

**THE 9th ACADEMIC CONFERENCE ON
NATURAL SCIENCE FOR YOUNG SCIENTISTS,
MASTER AND PHD STUDENTS
FROM ASEAN COUNTRIES
(CASEAN - 9)**

*Bac Nha Trang Ward, Khanh Hoa Province, Vietnam
September 28th – October 1st, 2025*

ABSTRACTS & PROGRAM

<https://iop.vast.vn/casean/2025>

CASEAN - 2025

CONTENTS

CONFERENCE INFORMATION

Organizes	03
Organizing Committee	04
Sponsors	06
CASEAN - 9 Secretariat	07

PROGRAM SCHEDULE

Plenary Session	10
Session A	12
Session B	25
Poster Presentation I	38
Poster Presentation II	48

ABSTRACTS

Plenary Session	59
Session A	65
Session B	106
Poster Presentation I	147
Poster Presentation II	197

**THE 9th ACADEMIC CONFERENCE ON NATURAL
SCIENCE FOR YOUNG SCIENTISTS, MASTER AND
PHD STUDENTS FROM ASEAN COUNTRIES
(CASEAN - 9)**

ORGANIZERS

Vietnam Academy of Science and Technology (VAST)

Vietnam Physical Society

Institute of Physics, VAST

International Centre of Physics, VAST

Institute of Oceanography, VAST

Vietnam National University Ho Chi Minh City

**THE 9th ACADEMIC CONFERENCE ON NATURAL
SCIENCE FOR YOUNG SCIENTISTS, MASTER AND
PHD STUDENTS FROM ASEAN COUNTRIES
(CASEAN - 9)**

ORGANIZING COMMITTEE

Conference President

Prof. Nguyen Dai Hung (Vietnam Physical Society)

International Organizing Committee

Dao Viet Ha (Institute of Oceanography, VAST)

Dinh Van Trung (Institute of Physics, VAST)

Vu Dinh Lam (Graduate Univ. of Science and Technology, VAST)

Tran Dai Lam (Institute of Materials Science, VAST)

Nguyen Huy Bang (Vinh University)

Lemthong Lathdavong (National University of Laos)

Elmer Estacio (University of the Philippines)

Jakrapong Kaewkhao (Nakhon Pathom Rajabhat Univ., Thailand)

Meak Kamerane (Royal University of Phnom Penh, Cambodia)

Syahrin Nur Madjid (Syiah Kuala University, Indonesia)

Wan Azelee W. Abu Bakar (University of Technology of Malaysia)

Anusara Srisrual (King Mongkut's University of Technology
North Bangkok, Thailand)

Local Organizing Committee

Pham Hong Minh (Institute of Physics, VAST)
Nguyen Thanh Binh (Institute of Physics, VAST)
Nguyen Thanh Tung (Institute of Materials Science, VAST)
Huynh Hoang Nhu Khanh (Institute of Oceanography, VAST)
Ngo Quang Minh (University of Science and Technology of Hanoi)
Chu Manh Hoang (ITIMS, Hanoi Univ. of Science and Technology)
Thai Doan Thanh (Ho Chi Minh City Univ. of Industry and Trade)
Mai Hong Hanh (University of Science, VNU)
Le Van Doai (Vinh University)
Le Thi Nhi Cong (Institute of Biotechnology, VAST)
Chu Van Lanh (Vinh University)
Doan Hoai Son (Ha Tinh University)
Tran Quoc Tien (Institute of Materials Science, VAST)
Do Hoang Tung (Institute of Physics, VAST)
Chu Viet Ha (Thai Nguyen University of Education)
Tran Thi Nga (Institute of Oceanography, VAST)
Pham Van Duong (Institute of Physics, VAST)
Vu Hoa Binh (Institute of Physics, VAST)
Nguyen Manh Thang (Journal of Military Sci. & Tech. - AMST)

**THE 9th ACADEMIC CONFERENCE ON NATURAL
SCIENCE FOR YOUNG SCIENTISTS, MASTER AND
PHD STUDENTS FROM ASEAN COUNTRIES
(CASEAN - 9)**

CO-SPONSORS

Vietnam Academy of Science and Technology

Vietnam National University Ho Chi Minh City

Institute of Physics, VAST

International Centre of Physics, VAST

Institute of Oceanography, VAST

CASEAN - 9 SECRETARIAT

Nguyen Thi Khanh Van (Institute of Physics, VAST)

Duong Thi Man (Institute of Physics, VAST)

Le Huyen Trang (Institute of Physics, VAST)

Doan Thi Kieu Anh (Institute of Physics, VAST)

Nguyen Xuan Tu (Institute of Physics, VAST)

Dang Thi Hai Yen (Institute of Oceanography, VAST)

Doan Phan Thao Tien (Institute of Oceanography, VAST)

PROGRAM

Date Time	SUNDAY <i>28 September 2025</i>	MONDAY <i>29 September 2025</i>	TUESDAY <i>30 September 2025</i>	WEDNESDAY <i>01 October 2025</i>
8:30 - 12:00		- <i>REGISTRATION</i> - OFFICIAL OPENING - PLENARY SESSION	- SESSION A - SESSION B	<i>Excursion</i>
		LUNCH		
13:30 - 17:30	- <i>REGISTRATION</i>	- SESSION A - SESSION B - POSTER SESSION I	- SESSION A - SESSION B - POSTER SESSION II - <i>OFFICIAL CLOSING</i>	
18:00 - 20:00		Conference Party		

PROGRAM

PROGRAM

September 29, 2025 (Monday)

HALL A

07:30 - 08:30 Registration

08:30 - 09:00 Official Opening

Prof. Nguyen Dai Hung (*Conference President*)

Representative of Vietnam Academy of Science & Technology (*VAST, Vietnam*)

Prof. Dao Viet Ha (*Institute of Oceanography, VAST, Vietnam*)

Prof. Lemthong Lathdavong (*National University of Laos*)

Prof. Jakrapong Kaewkhao (*Nakhon Pathom Rajabhat University, Thailand*)

Prof. Elmer Estacio (*University of the Philippines, Philippines*)

Prof. Mega Novita (*Universitas PGRI Semarang, Indonesia*),

Prof. Ye Chan (*University of Yangon, Myanmar*)

Prof. Vu Dinh Lam (*Graduate University of Science and Technology, VAST, Vietnam*)

Prof. Dinh Van Trung (*Institute of Physics, VAST, Vietnam*)

CONFERENCE PHOTOGRAPH

PLENARY SESSION

Chairperson:

Prof. Mitsuru Inada (*Kansai University, Japan*)

Prof. Dinh Van Trung (*Institute of Physics, VAST, Vietnam*)

**PL-01 INSTITUTE OF OCEANOGRAPHY: A JOURNEY THROUGH
09:00 – 09:25 CENTURIES**

Prof. Dao Viet Ha

Director Institute of Oceanography, Vietnam Academy of Science and Technology, No. 01, Cau Da Street, Nha Trang Ward, Khanh Hoa Province, Vietnam

**PL-02 ASYMMETRY IMPACT ON LUMINESCENCE IN Ln³⁺-DOPED
09:25 – 09:50 GLASS: EXPERIMENTAL EVIDENCE**

Jakrapong Kaewkhao

Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom 73000, Thailand

**PL-03 WHAT IS TERAHERTZ? A GENTLE INTRODUCTION TO ITS
09:50 – 10:15 BIG POTENTIAL**

Takeshi Yasui

Institute of Post-LED Photonics, Tokushima University, 2-1, Minami-Josanjima, Tokushima 770-8506, Japan

10:15 – 10:45 COFFEE BREAK

**PL-04 A DECADE OF GRAVITATIONAL-WAVE DISCOVERIES SINCE
10:45 - 11:10 GW150914**

Nguyen Quynh Lan

Phenikaa University, Hanoi, Vietnam

**PL-05 INSTITUTIONAL FRAMEWORK FOR FOSTERING A
11:10 – 11:35 CULTURE OF RESEARCH: INSIGHTS FROM THE
UNIVERSITY OF THE PHILIPPINES DILIMAN**

**Carl Michael F. Odullo*^{1,2}, Dulce Amor B. Verdolaga¹, and
Paula Marie M. Cruz¹**

*¹Office of the Vice Chancellor for Research and Development, Lower
Ground Floor, PHIVOLCS Building, C.P. Garcia Avenue, Diliman,
Quezon City 1101, Philippines*

