HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY (HCMUT)

THE DIRECTORY FOR ENGINEERING

Linking University Researchers to Industry and Community

2020

HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY (HCMUT)

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Linking University Researchers to Industry and Community

iro.hcmut.edu.vn

Engineering Directory

Foreword

Established in 1957, Ho Chi Minh City University of Technology (HCMUT) was known as Phu Tho National Technical Center, the only institution that trained engineers in Southern Vietnam before the country-reunification. Through years witnessing memorable changes in establishment and development, HCMUT has still remained the leading university in science and engineering in Southern Vietnam with high reputation for its glorious history, highly qualified graduates, innovative training quality, professional human resources, impactful research work and successful alumni. HCMUT also impresses its partner that the employment rate after one-year of graduation is listed among the highest in Vietnam. For a long time, HCMUT has become a brand name of innovation and excellence.

At global level, HCMUT engages itself in international accreditation and successfully gets accredited by ABET, AUN-QA, HCERES… HCMUT currently has 2 programs recognized by ABET, 7 by CTI, 1 by FIBAA, 1 by ACBSP/AMBA/IACBE and 13 by AUN. The university has also gained profound experience in international cooperation by participating in international academic networks and projects which can further enhance its human resources and research capabilities as well as dramatically increasing the number of outbound and inbound scholar and student mobility.

In recent years, HCMUT has developed a strong linkage with academia and industry regionally and globally. The growing collaboration inspires HCMUT to produce a substantial and thorough introduction about its capabilities and facilities. The Engineering Directory was initiated in such context for the purpose of clearly & structurally describing the University's top prioritized research fields, laboratory services, experts and their successes in bridging the gaps between the rising demands of industries and the available supplies from the university.

The booklet which you are holding is the latest edition of our Engineering Directory presenting solid details on engineering faculties, key laboratories, research and incubation centers, research interests, academic staff and research services of our university. It is categorized in 10 main engineering faculties, including: Applied Sciences, Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electrical & Electronics Engineering, Environment & Natural Resources, Geology & Petroleum Engineering, Materials Technology, Mechanical Engineering, Transportation Engineering. Information about School of Industrial Management, research and training centers, incubation center and key labs is also included. The table of content is arranged based on the aforementioned categories which aims at comfortable and convenient searching for a specific source of information.

On behalf of HCMUT, I would like to express my deepest appreciation to all faculties, centers and laboratories who dedicatedly contribute to the university's research and academic activities. That valuable contribution will importantly build up opportunities for future partnership between HCMUT and potential partners. I strongly believe that the Directory will meet our expectations in connecting academia and industry, thus, strengthening technology transfer, improving training quality, and serving the community.

Assoc. Prof. Dr. Mai Thanh Phong

President

Ho Chi Minh City University of Technology (HCMUT) was established in 1957 and has been recognized as a center of excellence among technological universities in Vietnam. Prior to the country re-unification in 1975, the university was the only institution to produce engineers in the Southern Vietnam. Up to the present , HCMUT still remains as the largest, the most prestigious and the oldest engineering university in the South of Vietnam.

The University has two campuses: one is located in the inner of Ho Chi Minh City and the other in the outskirts of the city. Located in a metropolitan area about 6km from downtown Ho Chi Minh City and nearly 6km from the international airport, the former one sets on a 14.2-hectare campus full of greenery. The latter one, with an area of 26 hectares, is located about 28 km from the city campus. HCMUT has more than 26,000 students enrolled in 11 academic faculties and 1500 full-time academic and staff members. Many of HCMUT faculty members graduated from foreign well-known universities. Together, they provide invaluable knowledge and skills contributing to the development of the university. It's the cultural and intellectual diversity of dynamic teaching staff that portrait a special characteristic of HCMUT.

HCMUT sets a goal to achieve world evaluated standard in engineering education and to be recognized internationally. The university has the role to equip engineers with solid scientific knowledge and technical skills to keep up with rapid changing technology in the workplace. Moreover, the university maintains an excellent reputation in higher education, fosters intellectual growth, provides a good learning environment, supports and encourages the development of student's potentials. To further enhance its academic quality, keep up with international development, and expand research activities & technology transfer, HCMUT has also established a variety of collaborations with higher education institutions & industry as well as partnering in many consortia and mobility programs worldwide. HCMUT staff are trying all their best to fulfill a commitment to building a premier research-based university and serving higher educational needs of the public.

Vision:

To become an innovative, pioneering and international integrated university

Mission:

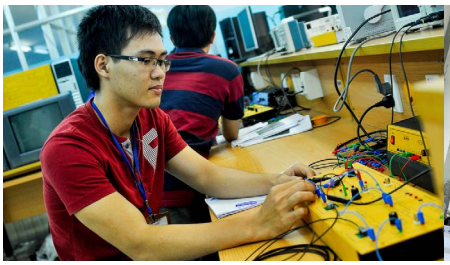
HCMUT is an autonomous university with the following missions:
- To educate the intellectual capital with leadership competence;
- To create new knowledge through scientific research and technological transfer;
- To assume social responsibility and community services.

The system of core values:

- The devotion and core competence of our management, academic staff and students;
- Creativity and innovation in education and research;
- Dynamic learning environment and international integration;
- Strong sense of social responsibility and community services;
- Strong linkages between the university, community and enterprises.

Educational Philosophy

Liberal Art Education; Pioneering in quality, creativity and integration



10 engineering faculties and 1 School of Industrial Management:

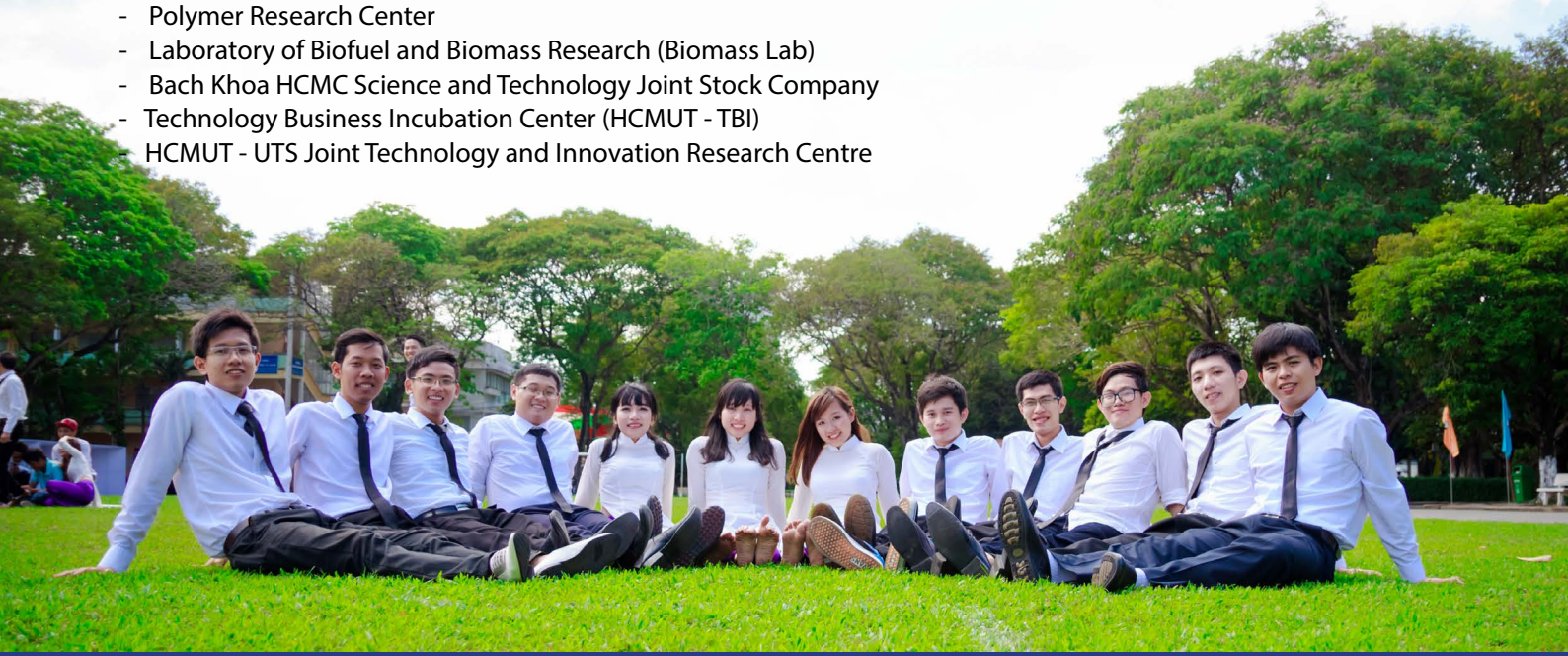
- Faculty of Applied Sciences
- Faculty of Chemical Engineering
- Faculty of Civil Engineering
- Faculty of Computer Science and Engineering
- Faculty of Electrical and Electronics Engineering
- Faculty of Environment and Natural Resources
- Faculty of Materials Technology
- Faculty of Mechanical Engineering
- Faculty of Geology and Petroleum Engineering
- Faculty of Transportation Engineering
- School of Industrial Management

Training Centers:

- Industrial Maintenance Training Center
- Foreign Languages Center
- Business Research and Training Center
- Pre-engineering Education Center

Laboratories and Research Centers:

- Laboratories under academic faculties
- National Key Lab for Polymer & Composite
- National Key Lab for Digital Control & System Engineering
- VNU HCM Key Lab for Chemical Engineering and Petroleum Processing
- VNU HCM Key Lab for Internal Combustion Engine
- VNU HCM Key Lab for Materials Technology
- VNU HCM Key Lab for Materials Structures
- Laboratory for Advanced Waste Treatment Technology
- Center for Developing Information Technology And Geographic Information System (DITAGIS)
- Research and Application Center for Construction Technology (REACTEC)
- Refinery and Petrochemical Technology Research Center (RPTC)
- Asian Center for the Research of Water (CARE)
- Polymer Research Center
- Laboratory of Biofuel and Biomass Research (Biomass Lab)
- Bach Khoa HCMC Science and Technology Joint Stock Company
- Technology Business Incubation Center (HCMUT - TBI)
- HCMUT - UTS Joint Technology and Innovation Research Centre



External Relations

HO CHI MINH CITY UNIVERS

Institut Polytechnique de Ho Chi Minh-Ville

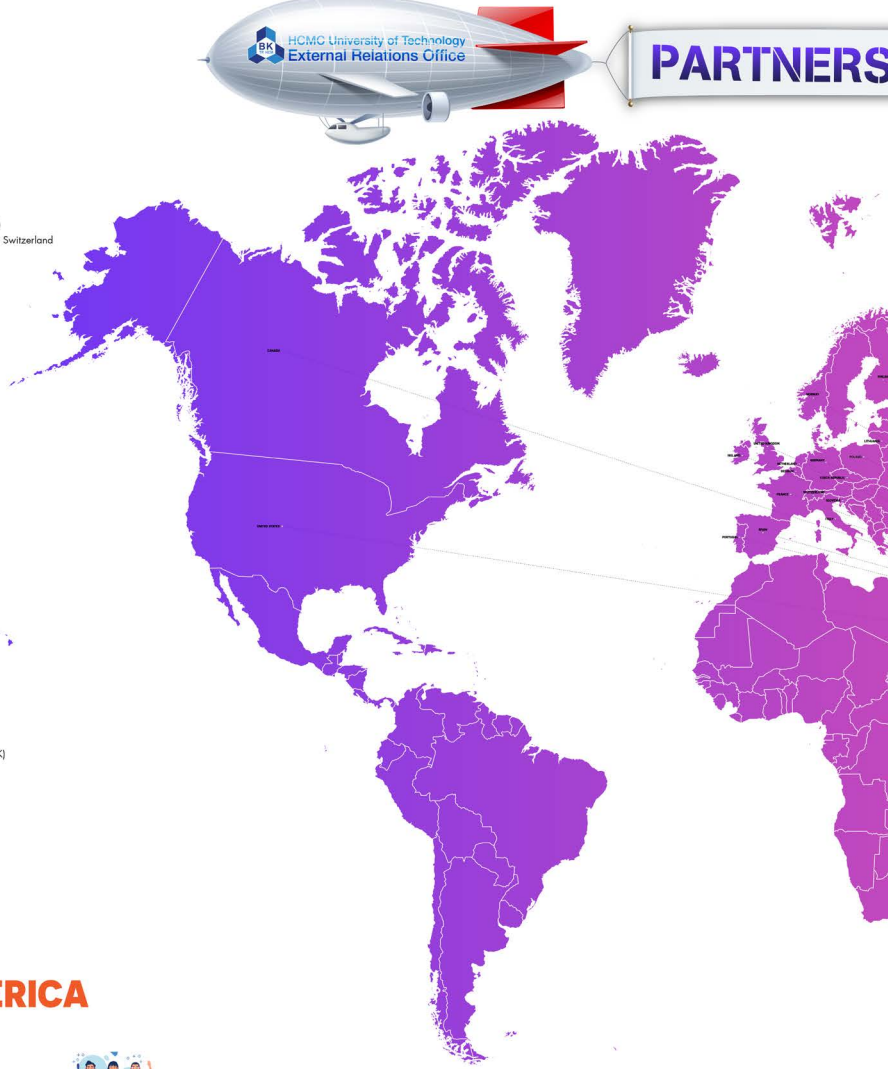
호치민 시티 공과 대학

Technische Universität H

HCMUT

HCMC University of Technology
External Relations Office

PARTNERS



PARTNERS FROM EUROPE

- Agrosup Dijon
- ECAM Lyon
- École Nationale des Ponts et Chaussées (ENPC)
- École Nationale Supérieure d'Architecture de Strasbourg (ENSAS)
- École Nationale Supérieure d'Arts et Métiers
- École Nationale Supérieure d'Électrotechnique, d'Électronique, d'Informatique, d'Hydraulique et des Télécommunication (INP-ENSEEIHT)
- École nationale supérieure d'Informatique pour l'Industrie et l'Entreprise (ENSIIE)
- École nationale supérieure de Mécanique et d'Aéronautique (ENSMA)
- École Nationale Supérieure des Arts et Industries Textiles (ENSAIT)
- Ecole Polytechnique (l'X)
- Ecole Supérieure d'Electricité (SUPELEC)
- Grenoble INP
- Institut National des Sciences Appliquées de Lyon (INSA Lyon)
- Institut National Polytechnique de Toulouse (TOULOUSE INP)
- Institut Universitaire de Technologie 1 (IUT 1) - Université Joseph Fourier - Grenoble 1
- Télécom ParisTech
- Université Catholique de Lyon (UCLy)
- Université Claude Bernard Lyon 1
- Université de Bourgogne
- Université de Cergy-Pontoise
- Université de Haute - Alsace (UHA)
- Université de Savoie
- Université de Technologie de Troyes (UTT)
- Université Pierre et Marie Curie
- Université Sorbonne Paris Nord

- Politecnico Di Torino
- Sapienza University of Rome
- The International Telematic University UNINETTUNO
- The University of Modena and Reggio Emilia
- The University of Trento
- Università degli Studi di Brescia

- Thomas More University of Applied Sciences
- University Colleges Leuven - Limburg (UCLL)

- Bielefeld University of Applied Sciences (FH BIELEFED)
- Dresden University of Technology
- Fachhochschule Oldenburg/Ostfriesland/Wilhelmshaven (FH OOW) University of Applied Sciences
- Fichtner GmbH & CO.KG
- Hochschule Bremen City University of Applied Sciences
- Ludwigshafen University of Applied Sciences
- OTH Regensburg
- Ruhr University Bochum
- University of Applied Sciences Cologne
- University of Hannover
- University of Heidelberg
- Hochschule Mainz - University of Applied Sciences

- The Queen's University of Belfast (QUEEN'S)
- The University of Manchester
- University of Warwick

- École d'Ingénieurs et d'Architectes de Fribourg
- École Polytechnique Fédérale de Lausanne (EPFL)
- University of Applied Sciences and Arts Western Switzerland

- University of Vigo

- The University of Minho
- Universidade do Algarve
- Universidade do Porto
- Universidade Nova de Lisboa
- University of Trás-os-Montes and Alto Douro

- Eindhoven University of Technology (TU/e)
- The University of Groningen

- Cork Institute of Technology (CIT)
- The University of Limerick

- Masaryk University

- University College of Northen Denmark (UCN)

- Academy of Economic Studies from Moldova

- Bialystok University of Technology
- Jagiellonian University in Krakow
- Warsaw School of Economics

- Alexandru Ioan Cuza University of Iasi
- Transilvania University of Brasov

- Moscow Power Engineering Institute
- South Ural State University
- Ufa State Petroleum Technological University

- Aalto University
- LUT University
- Seinajoki University of Applied Sciences (SeAMK)

- University of Ljubljana

- University of Applied Sciences

- University of South-Eastern Norway

- University of West Attica, Greece

PARTNERS FROM NORTH AMERICA

- Arizona State University
- Drexel University
- Illinois Institute of Technology
- The Catholic University of America
- University of Illinois at Urbana Champaign
- University of Missouri - Kansas City
- University of Texas Arlington
- United States Agency for International Development

- École de Technologie Supérieure (ETS)
- École Polytechnique Montréal
- Memorial University of Newfoundland
- University of Saskatchewan

PARTNERS FROM OCEANIA

- Deakin University
- Griffith University
- Macquarie University
- Monash University
- Queensland University of Technology (QUT)
- Royal Melbourne Institute of Technology (RMIT)
- Swinburne University of Technology
- University of Adelaide (UA)
- University of Queensland (UQ)

- University of Southern Queensland (USQ)
- University of Tasmania (UT)
- University of Technology Sydney (UTS)
- University of Western Sydney
- University of Wollongong
- Victoria University of Technology (VUT)
- Western Sydney University

- Aukland University of Technology
- University of Otago

INDUSTRIAL PARTNERS

- Coteccons Construction Joint Stock Company
- Petrovietnam Power Nhon Trach 2 Joint Stock Company
- BESTMIX Corporation
- Hochiminh City Power Corporation (EVNHCMC)
- Saigon Transportation Mechanical Corporation (SAMCO)
- Saigon-RDC CO., LTD.
- TTC Group
- Hiep Phuoc Industrial Park Joint Stock Company
- Power Transmission Company 4
- Vietnam Posts and Telecommunications Group
- Vietnam Food JSC
- Power Engineering Consulting Joint Stock Company 3
- Bien Dong POC
- HUNG THINH INCONS Joint Stock Company
- Orient Commercial Joint Stock Bank (OCB)
- IP GROUP Joint Stock Company
- DPN Aerogels Joint Stock Company
- TemRadar Corporation
- Vietnam Blockchain Corporation (VBC)
- Xelex Technology Corporation
- Bui Van Ngo Machinery Sai Gon Company Limited
- Dien Quang Lamp Joint Stock Company
- HUNG THINH Corporation
- Viettel High Technology Industries Corporation
- Truong Hai Auto Corporation (THACO).
- Sai Gon Water Supply Corporation (SAWACO)
- Bach Khoa Investment & Development Of Solar Energy Corporation (SolarBK)
- Siam City Cement (Vietnam) Ltd (INSEE)
- Petrovietnam Exploration Production Corporation (PVEP)
- Russia-Vietnam Joint Venture - Vietsovpetro
- Power Engineering Consulting Joint Stock Company 3
- Co May Group

- Woolmark Internatio
- Siemens PLM Softwa
- Siemens
- Kanden System Solu
- Cube System Inc.
- Sumiden Device Inno
- Okasan Livic Vietnar
- Juki Corporation
- JUKI Vietnam
- Renesas Design VN
- TIS Inc.
- YAGAI-KAGAKU Co
- JFE Steel Corporation
- G-In Engineering Co
- Material Research C
- Research Center for
- The Busan Transport
- Vientiane Capital Ch
- LocoTech
- Bronx Creative & De
- Infineon Technologie
- NVIDIA SINGAPORE
- ABB Ltd.
- Endress + Hauser Ins
- ESRI VIETNAM
- Keysight Technologie

SITY OF TECHNOLOGY - VNU-HCM

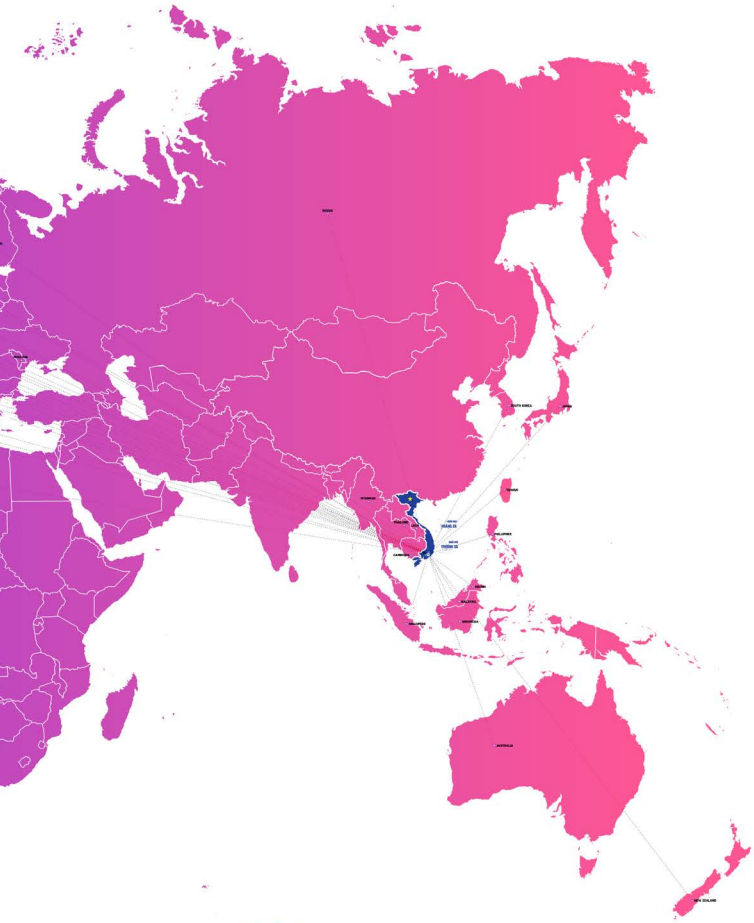
ホーチミン市工科大学

Ho-Chi-Minh-Stadt

Технологический Университет Г. Хошимин

Università della tecnologia di Ho Chi Minh City

S WORLDWIDE (2020-2021)



PARTNERS FROM ASIA

- Akashi National College of Technology
- Doshisha University
- Hiroshima University
- Hokkaido University
- Hosei University
- Japan Advanced Institute of Science and Technology
- Japan International Cooperation Agency
- Kanazawa University
- Kawasaki City
- Keio University
- Komoro City
- Kumamoto University
- Kyoto Institute of Technology
- Kyoto University
- Kyushu Institute of Technology
- Kyushu University
- Mie University
- Nagaoka University of Technology
- Nagasaki University
- Nagoya University
- Osaka University
- Shibaura Institute of Technology
- Suwa University of Science
- Teikyo University
- The University of Electro-Communications
- The University of Tokyo
- The University of Tsukuba
- Tohoku University
- Tokyo City University
- Tokyo Denki University
- Tokyo Institute of Technology
- Tokyo University of Agriculture and Technology
- Toyohashi University of Technology
- Waseda University
- Yokohama National University

- Institut Teknologi Bangdung (ITB)
- Institut Teknologi Sepuluh Nopember (ITS)
- Universitas Brawidjaja (UB)
- Universitas Gadjah Mada (UGM)
- Universitas Indonesia (UI)
- Universitas Islam Riau (UIR)

- Universiti of Teknologi Petronas (UTP)
- Universiti of Malaya (UM)
- Universiti Putra Malaysia (UPM)
- Universiti Sains Malaysia (USM)
- Universiti Teknologi Malaysia (UTM)

- Mandalay Technological University (MTU)
- University of Yangon (UY)
- Yangon Technological University (YTU)

- De La Salle University (DLSU)
- Mindanao State University - Illigan Institute of Technology (MSU-IIT)
- University of the Philippines-Diliman (UP)

- National University of Laos (NOUL)

- Institute of Technology of Cambodia (ITC)

- Institut Teknologi Brunei (ITB-BRU)
- Universiti Brunei Darussalam (UBD)

- Chonbuk National University
- Chosun University
- Chung-Ang University
- Chungnam National University
- Daegu Haany University
- Korea Construction Equipment Technology Institute (KOCETI)
- Korea Institute of Industrial Technology
- Korea University
- Kunsan National University
- Kyungwon University
- Masan University
- Myongji University
- POSTECH
- Pukyong National University
- Pusan National University
- Seoul National University
- Sungkyungkwan University
- University of Ulsan
- Yeungnam University
- The International Exchange Center of Korea

- Cheng Shiu University (Taiwan)
- Kaohsiung Medical University (Taiwan)
- Ming Chi University of Technology (Taiwan)
- Ministry of Economic Affairs (Taiwan)
- National Central University (NCU) (Taiwan)
- National Cheng Kung University (Taiwan)
- National Chi Nan University (Taiwan)
- National Chung Hsing University (Taiwan)
- National Formosa University (Taiwan)
- National Kaohsiung First University of Science and Technology (Taiwan)
- National Research Institute of Chinese Medicine (Taiwan)
- National Taiwan University (NUT) (Taiwan)
- National Taiwan University of Science and Technology (NTUST) (Taiwan)
- National University of Tainan (Taiwan)
- Shu-Te University (Taiwan)
- ST. John's & ST. Mary's Institute of Technology (Taiwan)

- Asumption University of Thailand
- Burapha University (BUU)
- Chulalongkorn University (CU)
- Kasetsart University (KU)
- King Mongkut's Institute of Technology North Bangkok
- King Mongkut's Institute of Technology Ladkrabang (KMITL)
- Sirindhorn International Institute of Technology (SIIT), Thammasat University
- Thammasat University (TU)

- Nanyang Polytechnic (NYP)
- Nanyang Technological University (NTU)
- National University of Singapore (NUS)

- Bangladesh University of Engineering and Technology (BUET), Bangladesh
- Indian Institute of Technology Roorkee (IITR), India
- Royal University of Bhutan (RUB)
- University of Dhaka (DU), Bangladesh
- University of Peradeniya (PDN), Sri Lanka

CONSORTIUM

- South East Asian Technological University Consortium (SEATUC)
- Global Technology Initiative Consortium (GTI)
- ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net)
- Developing Energy Efficient and Smart Lighting Education in Vietnam & Myanmar (DESL)
- Greater Mekong Subregion Academic & Research Network (GMSARN)
- ASEAN University Network (AUN)
- Réseau d'Excellence des Sciences de l'Ingénieur de la Francophonie (RESCIF)
- Building University-Industry Learning and Development through Innovation and Technology (BUILD-IT)
- Agence Universitaire de la Francophonie (AUF)
- Enabling Humanitarian Attributes for Nurturing Community-based Engineering (ENHANCE)
- Port-City University League (PUL)

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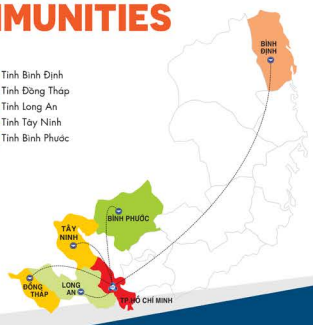
s Asia Pacific PTE LTD
E DEVELOPMENT PTE LTD
truments International AG
es Singapore PTE LTD

PARTNERSHIP WITH VIETNAMESE HIGHER EDUCATION INSTITUTIONS AND LOCAL COMMUNITIES

- Bệnh viện Thống Nhất
- Trường Cao đẳng Công nghệ LILAMA 2
- Trường Đại học Bách Khoa Hà Nội
- Trường Đại học Công nghiệp Tp. HCM
- Trường Đại học Đà Lạt
- Trường Đại học Giao thông Vận tải TP.HCM
- Trường Đại học Khoa học Xã hội & Nhân văn
- Trường Đại học Kinh tế Quốc dân
- Trường Đại Học Quốc Tế Miền Đông
- Trường Đại học Thái nguyên
- Trường Đại học Thủ Dầu Một
- Trường Đại học Việt - Đức
- Viện Công nghệ VINIT

- Tỉnh Bình Định
- Tỉnh Đồng Tháp
- Tỉnh Long An
- Tỉnh Tây Ninh
- Tỉnh Bình Phước



Technology Readiness Levels Definitions and Descriptions

Technology Readiness Level or "TRL" is a widely used indicator of degree of development of a technology toward deployment on a scale of 1-9, with 9 being fully deployment ready.

