

# Faculty Vitae

<b>1. Full Name</b>
<ul style="list-style-type: none"><li>- In Vietnamese: LÊ THÁI HOÀNG</li><li>- In English: LE THAI HOANG</li></ul>
<b>2. Education</b>
<ul style="list-style-type: none"><li>- <b>Doctor: Biological Engineering</b><ul style="list-style-type: none"><li>● Program: Biological Engineering</li><li>● University: Chonbuk National University, South Korea</li><li>● Year: 2012</li></ul></li><li>- <b>Master: Biological Engineering</b><ul style="list-style-type: none"><li>● Program: Biological Engineering</li><li>● University: Inha University, South Korea</li><li>● Year: 2007</li></ul></li><li>- <b>Bachelor: Biotechnology</b><ul style="list-style-type: none"><li>● Program: Biological Engineering</li><li>● University: University of Science, Vietnam National University Ho Chi Minh City, Vietnam</li><li>● Year: 2004</li></ul></li></ul>
<b>3. Academic experience</b>
<ul style="list-style-type: none"><li>- <b>Nguyen Tat Thanh University</b><ul style="list-style-type: none"><li>● Address: 300A, Nguyen Tat Thanh St., Ward 13, Dist. 4, HCM City, VN</li><li>● Faculty: Environmental and Food Engineering</li><li>● Position: Lecture and Researcher</li><li>● Period: 2021 – present</li></ul></li><li>- <b>Interntional University, Vietnam National Unviersity Ho Chi Minh City, VN</b><ul style="list-style-type: none"><li>● Address: Quarter 6, Linh Trung Ward, Thu Duc City, HCM City, VN</li><li>● Faculty: Environmental Engineering</li><li>● Position: Lecture</li><li>● Period: 2017 – 2021</li></ul></li><li>- <b>National University of Singapore</b><ul style="list-style-type: none"><li>● Address: 21 Lower Kent Ridge Rd, Singapore 119077</li><li>● Faculty: Civil and Environmental Engineering</li><li>● Position: Research Fellow</li><li>● Period: 2013 – 2017</li></ul></li></ul>
<b>4. Non-academic experience</b>
<b>5. Certifications or professional registrations</b>
<b>6. Membership in professional organizations</b>
<ul style="list-style-type: none"><li>- <b>Guess Editor</b></li></ul>

- Journal: Water (ISI, Q1, IF 2.544, ISSN 2073-4441)
- Special issue: "Antimicrobial Resistance in the Urban Water Cycle and Natural Aquatic Environments"
- Period: 2021-2022

## 7. Honors and awards

Research project:

- **Project class C, Vietnam National University Ho Chi Minh City, VN**
  - Period: 2020-2022
  - Project name: "Đánh giá khả năng loại bỏ vi khuẩn và gen kháng kháng sinh của nhà máy xử lý nước thải tại Thành phố Hồ Chí Minh"
  - Role: Principal Investigator
- **International Project**
  - Period: 2019-2021
  - Project name: Characterization and Transmission Mode of Phytopathogenic bacteria causing the Branch Rot Disease on the Dragon Fruit
  - Role: Key member
- **Nafosted Project**
  - Period: 2018-2020
  - Project name: Quantification of antibiotic resistance in surface water in HCM City
  - Role: Principal Investigator
- **Department of Science and Technology, HCM City Project**
  - Period: 2017-2019
  - Project name: Establish the map of pollutant dissemination on surface water in HCM City
  - Role: Scientific secretary, key member

## 8. Service activities

- **Teaching course:**
  - Environmental microbiology, Food microbiology, Environmental microbiology Technology, Molecular Biology, Environmental Science
- **Research activities:**
  - Supervisor for Final year students, PI of research projects, Key members of department research projects
  - **As a supervisor for PhD student:**
    - Truong Thong, 2019, University of Science, Vietnam National University HCM City. Thesis title: QUANTIFICATION OF ANTIBIOTIC RESISTANCE FACTORS IN SURFACE WATER AND RISK ASSESSMENT FOR WATER SECURITY IN HO CHI MINH CITY
  - **As a supervisor for Master student:**
    - Nguyen Van Dao, 2021, HCM City University of Food Industry. Thesis title: "Removal of antibiotic resistance in a wastewater treatment plant in HCM City"
    - Tran hoai Tam, 2019, HCM City University of Food Industry. Thesis title: "Investigation of antibiotic resistant bacteria in tap water in HCM City"
    - Huynh Duy Tan, 2018, HCMC University of Technology. Thesis title: "Utilization of Nitrogen from Aquaculture Wastewater for Vegetables Cultivation"