*²Electrical and Electronics Engineering Institute, University of the
Philippines - Diliman University of the Philippines*

**PL-06 MACHINE LEARNING APPLICATIONS IN FUNCTIONAL
11:35 – 12:00 MATERIALS DESIGN**

Mega Novita

*Postgraduate Program of Natural Science Education, Universitas
Persatuan Guru Republik Indonesia,
Jl. Sidodadi Timur No. 24 Semarang, 50232 Central Java, Indonesia*

12:00 – 13:30 LUNCH

SESSION A

SESSION A:
September 29, 2025 (Monday)
HALL A

Chairperson:

Prof. Jakrapong Kaewkhao (*Nakhon Pathom Rajabhat Univ., Thailand*)
Prof. Lemthong Lathdavong (*National University of Laos*)

**A-01 DEVELOPMENT OF CRYSTAL SCINTILLATORS FOR
13:30 – 13:50 DIVERSE APPLICATIONS**

Invited Talk

Hong Joo Kim

*Department of Physics, Kyungpook National University, Daegu 41566,
Korea*

**A-02 THz MOLECULAR SCIENCE IN CONDENSED PHASES THz
13:50 – 14:10 CRYSTALLOGRAPHYS**

Invited Talk

Keisuke Tominaga

*Molecular Photoscience Research Center, Kobe University,
Rokkodai-cho 1-1, Nada, Kobe, 657-8501 Japan*

**A-03 2D SPINTRONICS: ORIGIN OF THE SPIN-TO-CHARGE
14:10 – 14:30 CONVERSION IN GRAPHENE**

Invited Talk

Escaño Mary Clare

*Research Center for Development of Far-infrared Region,
University of Fukui*

**A-04 DYNAMICS OF IL-1B, ARGINASE, AND NO SYNTHASE
14:30 – 14:45 LEVELS IN MOUSE BRAIN HOMOGENATES AFTER PROTON
IRRADIATION AT THE BRAGG PEAK IN THE SHORT AND
LONG TERM**

**N. B. Ngoc^{1,2}, Vinogradova O. O.¹, Vinogradova V. S.¹,
Lobachevsky P. N.¹**

¹*Joint Institute For Nuclear Reasearch, Dubna, Russia;*

²*Dalat University, Lamdong, Vietnam*

**A-05 ANALYSIS OF STENT DEFORMATION IN BIOABSORBABLE
14:45 – 15:00 MATERIALS UTILIZING SIMULATION TECHNIQUE**

**Nha Uyen Chung^{1,3}, Phuong Vy Vo^{1,3}, Minh Quan Cao Dinh^{1,3},
Thanh Nha Nguyen^{2,3}, Tich Thien Truong^{2,3}, Trung Nghia Tran^{1,3*}**

¹Laboratory of Laser Technology, Faculty of Applied Science, Ho Chi Minh City University of Technology (HCMUT), 268 Ly Thuong Kiet Street, Dien Hong Ward, Ho Chi Minh, Vietnam.

²Department of Engineering Mechanics, Faculty of Applied Science, Ho Chi Minh City University of Technology (HCMUT), 268 Ly Thuong Kiet Street, Dien Hong Ward, Ho Chi Minh City, Vietnam

³Vietnam National University Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam.

**A-06 THE EFFECT OF DNA REPAIR INHIBITORS ON THE
15:00- 15:15 FORMATION OF DOUBLE-STRANDED DNA BREAKS IN B16
MELANOMA CELLS UNDER THE ACTION OF X-RAYS**

**Regina Alekseevna Kozhina¹, A.V. Boreyko^{1,2}, V.N. Chausov^{1,2},
E.A. Kuzmina^{1,2}, T.D. Pham^{1,3}, D.D. Shamina¹, S.I. Tiouchnik¹**

¹Joint institute for nuclear research, Dubna, Russia

²Dubna State University, Dubna, Russia

³Vietnam National University, Hanoi, Vietnam

**A-07 HYBRID DETECTORS FOR HIGH-ENERGY RADIATION
15:15 – 15:30 BASED ON BOROSILICATE GLASS SCINTILLATOR DOPED
WITH Gd³⁺ COVERED BY PHOTSENSITIVE TiO₂ LAYER**

**P. Mangthong^{1,2}, M. Kohout³, C. S. Ponseca, Jr.^{4,7}, Z. Hubička³, J.
Kaewkhao^{1,2}, S. Kothan⁸, K.Kirdsiri^{1,2}, N. Srisittipokakun^{1,2}, J.
Olejníček^{3**}, M. Cadatal-Raduban^{5,8***}**

¹Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, 73000, Thailand

²Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom 73000, Thailand

³Department of Low Temperature Plasma, Institute of Physics of the Czech Academy of Sciences, Na Slovance 1999/2, 182 21 Prague 8, Czech Republic

⁴Department of Mathematics and Natural Sciences, Gulf University for Science and Technology, Hawally, Kuwait

⁵Unitec Institute of Technology 139 Carrington Road, Mount Albert, Auckland 1025, New Zealand

⁶Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand

⁷Department of Physics, School of Science and Engineering, Ateneo De Manila University, 1004 Manila, Philippines

⁸Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita, Osaka 565-0871 Japan

Chairperson:

Prof. Hong Joo Kim (*Kyungpook National University, Korea*)

Prof. Mega Novita (*Univ. Persatuan Guru Republik Indonesia, Indonesia*)

A-08 15:45 – 16:05 eQ: UNLOCKING THE COSMOS WITH A WIDE-BAND, HIGH-SENSITIVITY Q-BAND RECEIVER FROM MAGNETIC FIELD PROBING VIA ZEEMAN OBSERVATIONS TO HIGH-Z CO DETECTION

Invited Talk

Fumitaka Nakamura, Kotomi Taniguchi (NAOJ), Chau-Ching Chiong, Sheng-Yuan Liu (ASIAA), Quang Nguyen Luong (SAGI/Saclay), and eQ team

National Astronomical Observatory of Japan

A-09 16:05 – 16:25 DIRECT CREATION OF GOLD NANOPARTICLES INSIDE POLYMERIC STRUCTURES AND INVESTIGATION OF ITS LINEAR AND NONLINEAR OPTICAL PROPERTIES

Invited Talk

Quang Truong Pham, Isabelle Ledoux-Rak and Ngoc Diep Lai

Laboratoire Lumière, Matière et Interfaces (LuMIn), ENS Paris-Saclay, Université Paris-Saclay, CentraleSupélec, CNRS, 4 avenue des sciences, 91190, Gif-sur-Yvette, France

A-10 16:25 – 16:45 EXPERIMENTAL STUDIES ON HIGH-POWER THZ VORTEX-BEAM GENERATION USING HIGH-FREQUENCY GYROTRONS

Invited Talk

Masafumi Fukunari*, Yoshinori Tatematsu, Yuusuke Yamaguchi

Research Center for Development of Far-Infrared Region, University of Fukui, Fukui, Japan

A-11 16:45 – 17:00 THE SPATIO-TEMPORAL CHARACTERISTICS OF HOT MATTER PRODUCED IN HEAVY-ION COLLISIONS

Egor Nedorezov

Joint Institute for Nuclear Research (JINR), Moscow Institute of Physics and Technology (MIPT)

**A-12 FAST NEUTRON SPECTRA: UNFOLDING AND DIRECT
17:00 - 17:15 MEASUREMENT WITH SCINTILLATION CRYSTALS**

**Nguyen Duy Quang^{1,2}, Phan Bao Quoc Hieu¹, H.J. Kim²,
Sunghwan Kim³, Tuong Thi Thu Huong¹, Trinh Van Cuong¹,
Nguyen Kien Cuong¹, Phan Quoc Vuong^{2,4}, Sinchul Kang⁵,
Y. S. Yoon⁵, Uk-Won Nam⁶**

¹*Dalat Nuclear Research Institute, 1 Nguyen Tu Luc, Lam Vien – Da Lat ward,
Lam Dong, Vietnam;*

²*Department of Physics, Kyungpook National University, Daegu 41566,
Republic of Korea;*

³*Department of Radiological Science, Cheongju University, Cheongju, 28503,
South Korea;*

⁴*Department of Chemistry, Northwestern University, Evanston, Illinois 60208,
United States;*

⁵*Korea Research Institute of Standards and Science, Daejeon, 34113, Korea;*

⁶*Space Science Division, Korea Astronomy and Space Science Institute,
Daejeon 34055, Korea.*

