

2019

# GSP Research



A female scientist with dark hair tied back, wearing a white lab coat, is focused on her work in a laboratory. She is leaning over a workbench, holding a small vial in her right hand and pouring its contents into a larger glass flask. The background is slightly blurred, showing laboratory equipment and a clean, professional environment. The lighting is bright, highlighting the white of her coat and the clarity of the glassware.

# **Grants and Sponsored Research Projects**

# GRANTS AND SPONSORED RESEARCH PROJECTS

## *Initiated Projects*

### **AIT Testing and Demonstration Laboratory**

Duration: 1 April - 30 December 2019

Investigator: Prof. Thammarat Koottatep

Sponsor: AIT Testing and  
Demonstration Laboratory

Amount: Baht 577,089.92

### **Assistance with regard to execution of Climate Change Vulnerability Assessment and Development of Energy-Climate Change Action Plan in far North of Cameroon**

Duration:

Investigator: 1 April 2019 - 31 December 2019

Sponsor: Dr. Oleg Shipin

Amount: CTCN-PCA  
Baht 190,800

### **Biogeo-chemical changes and adaptation mechanisms in response to anthropogenic impacts in watersheds: A comparative study between Jiulong River (China) and Chao Phraya River (Thailand), 2nd year**

Duration: 22 January 2019 - 30 June 2020

Investigator: Prof. Thammarat Koottatep, Dr. Wenchao Xue, Prof. Rajendra P. Shrestha

Sponsor: The National Research Council of Thailand (NRCT)

Amount: Baht 1,957,000

### **Development of a database of technology/policy measures and best practices to support the achievement of the SDG7 targets**

Duration: September 2019 - February 2020

Investigator: Prof. S. Kumar

Sponsor: UN-ESCAP

Amount: Baht 770,280

### **MEA-AIT Academic Cooperative Program**

Duration: 1 January 2019 – 31 December 2022

Investigator: Prof. Weerakorn Ongsakul

Sponsor: Metropolitan Electricity Authority (MEA)

Amount: Baht 22,043,144

### **Production of High Value Bio-products from Innovative Algal Bioreactor treating Domestic Wastewater**

Duration: 1 July 2019 – 30 June 2022

Investigator: Prof. Thammarat Koottatep

Sponsor: Bangkok Initiative and Innovation Center

Amount: Baht 2,810,000

### **Realizing Smart Cities in ASEAN Region**

Duration: 1 June 2019 – 31 July 2020

Investigator: Prof. S. Kumar

Sponsor: ERIA, Indonesia

Amount: Baht 1,373,000

# GRANTS AND SPONSORED RESEARCH PROJECTS

## *Initiated Projects*

### **Report on Drinking Water Services and Technologies in Asian Countries – Phase V**

**Duration:** 6 September 2019 – 2 February 2020  
**Investigator:** Prof. Nguyen Thi Kim Oanh  
**Sponsor:** PCD-EI  
**Amount:** Baht 500,000

### **The Study of Emission Sources of PM<sub>2.5</sub> and Precursors of Secondary PM<sub>2.5</sub> in Bangkok Metropolitan Region**

**Duration:**  
**Investigator:** 1 July 2019 - 31 December 2019  
**Sponsor:** Prof. Thammarat Koottatep  
**Amount:** IHT Delft Foundation  
Baht 10,278,420

### **Transfer of Delft Based MSc/GPDP/OLC/OCC Programme on Non-Sewered Sanitation**

**Duration:**  
**Investigator:**  
**Sponsor:** 1 April 2019 - 30 September 2020  
Prof. C. Visvanathan  
**Amount:** Japan Water Research Center (JWRC)  
Baht 104,400

### **Treatment of Domestic Wastewater using Pilot-Scale Membrane Aerated Biofilm Reactor (MABR)**

**Duration:** 1 July - 30 December 2020  
**Investigator:** Prof. C. Visvanathan  
**Sponsor:** Mitsubishi Chemical Co., Ltd.  
**Amount:** Baht 423,630

### **Two-Stage Up-flow Solar Septic Tank**

**Duration:**  
**Investigator:** 1 May 2019 - 30 April 2022  
**Sponsor:** Prof. Thammarat Koottatep  
Bangchak Initiative and  
**Amount:** Innovation Center  
Baht 2,694,000

