

[PROJECT TITLE: Artificial Intelligence Powered Comprehensive Cyber-Security for Smart Healthcare Systems (AIPOSH)]

[OPEN WORKSHOP: Emerging Technologies for Secure, Reliable and Intelligent IoT Systems]

Report Form

I. Organizer:

Name:	Hoang Van Phuc
Position:	Associate Professor
Institution:	Le Quy Don Technical University, Hanoi, Vietnam

II. Program:

Date: 31 October - 01 November, 2025

Venue: Convention Center, No. 236 Hoang Quoc Viet Str., Hanoi, Vietnam.

Program Agenda:

Date	October 31 st , 2025	
Time	Agenda	Speaker
9:30 AM	Welcoming	Vice President of LQDTU
9:45 AM	Approach Toward a Platform for Secure, Reliable and Intelligent IoT Solutions for Smart Healthcare in ASEAN	Prof. Hoang Van Phuc, LQDTU
10:30 AM	Tea break	
10:45 AM	Keynote 1: Advanced Deep Learning Based Approaches for IoT Malware Detection	Prof. Mizuhito Ogawa (JAIST, Japan)
12:00 PM	Lunch	
2:00 PM	Keynote 2: Accelerating and Securing Cryptographic Algorithms for IoT Devices	Dr. Florian Caullery (TII, UAE)
3:00 PM	Invited talk 1: Security in Datacenters for AIoT Applications	Prof. Sylvain Guilley (Telecom Paris, France)
3:30 PM	Tea break	
3:45 PM	Keynote 3: Efficient Organic Sensor Design for Internet of Medical Things Applications	Prof. Dao Thanh Toan (UTC, Vietnam)
4:45 PM	Invited talk 2: Advanced Trusted Execution Environment Hardware Implementation for Smart Healthcare Systems	Prof. Hoang Trong Thuc, Tran Thai Ha (UEC, Japan)
Date	November 01 st , 2025	
Time	Agenda	Speaker

9:30 AM	Invited talk 3: Ultra-low Power IC Design for IoT Systems	Prof. Orazio Aiello (Uni. of Genoa, Italy)
10:30 AM	Vital Sign Monitoring with Machine Learning Techniques	Dr. Hoang Thi Yen (LQDTU, Vietnam)
10:45 AM	Tea break	
11:00 AM	Efficient Elliptic Curve Cryptography Implementation for Secure Healthcare Systems	Dr. Dao Manh Hiep (VNU ITI, Vietnam)
12:00 PM	Lunch	
2:00 PM	Keynote 4: AI Accelerated RISC-V SoC for AIoT Applications	Prof. Le Duc Hung (VNU HCM City)
3:00 PM	Efficient In-Memory Computing Circuit Design for Emerging Neural Networks	Dr. Pham Thi Nhan (HUST, Vietnam)
3:30 PM	Tea break	
3:45 PM	Correlation Power Analysis of Pipelined and Multi-Threaded Coarse-Grained Reconfigurable Cryptographic Accelerator	Mr. Luu Van Tuan (LQDTU, Vietnam)
4:15 PM	Panel discussion and follow-up plan	Chair: Prof. Hoang Van Phuc, LQDTU
5:00 PM	Closing	Prof. Hoang Van Phuc, LQDTU

III. Participants:

No.	Name	Organization	Itinerary
1	Dao Thanh Toan	UTC, HCM City	Oct. 30 - Nov. 02, 2025
2	Le Duc Hung	VNU HCM City	Oct. 30 - Nov. 02, 2025
3	Van Phuc Hoang	LQDTU	Oct. 31 - Nov. 01, 2025
4	Nguyen Van Trung	LQDTU	Oct. 31 - Nov. 01, 2025
5	Nguyen Van Tinh	LQDTU	Oct. 31 - Nov. 01, 2025
6	Nguyen Dinh Tuan	LQDTU	Oct. 31 - Nov. 01, 2025
7	Trinh Quang Kien	LQDTU	Oct. 31 - Nov. 01, 2025
8	Van Tuan Luu	LQDTU	Oct. 31 - Nov. 01, 2025
9	Nguyen Van Thanh	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
10	Mizuhito Ogawa	JAIST, Japan	Oct. 31 - Nov. 01, 2025
11	Han Trong Thanh	HUST, Hanoi	Oct. 31 - Nov. 01, 2025
12	Pham Thi Nhan	HUST, Hanoi	Oct. 31 - Nov. 01, 2025
13	Nguyen My Linh	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
14	Nguyen Van Thang	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
15	Ha Manh Truong	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
16	Le Huu Phu	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025

