

Sutinee Potisuwan

กองกลาง สำนักงานอธิการบดี
รับที่ 501516
วันที่ 27 ธ.ค. 2567
เวลา 11.18 น.

**Subject:** FW: [USTH] Internship offer from University of Science and Technology of Hanoi

**From:** USTH International Cooperation <ico@usth.edu.vn>

**Sent:** Wednesday, December 18, 2024 12:07 PM

**To:** USTH International Cooperation <ico@usth.edu.vn>

**Subject:** [USTH] Internship offer from University of Science and Technology of Hanoi

คุณไม่ได้รับอีเมลจาก ico@usth.edu.vn บ่อยนัก เรียนรู้ว่าคุณคือสิ่งนี้จึงเป็นสิ่งสำคัญ

Dear Esteemed Partner,

กองพัฒนาระบบและกิจการต่างประเทศ
มหาวิทยาลัยนครสวรรค์
1035
รับที่ 25 ธ.ค. 2567
วันที่ 25 ธ.ค. 2567
เวลา 10:30

Warm greetings from the University of Science and Technology of Hanoi (USTH)!

We are pleased to announce our **Internship Program** for international students for the academic year 2024/25. This is a valuable opportunity for students to gain hands-on experience in research and practical training at USTH.

To explore the available internship topics, please refer to [THIS LINK](#)

In addition to the listed topics, we are happy to assist students who are interested in other areas of research. Students can send their CVs directly to our International Cooperation Department at [ico@usth.edu.vn](mailto:ico@usth.edu.vn). Our team will work closely with the relevant departments at USTH to identify suitable research opportunities tailored to their interests.

Please note that our internship program does not have a fixed application deadline. Students can arrange their internships based on their academic schedules and availability, ensuring flexibility to align with their study plans.

We kindly request your support in sharing this opportunity with your students. Should you have any questions or need further information, please do not hesitate to contact us.

Thank you for your continued collaboration. We look forward to welcoming your students to USTH!

Best regards,

✂ If you are not the appropriate contact person for this matter, we would greatly appreciate it if you could forward this email to the relevant individual.

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International Cooperation Department

University of Science & Technology of Hanoi  
R.106, A21 building, 18 Hoang Quoc Viet, Cau Giay, Hanoi  
Tel: (+84-24) 37 91 86 19  
Email: [ico@usth.edu.vn](mailto:ico@usth.edu.vn)  
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เรียน อธิการบดี

ด้วย University of Science and Technology of Hanoi (USTH) ประเทศเวียดนาม ประชาสัมพันธ์โครงการฝึกงาน (Internship Program) สำหรับนิสิตต่างชาติ ประจำปีการศึกษา 2024/25 โดยมีหัวข้อการฝึกงาน สาขาวิชา และจำนวนที่รับ รายละเอียดดังแนบหรือ [https://docs.google.com/spreadsheets/d/121sBA\\_Dg70Ec22RPEWaeVR8GVORyLocjVNUjZi8VjCl/edit?gid=1663595150#gid=1663595150](https://docs.google.com/spreadsheets/d/121sBA_Dg70Ec22RPEWaeVR8GVORyLocjVNUjZi8VjCl/edit?gid=1663595150#gid=1663595150)

ทั้งนี้ ผู้สนใจสมัครโครงการดังกล่าว ขอได้โปรดศึกษา รายละเอียดดังกล่าวแนบมาพร้อมนี้ และสามารถจัดส่ง CV ไปยัง International Cooperation Department หรือสอบถามข้อมูลเพิ่มเติมได้ที่ E-mail: [ico@usth.edu.vn](mailto:ico@usth.edu.vn)

จึงเรียนมาเพื่อโปรดพิจารณา เห็นควรเรียนแจ้งคณะ/วิทยาลัย เพื่อประชาสัมพันธ์ผ่านระบบ E-doc และประชาสัมพันธ์ผ่าน Website กองพัฒนาภาษา และเฟสบุ๊ก NU International Scholarships

ลงชื่อ .....