## ***Ongoing Projects***

### **Mastering Energy Supply focusing on Isolated Areas (MESFIA)**

**Duration:** 15 November 2018 – 14 November 2021  
**Investigator:** Prof. S. Dhakal, Prof. S. Kumar, and Dr. J.G. Singh  
**Sponsor:** European Union/Erasmus +  
**Amount:** Baht 345,6588.38

## ***Ongoing Projects***

### **Master on New Technologies Using Services**

**Duration:** November 2018 – November 2021  
**Investigator:** Prof. Nguyen Thi Kim Oanh  
**Sponsor:** Engineering and Physical Sciences  
Research Council (EPSCR GCRF)  
**Amount:** Baht 1,570,977

### **Optimizing Decentralized Low-cost Wastewater Infrastructure by Managing the Microbes**

**Duration:** 1 May 2017 – 30 April 2020  
**Investigator:** Prof. Thammarat Koottatep  
**Sponsor:** Engineering and Physical Sciences  
Research Council (EPSCR GCRF)  
**Amount:** Baht 12,616,798.50

### **Provincial Electricity Authority (PEA) – AIT Scholarship Program**

**Duration:** 15 February 2016 – 14 February  
2020  
**Investigator:** Prof. Weerakorn Ongsakul  
**Sponsor:** Provincial Electricity Authority  
(PEA)  
**Amount:** Baht 20,212,000

### **Technology Needs Assessment Phase 3 – Technical**

**Duration:** 1 June 2018 – 31 May 2021  
**Investigator:** Dr. P. Abdul Salam, Prof. S.  
Kumar, and Prof. Rajendra P.  
Shrestha  
**Sponsor:** UNEP-DTU, Denmark  
**Amount:** Baht 1,267,200

## ***Completed Projects***

### **AIT BORDA Collaboration**

**Duration:** 1 January 2017 – 30 December  
2019  
**Investigator:** Prof. Thammarat Koottatep  
**Sponsor:** Berman Overseas Research  
Association  
**Amount:** Baht 5,550,000

# GRANTS AND SPONSORED RESEARCH PROJECTS

## *Completed Projects*

### **Biofuel Production from Innovative Algal Bioreactor Treating Domestic Wastewater**

Duration: 2 January 2018 – 31 December 2019  
Investigator: Prof. Thammarat Koottatep  
Sponsor: Bangchak Initiative and Innovation Centre at AIT  
Amount: Baht 2,000,000

### **Capacity Building Activities of the Asia Pacific Clean Air Partnership (APCAP)**

Duration: 12 July 2018 – 31 January 2019  
Investigator: Prof. Nuyen Thi Kim Oanh  
Sponsor: United Nations Environment Programme (UNEP)  
Amount: Baht 2,691,100

### **CTCN Incubator Programme for Implementation of Nationally Determined Contributions in Timor-Leste**

Duration: 1 September 2018 – 31 July 2019  
Investigator: Dr. P. Abdul Salam, and Prof. Mukand S. Babel  
Sponsor: CTCN  
Amount: Baht 7,44,352

### **Exposure Visit for Resource Recovery option of Faecal Sludge Management (FSM) Value Chain**

Duration: 1 May 2018 – 31 December 2018  
Investigator: Prof. Thammarat Koottatep  
Sponsor: SNV Asia Bangladesh  
Amount: Baht 787,072

### **Effective Faecal Sludge Planning to Minimize Environmental Pollution and protect Public Health**

Duration:  
Investigator: 1 August 2018 – 31 December 2019  
Sponsor: Prof. Thammarat Koottatep  
Amount: The Thailand Research Fund (TRF)  
Baht 5,267,640

### **Evidence – based policies for the Sustainability use of Energy Resources in the Asia – Pacific Region**

Duration:  
Investigator: 1 November 2018 – 31 July 2019  
Prof. S. Dhakal, Prof. S. Kumar, and Dr. Ekbordin Winijkul  
Sponsor:  
Amount: UN ESCAP  
Baht 1,830,576

## Completed Projects

### **Effects of Climate Change and Variability on Community Vulnerability and Exposure to Dengue in South East Asia (DENCLIM)**