**A-13 ELECTROMAGNETICALLY INDUCED TRANSPARENCY IN SOME
17:15 - 17:30 FIVE-LEVEL ATOMIC CONFIGURATIONS**

**Ho Hai Quang¹, Nguyen Huy Bang¹, Luong Thi Yen Nga¹,
Do Mai Trang¹, Nguyen Van Ai², Phan Van Thuan¹, Nguyen Van Phu¹,
Le Nguyen Thuy An¹ and Le Van Doai^{1*}**

¹*Vinh University, 182 Le Duan Street, Nghe an Province, Vietnam.*

²*Ha Tinh University, 447, 26/3 Street, Ha Tinh Province, Vietnam*

**A-14 DISPERSION CONTROL IN POLARIZATION-MAINTAINING
17:30 - 17:45 GE23SB7S70 CHALCOGENIDE PHOTONIC CRYSTAL FIBER**

**Tham Hong Tran¹, Hong Phuong Nguyen Thi¹, Khanh To Gia²,
Thao Thi Nguyen³, Dung Thi Nguyen³, Bien Chu Van⁴,
Hue Thi Nguyen³, Hieu Van Le³**

¹*Vinh University, Vietnam*

²*Lam Son High School for the Gifted, Vietnam*

³*Hong Duc University, Vietnam*

⁴*Yersin Da Lat University, Vietnam*

13:30- 17:45

POSTER PRESENTATION I

Chairperson:

Prof. Le Thi Nhi Cong (*Institute of Biotechnology, VAST*)

Dr. Nguyen Dac Dien (*Vietnam Trade Union University*)

Dr. Phan Thi Lan (*Posts & Telecom. Inst. of Tech., Vietnam*)

SESSION A:
September 30, 2025 (Tuesday)
HALL A

Chairperson:

Prof. Takeshi Yasui (Tokushima University, Japan)
Prof. Ngo Quang Minh (USTH, VAST)

A-15 **BACKGROUND-FREE ABSORPTION SPECTROSCOPY USING**
08:30 - 08:50 **SUB-CYCLE MID-INFRARED PULSES GENERATED**
THROUGH TWO-COLOR FILAMENTATION

Invited Talk

Neil Irvin Cabello¹, Shinta Ozawa¹, Yue Zhao², and Takao Fuji^{*1}

¹*Toyota Technological Institute, 2-12-1 Hisakata, Tempaku-ku, Nagoya 468-8511, Japan*

²*Muroran Institute of Technology, 27-1 Mizumoto-cho, Muroran, Hokkaido 050-8585, Japan*

A-16 **RARE-EARTH ELEMENTS AND MOLECULAR IMAGING:**
08:50 - 09:10 **INNOVATIONS FROM THE CENTER OF RADIATION**
RESEARCH AND MEDICAL IMAGING

Invited Talk

**C. Sanjai¹, K. T. Htun¹, Y. Tariwong¹, M. Tungjai¹, N. Intachai¹,
H.J. Kim², J. Kaewkhao³, S. Kothan^{*1}**

¹*Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand*

²*Department of Physics, Kyungpook National University, Daegu, 41566, Republic of Korea*

³*Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand*

A-17 **GENERATION OF TERAHERTZ ORBITAL ANGULAR**
09:10 - 09:30 **MOMENTUM LIGHT USING 3D-PRINTED PLASTIC PHASE**
PLATE AND DETECTION VIA SLIT-SCANNING AND FOURIER
ANALYSIS

Invited Talk

**Kenneth Alaba¹, Ivan Cedrick Verona¹, Kristiene Joy Fernandez²,
Jose Mari Sebastian Arcilla¹, Lourdes Nicole Dela Rosa¹, Hannah R.
Bardolaza¹, Rayko Ivanov Stantchev³, Nathaniel P. Hermosa II¹, and
Elmer S. Estacio^{*1}**

¹*National Institute of Physics, University of the Philippines, Diliman, Philippines*

²*Materials Science and Engineering Program, College of Science, University of the Philippines, Diliman, Philippines*

³*Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan (China)*

**A-18 DEVELOPMENT OF LED MINI-LIDAR -HOW TO CREATE
09:30 - 09:50 NEW SENSOR DEVICE**

Invited Talk

Tatsuo Shiina

Graduate School of Engineering, Chiba University, Japan

**A-19 ENHANCED LIGHT EMISSION AND PHOTOLUMINESCENCE
09:50 - 10:05 QUANTUM YIELD OF HALIDE PEROVSKITE
NANOCRYSTALS ON A TiO₂ DIELECTRIC METASURFACE**

**Anh. V. Nguyen¹, Trang H. Le², Y. Wu³, T. T. H. Do⁴, D. Pham⁵,
S. T. Bui⁶, X. K. Bui⁷, L. D. Vu⁶, A. L. Rogach³, S. T. Ha⁴, and
Q. Le-Van^{1,2,*}**

¹*Centre of Environmental Intelligence, VinUniversity, Gia Lam commune, Hanoi, Vietnam.*

²*VinUni-Illinois Smart Health Center, VinUniversity, Gia Lam commune, Hanoi, Vietnam.*

³*Department of Materials Science and Engineering, and Centre for Functional Photonics (CFP), City University of Hong Kong, 83 Tat Chee Avenue, Hong Kong SAR 999077, P. R. China*

⁴*Institute of Materials Research and Engineering, Agency for Science Technology and Research (A*STAR), 2 Fusionopolis Way, 138634, Singapore*

⁵*Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan Street, Hanoi 11106, Vietnam*

⁶*Graduate University of Science and Technology, 18 Hoang Quoc Viet Street, Hanoi 100000, Vietnam*

⁷*Institute of Materials Science, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet Street, Hanoi 100000, Vietnam*

**A-20 EFFECT OF ANNEALING-INDUCED LOCAL ASYMMETRY ON
10:05- 10:20 THE PHOTOLUMINESCENCE OF Eu³⁺-DOPED TELLURO-
SILICATE GLASSES**

**W. Wongwan^{1,2}, P. Yasaka^{1,2}, W. Busayaporn³, N. Intachai⁴,
S. Kothan⁴, and J. Kaewkhao^{1,2}**

¹*Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand*

²*Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, 73000, Thailand*

³*Synchrotron Light Research Institute, Nakhon Ratchasima, 30000, Thailand*

⁴*Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand*

**A-21 ENHANCED AMMONIA GAS SENSING PERFORMANCE OF
10:20- 10:35 REDUCED GRAPHENE OXIDE - PHOSPHORENE HYBRID**

**Nguyen Thanh Danh^{2,4}, Tran Minh Ngoc², Nguyen Thi Kim Hue²,
Nguyen Thi Phuong Thanh^{1,4}, Le Duc Anh^{2,4}, Tran Quang Nguyen^{3,4},
Nguyen Manh Bao^{2,4}, Huynh Van Giang^{2,4}, Tran Quang Trung^{2,4*}**

¹*Laboratory of Advanced Materials, University of Science, Ho Chi Minh City 700000, Vietnam*

²*Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City 700000, Vietnam*

³*Department of IC Design and Hardware, University of Information Technology, Ho Chi Minh City 700000, Vietnam*

⁴*Vietnam National University, Ho Chi Minh City 700000, Vietnam*
Center for Correlated Electron Systems, IBS and Seoul National University, Korea

10:35 – 10:45

COFFEE BREAKS

Chairperson:

Prof. Nobuhiko Sarukura (*Osaka University, Japan*)

Prof. Suchart Kothan (*Chiang Mai University, Chiang Mai, Thailand*)

**A-22 TUNABLE ULTRAFAST EMISSION IN WIDE BAND GAP
10:45 - 11:05 FLUORIDE CRYSTAL SCINTILLATORS**

Marilou Cadatal-Raduban^{*1,2}, Masahiro Yamashita^{2,3}, Luong Viet Mui^{2,3}, Yuki Shibasaki⁴, Toshihiko Shimizu², Nobuhiko Sarukura^{2,5}, Kohei Yamanoi²

¹*Unitec Institute of Technology, 139 Carrington Road, Mt. Albert, Auckland 1025, New Zealand*

²*Institute of Laser Engineering, The University of Osaka, 2-6 Yamadaoka, Suita, 565- 0871, Osaka, Japan*

³*Graduate School of Engineering, The University of Osaka, 2-6 Yamadaoka, Suita, 565- 0871, Osaka, Japan*

⁴*Photon Factory, Institute of Materials Structure Science, High Energy Accelerator Research Organization, Tsukuba, Ibaraki 305-0801, Japan*

