

*The 3<sup>rd</sup> Hosei University IIST International Colloquium*

## Research Frontier of Plant Clinical Science

第3回法政大学 IIST 国際コロキウム  
植物医科学のフロンティア

This colloquium invites Dr. Le Viet Dung with Can Tho University, Vietnam and discuss research frontier of Plant Clinical Science. In Dr. Le Viet Dung's invited talk, agricultural activities in Mekong River Delta area will be reviewed and the national project VietGAP (Vietnam Global Agricultural practice) to produce disease and virus free agricultural products will be introduced. Dr. Takashi Nishio will be introducing unique activity of Hosei University Center for Clinical Plant Science. In the second part of the program two IIST students from Vietnam will present their research progress in the field of plant clinical science.

本コロキウムはベトナムカントー大学の Le Viet Dung 博士を招待し、植物医科学の最前線を展望する。Le Viet Dung 博士はメコンデルタ地域の農業生産の現状について概観し、植物病やウイルスに侵されない農作物生産法の確立を目指す国家プロジェクト VietGAP (Vietnam Global Agricultural Practice)を紹介する。ついで法政大学西尾健教授による植物医科学センターのユニークで先進的な取り組みについての紹介がある。第二部ではベトナムから留学中の IIST 大学院生による植物医科学に関する研究成果発表を行う。

Date and Time: 15:15-17:15 a.m. Mar. 16<sup>st</sup> (Thu), 2017

日時: 2017年3月16日(木) 午後 3:15-5:15

Venue: Multimedia Hall, B1F Building West, Hosei University Koganei Campus  
3-7-2 Kajino cho, Koganei City, Tokyo 184-8584 JAPAN

会場: 法政大学, 小金井キャンパス, 西館地下 1F マルチメディアホール  
〒184-8584 東京都小金井市梶野町 3-7-2

JR 東小金井駅より徒歩 15 分 <http://www.hosei.ac.jp/access/koganei.html>

Host: Hosei University IIST: Institute of Integrated Science and Technology  
Hosei University Global Education Center

主催: 法政大学 IIST (総合理工学インスティテュート)

共催 法政大学グローバル教育センター



## PROGRAM (プログラム)

- 15:15-15:20                    OPENING MESSAGE (開会の辞)  
                                 Prof. Kazuo Yana, Vice President, Hosei University
- 15:20-15:25                    GREETING MESSAGE (来賓ご挨拶)  
                                 Dr. Le Van Lam  
                                 Deputy Director Department of International Relations, Can Tho University

### SESSION 1 (第一部)

- 15:25-15:50                    Dr. Le Viet Dung  
                                 Vice Rector for International Relations and Scientific Affair, Can Tho University

#### *Invited Talk*

#### ***Agricultural Activities in the Mekong River Delta of Vietnam: Some Views in Insects and Diseases***

【ベトナムメコン川地域の農業活動: 植物病と昆虫に関する知見】

- 15:50-16:15                    Dr. Takeshi Nishio  
                                 Department of Chemical Science and Technology,  
                                 Faculty of Bioscience and Applied Chemistry, Hosei University
- Establishment and Activities of Hosei University Center for Clinical Plant Science***  
【法政大学植物医科学センターの設立と活動】

- 16:15-16:30                    INTERMISSION (休憩)

### SESSION 2 (第二部)

- 16:30-16:50                    Cap Huu Quan\*, Yusuke Kawasaki\*\* and Erika Fujita\*\*  
                                 \*1<sup>st</sup> Year Master Students, IIST, Hosei University  
                                 \*\*Graduate Students, Graduate School of Science and Eng., Hosei University.

#### ***Plants Viral Diagnosis using Convolutional Neural Networks***

【ニューラルネットワーク技術を用いた植物ウイルス病診断】

- 16:50-17:10                    Truong Hong Hanh (1st Year Doctral Student, IIST, Hosei Univ.),  
                                 ***Biology, Pathology and Control of Colletotrichum spp on Tropical Plants***  
                                 【熱帯植物における植物炭疽病菌の病理と制御】

- 17:10-17:15                    CONCLUDING REMARKS (閉会の辞)  
                                 Prof. Nguyen Ngoc Binh, VNU Univ. of Engineering and Technology (VNU-UET).