## 9. Areas of research

- Development of sensitive and rapid methods for detection of pathogen, antibiotic resistant bacteria in the environment
- Quantitative microbial risk assessment
- Application of microorganism in treatment of environmental wastes

## 10. Publications, presentations, creative works

### Patents:

- Yon Sik SHIM, Hyun Sung PARK, Jiho MIN, **Le Thai-Hoang**, Seung Hyuck BANG, U Cheol LEE, Seon Woo NAM (2012). **Portable Apparatus and method for measurement pollution level of industry sewage, using fluorescent organism**. Submitted for Korea Patent (#10-2012-0120712).
- Min Jiho, Lim Eun-Suk, **Le Thai-Hoang**, Kim Yang-Hoon (2009) **Microarray for analysis of environmental stress comprising genes derived water flea**. Korean patent. (Application Number 10-2009-0084828)
- Min JiHo, Lim Eun-Suk, **Le Thai-Hoang**, Han Ji-Hye, Lee Soo-Youn, Yoon JiHee, Park Ju-Yong, Bang Seung-Hyuck, Lee Hyun- Jeong, Kim Yang-Hoon (2009) **Water flea transformed with reporter gene and method for preparation there of**. Korean patent. (Application Number 10-2009-0057638)

### Publication on peer-review journals:

- **Le Thai-Hoang**, Truong Thong, Tran Linh-Thuoc, Nguyen Duc-Hoang, Pham Thi Phuong Thuy, Ng Charmaine (2020) Antibiotic Resistance in the Aquatic Environments – The Need for an Inter-Disciplinary Approach. Under revision of the International Journal of Environmental Science and Technology.
- **Le Thai-Hoang**, Truong Thong, Hoang Thai Loc, Pham Thi Trang Van, Pham Thi Phuong Thuy, Tran Linh Thuoc, Tran Tien Khoi (2020) Influences of Anthropogenic Activities in a Megacity on The Water Quality along a Tropical River in Ho Chi Minh City, Vietnam. Under revision of the Journal of Environmental Monitoring and Assessment.
- **Le Thai Hoang**, Pham Thi Phuong Thuy, Nguyen Ly Ai Vy, Nguyen Thi Phuong, Nguyen Thi Cam Xuyen, Tran Hoai Tam (2018) Investigation of Antibiotic Resistant Bacteria in Tap Water in Ho Chi Minh City, 1<sup>st</sup> International Conference on Advanced Technology in Food Science and Biotechnology, Proceeding, Science and Technics Publishing House (ISBN: 978-604-67-1137-7), 30-37
- **Thai-Hoang Le**, Charmaine Ng, Ngoc Han Tran, Hongjie Chen, Karina Yew-Hoong Gin (2018) Removal of antibiotic residues, antibiotic resistant bacteria and antibiotic resistance genes in municipal wastewater by membrane bioreactor systems. Water Research, 145, 498-508.
- Laurence Haller, Hongjie Chen, Charmaine Ng, **Thai Hoang Le**, Tse Hsien Koh, Timothy Barkham, Mark Sobsey, Karina Yew-Hoong Gin (2018) [Occurrence and characteristics of extended-spectrum  \$\beta\$ -lactamase-and carbapenemase-producing bacteria from hospital effluents in Singapore](#). Science of The Total Environment 615, 1119-1125.
- Charmaine Ng, Martin Tay, Boonfei Tan, **Thai-Hoang Le**, Laurence Haller, Hongjie Chen, Tse H Koh, Timothy MS Barkham, Karina Y-H Gin (2017) [Characterization of metagenomes in urban aquatic compartments reveals high prevalence of clinically relevant antibiotic resistance genes in wastewaters](#). Frontiers in Microbiology 8.
- **Thai-Hoang Le\***, Charmaine Ng\*, Chen Hongjie, Xin Zhu Yi, Timothy Mark Sebastian Barkham, Zhou Zhi, Hong-Yew Karina Gin (2016) Occurrence and Characterization of antibiotic resistance genes and genetic determinants in Singapore hospital sewage. Antimicrobial Agents and Chemotherapy 60(12).