17	Pham Van Phu	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
18	Le Van Huy	LANCSNET, Hanoi	Oct. 31 - Nov. 01, 2025
19	Tong Viet Hung	MOST, Vietnam	Oct. 31 - Nov. 01, 2025
20	Dinh Quy Cuong	MOST, Vietnam	Oct. 31 - Nov. 01, 2025
21	Tran Thu Huong	MOST, Vietnam	Oct. 31 - Nov. 01, 2025
22	Le Minh Tuan	MOST, Vietnam	Oct. 31 - Nov. 01, 2025
23	Tran Quang Anh	MOST, Vietnam	Oct. 31 - Nov. 01, 2025
24	Nguyen Thanh Dat	UTC, Hanoi	Oct. 31 - Nov. 01, 2025
25	Luyen Van Vu	UTC, Hanoi	Oct. 31 - Nov. 01, 2025
26	Bui Duy Hieu	VNU, Hanoi	Oct. 31 - Nov. 01, 2025
27	Diem Cong Hoang	VNU, Hanoi	Oct. 31 - Nov. 01, 2025
28	Pham Thi Huyen	UTC, Hanoi	Oct. 31 - Nov. 01, 2025
29	Nguyen Huu Thang	VNPT Technology	Oct. 31 - Nov. 01, 2025
30	Bui Van Viet	ASIC Technologies	Oct. 31 - Nov. 01, 2025
31	Le Phu Cuong	LQDTU	Oct. 31 - Nov. 01, 2025
32	Nguyen Huu Hung	LQDTU	Oct. 31 - Nov. 01, 2025
33	Pham Van Phu	Viettel Group	Oct. 31 - Nov. 01, 2025
34	Hoang Thi Yen	LQDTU	Oct. 31 - Nov. 01, 2025
35	Tran Thai Ha	UEC, Japan	Oct. 31 - Nov. 01, 2025
36	Dam Duc Thuan	UEC, Japan	Oct. 31 - Nov. 01, 2025
37	Florian Caullery	TII, UAE	Oct. 31 - Nov. 01, 2025
38	Pham Van Thanh	Hanoi Industrial Uni.	Oct. 31 - Nov. 01, 2025
39	Pham Dang	Hanoi Industrial Uni.	Oct. 31 - Nov. 01, 2025
40	Do Ngoc Tuan	LQDTU	Oct. 31 - Nov. 01, 2025
41	Dao Manh Hiep	VNU ITI, Vietnam	Oct. 31 - Nov. 01, 2025
42	Orazio Aiello	Uni. of Genoa, Italy	Oct. 31 - Nov. 01, 2025
43	Cong Kha Pham	UEC	Oct. 31 - Nov. 01, 2025
44	Trong Thuc Hoang	UEC	Oct. 31 - Nov. 01, 2025
45	Sylvain Guilley	Telecom Paris, France	Oct. 31 - Nov. 01, 2025
46	Nguyen Huyen Trang	VNU ITI, Vietnam	Oct. 31 - Nov. 01, 2025
42	Chang Chip Hong	NTU, Singapore	Oct. 31 - Nov. 01, 2025
43	Thai Ha Tran	UEC	Oct. 31 - Nov. 01, 2025
44	Nguyen Thi Viet Ha	UEC	Oct. 31 - Nov. 01, 2025
45	Mai Duc Tho	ACT, Vietnam	Oct. 31 - Nov. 01, 2025
46	Dao Ba Anh	ACT, Vietnam	Oct. 31 - Nov. 01, 2025
47	Tran Thu Binh	UTC, Hanoi	Oct. 31 - Nov. 01, 2025
48	Do Xuan Tien	EPU, Vietnam	Oct. 31 - Nov. 01, 2025
49	Le Trung Hieu	EPU, Vietnam	Oct. 31 - Nov. 01, 2025
50	Tran Thi Hong Tham	LQDTU	Oct. 31 - Nov. 01, 2025
51	Nguyen Dinh Tuan	LQDTU	Oct. 31 - Nov. 01, 2025
52	Nguyen Khoa Sang	LQDTU	Oct. 31 - Nov. 01, 2025
53	Pham Xuan Thanh	HaUI, Vietnam	Oct. 31 - Nov. 01, 2025

