2022)
COUNTRIES: THAILAND, GERMANY, MYANMAR



The objective of the project is to improve a soil moisture and evapotranspiration-based irrigation scheduling system in a wireless sensor network (WSN) platform. It focuses on two different plant species and production systems that require appropriate irrigation to achieve high yields: high-value fruit orchards (durian) and an arable crop (maize). These were chosen in order to maximize the project's potential application areas, to raise its scientific value in terms of plant water use for a tree species and an annual C4 monocot crop, and to challenge the technology under different scenarios.

The Irrigation4.0 partners are:

- National Electronics and Computer Technology Center, National Science and Technology Development Agency, Thailand (Principal Coordinator)
- Forschungszentrum Jülich, Institute of Bio- and Geosciences, IBG-2: Plant Sciences, Germany
- Faculty of Computer Systems and Technologies, University of Computer Studies, Yangon, Myanmar

Contact: Teera Phatrapornnant: teera.phatrapornnant@nectec.or.th

BIOPLATE

(01.07.2019 - 30.06.2022)
COUNTRIES: GERMANY, SWITZERLAND, THAILAND

This project works on the development of electroplating processes for biodegradable materials obtained from renewable biological resources. Biopolymers from renewable raw materials are used in the field of "Plating On Plastic" (POP) to replace non-biodegradable and oil-based materials. From this point of view, the project will have a beneficial impact for the societal change from "oil-based to green" by the intermediate of more sustainable consumable goods, packaging and vehicles.

The BIOPLATE partners are:

- raunhofer-Institut für Produktionstechnik und Automatisierung, Germany (Principal Coordinator)
- University of Applied Sciences and Arts Western Switzerland Valais Wallis, Switzerland
- Metallurgy and Materials Science Research Institute, Chulalongkorn University, Bangkok ,

Contact: Martin Metzner: martin.metzner@ipa.fraunhofer.de

Purge2Value

(01.07.2019 - 30.06.2022)

COUNTRIES: GERMANY, BELGIUM, THAILAND

The Purge2Value project works on value added products with low environmental impact stemming from the purge water of microalgae cultivation. The aim of the project is twofold: Firstly, the integration of a second biological process shall serve as a purge Arthrospira wastewater cleaning step. Secondly, the produced biomass or parts thereof (yeast extract, lipids etc.) represent additional product streams with the potential to serve as a valuable food product of or a recycle stream for existing or as an organic alternative media for existing A. platensis production plants.

The Purge2Value partners are:

- Hochschule Biberach, Institut für Angewandte Biotechnologie, Germany (Principal Coordinator)
- University of Mons, Belgium
- Muhamet Dörtkardes Energaia Co. Ltd, Bangkok, Thailand
- Ramkhamhaeng University Bangkok, Thailand

Contact: Heike Frühwirth: fruehwirth@hochschule-bc.de

TOPIC: INFECTIOUS DISEASES

Moxistrong

(01.07.2019 - 30.06.2022)

COUNTRIES: SWITZERLAND, LAOUS, CAMBODIA

The overarching goal of this project is to assemble for the first time key data on the safety and efficacy and pharmacokinetics of moxidectin for the treatment of strongyloidiasis. It involves four highly multi-disciplinary, interlinked objectives. 1.) What is the efficacy and safety of ascending moxidectin doses (2-12 mg versus placebo) against S. stercoralis infections in adults? 2. Can dried blood spots (DBS) be used to analyse pharmacokinetic (PK) properties of moxidectin? 3. What are key PK parameters of moxidectin in patients infected with S. stercoralis? 4. What is the safety and efficacy of moxidectin against S. stercoralis compared to the drug of choice ivermectin?

The Moxistrong partners are:

- Swiss Tropical and Public Health Institute. Switzerland (Principal Coordinator)
- Lao Tropical and PublicHealth Institute, Lao PDR
- National Centre for Parasitology, Entomology and Malaria Control, Cambodia

Contact: Jennifer Keiser: jennifer.keiser@unibas.ch

MalHivPOCT

(01.07.2019 - 30.06.2022)

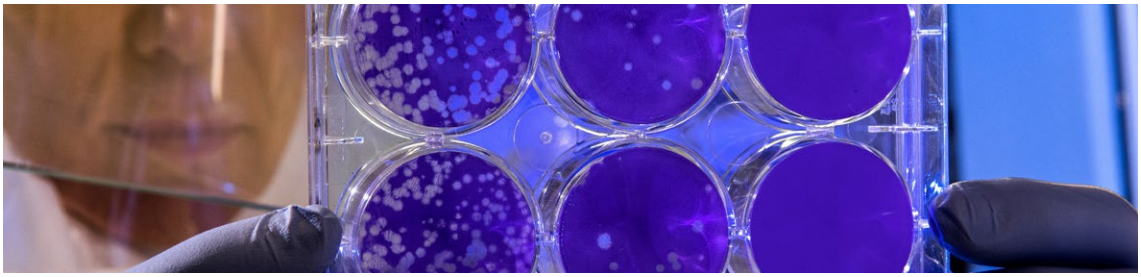
COUNTRIES: THAILAND, INDONESIA, PHILIPPINES, GERMANY

The MalHivPOCTs project aims to develop rapid point-of-care diagnostic devices that will detect Malaria (Plasmodium genus and two species of Plamodium) and HIV drug resistance to antiretroviral using isothermal amplification methods, paper-based microfluidics and visual readout. It involves parallel developments of the different components of the paper-based device from 4 partners (Germany, Indonesia, Philippines and Thailand) and, hence, takes advantage of their respective expertise in a collaborative effort.