- Charmaine Ng\*, **Thai-Hoang Le\***, Shin Giek Goh, Liang Liang, Yiseul Kim, Joan B. Rose, Karina Gin Yew-Hoong (2015) A comparison of microbial water quality and diversity for ballast and tropical harbor waters. PLOS ONE 10 (11).
- Seung Hyuck Bang, Simranjeet Singh Sekhon, Sung-Jin Cho, So Jeong Kim, **Thai-Hoang Le**, Pil Kim, Ji-Young Ahn, Yang-Hoon Kim, and Jiho Min (2015) Antimicrobial Properties of Lysosomal Enzymes Immobilized on NH<sub>2</sub> Functionalized Silica-Encapsulated Magnetite Nanoparticles. Journal of Nanoscience and Nanotechnology. 15: 1-5.
- **Thai-Hoang Le**, Vaishnavi Sivachidambaram, Xinzhu Yi, Xu Li, Zhi Zhou (2014) Quantification of Polyketide Synthase Genes in Tropical Urban Soils using Real-time PCR. Journal of Microbiological Method. 106:135-142.
- Nam-Hui Hong, Simranjeet Singh Sekhon, Ji-Young Ahn, **Thai-Hoang Le**, Jiho Min, Yang-Hoon Kim (2014) Stress response in E. coli exposed to different pharmaceuticals. Toxicology and Environmental Health Sciences. 6:106-112
- Bit-Na Kim, **Thai-Hoang Le**, EunSeon Hong, Joo-Myung Ahn, Yang-Hoon Kim, Jiho Min (2014) Effects of different mineral supplements on fertilization of phenol-contaminated soils by Corynebacterium glutamicum. Biotechnology and Bioprocess Engineering. 19: 276-281.
- **Thai-Hoang Le**, Eun-Suk Lim, Nam-Hui Hong, Yang-Hoon Kim, Jiho Min (2013) Proteomic analysis in Daphnia magna exposed to As(III), As(V), Cd heavy metals and their binary mixtures for screening potential biomarkers. Chemosphere 93: 2341-2348.
- **Thai-Hoang Le**, So Jeong Kim, Seung Hyuck Bang, Sang-Hee Lee, Yong Woo Choi, Pil Kim, Yang-Hoon Kim, and Jiho Min (2012) Phenol Degradation Activity and Reusability of Corynebacterium glutamicum Coated with NH<sub>2</sub>-functionalized Silica Encapsulated Fe<sub>3</sub>O<sub>4</sub> Nanoparticles. Bioresource Technology 104: 795-798.
- **Thai-Hoang Le**, Eun-Suk Lim, Sung-Kyu Lee, Yang-Hoon Kim, and Jiho Min (2010) Effects of glyphosate and methidathion on the expression of the Dhb, Vtg, Arnt, CYP4, CYP314 in Daphnia Magna. Chemosphere 79: 67–71.
- **Thai-Hoang Le**, Eun-Suk Lim, Sung-Kyu Lee, Jin-Soo Park, Yang-Hoon Kim, and Jiho Min (2011) Toxicity evaluation of verapamil and tramadol based on toxicity assay and expression patterns of Dhb, Vtg, Arnt, CYP4, and CYP314 in Daphnia magna. Environmental Toxicology.26: 515-523.
- Hyun Jeong Lee, Ju-Yong Park, **Thai-Hoang Le**, Yang-Hoon Kim and Jiho Min. 2011. Effect of Mixed Organic Compounds Extracted from Rhodobacter sphaeroides on the Daphnia magna (Water Flea). Accepted for publication in World Journal of Microbiology and Biotechnology (SCIE)
- Nguyen Van Due Long, Lee Ju Weon, **Le Thai-Hoang**, Kim Jin-Il, Koo Yoon-Mo (2011) Solvent-gradient SMB to separate o-xylene and p-xylene. Korean Journal Of Chemical Engineering. 28, 1110-1119.
- Seung Hyuck Bang, **Thai-Hoang Le**, Sung Kyu Lee, Pil Kim, Jong Soo Kim, Jiho Min, 2011. Toxicity assessment of titanium(IV) oxide nanoparticles using Daphnia magna (Water Flea). Environmental Health and Toxicology. 26: 1-6.
- Soo Yeon Lee, **Thai-Hoang Le**, Suk-Tai Chang, Jin-Soo Park, Yang-Hoon Park, and Jiho Min (2010) Utilization of phenol and naphthalene affect biosynthesis of differential amino acids in Corynebacterium glutamicum. Current Microbiology. 61:596-600.
- Eun-Suk Lim, **Thai-Hoang Le**, Sang-Hee Lee, Yang-Hoon Kim, and Jiho Min (2009) Stress Responses analysis of As(III), Cd and Pb in Escherichia coli. Toxicology and environmental Health Sciences. 1: 192-195.