See http://www1.eere.energy.gov/manufacturing/financial/trls.html

Technology Readiness Level Definition

TRL 1	Basic Research: Initial scientific research has been conducted. Principles are qualitatively postulated and observed. Focus is on new discovery rather than applications.
TRL 2	Applied Research: Initial practical applications are identified. Potential of material or process to solve a problem, satisfy a need, or find application is confirmed.
TRL 3	Critical Function or Proof of Concept Established: Applied research advances and early stage development begins. Studies and laboratory measurements validate analytical predictions of separate elements of the technology.
TRL 4	Lab Testing/Validation of Alpha Prototype Component/Process: Design, development and lab testing of components/processes. Results provide evidence that performance targets may be attainable based on projected or modeled systems.
TRL 5	Laboratory Testing of Integrated/Semi-Integrated System: System Component and/or process validation is achieved in a relevant environment.
TRL 6	Prototype System Verified: System/process prototype demonstration in an operational environment (beta prototype system level).
TRL 7	Integrated Pilot System Demonstrated: System/process prototype demonstration in an operational environment (integrated pilot system level).
TRL 8	System Incorporated in Commercial Design: Actual system/process completed and qualified through test and demonstration (pre-commercial demonstration)
TRL 9	System Proven and Ready for Full Commercial Deployment: Actual system proven through successful operations in operating environment, and ready for full commercial deployment

FACULTY OF APPLIED SCIENCES

Research Interest

1. Applied Mathematics

- Stochastic processes and Stochastic Dynamical systems
- Applied statistics
- Optimization, Variational analysis
- Partial differential Equations
- Complex analysis

2. Engineering Mechanics

2.1. Computational mechanics

- Structural analysis, design validation and optimization for structures in engineering
- Metal forming simulation
- Numerical method developing for computational mechanics: extended finite element method, consecutive- interpolation technique, meshfree methods, enrichment techniques for fracture problem, numerical algorithms for optimization analysis

2.2. Dynamics and control:

- Design and manufacture control unit for 3/4/5-axis CNC machine, balance machine used to balance rotating devices such as rotor, shaft…
- More than 200 CNC machines equipped with our self-manufactured control units and 200 balance machines have been transferred to our industrial customers in Vietnam over the past 20 years

2.3. Measurement techniques and data mining:

Developing measurement systems for research and solve problems issued by the industrial customers. The systems can measure strain, stress, pressure, velocity and acceleration. Along with the hardware, appropriate software's for specific application have been developed. Depend on the application, proper signal/data processing theory such as Fourier, Wavelets, Fuzzy transformation, neural network, statistics, and advanced knowledge in signal/data processing field are used. We had done the onsite test for vibration and deformation evaluation of a Mercedes Benz Viet Nam bus structure and provided services test for civil structure such as concrete/steel bridges, height buildings, …

3. Computational Mechanics & Optimization (CMO) *Website:https://cmo.cad-fea.net/*

3.1 Structural analysis

- Assessment of durability design in mechanical engineering
- Metal forming simulation calculations
- Thermo-Mechanical Behavior Analysis

3.2 Numerical development

- Extended FEM
- Consecutive-Interpolation FEM
- Extended meshfree methods

3.3 Material modeling

- Functionally graded material
- Composite materials
- Material Damage models

3.4 Optimization

- Topology optimization
- Structural optimization
- Material parameters optimization

3.5 Wave Energy

- Wave simulation by CFD
- Wave energy conversion device

Industrial projects:

- Analysis of bus front and back cover (SAMCO)
- Dynamic analysis of truck cabin(VMS Engineering)
- Fatigue verification of truck part welding (VMS Engineering)
- Analysis of truck chassis structure (VMS Engineering)
- Computation and redesign for tanker support structure
- Analysis of response of missile cover (Institute of Missile)
- FEA for rubber tyre making machine(Nguyen DinhRubber)
- Simulation for metalforming process(Neptech Center)
- Design – analysis – experimental studies of screws used in spinal surgery (Trauma andorthosis hospital HCMC)

International projects:

VIBE project (Sponsored by Ireland): "A Prototype Approach To Renewable Energy Based On Ocean Wave Power"

4. Applied Physics for Life Science Engineering (Engineering Physics)

4.1. Applications of nanomaterials and optoelectronics devices in Life Science

- Fabricating optoelectronics devices for biomedical reseach purposes
- Determining properties of optoelectronics devices, LED, LASER
- Synthesizing and characterizing nanomaterials as a platform for optical-based biosensors
- Designing LEDs system for biomedical applications

42. Artificial Intelligence Application in Biomedical Engineering

- AI application in biomedical imaging
- AI application in biosignal processing and biofeeback

4.3. Research on Advanced Biomedical Imaging

- Manufacturing and application of diagnostic imaging devices using optical techniques
- Manufacturing and application of near infrared imaging system

4.4. Research on Advanced Biomedical Signal Processing Applications

- Manufacturing IoT devices for measuring biomedical vital signals
- Reseach on application of bioimpedance and impedance spectroscopy for biomedical samples with the frequency up to 20 MHz
- Research on multi-effect physiotherapy system

4.5. Application of Low Level Semiconductor Laser in Medicine and Biology

- Manufacturing low level semiconductor laser equipment and implementing in Low level Laser Therapy
- Research on Low Level Semiconductor Laser application in plant biology

5. Applications of Nanomaterials and Optoelectronics Devices in Life Science

- Fabricating optoelectronics devices for biomedical reseach purposes
- Determining properties of optoelectronics devices, LED, LASER
- Synthesizing and characterizing nanomaterials as a platform for optical-based biosensors
- Designing LEDs system for biomedical applications

6. Artificial Intelligence Application in Biomedical Engineering

- AI application in medical imaging
- AI application in biosignal processing and biofeeback

7. Research on Advanced Biomedical Imaging Devices

- Manufacturing and application of diagnostic imaging devices using optical techniques
- Manufacturing and application of near infrared imaging system

8. Research on Advanced Biomedical Signal Processing Applications

- Manufacturing IoT devices for measuring biomedical vital signals
- Reseach on application of bioimpedance andimpedance spectroscopy for biomedical samples with the frequency up to 20 MHz.
- Research on multi-effect physiotherapy system

9. Application of Low Level Laser in Medicine and Biology

- Manufacturing low level laser equipment and applications
- Research on low level laser in plant biology
  - Manufacturing 20 types of low level semiconductor laser equipment for medical treatment
  - Implementing over 1000 equipment and transferring treatment technology to more than 100 medical units
  - Equipping new laboratory for research in medicine and plant biology

Academic Resources

Assoc. Prof. Dr.Nguyen Dinh Huy
- PhD degree in Mathematics, Vietnam Academy of Science and Technology (VAST)
- Research interests: Applied analysis; Theory control
- Affiliated Academic society: VMS
- Field of Research: Applied Mathematics
- Subdiscipline: Applied Analysis

Dr. Nguyen Tien Dung
- PhD degree in Mathematics, Wayne State University, USA
- Research interests: Stochastic processes and Stochastic Dynamical systems
- Affiliated Academic society: VMS
- Field of Research: Applied Mathematics
- Subdiscipline: Applied Statistic
Technology Readiness Level (TRL): Level 2

Dr. Huynh Thi Hong Diem
- PhD degree in Mathematics, Ho Chi Minh City University of Science
- Research interests: Optimization; Variational analysis; Mathematical Programming
- Link to publications:
• https://drive.google.com/drive/folders/1B21QyKlh7-8IlbTI7582X6ZnQPa4YKSI?usp=sharing
- Affiliated Academic society: VMS
- Field of Research: Applied Mathematics
- Subdiscipline: Optimization

Dr. Phan Thi Huong
- PhD degree in Mathematics, University of Padova, Italy
- Research interests: Survival models; Applied models in medicine and biology
- Link to publications:
• http://www.universitas-studiorum.it/1/cladag_2017_book_of_short_papers_2852494.html
- Field of Research: Applied Mathematics
- Subdiscipline: Applied Analysis

Dr. Dau The Phiet
- PhD degree in Mathematics, University of Padova, Italy
-Research interests: Complex analysis
- Link to publications:
• https://link.springer.com/artcle/10.1007/s10013-019-00337-7
- Field of Research: Applied Mathematics
- Subdiscipline: Complex analysis

Dr. Phung Trong Thuc
- Phd degree in Mathematics, Australia
- Research interests: Complex analysis
- Link to publications:
• https://www.worldscientific.com/doi/abs/10.1142/S0129167X18710015
- Field of Research: Applied Mathematics
- Subdiscipline: Complex analysis

Dr. Nguyen Dinh Duong
- Phd degree in Mathematics University of Science and Technology, VAST
- Research interests: Equilibrium problem; Mathematical Programming
- Field of Research: Applied Mathematics
- Subdiscipline: Optimization

Dr. Pham Thi Hai Mien
- PhD degree in Optical Physics, Voronezh University, Russia
- Research Interest: NIR and fluorescence biomedical imaging; LED Technology
- Subdiscipline: Optical Physics; Biomedical Engineering
- Link to publication:
• https://orcid.org/0000-0003-0293-8839

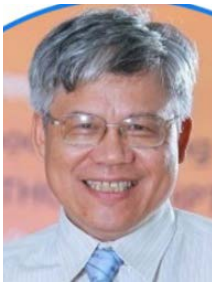
Dr. Pham Bao Toan
- PhD degree in Engineering Mechanics, Ho Chi Minh City Unversity of Technology (HCMUT)
- Research interest: Vibration measurement and structure diagnostic
- Awards:
• Award for Outstanding Young Scientist, presented by Vietnam National University -HCMC, 2012
• Award for Outstanding Young Scientist, presented by HCMC University of Technology, 2012

Prof. Dr. Ngo Kieu Nhi
- PhD degree in Dynamics and Strength of Machinery, Lenin Poly-technique University, Russia
- Research interest: Dynamics and control, Measurement and data mining
- Selected awards:
• National award for science and technology to recognize her efforts and contribution on "Research and manufacture measurement devices for manufacturing", 2005
• Kovalevskaya award for outstanding female scientist, 2003
• Medal of Ministry of Science-Technology and Environment for her contribution on Science and Technology, 2002
• The 3rd place on "Creative Science and Technology Award" for the project entitled "Manufacturing dynamic balancing machine and control unit for CNC machine", Ministry of Science-Technology and Environment, 2001
• Medal of Ministry of Education and Training for great contribution on education, 1995

Msc. Vuong Cong Luan
- Msc. in Engineering Mechanics, Ho Chi Minh City Unversity of Technology
- Research interest: Vibration measurement and structure diagnostic
- He has published about 8 papers in his research field and has been principle investigator (PI) of 1 research projects

Msc. Nguyen Quoc Hung
- Msc. in Engineering Mechanics, Ho Chi Minh City Unversity of Technology (HCMUT)
- Research interest: Dynamics and control
- He has published about 8 international papers in his research field and has been principle investigator (PI) of 1 research projects

Assoc.Prof. Dr. Truong Tich Thien
- PhD degree in Mechanical Engieering, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Structural analysis, Numerical methods development, Material modeling
- Field of Research: Mechanical & Manufacturing; Energy Engineering - Subdiscipline: Computational Mechanics
- Technology Readiness Level (TRL): Level 3



Dr. Ly Anh Tu
- PhD degree in Engineering Physics,S lovak University of Technology in Bratislava
- Research Interest: Nuclear Engineering; Biomedical Engineering
- Link to publication:
• https://orcid.org/0000-0003-1045-4236

Dr. Dau Si Hieu
- PhD degree in Optical Physics
- Research Interest: Optical system design; Computer vision

Dr. Nguyen Thanh Nha
- PhD degree in Engieering Mechanics
- Research interests: structural analysis, numerical methods development, material modeling
- Link to publications:
• https://scholar.google.com/citations?hl=en&authuser=1&user=nEO-IyIAAAAJ
- Link to past research projects:
• https://www.researchgate.net/profile/Nguyen_Nha2
- Field of Research: Mechanical & Manufacturing; Energy Engineering
- Subdiscipline: Computational Mechanics; Design Optimization
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Ngoc Minh
- PhD degree in Engieering Mechanics
- Research interests: Structural analysis, Numerical methods development, Material modeling
- Link to publications:
• https://scholar.google.com/citations?user=ZUdvNsMAAAAJ&hl=en&authuser=1
- Link to past research projects:
• https://www.researchgate.net/profile/Minh_Nguyen89
- Field of Research:Mechanical & Manufacturing
- Subdiscipline: Computational Mechanics; Design Optimization
- Technology Readiness Level (TRL): Level 3

Dr. Pham Tan Thi
- PhD degree in Physics, Osaka University, Japan
- Research Interest: Optoelectronics for microbiology; Photobiomodulation; Optical-based Biosensors; AI algorithms for Biomedical Engineering
- Field of Research: Chemical Engineering
- Subdiscipline: Nanoscience and Nanoengineering; Biomedical Engineering
- Link to publications:
• https://orcid.org/0000-0001-5560-1178

Dr. Tran Trung Nghia
- PhD degree in Bioengineering and Bioinformatics, Hokkaido University, Japan
- Research Interest: NIR Biomedical Imaging; Laser Technology; Electrical Impedance Tomography; Disinfection and Biosafety; Infrared spectroscopy for food quality analysis and control
- Field of Research: Electrical & Electronics Engineering; Chemical Engineering
- Subdiscipline: Electronics Engineering; Biomedical Engineering
- Link to publications:
• https://www.researchgate.net/profile/Trung_Nghia_Tran

Dr. Nguyen Trung Hau
- PhD degree in Electronics Engineering, Pukyong National University, Korea
- Research Interest: Laser-Tissue Interaction; Signal Processing; EEG-Based assistance systems; Biomedical Circuits and Systems; Machine Learning
- Field of Research: Electrical & Electronics Engineering; Chemical Engineering
- Subdiscipline: Electronics Engineering; Biomedical Engineering
- Link to publication:
• https://www.researchgate.net/profile/Hau_Nguyen28

Assoc. Prof. Dr. Tran Minh Thai
- PhD degree in Laser Physics, Russian Science Academy - The Lebedev Physical Institute of the Russian Academy of Sciences
- Research interests: Spray-type semiconductor lasers by spectroscopy and interference
- Subdiscipline: Laser Technology; Laser-Tissue Interaction; Low Level Semiconductor Laser application in medicine and biology
- Link to publication:
• https://www.researchgate.net/profile/Tran_Thai2/research
• https://www.researchgate.net/profile/Tran_Thai2

Assoc. Prof. Dr. Huynh Quang Linh
- PhD degree in Engineering Physics, Czech Technical University, Czech Republic
- Research Interest: AI applicationin Biomedical Engineering; Biomedical Imaging; Computational Physics
- Field of Research: Chemical Engineering
- Subdiscipline: Engineering Physics; Biomedical Engineering
- Link to publications:
• https://orcid.org/0000-0001-8573-1336

Facilities

1. Engineering Mechanics

- CNC Milling machine, OKK
- Grinding Machine U2
- Dynamic balancing machine HBM-01TC
- Piezo-resistive Accelerometer, IMV (V-7000)
- Signal Analyzer Unit and Exciter B&K
- P3 – Strain indicator
- Accelerometer SENSR (20 mahines)
- Micromate - Channels Vibration, Noise and Air Overpressure Monitor
- Pressure & load cells
  VW Piezometers & Pressure stransducer
- Vibrating wire Dataloggers and Analyzers
- Strain tranducer Dataloggers and Analyzers

- 3D Printing Machine
- Next Engine 3d Laser Scanner
- Personal computers

2. Engineering Physics

2.1. Group of Applications of Nanomaterials and Optoelectronics Devices in Life Science

- Fabricating optoelectronics Devices at Laboratory at Lab scale (at NJIT and Kyutech)
- Characterizing properties of optoelectronics device include light emitting diode (LED), LASER
- Measuring Impedance Spectroscopy for various types of samples including bioimpedance with the frequency up to 20 MHz
- Synthesizing and characterizing nanomaterials as a platform for optical-based biosensors
- Designing LEDs system and testing out killing bacteria, modulating biomolecules at laboratory to pilot scales

2.2. Laser Technology Laboratory

- Manufacturing 20 types of low level semiconductor laser equipment for medical treatment
- Implementing over 1000 equipment and transferring treatment technology to more than 100 medical units
- Equipping new laboratory for research in medicine and plant biology

Keywords

Vibration, Damage detection, Bridge, Neural network, Data mining, Patten recognition, Fuzzy, Mechanical measurement, Dynamics and control, Optoelectronics, Light Emitting Diode (LED), Photobiomodulation, Protein, Biomolecules, Biosensors, Artificial Intelligence, Machine Learning, Biomedical Imaging, Biosignal Processing, Bioimpedance, Laser Technology, Low Level Semiconductor Laser, Computer Vision

Index for industry sector

CNC machine, Dynamic balancing machine, 3D printing machine, Measurement system for measuring mechanical quantities, LEDs panel for killing bacteria, Pharmaceutical Industry, Kit-sensor for toxic detection

Ho Chi Minh City University of Technology (HCMUT)
Address: 268 Ly Thuong Kiet Street, Ward 14, District 10, Ho Chi Minh City, Vietnam
Phone: (84-28) 38.652.442 - Fax: (84-28) 38.653.823
Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF CHEMICAL ENGINEERING

Research Interest

1. Department of Biotechnology

Production research:

- Biological products for agriculture: increasing plant immune system to environment and pathogens
- Biological products for aquaculture: inhibiting harmful bacteria by bacteriophages
- Bio-organic fertilizers from domestic waste, agricultural waste, and waste from food processing factories
- Producing and improving the quality of foods and functional foods
- Valuable plants for the pharmaceutical industry and ornamental plants by plant cell cultures

Research:

- Bioactive compounds of plants and microorganisms
- Bioactive biomass for the pharmaceutical industry

2. Department of Food Technology

- Application of novel technologies to food processing
- Food product development for healthy use
- Value-added products from food processing residues
- Laboratory of Food technology with four sections: food chemistry and biochemistry, food microbiology, food processing technology, and sensory evaluation
- Research collaboration with food manufacturing enterprises including Vinamilk, Sabeco, Vissan, Bibica…
- Research topics:
  - Use of food processing residue for manufacturing value-added products
  - Application of advanced techniques to food processing technology
  - Food analysis including Physico-chemical, microbiological and sensory analysis
  - New food product development and functional food
  - Food quality management systems

3. Department of Inorganic Chemical Engineering

- Advanced materials for Energy, Environment and Agriculture Applications
- Multifunctional fertilizers responding to climate change
  - Consulting, researching cooperation, and transferring production technology advanced and environmentally friendly fertilizers
  - Consulting, researching cooperation, and transferring active ingredient inhibiting urea, phosphorus loss
  - Researching new generation fertilizer production technologies responding to climate change
- Fuel cells:
  Fuel cells using biogas gas at intermediate temperature
- Ceramic materials:
  Researching and transferring production technology to produce pure Cordierite ceramic for application in the high-tech ceramic industry from domestic kaolin source

4. Department of Organic Chemical Engineering

- Organic synthesis
- Nanotechnology
- Natural active agents
- Pharmaceutical technology
- Fragrances and cosmetics
- Surfactants, Personal-care and Home-care products
- Textile coating, Dyeing, Printing, and Finishing
- Pulp and Paper technology

5. Department of Oil and Gas Processing Technology

- Biofuels, Biodiesel, Biomass
- Technology to convert solid waste to fuels
- Simulation and optimization of refinery operations
- Energy integration in process engineering
- Catalysts in Petroleum
- Additives for gasoline and other petroleum products
- Petrochemical synthesis
- Technology to convert gas to liquid products

6. Department of Physicochemical & Analytical Technologies

- Catalysis/adsorption
  Technology of manufacturing catalysts for industrial production; Research on the synthesis of catalytic/adsorbent materials with nanostructured (nanoparticles, nanofibers, nano capillaries, nano core-shell)
- Colloid systems and nano-materials
  Emulsion systems, suspensions, nanoparticle systems, ...
- Energy and sustainable development
  Solid technology and catalysts applied to bioenergy production; Technology and catalyst systems for the use of renewable raw materials; Converting renewable raw materials (biomass) into valuable products (nanomaterials, aerogels, chemicals)
- Environmental technologies
  Technology and oxidation reducing system for waste gas treatment in the industry; Waste water treatment technology by advanced oxidation; Photochemical and electrolysis; Technology to recover valuable substances from wastewater by extraction method
- Analytical technologies
  Process development and application of chemical and chemical analysis techniques (eg UV-VIS, IR, GC, AAS, ...) in analysis: Food, medicine, Contaminants, Essential oils, and flavorings
- Electrochemical technologies
  Metal plating: New plating methods are corrosion resistant; Effect of the environment on the metal corrosion resistance; Environmental treatment by electrochemical methods; Batteries - accumulators - fuel cells

7. Department of Process Engineering and Equipment

- Mechanics of bulk material handling: slamming, grinding, sifting, mixing
- Fluid mechanics: agitation, sedimentation, filtration, centrifugation, pump and fans, compressors,
  Heat processing: heating, cooling, evaporation, condensation, concentration
- Mass transfer process: absorption, distillation, extraction, drying
- Chemical reaction engineering: Homogeneous and Heterogeneous Reactions, Homogeneous catalyst)
  Mathematical Modeling, Simulation, and Control of Chemical Processes
- Mathematical Modeling of Transport Phenomena and Unit operation in Chemical Engineering such as heat and mass transfer, fuel cell
- Design control of Chemical Processes
- Chemical Process Simulation
- Process optimization from Modeling

Academic Resources

Assoc. Prof. Dr. Nguyen Thuy Huong
- PhD degree in Microbiology, University of Science, VNU-HCM
- Research interests: Microbiome- Probiotic- Prebiotic- Synbiotic; Bioproducts and applications
- Past research projects:
• Studying the biological characteristics of probiotic microorganisms and developing the application of probiotic food products
• Developing the applications of fermented kombucha tea
- Link to publication: https://doi.org/10.1016/j.lwt.2015.07.018
• http://www.springerplus.com/content/4/1/91
• https://doi.org/10.1080/08905436.2015.1092446
• https://doi.org/10.1016/j.meegid.2020.104178

Dr. Huynh Ngoc Oanh
- PhD degree in Biochemistry, University of Science, VNU-HCM
- Research interests: Proteins and enzymes, Natural organic fertilizers
- Past research projects:
• Applying cellulase in improving the efficiency of collecting garlic extract products
• Research on the ability to obtain protein from worms and applying in making protein-rich products
- Link to publication:
• https://doi.org/10.3303/CET2078059
• https://doi.org/10.1002/slct.201900778
• http://doi.org/10.19080/CTBEB.2018.13.555859
• http://doi.org/10.15406/mojpb.2016.03.00083