The MalHivPOCT partners are:

- National Center for Genetic Engineering and Biotechnology (BIOTEC), Pathum Thani, Thailand, (Principal Coordinator)
- King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand
- Universitas Brawijaya (UB), Brawijaya, Indonesia,
- University of the Philippines Manila, Manila (UPM), Manila, Philippines
- University of Regensburg (UREG), Regensburg, Germany
- Universitas Islam Indonesia (UII), Yogyakarta, Indonesia

Contact: Patsamon Rijiravanich: patsamon.rij@biotec.or.th



PHIShINg

(01.07.2019 - 30.06.2022)

COUNTRIES: FRANCE, THAILAND, INDONESIA

This project aims to develop new diagnostic tests of the Hepatitis B virus that should be inexpensive, easy to use and highly sensitive. To this end, paper-based label-free electrochemical immunosensor are designed to integrate silver nanoparticles as redox probes for signal enhancement of the assay. Special attention is carried out on the ease of synthesis and use.

The PHIShINg partners are:

- University of Cergy Portoise (UCG) , France (Principal Coordinator)
- Chiang May University (CMU), Thailand
- Brawijaya University (UB), Indonesia

Contact: Philippe Banet : philippe.banet@u-cergy.fr

PNEUMOFLUIDICS

(01.07.2019 - 30.06.2022)

COUNTRIES: SPAIN, GERMANY, INDONESIA, MYANMAR

This proposal describes a project consisting of the development of an innovative, point-of-care diagnostic tool for early detection of pneumococcal infection, one of the major causative agents of infectious diseases worldwide, with especial incidence in developing countries. The aim is to develop a microfluidic chip platform as a novel serodiagnostic tool for fast and reliable detection of pneumococcal infection of patients. The chip protein array shall overcome the current limitations in testing. Further, it will have a broad range of applications such as monitoring epidemiological episodes or the discovery of new protein vaccine candidates.

The PNEUMOFLUIDICS partners are:

- BRIO APPS ALPHASIP S.L ,Spain (Principal Coordinator)
- University of Greifswald, Germany
- Universitas Sam Ratulangi, Indonesia
- Biomedical Research Centre, Myanmar

Contact: José Antonio Munoz Faure: joseantonio.munoz@alphasip.es

SEA-dog-SEA

(01.07.2019 - 30.06.2022)

COUNTRIES: FRANCE, BELGIUM, THAILAND

This project is focussing on the Socio-Ecological Approach of Dog-borne zoonotic diseases in Southeast Asia. It studies the social and ecological dimensions of dog zoonotic diseases in rural sites selected in Indonesia (Bali), with additional sites in Cambodia and Thailand supported by complementary surveys. The comparisons between countries will highlight the main drivers of dog-associated zoonotic risks and allow for improved management of dog populations for better prevention of spill-over risks.

The SEA-dog-SEA partners are:

- Centre de coopération internationale en recherche agronomique pour le développement, France (Principal Coordinator)
- Conservation Genetics Laboratory, Institute of Botany, Belgium
- Gadjah Mada University, Indonesia

Contact: Dr. Michel Garine Wichatitsky: degarine@cirad.fr

NEWTONIAN

(01.07.2019 - 30.06.2022)

COUNTRIES: SWITZERLAND, LAOS, CAMBODIA, THAILAND

The Asian liver fluke Opisthorchis viverrini is intensively transmitted in Southeast Asia (SEA) and causes a multitude of severe pathologies including cholangiocarcinoma (CCA), a fatal bile duct cancer. The objectives of this project are (1) to regionally validate a promising rapid diagnostic tests for O. viverrini infection in field sites in Cambodia, Lao PDR and Thailand; (2) to compile existing data on O. viverrini infection and associated mortality and morbidity and complement them with additional survey data in areas where only sparse information is available; (3) and to predict the risk of O. viverrini infection and related mortality and morbidity across SEA.

The NEWTONIAN partners are:

- Swiss Tropical and Public Health Institute, Switzerland (Principal Coordinator)
- Lao Tropical and Public Health Institute, Lao PDR
- National Centre for Parasitology, Entomology and Malaria Control, Cambodia
- Khon Kaen University, Thailand

Contact: Prof. Peter Odermatt: peter.odermatt@swisstph.ch

OVERVIEW OF FUNDED PROJECTS

3rd SEA-EUROPE JOINT CALL (2019)

Thematic Areas	Acronym	Title	Countries involved	Project budget
Integrated Water Resource Management	DIRECTION	Water efficiency and yield stability through model based irrigation	Germany, Thailand, Vietnam	214.211 €
	FLOATCAT	Innovative floating photocatalyst with specific sorption function	Germany, Czech Republic, Vietnam	220.001 €
	REBECCA	Robust rivEr Basin planning under Extreme Climate events and fast socio-economic Changes	Switzerland, Italy, Germany, Vietnam	307.864 €
	IWRM DaMe	IWRM Danube & Mekong: Bi-regional IWRM Dialogue And Multi-Local Twinning for Small Scale Water Supply and Reuse	Germany, Vietnam, Laos, Bulgaria	307.864 €
Nanotechnologies	NAPARBA	Nanoparticle-based point of care detection of antibiotic-resistant bacteria	Germany, Indonesia, Turkey	570.147 €
	MOISTURE	Metal Oxide Hybrid Structured Barriers for Stable Energy Devices	Countries: Thailand, Philippines, Germany	361.389 €
	SiNanoBat	3D nano-engineered silicon anodes for high-energy-density lithium-ion rechargeable batteries	Germany, Indonesia, Thailand	595.00 €

TOPIC: INTEGRATED WATER RESOURCE MANAGEMENT

DIRECTION

(STARTED: 2021)
COUNTRIES: GERMANY, THAILAND, VIETNAM

Cassava yields can be significantly increased through irrigation, but their farmers lack guidance on when and how to irrigate. The DIRECTION project will study irrigation practices using a participatory approach and develop a mobile phone based decision support app. The project brings together plant eco-physiologists, engineers, agronomists, extension workers and cassava farmers in a set of three participatory workshops in which they exchange knowledge, identify challenges and design solutions. Solutions and results will be tested and monitored with recently developed on-farm sensor technology. One such solution will be model-based irrigation. The model will use on-farm sensory data and weather data to make yield predictions and deliver information through a mobile app. Necessary plant physiological data will be collected in managed trials on experimental farms and in targeted greenhouse experiments.