(นายจักรกฤษณ์ เฟื่องปรำงค์)

ผู้อำนวยการกองพัฒนาภาษาและกิจการต่างประเทศ

วันที่ 25 ธันวาคม 67

( ☒ ) ดำเนินการตามเสนอ

( ) อื่น ๆ .....

ลงชื่อ .....

(ดร. พิสุทธิ อภิขยกุล)

รองอธิการบดีฝ่ายวิเทศสัมพันธ์และการถ่ายทอดเทคโนโลยี

ปฏิบัติราชการแทน อธิการบดีมหาวิทยาลัยนเรศวร

วันที่ 27/12/67

Timestamp	Internship proposed by and under management of:	Additional information about your department/ laboratory/ research group (website, research account, etc)	Field of the internship	Topic of the internship	Supervisor at USTH (Full name + position)	Internship duration (estimated)	Number of students expected to receive	Student level	Remuneration and other allowances	If yes, please specify the amount of remuneration/ kind of allowances	Internship project description (Please give a more detailed description about the project)	Other requirements (if any)
7/17/2024 18:30:07	Research group: Chemistry for Energy Conversion & Storage (CECS)	<a href="https://usth.edu.vn/en/research-scientific-departments-fundamental-and-applied-science-4525/">https://usth.edu.vn/en/research-scientific-departments-fundamental-and-applied-science-4525/</a>	Chemistry/ Advanced Materials	Investigation on copper-based nanocatalysts for the CO <sub>2</sub> -to-Fuels Conversion	Le Thi Ly (Lecturer) le-thi.ly@usth.edu.vn	03 - 06 months	01	B3, M1, M2	No		The internship project focuses on synthesis of spinel oxides constituted of Cu and other transition metals and assaying these nanocatalysts for the CO <sub>2</sub> reduction reactions in water with perspectives of generating HCOOH, CO products. Efforts will focus to functionalize the surface of these catalysts by appropriate ligands in order to force the production of HCOOH product. CECS Group has been equipped with state-of-the-art lab space and equipments required for synthesis of nanomaterials, characterization of nanomaterials as well as assaying catalytic activity of these nanocatalysts.	
7/17/2024 21:25:17	Research group: Chemistry for Energy Conversion & Storage (CECS)	<a href="https://scholar.google.com/citations?user=kjPZSMUAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=kjPZSMUAAAAJ&amp;hl=en</a>	Chemistry/ Advanced Materials	Fabrication of Janus MoS <sub>2</sub> Se thin film using a sole organometallic precursor source	Phong D. Tran (Associate Professor) tran-dinh.phong@usth.edu.vn	3-6 months	02	B3, M1, M2	No		Janus MoS <sub>2</sub> Se represents a specific type of metal dichalcogenide materials which shows several physico-chemical properties as well as several potential application in sensing, photovoltaic and catalysis. The fabrication of Janus MoS <sub>2</sub> Se is challenging which is usually via the sulfurization of single-layer MoS <sub>2</sub> or salinization of single-layer MoS <sub>2</sub> . Recently, our laboratory proposed new strategy to synthesis MoS <sub>2</sub> Se, being in the bulk phase and in the form of nanoparticle, via the thermal annealing of a complex which is constituted of Mo, S and Se elements. In this internship work, we aim to develop a novel approach to synthesis a single layer (or few layers) of Janus MoS <sub>2</sub> Se on Au substrate. The obtained MoS <sub>2</sub> Se will be then assayed for its optoelectronic and catalysis activities. The internship will be conducted at the Laboratory of Chemistry for Energy Conversion & Storage which has been equipped with state-of-the-art equipments. The research group offers an international working atmosphere, all scientific exchange will be conducted in English.	