- Eun-Suk Lim, **Thai-Hoang Le**, Sang-Hee Lee, Yang-Hoon Kim, and Jiho Min (2009) Daphnia magna specific Responses to As(III), As(V) and Cd. Toxicology and environmental Health Sciences. 1: 196-199.
- Nguyen Van Due Long, Lee Ju Weon, **Le Thai-Hoang**, Kim Jin-Il, Koo Yoon-Mo (2009) Separation of D-Psicose and D-fructose from the binary mixture using Simulated Moving Bed Chromatography. Journal of Separation Science. 32, 1987-1995.
- **Thai-Hoang Le**, Ju Weon Lee, Jeong Kun Kim, and Yoon-Mo Koo (2009) Application of [hmim][BF4] ionic liquid as mobile phase additive in RP-SMB to separate 3-hydroxybenzoic acid and 4-hydroxybenzoic acid. Korean Journal of Chemical Engineering. 26(5)1334-1340.
- **Thai-Hoang Le**, Ju Weon Lee, Jeong Kun Kim, and Yoon-Mo Koo (2007) Effect of 1-alkyl-3-methyl-imidazolium tetrafluoroborate on the adsorption behavior of amine and carboxylic compounds in RP-LC. Journal of Liquid Chromatography and Related Technology. 30:14, 2127-2137.

#### International conferences / proceedings:

- **Le Thai Hoang**, Pham Thi Phuong Thuy, Truong Thong (2020) Seasonal variations in water quality, antibiotic residues and antibiotic resistant genes in surface water along the sai gon river. III Rencontres De Quy Nhon. Biology Conference 2020: Networking – Collaborations. ICISE, Quy Nhon, 11-13 Dec 2020.
- **Le Thai-Hoang**, Ng Charmaine, Laurence Haller, Chen Hongjie (2016). Removal of Antibiotic Resistance Bacteria & Gene In Singapore Domestic Wastewater By MBR Process. Singapore International Water Week 10-13 July 2016.
- Tran Tien Khoi, Huynh Duy Tan, Nguyen Thi Kim Anh, **Le Thai Hoang (2019)** Utilization of nitrogen from aquaculture wastewater for vegetables cultivation purposes. Journal of Vietnamese Environment 11(0): 29-36.

#### Vietnam conferences / Proceedings:

- Trương Thông, Lê Thái Hoàng, Phạm Thị Phương Thùy, Nguyễn Đức Hoàng (2019) Bước đầu đánh giá hiện trạng vi khuẩn kháng sinh trong mẫu nước mặt trên địa bàn tp. hồ chí minh. Kỷ yếu Hội nghị: Nghiên cứu cơ bản trong “Khoa học Trái đất và Môi trường”. DOI: 10.15625/vap.2019.000214
- Phạm Thị Phương Thùy, **Lê Thái Hoàng**, Trương Thị Nhung, Nguyễn Thị Cẩm Tuyên (2020) Các Yếu Tố Ảnh Hưởng Đến Quá Trình Chế Tạo Vật Liệu Chitosan Dạng Hạt Với Cấu Trúc Rỗng. Tạp chí Khoa học Đại học Huế: Khoa học Tự nhiên. 1:87-93. pISSN 1859-1388 eISSN 2615-9678
- Pham Thi Phuong Thuy, **Le Thai Hoang**, Huỳnh Công Hải (2019) Nghiên cứu tận dụng bã men bia để thu nhận chitin và chuyển hóa thành glucosamine - Tuyển tập báo cáo toàn văn Hội nghị Công nghệ Sinh học toàn quốc năm 2019 – Nhà xuất bản Đại học Quốc gia Tp.HCM. ISBN 978-604-73-7266-9, p107-112

#### 11. Professional development activities

- To participate an evaluation research committee for the project of Tay Nam Bo Research program (Project Code: KHCV-TNB/14-19): Nghiên cứu phát triển qua thử phát hiện nhanh hai độc tố ToxA và ToxB của vi khuẩn Vibrio Parahaemolyticus gây bệnh hoại tử gan tụy cấp trên tôm nuôi ở Tây nam bộ

- To participate an evaluation research committee for the project of Tay Nam Bo Research program (Project Code: KHCV-TNB-ĐT/ 14-19/T01): Xây dựng kit sinh học xác định độc tính phục vụ quan trắc ô nhiễm vùng nước mặt tây nam bộ
- To participate the department meetings and seminars on the environmental issues

#### **12. Teaching competence**

- To complete teaching duty and continuously improve teaching methods and materials
- To mentor students for their research and learning activities