The DIRECTION partners are:

- Dr. Ir. Johannes A. Postma, Plant Sciences, Forschungszentrum Jülich, Juelich, Germany
- Asst. Prof. Dr Treenut Saithong, 2) Asst. Prof. Dr Saowalak Kalapanulak, 3) Dr. Warakorn Rattanaareekul & 4) Dr. Tanyarat Khongkhuntian. King Mongkut's University of Technology Thonburi (KMUTT), Bangkok, Thailand.
- Dr. Teera Phatrapornnant, National Electronics and Computer Technology Center, National Science and Technology Development Agency, Bangkok, Thailand (NECTEC / NSTDA).
- Assoc. Prof. Dr. Poramate Banterng, Agronomy Department, Faculty of Agriculture, Khon Kaen University, Khon Kaen 40002, Thailand
- Prof. Le Huy Ham, Agricultural Genetics Institute (AGI / VNU), Vietnam Academy of Agriculture Science, Ministry of Agriculture and Rural Development, Hanoi, Vietnam
- Dr. Wojciechowski. Forschungszentrum Jülich, Institute for Bio- and Geosciences (Plant Sciences, IBG-2), Jülich, Germany

Contact: J.A.Postma, j.postma@fz-juelich.de

FLOATCAT

(STARTED: 2020)
COUNTRIES: GERMANY, CZECH REPUBLIC, VIETNAM

The main technological objective of FLOATCAT is to develop a new type of low-cost floating photocatalyst for solar-driven removal of non-polar, poorly water-soluble contaminants that represent environmental burden and health risk of global scope. This will be achieved by incorporation of a specific sorption function with high affinity to non-polar substances, which should fundamentally improve the existing floating photocatalyst via a synergic effect. Within the proposed project, the research and development work will culminate in laboratory pilot tests aimed at validating the technology for decontamination of water contaminated with non-polar test contaminants (e.g., herbicide diuron, insecticide DDT). The newly developed technology will have a wider applicability for cleaning different types of surface water.

The FLOATCAT partners are:

- Prof. Dr. Radim Beránek: Institute of Electrochemistry, Ulm University, Germany
- Dr. Jaromír Jirkovský, J. Heyrovský Institute of Physical Chemistry, Czech Academy of Sciences, Prague, Czech Republic
- Ing. Jan Šubrt CSc.: Institute of Inorganic Chemistry, Czech Academy of Sciences, Prague, Czech Republic
- Dr. Hoang Hiep: Department of Chemistry, Faculty of Environment, Vietnam National University of Agriculture, Hanoi, Vietnam

Contact: Radim Beránek, radim.beranek@uni-ulm.de

REBECCA

(STARTED: 2020)

COUNTRIES: SWITZERLAND, ITALY, GERMANY, VIETNAM

The ambition of the project is to develop a decision analytic framework for supporting the robust, strategic planning of river basins in monsoonal areas with respect to future changes in water availability (climate change) and demands (socio-economic and technological changes). The framework will integrate future climate scenarios, including a catalogue of extreme climate events, future water demand scenarios, and a high-resolution infrastructure-accounting hydrological model to build accurate projections of water availability that also include water management policies optimized by means of a strategic model, against which to assess sustainability and robustness of future river basin development plans. The focus will be on the Red River Basin, China-Vietnam, a large transboundary river basin, where conflicts among different water uses, including hydropower production, flood control and water supply, and negative impacts on long-term sustainability are expected to increase under the combined pressure of increasing water and energy demands, and climate change. Particularly, extreme weather events are expected to become more frequent and extreme.

The REBECCA partners are:

- Prof. Dr. Paolo Burlando, Institute of Environmental Engineering, ETH Zurich, Switzerland
- Prof. Dr. Andrea Castelletti, Department of Electronics, Information, and Bioengineering, Politecnico di Milano, Italy
- Dr. Anna Costa, Institute of Environmental Engineering, ETH Zurich, Switzerland
- Prof. Dr. Andreas H. Fink, Institute of Meteorology and Climate Research, Karlsruhe Institute of Technology, Germany
- Dr. Roderick van der Linden, Institute of Meteorology and Climate Research, Karlsruhe Institute of Technology, Germany
- Dr. Van Anh Truong, Meteorology and Hydrology Faculty, Hanoi University of Natural Resources and Environment, Vietnam

Contact: Prof. Dr. Paolo Burlando & Dr. Anna Costa

IWRM DaMe

(STARTED: 2021)

COUNTRIES: GERMANY, VIETNAM, LAOS, BULGARIA

The Danube and the Mekong are transboundary rivers of outstanding socio-economic and ecological importance. Taking the similarities and differences between the two large river basins and between the riparian countries, it is obvious that synergies of high value will be realized once ideas, experiences and technologies are exchanged. Focusing on small-scale water supply and water reuse in sub-basins of the Danube and Mekong rivers, the project promotes the exchange of knowledge and experiences between European and South-East-Asian partners. The Project will structure information and data, incentivize communication and hold conferences for the bi-regional IWRM dialogue.

The IWRM DaMe partners are:

- Coordination: Prof. Dr.-Ing. Dr. rer. pol. Dr. h.c. Karl-Ulrich Rudolph and Jens Hilbig / IEEM GmbH, Institute of Environmental Engineering and Management at the Witten/ Herdecke University / Witten, Germany
- Prof. Dr. Nguyen Manh Khai / VNU-HUS, Vietnam National University - Hanoi University of Science, Faculty of Environmental Sciences / Hanoi, Vietnam
- Prof. Dr. Eng. Dimitar Alitchkov / UACG, University of Architecture, Civil Engineering and Geodesy, Faculty of Hydraulic Engineering / Sofia, Bulgaria
- Prof. Dr. Vatthanamixay Chansomphou / NUOL, National University of Laos, Faculty of Environmental Sciences / Vientiane, Laos

TOPIC: NANOTECHNOLOGIES

NAPARBA

(STARTED: 2020)
COUNTRIES: GERMANY, INDONESIA, TURKEY

NAPARBA aims at the development of a reliable and sustainable nanotechnology-enabled approach to ultra sensitively detect and differentiate antibiotic-resistant bacteria in a point of care diagnostic setting. The project addresses the core challenge to detect bacteria and in particular to differentiate resistant from non-resistant strains at low concentrations of potential biomarkers. The approach developed in NAPARBA to separate, up-concentrate and analyze small amounts of DNA will tested for applicability in a prototypical demonstrator to ensure applicability in a working environment.