Dr. Hoang Anh Hoang
- PhD degree in Biotechnology, Tokyo Institute of Technology, Japan
- Research interests: Biological solutions to replace antibiotics in agriculture
- Past research projects:
• Researching on nano copper synthetic and investigating the resistance activity on Vibrio bacteria parahaemolyticus causing dead shrimp disease
• Development of a phage-based product for the treatment of bacterial pathogens (Aeromonas hydrophila) in striped catfish in the Mekong Delta – Vietnam
- Link to publication:
• https://www.jstage.jst.go.jp/article/bio/24/1/24_23/_article/-char/ja/
• https://doi.org/10.3354/dao03302
• https://link.springer.com/article/10.1007/s00705-020-04793-2
• https://doi.org/10.4265/bio.25.159
• https://doi.org/10.1111/1574-6968.12382

Prof. Dr. Dong Thi Anh Dao
- PhD degree in Biochemistry and Natural active compounds, Hanoi University of Science and Technology
- Research Interests:
• Release of natural bioactive compounds from agriculture products, by products for processing and preservation of Functional food
• Nano bioactive compound processing for healthy use
• Food quality management
- Link publications:
• DOI: 10.3390/pr7060347
• DOI: 10.1002/fsn3.1422
• DOI: 10.3390/pr7090549
• DOI: 10.3390/catal10080829
• DOI: 10.1063/1.5000177
- Link to past research projects:
• Research on release chondroitin sulfate from chicken breast cartilage
• Research on production of green tea powder rich in polyphenols, chlorophyll, and caffeine from tea tree leaves of Camellia sinensis and application in food and cosmetics
- Honor and awards: KOVA award from the Kova Paint group
- Field of Research: Chemical Engineering
- Subdiscipline: Food Science and Techonology
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Phan Ngoc Hoa
- PhD degree in Chemistry, Viet Nam Academy of Science and Technology
- Research interests:
• Extraction of bioactive compounds from natural resources and its application in food
• Application of enzymatic reactions in food technology.
• Application of microbiology in food technology

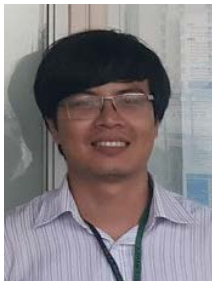
Assoc. Prof. Dr. Nguyen Thi Lan Phi
- PhD degree in Applied Bioscience, Ehime University, Japan
- Research Interests:
• Green extraction and analysis of bioactive components from plants and applications
• Gas chromatography-olfactometry (GC-O), essential oils, and aroma characteristics
• Food Safety, Nutrition and Analytics
- Link to publication:
• https://scholar.google.com/citations?user=D_ZsBVQAAAAJ&hl=en&oi=ao

Prof. Dr. Le Van Viet Man
- PhD degree in Food Engineering, Toulouse National Polytechnic Institute, France
- Research interests:
• Use of food production industry residue in the production of functional foods and food ingredients
• Application of advanced techniques to food processing for improvement in product yield and quality
• Identification of drivers of liking/satiety (of functional foods) during the eating process in groups of consumers with different eating behaviours
- Link publications in 2020:
• DOI: 10.1016/j.meatsci.2020.108106
• DOI: 10.1007/s11694-020-00517-x
• DOI: 10.1111/jfpe.13438
• DOI: 10.1016/j.procbio.2020.01.007
• DOI: 10.1155/2020/5104231

Prof. Dr. Phan Thanh Son Nam
- PhD degree in Chemistry, Sheffield University, England
- Research Interests: Heterogeneous catalysis, Cross-coupling reactions, MOFs catalysis, Green Chemistry
- Link to publication and research:
• https://scholar.google.com/citations?user=_qsNt5QAAAAJ

Assoc. Prof. Dr. Le Thi Hong Nhan
- PhD degree in Chemistry, Sheffield University, England
- Research interests:
• Natural active agents, colorants for food, cosmetic and pharmaceutical products
• Nanotechnology for organic material
• Surfactants, personal-care and home-care products
• Liquid crystal compounds, liquid crystal polymers
- Link to publication and research:
• http://che.hcmut.edu.vn/personnel/lthnhan

Assoc.Prof.Dr. Le Minh Vien
- PhD degree in Chemistry, National Taiwan University of Science and Technology, Taiwan
- Research interests:
• Materials for environmental and energy applications
• Fertilizer Technology
• Materials for Solid Oxide Fuel Cell and Proton Exchange Membrane Fuel Cell
- Link to publications:
• https://doi.org/10.1002/jctb.6502
• https://doi.org/10.1016/j.crci.2019.10.007
• https://doi.org/10.1111/ijac.13248
• https://doi.org/10.1016/j.ceramint.2017.10.103



Dr. Nguyen Tuan Anh
- PhD degree in Chemical Engineering, Tokyo Institute of Technology, Japan
- Research interests:
• Nanomaterials for antibacteria, waste treatment
• Modeling, simulation and optimization of inorganic chemical processes
- Link to publication:
• https://doi.org/10.3390/pr8010004
• https://doi.org/10.1155/2019/7828019
• https://doi.org/10.1088/1757-899X/206/1/012059
• https://doi.org/10.1016/j.memsci.2012.02.026
• https://doi.org/10.1080/01496395.2014.893533

Dr. Nguyen Minh Kha
- PhD degree in Chemical Engineering, National Taiwan University of Science and Technology, Taiwan
- Research interests:
• Nanoplasmonic materials for trace detection of biomarkers and environmental monitoring
• Biosensing devices based on DNA origami nanostructures
• Synthesis, conjugation, functionalization, and applications of nanoparticles
- Link to publications:
• https://doi.org/10.1021/acs.chemmater.0c02111
• https://doi.org/10.1021/acsnano.9b09179
• https://doi.org/10.1021/acsami.8b19153
• https://doi.org/10.1002/adhm.201601290
• https://doi.org/10.1039/C4CP05217J

MSc. Tran Minh Huong
- Master degree in Chemistry, Ho Chi Minh City University of Natural Science
- Research interests: Materials for environmental application

MSc. Do Thi Minh Hieu
- Master degree in Chemical Engineering, Ho Chi Minh City University of Technology
- Research interests: Catalysis in renewable energy and environmental application; Catalysis reaction
- Links to selected publications:
• https://iopscience.iop.org/article/10.1088/2043-6254/aabe4e/meta
• https://doi.org/10.2320/matertrans.MT-M2019120

MSc. Nguyen Truong Xuan Minh
- Master degree in Chemical Engineering, Ho Chi Minh City University of Technology
- Research interests:
• Electro-catalytic materials for Direct Alcohol Fuel Cell
• Antibacterial nanomaterials applications.
• Photocatalyst materials for water treatment
- Link to publications:
• https://doi.org/10.3303/CET2078029
• https://doi.org/10.4028/www.scientific.net/MSF.1007.59

MSc. Tran Thi Thanh Thuy
- Master degree in Chemical Engineering, Ho Chi Minh City University of Technology
- Research interests: Materials for environmental and energy applications

MSc. Vo Nguyen Lam Uyen
- Master degree in Chemical Engineering, Ho Chi Minh City University of Technology
- Research interests: Antibacteria materials and application in biomedical product, Construction materials

Prof. Dr. Luu Cam Loc
- PhD degree in Chemistry, Soviet Union Academy of Science
- Research interests:
• Catalysis in oil-gas processing and environmental treatment
• Nanomaterials for heterogeneous and photocatalytic processes
• Kinetics and mechanism of catalytic and photocatalytic processes
- Link to publications:
• DOI: 10.1007/s11696-020-01207-0
• DOI: 10.1016/j.jece.2019.103552
• DOI: doi.org/10.1088/2043-6254/ab9d7c
• DOI: 10.2320/matertrans.MT-M2020109
• DOI: 10.1002/kin.21328
• DOI: 10.1088/2043-6254/ab2ec7

Assoc. Prof. Dr. Trinh Van Dung
- PhD degree in Moscow State Academy of Fine Chemical Technology, Russia
- Research interests:
• Refine and Drying Technology of Natural Products
• Process and Unit of Bio. and Food Technology: Spirulina Algae Platensis with Selene
• Naturantion Materials Science and Engineering: Cashew Nut Shell Oil, Naturantion Ruber, Essential Oils (a product of the Agarwood Oil)

Assoc. Prof. Dr. Mai Thanh Phong
- PhD degree in Chemical Engineering, Otto-von-Guericke University Magdeburg, Germany
- Research interests: Membrane technology, Reaction kinetics, Separation processes, Process modeling, Biomass to energy and chemicals

Assoc. Prof. Dr. Nguyen Quang Long
- PhD degree in Chemical Engineering, Tokyo Institute of Technology, Japan
- Research interests: Catalysis and adsorption

MSc. Nguyen Phuoc Thien
- Master degree in Chemical Engineering, Ho Chi Minh City University of Technology
- Research interests: Fertilizer technology; Materials for environmental and energy application

Assoc. Prof. Dr. Le Thi Kim Phung

- PhD degree in Chemical Engineering, The University of Sheffield, UK
- Research interests:
• Process system development of chemical, pharmaceutical, energy process
• Research on the mechanism, kinetics, thermodynamic processes in the chemical and pharmaceutical technology, modeling and simulation process
• Supercritical Technology: reaction, extraction, granulation, response, and refinement
• Powder and particle technology
• Renewable Energy: Bioethanol, biogas, biodiesel
• Green technology
• Cleaner Production
• Modeling, numerical analysis, and optimization of thermodynamics, energy and material systems, and CFD
- Link to publications:
• https://scholar.google.com/citations?user=vLMwuuYAAAAJ&hl=en
- Affiliated academic society:
• Board of Advisors of ASEAN Partnership in Research on Energy Sustainability (ASPIRE), ASEAN
• The Society of Powder Technology, Japan
- Field of Research: Chemical Engineering
- Subdiscipline: Chemical Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Tran Tan Viet

- PhD degree in Chemical Engineering, Yonsei University, Korea
- Research interests:
• Process system development of chemical, energy process
• Supercritical Technology: reaction, extraction
• Renewable Energy: gasification, biodiesel
• Green technology
• Modeling, numerical analysis and optimization of process and equipment, CFD
- Link to publications:
• DOI: 10.3303/CET1972037

Assoc.Prof.Dr. Nguyen Dinh Quan

- PhD degree in Energy Conversion Technology, Korea Institute of Science and Technology (KIST), South Korea
- Research Interests:
• Developing processes and equipment for renewable energy, biomass, food, chemicals, etc.
• Lithium-ion batteries, ionic liquids and their applications
• Lignocellulose, bacterial cellulose and their derivatives
• Green chemical engineering
• More effective, more sustainable, and cleaner production
- Honor and awards:
• International R&D Academy Award of Excellence (IRDA, 2008)
• Academic Excellence Award (Korea Instistute of Science and Technllogy, 2008)
• Grand Winner of Tech Planter Vietnam 2020 (Leave a Nest, Japan)
- Link to publications (2019):
• https://doi.org/10.3303/CET2078052
• https://doi.org/10.3390/nano10010117
• http://dx.doi.org/10.5772/intechopen.86437
• https://doi.org/10.15625/2525-2518/57/2/13071
• https://doi.org/10.1051/matecconf/201926803002
• https://doi.org/10.1155/2019/7980204
• https://doi.org/10.1155/2019/1727859

Facilities

1. Department of Biotechnology

Four well-equipped Biotechnology Labs are served for teaching and training activities, and life science and biotechnology research divided into six major fields:

- Plant cell biotechnology
- Protein and enzyme technology
- Applied Microbiology and Biotechnology
- Investigate bioactive compounds of plants and fungi
- Genetic engineering
- Antibiotic resistance and bioconversion
- Fermentor
- Kjeldahl instruments, Soxhlet
- Genetic analysis instrument

2. Department of Food Technology

5 laboratories for teaching and research in Food Science and Technology: Food Biochemistry, Food Microbiology, Sensory analysis, Food Processing Technology, and Food Engineering Equipment for food processing: sterilizer, extruder, screw press, membrane separator, solid-liquid centrifuge, liquid-liquid centrifuge, convectional dryer, vacuum dryer, spray dryer, freeze dryer, extractor, evaporator, batch, and continuous fermenter…
Equipment's for food analysis: high-performance liquid chromatography, spectrophotometer, texture analyzer, color analyzer, automatic titrator…

3. Department of Inorganic Chemical Engineering

9 laboratories for teaching and research:

Equipment: High-temperature furnace, tube-type gas-blowing furnace, dip-coating equipment, centrifuge, vacuum dryer, ball-milling machine, disk granulation equipment, photocatalytic reactor for batch and continuous reaction.

4. Department of Physicochemical & Analytical Technologies

The Department has 04 laboratories:

- Physicochemistry Laboratory
- Analytical Chemistry Laboratory
- Catalysis Laboratory
- Electrochemical Laboratory

5. Department of Organic Chemical Engineering

5.1. Research Lab of Organic Chemistry Technology Department

- High-performance liquid chromatography (HPLC): a specialized device used to separate and identify natural substances such as essential oils, anti-oxidant compounds, and drugs
- Dynamic Light Scattering (DLS) instruments: a modern equipment used to measure the size and distribution of submicron-sized particles of nano organic and inorganic suspensions, applied in personal care products
- Homogenizing systems by mechanical processes, high-pressure and supersonic methods used to prepare nano suspensions

5.2. Material Technologies Laboratory

- Gas chromatography (GC): a specialized equipment used to separate and quantify organic compounds
- Gas chromatography–mass spectrometry system (GC-MS): a modern device used to identify organic compounds
- X-ray Powder Diffraction (PXRD): a specialized device used to determine the presence or crystallographic order in solid materials
- Physical and Chemical Adsorption systems used to identify and quantify sureface area, porosity and surface properties of nanostructured materials
- Schlenk line systems used to set up air-free organic transformations

Keywords

Biotechnology lab; Enzyme phage; Probiotic; Protein; Food Technology; Food Science, Food Engineering; Advanced materials; Electronic material; Environment; Fertiliser; Organic; Nanotechnology; Bioactivity; Pharmaceutical Technology; Fragrance; Cosmetic; Surfactant; Dyeing; Pulp; Paper; Petroleum; Gasoline; Diesel; Simulation; Optimization; System Engineering; Catalysis; Nano-material; Physicochemical technologies; Colloidal system technologies; Analytical technologies; Electrochemical technologies; Emission control; Machine and equipment for grinding; Cracking; Sifting; Mixing; Heat transferring; Mass transferring; Mechanical processes; Distillation; Drying; Concentration

Index for the industry sector

Fermentor; Genetic analysis instrument; Novel technology in food processing; Food product development; Perceptual expertise; Utilization of food residues; Functional food; Food engineering and processing; Fertilizers improving land help plants resist climate change; Environment treatment; Ceramic materials ; Organic; Nanotechnology; Bioactivity; Pharmaceutical Technology; Fragrance; Cosmetic; Surfactant; Dyeing; Pulp; Paper; Refinery Petrochemical industry; Oil and Gas Processing; Industrial catalysts & catalytic processes; Colloid systems; Nano-material applications; Green processes for emission control; Advanced analytical technologies; Electrochemical technologies; Agriculture waste conversion; Experiments on processes and equipment in chemical engineering, biology, and food engineering

Ho Chi Minh City University of Technology (HCMUT)
Address: 268 Ly Thuong Kiet Street, Ward 14, District 10, Ho Chi Minh City, Vietnam
Phone: (84-28) 38.652.442 - Fax: (84-28) 38.653.823
Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF CIVIL ENGINEERING

Research Interest

1. Department of Geotechnical Engineering

1.1. Soft Ground Improving Methods

- Research and application of soft soil improvement method (wick drain, sand well, vacuum consolidation) under embankment works (roads, dykes, dams, and construction foundations)
- Research and application of small-diameter piles combined with geotextile in soft ground improvement
- Research on the reinforcement of soft ground understructures with soil column + cement

1.2. Research on the design and behavior of pile foundations

- Evaluate the pile load capacity according to the field test results. Analysis of pile load capacity according to test results.
- Analysis of the behaviour of the combination: diaphragm wall - raft foundation - pile
- Analysis and optimize the design of the pile-raft foundation

1.3. Application of the finite element method (FEM) in researching and analyzing geotechnical problems

1.4. Mechanical behavior and soil properties

- Establish a correlation of the physical and mechanical properties of soil
- Soil and rock behavior in the surrounding environment and the ability to stabilize underground structures

1.5. Stability and deformation of deep excavation pits

- Analyze the behavior of deep excavation holes according to 2D, 3D problems
- The behavior of the ground around the excavation hole for the basement foundation pit of high-rise buildings and underground structures based on the field measurements and laboratory experiment

2. Department of Construction Materials

2.1. Construction Materials Engineering

- Evaluation of principal properties and durability of construction materials
- Study of green materials towards sustainability development for construction
- Quality assurance and quality control of materials for construction
- Production technology of precast reinforced concrete for construction

2.2. Specified research interest includes

- Special concrete (high-performance concrete, fiber-reinforced concrete, self-compacting concrete, refractory concrete, light-weight concrete …)
- Utilization of solid waste to produce construction materials
- Corrosion and methods of anti-corrosion for construction
- Lightweight materials for low-cost housing in the Mekong Delta and suburban areas
- Production technology of precast concrete
- Mineral and chemical admixtures for cement and concrete technology
- Solutions of advanced ceramic technology
- Production technology of advanced compound stone
- Soft-soil reinforcement materials and structural reinforcement materials
- The durability of construction materials

2.3. Construction Materials Department can cooperate with the domestic and international agencies (including universities, institutes, and companies) in teaching experiments related to construction materials and the other majors of civil engineering and doing research.

2.4. Construction Materials Department can help agencies to test the properties of construction materials such as concrete, cement, steel, construction structures...

3. Department of Mechanics of Materials and Structures

- Evaluation of mechanical properties of materials and structures
- Study of seismic behaviour of structures

- Study the mechanical properties of structures exposed to fire
- Seismic analyses of reinforced concrete and steel structures
- Structural analysis
- Very large floating structure analysis
- Development and application of Moving Element Method (MEM) for dynamic problems in civil engineering structures

4. Department of Port and Coastal Engineering

4.1. Coastal natural disasters

- Coastal disasters (storm surge, beach erosion) simulation
- Prevention and mitigation of coastal disasters

4.2. Planning, design, and construction of port and coastal structures

- Modern technology in port, sea dike, breakwater constructions
- Suitable berth structures for port facilities in Vietnam
- Apply BIM in port planning, design, construction, and management
- The life span of constructions

4.3. Basic researches

- Researches in wave, currents, coastal morphodynamics
- Concrete using sea sand for marine structures
- Mechanical behavior of concrete under high compressive pressure

5. Department of Architecture

5.1. Research on Architecture

- Indigenous architecture: Research on Vietnamese indigenous architectural characteristics: folk houses, old street houses, communal houses, pagodas, temples, and Vietnam ancient villages
- Sustainable architecture: green buildings, energy-efficiency architecture...
- Physics in architecture: building energy simulation
- History of architecture: Western and Eastern

5.2. Research on Planning

- Industry
  - The transport network of Mekong Delta
  - Industrialization in the case of Mekong Delta
  - Urbanization in the era of Industry 4.0-case of HCMC
- Regional and Urban
  - Spatial Planning
  - Sustainable Planning
  - Urban resilience
  - Spatial Planning to Climate Resilience
  - Green Infrastructures
  - Public Spaces

6. Department of Water Resources Engineering and Management

- Riverbank protection methods: Bioengineering for streambank protection method; Assembled concrete embankment for protecting riverbank
- Study on preventing measures for urban inundation: Approaches for preventing urban inundation by a regular pond; Application of LID methods for preventing urban inundation
- Study on sediment transport and riverbank erosion in Ho Chi Minh city and Mekong Delta
- Study on water quality and water leakage in the water distribution system
- Study on water quality management in rivers system by a smart system
- Application of a smart system for managing the urban infrastructure system

7. Department of Bridge and Highway Engineering

- Analysis and design of transportation infrastructure (bridge, tunnel, highway, railway, foundation, geotechnical eng, etc.) based numerical method (FEM, DEM)
- Smart traffic management system for the mixed flow (mobility management, traffic impact assessment, signal control, traffic safety, public transit, transport demand survey)
- New sustainable and green technology for transportation infrastructure (weathering steel, modified soil, modified asphalt, slag, composite, geotechnical material, etc.)
- Geotechnical solutions for the Mekong Delta area

8. Department of Construction Engineering and Management

- Research and implementation of simulation, risk management, and engineering transfer of construction works
- Experiment, research, and technology transfer of models (BIM, Virtual reality technology) and technology of augmented reality when building simulation elements impact on real works
- Scan to BIM application (Laser scan, BIM) in design - construction - construction operation

9. Department of Fluid Mechanics

9.1. Research areas

- Development of software for calculation of flow and substance transport in free-surface flows, in underground water, and the atmosphere
- Structure and hydrodynamic factors in the river flow
- Erosion and sedimentation in rivers; bank erosion
- Transportation of pollutions
- Flood in river deltas
- Urban inundation
- Water resource management
- Ventilation in construction works
- Recycled energy

9.2. Software Development

- F28: Calculation of flow and substance, oil spill and sediment transportation in 1D, 1Dc (in a sewer), 2D, 3D, and integrated models
- PNET: Calculation of flow in a pipe network
- CTF: Calculation of unsteady seepage flow

Academic Resources

Assoc. Prof. Dr. Le Ba Vinh

- PhD degree in Civil and Industrial Construction Engineering, Yokohama National University, Japan
- Research interests:
• Research on improvement and consolidation of soft soil
• Analysis of the behavior of the diaphragm wall system - piled raft foundation
• Analyzing the behavior of deep excavation according to 2D and 3D problems
• Analyze the behavior of the piled-raft foundation
• Analysis, optimal design of piled-raft foundation
• Research on the reinforcement of soft ground understructures with soil column + cement (Determination of stress distribution in the foundation with soil & cement columns)
• Study on the method of preloading by vacuum in combination with embankment soil for treatment on soft ground
- Affiliated Academic Society: Vietnam Society of Soil Mechanics & Geotechnical
- Field of research: Civil Engineering
- Subdiscipline: Geotechnical Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Vo Phan

- PhD in Soil Mechanics - Foundation Mechanics and Underground Construction, Southern Institute of Irrigation Science, Vietnam
- Research interests:
• Research and application of small cross-section piles combined with geotextile to treat soft ground
• Test and establish a correlation between the physical and mechanical properties of soil and application in foundation design
• Solutions to treat and reinforce soft ground
• Research, design, and application of pile foundations
- Affiliated Academic Society:
• Journal of Geotechnical (Scientific Journal), Editorial Board
• City Construction Association in Ho Chi Minh City
- Field of research: Civil Engineering
- Subdiscipline: Geotechnical Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Bui Truong Son
- PhD degree in Special Construction Engineering, Moscow National Construction University, Russia
- Research interests:
• Research to determine the physical and mechanical characteristics of the soil to serve the calculation of long-term stability and deformation of the clay soil.
• Stress-strain state and change in the size of the critical state zone of the ground under the laying works. Soft soil treatment methods. Assessment methods for soft soil stability
• Evaluation of pile load capacity according to field test results.
• Behavior of soil and rock in the surrounding environment and the ability to stabilize underground works
• Calculate the stability andlong-term deformation of the ground on the flat problem condition (2-dimensional consolidation)
- Field of research: Civil Engineering
- Subdiscipline: Geotechnical Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Nguyen Van Chanh
- PhD degree in Construction Materials Engineering, National University of Civil Engineering, Vietnam
- Research interests:
• Corrosion of concrete and reinforced concrete structures
• Technology of advanced concrete and reinforced concrete
• Technology of cement and insulating materials
• Advanced materials in construction
• Utilization of waste products from industry and agriculture to produce new construction materials
• Durability of reinforced concrete structures
- Link to publications:
http://www.aseanengineering.net/aej/issue/2015-Cv4-2/22-32%20PROPERTIES-OF-HIGH-STRENGTH-CONCRETE-USING-STEEL-SLAG-COARSE-AGGREGATE.pdf
- Affiliated academic society: ACF
- Field of Research: Civil Engineering
- Subdiscipline: Construction Materials Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Le Trong Nghia
- PhD degree in Construction Geotechnical, Chulalongkorn University, Thailand
- Research interests:
• Calculation and treatment of soft ground, foundation plans for constructions on soft ground
• Behavior of the ground around the pit for the basement pit of the high-rise buildings and underground works based on the field measurements and laboratory experiments
• Behavior of soil in the pre-destructive stage and determining parameters of soil models by laboratory experiment and field measuring equipment
- Field of research: Civil Engineering
- Subdiscipline: Geotechnical Engineering
- Technology Readiness Level: Level 3

