[PROJECT TITLE: Artificial Intelligence Powered Comprehensive Cyber-Security for Smart Healthcare Systems (AIPOSH)]
[OPEN WORKSHOP: Secure, Low Power and Intelligent System for IoT Applications]

Report Form

I. Organizer:

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

II. Program:

Date: 15-16, July 2025
Venue: Convention Center, No. 236 Hoang Quoc Viet Str., Hanoi, Vietnam.

Program Agenda:

Date	July 15th, 2025	
Time	**Agenda**	**Speaker**
9:30 AM	Welcoming	Prof. Hoang Van Phuc, LQDTU
9:45 AM	Approach toward a platform for comprehensive secure, low power and intelligent IoT solutions in ASEAN	Prof. Hoang Van Phuc, LQDTU
10:30 AM	Tea break	
10:45 AM	Keynote 1: Ultra-Low Power Sensors for IoT Applications	Prof. Koichiro Ishibashi (UEC, Japan)
12:00 PM	Lunch	
2:00 PM	Keynote 2: Advanced Security Assurance Solutions for IoT Devices	Prof. Sylvain Guilley (Telecom Paris, France) and Marco Boisset (Secure-IC, france)
3:00 PM	Ultra-Low Power Analog IC Design for IoT Nodes	Dr. Nguyen Van Trung (LQDTU, Vietnam)
3:30 PM	Tea break	
3:45 PM	Keynote 3: Low Power Multi-Core RISC-V Processor for Medical Applications	Prof. Le Duc Hung (VNU HCM City)
4:45 PM	Invited talk 1: Efficient TinyML Implementation for IoT systems	Dr. Mai Duc Tho (ACT, Vietnam)

Date	July 16th, 2025	
Time	Agenda	Speaker
9:30 AM	Keynote 4: Applications of Generative AI and Agentic AI for Smart Heathcare Systems	Prof. Gottfried Vossen, (Uni. of Münster, Germany)
10:30 AM	Invited talk 2: Trusted Execution Environment (TEE) Hardware System for IoT Applications	Prof. Hoang Trong Thuc, Tran Thai Ha (UEC, Japan)
10:45 AM	Tea break	
11:00 AM	Keynote 5: Physical Security Evaluation Approaches for IoT Devices	Dr. Keisuke Furumoto (NICT, Japan) [Video]
11:30 AM	Fully Digital Based OTA Design	Mr. Le Phu Cuong (LQDTU, Vietnam)
12:00 PM	Lunch	
2:00 PM	Keynote 6: Quantum Key Distribution for IoT Devices	Prof. Dao Thanh Toan (UTC HCM City)
3:00 PM	An Ultra-Low Power Low Noise Low Output Ripple Chopper Amplifier for Biomedical Applications	Dr. Pham Xuan Thanh (HaUI, Vietnam)
3:30 PM	Tea break	
3:45 PM	Energy Efficient Power Management IC for Edge IoT Devices	Dr. Nguyen Van Trung (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	Van Phuc Hoang	LQDTU	14-17, July 2025
2	Nguyen Van Trung	LQDTU	14-17, July 2025
3	Trinh Quang Kien	LQDTU	14-17, July 2025
4	Dao Thi Nga	LQDTU	14-17, July 2025
5	Trinh Quang Kien	LQDTU	14-17, July 2025
6	Van Tuan Luu	LQDTU	14-17, July 2025
7	Le Duc Hung	VNU HCM City	14-17, July 2025
8	Dao Thanh Toan	UTC, HCM City	14-17, July 2025
9	Nguyen Van Thanh	LANCSNET, Hanoi	14-17, July 2025
10	Le Nam	Phenikaa Uni., Hanoi	14-17, July 2025
11	Mai Thu	VAST, Hanoi	14-17, July 2025
12	Le Minh Thuy	HUST, Hanoi	14-17, July 2025
13	Nguyen Thuy Linh	LANCSNET, Hanoi	14-17, July 2025
14	Pham Truong	LANCSNET, Hanoi	14-17, July 2025
15	Nguyen Nam	LANCSNET, Hanoi	14-17, July 2025