⁵*New Industry Creation Hatchery Center, Tohoku University, Sendai 980-8579, Japan*

**A-23 X-RAY ABSORPTION SPECTROSCOPY FOR MATERIALS
11:05 - 11:25 SCIENCE, INTRODUCING A COUPLE OF OUR STUDIES AT
PHOTON FACTORY**

Invited Talk

Hitoshi Abe^{*1,2,3}

¹*Institute of Materials Structure Science (IMSS), High Energy Accelerator
Research Organization (KEK), 1-1 Oho, Tsukuba, Ibaraki 305-0801,
Japan.*

²*The Graduate University for Advanced Studies (SOKENDAI) 1-1 Oho,
Tsukuba, Ibaraki 305-0801, Japan.*

³*Graduate School of Science and Engineering, Ibaraki University, 2-1-1,
Bunkyo, Mito, Ibaraki 310-8512, Japan.*

**A-24 DECAY OF THE SPONTANEOUS FISSION ISOMERS IN THE
11:25 - 11:45 COULOMB FIELD OF THIRD NUCLEUS**

Invited Talk

**Mr OTAKHONOV, Farrukh (BLTP, JINR), Dr KALANDAROV,
Shuhrat (BLTP, JINR); Prof. PYATKOV, Yury (FLNR,JINR)**

BLTP, JINR

**A-25 PRE-CALIBRATION OF INITIAL PHASES FOR OPERATING
11:45 - 12:05 PROGRAMMABLE PHOTONIC INTEGRATED CIRCUITS**

Invited Talk

Ming-Chang Lee*, Thuy Trinh, The Anh Nguyen, Bo-Xian Ke

*Institute of Photonics Technologies and Dept. of Electrical Engineering,
National Tsing-Hua University, No. 101, Section 2, Kuang-Fu Road,
Hsinchu, Taiwan (China)*

**A-26 MODELING AND CONTROL STRATEGIES FOR CONTROL
12:05 - 12:20 MOMENT GYROSCOPES**

Anh Tu Tran, Quang Minh Ngo

*University of Science and Technology of Hanoi, Vietnam Academy of
Science and Technology, 18 Hoang Quoc Viet, Nghia Do Ward, Ha Noi*

12:20 - 13:30

LUNCH

Chairperson:

Prof. Elmer Estacio (*University of the Philippines Diliman, Philippines*)
Prof. Nguyen Thanh Binh (*IOP, Vietnam*)

A-27 SINGLE-CRYSTAL GROWTH OF β -Ga₂O₃ USING OCCC
13:30 - 13:50 METHOD AND ESTABLISHMENT OF A STARTUP FOR
SOCIAL IMPLEMENTATION BASED ON THE RESULTS

Invited Talk

**Akira Yoshikawa^{*1,2,3,4}, Taketoshi Tomida^{3,4}, Vladimir Kochurikhin³,
Masanori Kitahara^{1,3,4}, Yasuhiro Shoji^{3,4}, Kei Kamada^{1,3,4},
Koichi Kakimoto¹**

¹*Institute for Materials Research, Tohoku Univ., 2-1-1, Katahira, Aoba-ku, Sendai, Japan.*

²*New Industry Creation Hatchery Center, Tohoku Univ., 6-6-10 Aramiaki, Aoba-ku Sendai, Japan.*

³*C&A Corporation. 1-16-23 Ichibanchho, Aoba-ku, Sendai, Japan,*

⁴*FOX Corporation, 6-5 Sunaoshi-minamimachi, Sendai, Japan*

A-28 DEVELOPMENT OF A HIGH-RESOLUTION CODED
13:50 - 14:10 APERTURE SPECT SYSTEM BASED ON TIMEPIX DETECTOR

Invited Talk

**V. Rozhkov Vladislav¹, I. Hernandez^{1,2}, A. Leyva³, and
A. Zhemchugov¹**

¹*Joint Institute For Nuclear Research, Dubna, Russia*

²*Isotopes Center, Mayabeque, Cuba*

³*Center Of Technological Applications And Nuclear Development, Havana, Cuba*

A-29 UNRAVELING THERMAL QUENCHING IN Ce-Doped
14:10 - 14:30 (La,Gd)₂Si₂O₇ SINGLE CRYSTALS

Invited Talk

Takahiko Horiai*

National Institute of Advanced Industrial Science and Technology, 1-1-1 Higashi, Tsukuba, Ibaraki, Japan

A-30 3D LASER DIRECT WRITING FOR FABRICATION OF
14:30 - 14:45 ORDERED NANO/MICRO - STRUCTURES

**Huu Tu Nguyen^{1,3,5}, Quang Minh Ngo², Thanh Son Pham⁴, and
Xuan Bach Nguyen^{2,*}**

¹*Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

²*University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

³*Institute of Materials Science, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

⁴*School of Electrical and Electronic Engineering, University of Industry, 298 Cau Dien, Tay Tuu, Hanoi, Vietnam*

⁵*Viet Duc College of Medicines and Medical Devices, Viet Duc University Hospital, 1/89 Luong Dinh Cua, Kim Lien, Hanoi, Vietnam*

**A-31 DEVELOPMENT OF A TUNABLE MONOCHROMATIC X-RAY
14:45 - 15:00 SOURCE FOR PIXELATED SEMICONDUCTOR DETECTOR
CALIBRATION**

Truong Hoai Bao Phi

*Institute of Physics, Vietnam Academy of Science and Technology, Hanoi,
Vietnam Joint Institute for Nuclear Research, Dubna, Russia*

**A-32 IMPLEMENTING MODEL CONTROL PROTOCOLS IN
15:00- 15:15 WIRELESS SENSOR NETWORKS: A FOUNDATIONAL STUDY
USING KALIKASENSE FOR AIR QUALITY MONITORING**

Dionis A. Padila

*School of Electronics, Electrical, and Computer Engineering, Mapua
University, 658 Muralla St., Intramuros, Manila, Philippines*

**A-33 PARAMETRIC OPTIMIZATION OF A HOLLOW CORE
15:15 - 15:30 TERAHERTZ PLASTIC WAVEGUIDE OPERATING AT 300 GHz
USING FINITE-DIFFERENCE TIME-DOMAIN METHOD**

**Joshua Omar P. Pestaño*¹, Kenneth Alaba¹, Hannah R. Bardolaza¹,
Tani Masahiko², Hideaki Kitahara², and Elmer S. Estacio¹**

¹*National Institute of Physics, University of the Philippines Diliman,
Metro Manila, Philippines*

²*Research Center for Development of Far-Infrared Region, University of
Fukui, Fukui, Japan*

15:30 – 15:45

COFFEE BREAKS

Chairperson:

Prof. Keisuke Tominaga (Kobe University, Japan)

Prof. Le Van Doai (Vinh University, Vietnam)

**A-34 HIGH-TEMPERATURE SUPERCONDUCTING CABLES FOR DC
15:45 - 16:05 POWER TRANSMISSION: CURRENT STATUS AND FUTURE
OUTLOOK**

Invited Talk

Chikumoto Noriko

*Institute of Laser Engineering, The University of Osaka, National Institute
for Fusion Science*

**A-35 STRUCTURAL, MORPHOLOGICAL, OPTICAL, AND
16:05 - 16:25 MAGNETIC PROPERTIES OF Yb-DOPED CuO:ZnO
NANOCOMPOSITES**

Invited Talk

**Trinh Duc Thien¹, Hoang Van Thanh², Le T.M. Cham¹, Nguyen Dang
Co², Ho Thi Anh², Nguyen Huu Tuan^{3,4}, Nguyen Tuan Canh², Pham
Van Vinh², Nguyen Duc Cuong², and Nguyen Dinh Lam^{2,*}**

¹*Faculty of Physics, Hanoi National University of Education, 136 Xuan
Thuy Road, Cau Giay District, Hanoi, 100000, Vietnam*

²*Faculty of Engineering Physics and Nanotechnology, VNU-University of
Engineering and Technology, 144 Xuan Thuy Road, Cau Giay District,
Hanoi, 100000, Vietnam*

³*Faculty of Electrical and Electronic Engineering, Phenikaa University,
Hanoi, 12116, Viet Nam*

⁴*Phenikaa Research and Technology Institute (PRATI), A&A Green
Phoenix Group, 167 Hoang Ngan, Hanoi, 13313, Viet Nam*