Dr. Do Thanh Hai
- PhD degree in Underground Construction Engineering, Pukyong National University, South Korea
- Field of research: Civil Engineering
- Subdiscipline: Geotechnical Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Le Anh Tuan
- PhD degree in Structural Engineering, Yengnam University, Korea
- Research interests:
• Utilization of industrial waste
• Unburnt and environmentally friendly materials
• Autoclave lightweight materials
• Geopolymer
• Refractory materials
- Link to publications:
https://www.sciencedirect.com/science/article/abs/pii/S0950061820305869
https://www.mdpi.com/2076-3417/9/16/3424
https://www.sciencedirect.com/science/article/abs/pii/S0950061818304185
https://www.sciencedirect.com/science/article/abs/pii/S0950061815307030
- Field of Research: Civil Engineering
- Subdiscipline: Construction Materials Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Tran Van Mien
- PhD degree in Civil Engineering, Chulalongkorn University, Thailand
- Research interests: Modeling concrete and reinforced concrete exposed to corrsion environment; Maintenance; Special concrete engineering; High-performance concrete; Utilization of industrial waste to produce construction materials; Corrosion of concrete and reinforced concrete
- Link to publications:
https://doi.org/10.4028/www.scientific.net/MSF.857.311
https://doi.org/10.4028/www.scientific.net/AMM.754-755.290
https://doi.org/10.4028/www.scientific.net/AMM.754-755.336
https://doi.org/10.4028/www.scientific.net/AMM.754-755.342
- Field of Research: Civil Engineering
- Subdiscipline: Construction Materials Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Bui Duc Vinh
- PhD degree in Civil Engineering, Germany
- Research interests: Ultra-High-Performance Concrete for blast loading-Experimental and modeling; Composite steel-concrete column; Computational Nonlinear Mechanics of concrete structures; Experimental and modeling failure structures
- Link to publications:
https://link.springer.com/chapter/10.1007/978-981-10-6713-6_23
http://koreascience.or.kr/article/JAKO201607365700361.page…
- Field of Research: Civil Engineering
- Subdiscipline: Construction Materials Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Bui Phuong Trinh
- PhD degree in Civil and Environmental Engineering, Hiroshima University, Japan
- Research interests: Utilization of by-products and wastes for production of construction materials towards sustainability; Evaluations of mechanical properties and durability of concrete structures
- Link to publications:
https://doi.org/10.1061/(ASCE)MT.1943-5533.0003195
https://doi.org/10.1617/s11527-018-1274-0
https://doi.org/10.1617/s11527-017-1073-z
https://doi.org/10.1617/s11527-015-0703-6
https://doi.org/10.1016/j.conbuildmat.2015.06.046
- Field of Research: Civil Engineering
- Subdiscipline: Construction Materials Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Luong Van Hai
- PhD degree in Civil Engineering, National University of Singapore (NUS), Singapore
- Research interests: Structural Stability and Dynamic Analysis; Composite Structures; Computational Mechanics; Plate and Shell Structures; Finite Element Method (FEM); Smoothed Finite Element Method (S-FEM); Moving Element Method (MEM); Optimization; Very large floating structures (VLFS); Soil-Structure interaction
- Link to publications:
https://scholar.google.com/citations?user=nSrfycQAAAAJ&hl=en
- Link to research projects:
https://scholar.google.com/citations?user=nSrfycQAAAAJ&hl=en
- Field of Research: Civil Engineering
- Subdiscipline: Structural Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Cao Van Vui
- PhD degree in Structural Engineering, The University of Queensland, Australia
- Research interests: Reinforced concrete structures; Composite structures; Structures exposed to fire; Seismic analysis
- Link to publications:
https://www.sciencedirect.com/science/article/pii/S0263822314003614
- Field of Research: Civil Engineering
- Subdiscipline: Structures

Dr. Nguyen Hong An
- PhD degree in Civil Engineering, Chulalongkorn University, Thailand
- Research interests: Earthquake engineering; Static and dynamic analysis of structures; Inelastic Seismic Analysis of Structures; Nonlinear static pushover analysis; Structural Vibration Control
- Link to publications:
https://www.researchgate.net/profile/An_Nguyen52
- Affiliated academic society: AUN/SEED-Net
- Field of Research: Civil Engineering
- Subdiscipline: Structures

Dr. Tran Minh Thi
- PhD degree in Civil Engineering, National University of Singapore (NUS), Singapore
- Research interests: Development and application of Moving Element Method (MEM) for dynamic problems in civil engineering structures; Dynamic analysis of beam and shell structures under wind, earthquake, blast, and moving loadings
- Link to publications:
https://scholar.google.com/citations?hl=vi&user=GpBYrIgAAAAJ
- Field of Research: Civil Engineering
- Subdiscipline: Structural Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Thai Binh
- PhD degree in Civil Engineering, Chulalongkorn University, Thailand
- Research interests:
• Theoretical and Applied Mechanics: Solid Mechanics, Fracture Mechanics, Nano-mechanics
• Computational Techniques: FEM, SGBEM, SGBEM-FEM Coupling
- Link to publications: https://www.researchgate.net/profile/Thai_Binh_Nguyen3
- Field of Research: Civil Engineering
- Subdiscipline: Structural Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Tran Thu Tam
- PhD degree in Mechanics, Université Joseph Fourier de Grenoble I, France
- Research interests: Coastalmorphodynamics; Numerical model of Wind wave, Coastal erosion; Sea dyke, breakwater structures
- Field of Research: Coastalmorphodynamics
- Subdiscipline: Water-related disaster
- Technology Readiness Level (TRL): Level 3

Dr. Le Tuan Anh
- PhD degree in Coastal Engineering, Tokyo Institute of Technology, Japan
- Research interests: Coastal disasters; Numerical model of Storm surge; Wind wave
- Link to publications: https://www.researchgate.net/profile/Anh_Le56/publications
- Affiliated academic society: PUL
- Field of Research: Natural Disaster
- Subdiscipline: Water-related disaster
- Technology Readiness Level (TRL): Level 3

Dr. Vu Xuan Dung
- PhD degree in Mechanics of Construction Materials, Grenoble Institute, France
- Link to publications: https://www.researchgate.net/publication/286821167_Concrete_behavior_under_triaxial_load_Experimentation_and_improvement_of_a_damage_and_plasticity_constitutive_model_for_concrete https://www.hindawi.com/journals/stni/2015/976387/
- Field of Research: Civil Engineering
- Subdiscipline: Structural Engineering
- Technology Readiness Level (TRL): Level 2

ME. Le Nhu Thach
- Master of Engineering in Project Management
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Project Management
- Technology Readiness Level (TRL): Level 3

ME. Lam Van Phong
- Master of Engineering in Structures in soft soil
- Research interests: Coastal & Port Structures; Construction Technology of Coastal & Port Structures
- Field of Research: Civil Engineering
- Subdiscipline: Structural Engineering
- Technology Readiness Level (TRL): Level 5

Dr. Le Thi Hong Na
- PhD degree in Architecture, Inha University, South of Korea
- Research interests: Indigenous architecture; Traditional architecture; Sustainable architecture; Green architecture; Green building; Passive design; Building envelope; Housing design: apartment, street house, folk house, greenhouse; Public space
- Field of research: Civil Engineering
- Subdiscipline: Architecture
- Technology Readiness Level: Level 3

M.Arch. Nguyen Quoc Vinh
- Master degree in Architecture and Human Settlements
- Research interests: Spatial Planning; Sustainable Planning; Urban resilience; Spatial Planning to Climate Resilience; Green Infrastructures; Public Spaces
- Field of research: Civil Engineering
- Subdiscipline: Regional and Urban Planning

Dr. Nguyen Quang Truong
- PhD degree in Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan
- Research interests: Preventing measures for urban inundation; Vortex chamber for removing sediment; Locating leakage in urban water distribution networks; Distribution area planning for improving the water supply system in Hochiminh city; Riverbank protection, including bio-engineering, assembled concrete embankment; Preventing urban inundation by regular, LID methods; Smart system for managing water quality in channel and river system.
- Field of research: Hydraulic Engineering; Urban Water Engineering; Infrastructure Engineering
- Subdiscipline: Coastal Engineering; Water Resources Engineering; Fluvial and coastal disaster
- Technology Readiness Level: Level 3

M.Arch. Pham Thanh Tra
- Research interests: Physics in architecture; Building energy simulation; Sustainable architecture, Green architecture; History of architecture; Architectural philosophy

Dr. Le Thi Bao Thu
- Research interest: Transport network of Mekong Delta; Industrialization in case of Mekong Delta; Urbanization in the era of Industry 4.0-case of HCMC
- Field of research: Civil Engineering
- Subdiscipline: Region planning and urban development

Dr. Tran Hai Yen
- PhD degree in Ocean, Atmosphere and Hydrology, Grenoble Alpes University, France
- Research interests: Simulation of oscillatory boundary layer flows; Modelling of shoreline evolution and coastal erosion; Simulation of wave propagation; Digital image process to estimate sediment transport and to verify the grain size distribution
- Affiliated Academic Society: CARE-Rescif (Centre Asiatique de Recherche sur l'Eau)
- Field of research: Coastal Engineering
- Subdiscipline: Coastal Engineering; Water Resources Engineering; Fluvial and coastal disaster
- Technology Readiness Level: Level 3

Dr. Nguyen Thu Ha
- PhD degree in Civil Engineering and IT, The University of Sydney, Australia
- Research interests:
• Optical measurement of suspended particulate matter (i.e., sediment, microplastics, aggregates) dynamics under the effects of various environmental conditions
• Mathematical modeling of suspended particulate matter dynamics in natural waters
• Numerical modeling of flow and sediment transport
• Numerical modeling of urban runoff and pollutant removal
- Field of research: Civil Engineering
- Subdiscipline: Hydro and Geo Environment Engineering; Water Resources Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Nguyen Manh Tuan
- PhD degree in Civil engineering, Sejong University
- Research Interests: Sustainable material for highway; Green material technology for highway; Pavement analysis and design
- Link to publications:https://scholar.google.com/citations?user=Hikt714AAAJ&hl=en
- Field of research: Civil Engineering
- Technology Readiness Level: Level 3

Dr. Nguyen Xuan Long
- PhD degree in Civil engineering, Tokyo Institute of Technology
- Research Interests: Driving behavior modeling; Motorcycle traffic safety; Transport Network Analysis; Traffic Flow Modeling; Policy of Transportation Demand Management (TDM); Logistics and Commercial Transport; Smart-phone based traffic survey

Dr. Le Ba Khanh
- PhD degree in Civil engineering, Moscow Automobile And Road Construction State Technical University (MADI)
- Research Interests: Soil–structure interaction

Dr. Dang Dang Tung
- PhD degree in Material Science, Nagaoka University of Technology, Japan
- Research Interests: Weathering steels; Steel bridges
- Affiliated Academic Society: International Press in Association, Director
- Field of research: Civil Engineering
- Technology Readiness Level: Level 3

Dr. Nguyen Canh Tuan
- PhD in Civil Engineering, Korea University, South Korea
- Research interests: Steel girder bridges; Cable-stayed bridges; Stability of steel bridge structures; Development and application of advanced steel bridges for rural transportation infrastructure; Advanced solutions for steel bridge structures; Steel bridge construction technologies

Assoc. Prof. Dr. Tran Nguyen Hoang Hung
- PhD degree in civil engineering, University of Wisconsin-Madison, USA
- Research interests: Soft ground improvement technologies; Slope stability, Sliding, and landslides; Bridge and Highway design, Soft ground improvement; Sliding of structures along riverbank, coastlines, and hillsides & mountainsides

Assoc. Prof. Dr. Van Hong Tan
- PhD degree in Transportation Engineering, Tokyo Institute of Technology, Japan
- Research interests: Travel behavior, demand modelling; Traffic flow, traffic safety
- Affiliated Academic Society: EASTS, Member (2016-2018)
- Field of research: Civil Engineering
- Subdiscipline: Transportation Engineering
- Technology Readiness Level: Level 3

Dr. Do Tien Sy
- PhD degree in Construction Project Management, Chulalongkorn University, Thailand
- Research interests: Settlement of disputes (claim / dispute) in construction; Contract management in construction; Variation order management during construction; Scan to BIM (Laser scan, BIM) application in design - construction - construction operation; Applying BIM to risk management for contractors in high-rise building design and construction projects; Analyzing the effects of risk factors on the implementation of a transport PPP project in Vietnam

Dr. Nguyen Anh Thu
- PhD degree in Construction Project Management, Chulalongkorn University, Thailand
- Research interests: Study on the modeling of building information, SCAN TO BIM technology; Apply high technology in construction such as AR, VR, MR; Sustainable Development, Green Building, Energy efficiency, reducing waste, and recycling; Research and application of informatics in construction simulation and management (Building Information Modeling - BIM, Virtual Design and Construction - VDC); Construction Business Management; Risk Management in Construction; Construction Contract and Bidding Management ; Safety Management in Construction

Dr. Le Hoai Long
- PhD degree in Civil Engineering, Pukyong National University, Korea
- Research interests: Quantitative analysis model in construction management (Monte Carlo, AHP, ANP, DEA...); Information and communication systems application in project and project-based enterprises; Economics in built environment

Assoc.Prof.Dr. Chu Cong Minh
- PhD degree in Transportation Engineering, Tokyo Institute of Technology, Japan
- Research interests: Transportation Engineering
- Field of research: Civil Engineering
- Subdiscipline: Transportation Engineering
- Technology Readiness Level: Level 3

Assoc. Prof. Dr. Luong Duc Long
- PhD degree in Civil Engineering, Nagaoka University of Technology, Japan
Research interests: Construction engineering; Construction project management, project planning and controlling; Sustainable construction Development; Green Buidling; Energy efficiency; Reducing waste and recycling; Quantitative methods in construction; Contract management in construction; Information technology (IT) in construction simulation and management (BIM, STROBOSCOPE); Quantitative analysis model in construction management (Monte Carlo, AHP, ANP, DEA...); Information and communication systems application in project and project-based enterprises; Economics in built enviroment

Assoc. Prof. Dr. Pham Hong Luan
- PhD degree in Civil Engineering, Saint Peterburg State Architechtural Civil University
- Research interests:
Building Construction engineering in highrise building: basement, deep excavation, all kinds of formworks, house and enterprise building erection, buiding waterproof, building reinforcement
Site construction organization, Building construction statement. Building construction quality assessment, Building restoration, repair and assessent life of building
Project formulation. Construction investment management of all kind of fund. Project assessment
Quality, cost, safety health management in building
Contract Analysis and Management
Construction investment management in compliance with Viet Nam legal construction documents (Laws, Decree…)

Dr. Pham Vu Hong Son
- PhD degree in Construction Management, National Taiwan University of Science and Technology
- Research interests: Data Mining for Knowledge Discovery; Project Quantitative Analytics for Sustainable Engineering and the Built Environment; Decision, Risk Failure Analysis & Disaster Management; Tendering and negotiation

Dr. Tran Duc Hoc
- PhD degree in Construction Management, National Taiwan University of Science and Technology
- Research interests: Artificial Intelligence; Machine learning; Evolutionary Algorithms; Resource leveling, Resource tradeoffs; Resource constrained; Scheduling, Multiple objective; Finance-based scheduling using evolutionary algorithm; Building Information Modeling (BIM) integrated with optimization

Assoc. Prof. Dr. Huynh Cong Hoai
- PhD degree in Fluid Dynamic, National Polytechnic Institute of Toulouse, France
- Research interests: River, estuary, and coastal developments; Wave propagation and wave-induced currents in shallow water areas; Mathematical modeling of 2D flows in coasts and rivers

Assoc. Prof. Dr. Le Van Duc
- PhD degree in Mathematical Modeling and Optimization, Asian Institute of Technology (Thailand), Field: Water Engineering and Management
- Research interests:
• Building a Decision Support System (DSS) for a complex water resource system management
• Development of Integrated Hydraulic and GIS software to manage the city water supply network to support the city's e-government construction plan
• Apply ANN technology to simulate and forecast flows and hydro-meteorological forecasts
• Applying mathematical model, AHP techniques, and GA technology for computation and optimal operation of a complex water resource management system in tidal affected areas

Assoc. Prof. Dr. Le Song Giang
- PhD degree in Fluid Mechanics, National Polytechnic Institute of Toulouse, France
- Research interests: Computational Fluid Mechanics; Computational Hydraulics; Turbulence modeling; Fluid Mechanics; Hydraulics

Assoc. Prof. Dr. Nguyen Thi Bay
- PhD degree in Physics and Mathematics (in oceanography), University of Meteorology and Hydrology, Leningrad, Russia
- Research interests: Numerical study of planar and rotational bank failure due to bed erosion; Regulation of upper reservoirs for flood resilience; Flooding; Bed change in the nearshore zone

Facilities

1. Geotechnical Engineering Laboratory

- Serving teaching soil mechanical experiments to students, and assisting graduate students and graduated students in researching soil problems and simulating computation related to building foundations and soil behavior.
- Equipment of the Laboratory:
  - Triaxial testing equipment Controlab
  - Direct Shear testing machine ELE
  - Consolidation testing machine Controlab
  - CBR Matest Loading Machine
  - Software Plaxis 3D - VIP, version 2019

2. Construction Materials laboratory

The scientific basis of construction materials lab can be used for research and application in specialties of the Faculty of Civil Engineering including:
- New construction materials
- Materials for bridges, roads, and tunnels
- Materials for constructions on soft soils

At present, there is much equipment in the Construction Materials Laboratory for undergraduate, graduate, and postgraduate educations, scientific research, and international cooperation, under several categories of experiments in the field of civil engineering that have been carried out as follows:
- Test of hydration of cement
- Test of plastic shrinkage and drying shrinkage of concrete
- Test of creep of concrete

- Test of mortar bar length change exposed to sulfate solution
- Test of chloride resistance in concrete
- Test of corrosion of reinforced concrete
- Test of compressive strength, flexural strength, and tensile strength of concrete
- Test of the compressive strength of cement-treated soil pile
- Test of rheology property of concrete
- Test of the adhesive property of mortar on the material matrix
- Test of water permeability of concrete
- Test of abrasion resistance of concrete
- Test of physical properties of the aggregate

3. Lab of Mechanics of Materials and Structures

Lab of Mechanics of Materials and Structures focuses on:

- Concrete testing
- Steel testing
- Tests of reinforced concrete beam and columns
- Structural Analysis
- Fire Analysis

Lab of Mechanics of Materials and Structures can cooperate with the domestic and international agencies (including universities, institutes, and companies) in teaching experiments related to construction materials and the other majors of civil engineering and doing research. The lab can help agencies to test the properties of construction materials

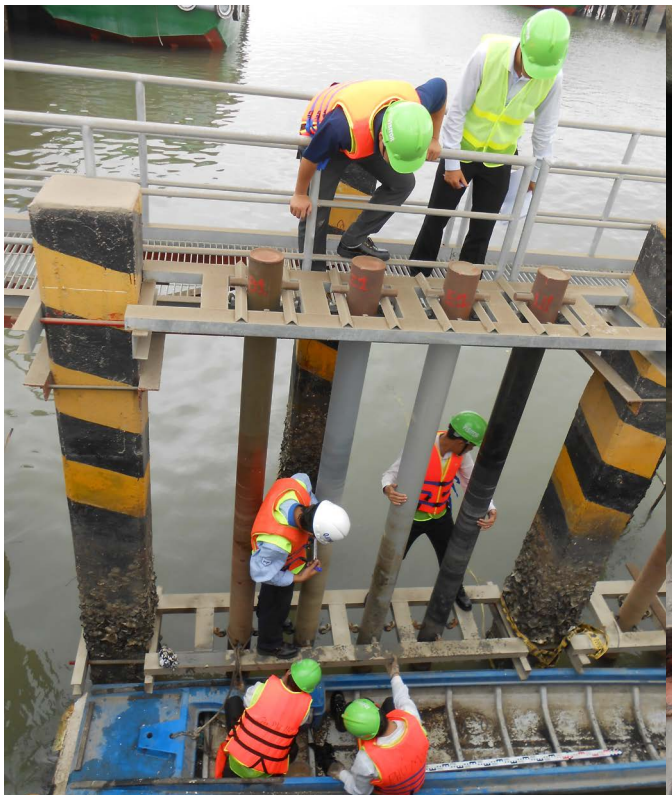
4. The Construction Information Modeling Simulation Laboratory

The lab was established under the Faculty of Civil Engineering to serve researching and training in the BIM field:

- Modeling of construction information digitalization, SCAN TO BIM technology
- High technology in construction such as AR, VR, MR
- Research and implementation of BIM related projects for large construction and design companies
- Consulting, designing construction measures, consulting to settle disputes on construction contracts

5. Hydraulics Laboratory

There are many systems and experimental tests to serve for study and research such as A Pumping system with a capacity of 22KW to supply water for the Energy Equation experiments, The Energy Loss in Pipe, Gas Flow Measurement, Flow-through orifice, Flow Through the Spillway, Hydrostatics, Reynolds experiments. At this time, the laboratory has been invested and developed more laboratory machines and equipment for research and training such as Open Wind Tunnel Cavitation, Multichannel wind velocity meter, Microclimate, Multi-channel thermometer



Keywords

Soil mechanics; Foundations; Piled-raft foundation; Deep excavations; Soft soil constructions; Soft soil treatment and ground reinforcement; Finite elements; PLAXIS; Concrete engineering and technology; Cementitious materials engineering; Mechanical properties; Durability; Quality assurance and quality control; Maintenance; ; Modelling of the behaviour of materials; Earthquake engineering; Structural engineering; Floating structures; Fire engineering; Reinforced concrete structures; Composite structures; Dynamic analyses; Nonlinear analyses; Storm surge; Wind wave; Port design; Numerical simulation; Coastal disaster mitigation; Suàstainable architecture; Passive design; Traditional architecture; Tropical housing design; Energy simulation; Sustainable planning; Urban resilience; Spatial planning to climate resilience; Urban water engineering; Hydraulic structure, Urban inundation; Coastal Engineering; Water resources engineering; Building Information Modeling, Risk Management, Virtual reality technology

Index for the industry sector

Construction materials; Sea dyke; Port; High configuration computer for BIM design and simulation; BIM model SCAN system

Ho Chi Minh City University of Technology (HCMUT)
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Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF
COMPUTER SCIENCE & ENGINEERING

Research Interest

1. High Performance Computing - HPC Lab
- High performance computing
- high performance data analytics
- AI, cloud computing
- Parallel Debugging and Network Protocols

2. IoTs and Advanced Computing Systems – IACS
- Water and Air Quality Monitoring System based on IoTs such as parameters: PH, DO, NH3,Temperature, Gas: CO/CO2, Formaldehyde, sensors, Dust: PM10, PM2.5, etc, the systems collecting data from sensors
- Problems related to sensor systems for smart cities
- Problems with high-performance computing using specialized hardware platforms

3. Intelligent Transportation System Research Group
- Analyzing and processing data to assess the current urban traffic situation in real time
- Finding the best urban travel route using real-time private and public transport
- The system providing real-time traffic information
- High-performance computing solutions for real-time big data processing.