54	Hoang Manh Kha	HaUI, Vietnam	Oct. 31 - Nov. 01, 2025
55	Nguyen Minh Tien	HaUI, Vietnam	Oct. 31 - Nov. 01, 2025
56	Nguyen Van Ha	HaUI, Vietnam	Oct. 31 - Nov. 01, 2025
57	Dao Ba Anh	ACT, Vietnam	Oct. 31 - Nov. 01, 2025
58	Nguyen Phuc Phan	ACT, Vietnam	Oct. 31 - Nov. 01, 2025
59	Nguyen Hieu Minh	ACT, Vietnam	Oct. 31 - Nov. 01, 2025
60	Le Van Hai	ACT, Vietnam	Oct. 31 - Nov. 01, 2025

IV. Summary of the activities corresponding to the objectives

1. Objective

- a. The main objective of this workshop is to provide a forum for exchange of ideas and latest research results in secure, low power and intelligent system for Internet of Things (IoT) applications toward smart healthcare systems.
- b. The workshop is necessary for this project in gathering leading experts in different fields to solve the issues of providing low power and intelligent systems for IoT based smart healthcare applications in ASEAN region.
- c. The workshop aims to provide the overall solutions and an efficient roadmap for this project implementation.

2. Activities corresponding to the objectives

- a. Review the progress of project:
 - Prof. Hoang Van Phuc, LQDTU gives welcome message of the workshop.
 - Prof. Hoang Van Phuc presents the project achievement, implementation plan and the topic on an approach toward a platform for Secure, Reliable and Intelligent IoT Solutions for Smart Healthcare in ASEAN.
- b. Present, discuss the latest research results in intelligent edge computing and machine learning solutions for Internet of Things systems, and conclusions:
 - Prof. Mizuhito Ogawa presents the first keynote talk about Advanced Deep Learning Based Approaches for IoT Malware Detection.
 - Dr. Florian Caullery gives a keynote talk on Accelerating and Securing Cryptographic Algorithms for IoT Devices.
 - Prof. Sylvain Guilley presents about Security in Datacenters for AIoT Applications.
 - Prof. Dao Thanh Toan delivers a keynote talk on Efficient Organic Sensor Design for Internet of Medical Things Applications.
 - Prof. Orazio Aiello presents about Ultra-low Power IC Design for IoT Systems.
 - Dr. Hoang Thi Yen shares the results on Vital Sign Monitoring with Machine Learning Techniques.
 - Dr. Dao Manh Hiep gives a talk on Efficient Elliptic Curve Cryptography Implementation for Secure Healthcare Systems.

- Prof. Le Duc Hung (VNU HCM City) presents about Low Power Multi-Core RISC-V Processor for Medical Applications;
- Dr. Pham Thi Nhan presents about Efficient In-Memory Computing Circuit Design for Emerging Neural Networks;
- Prof. Gottfried Vossen gives a keynote talk on the topic of Applications of Generative AI and Agentic AI for Smart Healthcare Systems.
- Mr. Luu Van Tuan presents and discusses the results of Correlation Power Analysis of Pipelined and Multi-Threaded Coarse-Grained Reconfigurable Cryptographic Accelerator.
- Other speakers present technical talks on various topics on secure, low power and intelligent system for Internet of Things applications.
- Prof. Hoang Van Phuc chairs the discussions, gives follow-up plan for the project and closing remarks. In conclusion, the project has achieved remarkable results with qualified published papers and scientific exchange activities. For the follow-up plan, the project team will perform the site experiments, prototype system development and propose the application model after the project.

3. Detailed changes from the initial proposal: In general, the workshop content is unchanged. We only change the order of presentations for the convenience of speakers.

V. Others

The workshop related pictures as below:



Prof. Mizuhito Ogawa presents the first keynote talk about Advanced Deep Learning Based Approaches for IoT Malware Detection.