The NAPARBA partners are:

- Prof. Dr. Holger Schönherr, Physical Chemistry I and Research Center of Micro and Nanochemistry and Engineering (*Cμ*), University of Siegen, Germany (Project coordinator)
- S. N. Aisyiyah Jenie, Ph.D, Research Center for Chemistry, Indonesian Institute of Sciences, Indonesia
- Associate Prof. Dr. Sedat Nizamoğlu, Koç University, Turkey

Contact: Holger Schönherr, schoenherr@chemie.uni-siegen.de

MOISTURE

(STARTED: 2020)
COUNTRIES: THAILAND, PHILIPPINES, GERMANY

Energy storage and conversion devices are necessary for the utilization of renewable energy sources via solar and wind. The challenge however is how to make these devices safe, affordable and stable in performance. The primary objective of this joint project is to generate a stable energy storage i.e. a zinc-ion battery (ZIB) as well as energy conversion (Perovskite solar cell) devices. This will be achieved by optimizing particle sizes, morphologies, structure, and phases of Metal Oxide Nanoparticles (MONs) via an inexpensive and eco-friendly hydrothermal process and depositing a protective Metal Oxide (MO) coating on its surface via Atomic Layer Deposition (ALD) process.

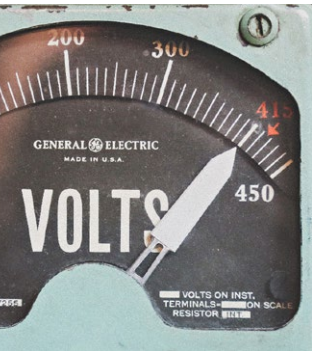
The MOISTURE partners are:

- Assoc. Prof. Dr. Soorathep Kheawhom, Faculty of Engineering, Chulalongkorn University, Thailand
- Asst. Prof. Dr. Pipat Ruankham, Faculty of Science, Chiang Mai University, Thailand
- Dr. Rongrong Cheacharoen, Metallurgy and Materials Science Research Institute, Chulalongkorn University, Thailand
- Dr. Ryan D. Corpuz, CEO, Nanolabs LRC Co. Ltd., Team lead, iNano Research Facility, De La Salle University-Manila, Philippines
- Dr. Lyn Marie DJ. Corpuz, CTO, Nanolabs LRC Co. Ltd., Resident Scientist, Research Center for Natural and Applied Sciences, University of San Tomas, Philippines
- Prof. Dr. Thomas Riedl, Chair of Electronic Devices, University of Wuppertal, Germany

SiNanoBatt

(STARTED: 2021)

COUNTRIES: GERMANY, INDONESIA, THAILAND



The objective of the SiNanoBatt project is to use low-cost semiconductor nanomaterials (i.e., 3D silicon nanostructures for anodes) and top-down nanotechnologies to realize lithium-ion rechargeable batteries with high energy density and long cycle life. The silicon-based materials will be nano-engineered to alleviate the effect of volume expansion of silicon. Hence, we can prevent the capacity losses, improve the cycle life, and enhance the C-rate performance of the batteries. Two main strategies will be introduced for the anode design: (1) to use the 3D silicon nanostructures with different architectures and crystal orientations and (2) to integrate them with carbon or polymeric frameworks for creating novel hybrid carbon/polymeric/silicon nano-anodes. Such approaches are expected to be able to accommodate the volume expansion on the silicon anode without losing the structural integrity and mechanical stability during the lithiation process. Furthermore, the experimental works will be supported by theoretical studies (i.e., modelling of silicon nanomaterials and packing capacity of lithium-ion in the anodes) to understand the effects of the proposed approaches at the atomic scale.

The SiNanoBatt partners are:

- Dr.-Ing. Hutomo Suryo Wasisto, Institute of Semiconductor Technology (IHT) and Laboratory for Emerging Nanometrology (LENA), Technische Universität Braunschweig, Germany (Project Coordinator)
- apl. Prof. Dr. Erwin Peiner, Institute of Semiconductor Technology (IHT) and Laboratory for Emerging Nanometrology (LENA), Technische Universität Braunschweig, Germany (Project Coordinator)
- Dr. Afriyanti Sumboja, Faculty of Mechanical and Aerospace Engineering, Institut Teknologi Bandung, Indonesia
- Prof. Dr. Vudhichai Parasuk, Department of Chemistry, Faculty of Science, Chulalongkorn University, Thailand
- Nursidik Yulianto, M.Eng., Institute of Semiconductor Technology (IHT) and Laboratory for Emerging Nanometrology (LENA), Technische Universität Braunschweig, Germany
- Andam Deatama Refino, M.Sc., Institute of Semiconductor Technology (IHT) and Laboratory for Emerging Nanometrology (LENA), Technische Universität Braunschweig, Germany

Contact: Hutomo Suryo Wasisto, e-mail: h.wasisto@nanosense-id.com &
Erwin Peiner, e-mail: e.peiner@tu-braunschweig.de

OVERVIEW OF FUNDED PROJECTS

4th SEA-EUROPE JOINT CALL (2019)