4. Advanced Communications and Data Analysis
- Wireless and mobile computing
- Multi-tier, context-aware in fog computing to optimize resource allocation and IoT services
- Solutions for machine learning and big data mining, applied to business and financial data analysis
- Data warehouse and decision support systems for agencies and organizations

5. Systems Analysis and Verification (SAVE)
- Software Analysis and Verification
- Natural language processing
- Machine Learning and Intelligent Systems

6. Information Security Group (iSEC)
- Privacy protection when using the service
- Privacy protection in data sharing

Academic Resources

Assoc. Prof. Dr. Thoai Nam
- PhD degree in Computer Engineering, Johannes Kepler University of Linz, Austria
- Research interests:
High performance computing, High performance data analytics, AI, Cloud computing, Distributed & Parallel processing
- Publications:
• A time-stamping system to detect memory consistency errors in MPI one-sided applications
• Flow aggregation for SDN-based delay-insensitive traffic control in mobile core networks
• A New Approach for Scheduling Job with the Heterogeneity-Aware Resource in HPC Systems
- Research projects:
• Caching Schemes in ICN-IoT Networks & the Potential of the Color-Based Caching in IoTs (2019-2020)
• Development tools to help deploying applications on high performance computer systems & big data processing (2018-2020)
- Affiliated Academic society: IEEE
- Field of Research: Computer and Information Engineering
- Subdiscipline: Artificial intelligence, Data Science, Network Engineering
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Tran Ngoc Thinh
- PhD degree in Computer Engineering, King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand
- Research interests:
Network security, High-performance computing, Embedded system, FPGA design, IoTs
- Publications:
• HPOFS: A High Performance and Secured OpenFlow Switch Architecture for FPGA, 2019
• An Efficient High-Throughput and Low-Latency SYN Flood Defender for High-Speed Networks, 2019
• Applying CoAP for sleepy devices in wireless water quality monitoring systems, 2014
- Research projects:
• A Real-time Anomaly–based Network Intrusion Detection System for Software-defined networking (2020-2021)
• Openflow-based secure switching system for Cloud environments (2016-2019)
- Affiliated Academic society: IEEE
- Field of Research: Computer and Information Engineering
- Subdiscipline: Computer Architecture and Embedded Systems
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Pham Quoc Cuong
- PhD degree in Computer Engineering, Tu Delf, Netherland
- Research interests:
High-performance computing, Computer Architecture, FPGA design, IoTs
- Publications:
• HPOFS: A High Performance and Secured OpenFlow Switch Architecture for FPGA, 2019
• A high-performance FPGA-based BWAMEM DNA sequence alignment, 2019
• A Novel High-Speed Architecture for Integrating Multiple DDoS Countermeasure Mechanisms Using Reconfigurable Hardware, 2017
- Research projects: Hazard map system using low enersy sensors and remote sensing data (2018-2019)
- Affiliated Academic society: IEEE
- Field of Research: Computer and Information Engineering
- Subdiscipline: Computer Architecture and Embedded Systems
- Technology Readiness Level (TRL): Level 5

Dr. Le Trong Nhan
- PhD degree in Computer Engineering, University of Rennes, France
- Research interests:
Low-power WSN, IoTs, Embedded Systems
- Publications:
• A Wake-Up Radio based MAC Protocol for Autonomous Wireless Sensor Networks, 2018
• Improving Energy Efficiency of Mobile WSN Using Reconfigurable Directional Antennas, 2016
- Research projects: Building a platform for multiple smart services using smart card in the new service economy of smart cities (2018-2019)
- Affiliated Academic society: IEEE
- Field of Research: Computer and Information Engineering
- Subdiscipline: Computer Architecture and Embedded Systems
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Pham Tran Vu
- PhD degree in Computer Science, Leeds University, United Kingdom
- Research interests: Big Data, Intelligent Transportation Systems (ITS), Wireless networks, Grid & Cloud Computing, Peer-to-peer computing, IoTs
- Publications:
• Smarter big data analytics for traffic applications in developing countries, 2019
• An open Jackson Network Model for Heterogeneous Infrastructure as a Service on Cloud Computing, 2019
• Key-Value-Links: A New Data Model for Developing Efficient RDMA-Based In-Memory Stores, 2017
• IoT Services for Solving Critical Problems in Vietnam: A Research Landscape and Directions, 2016
- Research projects:
Building data collection and traffic alert system using smartphones based on crowdsourcing model (2016-2018)
- Affiliated Academic society: IEEE
- Field of Research: Computer and Information Engineering
- Subdiscipline: Information Communication Networks; Web Data Processing and Data Mining
- Technology Readiness Level (TRL): Level 4

Dr. Nguyen Le Duy Lai
- PhD degree in Computer Science, Grenoble University, France
- Research interests:
Mobile Systems, Wireless networks, Computer Networks Distributed Computing.
- Publications:
• Distributed Model Predictive Control of Irrigation Systems using Cooperative Controllers, 2017
• Asynchronous information consensus in distributed control of irrigation canals, 2016
- Research projects: Research and development of application deployments on powerful computer systems & big data processing (2017-2020)
- Field of Research: Computer and Information Engineering
- Subdiscipline: Information Communication Networks
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Tran Minh Quang
- PhD degree in Computer Science, National Institute of Information and Communication Technology (NICT), Japan
- Research interests:
IoTs, Smart Wireless Communications Systems, Intelligent Transportation Systems ITS, Data Mining and Knowledge Discovery
- Publications:
• A Hybrid MultiOutput-Predictive Modelling based NSGA II Approach for Dimensions Design Optimization of Battery Pack Module for Electric Vehicles, 2020
• A Novel Author Gender Detection Method using Whale Optimization Algorithm and Artificial Neural Network, 2020
• A Dynamic Scheduling Method for Collaborated Cloud with Thick Clients, 2019
• MarCHGen: A Framework for Generating a Malware Concept Hierarchy, 2019
- Research projects:
• Openness in Fog Computing for the Internet of Things) (2019-2020)
• Investigate and build a traffic congestion warning system based on crowd-sourced data and big data analytics (2018-2020)
- Field of Research: Computer and Information Engineering
- Subdiscipline: Artificial intelligence; Machine learning; Software Engineering
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Quan Thanh Tho
- PhD degree in Computer Science, Nanyang Technological University (NTU), Singapore
- Research interests:
AI, Machine Learning, Systems Analysis and Verification, Software Engineering
- Publications:
• A Hybrid MultiOutput-Predictive Modelling based NSGA II Approach for Dimensions Design Optimization of Battery Pack Module for Electric Vehicles, 2020
• A Novel Author Gender Detection Method using Whale Optimization Algorithm and Artificial Neural Network, 2020
• A Dynamic Scheduling Method for Collaborated Cloud with Thick Clients, 2019
• MarCHGen: A Framework for Generating a Malware Concept Hierarchy, 2019
- Research projects: Using formal methods to detect and classify malware (2016-2018)
- Field of Research: Computer and Information Engineering
- Subdiscipline: Artificial intelligence; Machine learning; Software Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Truong Tuan Anh
- PhD degree in Computer Science,Trento University, Italy
- Research interests:
Privacy protection when using the service, Privacy protection in data sharing
- Publications:
• Automated Security Analysis of Authorization Policies with Contextual Information, Transactions on Large-Scal Data- and Knowledge-Centered Systems XLI
• Automated Analysis of Administrative Temporal Role-Based Access Control with Hierarchies
• Scalable Automated Analysis of Access Control and Privacy Policies, Transactions on Large-Scale Data- and Knowledge-Centered Systems
- Research projects:
• Authentication privacy protection in IoTs (2018-2020)
• Privacy protection in data sharing. (2018-2019)
- Field of Research: Computer and Information Engineering
- Subdiscipline: Software Engineering; Web Data Processing and Data Mining
- Technology Readiness Level (TRL): Level 4

Facilities

Research Labs of Faculty of CSE are including ACLAB (Advance Computing Lab) and HPC LAB (High Performance Lab), IoT-UTS lab (Internet of Thing – University of Technology Sydney):

a. The ACLAB supports 6 research groups of the faculty, it also support students' doing projects especially the final project. It cost 20 Billion VND of investment. Including:

- Clustering Blade server system for cloud computing.
- Powerful database server & SAN storage system.
- Application server.
- Other devices: Camera for image/video processing applications, FPGA Developing Board, etc.

b. The HPC Lab has been invested in 2015-2019 with the specification for high performance computing and AI applications/researches. It cost 39 Billion VND of investment. Including:

- A high performance computer system with 24 node and over 3000 core Processor. The performance of the overall system is 50TeraFlop.
- The SAN storage system and database servers
- The GPU Server system with NVidia P100 Cards and Server for Image processing and Deep Learning research
- License of Operating system, Research software as ANSYS, Intel Parallel Developing tools, etc.
- All Server room, Firewall, Automatic Fire alarm system, UPS, etc.

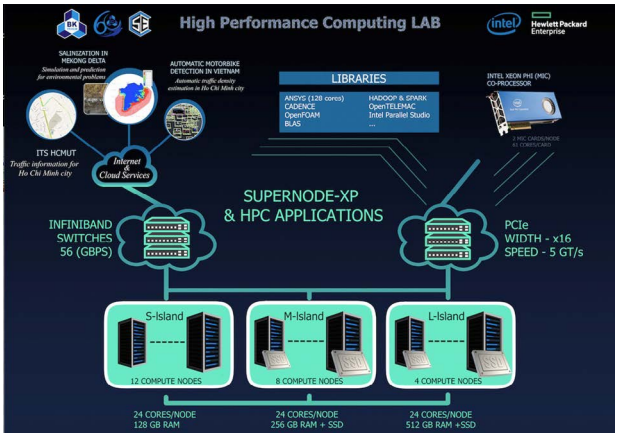
c. IoT – UTS Lab has been invested in 2016 with 20 iMAC, iPAD, Android Tabled and other IoT device/board like Edison. Galileo,. In 2018, IoT lab has rebuilt in collaboration project with UTS (University of Technology Sydney) for IoT training and Doctor Degree training.

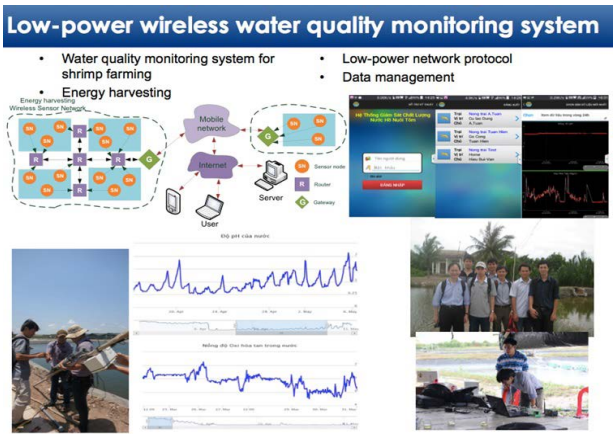
Keywords

High-performance computing IoTs, FPGA; Embedded system; Network security; Smart cities; AI; Machine learning; Data mining; Intelligent transportation systems (ITS); Fog computing; Data Science; Access control; Security analysis; Privacy preserving

Index for industry sector

Water quality monitoring system; Air quality monitoring system; Smart BK Traffic; Investigate and build a traffic congestion warning system based on crowd-sourced data and big data analytics





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FACULTY OF ELECTRICAL AND ELECTRONIC ENGINEERING

Research Interest

1. Department of Telecommunications Engineering

- AI, Machine learning, Deep Learning
- Development of communication networks and applications including sensor networks and IoT
- Advanced methods for audio, video, multimedia and biomedical signal processing
- Real-time implementation of the DSP algorithms on hardware devices such as DSP or FPGA
- Analysis, design, implementation, testing, evaluation of communications technologies (wireless communication systems, optical networks)
- Electromagnetic modeling and propagation
- Antenna and Microwave Integrated circuit design for RF/Microwave transceiver systems and Radar
- RFIC design for optical and wireless communications

2. Department of Electronic Engineering

- Research and design of ASIC, SoC, FPGA-based platform, and IP cores
- Research and design of embedded system using ARM processor, microcontroller, and DSP
- Designing multimedia processing systems for telecommunication, automation control, biomedical device using ASICs, FPGA, DSP, and embedded systems

3. Department of Control Engineering and Automation

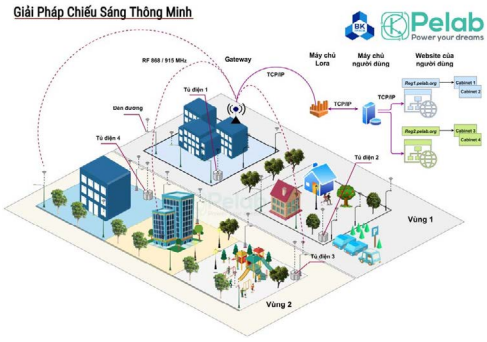
- SCADA solutions for automated manufacturing system
- Camera-integrated robot solutions for automated manufacturing system
- Guidance, navigation and control of autonomous vehicles
- Adaptive control, intelligent control for industrial plants

4. Department of Power Systems

- Power system analysis and computation
- State analysis of power systems
- Design of electric power grids and electrical sections in power plants
- Control and protection of power systems
- Relay Protection of power systems
- Designing supervisory and control system (SCADA) of power systems
- Analysis of insulation structures in high voltage equipment
- Computation of electromagnetic – physical processes in high voltage equipment

5. Department of Electrical Machines and Apparatus

- Control of Electrical Machines
- Renewable Energy
- Energy Monitor System
- Smart Power Electronic Converters
- Computer Vision
- Microgrid
- Smart Home
- Fault diagnosis of Rotating machines



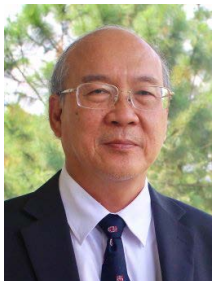
6. Department of Power Delivery

- Power saving and power consumption control
- Power forecast
- DMS Distribution network management system
- Developing technology for manufacturing intelligent public lighting systems using LEDs
  - Having tested the product at the Vietnam National University - HCM and obtaining many patents and test certificates
  - Having transferred to Dien Quang for commercial production of LED public lighting with power of 250W - 300W
  - Having tested and accepted 3 projects related to LED lighting at provincial-city level with the cost of over 15 billion VND

- Energy management in Microgrid
- Electricity load forecast
  - Having done many projects of electricity load forecast for Ho Chi Minh City
  - Transfer of software of load forecast to EVN SPC
- Synthesis and control engineering of power converters in Microgrid
- Distributed control method for multi-phase, multi-level power converters
- Saving energy for industrial and civil works
  - Energy saving solution for industrial factories in the province Binh Duong
- Indirect matrix inverter

Developing pulse width modulation techniques to improve the efficiency and quality of voltage/ current of indirect multi-level matrix inverter

Academic Resources



Prof. Dr. Le Tien Thuong
- PhD degree in Telecommunications, the University of Tasmania, Australia
- Research interests: Digital Communications; Electronics Engineering; Digital Signal Processing (Speech and images); Wavelets and Applications
- Link to publications: http://dte.dee.hcmut.edu.vn/en/people/faculty/246-le-tien-thuong.html
- Link to past research projects: http://dte.dee.hcmut.edu.vn/en/people/faculty/246-le-tien-thuong.html
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Telecommunication Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Do Hong Tuan
- PhD degree in communication engineering, Munich University of Technology, Munich, Germany
- Research interests: Smart Antennas; Mobile and Wireless Communications; Linear and Nonlinear Microwave Circuits; Digital Image Processing
- Link to publications: https://scholar.google.com.vn/citations?hl=vi&user=lmXgL38AAAAJ&view_op=list_works&sortby=pubdate
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Telecommunication Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Huynh Phu Minh Cuong
- PhD degree in Electrical Engineering, Texas A&M University, College Station, Texas, USA
- Research interests: CMOS/BiCMOS + Analog/RF ICs and Systems; High-Power GaN/GaAs Microwave Ics; RF/Microwave Engineering and Circuits; Optical and Wireless Communications; IoT and Sensing Systems
- Link to publications: http://dte.dee.hcmut.edu.vn/en/people/faculty/238-huynh-phu-minh-cuong.html
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Radio and wireless Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Ha Hoang Kha
- PhD degree in Electrical Engineering and Telecommunications, University of New South Wales, Sydney, Australia
- Research interests: Wireless Digital Communications (MIMO systems, cooperative relay networks, cognitive radio); Optimization Algorithms in Digital Signal Processing, Machine Learning
- Link to publications: http://dte.dee.hcmut.edu.vn/en/people/faculty/234-ha-hoang-kha.html
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Telecommunication Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Ho Van Khuong
- PhD degree in Telecommunications, University of Ulsan, South Korea
- Research interests: Diversity techniques; Coding, modulation, multiple access techniques; Physical layer security; Energy harvesting; Cognitive radio
- Link to publications: https://scholar.google.com/citations?hl=en&user=Xkv264kAAAAJ&view_op=list_works&sort by=pubdate
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Telecommunication Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Hoang Trang
- PhD degree in Electronics Engineering (IC-MEMS design and fabrication), the University of UJF (Joseph Fourier University, or University of Grenoble I), CEA-LETI, France
- Research interests: FPGA implementation; Speech Recognizer; IC architecture; MEMS; Fabrication; Asynchronous/ Synchronous design
- Link to publications: www4.hcmut.edu.vn/~hoangtrang
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Computer Architecture and Embedded Systems; Digital Electronics
- Technology Readiness Level (TRL): Level 3

Dr. Truong Quang Vinh
- PhD degree in Computer Engineering, Chonnam National University, Korea
- Research interests: Digital IC, SoC, FPGA-based system, IP Core design; Embedded system; Image and video processing
- Link to publications: https://scholar.google.com/citations?hl=vi&user=utg GijsAAAAJ
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Computer Architecture and Embedded Systems; Digital Electronics
- Technology Readiness Level (TRL): Level 3

Dr.Tran Hoang Linh
- PhD degree in Electrical and Computer Engineering, Portland State University, Portland, Oregon, USA
- Research interests: Computer Architecture; Logic circuit synthesis (classic and reversible); Digital VLSI Design
- Link to publications: https://scholar. google.com/citations?user=BohgB-0AAAAJ&hl=en
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Computer Architecture and Embedded Systems; Digital Electronics
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Ly Thien Truong
- PhD degree in Telecommunications, Cergy-Pontoise University, France
- Research interests: Digital system design (FPGA); Embedded system design (IoT, Smart home, Smart city, Smart traffic, ..); Information theory (channel coding,…)
- Link to publications: https://scholar.google.com/citations?user=K-ijSboAAAA J&hl=en
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Computer Architecture and Embedded Systems; Digital Electronics
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Vinh Hao
- PhD degree in Control and Automation, University of Ulsan, Korea
- Research interests: Guidance, navigation and control of autonomous vehicles; GPS/INS integration; Adaptive control, intelligent control for industrial plants
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Control Engineering and Automation
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Huynh Thai Hoang
- PhD degree in Electrical Engineering, Ho Chi Minh City University of Technology
- Research interests: System Modelling and Identification; Adaptive and robust control to nonlinear system; Intelligent control systems: fuzzy logic, neural network
- Link to publications: http://dca.dee.hcmut.edu.vn/professors-page/huynh-thai-hoang/
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Automation
- Technology Readiness Level (TRL): Level 4

Dr. Nguyen Trong Tai
- PhD degree in Control and Automation, University of Ulsan, Korea
- Research interests: SCADA solutions for automated manufacturing system; Process control
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Control Engineering and Automation
- Technology Readiness Level (TRL): Level 3

Dr. Pham Viet Cuong
- PhD degree in Control and Automation, National Cheng Kung University, Taiwan
- Research interests: Camera-integrated robot solutions for automated manufacturing system; Artificial intelligence in control
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Control Engineering and Automation
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Vo Ngoc Dieu
- PhD degree in Power System Management, Asia Institute of Technology, Thailand
- Research interests: Optimization methods; Electricity market; Smart-grid
- Link to publications: https://scholar.google.com/citations?user=rt6EdQQAAAAJ&hl=vi&oi=ao
- Honor and awards in research: Excellent Publications of VNUHCM in 2019
- Affiliated Academic society: Vietnam Electrical Engineering Association, Greater Mekong Sub-region Academic and Research Network (GMSARN)
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Electrical Power Systems
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Pham Dinh Anh Khoi
- PhD degree in Electrical engineering, Leibniz University, Germany
- Research interests: Modelling of in tegrated control systems of high-voltage power substations; Diagnostic techniques on condition monitoring and failure diagnostics for power transformers
- Link to publications: https://scholar.google.com/citations?user=VNz4bGwAAAAJ&hl=vi&oi=ao
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: High Voltage Engineering
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Nguyen Van Liem
- PhD degree in Electrical engineering, The University of Western Australia
- Research interests: Modelling, Analysis, Control and stability in power systems
- Affiliated Academic society: Southern Vietnam Electrical Engineering Association
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Power system engineering
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Phuc Khai
- PhD degree in Regional Environment Systems, Shibaura Institute of Technology, Japan
- Research interests: Renewable energy, Operation and control in power system
- Link to publications: https://scholar.google.com/citations?user=Gi5KkqUAAAAJ&hl=vi&oi=ao
- Field of Research: Energy Engineering
- Subdiscipline: Renewable Energy
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Nguyen Huu Phuc
- PhD degree in Electrical Engineering, Saint Petersburg State Polytechnic University, Russia
- Research interests: Short Circuit Analysis; Power Flow Analysis; Renewable Energy; Integration of Green Energy into Microgrids
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Electrical Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Quang Nam
- PhD degree in Electrical Engineering, Sheffield University, UK
- Research interests:
+ Smart converters (power electronics converters with communication extensions)
+ Energy management systems (SCADA, smart meters, ...)
+ Solar energy systems (design and implementation of devices and systems, MPPT and high efficiency)
+ Advanced power electronics converters (soft switching technique, industrial applications)
+ Transient analysis in power electronics converters
- Link to publications: http://www4.hcmut.edu.vn/~nqnam/research.php
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Electrical Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Ngoc Tu
- PhD degree in Electrical Engineering, University of Ulsan, South Korea
- Research interests: Motor control (Induction motor, Synchronous motor, BLDC motor); Power management systems; Renewable Energy; Fault diagnosis of rotating machines
- Link to publications: http://www4.hcmut.edu.vn/~nntu/index_research.html
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Electrical Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Le Minh Phuong
- PhD degree in Control Engineering and Automation, O.M. Beketov National University of Urban Economy in Kharkiv, Russia
- Research interests:
• Research on LED technology for lighting and its application
• Research on smart grid issues
• Study on multi-level inverter control algorithm with variable source
• Research and application of artificial intelligence in stabilizing the power system
- Link of publications: http://www.pgs.hcmut.edu.vn/en/doi-ngu-dao-tao
- Field of Research: Electrical & Electronics Engineering
- Technology Readiness Level: Level 9

Assoc. Prof. Dr. Phan Quoc Dung
- PhD degree in Semiconductor Power Converters, Kiev Polytechnic Institute, Kiev, Ukraine
- Research interests:
• Studying about converters for solar and wind power systems
• The algorithms for controlling the application of neural networks and fuzzy logic
• Control of multi-level power converters (Multilevel Inverter), Matrix Converter, inverter (Inverter)
• System for direct torque control and asynchronous motor vector control
- Link to publications: http://www.pgs.hcmut.edu.vn/en/doi-ngu-dao-tao
- Field of Research: Electrical & Electronics Engineering
- Technology Readiness Level: Level 8

Assoc. Prof. Dr. Phan Thi Thanh Binh
- PhD degree in Power Supply, Kiev Polytechnic Institute, Kiev, Ukraine
- Research interests: Load forecast; Distribution generator (DG); Control power consumption; Power system stability
- Link to publications: http://www.pgs.hcmut.edu.vn/en/doi-ngu-dao-tao
- Field of Research: Electrical & Electronics Engineering
- Technology Readiness Level: Level 8

Assoc. Prof. Dr. Nguyen Dinh Tuyen
- PhD degree in Power Electronics, University of Ulsan, Korea
- Research interests: Matrix converter; Power converters applied in solar energy, wind energy; Smart lighting using LED lights; Management and efficient use of energy in industry and civil
- Link to publications: http://www.pgs.hcmut.edu.vn/en/doi-ngu-dao-tao
- Field of Research: Electrical & Electronics Engineering
- Technology Readiness Level: Level 8

Facilities

1. Telecommunications Laboratory

Facilities for conducting the implementation, measurement, analysis and performance testing for microwave engineering, communications engineering, data communications networks, signal processing including: vector network analyzer, spectrum analyzer, signal generator, digital oscilloscope, microwave signal generator, DSP kits

2. Embedded system Lab

Equipment: ARM processor kit (ARM Cortex M3 and M4), Raspberry pi 3, STM32F Development kit, FPGA kit (DE2 and DE10-SOC), DSP kit (Texas Instrument), PIC kit, oscilloscope, VOM, DC power, signal generator, counter

3. IC Design Lab

Equipment: ARM processor kit (ARM Cortex M3 and M4), FPGA kit (DE2, Cyclone III, Cyclone V, DE10-SOC), oscilloscope, VOM, DC power, signal generator, counter, logic analyzer

4. Mechatrolink-Yaskawa laboratory

Was founded from the collaboration with Yaskawa Corp. to solve problems and create innovation in the following major areas:

- Camera-integrated robot solutions for automated manufacturing system
- Development of motion control solution

5. Siemens Laboratory

Was founded from the collaboration with Yaskawa Corp. to solve problems and create innovation in the following major areas:

- SCADA solutions for automated manufacturing system
- Supervisory system IOT 4.0

6. Power system Calculation Laboratory

- State-of-the-art computing facilities and software such as: power system analysis, transient stability, reliability analysis, harmonic analysis
- Services include: design power system, substations, power plants, power system planning, load demand forecasting

7. Power system Laboratory

- State-of-the-art computing facilities and software such as: Modeling of power system, replay coordination, SCADA
- Services include: calculating relay protection, SCADA

8. High Voltage Laboratory

- State-of-the-art computing facilities and software such as: Experiments of electrical discharge in dielectrics
- Services include: Design and measurements of grounding systems

9. Power Delivery Division was established in 1992. Currently, the division manages the Power Electronics Research Laboratory

- The research team consists of 11 domestic and foreign staff members of the Faculty of Electrical and Electronic Engineering, University of Science collaborating with four professors from France, Korea, and Taiwan
- Besides scientific research through projects, the Division has transferred the online course "Advanced and Applied LED Technology" to UNDP in 2019

10. Power Electronics Research Laboratory was established in 2007 with modern equipment in the field of Power Electronics

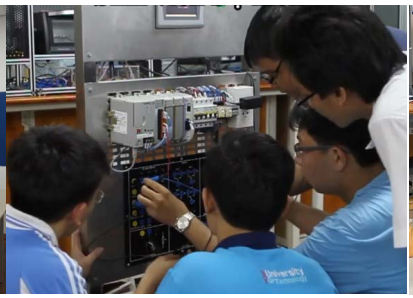
- Equipment for the development of smart lighting systems using LEDs
- Equipment for matrix converters
- Modern equipment such as DSP, DSPACE hardware cards to experiment with power converters
- In the last 3 years from 2017 to 2020, the total funding from the projects reached nearly 28 billion VND. The number of ISI articles is 11

Keywords

RF IC; Machine Learning; IoT; Sensor networks; Wireless communications; Electronics; Embedded system; IC Design; IP Core design; SoC design; Image and video processing; Speech recognition; Pattern recognition; Medical; Smart Lighting; Smart Grid; Matrix Converter; Asynchronous and Synchronous Motors; Microgrid; Load Forecast; Data Mining; Multilevel Converter; Distributed Control

Index for industry sector

Electronics; Embedded system; IC Design; IP Core design; SoC design; Image and video processing; Speech recognition; Pattern recognition; Medical electronics; Renewable energy; Operation and control; SCADA; High voltage engineering; Load forecasting; Transient and stability; Power system; Control systems & regulators; Smart public lighting system using LEDs; Inverters for industry and renewable energy; Smart water meters



Ho Chi Minh City University of Technology (HCMUT)
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Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF ENVIRONMENT AND NATURAL RESOURCES

Research Interest

1. Environmental engineering

- Wastewater treatment and sewage system
- Water treatment and water supply network
- Ventilation, air and noise pollution control
- Solid waste and hazardous waste management and treatment
- Environmental Remediation
- Soil and Groundwater Pollution Treatment
- Natural Resources Engineering

2. Environmental and Natural Resources Management

- Environmental Management and Policy
- Urban and industrial environmental management
- Natural resources management
- Environmental Informatics: GIS and remote sensing
- Climate change
- Global Environmental Issue
- Water pollution