**A-36 RECENT RESEARCH IN THE TERAHERTZ SCIENCE GROUP
16:25 - 16:45 AT FIR-UF AND A REVIEW OF HIGH-RESOLUTION
SPECTROSCOPIC METHODS**

Invited Talk

Takashi Furuya*, Hideaki Kitahara, and Masahiko Tani

*Research Center for Department of Far-Infrared Region, University of
Fukui, Fukui, Bunkyo 3-9-1, Japan*

**A-37 DISCOVERY OF THE NEW SHAPE ISOMERS IN THE MIDDLE
16:45 - 17:00 HEAVY NUCLEI AT FLNR (JINR)**

**A. B. Le^{1,4}, D. V. Kamanin¹, Yu. V. Pyatkov^{2,1}, A. N Solodov¹,
V. E. Zhuchko¹, Z. I. Goryainova¹, O. V. Strekalovsky¹,
Yu. M. Sereda¹, E. A. Kuznetsova¹, A. O. Zhukova¹, T. Vilane³**

¹Joint Institute for Nuclear Research, 141980 Dubna, Russia

*²National Nuclear Research University “MEPHI”, 115409 Moscow,
Russia ;*

³University of South Africa, Pretoria, South Africa

⁴Vietnam National University, Ho Chi Minh City, Vietnam

**A-38 IMPROVING SPECKLE-BASED MICRO-MOTION
17:00 - 17:15 ESTIMATION WITH DEEP LEARNING**

Tran Doan Tuan Phong^{1,2}, Cao Xuan Binh^{1,2}

*¹School of Mechanical Engineering, Hanoi University of Science and
Technology, Hanoi, 100000, Vietnam;*

*²Square Lab, Hanoi University of Science and Technology, Hanoi,
100000, Vietnam*

13:30 - 17:10

POSTER PRESENTATION II

Chairperson:

Prof. Jacque Lynn F Gabayno (*Mapua University, Philippines*)

Dr. Le Canh Trung (*Vinh University, Vietnam*)

Dr. Pham Van Duong (*IOP, VAST*)

17:10 – 18:00

OFFICIAL CLOSING

HALL A

SESSION B

SESSION B:
September 29, 2025 (Monday)
HALL B

Chairperson:

Prof. Akira Yoshikawa (Tohoku University, Japan)
Prof. Ngoc Diep Lai (Université Paris-Saclay, France)

**B-01 LASER CRYSTAL APPLICATION WORK WITH ASEAN
13:30 – 13:50 RESEARCHERS**

Invited Talk

Nobuhiko Sarukura^{*1,2}

¹*Institute of Laser Engineering, The University of Osaka, 2-6 Yamadaoka, Suita, 565-0871, Osaka, Japan*

²*New Industry Creation Hatchery Center, Tohoku University, Sendai 980-8579, Japan*

**B-02 WATER QUALITY MONITORING TOWARDS SUSTAINABLE
13:50 – 14:10 DEVELOPMENT AND CLIMATE CHANGE RESILIENCE**

Invited Talk

**Rizky Muliani Dwi Ujianti, Mega Novita, Aan Burhanudin,
Cerly Nurlita Anggraeni**

Universitas PGRI Semarang Indonesia

**B-03 MID-INFRARED SURFACE LATTICE RESONANCES ENABLED
14:10 – 14:30 IN SILVER COATED-MICROPORE ARRAYS PATTERNED IN SILICON WAFERS**

Invited Talk

**Quang Minh Ngo^{1*}, Xuan Bach Nguyen¹, Thanh Son Pham²,
Anh Tu Tran¹, Alexander Dolbik³, Taisa Orehovskaya³, and
Serguei Lazarouk³**

¹*University of Science and Technology of Hanoi, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

²*Faculty of Electronics Engineering, Hanoi University of Industry, Hanoi 11900, Vietnam*

³*Belarusian State University of Informatics and Radioelectronics, P. Browka 6, 220013 Minsk, Belarus*

**B-04 INNOVATING BATTERY CATHODE MATERIALS WITH
14:30 – 14:45 MODELING AND MACHINE LEARNING: INSIGHTS FROM SIMULATION-EXPERIMENT SYNERGY**

Invited Talk

Tien Quang Nguyen^{*1}, Michihisa Koyama¹, and Nobuyuki Zettsu^{1,2}

¹*Institute for Aqua Regeneration, Shinshu University, 4-17-1 Wakasato, Nagano 380-8553, JAPAN*

**B-05 DEVELOPMENT OF AN ULTRA-COMPACT MICROWAVE
14:45 – 15:05 RESONATOR FOR ELECTRON SPIN RESONANCE
MEASUREMENT**

Invited Talk

**Yuya Ishikawa^{*1}, Yutaka Kurachi¹, Keisuke Kawagita¹,
Jarno Järvinen², Sergey Vasiliev² and Yutaka Fujii¹**

¹Research Center for Development of Far-Infrared Region, University of Fukui, Fukui 910-8507, Japan

²Department of Physics and Astronomy, University of Turku, Turku 20500, Finland

**B-06
15:05 - 15:25 Sm³⁺ DOPED IN HIGH DENSITY GLASS SCINTILLATOR FOR X-
RAYS IMAGING MATERIAL**

Invited Talk

**N. Intachai^{1,*}, N. Wantana^{2,3}, F. Khongchaiyapum^{2,3}, P. Pakawanit⁴, N.
Chanlek⁴, P. Kanjanaboos⁵, H.J. Kim⁶, S. Kothan¹, J. Kaewkhao^{2,3}**

¹Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand

²Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand

³Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom 73000, Thailand

⁴Synchrotron Research and Applications Division, Synchrotron Light Research Institute, 111 University Avenue, Muang District, Nakhon Ratchasima, 30000, Thailand

⁵School of Materials Science and Innovation, Faculty of Science, Mahidol University, Nakhon Pathom, 73170, Thailand

⁶Department of Physics, Kyungpook National University, Daegu, 41566, South Korea

⁵Department of Physics, Kyungpook National University, Daegu, 41566, Republic of Korea

**B-07 Ce³⁺/Dy³⁺ CO-DOPED BOROPHOSPHATE GLASS
15:25 – 15:40 SCINTILLATORS FOR HIGH-PERFORMANCE X-RAY IMAGING**

**F. Khongchaiyaphum^{1,2}, N. Wantana^{1,2*}, P. Pakawanit³,
C. Phoovasawat³, N. Chanthima^{1,2}, N. Intachai⁴, S. Kothan⁴,
H. J. Kim⁵, J. Kaewkhao^{1,2}**

¹Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand

²Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand

³*Synchrotron Light Research Institute (Public Organization), Synchrotron Research and Applications Division, 111 University Avenue, Muang District, Nakhon Ratchasima 30000, Thailand*

⁴*Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand*

15:40 – 15:45

COFFEE BREAKS

Chairperson:

Prof. Rhorom Priyatikanto (Nat. Research & Innov. Agency, Indonesia)

Prof. Pham Hong Minh (IOP, VAST)

**B-08 STAR AND PLANET FORMATION STUDIES WITH THE
15:45 – 16:05 ATACAMA LARGE MILLIMETER/SUBMILLIMETER ARRAY**

Invited Talk

Shigehisa Takakuwa

Kagoshima University, Japan

**B-09 BIODIESEL PRODUCTION TUNG (VERNICIA MONTANA) OIL IN
16:05 – 16:25 LAOS PDR BY ULTRASOUND-ASSISTED
TRANSESTERIFICATION**

Invited Talk

**Bounkong Keomounlath, Sengthong Bounyavong and
Lemthong Lathdavong**

National University of Laos

**B-10 ELECTROMAGNETICALLY INDUCED GRATING IN A FIVE-
16:25 – 16:45 LEVEL CASCADE-TYPE ATOMIC SYSTEM**

Invited Talk

**Nguyen Thi Quynh Anh¹, Nguyen Huy Bang¹, Dinh Xuan Khoa¹, Luong
Thi Yen Nga¹, Nguyen Van Ai², Phan Van Thuan¹, Nguyen Thi Thu
Hien³, Le Nguyen Mai Anh⁴, Le Van Doai^{1*}**