Thematic Areas	Acronym	Title	Countries involved	Project budget
Infectious Diseases (including Antimicrobial Resistance)	SMART-TB	Development of smart-phone application technology to improve treatment adherence for tuberculosis patients in Indonesia	Indonesia, The Netherlands, Turkey, Spain, Vietnam	113.501 €
	DAADTHEMAC	Development and application of advanced diagnostic tools for human eosinophilic meningitis caused by Angiostrongylus cantonensis	Czech Republic, Indonesia, Australia, Italy, Spain, the United Kingdom	401.627 €
	TIC-TAC	Thai_Indonesian_Czech Team for Antimicrobial Compounds	Indonesia, Czech Republic, Thailand	294.920 €
	MAMRA	Monitoring AntiMicrobial Resistance in Agroecosystem	Indonesia, Finland, Vietnam, Kazakhstan	325.426 €
Smart Cities	ROBTI	Reputation on Blockchain for the Tourism Industry	Indonesia, Turkey	218.466 €

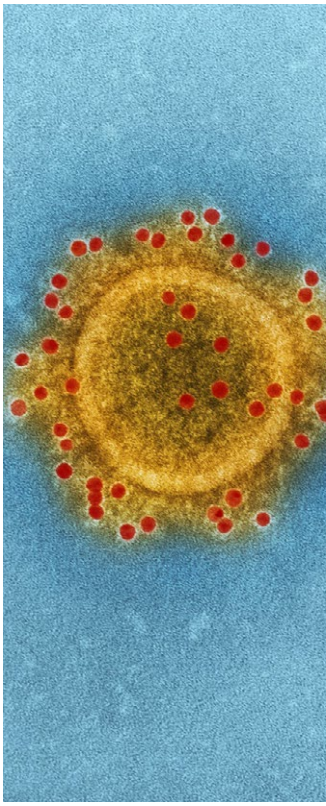
TOPIC: INTEGRATED INFECTIOUS DISEASES

SMART-TB

(STARTED: 2020)

COUNTRIES: INDONESIA, THE NETHERLANDS, TURKEY, SPAIN, VIETNAM

Tuberculosis (TB) remains an urgent public health threat and a leading infectious cause of death worldwide. The SMART TB project propose a novel app that will not only screen patients who are being non-adherent, but will also guide healthcare providers to identify patients' individual problem and to deliver the recommended personalized strategies. The aim of this project is to develop a smart-phone application for health care providers that can be used for personalized interventions to improve medication adherence of TB patients (SMART-TB) in Indonesia. The proposed apps can be applied in primary, secondary and tertiary health facilities in Indonesia and can be adapted to other high-TB prevalence countries.



The SMART-TB partners are:

- Rizky Abdulah, PhD, Universitas Padjadjaran, Indonesia
- Prof. Jutti Levita, Universitas Padjadjaran, Indonesia
- Ivan S. Pradipta, PhD, Universitas Padjadjaran, Indonesia
- Sofa D. Alfian, M.PH, PharmD, Universitas Padjadjaran, Indonesia
- Prof. dr. Eelko Hak, University of Groningen, Groningen, the Netherlands
- Prof. Katja Taxis, University of Groningen, Groningen, the Netherlands
- Prof. Jan-Willem Alffenaar, University of Groningen, University Medical Centre Groningen, Groningen, the Netherlands
- Job F. M. van Boven, PhD, University of Groningen, University Medical Centre Groningen, Groningen, the Netherlands
- Prof. Esin Aki Yalcin, Ankara University, Ankara, Turkey
- Prof. Federico Gago, University of Alcala, Madrid, Spain
- Ly Le, PhD, Ho Chi Minh City International University, Vietnam

Contact: Rizky Abdulah, r.abdulah@unpad.ac.id

DAADTHEMAC

(STARTED: 2020)

COUNTRIES: CZECH REPUBLIC, INDONESIA, AUSTRALIA, ITALY, SPAIN, UNITED KINGDOM

This project aims to develop a novel diagnostic tool for human eosinophilic meningitis caused by **Angiostrongylus cantonensis**, namely a LAMP assay for AC detection in clinical cases, in various organism that serve as infection sources and in environmental samples. Our project consortium combines teams with expertise in various fields of human and veterinary medicine, ecology and infection biology. Project benefits from experience of EU and Thailand teams with development of molecular-based diagnostic tools including the LAMP technology, equipment and experimental work with AC, combined with partnerships/collaboration with research teams from countries with high incidences of AEM clinical cases in SE Asia (Philippines, Thailand, Indonesia). With synergic involvement of adjunct research partners from Australia, Spain, Italy and UK, the project team aims at (i) technological progress in AEM clinical diagnostics, (ii) detection of AC in food chains and (iii) understanding of local as well as global epidemiology of this emerging disease.

The DAADTHEMAC partners are:

- Prof. David Modry, Dr. Vojto Baláž and Barbora Fecková, DVM / Biology Center of Czech Academy of Sciences v.v.i., Branišovská 1160/31, 370 05 České Budějovice, Czech Republic
- Muhammad Hambal, DVM, Ph.D. / Syiah Kuala University, Faculty of Veterinary Medicine, Banda Aceh, Indonesia
- Prof. Jan Slapeta / University of Sydney, School of Veterinary Science, Sydney, Australia
- Prof. Domenico Otranto / University of Bari, Department of Veterinary Medicine, Bari, Italy
- Prof. Pilar Foronda Rodríguez / Universidad de La Laguna, Instituto Universitario de Enfermedades Tropicales y Salud Pública de Canarias, Spain
- Dr. Nicholas Morant, OptiGene Limited, Horsham, UK

Contact: David Modry, modrydav@gmail.com

TICTAC

(STARTED: 2020)

COUNTRIES: INDONESIA, CZECH REPUBLIC, THAILAND

The current antibiotic crisis represents a global problem of fundamental importance, comparable with other global challenges as e.g. climate change or sustainable energetics, but far less discussed in the society. Without active approach right now the, the infectious diseases will soon become the most frequent cause of death worldwide.

The TIC-TAC project consists of two objectives aiming to avert the threat of an antibiotic crisis: 1) Knowledge based hunt for novel bioactive metabolites derived from plants and microorganisms and 2) Development of promising compounds into drugs.