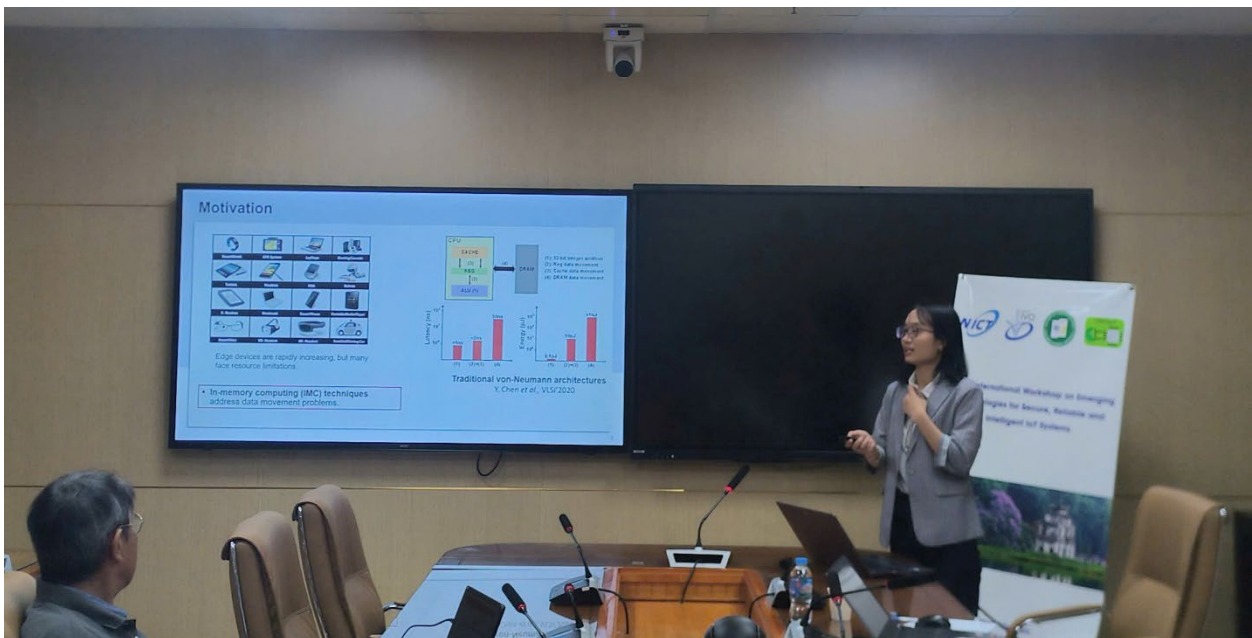
Dr. Florian Caullery gives a keynote talk on Accelerating and Securing Cryptographic Algorithms for IoT Devices



Dr. Dao Manh Hiep gives a talk on Efficient Elliptic Curve Cryptography Implementation for Secure Healthcare Systems.



Prof. Orazio Aiello presents about Ultra-low Power IC Design for IoT Systems



Prof. Hoang Van Phuc chairs the discussions, gives follow-up plan for the project and closing remarks.

VI. Workshop Evaluation Questionnaire

WORKSHOP EVALUATION QUESTIONNAIRE #1

Workshop Name: Emerging Technologies for Secure, Reliable and Intelligent IoT Systems

Location: No. 236 Hoang Quoc Viet Str., Hanoi, Vietnam

Date: 31 October - 01 November, 2025

Participant Name (optional): _____

Institution /Company name of participant (optional): _____

Job Title: Professor

Please give us your comments here:

The workshop theme is very interesting and important in literature. The workshop agenda is reasonable and the talks are interesting. However, in the future events, the speakers from more countries and from industry are expected. This workshop is useful for us by providing a forum to exchange the ideas, solutions and research results in the field. I will attend the future version of this workshop later.

WORKSHOP EVALUATION QUESTIONNAIRE #2

Workshop Name: Emerging Technologies for Secure, Reliable and Intelligent IoT Systems

Location: No. 236 Hoang Quoc Viet Str., Hanoi, Vietnam

Date: 31 October - 01 November, 2025

Participant Name (optional): _____

Institution /Company name of participant (optional): _____

Job Title: Research Director of R&D Company

Please give us your comments here:

The workshop provides a good chance for researchers in the field of emerging technologies for secure, reliable and intelligent IoT systems toward future smart healthcare systems. Speakers are leading experts in different fields to solve the issues of secure, reliable and intelligent IoT systems toward IoT based smart healthcare systems in ASEAN region. The workshop is well organized with an interesting program and nice talks. The discussion session is useful for future project plan.



ICT Virtual Organization of ASEAN Institutes and NICT (ASEAN IVO)

WORKSHOP EVALUATION QUESTIONNAIRE #3

Workshop Name: Emerging Technologies for Secure, Reliable and Intelligent IoT Systems

Location: No. 236 Hoang Quoc Viet Str., Hanoi, Vietnam

Date: 31 October - 01 November, 2025

Participant Name (optional): _____

Institution /Company name of participant (optional): _____

Job Title: Senior Research Fellow

Please give us your comments here:

The workshop is very suitable and important for this project. It is a good chance for researchers in this field to discuss and exchange ideas, innovative techniques and results. Speakers are from leading universities/companies.

The workshop has a good program with interesting talks in AI, security and low power design for IoT systems. More workshops should be organized in the future. Thank ASEAN IVO and NICT for the financial support with this workshop.