¹*Vinh University, 182 Le Duan Street, Nghe An Province,, Vietnam.*

²*Ha Tinh University, 447, 26/3 Street, Ha Tinh Province, Vietnam*

³*Ho Chi Minh City University of Industry and Trade, Ho Chi Minh City,
Vietnam*

⁴*Nong Lam University, Ho Chi Minh City, Vietnam*

**B-11 IMPROVEMENTS IN SCINTILLATION PERFORMANCE
16:45 – 17:05 OF CsI:TI CRYSTAL VIA Ba²⁺ CO-DOPING**

Invited Talk

Y. Tariwong^{*1}, S. Kothan^{1}, H.J. Kim², N. D. Quang³, A. Khan^{4,5}, M. Tungjai¹, Y. Ruangtaweep^{6,7}, N. Wantana^{6,7}, N. Intachai¹, J. Kaewkhao^{6,7}**

¹*Center of Radiation Research and Medical Imaging, Department of Radiologic Technology, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, 50200, Thailand*

²*Department of Physics, Kyungpook National University, Daegu, 41566, Republic of Korea*

³*Dalat Nuclear Research Institute, Dalat, Vietnam*

⁴*Department of Physics, Faculty of Arts and Sciences, Najran University, Najran, Saudi Arabia*

⁵*Advanced Materials and Nano Research Center (AMNRC), Najran University, P.O.Box 1988, Najran 11001, Saudi Arabia*

⁶*Physics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand*

⁷*Center of Excellence in Glass Technology and Materials Science (CEGM), Nakhon Pathom Rajabhat University, Nakhon Pathom, 73000, Thailand*

**B-12 CARRIER DYNAMICS OF INDIUM ARSENIDE QUANTUM DASH
17:05 - 17:20 PHOTOCONDUCTIVE ANTENNAS UNDER 1.55 μm PHOTO-EXCITATION**

I. C. M. Verona^{*1}, K. J. B. Fernandez², H. R. Bardolaza¹, R. J. Chu³, D. Jung³, J. M. S. C. Arcilla¹, A. S. Somintac¹, A. A. Salvador¹, E. S. Estacio¹

¹*National Institute of Physics, College of Science, University of the Philippines Diliman, Quezon City 1101, Philippines*

²*Material Science and Engineering Program, College of Science, University of the Philippines Diliman, Quezon City 1101, Philippines*

³*Center for Opto-Electronic Materials and Devices, Korea Institute of Science and Technology, South Korea*

**B-13 BIOFILM FORMING BACILLUS THURINGIENSIS MĐ3.2 AND
17:20 - 17:35 APPLICATION IN CHLOPYRIFOS REMOVAL**

Dang Viet Lam¹, Tran Thi Mai², Cung Thi Ngoc Mai², Do Thi Lien², Vuong Thi Nga², Quach Thi Lien², Hoa Thi Minh Tu², Phan Thi Tuyet Minh², Le Thi Nhi Cong^{2,3*}

¹*Technical Center for Standards, Metrology and Quality 1, General Department of Standards, Metrology and Quality; Nr. 8, Hoang Quoc Viet, Nghia Do, Hanoi*

²*Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi*

³*Graduate University of Science and Technology, VAST*

**B-14 Si-Si₃N₄ COMPOSITE WAVEGUIDE FOR SCALABLE PHASE
17:35 - 17:50 CONTROL IN PHOTONIC INTEGRATED CIRCUITS**

**The Anh Nguyen^{1*}, Hai Yen Pham¹, Tuan Anh Nguyen¹,
Ming-Chang M. Lee²**

*¹Faculty of Engineering and Technology, International School, Vietnam
National University, Ha Noi, 144 Xuan Thuy Str., Cau Giay Dist., Ha Noi;*

*²Institute of Photonics Technologies, Dept. of Electrical Engineering,
National Tsing Hua University, Hsinchu, Taiwan (China)*

13:30- 17:45

POSTER PRESENTATION I

Chairperson:

Prof. Le Thi Nhi Cong (*Institute of Biotechnology, VAST*)

Dr. Nguyen Dac Dien (*Vietnam Trade Union University*)

Dr. Phan Thi Lan (*Posts & Telecom. Inst. of Tech., Vietnam*)

SESSION B:
September 30, 2025 (Tuesday)
HALL B

Chairperson:

Prof. Wei-Nai Chen (*Academia Sinica, Taiwan (China)*)

Dr. Do Hoang Tung (*IOP, VAST*)

**B-15 TIME-RESOLVED MEASUREMENTS COMBINING LASER
08:30 - 08:50 AND SYNCHROTRON X-RAYS**

Invited Talk

Hiroki Wadati*

Graduate School of Science, University of Hyogo, Ako-gun, Hyogo 678-1297, Japan

**B-16 PORTABLE, LOW-COST SENSOR FOR EARLY GASTRIC
08:50 - 09:10 CANCER**

Invited Talk

**Saw Lin Oo¹, Ye Chan², Yin Mg Mg², Vaithinathan Karthikeyan³,
Vellaisamy A.L. Roy⁴**

Department of Physics & Universities' Research Centre, University of Yangon, Myanmar

**B-17 RADIOCHEMISTRY FOR NUCLEAR MEDICINE AND LOW-
09:10 - 09:30 BACKGROUND EXPERIMENTS**

Invited Talk

Ayagoz Baimukhanova^{1,2}

¹*Joint Institute for Nuclear Research, Russia*

²*Institute of Nuclear Physics of the Republic of Kazakhstan*

**B-18 CYBER-PHYSICAL SYSTEMS: WHERE PHYSICS MEETS
09:30 - 09:50 REAL-TIME INTELLIGENCE**

Invited Talk

Jocelyn F. Villaverde

School of Electronics, Electrical, and Computer Engineering, Mapua University, 658 Muralla St., Intramuros, Manila, Philippines

**B-19 A NON-CONTACT APPROACH FOR INVESTIGATING THE
09:50 - 10:05 TRANSIENT DYNAMIC BEHAVIOR OF LIQUID VORTICES
 INSIDE A UNIFORMLY ROTATING CYLINER**

**Thi Minh Thu Le^{1,2}, Hoang Nam Nguyen^{1,2}, Danh Tien Vu¹,
Le Phuong Hoang¹, Xuan Binh Cao¹**

¹Square Lab, Hanoi University of Science and Technology, Vietnam

*²School of Mechanical Engineering, Hanoi University of Science and
Technology*

**B-20 BIODIESEL PRODUCTION FROM THE
10:05- 10:20 TRANSESTERIFICATION PROCESS USING AN ELECTRIC
 FIELD**

**Souksavath Phounsavath, Sonexay Xayheungsy and Lemthong
Lathdavong**

National University of Laos

**B-21 INVESTIGATION OF THE EFFECTS OF PHOTOCONDUCTING
10:20- 10:35 GAP WIDTH ON TERAHERTZ EMISSION CHARACTERISTICS
 OF LOW-TEMPERATURE GROWN GALLIUM ARSENIDE
 DIPOLE AND BOWTIE PHOTOCONDUCTIVE ANTENNAS VIA
 FINITE ELEMENT ANALYSIS**

**Arcturus Gabriel S. Mendenilla*, Kenneth Alaba, Lourdes Nicole
Dela Rosa, Ivan Cedrick Verona, Jose Mari Sebastian Arcilla,
Hannah R. Bardolaza, and Elmer S. Estacio**

*National Institute of Physics, University of the Philippines Diliman,
Philippines*

10:35 – 10:45

COFFEE BREAKS

Chairperson:

Prof. Saw Lin Oo (*University of Yangon, Myanmar*)

Prof. Nguyen Dinh Lam (*VNU-Univ. of Engineering and Tech., Vietnam*)

**B-22 THE DEVELOPMENT OF A NEW ASTRONOMICAL
10:45 - 11:05 OBSERVATORY IN SOUTHEAST ASIA**

Invited Talk

Rhorom Priyatikanto

*Research Centre for Space, National Research and Innovation Agency,
Indonesia*

**B-23 LIGHT AND PLASMA: DIAGNOSTICS FOR HIGH-
11:05 - 11:25 TEMPERATURE PLASMAS**

Invited Talk

Mayuko Koga^{*1}, Hiroki Nakata¹, Yuya Ohta²

¹*Graduate School of Engineering, University of Hyogo, 2167 Shosha, Himeji, Hyogo 671-2280 JAPAN*

²*School of Engineering, University of Hyogo, 2167 Shosha, Himeji, Hyogo 671-2280 JAPAN*

**B-24 THE FABRICATION OF MICROCRYSTALLINE CELLULOSE
11:25 - 11:45 FROM VIETNAMESE BANANA TRUNK FOR
BIOAPPLICATIONS**

Invited Talk

**Thi Lan Phan^{*1}, Duc Ba Nguyen², Hong Minh Pham³,
Quang Dien Le^{4*}**

¹*Posts and Telecommunication Institute of Technology, Ha Noi, Vietnam*

²*Institute of Theoretical and Applied Research, Duy Tan University, Hanoi 100000, Vietnam*

³*Institute of Physics, Vietnam Academy of Science and Technology, Vietnam*

⁴*Hanoi University of Science and Technology, Hanoi, Vietnam*

**B-25 IMAGING THE SHADOWS OF BLACK HOLES
11:45- 12:05**

Invited Talk

Satoki Matsushita

Institute of Astronomy and Astrophysics, Academia Sinica, 11F of Astronomy-Mathematics Building, AS/NTU, No.1, Sec. 4, Roosevelt Rd, Taipei 10617, Taiwan (China), R.O.C.