Academic Resources

Assoc. Prof. Dr. Dang Vu Bich Hanh
- PhD degree in Microbiology, University of Natural Science, VNU-HCM, Vietnam
- Research interests: Environmental biology; Composting and fertilizer
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20TS-671.%20Dang%20Vu%20Bich%20Hanh
- Field of Research: Environmental Engineering
- Subdiscipline: Environmental Remediation; Natural Resources Engineering; Soil and Groundwater Pollution Treatment; Water Pollution
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Bui Xuan Thanh
- PhD degree in Environmental Engineering, Asian Institute of Technology, Thailand & INSA, Toulouse, France
- Research interests: Membrane separation processes; Biological treatment processes; Advanced Water and wastewater treatment processes; Green Technologies
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/CV_Thanh-%20Sept%20-%202019_short-4108.pdf www.buixuanthanh.com
- Affiliated Academic Society: Editor board members of Bioresource Technology (Elsevier), Environmental Technology & Innovation (Elsevier), Vietnam Journal of Engineering Science and Technology, etc.
- Field of Research: Environmental Engineering
- Subdiscipline: Physicochemical Treatment Management; Soil and Groundwater Pollution Treatment
- Technology Readiness Level (TRL): Level 5

Dr. Nguyen Nhat Huy
- PhD degree in Environmental Engineering, National Chiao Tung University, Taiwan
- Research interests: Air pollution control; Application of nanomaterials in water and wastewater treatment; Utilization of solid waste for nanomaterials production
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: https://orcid.org/0000-0002-2918-7935 http://fenr.hcmut.edu.vn/uploads/files/LLKH%20TS-7757.%20Nguyen%20Nhat%20Huy
- Field of Research: Environmental Engineering
- Subdiscipline: Air and Noise Pollution; Physicochemical Treatment Management; Soil and Groundwater Pollution Treatment
- Technology Readiness Level (TRL): Level 5

Dr. Vo Nguyen Xuan Que
- PhD degree in Civil and Environmental Engineering, Yonsei University, Korea
- Research interests: Biogeochemistry; Wetland ecological engineering; Water treatment; Microbial ecology
- Link to publications, past researc projects, honor and awards in research, and affiliated academic society: https://www.researchgate.net/profile/Nguyen_Vo3
- Field of Research: Environmental Science and Engineering
- Subdiscipline: Global Environmental Issue; Environmental remediation; Water pollution
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Vo Le Phu
- PhD degree in Environmental Studies, Adelaide University, Australia
- Research interests: Water Resources Management; Climate Change
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/PGS-9955.TS%20Vo%20Le%20Phu%20(update%2016032017)
- Field of Research: Environmental and Natural Resources Management
- Subdiscipline: Environmental Management and Policy; Water Pollution
- Technology Readiness Level (TRL): Level 7

Assoc. Prof. Dr. Le Van Trung
- PhD degree in Civil Engineering, University of Tokyo, Japan
- Research interests: Applying remote sensing and GIS in urban management; Natural resources management and environmental monitoring
- Link to publications, past research proj ects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20PGSTS-3248.%20Le%20Van%20Trung
- Field of Research: Artificial Intelligence (AI) in satellite Image processing
- Subdiscipline: Environmental Informatics; Land Management UAV applications for smart city
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Dao Thanh Son
- PhD degree in Ecology, University of Humboldt, Germany
- Research interests: Ecotoxicology of pollutants (trace metals, cyanotoxins, pesticides, pharmaceuticals, plasticizers); Biodiversity and ecology of phytoplankton; Water quality assessment; Relationship be tween phytoplankton and climate change
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/30-7632.11
- Fields of Research: Ecotoxicology; Aquatic ecology
- Sub-disciplines: Environmental management and health; Water pollution
- Technology Readiness Level (TRL): Level 7

Dr. Vo Thanh Hang
- PhD degree in Environmental Engineering, Kyungpook National University, Daegu, Korea
- Research interests: Water resource management; Climate change; Anaerobic co-digestion process for wastewater treatment process; Appling methodology on Green Growth (GG)/ Green New Deal (GND) for sustainable development; Renewable energy
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20TS -331.%20Vo%20Thanh%20Hang
- Field of Research: Environmental Engineering and Management
- Subdiscipline: Environmental Management and Policy; Environmental Health and Sanitation; Environmental Modeling; Global Environmental Issue; Water Pollution
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Bui Ta Long
- PhD degree in Environmental Informatics, The Russian Academy of Sciences, Russia
- Research interests: Environmental modeling; Air pollution
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20PGS-3787.TSKH
- Field of Research: Environmental and Natural Resources Management
- Subdiscipline: Environmental Informatics; Environmental Modeling
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Tran Thi Van
- PhD degree in Using and Protecting Natural Resources and Environment, Institute for Environment and Resources, VNU-HCM
- Research interests: Remote sensing and GIS; Climate change and air pollution; Urban environment issues; Disaster Risk Management
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: https://www.researchgate.net/profile/Tran_Van6/research http://fenr.hcmut.edu.vn/uploads/files/TranThiVan_LLKH_2020_capnhat.pdf
- Field of Research: Environmental and Natural Resources Management; Natural Disaster
- Subdiscipline: Air and Noise Pollution; Environmental Informatics (GIS and Remote sensing); Disaster Risk Management
- Technology Readiness Level (TRL): Level 5

Assoc. Prof. Dr. Le Van Khoa
- PhD degree in Environmental Science, Wageningen University & Research, The Netherlands
- Research interests: Environmental policy; Urban environmental management; Sustainable production and consumption; Circular Economy
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20PGSTS-8235.%20Le%20Van%20Khoa
- Field of Research: Environmental and Natural Resources Management
- Subdiscipline: Environmental Management and Policy
- Technology Readiness Level (TRL): Level 5

Mr. Luu Dinh Hiep
- Master degree in GIS, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Application of GIS in environmental and natural resource management
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/LLKH%20ThS-3471.%20Luu%20Dinh%20Hiep
- Field of Research: Environmental and Natural Resources Management
- Subdiscipline: Environmental Informatics
- Technology Readiness Level (TRL): Level 5

Dr. Ha Duong Xuan Bao
- PhD degree in Chemical Engineering, Kiev Light Industry Technology University (KLITU), Ukraine
- Research interests: Health, Safety and Environment (HSE); Environmental management and technology
- Link to publications, past research projects, honor and awards in research, and affiliated academic society: http://fenr.hcmut.edu.vn/uploads/files/ HaDuongXuanBao_LLKH_2020_capnhat.pdf
- Field of Research: Environmental Engineering and Management; Chemical technology for Leather and Footwear
- Subdiscipline: Environmental Management and Policy; Environmental Health and Sanitation; Global Environmental Issue
- Technology Readiness Level (TRL): Level 5

Facilities

1. Environmental Analysis Laboratory (EAL) was established in 2007 as a teaching and research facility in the environmental field for university students and researchers, government agencies, and industry. The lab is fully equipped with state-of-the-art instruments for both basic and advanced analysis of environmental parameters such as AAS, GC-MS, HPLC, GC, TOC, ICP-OES, Zetasizer, …. The lab also has various lab-scale and pilot-scale systems for students to practice and do their research ideas in the fields of water, wastewater, air pollution, and solid waste treatment.

2. Laboratory for Environmental Modelling (EMLab) was founded in 2016 to promote research, teaching, and learning utilizing mathematical modeling and software, to tackle environmental issues, climate change, and sustainable development. The lab mission is to train and consult students/participants the sense of professionalism in study and research, which enables them to participate in projects, duties concerning the environmental environment and to apply IT in solving environmental issues.

Keywords

Environmental engineering; Environmental management; Resource management; Environmental pollution; Water treatment; Wastewater treatment; Air pollution control; Solid waste; Climate change; Remote sensing; GIS; Environmental modeling; Environmental ecotoxicity; Environmental ecology

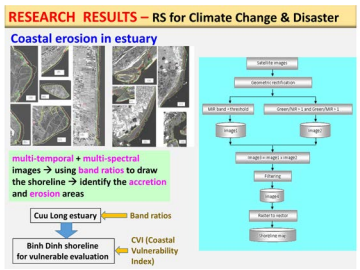
Index for industry sector

Tap and drinking water treatment system; Air pollution control system; The wastewater treatment system; Waste incinerator; Landfill; Composting fertilizer; Biogas; Environmental impact assessment; Health, safety, and environment (HSE); Environmental protection planning; Environmental risk assessment; Analysis of air, water, solid waste, and soil quality; Environmental monitoring; Environmental modeling for emission sources; GIS and remote sensing for environmental and natural resource management







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FACULTY OF GEOLOGY AND PETROLEUM ENGINEERING

Research Interest

1. Coastal disaster and Mitigation, Coastal engineering and Environment, Slope and Tunnel stability analysis in rock

- Underground energy storage
- Underground cool storage

2. Environment Geology, Environmental resources exploitation and conservation

- Groundwater resources, Groundwater quality assessment and Monitoring, Groundwater treatment solutions
- Geo-Harzads and Geo-Disasters
- Environmental Engineering
- Oil spill Harzads, Environmental protection in the Petroleum industry
- GIS and Remote Sensing

3. Engineering Geology

- Geology - Geological Engineering survey, perform experiments on soil mechanics, rock mechanics in the laboratory and field
- Improvement in soft soil, slope, embankment,…
- Foundation works
- Design and install Geotechnical materials
- Calculate and design the dewatering system for deep excavations
- Design and install the geotechnical monitoring system

4. Hydrogeology

- Solve problems of groundwater resources under the impact of the environment and human activities
- Collect, interpret, and model groundwater resources data.
- Build numerical modeling for groundwater flow, substance transmission, and saline intrusion, to use the results of the model to solve problems that exist in groundwater resources under the impact of natural conditions, exploitation of human activities, and to use model results to predict the impacts of climate change in groundwater resources.
- Use isotopic hydrogeological method to solve problems about the origin and problems of pollution, the salinity of groundwater resources.
- Evaluate and propose methods of artificially supplementing groundwater resources.

5. Petroleum analysis, exploration, and appraisal

- Petroleum geosciences, geological concepts: minerals, igneous rocks, sedimentary rocks, metamorphic rocks, rock deformation, and geological time
- Petroleum system: source rocks, reservoir rocks, sealing rocks, maturation, and migration and trapping of hydrocarbons

6. Researching reservoir thermodynamics & fluid properties

- Fluid properties and the application of mass and energy balances to petroleum systems
- Analysis of phase behavior and chemical reaction equilibria (flash calculations with k-values); and equation of state applications and modeling and the natural drive mechanism, coring and core analysis, sampling and sample analysis, well testing and well test analysis

7. Modeling and Simulation on Engineering & Technology focusing on Petroleum, Geology, Unconventional Energy, etc.

- Modeling the mud cutting transport in oil and gas well drilling operations
- Developing the stress models around the drilling borehole in wellbore stability analysis, sanding, hydraulic fracturing, etc.

8. Analysis and Design of equipment and construction

- Using Artificial Intelligence to predict and analyze the stuck pipe
- Using Borehole Failures from Image logs in Petroleum and Geology Engineering

9. Experiment Modeling of Petroleum Engineering

- Transportation of Drilling Fluids and Mud Cuttings
- Applying Nanomaterials and technology in the oil and gas industry (cement, drilling fluids, etc.)

10. Drilling and Production Engineering

- Well Intervention (Well Control, Well Stability)
- Integrated Production Modeling & Production Optimization; Flow Assurance
- Enhanced/Improved Oil Recovery
- Drilling technology
- Geomechanics applications

Academic Resources

Dr. Bui Trong Vinh
- PhD degree in Coastal Engineering, Osaka University, Japan
- Research Interests: Erosion mechanism of the riverbank and around the river mouth, Oilspill hazards, Petroleum environment, EIA, Groundwater pollution and monitoring, Mining and environment, and Geo-hazards
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Geo-Environmental Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Tran Anh Tu
- PhD degree in Geological Engineering, Kyushu University, Japan
- Research Interests: Hazards on mining, Mining reclamation, Groundwater pollutions
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Geo-Environmental Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Dang Thuong Huyen
- PhD degree in Geochemistry, Kyushu University, Japan
- Research Interests: Soil and groundwater pollution and remediation, Environment and Geochemistry, Pollutants transport in porous media, Seawater intrusion, Groundwater modeling
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Geo-Environmental Engineering
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Huynh Thong
- PhD degree in Rock mechanics, Gadja Mada University, Indonesia
- Research Interests: Underground stability and landslide analysis and assessment
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Geo-Environmental Engineering
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Nguyen Viet Ky
- PhD degree in Hydrogeology, Moscow State University (MGU), Russia
- Research Interests: Hydrogeology, Geotechnics, Groundwater investigation and monitoring, Groundwater extraction design, Groundwater in oil fields
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Hydrogeology and Geochemistry
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Dau Van Ngo
- PhD degree in Environmental Geology, Hanoi University of Mining and Geology, Vietnam
- Research Interests: Environmental Geology, Geotechnics
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Engineering Geology
- Technology Readiness Level (TRL): Level 4

Dr. Dao Hong Hai
- PhD degree in Geological Engineering, Ho Chi Minh City University of Technology (HCMUT)
- Research Interests: Hydrogeological mapping, Evaluation of groundwater quality and quantity, Hydro-geo-chemical analysis and modeling of groundwater flow, and Impact of climate change in groundwater resources
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Hydrogeology and Geochemistry
- Technology Readiness Level (TRL): Level 4

Dr. Pham Son Tung
- PhD degree in Civil Engineering, National Institute of Applied Sciences of Rennes, France
- Research Interests: Fluid mechanics in porous media and continuous media, Geomechanics, Flow assurance, Well test, Drilling fluid and cementing, Machine learning
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 2

Dr. Vo Dai Nhat
- PhD degree in Geotechnical Engineering, University of Ulsan, Korea
- Research Interests: Soft soil improvement, Slope stability analysis, Tunneling, Settlement analysis
- Field of Research: Civil Engineering
- Subdiscipline: Engineering Geology
- Technology Readiness Level (TRL): Level 4

Assoc. Prof. Dr. Tran Van Xuan
- PhD degree in Geotechnics and Hydrogeology, Hanoi University of Mining and Geology, Vietnam
- Research Interests: Hydrogeology, Petroleum Geology, Reservoir Engineering
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Ta Quoc Dung
- PhD degree in Reservoir modeling, University of Adelaide, South Australia
- Research Interests: Coupled fluid flow-geomechanics in a reservoir, Petroleum technology, Geostatistics in petroleum engineering, Geomechanics
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Do Quang Khanh
- PhD degree in Rock mechanics and Drilling engineering, Chonnam University, Korea
- Research Interests: Rock mechanics, Geomechanics, Stress field, Petroleum drilling, Completion and production, IOR/EOR, Modelling and simulation in P&G engineering
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Mai Cao Lan
- PhD degree in Computational fluid dynamics, University of Southern Queensland, Australia
- Research Interests: Computational fluid dynamics, Petroleum technology, Geostatistics in petroleum engineering
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Nguyen Xuan Huy
- PhD degree in Petroleum Engineering, Sejong University, Korea
- Research Interests: Geochemistry unconventional resources and EOR/IOR specialist
- Field of Research: Geological & Petroleum Engineering
- Subdiscipline: Petroleum Engineering
- Technology Readiness Level (TRL): Level 2

Facilities

1. Geotechnics Laboratory

Triaxial testing, Core sample drilling, Soil properties testing, Infrastructure stabilized investigation, Hydrogeology assessment, CPTu, PIT, VST Soil improvement service and monitoring in Geotechnics

2. Geo-Environmental Laboratory

Wave - current meters, Tidal gage, COD, BOD, Mineral testing, Geochemistry, Microscopes, Gemstone test, Numerical models, Remote sensing and GIS, Solution for oil spreading

3. GEOPET Simulation Laboratory

- Petroleum Engineering Softwares (e.g. Petrel, Eclipse, Pipesim, CMG, RMS, RFD,t-Navigator, EDT, Geographix)
- Electronic lectures, SPE papers
- Powerful modeling computer system

Keywords

Coastal erosion, Landslide, Mining and environment, Petroleum and environment, Oil spill, Mineral exploration and processing, Groundwater preservation, Geotechnics, Hydrogeology, Earthquakes hazards, Geophysics, Petroleum Geosciences, Petroleum Engineering, Reservoir modeling and simulation, Drilling and production engineering, Geophysics

Index for industry sector

Groundwater extraction design, Prevention and mitigation of coastal erosion, Landslides, Earthquakes, Land subsidence, Groundwater pollution, Mining environment, Oil and gas environment, Reservoir models. Geophysics, Geological maps, Oil and gas potential assessment, Provision service for oil and gas field exploration, Appraisal and development






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Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF MATERIALS TECHNOLOGY

Research Interest

1. Carbon nanomaterial

- Synthesis of CNT and graphene dispersing into epoxy resin for application as anti-corrosive solution of steel structure
- Development of graphene based sensor
- Synthesis of high quality graphene
- Synthesis of Nanocomposite MoS2/graphene for electrode materials in supercapacitors

2. Inorganic materials and composited research group for Biomaterials and Materials for Environmental application (BME)

- Synthesis of new materials for biomedical application based on inorganic compound and derived composite: nano silver coated medical tape, gauze, nano silver coated glasses, bone replacement by calcium phosphate material, development of 3D printing system for ceramic materials
- Study of factors affecting the ability to form kidney stones, bladder stones
- Reusing waste materials such as fly ash, glass cullet, rice husk ash in geopolymer technology at low temperatures

3. Smart, sustainable and synergic materials for construction (S3MC)

- Development of technology of two stage concreting method passive fire protection solution
- Production of supersulfated cement, low energy cement (calcium sulfo aluminate), bio-based aggregate composite materials
- Kinetic study of thermal decomposition of mineral materials and biomineralization process for self-healing materials
- Technology development of carbonation reaction (CO2 sequestration)
- Production of fibre reinforced cement matrix (micro-nano scale)

4. Materials Research and Appication in Industry, High Technology and Biomedicine Group (HTIR)

- Production of nonwoven yarn from PP (N95 standard) for face-maskmaterials
- Production of nonwoven from biodegradable plastic for face-mask materials
- Production of polymer fiber for 3D printing technology
- Development of chemical adjuvant for controling the melt flow index of recyled polymer

5. Ceramic materials

- Solid waste recycling and processing: special cement and binder, others sintering materials
- Bio ceramic materials
- Synthesis of sintered materials: SiC, A12O3, ZrO2

6. Electrochemistry and corrosion engineering

- Development of materials for energy conversion and storage: gel electrolyte battery, Li-ion battery, Li-S battery
- Accelerated and outdoor testing of materials to evaluate the corrosion resistance and protective durability
- Technological solutions for corrosion protection: durable paint systems, electrodeposition of metals and alloys, corrosion inhibitors

7. Radar absorbing materials

- Synthesis of super-paramagnetic zinc-nickel nanoparticles
- Fabricate microwave absorbing materials in the X band frequency range, especially in 10-centered frequency and test their reflection loss (dB)

8. Energy materials

- Synthesis of carbon nanomaterials (carbon nanotubes, graphene, graphene oxide)
- Functionalization of carbon nanomaterials
- Application of carbon nanomaterials in energy systems
- Fabrication of electrode materials for energy systems (lithium ion batteries, supercapacitors, solar cells…) using nanocomposites based on carbon nanomaterials
- Synthesis of nanocatalysts
- Fabrication of nanostructured membrane for filtration technologies
- Corrosion of metal in environments of Vietnam
- Fabrication of anticorrosion paints, weathering resistant paints for coastal structures

Academic Resources

Assoc. Prof. Dr. Huynh Dai Phu
- PhD degree in Chemical engineering, Sungkyunkwan University, South Korea
- Research interests: Bio materials, Polymer and rubber technology Nanomaterials
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Affiliated Academic society: AUN/SEED-Net
- Field of Research: Materials Engineering
- Subdiscipline: Biomaterial, Polymer
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Le Van Thang
- PhD degree in Material science and technologies, Grenoble INP, France
- Research interests: Carbon nanomaterials, Micro-nano materials, Micro-nano technologies for energy systems
- Link to publication: ORCID: 0000-0003-0676-3685
- Link to past research projects: ORCID: 0000-0003-0676-3685 http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Affiliated Academic society: AUN/SEED-Net, PUL, NACE, ASAM
- Field of Research: Materials Engineering
- Subdiscipline: Nano materials
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Tran Van Khai
- PhD degree in Material science and technologies, Hanyang University, South Korea
- Research interests: Semiconducting materials SnO, GaN, ZnO, BN, Specific application of materials, Carbon nano materials (graphene, carbon nanotubes, fullerenes), Applications of nanomaterials in biosensor and gas sensor
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Affiliated Academic society: AUN/SEED-Net
- Field of Research: Materials Engineering
- Subdiscipline: Nano materials
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Do Quang Minh
- PhD degree in Slovak Technology University (STU in Bratislava), Slovakia Republic
- Research interests: Solid state chemistry, Biomaterials, Process and equipments of silicate technology
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24 https://www.researchgate.net/profile/Do_Quang_Minh
- Affiliated Academic society: AUN/SEED-Net, VIBCA
- Field of Research: Materials Engineering
- Subdiscipline: Ceramic
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Nguyen Nhi Tru
- PhD degree in Chemical science, University of Science, Vietnam
- Research interests: Electrochemistry, Corrosion and prevention, Materials for lithium battery
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Honor and awards in research: VIFOTEC 2001, 2009
- Affiliated Academic society: ICC, VICORRA
- Field of Research: Materials Engineering
- Subdiscipline: Metallurgy
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Nguyen Van Dan
- PhD degree in Metal and alloys, Hanoi University of Science and Technology (HUST)
- Research interests: Metamaterial, Metals theory
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Field of Research: Materials Engineering
- Subdiscipline: Metallurgy
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Nguyen Thi Le Thu
PhD degree in Chemistry, University of Groningen , Netherlands
- Research interests: Materials Syntherizing, Biopolymer, Shape memory polymer, Self healing materials, Composite, Click chemistry
- Link to publication: https://scholar.google.com/citations?hl=en&user=RDdMJD8AAAAJ&view_op=list_works&sortby=pubdate
- Honor and awards in research: Creative scientist in 2019 (HCM city), Loreal-UNESCO-For Women in Science Rising Talent 2017, Outstanding scientist with ISI publication 2017
- Affiliated Academic society: AUN/SEED-Net
- Field of Research: Materials Engineering
- Subdiscipline: Polymer
- Technology Readiness Level (TRL): Level 3

Dr. Vu Anh Quang
- PhD degree in Physical chemistry, University of Burgundy, France
- Research interests: Metal corrosion, Numerical simulation of metal corrosion, Lifetime testing of anticorrosion paints
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Affiliated Academic society: AUN/SEED-Net, PUL, NACE
- Field of Research: Materials Engineering
- Subdiscipline: Materials for Energy and Environment
- Technology Readiness Level (TRL): Level 5

Dr. Pham Trung Kien
- PhD degree in Biomaterials, Kyushu University, Japan
- Research interests: Biomaterials, Materials for environment
- Link to publication: https://scholar.google.com/citations?hl=vi&user=Ro0l2W8AAAAJ
- Honor and awards in research:
• Technology consultance for MEDEP Ltd. Co in FIRST project
• First prize Leave a Nest June-2019
• Third prize Newton fund Jan-2019
• Travel award Kyoto Materials Conference Nov-2013
- Affiliated Academic society: AUN/SEED-Net, HEEAP
- Field of Research: Materials Engineering
- Subdiscipline: Ceramic
- Technology Readiness Level (TRL): Level 7

Dr. Nguyen Khanh Son
- PhD degree in Materials for civil engineering, INSA Rennes, France
- Research interests: Materials for construction, Cement and concrete technology, Fire protection solution
- Link to publication: https://www.researchgate.net/profile/Khanh_Son_Nguyen/research
- Affiliated Academic society: AUN/SEED-Net, VCA
- Field of Research: Materials Engineering
- Subdiscipline: Ceramic
- Technology Readiness Level (TRL): Level 8

Dr. La Thi Thai Ha
- PhD degree in Materials engineering, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Physical chemistry of polymer, Polymer composite materials
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Affiliated Academic society: AUN/SEED-Net
- Field of Research: Materials Engineering
- Subdiscipline: Polymer
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Nguyen Ngoc Ha
PhD degree in Metal and alloys, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Metal processing, Thermal engineering, Mechanical engineering
- Link to publication: http://www.pgs.hcmut.edu.vn/vi/lop-chuyen-de-2/nckh/2017-04-18-08-12-24
- Field of Research: Materials Engineering
- Subdiscipline: Metallurgy
- Technology Readiness Level (TRL): Level 8

Dr. Bui Van Tien
- PhD degree in Chemical Engineering and Applied Chemistry, South Korea
- Research interests: Polymer Materials, Nature-Inspired Nano Materials, Nanogenerator, Solid Polymer Electrolyte, Actuator
- Link to publication: https://scholar.google.com/citations?user=FfKxwhsAAAAJ&hl=vi
- Affiliated Academic society: AUN/SEED-Net
- Field of Research: Materials Engineering
- Subdiscipline: Nano materials
- Technology Readiness Level (TRL): Level 3

Facilities

1. Module of Metal and alloys processing laboratory

- Provide exhaust vacumm, heating furnace, stirring machine, ultrasonic machine to support the synthesis of zinc-nickel super-paramagnetic nanoparticles and fabricate the microwave absorbing samples
- Autoclave for materials syntherizing
- Spray coating equipment
- High temperature furnace
- Drying oven
- Ultrasonic cleaning tank
- Analysis Scale

2. Module of Ceramic processing laboratory

- High temperature furnace 1000 -1600^{0}C
- High speed ball mill
- Autoclave
- Universal compresstion machine 300 ton
- Planetary Mixer, high shear mixer, Pan mixer for mortar, paste

3. Module of Polymer processing laboratory

- Dilatometer
- Abrasion test, Friction test
- Vicker Hardness
- Transparent Thermalstat tank
- Thermalstat tank
- Hydraulic press machine SMC
- Ball mill
- Gelation time measurement
- Dry oven

- Density Ball
- Stirrer
- Sieve machine

4. VNU-HCM Key Laboratory for Materials Technologies

- Optical microscope OLYMPUS GX 51 (Japan)
- Hardness tester EMCOTEST. Model: M4U 025 (Austria)
- High performance balance PRECISA Model XT220A (Switzerland)
- Vicker Microhardness tester
- Planetary mill (Germany)
- High temperature optical microscope
- Salt spray tester
- Halogen moisture analyzer
- Refrigerated laboratory centrifuge
- Rotary evaporator
- Galvanostats/Potentiostats Solartron 1280B
- Surface profiler
- Optical emission spectrometer
- SPECTROMAXX
- Static hydraulic metal series testing systems INSTRON 300 DX

Keywords

Graphene, CNTs, Nanocomposites, Graphene oxide, Ecomaterials, Biomaterials, Ceramic materials, Inorganic materials, Materials for environmental application, Smart cement-based material, Multifunctional material, 3D printing concrete, Fire protection, Sustainable, Geopolyme, Material testing, Material durability, Corrosion & protection, Organic coating, Electroplating, Materials for power sources, Super-paramagnetic zinc-nickel ferrite, Electro-magnetic absorbing materials, X band frequency range, Nano ferrite nanoparticles, Energy systems, Lithium ion battery, Supercapacitor, Solar cell, Nanocatalyst, Thermal chemical vapor deposition, Fluidized bed chemical vapor deposition, Multi filtration, 3D-nanostructured membrane

Index for industry sector

Semiconductor technology, Civil engineering, Medical device and equipments, High tech materials, Glass, Ceramic manufacturing, Building materials, Electrochemical deposition, Renewable energy, Radar military equipments, Polymer and Rubber technology, Micro-nano technology, Iron and Steel Manufacturing, High performance Alloys, Composite.