Dr. Le Viet Dung

Vice Rector for International Relations and Scientific Affair, Can Tho University

***Invited Talk***

***Agricultural Activities in the Mekong River Delta of Vietnam:  
Some Views in Insects and Diseases***

【ベトナムメコン川地域の農業活動: 植物病と昆虫に関する知見】

**ABSTRACT**

Vietnam has been the second largest rice exporter in the world. 50% of the production of rice in Vietnam is from Mekong river delta area. This talk overviews agricultural activities in the Mekong River Delta of Vietnam then issues to improve quality of crops and plants will be discussed. Especially the way how to produce environmental friendly products preventing them from natural resource erosion and how to develop technology to produce disease and virus free products will be discussed. Related activities such as GlobalGAP(Good Agricultural Practice), ASEAN GAP and VietGAP will be introduced.

**BIOSKETCH**



Prof. Le Viet Dung was graduated from CanTho University in 1983 (Faculty of Agronomy). He served Can Tho University as a lecturer of Agronomy (1983-1993). He received Master's and Ph.D. degree in Agriculture from Hokkaido University , Japan (1993-1999). He became the Head of Plant Genetics and Breeding Lab, Crop Science Department, College of Agriculture, Can Tho University in 1999. He served Can Tho university as Deputy Head of Crop Science Department, College of Agriculture (2000); Vice Dean, College of Agriculture & Applied Biology (2001); Director, Department of International Relations, CTU (2002 ~2011); Vice Rector for International Relations, CTU (2007-2011); He was Guest Associate Professor Faculty. Tokyo University of Agriculture and Technology – FOLENS Project (2011- 2012, 2012-2013). He is currently the Vice Rector for International Relations and Scientific Affair, CTU and Chairman, Education and Research Council, CTU.

Dr. Takeshi Nishio

Department of Chemical Science and Technology,

Faculty of Bioscience and Applied Chemistry, Hosei University

***Establishment and Activities of Hosei University Center for Clinical Plant Science***

【法政大学植物医科学センターの設立と活動】

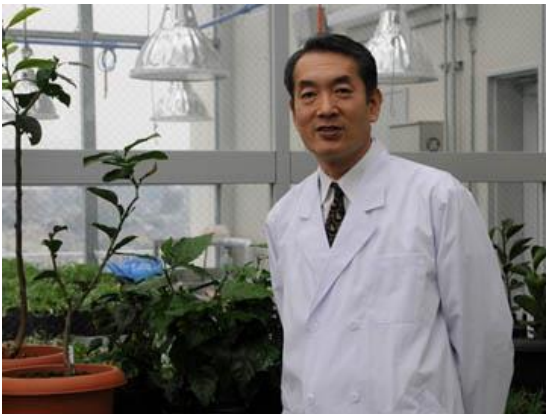
**ABSTRACT**

Hosei University Center for Clinical Plant Science (CCPS) is a plant hospital established in 2014. CPSC was originally designed at the time of establishment of the Department of Clinical Plant Science (DCPS) founded in 2008, but it finally realized after six years.

More than 30% of world agricultural production is lost, and sometime natural landscape was completely destroyed by pests, which are insects, diseases and weeds. To contribute improving these situation, DCPS launched the plant doctor program. The aim of the program is to educate the engineers who can diagnose plant growth disorders.

The task of CCPS are, firstly, consulting services for diagnosis of the plant disorders, secondly, operation of training courses for high school students and teachers, members of scientific societies and university students of foreign countries, and finally, publishing the technical books as the outcomes of activities of DCPS.