TicTac partners are :

- Institute of Microbiology, Czech Academy of Sciences, Czech Republic (PI and main coordinator - Jiri Janata)
- School of Pharmacy, Walailak University, Thailand (PI and coordinator for SEA - Amit Jaisi)
- Faculty of Pharmacy, Andalas University, West Sumatra, Indonesia (Deri Dachriyanus)
- Research Centre for Chemistry, Indonesian Institute of Science (LIPI), Indonesia (Abdi Wira Septama)

Contact: Jiri Janata, e-mail: janata@biomed.cas.cz

MAMRA

(STARTED: 2020)

COUNTRIES: INDONESIA, FINLAND, VIETNAM, KAZAKHSTAN

Antimicrobial resistance (AMR) has become one of the world's biggest public health issue in recent years. Agricultural food production is a hotspot for the dissemination of AntiMicrobial Resistance (AMR) in the environment. The application of manure as soil amendments has the potential of disseminating resistant pathogens and genes to the soil, crops, and ground- and surface water sources. Yet, despite the high risk of AMR dissemination through manure treatment, development, transmission and persistence of AMR in the environment via manure is essentially unknown. The mission of Monitoring AntiMicrobial Resistance in Agroecosystem (MAMRA) is to develop an AMR monitoring programme using the One Health approach to empirically understand, mitigate and control the spread of AMR from manure to the environment (i.e., soil, crops and river).

MAMRA partners are:

- Universitas Gadjah Mada, Indonesia
- Suleyman Demirel University, Kazakhstan
- Vietnam-Japan University, Vietnam
- Resistomap Oy, Finland

Contact: Siti Subandiyah

TOPIC: SMART CITIES

ROBTI

(STARTED: 2020)

COUNTRIES: INDONESIA, TURKEY

Contemporary hospitality industry faces difficulties maintaining reputation, which is vital for South East Asia where quality and responsible customers are needed in times of tourism boom and looming danger of pollution. In fact, the reputation concept has been widely used since old times, in many areas. For example, selecting doctors or dentists based on their reputation constructed by other friends, getting married with a person based on family and friends' suggestions or selection of university to attend based on reputation constructed by past students etc. In an organized world, institutions and certifications replaced classical "word of mouth"-based reputation, whereas doctors, universities, companies are rated or accredited by individual institutions who are expert and recognized by the government and trusted as accrediting institutions.

Yet, the ever increasing power of internet, social media and user generated content, revived centuries old "word of mouth"-based reputation. This, on the other hand brings its own special problems to tackle. Vast amount of data generated turns into a big data problem to be solved and processed, whereas credibility of each user generated data becomes questionable. Users, generate star ratings, comments, stories, blogs, tweets and many different content about the experience they had from the service or goods. These are usually incomplete, varying in quality and credibility and vague in general. This in turn increases the pressure onto the emerging forms of cooperative sustainable tourism that does not have the solid market power of multinational chains.

The proposal aims to create a distributed bidirectional cross-reputation rating and review service for hotel and tourism industry that can be used through multiple countries, in transboundary transactions, for sustainable, cooperative business. ROBTI is thus in pursuit of several specific objectives (SOs).

The ROBTI partners are:

- Alphan Kimyonok (Coordinator), Meltem Turhan Yöndem, Cenk Yusuf Ustabaş, Müslim Erdal Şekerci, Anıl Özdemir, Mustafa Çelen, İsa Öztürk, **Setur,Turkey**
- Hüseyin Atun, Hakan Özkırım, Tolga Gezginiş, Hasan Soysal, Batuhan, Çoşkun, **Protel, Turkey**
- Assoc. Prof. Mehmet Göktürk, **Gebze Techncical University, Turkey**
- Tri A. Sundara,**STMIK Indonesia Padang, Indonesia**

Contact: Cenk Yusuf Ustabaş, e-mail: cenk.ustabas@gmail.com

SOUTHEAST ASIA - EUROPE JOINT FUNDING SCHEME (SEA-EUROPE JFS)

PROJECT LIST

Table 01: 1st call JFS 2017, THEMATIC: EMERGING INFECTIOUS DISEASES

		1. **SKUD** - The emergence of Skin Ulceration Diseases in Edible Sea Cucumbers in a Global Change Framework	2. **ThaiVacc** - Novel Leptospirosis and Dengue Fever Vaccines for Thailand	3. **PlasmID-SEA** - Plasmid Identification and Detection in South-East Asia - Enterobacteriaceae Resistant to last resort Carbapenems and Colistin	4. **FarmResist** - Occupational risks for animal farmers to be colonised with animal-associated resistant wbacteria in Thailand, impact on the faecal microbiot	5. **DeZi** - A single component pentavalent Dengue-Zika vaccine preventing antibody-dependent enhancement phenomenon	6. **CAREChild** - Containment of antibiotic resistance-measures to improve antibiotic use in pregnancy, childbirth and children
SOUTHEAST ASIA	BRUNEI						
	CAMBODIA					V	
	INDONESIA						
	LAO PDR			V			V
	MYANMAR						
	PHILIPPINES						
	THAILAND	V	V	V	V	V	
	VIETNAM			V			V
EUROPE	BELGIUM	V					
	BULGARIA						
	CZECH						
	FRANCE	V	V		V	V	
	GERMANY						
	SPAIN						
	SWEDEN			V			V
	SWITZERLAND		V		V		
	TURKEY						
PROJECT BUDGET (EURO)		178.085	361.254	306.000	354.628	276.600	307.000