7/25/2024 16:06:46	Department: Advanced Materials Science and Nanotechnology (AMSN)	<a href="https://scholar.google.com/citations?hl=en&amp;user=KQyTNr9AAAAJ&amp;view_op=list_works&amp;sortby=pubdate">https://scholar.google.com/citations?hl=en&amp;user=KQyTNr9AAAAJ&amp;view_op=list_works&amp;sortby=pubdate</a>	Materials Science and Nanotechnology	Biosensors for healthcare applications	Dr. Vu Thi Thu - Lecturer vu-thi.thu@usth.edu.vn	03 months	03	M1, M2	No		Sensing microsystems have gained more attentions during last few decades for their potential uses in healthcare and environmental applications. These devices can be employed as convenient tools for fast and efficient detection of chemical and/or biological targets related to chemical and/or biological processes. For healthcare aspect, we might expect to develop sensing platforms to detect biomarkers related to cancers, metabolism disorders, infectious diseases; or chemicals for drug development and testing. For environmental aspect, micro-sensors can be employed for monitoring inorganic/ organic/ biological pollutants in water or monitoring different processes related to environmental pollution. Compared to conventional methods such as spectroscopy and chromatography; or other bio-tests often used at hospitals or clinics; sensing micro-platforms might offer cheaper cost of instrument; no need of highly skilled technicians; low cost of consumables; portability and easy integration on electronic devices. The key challenge in developing a sensing microsystem is to have a good conceptional design which can be realized and provide the best sensing performances (selectivity, sensitivity, repeatability, reproducibility, stability...). Generally, a sensing microsystem is made of a transducing element and a recognition element (if needed). Common transducing elements can be listed:	Preferable background: Physics or Chemistry
8/12/2024 14:07:44	Department: Water-Environment-Oceanography (WEO)	WEO department	Environmental monitoring	Occurrence of organic contaminants (PAHs, PFASs) in marine sediments	Dr. Bui Van Hoi (Lecturer) bui-van.hoi@usth.edu.vn	3 - 6 months	2	M1, M2	No		In this topic, students will learn different processes to prepare an environmental sample such as Pressure Liquid Extraction/Acelerated Solvent Extraction, ultrasonic extraction, cleanup by solid phase extraction.... Then, students will learn how to use the instruments (GC-MS, LC-MS/MS) to analyze these compounds. Sediment samples were already collected during PLUME campaign project which collaborated between Institute of Research and Development (IRD-France) and Vietnam Academy of Science and Technology (VAST)	basic knowledge of analytical chemistry