**B-26 A NOVEL CORE-SHELL, AL-BASED LITHIUM ION BATTERY
12:05 – 12:20 ANODE EXHIBITING HIGH CAPACITY AND
UNPRECEDENTED CYCLING STABILITY**

Le Duc Toan¹, Le Anh Thi^{2,3}

¹*Phu Yen University, Vietnam*

²*Institute of Research and Development, Duy Tan University, Da Nang, Vietnam*

³*Faculty of Natural Sciences, Duy Tan University, Da Nang, Vietnam*

12:25 - 13:30

LUNCH

Chairperson:

Prof. Tatsuo Shiina (Chiba University, Japan)

Prof. Rizky Muliani Dwi Ujianti (Universitas PGRI Semarang Indonesia)

**B-27 IMPROVEMENT OF PHYSICAL PROPERTIES BY CONTROL
13:30 - 13:50 OF CHEMICAL COMPOSITION**

Invited Talk

Yuui Yokota^{*1,2}

¹*Institute for Materials Research, Tohoku University, 2-1-1, Katahira, Aoba-ku, Sendai, Japan*

²*New Industry Creation Hatchery Center, Tohoku University, Japan*

**B-28 ANALYSIS OF HEAT TRANSFER ON GALVALUME ROOFS
13:50 - 14:10 COATED WITH REFLECTIVE PAINT**

Invited Talk

Sigit Ristanto^{*1,4}, Slamet Supriyadi^{2,4}, Bayu Arie Wibawa^{3,4}

¹*Postgraduate Program of Natural Science Education, UPGRIS, Jl. Sidodadi Timur No. 24 Semarang, Indonesia*

²*Mechanical engineering, UPGRIS, Jl. Sidodadi Timur No. 24 Semarang, Indonesia*

³*Architecture, UPGRIS, Jl. Sidodadi Timur No. 24 Semarang, Indonesia*

⁴*Green Building Research Centre, UPGRIS, Jl. Sidodadi Timur No. 24 Semarang, Indonesia*

**B-29 SYSTEMATIC BASELINE RADIATION DOSE RATE
14:10 - 14:30 MEASUREMENT USING PM10 DISPERSION MODEL**

Invited Talk

Sano Kristofer R.^{1,2}, Gabayno Jacque Lynn F.²

¹*School of Electronics, Electrical, and Computer Engineering, Mapua University, Philippines;*

²*Department of Physics, School of Foundational Studies and Education, Mapua University, Philippines*

**B-30 A GYROTRON-BASED TERAHERTZ IRRADIATION SYSTEM
14:30 - 14:50 FOR INVESTIGATING NON-THERMAL EFFECTS ON BIOLOGICAL SAMPLES**

Invited Talk

Yuusuke Yamaguchi^{*1}, Makiko Kakikawa², Gakushi Tsuji³, Yoshiyuki Konishi³, Takayasu Kawasaki⁴, Masafumi Fukunari¹ and Yoshinori Tatematsu¹

¹*Research Center for Development of Far-Infrared Region, University of Fukui, 910-8507, Japan*

²*Institute of Science and Engineering, Kanazawa University, 920-1192, Japan*

³*Department of Applied Chemistry and Biotechnology, University of Fukui, 910-8507, Japan*

⁴*Accelerator Laboratory, High Energy Accelerator Research Organization, 305-0801, Japan*

**B-31 DETERMINING THE FOCAL POINT OF A LASER BEAM ON A
14:50 - 15:05 CURVED SURFACE UTILIZING IMAGE PROCESSING**

**Hoang Nam Nguyen^{1,2}, Duc Duong Nguyen^{1,2}, Nhu Thanh Nguyen^{1,2},
Xuan Binh Cao^{1,2}**

*¹School of Mechanical Engineering, Hanoi University of Science and
Technology, Vietnam*

²Square Lab, Hanoi University of Science and Technology, Vietnam

**B-32 TERAHERTZ EMISSION AND DETECTION FROM LOW
15:05- 15:20 TEMPERATURE GROWN GALLIUM ARSENIDE
PHOTOCONDUCTIVE ANTENNA WITH ALUMINUM
ARSENIDE BARRIER**

**Lourdes Nicole Dela Rosa^{1*}, Gerald Angelo Catindig¹, Ivan Cedrick
Verona¹, Dean Von Johari Narag², Roni Andig¹, Gian Carlo Carrillo²,
Craig Egan Allistair Tan¹, Jonel Francisco², John Paul Ferrolino²,
Mary Clare Escaño³, Hideaki Kitahara³, Alvin Karlo Tapia⁴,
Masahiko Tani³, Hannah Bardolaza¹, Armando Somintac¹, Arnel
Salvador¹, and Elmer Estacio¹**

*¹National Institute of Physics, University of the Philippines Diliman,
Philippines*

*²Materials Science Engineering Program, University of the Philippines,
Diliman, Philippines*

*³Research Center for Development of Far-Infrared Region, University of
Fukui, Japan*

*⁴Institute of Physics, University of the Philippines Los Baños, Laguna,
Philippines*

**B-33 NITROGEN-DOPED GRAPHENE QUANTUM DOTS FOR
15:20- 15:35 LABELING HELA CELLS IN CANCER TREATMENT**

**Bui Le Yen Chi^{*3}, Vu Duc Chinh¹, Nguyen Minh Phuong⁵, Nguyen
Lai Thanh³, Pham Thanh Binh¹, Pham Nam Thang^{1,2}**

*¹Institute of Materials Science, Vietnam Academy of Science and
Technology (VAST), 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

*²Faculty of Materials Science and Energy Engineering, Graduate
University of Science and Technology, VAST, 18 Hoang Quoc Viet, Nghia
Do, Hanoi, Vietnam*

*³Faculty of Biology, University of Science, Vietnam National University,
Hanoi 100000, Vietnam*

*⁴Hanoi University of Science and Technology, 1 Dai Co Viet street, Hanoi,
Vietnam*

*⁵Faculty of Pharmacy, Hanoi University of Business and Technology, Ha
Noi, Vietnam*

15:35 – 15:45

COFFEE BREAKS

Chairperson:

Prof. Chikumoto Noriko (Osaka University, Japan)

Prof. Yuya Ishikawa (University of Fukui, Japan)

**B-34 PHOTOLUMINESCENCE AND DEVICE APPLICATIONS OF METAL
15:45 - 16:05 OXIDE NANOPARTICLES**

Invited Talk

**Mitsuru Inada*¹, Shumpei Toyoshima¹, Akito Mizobata²
and Yasushi Obora²**

¹*Dep. Pure and Applied Physics, Kansai University, 3-3-35 Yamatecho, Suita,
Osaka 564-8680, Japan*

²*Dep. Chemistry and Materials Engineering, Kansai University, 3-3-35
Yamatecho, Suita, Osaka 564-8680, Japan*

**B-35 THE SPATIAL INHOMOGENEITY OF THE PBL OBSERVED BY
16:05 - 16:25 VEHICLE-BASED DOPPLER WIND LIDAR DURING ASIA-AQ-
TAIWAN**

Invited Talk

Wei-Nai Chen*¹, Fujung Tsai², Ming-Tung Chuang¹

¹*Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan
(China)*

²*Dept. of Marine Environmental Informatics, National Taiwan Ocean
University, Keelung, Taiwan (China)*