Table 02: 1st call JFS 2017, THEMATIC: ENVIRONMENT/CLIMATE CHANGE

		7. **CWSSEA** - Assessments of vulnerability of mature and secondary forests to climatic water stress in Southeast Asia	8. **FRESHBIO** - Freshwater biotas of the insular biodiversity hotspots of Southeast Asia: diversity, biological states and uses	9. **RESCuE** - Monitoring and optimizing the design quality of mangrove restoration towards a sustainable coastal ecosystem management in Thailand and Mekong delta of Vietnam	10. **ARC** - Strengthening rice breeding programs in Laos and Thailand and developing climate-resilient rice varieties
SOUTHEAST ASIA	BRUNEI				
	CAMBODIA				
	INDONESIA		V		
	LAO PDR				V
	MYANMAR				
	PHILIPPINES		V		
	THAILAND	V		V	V
	VIETNAM			V	
EUROPE	BELGIUM				
	BULGARIA				
	CZECH				
	FRANCE	V	V	V	V
	GERMANY		V	V	
	SPAIN				
	SWEDEN	V			
	SWITZERLAND				
	TURKEY				
PROJECT BUDGET (EURO)		346.130	179.620	245.022	141.102
Total		2.695.441			

Table 03: 2nd call JFS 2018, THEMATIC: INFECTIOUS DISEASES

		11. **Moxistrong** - Moxidectin for Strongyloidiasis	12. **Malaria & HIV drug resistance diagnostice devices** - Develompment of paper based rapid diagnotic kits for Malaria & HIV drug resistance detection using recombinase polymerase amplification	13. **PHIShiNg** - Paper based Hepatitis B Virus Electrochemical Immunosensors using AgNPs enhancement	14. **PNEUMOFLUIDICS** - Development of a microfluidic chip protein array as a serodiagnostic tools of early detection of pneumococcal infection	15. **SEA-dog-SEA** - SociO-Ecological Approach of Dog-borne zoonotic diseases in Southeast Asia	16. **NEWTONIAN** - New tools for the regional control of Asian liver fluke infection and associated severe liver diseases
SOUTHEAST ASIA	BRUNEI						
	CAMBODIA	V					V
	INDONESIA		V	V	V	V	
	LAO PDR	V					V
	MYANMAR				V		
	PHILIPPINES		V				
	THAILAND		V	V			V
	VIETNAM						
EUROPE	BELGIUM						
	BULGARIA					V	
	CZECH						
	FRANCE			V		V	
	GERMANY		V		V		
	SPAIN				V		
	SWEDEN						
	SWITZERLAND	V					V
	TURKEY						
PROJECT BUDGET (EURO)		214.680	487.849	49.000	613.950	160.000	322.054

Table 04: 2nd call JFS 2018, THEMATIC: BIOECONOMY

		17. **Irrigation4.0** - Strengthening agriculture 4.0 technologyin a Thailand-Myanmar-Germany collaboration: development of a plant-based irrigtion platform	18. **BIOPLATE** - Electroplating processes for biodegradable materials obtained from renewable biological resources	19. **Purge to Value** - Development of value added products with low environmental impact from the purge water of microalgae cultivation
SOUTHEAST ASIA	BRUNEI			
	CAMBODIA			
	INDONESIA			
	LAO PDR			
	MYANMAR	V		
	PHILIPPINES			
	THAILAND	V	V	V
	VIETNAM			
EUROPE	BELGIUM			V
	BULGARIA			
	CZECH			
	FRANCE			
	GERMANY	V	V	V
	SPAIN			
	SWEDEN			
	SWITZERLAND		V	
	TURKEY			
PROJECT BUDGET (EURO)		199.338	426.715	253.455
Total		2.727.041		

Table 05: 3rd call JFS 2019, THEMATIC: INTEGRATED WATER RESOURCE MANAGEMENT

		20. **DIRECTION** - Water efficiency and yield stability through model based irrigation	21. **FLOATCAT** - Innovative floating photocatalyst with specific sorption function	22. **IWRM DaMe** - IWRM Danube & Mekong: Bi-regional IWRM Dialogue And Multi-Local Twinning for Small Scale Water Supply and Reuse	23. **REBECCA** - Robust rivEr Basin planning under Extreme Climate events and fast socio-economic Changes
SOUTHEAST ASIA	BRUNEI				
	CAMBODIA				
	INDONESIA				
	LAO PDR			X	
	MYANMAR				
	PHILIPPINES				
	THAILAND	X			
	VIETNAM	X	X	X	X
EUROPE	BELGIUM				
	BULGARIA				X
	CZECH		X		
	FRANCE				
	GERMANY	X	X	X	X
	SPAIN				
	SWEDEN				
	SWITZERLAND				X
	TURKEY				
PROJECT BUDGET (EURO)		214.210	203.344	500.000	307.864

Table 06: 3rd call JFS 2019, THEMATIC: NANO TECHNOLOGY

		24. **Naparba** - Nanoparticle-based point of care detection of antibiotic-resistant bacteria	25. **MOISTURE** - Metal Oxide Hybrid Structured Barriers for Stable Energy Devices	26. **SINanoBat** - 3D nano-engineered silicon anodes for high-energy-density lithium-ion rechargeable batteries
SOUTHEAST ASIA	BRUNEI			
	CAMBODIA			
	INDONESIA	X		X
	LAO PDR			
	MYANMAR			
	PHILIPPINES		X	
	THAILAND		X	X
	VIETNAM			
EUROPE	BELGIUM			
	BULGARIA			
	CZECH			
	FRANCE			
	GERMANY	X	X	X
	SPAIN			
	SWEDEN			
	SWITZERLAND			
	TURKEY	X		
PROJECT BUDGET (EURO)		570.147	361.389	595.000
Total		2.751.954		

Table 07: 4th INNOVATION call JFS 2019, THEMATIC: INFECTION DISEASES

		27. **SMART-TB** - Development of smart-phone application technology to improve treatment adherence for tuberculosis patients in Indonesia	28. **DAADTHEMAC** - Development and application of advanced diagnostic tools for human eosinophilic meningitis caused by Angiostrongylus cantonensis	29. **TIC-TAC** - Thai_Indonesian_Czech Team for Antimicrobial Compounds	30. **MAMRA** - Monitoring AntiMicrobial Resistance in Agroecosystem
SOUTHEAST ASIA	BRUNEI				
	CAMBODIA				
	INDONESIA	X	X	X	X
	LAO PDR				
	MYANMAR				
	PHILIPPINES				
	THAILAND		X	X	
	VIETNAM	X			X
EUROPE	BELGIUM				
	BULGARIA				
	CZECH		X	X	
	FRANCE				
	GERMANY				
	SPAIN	X	X		
	SWEDEN				
	SWITZERLAND				
	TURKEY	X			X
PROJECT BUDGET (EURO)		128.500	401.626	294.920	325.426