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8/26/2024 11:55:04	Department: Life Sciences (LS)	Plant research at Life Science department	Plant Biotechnology	Effect of natural – origin nanoparticle in alleviating nitrogen starvation stress in rice plants	Dr. Mai Thi Phuong Nga mai-thi-phuong.nga@usth.edu.vn	5-6 months	1-2	M2	No		Rice ( <i>Oryza sativa</i> L.) is the staple food for half of the world's population. Like other food crops, the growth and development of rice depends greatly on nutrients absorbed from the soil through the roots. Nitrogen (N) belongs to the group of macronutrients and holds the most important nutrient for plant growth and development (Yousaf et al. 2021). Rice, wheat, and maize are consuming more than 90% of total nitrogenous fertilizer used in cereals. Although N <sub>2</sub> gas makes up about 78% of the gaseous composition of the atmosphere, crops cannot use this element as such unless it is converted to plant-usable forms (Barbieri et al. 2000) which are two inorganic forms: nitrate (NO <sub>3</sub> <sup>-</sup> ) and ammonium (NH <sub>4</sub> <sup>+</sup> ) (Guo et al. 2019). N element plays a key role in most plant metabolic processes especially the photosynthesis process (Fathi 2022). To meet the high N demand, farmers usually use N fertilizer, which is about 120 million tons each year (Yadav et al. 2017), and leads to a general N deficiency in almost all agricultural soils and cropping systems globally. Moreover, N is largely present in the form of nitrate, is mobile and tends to move to deeper soil layers where it may be beyond the reach of plant root systems (Saengwilai et al. 2014). Although farmers have used a lot of N fertilizer, only 30-50% of the N is recovered due to the various losses in the soil-plant system (Faneria 2002). Moreover, the	This internship requires the following skills: -Basic skills in working in laboratory, especially with plants. -Basic knowledge on plant physiology, biochemistry and molecular biology. -Know how use statistical tools to analyse data
8/29/2024 10:12:09	Research group: Remote Sensing and Modeling of surface and Atmosphere (REMOSAT)	<a href="http://remosat.usth.edu.vn">http://remosat.usth.edu.vn</a>	Data Science - Modelling - Climatology - Climate Change	1) Regional Climate Modelling in Southeast Asia; 2) Investigating the relationship between Pacific subsurface ocean temperature & rainfall in Southeast Asia	Thanh NGO-DUC, Co-Director of Space and Applications, PI of the REMOSAT lab. ngo-duc.thanh@usth.edu.vn	3-6 months	02	M2	No		Context: The 2015 Paris Agreement set out the goal of keeping the increase in Earth's surface temperature by the end of the 21st century below 2°C above pre-industrial levels, and of attempting to limit the increase to 1.5°C. Scientists warn that if the global temperature increase exceeds 2°C, it will cause extremely serious impacts on people and ecosystems (IPCC 2018). The global warming levels (GWLs) 1.5°C, 2°C, 3°C, and 4°C are determined when comparing the global mean surface air temperature (usually a 20-year mean) against that of the period 1850–1900. The GWL value has been calculated for each Global Climate Model (GCM) and each greenhouse gas (GHG) scenario. Hauser et al. (2021) have calculated in detail the time reaching each GWL for each of the GCMs of the Coupled Model Intercomparison Project Phase 5 (CMIP5) and Phase 6 (CMIP6). Determining the degree of climate change in each region with different GWLs has great practical significance to impact assessments as well as climate change response strategies. Consequently, one of the recent research trends is to determine the degree of climate change in each region with the GWLs of 1.5°C, 2°C, 3°C to 4°C. In Southeast Asia, Tangang et al. (2018), based on 10 dynamical downscaling experiments from the CORDEX-SEA project (with CMIP5 forcing), investigated the changes in rainfall	English proficiency, Professionalism, Problem-Solving, Python programming
8/29/2024 17:09:30	Department: Advanced Materials Science and Nanotechnology (AMSN)	<a href="https://scholar.google.com/citations?user=Ph3n61QAAAAJ&amp;hl=vi">https://scholar.google.com/citations?user=Ph3n61QAAAAJ&amp;hl=vi</a>	photonics	Tellurite-based microspheres for sensing or lasing applications	Dr. Hoàng Thị Hồng Cẩm hoang-thi-hong.cam@usth.edu.vn		4	M2	No			
9/25/2024 11:24:02	Department: Space and Applications (SA)	REMOSAT ( <a href="http://remosat.usth.edu.vn/">http://remosat.usth.edu.vn/</a> )	Remote sensing applied to Earth sciences	Monitoring the variations of water surface and volume of hydropower dams located outside Vietnam using altimetry data and satellite observations	Dr. Pham Duc Binh - Lecturer ( <a href="https://scholar.google.com/citations?user=1qZ9n6AAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=1qZ9n6AAAAAJ&amp;hl=en</a> ) pham-duc.binh@usth.edu.vn	4-6 months	01	M1, M2	No		The aim of the project is to use altimetry data and satellite observations to monitor the changes of water level, water surface and volume of hydropower dams located outside Vietnam (in Laos, for example). These information is important for managers and decision makers in Vietnam, especially during rainy seasons to ensure the safety of hydropower dams in Vietnam.	The student must be good at: - Programming (Matlab or Python, and Google Earth Engine) - Having basic knowledge related to Remote sensing, and how to analyze satellite observations - Software (ENVI, SNAP) is an advantage