Duration: 1 January 2018 – 31 December 2019  
Investigator: Dr. Oleg Shipin  
Sponsor: Research Council of Norway  
Amount: Baht 3,678,400

### **Faecal Sludge Management Toolbox Optimisation**

Duration: 1 June 2018 – 31 December 2018  
Investigator: Prof. Thammarat Koottatep  
Sponsor: Athena Infonomics LLC.  
Amount: Baht 2,143,384

### **Forwarded Osmosis for Nutrient Recovery from Black Water**

Duration: 1 August 2018 – 31 January 2019  
Investigator: Dr. Wenchao Xue  
Sponsor: AIT Research Initiation  
Amount: Baht 50,000

### **ICUE 2018 – Green Energy for Sustainable Development**

Duration: 1 October 2017 – 31 March 2019  
Investigator: Dr. Jai Govind Singh, Dr. P. Abdul Salam, Prof. S. Dhakal, Prof. S. Kumar, and Prof. Weerakorn Ongsakul  
Sponsor: ICUE 2018  
Amount: Baht 1,753,830.63

### **Innovative Toilet City: From Reinventing to Realization at Scale**

Duration: 1 September 2016 – 28 February 2019  
Investigator: Prof. Thammarat Koottatep  
Sponsor: The Thailand Research Fund (TRF)  
Amount: Baht 5,044,150

### **Knowledge and Innovation Support for Asian Development Bank's Water Financing Program**

Duration: 17 July 2017 – 31 March 2019  
Investigator: Prof. Thammarat Koottatep  
Sponsor: Asian Development Bank (ADB)  
Amount: Baht 2,038,634

# GRANTS AND SPONSORED RESEARCH PROJECTS

## *Completed Projects*

### **Reduced Agrochemicals and Local Food Chain GHG Emissions through Organic Farming and Smart Factories in Thailand**

**Duration:** 4 December 2018 – 31 March 2019  
**Investigator:** Dr. Ekbordin Winijkul  
**Sponsor:** United Nations Industrial Development Organization (UNIDO)  
**Amount:** Baht 300,000

### **Reports on Drinking Water Services and Technologies in Asian Countries-Phase IV**

**Duration:** 1 April 2018 – 30 September 2019  
**Investigator:** Prof. C. Visvanathan  
**Sponsor:** Japan Water Research Centre (JWRC)  
**Amount:** Baht 144,000

### **Retscreen Expert – Trainer**

**Duration:** 1 March 2018 – 1 December 2018  
**Investigator:** Prof. S. Kumar  
**Sponsor:** Canmet Energy, Canada  
**Amount:** Baht 120,000

### **Standard Methods for the Analysis of Faecal Sludge**

**Duration:** 30 June 2017 – 31 December 2018  
**Investigator:** Prof. Thammarat Koottatep  
**Sponsor:** University of KwaZulu – Natal (UKZN) – BMGF Grant  
**Amount:** Baht 1,400,000





### **Short Term Actions 2017, BMGF Project 106990**

**Duration:** 22 November 2017 – 31 December 2018  
**Investigator:** Prof. Thammarat Koottatep  
**Sponsor:** Subgrant from UNESCO IHE – BMGF Grant  
**Amount:** Baht 954,094

### **Technology Needs Assessment Phase 3 – Capacity Building Workshop**

**Duration:** 1 January 2019 – 31 April 2019  
**Investigator:** Dr. P. Abdul Salam, Prof. S. Kumar, and Prof. Rajendra P. Shrestha  
**Sponsor:** UNEP-DTU, Denmark  
**Amount:** Baht 1,600,000

### **Technical Assistance for Technology transfer and commercialization support of the AIT Toilet Innovations**

**Duration:** 7 November 2017 – 30 April 2019  
**Investigator:** Prof. Thammarat Koottatep  
**Sponsor:** Bill and Melinda Gates Foundation  
**Amount:** Baht 51,283,398.95

### **Toward an Open Resources Upon Services: Cloud Computing of Environmental Data TORUS**

**Duration:** 15 October 2015 – 30 June 2019  
**Investigator:** Prof. Nguyen Thi Kim Oanh  
**Sponsor:** European Union (ERASMUS + Capacity Building)  
**Amount:** Baht 1,814,296