Table 08: 4th INNOVATION call JFS 2019, THEMATIC: SMART CITY

		31. **ROBTI** - Reputation on Blockchain for the Tourism Industry
SOUTHEAST ASIA	BRUNEI	
	CAMBODIA	
	INDONESIA	X
	LAO PDR	
	MYANMAR	
	PHILIPPINES	X
	THAILAND	
	VIETNAM	
EUROPE	BELGIUM	
	BULGARIA	
	CZECH	
	FRANCE	
	GERMANY	
	SPAIN	
	SWEDEN	
	SWITZERLAND	
	TURKEY	X
PROJECT BUDGET (EURO)		358.710
Total		1.509.182

Table 09: 5th S&T call JFS 2020, THEMATIC: INFECTIOUS DISEASES

		32. **MicroLung** - Pulmonary blood-air barrier model to study Covid-19 and screening of therapeutics	33. **NONEGON** - Novel Inhibitors targeting DXR in Neisseria Gonorrhoeae	34. **Antiviralfun** - Discovery of new antivirals using cultures of filamentous fungi collected in Europe and Thailand as compound sources	35. **TimCovSEAEu** - Characterization of T-cell immunity to SARS-CoV-2 in the South East Asian and European population	36. **COVITRAP** - The development and implementation of a COVId-19 scFv-TRAP portfolio for diagnostic and therapeutic applications
SOUTHEAST ASIA	BRUNEI					
	CAMBODIA					
	INDONESIA	X			X	X
	LAO PDR					
	MYANMAR					
	PHILIPPINES					
	THAILAND		X	X	X	
	VIETNAM					
EUROPE	BELGIUM					X
	BULGARIA					
	CZECH			X		
	FRANCE					
	GERMANY	X	X	X	X	X
	SPAIN					
	SWEDEN					
	SWITZERLAND					
	TURKEY	X	X			
PROJECT BUDGET (EURO)		399.307	352.466	366.000	326.660	409.000

Table 10: 5th S&T call JFS 2020 THEMATIC: NANOTECHNOLOGY

		37. **BioOva** - Development of a bioinspired engineered ovary to restore fertility in cancer patients	38. **ECO-MX** - Efficient catalytic conversion of polysulfides by two-dimensional transition metal carbides (MXenes)-based heterostructures toward long live lithium sulfur batteries	39. **NanoCatCO2** - Nanotechnology routes for the design of high-performance CO2 methanation catalysts	40. **PEP-NANO-DRUG** - NEW OPIOID PEPTIDE–NANOPARTICLE CONJUGATES: SYNTHESIS, CHARACTERIZATION AND NEUROPHARMACOLOGICAL APPLICATIONS
SOUTHEAST ASIA	BRUNEI				
	CAMBODIA				
	INDONESIA				X
	LAO PDR				
	MYANMAR				
	PHILIPPINES				
	THAILAND	X	X	X	
	VIETNAM				X
EUROPE	BELGIUM	X		X	
	BULGARIA				X
	CZECH				
	FRANCE				
	GERMANY				
	SPAIN				
	SWEDEN				
	SWITZERLAND	X	X	X	
	TURKEY		X		
PROJECT BUDGET (EURO)		478.500	441.630	435.630	301.500
Total		3.510.693			

Table 11: 6th INNOVATION call JFS 2020, THEMATIC: DIGITAL HEALTH

		41. **RODE** - AI Based E-Care System to Support Patients with Dementia	42. **Telemedicine** - Smart Integrated Devices For Telemedicine to Combat COVID-19 Toward New Resilience City
SOUTHEAST ASIA	BRUNEI		
	CAMBODIA		
	INDONESIA	X	X
	LAO PDR		
	MYANMAR		
	PHILIPPINES	X	
	THAILAND		
	VIETNAM		X
EUROPE	BELGIUM		
	BULGARIA		X
	CZECH		
	FRANCE		
	GERMANY		
	SPAIN		
	SWEDEN		
	SWITZERLAND		
	TURKEY	X	
PROJECT BUDGET (EURO)		338.200	69.492
Total		407.692	

Table 12: Total number of projects per country

		TOTAL PROJECTS
SOUTHEAST ASIA	BRUNEI	
	CAMBODIA	3
	INDONESIA	18
	LAO PDR	6
	MYANMAR	2
	PHILIPPINES	5
	THAILAND	25
	VIETNAM	11
EUROPE	BELGIUM	6
	BULGARIA	3
	CZECH	4
	FRANCE	10
	GERMANY	19
	SPAIN	3
	SWEDEN	3
	SWITZERLAND	9
	TURKEY	8

FIND OUT MORE

For more information on all projects funded so far under the Southeast Asia-Europe Joint Funding Scheme for Research and Innovation and contact details of the project coordinators, please visit:
https://www.sea-eu-jfs.eu/funded-projects

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This publication gives a brief introduction of the principles of the Southeast Asia – Europe Joint Funding Scheme (JFS) and its history. Further, it provides an overview of the research projects that are receiving funding under the initial four JFS Calls for Research Proposals. While one JFS Call per year was launched in 2017 and 2018, two JFS Calls have been launched in parallel in 2019 with one call focussing on S&T (lower TRL) and the other call focussing on Innovation (higher TRL). In total, 31 bi-regional and multilateral projects are receiving funding through these four JFS Calls realizing research cooperation in the thematic areas of Health (focus on infectious diseases and AMR), Environment & Climate Change, Smart Cities, Nanotechnologies and more. The publication gives the reader an understanding of the impact of the JFS on the bi-regional research cooperation, on the manifold challenges that are jointly tackled and on the diversity of the project consortia that are working together under the JFS.

Project Information

Publications Office
of the European Union