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Email: inter@hcmut.edu.vn | Website: http://www.hcmut.edu.vn/en

FACULTY OF MECHANICAL ENGINEERING

Research Interest

1. Manufacturing Engineering

- Automatic equipment manufacturing
- Mold technology
- Rapid prototyping technology
- Hydraulic and pneumatic systems
- Equipment for processing agricultural products, food
- Biomedical engineering
- Internet of Things (IOT)

2. Construction Machinery and Handling Equipment Engineering

- Gluing machine
- Elevator testing tower
- Two-way self-climbing scaffold
- Characteristics of cool-pressed thin steel
- AAC line
- Cat-fish feeding line
- Machine Troubleshooting
- RUL prediction of machines
- Designing heavy-duty hoists
- Desiging high- speed elevators

3. Heat and Refrigeration Engineering

- Sustainable energy
- Energy saving and efficiency
- Modeling and simulation of thermal systems (CFD)
- Development of high-efficiency thermal systems suitable for Vietnam
- Energy efficiency for pumps, fans, compressors, lighting, refrigeration systems, boilers, burners, ...
- Hydraulic and pneumatic systems
- HVAC system and related equipment
- Heat exchangers
- Insulation coating for thermal applications
- Safety in pressure equipment
- Safety in confined spaces
- Safety in electrical systems
- Ventilation, heat supply and air conditioning for buildings
- Designing software such as CAD, CAM, CNC,..
- CFD simulation softwares
- Technology transfer and industrial cooperation:
  - CFD analysis for LG Electronics (Korea)
  - LNG projects with PECC2 (Vietnam)
  - Consulting on boilers and thermal systems for POLYTEX company (Taiwan)

4. Material Processing Technology

- Metal and alloys for mechanical engineering;
- Design shaping systems for casting, metal forming, welding technology
- Technology and equipment for metals and alloys welding and cutting
- Technology and manufacturing equipment for national economic sectors
- Study the production process of non-chip manufacturing industry

5. Textile & Garment Engineering

- Structures, properties and modification of natural and artificial cellulose-based textile fibers
- Culososе-based composites and new materials
- Functional treatment and improved textile properties with modern technologies
- Quality enhancement by improving textile & fiber traditional technology
- Application of plant cellulose to new and functional materials

6. Machine Design

- Two phase Flows
- Product design and development by modularity
- 3D Printing Technology
- SPIF machine and technology
- Structural design using numerical methods
- Software development for machine designing
- Structure optimization
- Kinetics and dynamics
- Design of serial anttd parallel manipulators.
- Design of industrial equipments
- Application of elastic module in creating micro-motion and force/torque measurement
- Image processing
- Damage diagnosis

Academic Resources

Assoc. Prof. Dr. Tran Doan Son
- PhD degree in Machine Manufacturing Technology, PLZEN School
- Research interests: Equipment for processing agricultural products

Assoc. Prof. Dr. Luu Thanh Tung
- PhD degree in Mechiancal Engineering, University of Ulsan, Korea
- Research interests: AI; Construction machinery

Dr. Tran Anh Son
- PhD degree in Mechanical Engineering, National Taiwan University of Science and Technology
- Research interests:
  • Manufacturing agricultural processing machines
  • Mold technology
  • Fast prototyping technology

Prof. Dr. Le Chi Hiep
- PhD degree in Refrigeration and air conditioning engineering, Saint-Petersburg Institute of Refrigeration Engineering, Russia
- Research Interests: Absorption refrigeration, Heat pipe, Energy storage techniques, Evaporative cooling technology, dehumidification by desiccants, Energy efficiency
- Publications: Author of 4 textbooks, Author of 55 domestic and international journal papers, 34 international conference papers, 20 domestic conference papers.
- Past research projects: Director of 13 research projects at all levels
- Honor and awards: 2 patents and 2 technical innovation awards
- Affiliated Academic Society: Member of Vietnam Society of Refrigeration and Air-Conditioning Engineers
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Energy storage, New and Renewable energy, Solar energy
- Technology Readiness Level: Level 4

Dr. Ho Triet Hung
- PhD degree in Mechanical and Automotive Engineering, University of Ulsan
- Research interests: Manufacturing automatic equipment; Hydraulic and pneumatic systems

Assoc. Prof. Dr. Pham Ngoc Tuan
- PhD in Machine Manufacturing, Kiev Polytechnic University
- Research interests: Automation in industry and agriculture; Biomedical engineering; Internet of Things (IoTs)

ME. Huynh Cong Lon
- Master of Construction machinery and handling equipment, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Hydraulic power; Construction machinery

Dr. Ha Anh Tung
- PhD degree in Mechanical Engineering at Sherbrooke University, Canada
- Research interests: Wind energy and solar energy, Energy saving and efficiency
- Publications: Author of 12 papers published in domestic and international journals, 25 articles published in domestic and international conferences.
- Past research projects: Director of 5 research projects and participant in 3 others
- Honor and awards: Certificate of Merit from the Prime Minister in 2019
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Energy storage, Heat Pump, New and Renewable energy, Solar energy, Wind engineering, Wind turbines
- Technology Readiness Level: Level 4

Assoc. Prof. Dr. Nguyen The Bao
- PhD degree in Solar Energy, Australia
- Research interests: Solar energy, Waste energy utilization, Evaporation using desicants, Energy efficiency, Automation of thermal systems
- Publications: Author of 2 books, main author of 27 domestic and international scientific papers, co-author of other 7 scientific papers, 4 international conference articles and 2 domestic conference articles.
- Past research projects: Director of 7 research projects at all levels.
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Environmental energy, Green city/building, Solar energy, Wind engineering, Wind turbines
- Technology Readiness Level: Level 4

ME. Luong Van Toi
- Master of Construction machinery and handling equipment, Ho Chi Minh City University of Technology (HCMUT)
- Research interests: Fruit washing machine; Fish feeding machine

Assoc. Prof. Dr. Nguyen Minh Phu
- PhD degree in Thermal engineering, Korea
- Research interests: Modeling and simulation of thermal systems, CFD analysis, Numerical heat transfer
- Publications: Author of 2 books, main author of 17 domestic and international scientific papers, co-author of other 11 scientific papers, 22 international conference articles and 10 domestic conference articles: https://scholar.google.com/citations?hl=vi&user=aCrEZIEAAAAJ
- Past research projects: Director of 4 research projects at all levels
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Energy material, Heat and Fluid Dynamics, New and Renewable energy, Solar energy
- Technology Readiness Level: Level 4

Dr. Bui Ngoc Hung
- PhD degree in Air-conditioning engineering, Korea
- Research interests: Industrial refrigeration, Heat pipe, Solar collector, Heat exchanger, Automation of thermal systems
- Publications: Author of 2 books, main author of 5 domestic and international scientific papers, 2 international conference articles and 3 domestic conference articles
- Past research projects: Director of 2 research projects at all levels
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Energy Material, Environmental Energy, Green City/Building, Heat Pump
- Technology Readiness Level: Level 5

Dr. Vo Kien Quoc
- PhD degree in Thermal engineering, Vietnam
- Research interests: Solar energy, Absorption refrigeration, Waste heat recovery, Industrial heating systems, Heat exchanger, Energy efficiency
- Publications: Main author of 7 and co-author of 3 domestic and international scientific papers, author of 6 international conference articles
- Past research projects: Director of 2 research project
- Field of Research: Energy Engineering
- Subdiscipline: Energy Material, Heat and Fluid Dynamics, New & Renewable Energy, Solar Energy
- Technology Readiness Level: Level 4

Prof. Dr. Nguyen Thanh Nam
- Research interests: Two phase Flows; Product design and development by modularity; 3D Metal Printing Technology; SPIF machine and technology

Assoc. Prof. Dr. Tran Thien Phuc
- Research interests: Design of serial and parallel manipulators; Design of industrial equipments

Dr. Phan Thanh Nhan
- PhD degree in Nuclear energy and technology, Italy
- Research interests: Heat transfer and two-phase flow
- Publications: Main author of 3 and co-author of 1 domestic and international scientific papers, author of 5 international and 1 domestic conference articles
- Past research projects: Director of 1 research project
- Field of Research: Energy Engineering
- Subdiscipline: Heat and Fluid Dynamics, Nuclear Energy
- Technology Readiness Level: Level 2

Dr. Le Thanh Long
- Research interests: Kinetics and dynamics systems; Simulation
- Link to publications:
https://www.researchgate.net/profile/Thanh_Long_Le2
https://scholar.google.com/citations?user=Th6NWpcAAAAJ&hl=vi

Dr. Pham Minh Tuan
- Research interests: Nano/Micro positioning system; Compliant/flexure-based mechanism; Topological/Structural optimization; Simulation-based design
- Link to publications:
https://scholar.google.com/citations?user=_YcivOYAAAAJ&hl=vi&oi=sra

Dr. Nguyen Vu Thinh
- Research interests: Optimizing design of cam profile in cam-follower system of automotive valvetrain; Solutions to treat agricultural, forestry and fishery by-products into useful products for recycled agriculture; Solutions to improve the efficiency of combined cycle power plants
- Link to publications:
https://www.sciencedirect.com/science/article/abs/pii/S0094114X06001558
https://www.scopus.com/record/display.urieid=2-s2.033846882002&origin=inward&txGid=7e4470821f007be092a89b-127d859a9c
https://www.semanticscholar.org/paper/CAM-PROFILE-SMOOTHING-BY-MODIFIED-SPLINE-CURVES-Nguyen-Kim/45fa3549488c66fecedd3f31a5523173f2d33dd5

Assoc. Prof. Dr. Nguyen Huu Loc
- Research interests: Software development for machine designing; Structure optimization

Dr. Nguyen Van Hap
- PhD degree in Thermal engineering, Korea
- Research interests: Modeling and simulation of thermal systems, Refrigeration and air-conditioning, Sustainable energy, CFD analysis, Heat exchanger, Energy efficiency
- Publications: Author of 1 book, main author of 6 and co-author of 10 domestic and international scientific papers, author of 18 international conference articles
- Past research projects: Director of 1 research project
- Field of Research: Energy Engineering
- Subdiscipline: Green City/Building, Heat and Fluid Dynamics, New & Renewable Energy
- Technology Readiness Level: Level 3

Dr. Tran Van Hung
- PhD degree in Thermal engineering, Bulgaria
- Research interests: Sustainable energy, Thermal power centre, Steam and gas turbine, Energy efficiency in building
- Publications: Main author of 9 and co-author of 6 domestic and international scientific papers, author of 5 international and 4 domestic conference articles
- Past research projects: Director of 1 research project
- Field of Research: Energy Engineering
- Subdiscipline: Energy Conversion, Green City/Building, New & Renewable Energy
- Technology Readiness Level: Level 2

Assoc.Prof.Dr. Bui Trong Hieu
- Research interests: Design of industrial equipments; Welding robots; Image processing

Assoc.Prof.Dr. Bui Mai Huong
- PhD degree in Textile Chemistry, University of Innsbruck, Austria
- Research interests: Cellulose, Fiber, Composites

Link to publications: https://www.researchgate.net/profile/Huong_Bui5
- Field of Research: Material Engineering
- Technology Readiness Level: Level 2

Dr. Huynh Phuoc Hien
- PhD degree in Thermal engineering, Japan
- Research interests: Heat pipe, Electronic cooling, Two-phase flow, Solar energy, Refrigeration and ari-conditioning
- Publications: Main author of 4 and co-author of 6 domestic and international scientific papers, author of 7 international conference articles
- Past research projects: Director of 1 research project
- Field of Research: Energy Engineering
- Subdiscipline: Heat and Fluid Dynamics, New & Renewable Energy, Solar Energy
- Technology Readiness Level: Level 2

ME. Hoang Thi Nam Huong
- Master's degree in Thermal engineering, Vietnam
- Research interests: Solar energy, Refrigeration and air-conditioning
- Publications: Co-author of 1 book, co-author of 2 domestic and international scientific papers, author of 1 international and 3 domestic conference articles
- Field of Research: Energy Engineering
- Subdiscipline: Renewable Energy, Solar Energy
- Technology Readiness Level: Level 2

ME. Nguyen Thi Minh Trinh
- Master's degree in Thermal engineering, Vietnam
- Research interests: Heat and mass transfer, Refrigeration and air-conditioning, Energy economics
- Publications: Co-author of 6 domestic and international scientific papers, author of 1 international and 2 domestic conference articles.
- Field of Research: Energy Engineering
- Subdiscipline: Bio-energy, Energy Conversion, Environmental Energy
- Technology Readiness Level: Level 2

Facilities

1. CAD/CAM Lab

2. Control and automation Lab

3. Material processing technology Lab

4. Metrology Lab

5. CDIO co-working space

6. Manufacturing workshop

7. Research and Transfer Technology Workspace

8. Manufacturing Lab

9. Construction Machinery and Handling Equipment Lab

- Fault Analysis of rotating machine
- Remaining useful life prediction of machines
- Lifting machine Testing

10. Thermodynamics and Heat Transfer Lab

Includes more than 40 systems, equipment and instruments for measuring properties and analyzing in thermal field such as: Pressure measurement, Temperature measurement, Measurement of the air humidity, Flow Measurement, Measurement of wind velociy, Solar radiation measurement, Measurement of the thermal conductivity of materials, Measurement of the calorific value of fuels, Viscosity measurement, Measurement of noise, Lumen measure ment, Measurement of the initial humidity of materials, Furnace, Vacuum drying system, Solar drying system, HVAC system, Air-conditioning absorption model, Ice making machine, Heat exchanger, Aerodynamic tube, Model of thermal power plant, Split air conditioners, Water pumps, VRV outdoor unit, Compressors

11. Italy-Vietnam Textile Technology Center

- Received academic support and experience from European technical experts, especially Italy, in textile technology
- Supporting the training of high quality human resources for textiles to meet the needs and requirements of the domestic and regional labor market in terms of human resources for the field
- Strengthening relationship with foreign industries,
- Strengthening the capacity building of Vietnamese trainers and technicians through training programs as part of the project
- Expanding international cooperation network with European partners

12. Machine Design Lab

- Experimental model of conveyor belt slip curves
- Device for measuring bolt breaking force
- Experimental model of determining external force coefficient
- Model of mechanical transmission structuresand

Keywords

Construction machinery, Construction material, Manufacturing machine, Diagnosing vibration, Refrigeration technology, HVAC, Air conditioning, Industrial refrigeration, Boiler, Drying, Heat pump, Thermal power plant, Steam turbine and gas turbine, Renewable energy (wind energy, solar energy, biofuel), Pumps, Fans, Compressors, Heat exchangers, CFD simulation, ME design, Energy saving and efficiency, Refrigerants, Metal casting, Welding, Advanced forming & joining technology, Analysis simulation, Metal forming, Structure material & metallurgy, Textile technology, Advanced materials, Fiber, Design, Machine, Structure, Model, Optimization, Numerical Methods

Index for industry sector

Manufacturing, Processing, Fabrication, Machining and Assembly, Energy saving and energy efficiency solutions, Energy audit, Renewable energy, Thermal engineering, HVAC, Industrial refrigeration, Heat exchangers, Thermal system automation, Structure material test, Metal casting product, Die casting, Ultrasonic weldiing, Textile

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FACULTY OF TRANSPORTATION ENGINEERING

Research Interest

1. Design and Prototyping the Advanced Vehicles

- Design and prototyping Air Cushion Vehicles (ACV / Hovercraft) from 3 seats to 14 seats using light-weight structures
- Design and prototyping WIG crafts, Hoverwings, airboats…
- Solar-powered boat for tourist
- Electric car
- Drones. AUV for agriculture, monitoring…

2. Aero-hydraulic Laboratory for Industrial Applications:

- Horizontal axle wind turbines for Viet Nam
- Axial / centrifugal industrial pumps/fans
- Propulsion systems using propellers (for airboats, hovercrafts, ships…)
- Aero-hyrodynamic characteristics of ship propulsion systems

3. Structural Failure – Crash Safety:

- Impact of thin-walled structures, vehicles
- Human injury assessment in motorbike and automobile accident

4. Drones/AUV and PAV

- Drone for agriculture
- AUV for monitoring, mapping…
- Personal Aerial Vehicle (PAV)

Academic Resources

Assoc. Prof. Dr. Le Dinh Tuan
- PhD degree in Mechanics, University of Liège, Belgium
- Research interests: Modeling, Analysis, Algorithm development, and Simulation, Testting/prototyping for problems arising in various areas of engineering, with current applications: (a) Vibration and noise, (b) Hovercraft, (c) experiments for industrial problems, (d) Dynamic balancing of rotors
- Honor and awards in research: The Nguyen Van Dao 2013 - awarded by The Vietnam Mechanics Association (VAM)
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Computational Mechanics; Experimental Mechanics; Lightweight Structure; Turbo-Machinery; Vehicle Engineering; Vibration
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Le Tat Hien
- PhD degree in Naval Architecture & Marine Engineering, Pukyong National University, Korea
- Research interests: Modeling and numerical simulation, Ship design based on evolutionary algorithm (EA) optimization
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design Optimization
- Technology Readiness Level (TRL): Level 3

Assoc. Prof. Dr. Vu Ngoc Anh
- PhD degree in Aerospace Engineering, Konkuk University, Korea
- Research interests: Drone for agriculture; AUV for monitoring, mapping; Personal Aerial Vehicle (PAV)
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Computational Fluid Dynamics, Design Optimization, Vehicle Engineering
- Technology Readiness Level (TRL): Level 8

Assoc. Prof. Dr. Ngo Khanh Hieu
- PhD degree in Aerospace Engineering, ENSMA, Université de Poitiers, France
- Research interests: Horizontal axis wind turbine, Axial/centrifugal blower/pump, Propeller, Hydrodynamic characteristics of ship
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Air and Noise Pollution; Computational Fluid Dynamics; Design Optimization; Flight Mechanics; Heat Transfer; Rotating Machinery; Thermodynamics; Turbo-Machinery; Vehicle Engineering; Vibration
- Technology Readiness Level (TRL): Level 7

Dr. Tran Dang Long
- PhD degree in Hydrogen fuel system and solid oxide fuel cell, Kyushu University, Japan
- Research interests: Engine control; Electric vehicles; Fuel cells
- Field of research: Energy Engineering
- Technology Readiness Level (TRL): Level 6

Assoc. Prof. Dr. Ly Hung Anh
- PhD degree in Mechanical and Control Engieering, Tokyo Institute of Technology, Japan
- Research interests: Structural failure – crash safety: a) Impact of thin-walled structures, vehicles; b) Human injury assessment in motorbike and automobile accident
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Computational Mechanics; Failure Analysis and Engineering Life Assessment; Lightweight Structure; Safety and Reliability; Vehicle Engineering
- Technology Readiness Level (TRL): Level 4

Facilities

1. Lab of Naval Architecture & Marine Engineering

Offers for collaborative research with industries and foreign partners in prototyping advanced crafts such as hovercraft, solar-powered boat, airboat…, professional dynamic balancing of rotating equipments, vibration and sound monitoring and control, experiments (stress analysis by experiment, deflection of structures, strength of ship structures…)

2. Lab of Aerospace Engineering

Offers for collaborative research with industries and foreign partners in prototyping and testing fixed-wing AUV, drones, composite material testing, experiment on horizontal axis wind turbine, axial / centrifugal blower/pump, propeller, aero-hydrodynamic characteristics, wind tunels

3. VNU Key-lab for Internal Combustion Engines

Offers for collaborative research with industries and foreign partners in motocycle test-bench, engine dynamometer test, combustion / emission measurement sytem, biogas analysing tester…

Keywords

Advanced crafts; Dynamic balancing of rotating equipments; Vibration and sound monitoring and control; Stress analysis by experiment; Deflection of structures; Strength of ship structures,; Composite material structures; Composite material testing; Wind turbine; Axial/centrifugal blower/pump; Propeller; Aero -hydrodynamic characteristics; Motocycle test-bench; Engine dynamometer test; Combustion/emission measurement sytem; Biogas analysing tester

Index for industry sector

Naval architecture and marine engineering; Aerospace engineering; Automotive engineering; Combustion engine; Bio fuels and alternative energy; Industrial fans/pumps

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SCHOOL OF INDUSTRIAL MANAGEMENT

Research Interest

1. Co-creation of service value for a better quality of life

- Interaction and resource integration to co-create value
- Quality of life and personal value of actors in the service system
- Co-creation value to improve quality of life and happiness of customers and employees

2. Policy analysis, Industry research and consulting

- Corporate governance scorecards
- Local government policy: financing mechanism for Led technology- street lighting, strategies to improve the technological and innovation capabilities for SMEs
- Firm productivity analysis
- SME training and consulting services in the areas of human resource, finance, operation, etc.