**BIOSCETCH**



Dr. Takeshi Nishio is a Professor in the Department of Clinical Plant Science, Faculty of Bioscience at Hosei University, Koganei, Japan, and the Director General of Clinical Plant Science Center. After he received M.S. Degree in Plant Pathology from Nagoya University, he joined Yokohama Plant Protection Station in 1973. For 15 years, he worked for the Station as a Plant Quarantine Inspector and Research Scientist. He received the Ph.D. Degree from Tokyo University in 1985. From 1997 to 2006, he had served on several Divisions in the Ministries of Japanese Central Government as an Administrator, at Kasumigaseki, Tokyo, including as Deputy Director General of Agriculture, Forestry and Fisheries Research Council, and as Director General of Policy Research Institute, MAFF. His research interests include development of detection methods, epidemiology of plant viruses, especially fruit tree viruses, and aphid transmission of the Plum Pox Virus, the virus is an exotic plant pathogen intending to eradicate by the Plant Protection Law. Recently, he headed one of the SIP projects, under the leadership of Council for Science, Technology and

Innovation, Cabinet Office, Government of Japan.

Cap Huu Quan\*, Yusuke Kawasaki\*\* and Erika Fujita\*\*

\*1<sup>st</sup> Year Master Students, IIST, Hosei University

\*\*Graduate Students, Graduate School of Science and Eng., Hosei University.

***Plants Viral Diagnosis using Convolutional Neural Networks***

【ニューラルネットワーク技術を用いた植物ウイルス病診断】

BIOSKETCH



Huu Quan, CAP received the B.S degree from the University of Information Technology, Vietnam National University, Ho Chi Minh city, Viet Nam in 2016. He was a SAKURA Science student and came to Hosei University in March 2016. After that program, he decided to come to Japan and continue to study. Now, he is an IIST master student in Science & Engineering in Hosei university, Tokyo, Japan. His current research is Deep Learning, especially Convolutional Neural Networks, and Image Processing. He is designing a system that can help farmers improve their plant's productivity.



BIOSKETCH – YUSUKE

Yusuke Kawasaki received his B.E. degree in science and engineering from Hosei University, Japan, in 2015. He is currently working toward M.E. degree in science and engineering from Hosei University. (He is 2nd-year master student in graduate school of Hosei University.) He is now investigating mainly on automated plant disease diagnosis based on machine learning techniques.



BIOSKETCH – ERIKA

Erika Fujita received BS degree from Hosei University, in 2016. She is currently a master's student at the Graduate School of Science and Engineering, Hosei University. Her research focuses on development of an automated plant disease diagnosis system. She presented her research at the 15th IEEE International Conference on Machine Learning and Applications(ICMLA2016).

Truong Hong Hanh (1st Year Doctoral Student, IIST, Hosei Univ.),

***Biology, Pathology and Control of Colletotrichum spp on Tropical Plants***

【熱帯植物における植物炭疽病菌の病理と制御】

**ABSTRACT**

*Colletotrichum* spp. is one of the most important genera of plant pathogen fungi (one of top 10 of economically important fungal pathogen). The genus *Colletotrichum* relates to several cash crops on worldwide such as fruit-plants, vegetables and ornamentals, and is principal cause of serious plants disease in vital tropical and the sub-tropical regions (De Silva et al., 2016; Da Silva & Michereff, 2013). According to Rojas et al., 2010, *Colletotrichum* spp. is the principle cause of anthracnose disease, damping-off and blossom, seedling blight disease as well as pre- and postharvest fruit rot. Plant-quarantine has decisions that *Colletotrichum*-infected commodities are not suitable for import or export purpose because of revenue loss (Sharma and Shenoy, 2016). Studies on taxonomy of *Colletotrichum* were once limited to the identification of strains using only morphological characteristics and host association. More recently, using morphology coupled with multi-gene molecular phylogeny has developed as an effective strategy for improvement and understanding of *Colletotrichum* taxonomy. It is a prime important step to make great effort to get achievement of control anthracnose disease.

**BIOSKETCH**



She was graduated from Can Tho university in 2008 with bachelor degree in Agronomy. Since 2009, she has started to work at Plant and Botanical Protection Department. Then, she studied and got Master degree at Nottingham university, United Kingdom, in 2012. Now she is the first year PhD student at Hosei University. She is currently carrying out the genus of *Colletotrichum*, including biology, pathology and control of *Colletotrichum* spp on tropical plants.