16	Pham Van Phu	LANCSNET, Hanoi	14-17, July 2025
17	Nguyen Duc Thang	LANCSNET, Hanoi	14-17, July 2025
18	Le Tung	LANCSNET, Hanoi	14-17, July 2025
19	Vu Van	MOST, Vietnam	14-17, July 2025
20	Le Minh Tuan	MOST, Vietnam	14-17, July 2025
21	Trinh Trung Hieu	MOST, Vietnam	14-17, July 2025
22	Tran Anh Tuan	MOST, Vietnam	14-17, July 2025
23	Dang Ngoc	MOST, Vietnam	14-17, July 2025
24	Hoang Van Xiem	VNU, Hanoi	14-17, July 2025
25	Tran Xuan Tu	VNU, Hanoi	14-17, July 2025
26	Nguyen Huyen Trang	VNU, Hanoi	14-17, July 2025
27	Diem Cong Hoang	VNU, Hanoi	14-17, July 2025
28	Pham Thi Huyen	UTC, Hanoi	14-17, July 2025
29	Nguyen Huu Thang	VNPT Technology	14-17, July 2025
30	Bui Van Viet	ASIC Technologies	14-17, July 2025
31	Le Phu Cuong	LQDTU	14-17, July 2025
32	Nguyen Huu Hung	LQDTU	14-17, July 2025
33	Pham Van Phu	Viettel Group	14-17, July 2025
34	Hoang Thi Yen	UEC	14-17, July 2025
35	Tran Thai Ha	UEC	14-17, July 2025
36	Koichiro Ishibashi	UEC	14-17, July 2025
37	Doi Thi Lan	University of Ulsan	14-17, July 2025
38	Pham Xuan Thanh	Hanoi Industrial Uni.	14-17, July 2025
39	Nguyen Thị Viet Ha	Hanoi Industrial Uni.	14-17, July 2025
40	Do Ngoc Tuan	LQDTU (Project member)	14-17, July 2025
41	Dao Manh Hiep	VNU ITI, Vietnam	14-17, July 2025
42	Gottfried Vossen	Uni. of Münster, Germany	14-17, July 2025
43	Cong Kha Pham	UEC	14-17, July 2025
44	Trong Thuc Hoang	UEC	14-17, July 2025
45	Sylvain Guilley	Telecom Paris, France	14-17, July 2025
46	Ngo Doanh	VNU ITI, Vietnam	14-17, July 2025
42	Bui Duy Hieu	VNU ITI, Vietnam	14-17, July 2025
43	Thai Ha Tran	UEC	14-17, July 2025
44	Nguyen Thi Viet Ha	UEC	14-17, July 2025
45	Marco Boisset	Secure-IC	14-17, July 2025
46	Le Hieu	EPU	14-17, July 2025
47	Tran Thu Binh	UTC, Hanoi	14-17, July 2025
48	Do Xuan Tien	EPU, Vietnam	14-17, July 2025
49	Le Trung Hieu	EPU, Vietnam	14-17, July 2025
50	Tran Thi Hong Tham	LQDTU	14-17, July 2025
51	Nguyen Dinh Tuan	LQDTU	14-17, July 2025

52	Nguyen Van Tinh	LQDTU	14-17, July 2025
53	Hoang Manh Kha	HaUI, Vietnam	14-17, July 2025
54	Pham Dang	HaUI, Vietnam	14-17, July 2025
55	Nguyen Van Ha	HaUI, Vietnam	14-17, July 2025
56	Nguyen Minh Tien	HaUI, Vietnam	14-17, July 2025
57	Mai Duc Tho	ACT, Vietnam	14-17, July 2025
58	Dao Ba Anh	ACT, Vietnam	14-17, July 2025
59	Nguyen Van Tien	ACT, Vietnam	14-17, July 2025
60	Nguyen Phuc Phan	ACT, Vietnam	14-17, July 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 opic on an approach toward a platform for comprehensive secure, low power and intelligent IoT solutions 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. Koichiro Ishibashi presents the first keynote talk about Ultra-Low Power Sensors for IoT Applications.
      - Mr. Marco Boisset gives a keynote talk on Advanced Security Assurance Solutions for IoT Devices.
      - Dr. Nguyen Van Trung presents and discusses the results of Ultra-Low Power Analog IC Design for IoT Nodes.
      - Prof. Le Duc Hung (VNU HCM City) presents about Low Power Multi-Core RISC-V Processor for Medical Applications;
      - Dr. Mai Duc Tho presents about Efficient TinyML Implementation for IoT systems;
      - Prof. Gottfried Vossen gives a keynote talk on the topic of Applications of Generative AI and Agentic AI for Smart Heathcare Systems.

- Mr. Tran Thai Ha presents and discusses the results of Trusted Execution Environment (TEE) Hardware System for IoT Applications.
- Dr. Keisuke Furumoto delivers a talk on Physical Security Evaluation Approaches for IoT Devices (via video).
- Mr. Le Phu Cuong gives a talk Fully Digital Based OTA Design which can be used for Smart Heathcare Systems.
- Prof. Dao Thanh Toan delivers a keynote talk on Quantum Key Distribution for IoT Devices.
- Other speakers present technical talks on various topics on secure, low power and intelligent system for Internet of Things (IoT) 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. Hoang Van Phuc (LQDTU) gives welcome message of the workshop.

Prof. Koichiro Ishibashi presents the first keynote talk about Ultra-Low Power Sensors for IoT Applications

Mr. Marco Boisset gives a keynote talk on Advanced Security Assurance Solutions for IoT Devices

Prof. Gottfried Vossen gives a keynote talk on the topic of Applications of Generative AI and Agentic AI for Smart Heathcare Systems

Dr. Mai Duc Tho presents about Efficient TinyML Implementation 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: Secure, Low Power and Intelligent System for IoT Applications

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

Date: 15-16, July 2025

Participant Name (optional): _____

Institution /Company name of participant (optional): _____

Job Title: Professor

Please give us your comments here:

The workshop provides a good chance for researchers in the field of secure, low power and intelligent systems for IoT applications intelligent systems and embedded security for Internet of Things applications to approach new research directions, results and technologies. Speakers are famous experts in the field.

The workshop is well organized with an interesting program and nice talks. The discussion session is useful for future plan.

WORKSHOP EVALUATION QUESTIONNAIRE #2

Workshop Name: Secure, Low Power and Intelligent System for IoT Applications

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

Date: 15-16, July 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 agenda is reasonable and the talks are interesting. However, in the future events, the speakers from more countries are expected.

This workshop is useful for us by providing a forum to exhange the ideas, solutions and research results in the field. The topic of this workshop is very hot and important in literature.

WORKSHOP EVALUATION QUESTIONNAIRE #3

Workshop Name: Secure, Low Power and Intelligent System for IoT Applications

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

Date: 15-16, July 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. More workshops should be organized in the future. Thank ASEAN IVO and NICT for the financial support with this workshop.