Academic Resources

Assoc. Prof. Dr. Le Nguyen Hau
- PhD degree in Business Administration, University of Western Sydney, Australia
- Research interests: Customer Dominant Logic; Service Innovation; Value Co-creation; Service dominant Logic; National Identity and Consumer Behavior; Service marketing and value; Market orientation; Strategic Alliances
- Honor and awards in research:
  - ISI Researcher of VNU (2018)
  - Excellence Researcher of VNU (2010, 2013, 2016)
- Affiliated academic society:
  - Service Business – An International Journal (Member of Editorial Board)
  - Science and Technology Development Journal (STDJ) (Member of Editorial Board)
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Management; Marketing
- Technology Readiness Level (TRL): Level 1

Assoc. Prof. Dr. Nguyen Manh Tuan
- PhD degree in Business Administration, Ho Chi Minh City University of Technology, Vietnam
- Affiliated academic society: Social Science Journals, SAGE Publications (Article editor)
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Management; Marketing
- Technology Readiness Level (TRL): Level 2

Assoc. Prof. Dr. Pham Ngoc Thuy
- PhD degree in Business Administration, Asian Institute of Technology, Thailand
- Research interests: Knowledge Management; Research Methodologies; Service Marketing/Service management
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Management; Marketing
- Technology Readiness Level (TRL): Level 1

Dr. Nguyen Thu Hien
- PhD degree in Finance, Old Dominion University, US
- Research interest: Investment, Corporate governance
- Publication: http://www.sim.edu.vn/web/index.php?option=com_contact&view=contact&id=8%3Ats-dng-nh-hung&catid=94%3Ab-mon-tai-chin-h&Itemid=330
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Finance

Dr. Duong Nhu Hung
- PhD degree in Finance, Old Dominion University, US
- Research interests: Investments, Public policy, Firm performance
- Publication: http://www.sim.edu.vn/web/index.php?option=com_contact&view=contact&id=8%3Ats-dng-nh-hung&catid=94%3Ab-mon-tai-chin-h&Itemid=330
- Field of Research: Management and Entrepreneurship
- Subdiscipline: Finance and Economics

Keywords

Co-creation, Governance, Scorecards, Financing, SME, Technological capability, Innovation, Firm performance

Index for industry sector

Industrial Management

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INDUSTRIAL MAINTENANCE TRAINING CENTER

Research Interest

1. Maintenance Engineering

- Machine condition monitoring
- Machine failure analysis
- Organizing and planning of maintenance systems

2. Robotics and Mechatronic Systems

- Mobile Robots
- Robotics supporting medicines
- Soft gripper
- Design of automation systems for industry
- Design and building of mechatronic systems

3. Machine Dynamics

- Vibration analysis and control
- Dynamics of Rotating machinery and dynamic balancing
- Flexure mechanism design and application
- Force and torque sensor design
- Micropart feeding

4. Finite Element Analysis and Optimal Design

- Optimal design of structures
- Finite element analysis of structures

5. Tribology and Industrial lubrication

Academic Resources

Assoc. Prof. Dr. Pham Huy Hoang
- PhD degree in Mechanical Design and Mechatronics, Nanyang Technological University, Singapore
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuyen-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuyen-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Nguyen Thanh Truong
- PhD degree in Mechanical engineering, University of Lyon 1, France
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Le Quang Ngoc
- PhD degree in mechatronics and robots, University of Incheon, Korea
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuyen-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Le Hoai Phuong
- PhD degree in Robots, Ritsumeikan University, Japan
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuyen-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Luong Quoc Viet
- PhD degree in Mechanical engineering, Korea Aerospace University, Korea
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Le Quang Hoan
- PhD degree in Mechanical engineering, University of Ulsan, Korea
- Research interests: Maintenance, Mechanical, Design,Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Dr. Phan Gia Hoang
- PhD degree in Design and Mechatronics, Nanyang Technological University, Singapore
- Research interests: Maintenance, Mechanical, Design, Dynamics, Vibration, Balance, Robot, Mechatronics, Automation, Finite element analysis, Tribology
- Link to publications: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research
- Link to past research projects: http://www.iut.hcmut.edu.vn/en/chuy-en-muc/scientific-research/project/
- Affiliated Academic society: IEEE
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Design optimization; Failure analysis and Engineering life assessment; Maintenance engineering; Mechanical design; Rotating machinery; Safety and reliability; Vibration; Flexure mechanism; Soft robot and micro feeding
- Technology Readiness Level (TRL): Level 3

Facilities

1. Conditioning Monitoring Devices

- The lab includes includes devices such as ultrasonic machine, magnetic flux device, liquid penetrant, thermo-infra red test devices, vibration analyzer
- The devices can be used for machine condition monitoring and non-destructive testing

2. Power Hydraulic Lab

The lab can be used as the learning workshop or the hydraulic system design and testing lab

3. Pneumatic Lab

The lab can be used as the learning workshop or the pneumatic system design and testing lab

4. Automation Lab

The lab can be used as the learning workshop or the automation system design and testing lab

5. Welding Workshop

The workshop has various types of welding machines (TIG, MIG, subarc, oxygenb-acetylen). The workshop provides courses for welding skills, welding design and assessment

6. Electric Lab

The lab can be used as the learning workshop on electricity

7. Electronic and Micro Controller Lab

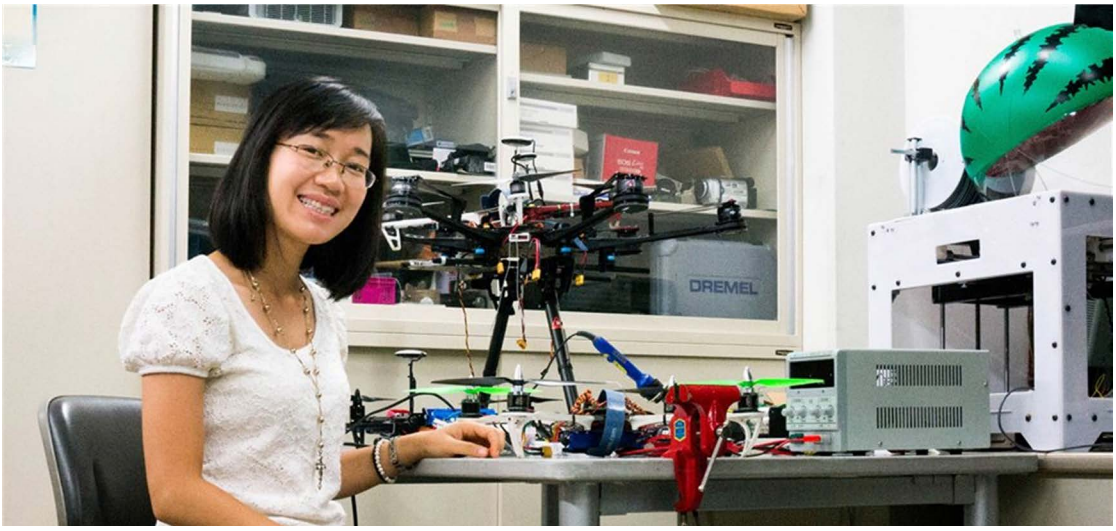
The lab can be used as the learning workshop on power electronics, digital system and microcontroller programming or the place for design and test mechatronic systems

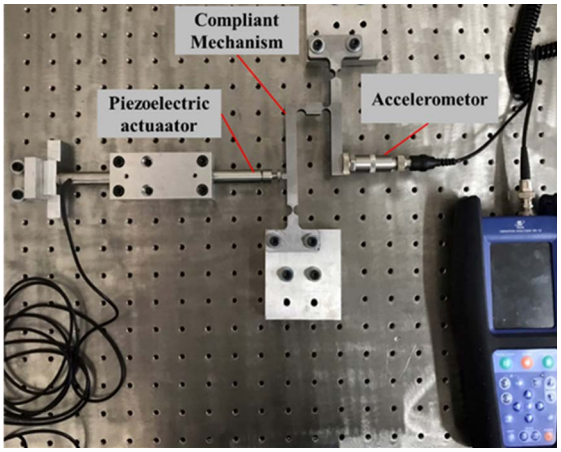
Keywords

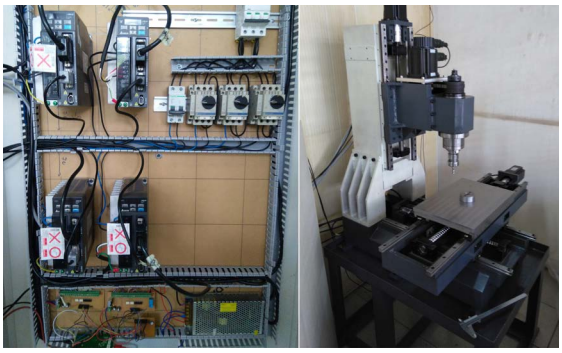
Maintenance; Design; Dynamics; Vibration; Balance; Robot; Mechatronics; Automation; Flexure ; Finite element; Tribology

Index for industry sector

Machine; Maintenance; Mechatronics; Robot; Automation







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NATIONAL KEY LABORATORY OF DIGITAL CONTROL AND SYSTEM ENGINEERING (DCSELAB)

Research Interest

1. Research, design, manufacture, installation, maintenance, and technology transfer in the field of digital control and system engineering, mechatronics systems, telecommunications, information technology, mechanical engineering automation and industrial systems
2. Trial production and technology transfer from research results
3. Science and Technology Services: Consulting, appraising, executing, training and improving professional skills in the field of registration according to the Law
4. Cooperation with domestic and international organizations in the fields mentioned above

Research Interests:

DCSELAB focuses on 3 main directions:
1. Designing and manufacturing technology with computer's support in industry and civil
2. Measurement technology and automatic control applied in industrial and civil manufacturing systems
3. Manufacturing technology of mechatronic products such as: industrial and service robots, dedicated devices, Biomedical Mechatronics and Microelectromechanical Systems (MEMS)

Academic Resources

Assoc. Prof. Dr. Nguyen Tan Tien
- PhD degree in Mechanical Engineering & Manufacturing, Pukyong National University, Korea
- Research interests: Robust Control Theory and Application; Machine Design; Industrial Robotics and Automation
- Link to publications:
  - https://doi.org/10.1007/978-3-030-14907-9_88
  - https://doi.org/10.1007/978-3-319-69814-4_72
  - https://doi.org/10.1007/978-3-319-50904-4
- Link to past research projects:
  - https://dost.hochiminhcity.gov.vn/tiem-luc/ket-qua-nckh/nghien-cuu-thiet-ke-che-tao-giuong-y-te-theo-dang-module/
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Mechatronics
- Technology Readiness Level (TRL): Level 9

Assoc. Prof. Dr. Bui Ta Long
- PhD degree in Environmental Engineering, Sciences Russian Academy of Sciences
- Research interests: Environmental Modeling; Geophysical Hydrodynamics; Theory of Systems; Theory of Information Systems
- Link to publications:
  - https://www.sciencedirect.com/science/article/pii/S0378475419303519
  - http://stdjet.scienceandtechnology.com.vn/index.php/stdjet/article/view/627/850
  - http://tapchikttv.vn/article/77
- Honor and awards in research: Gold Medal in the Moscow creative Competition (co-authored with researchers from the Institute of Radio engineering and Electronics, Russian Academy of Sciences)
- Field of Research: Environmental Engineering
- Subdiscipline: Environmental Informatics
- Technology Readiness Level (TRL): Level 9

Dr. Nguyen Huy Hung
- PhD degree in Mechanical Design Engineering, Pukyong National University, Korea
- Research interests: Robust Control Theory and Application; Adaptive control ; Power electronics; Renewable energy
- Link to publications:
  - https://doi.org/10.1007/978-3-319-69814-4_69
  - https://doi.org/10.1007/978-3-319-69814-4_70
- Field of Research: Electrical & Electronics Engineering
- Subdiscipline: Telecommunication Engineering
- Technology Readiness Level (TRL): Level 4

Dr. Le Thanh Long
- PhD degree in in Mechanical & Manufacturing Engineering, National Central University, Taiwan
- Research interests: Modeling and simulation; Computational Fluid Dynamics; Numerical Methods; Mechanical Engineering
- Link to publications:
  - https://www.researchgate.net/profile/Thanh_Long_Le2
  - https://scholar.google.com/citations?user=Th6NWpcAAAAJ&hl=vi
- Honor and awards in research:
  - The Excellent Vietnamese Researcher In Taiwan 2016
  - Best paper award in IC3MT 2018
  - BK Youth award 2018, 2019
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Mechanical Design
- Technology Readiness Level (TRL): Level 4

Dr. Duong Van Tu
- PhD degree in Mechatronics, Pukyong National University, Korea
- Research interests: Model reference adaptive control; Motion control in industrial application; Medical Device Development
- Link to publications:
  - https://doi.org/10.1007/978-3-319-27247-4_38
  - https://link.springer.com/chapter/10.1007/978-3-319-50904-4_13
- Field of Research: Mechanical & Manufacturing
- Subdiscipline: Mechatronics
- Technology Readiness Level (TRL): Level 4

Facilities

DCSELAB is a science and technology organization with legal personality, operating under Decree 115/2005/NĐ-CP DCSELAB's land area is 2000 m2, includes specialized divisions and functional divisions. It is located at C6 Building and The Precision Engineering Center Division's at C1 Building – Ho Chi Minh City University of Technology

DCSELAB is invested with modern equipment systems for research activities at specialized departments. The equipment investment for Mechanics – Automation field with many Modules: Measurement, Mechatronics, Robotics, Automation Control, Rapid prototyping, CAD/CAM/CNC, System Engineering, …
DCESLAB includes specialized divisions: Precision Engineering Center, Training Center, HiTech Mechatronics Lab, Electronic and Telecommunication Lab, Smart Design Lab, Logistics and Automation Lab, Robot based Automation Solution Lab, Urban Safety and Environment Lab, Design and Computational Fluid Dynamics Lab

Precision Engineering Center

Researching, designing, manufacturing molds, and transferring technology in the field of CAD/CAM/CNC. The center specializes in process well-defined mechanical details on demand and collaboration. Collaboration with research hubs to implement projects

Hi-tech Mechatronics Lab

Research, teaching, and technology transfer in the mechatronics field, especially mechatronics application for industrial, to fulfill the development of mechatronic systems in mordern industry. It's also a place of scientific research, as well as learning, activities of students who love the realm of electronics, autonomous control

Robot based Automation Solution Lab

Researching on robotic and industrial automation applications, publishing academic articles about the bio-inspired robot, and support and transferring technology for the company

Electronic and Telecommunication Lab
Researching and designing electronic circuits, chip, embedded system, system-on-a–chip, data processing system, and biomedical electronic system

Urban Safety and Environment Lab
- Training students, trainees, research students in the direction of applying modeling in research, environmental management, and climate change
- Building short-term training courses for mathematical models, environmental software in environmental management tasks
- Study the development of mathematical models and environmental software in exploit planning and fair use of natural resources. Therein, the main technologies is Geographic Information System (GIS), modeling, remote sensing, database system
- Study the building of the environment and application of training, scientific research, and implementing technology transfer
- Enhancing the development of training and international cooperation in the field of environmental modeling and software

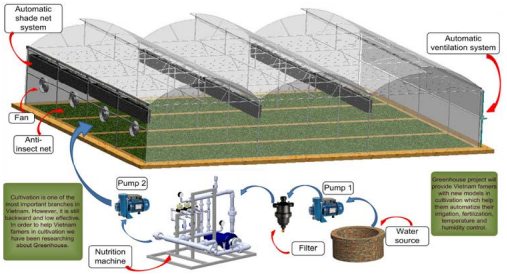
Design and Computational Fluid Dynamics Lab
- Study on design and product development in the mechanical fied
- Deploying the design and fabrication projects of mechanical system and automation
- Supporting the mechanical design for laboratories in the research projects and technology transfer
- Modelling and computional fluid dynamics of engineering problems

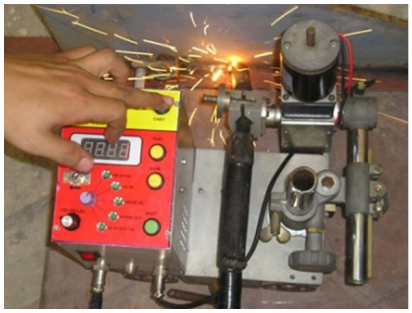
Keywords

Computer Numerical Control (CNC) machines; Automatic control; Robotics; Electromechanical Equipment; Medicine Devices; Mechatronics

Index for industry sector

Mechanical machine; Digital control & System engineering





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NATIONAL KEY LABORATORY OF POLYMER AND COMPOSITE MATERIALS

Research Interest

- Advanced Polymers and Composite Materials
- Conjugated Polymer Materials
- Organic Electronic Materials
- Self-healing Polymers Materials
- Shaped Memory Polymeric Materials
- Phororesponsive polymer materials
- Controlled radical polymerization
- Polymeric composite materials
- Rubber technology
- Thermal plastic processing
- Organic sensor materials

Academic Resources

Prof.Dr. Nguyen Huu Nieu
- PhD degree in Polymer material, Ho Chi Minh City University of Technology (HCMUT)
- Field of Research: Materials Engineering
- Subdisciplines: Controlled radical polymerization; Polymeric composite materials; Rubber technology; Thermal plastic processing; Nanocomposite polymeric materials

Assoc. Prof. Dr. Nguyen Tran Ha
- PhD degree in Polymer Chemistry, Institute for Materials Sciences and Engineering, University of Mons, Belgium
- Field of Research: Materials Engineering
- Subdisciplines: Conjugated Polymer Materials; Organic Electronic Materials; Controlled radical polymerization; Polymeric composite materials; Rubber technology

Assoc. Prof. Dr. Nguyen Thi Le Thu
- PhD degree in Chemistry, University of Groningen , Netherlands
- Field of Research: Materials Engineering
- Subdisciplines: Self-healing Polymers Materials, Shaped Memory Polymeric Materials

Facilities

- TEM analysis
- GPC Equipment
- SEM equipment
- FTIR Analysis
- Contact angle measurement
- Screw extruder machine
- XRD Equipment
- Contact angle measurement
- Cyclic Voltametry equipment
- UV-Vis equipment
- Photoluminiscence Equipment
- Q-Sun for test wether
- Spray equipment
- Brofield equipment
- Moony Viscosity equipment
- Mechanic testing machine
- Other facilities

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ASIAN CENTRE FOR WATER RESEARCH
(CENTRE ASIATIQUE DE RECHERCHE SUR L'EAU)

Research Interest

• Water & Environment with research groups: Fluxes from land to the ocean in rivers, Fate and impacts of contaminants, Eutrophication; Micro-plastics; Urban water management;
• Water & Health with research groups: Organic micro pollutants (antibiotic, EDCs); ecotoxicology; Safe and clean water supply for urban and rural areas in the low elevation zones in the South of Vietnam
• Water resources & Hydrological risk with research groups: Vulnerabilities of surface and groundwater; Hazards in low elevated areas; Sediment transportation
• Water engineering & green technologies with research groups: Wastewater treatment; Water reuse (rain water harvesting and reuse; wastewater reclamation); Application of membrane technology; Application of natural processing/ treatment, Ecological technology

Academic Resources

Dr. Ho Tuan Duc
- PhD degree in Physics, University of Rennes, France
- Research interests: numerical modelling; PIV and PTV technique
- Field of Research: Civil Engineering
- Subdiscipline: Water Resources Engineering
- Technology Readiness Level (TRL): Level 2

Assoc. Prof. Dr. Nguyen Phuoc Dan
- PhD degree in Environmental Engineering, Asian Institute of Technology (AIT), Thailand
- Research interests: Environmental Engineering
- Field of Research: Environmental Engineering
- Subdisciplines: Water and wastewater Engineering; Water reuse and reclamation; Organic waste recycling and management; Water supply and sanitation in rural area

Facilities

- A dedicated building providing short and long term research facilities for HCMUT and foreign researchers, PhD and Master student
- A water analysis laboratory
- A set of geophysical tools for groundwater investigation
- A set of analytical tools for micro plastic analysis
- A set of hydrological field instruments
- Periodic summer schools and research trainings
- Ambient laboratory (Lab-scale water/Wastewater treatment reactors/Models)

Keywords

Water Resource Management, Hydrology and Climate Change, Water and Wastewater Treatment Technology

Index for industry sector

Water Resource Management, Hydrology and Climate Change, Water and Wastewater Treatment Technology

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RESEARCH INSTITUTE OF SUSTAINABLE ENERGY

Research Interest

1. Research areas

- Solar energy
- Wind energy
- Biomass energy
- Energy efficiency

2. Technology transfer and industrial cooperation

- Graphene production
- Improvement of quality of canned cane juice
- Manufacture of practical models of HVAC systems for technical universites

3. Business training

- Energy efficiency for pumps, fans, compressors, lighting, refrigeration systems, boilers, burners, ...
- Hydraulic and pneumatic systems
- HVAC system and related equipment
- Heat exchangers
- Insulation coating for thermal applications
- Safety in pressure equipment
- Safety in confined spaces
- Safety in electrical systems
- Ventilation, heat supply and air conditioning for buildings
- Designing software such as CAD, CAM, CNC,..
- CFD simulation softwares

Facilities

Thermodynamics and Heat Transfer LAB
Includes more than 40 systems, equipment and instruments for measuring properties and analyzing in thermal field such as:

- Pressure measurement
- Temperature measurement
- Measurement of the air humidity
- Flow Measurement
- Measurement of wind velociy
- Solar radiation measurement
- Measurement of the thermal conductivity of materials
- Measurement of the calorific value of fuels
- Viscosity measurement
- Measurement of noise
- Lumen measurement
- Measurement of the initial humidity of materials
- Furnace
- Vacuum drying system
- Solar drying system
- HVAC system
- Air-conditioning absorption model
- Ice making machine

- Heat exchanger
- Aerodynamic tube
- Model of thermal power plant
- Split air conditioners
- Water pumps
- VRV outdoor unit
- Compressors

Academic Resources

Assoc. Prof. Dr. Phan Minh Tan
- PhD degree in Organic Chemistry, Tashken University, Uzbekistan
- Research Interests: Renewable energy; Fuel for internal combustion engines; Production technology of products from zinc and aluminum scrap; Treatment and reuse of crude oil sludge
- Honor and awards: 2005 State Award for Science and Technology
- Field of Research: Chemical Engineering
- Subdisciplines: Nano Science and Engineering; Process Modeling; Process Engineering
- Technology Readiness Level: Level 5

Dr. Ha Anh Tung
- PhD degree in Mechanical Engineering at Sherbrooke University, Canada
- Research interests: Wind energy and solar energy, Energy saving and efficiency
- Honors and awards: Certificate of Merit from the Prime Minister in 2019
- Field of Research: Energy Engineering
- Subdisciplines: Bio-energy; Energy Storage; Heat Pump; New & Renewable energy; Solar Energy; Wind Engineering; Wind Turbines
- Technology Readiness Level: Level 4

Dr. Nguyen Truong Son
- PhD degree in Chemical Engineering, National University of Singapore
- Research interests: Production of aerogels from straw, Waste paper, Research catalysts for fuel cells
- Field of Research: Chemical Engineering
- Subdisciplines: Biological Engineering; Biomolecular Engineering; Nano Science and Engineering; Process Engineering
- Technology Readiness Level: Level 4

Keywords

Refrigeration technology; Inorganic and organic chemistry; Petrochemical refining; HVAC; Air conditioning; Industrial refrigeration; Boiler; Drying; Heat pump; Thermal power plant; Steam turbine and gas turbine; Renewable energy (wind energy, solar energy, biofuel); Pumps; Fans; Compressors; Heat exchangers; CFD simulation; ME design; Energy saving and efficiency; Refrigerant

Index for industry sector

Energy saving and energy efficiency solutions; Energy audit; Renewable energy; Graphene production technology; Aerogel; Petrochemical refining; Inorganic and organic chemical engineering; Thermal engineering

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BACH KHOA HCMC
SCIENCE TECHNOLOGY JOINT STOCK COMPANY

Research Interest

1. Training and research

- All fields related to science and technology
- Implementation of scientific research and technology transfer projects

2. General test: LAS-XD238-ISO 9001: 2008

- Topographic and geological survey
- Testing construction soil and stone samples
- Guide to laboratory experiments for specialized classes

3. Quality Testing and Analysis Services - VILAS 1025 - VIMCERTS 187

- Analyzing environmental indicators, checking and measuring environmental indicators
- Sampling, sensory assessing and measuring at the scene for the purpose of product quality investigation, evaluation and environmental protection
- Analyzing and testing physical - chemical – biological characteristics for the purpose of product quality investigation, evaluation and environmental protection
- Guide to laboratory experiments for specialized classes

4. Construction materials testing & assessment

- Testing and assessing the quality of construction materials and construction structures
- Construction structure inspection
- Construction certification of conformity
- Testing the quality of construction works, geology, foundation
- Experiments for research and development of science and technology of new experiments, new materials, and simulation experiments
- Inspection of equipment, tools for construction purposes
- Guide to laboratory experiments for specialized classes

5. Design Techniques

- Surveying, making feasibility study reports, engineering design - construction cost estimation and supervision: Technical infrastructure for industrial parks and residential areas; Traffic Works (bridge, road); Civil and industrial works; Drainage works; Embankment works
- Monitoring settlement and deformation of construction works

6. Construction

- Planning investment construction project; Management of construction investment project; Design consultancy; Supervision consultants; Construction inspection; Design verification; Preparing and evaluating the results of bidding documents; Evaluation of bidding documents and result of contractor selection; Construction troubleshooting consultancy; Foundation solutions consultancy and underground construction; Construction work planning..

7. Construction technology

- Technology transfer
- Design and implement construction works
- Design development and reinforcement treatment of construction structures, damage repair, restoration of historic works, tilt adjustment and relocation

Academic Resources

Assoc. Prof. Dr. Dau Van Ngo
- PhD degree in Geological Engineering, Hanoi University of Mining and Geology
- Field of research: Geological & Petroleum Engineering
- Sub-discipline: Geological & Resource System Engineering, Geophysical and Geochemical Exploration, Mining Engineering

Dr. Le Duc Hanh
- PhD degree in Mechanical Engineering, National Taiwan University of Science and Technology
- Field of Research: Mechanical & Manufacturing
- Sub-discipline: Mechatronics

Dr. Ho Chi Thong
- PhD degree in Environmental Engineering, Ho Chi Minh City University of Technology (HCMUT)
- Field of research: Natural Disaster and Environmental Engineering
- Sub-discipline: Water related disaster, Pollution Air and Noise Pollution, Water Pollution, Soil and Groundwater Pollution Treatment: Water and Wastewater Treatment

Dr. Dang Xuan Truong
- PhD degree in Geological Engineering, Ho Chi Minh City University of Technology (HCMUT)
- Field of Research: Geological & Petroleum Engineering
- Sub-discipline: Topography, Soil, Drilling techniques

ME. Nguyen Huu Son
- Master degree in Geotechnical and Construction Engineering, Ho Chi Minh City University of Technology (HCMUT)
- Field of Research: Geological & Petroleum Engineering
- Sub-discipline: Geological & Resource System Engineering, Geophysical and Geochemical Exploration, Mining Engineering

Mr. Nguyen Quoc Khanh:
- Bachelor degree in Petroleum geology, Ho Chi Minh City University of Technology (HCMUT)
- Field of Research: Geological & Petroleum Engineering
- Sub-discipline: Geological & Resource System Engineering, Geophysical and Geochemical Exploration, Mining Engineering

Mr. Nguyen Ngoc Minh
- Bachelor degree in Civil Engineering, Ho Chi Minh City University of Technology (HCMUT)
- Field of research: Civil Engineering
- Sub-discipline: Construction Design, Project management

Keywords

Construction, Accreditation, Automobile, Automation, Enviroment, Ship, Electrical, Electric mechanics, Manufacturing, Chemistry, Project manegement, Material, Heat, Computer science, Technology transfer

Index for industry sector

Construction, Accreditation, Automobile, Automation, Enviroment, Ship, Electrical, Electric Mechanical, Manufacturing, Chemistry, Project Manegement, Material, Heat, Computer science, Technology transfer

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THE DIRECTORY FOR ENGINEERING

Linking University Researchers to Industry and Community

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Engineering Directory