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11/7/2024 22:57:21	Department: Life Sciences (LS)	<a href="https://usth.edu.vn/en/department-of-life-sciences/">https://usth.edu.vn/en/department-of-life-sciences/</a>	Plant Sciences, Plant-Microorganism Interaction	Study on Plant Growth Promoting and Biocontrol Bacteria on crops	Nguyen Van Phuong, PhD., Lecturer nguyen-van.phuong@usth.edu.vn	Six months	02	B3, M2	No		Intern will study the Plant Growth Promoting (PGP) and Biocontrol properties of several endophytic bacteria in vitro and in vivo. The biocontrol trait will be in vitro screened against different fungal blast Magnaporthe oryzae caused blast diseases on rice. Subsequently, the potential strains will be subjected to analyze the PGP properties which refer to quantification of ammonia, auxin, siderophore, and extracellular enzyme production, phosphate solubilization. Afterward, the best strains will be in vivo tested their PGP and Biocontrol properties on rice and several crops in Vietnam at the net house conditions. The data of this interaction will be evaluated at the molecular levels to decipher the molecular dialog between plant-microorganism interaction.	The students with good knowledge on Plant Sciences, Microbiology, and Molecular Biology are preferred. The skills on Bioinformatics are also positive points.
11/10/2024 11:49:17	Department: Life Sciences (LS)	MICR-Multiomics in Microbiology for Health	Infectious diseases, Antimicrobial resistance	Topic 1: Phenotypic and genotypic antibiotic resistance of bacteria isolated from different environments; topic 2: Detection and quantification of antibiotic resistant genes from waste water svstems	Nguyen Quang Huy, Deputy Director nguyen-quang.huy@usth.edu.vn	4 - 6 months	2	M2	No		will be provided if candidates are suitable for the projects	Microbiology, molecular biology, Bioinformatics
11/10/2024 21:40:55	Department: Applied Engineering and Technology (AET)	<a href="https://usth.edu.vn/en/academic-departments-and-centers/department-of-applied-engineering-and-technology/">https://usth.edu.vn/en/academic-departments-and-centers/department-of-applied-engineering-and-technology/</a>	Energy	Microgrid optimal control with model predictive control	Phan Anh Tuan, lecturer phan-anh.tuan@usth.edu.vn	6 months	2	M1, M2	No		Smart microgrid with renewable energy integration is a hot research topic nowadays because of its importance in the exploitation of renewable energy resources in order to develop dynamic low-carbon power systems. Recently, in the world, the exploitation of distributed renewable resources, especially solar power, is strongly expanding. The intermittent nature of renewable resources puts a big challenge on the grid utility for effective integration of the resources into the grid. Small and medium scale solar power systems are often integrated in low-voltage microgrids. Microgrid systems usually contain variety of sources and loads, making their models having a large number of variables and multiple-inputs multiple-outputs (MIMO). Therefore, research about control methods in smart microgrids for reliable operation, efficient energy management, CO2 reduction, user comfort guarantee, etc. is essential. Model predictive control methods are proved to be efficient for controlling both linear and nonlinear MIMO systems with constraints when allowing the integration of renewable resource forecasting which is able to compensate the effect of renewable resources' intermittency. This research will apply Model predictive control method in microgrid control using a database collected from a real test case in Vietnam.	
11/10/2024 21:48:52	Department: Applied Engineering and Technology (AET)	<a href="https://usth.edu.vn/en/academic-departments-and-centers/department-of-applied-engineering-and-technology/">https://usth.edu.vn/en/academic-departments-and-centers/department-of-applied-engineering-and-technology/</a>	Energy	Application of machine learning on boundary prediction of solar power	Phan Anh Tuan phan-anh.tuan@usth.edu.vn	4 months	1	M1, M2	No			
11/17/2024 13:45:04	Department: Applied Engineering and Technology (AET)	Department of Applied Engineering and Technology	Robotics, Deep learning	1. Distracted Driver Detection; 2.Object detection using LiDAR and camera fusion for autonomous driving	Pham Xuan Tung, Dr. pham-xuan.tung@usth.edu.vn	3-6 months	3	B3, M1, M2	No		Distracted Driver Detection,	