**B-36 WATER QUALITY INDEX FORECASTING USING MACHINE
16:25 - 16:45 LEARNING REGRESSION WITH FEATURE OPTIMIZATION**

Invited Talk

**Ye Chan*, Win Yu Khaing, Thazin Oo, Hnin Wyut Phoo,
Nann Mong Loung**

Universities' Research Centre, University of Yangon, Myanmar, 11041

**B-37 HIGH-RATE REACTIVE SPUTTERING OF TiO₂ FILMS
16:45 - 17:00 FOR MICRO-STRUCTURED SECURITY APPLICATIONS**

Invited Talk

**Jiri Olejnicek*, Martin Cada, Jiri Smid, Michal Kohout,
and Zdenek Hubicka**

Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic

**B-38 TOP-DOWN AND COMPREHENSIVE APPROACH TO SCIENCE
17:00 - 17:15 OUTREACH IN THAILAND**

Invited Talk

Matipon Tangmatitham

*Science Communicator, National Astronomical Research Institute of Thailand
(NARIT), 260 Moo 4 Donkaew Maerim Chiangmai 50180 Thailand*

13:30 - 17:10

POSTER PRESENTATION II

Chairperson:

Prof. Jacque Lynn F Gabayno (*Mapua University, Philippines*)

Dr. Le Canh Trung (*Vinh University, Vietnam*)

Dr. Pham Van Duong (*IOP, VAST*)

17:10 – 18:00

OFFICIAL CLOSING

HALL A

POSTER PRESENTATION I

13:30 - 17:00, 29 September 2025 (Monday)

Chairperson:

Prof. Le Thi Nhi Cong (*Institute of Biotechnology, VAST*)

Dr. Nguyen Dac Dien (*Vietnam Trade Union University*)

Dr. Phan Thi Lan (*Posts & Telecom. Inst. of Tech., Vietnam*)

PI-01 FUEL PRODUCTION FROM PARA-RUBBER DUNG BY PYROLYSIS

Outhan Taylitthy, Somsavath Leuangtakouna and Lemthong Lathdavong
National University of Laos

PI-02 PHYSICALS AND MECHANICAL PROPERTIES OF GEOPOLYMER FROM RICE HUSH ASH AND FLY ASH

Sengthong Bounyavong^{*1}, Keositthiphone Chanthala^{1,2}; Nyphonh Volachack¹; Phouvanh Souksomvang¹, Sackxay Sompasert¹; Lemthong Lathdavong¹

¹*Department of Physics, Faculty of Natural Sciences, National University of Laos*

²*National Gifted Secondary School of Laos*

PI-03 APPLICATION OF GIS AND AHP IN HYDROGEOGRAPHICAL ZONING OF THE SREPOK RIVER BASIN, VIET NAM

Nguyen Thi Bich^{*1,2}, Phan Thi Thanh Hang¹, Nguyen Vu Viet³, Lai Vinh Cam¹, Nguyen Thi Thuy¹

Vietnam Academy of Science and Technology

PI-04 LOW-RESISTANCE JOINT OF REBCO CONDUCTORS BY CHEMICALLY ACTIVATED SURFACE BONDING

Daisuke Ohkura^{1,*}, Michihiko Watanabe¹, Noriko Chikumoto^{1,2}, Ryosuke Kodama^{1,2}, Yuta Onodera³, Naoki Hirano³

¹*Department of Engineering, the University of Osaka, Japan*

²*Institute of Laser Engineering, the University of Osaka, Japan*

³*National Institute for Fusion Science, Japan*

PI-05 ULTRAVIOLET OPTICAL PROPERTIES OF CaSrF₂ CRYSTAL

Yugo Akabe^{*}, Kotaro Enomoto, Keito Shinohara, Marilou Raduban, Toshihiko Shimizu, Nobuhiko Sarukura, Rui Okumura, Ryosuke Kodama, Kazuya Takahashi, Toru Kawamat, Kazumasa Sugiyama, Tsuguo Fukuda

¹*Institute of Laser Engineering, Osaka University, Suita, Osaka 565-0871, Japan*

²*Unitec Institute of Technology, 139 Carrington Road, Mount Albert, Auckland 1025, New Zealand*

³*Fukuda Crystal Laboratory Co., Ltd., 6-6-3 Minami-Yoshinari, Aoba-ku, Sendai 989-3204, Japan*

⁴*Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai 980-8577, Japan*

PI-06 ELASTOMERIC HEAT RESISTANT INSULATORS FOR SOLID PROPELLANT ROCKET MOTORS

Pham Van Toai¹, Pham Quang Hieu¹, Pham Kim Dao¹, Bui Anh Thuc^{1,2}, A.N. Gaidadin³

¹*Institute of Propellants and Explosives, 192 Duc Giang, Hanoi, Vietnam*

²*Institute of Chemistry, Biology and Environment - Academy of Military Science and Technology, 17 Hoang Sam street, Hanoi, Vietnam*

³*Volgograd State Technical University, 28 Lenin avenue, Volgograd, Russia*

PI-07 STUDY ON THE PRODUCTION PROCESS OF INSTANT FERMENTED KOMBUCHA POWDER FROM BLACK TEA SUPPLEMENTED WITH WATERMELON JUICE

Tran Thi Huyen Nga^{1,*}, Doan Minh Hien¹, Ly Kim Hue¹, Nguyen Thi Ngoc Huong¹, Doan Thi Ngoc Linh¹, Dang Lam Giang², Nguyen Ngoc Minh Quan³, Tran Thi Mai⁴

¹*Faculty of Environmental Sciences, University of Science, Vietnam National University, Hanoi,*

²*The High School of Education Sciences*

³*The International School @Parkcity Hanoi*

⁴*Institute of Biology, Vietnam Academy of Science and Technology*

PI-08 A FACILE HYDROTHERMAL METHOD SYNTHESIS OF HOLLOW CUBIC Zn₂SnO₄ FOR ETHANOL SENSOR

Nguyen Hong Hanh

Institute of Defence Equipment, Academy of Military Science and Technology, 17 Hoang Sam Street, Nghia Do, Hanoi, Vietnam

PI-09 STUDY AND DESIGN OF SYNCHRONIZATION CONTROL CIRCUIT WITH NANOSECOND PULSE WIDTH FOR THE LASER RANGE-GATED IMAGING SYSTEM

Le Van Hoang, Vu Quoc Thuy, Nguyen Hong Hanh

Institute of Defence Equipment, Academy of Military Science and Technology, 17 Hoang Sam Street, Nghia Do, Hanoi, Vietnam

PI-10 DFT STUDY ON THE STRUCTURE AND INTERMOLECULAR INTERACTIONS OF THE PETN/TNT COCRYSTAL

Hoang Trung Huu¹, Nguyen Van Tinh¹, Dam Duc Trung²

¹*Le Quy Don Technical University, 236 Hoang Quoc Viet, Ha Noi, Vietnam*

²*Vietnam Defence Industry, 28A Dien Bien Phu, Ha Noi, Vietnam*

PI-11 PRODUCTION OF BIO - PRODUCT TO REMOVE DICHLORO-DIPHENYL-TRICHLOROETHANE

Nguyen Nhu Anh¹, Nguyen Thai Duong¹, Luu Thanh Nhan², Nguyen Chi Kien¹, Dao Xuan Kien¹, Bui Ha Trang², Tran Thi Mai³, Le Thi Nhi Cong^{3*}

¹High School for Gifted Students, HNUE, 136 Xuan Thuy Street, Ha Noi

²Quy Hop 1, Quy Hop district, Nghe An province

³Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Ha Noi

PI-12 EFFECT OF TANNIC ACID CONCENTRATION DURING DENATURATION ON METAL ION ADSORPTION CAPACITY OF CELLULOSE

Hoang Thi Quynh¹, Vu Thi Mai Hoa¹, Nguyen Duc Toan², Nguyen Thi Hong¹, Pham Nguyet Anh¹, Nghiem Thi Ha Lien², Nguyen Thi Hang Nga¹

¹Thuyloi University; Vietnam

²Institute of Physics, VAST

PI-13 STUDY ON THE ABILITY TO REMOVE TETRACYCLINE ANTIBIOTICS IN WATER USING MODIFIED CELLULOSE FROM BANANA FIBER

Vu Thi Mai Hoa¹, Hoang Thi Quynh¹, Nguyen Duc Toan², Nguyen Phu Duy¹, Nguyen Thi Hong¹, Pham Nguyet Anh¹, Nghiem Thi Ha Lien², Nguyen Thi Hang Nga¹

¹Thuyloi University; Vietnam

²Institute of Physics, VAST

PI-14 EVALUATION OF RESISTANT *Vibrio parahaemolyticus* ACTIVITY AND AMYLASE, PROTEASE, LIPASE, BACTERIOCIN PRODUCTION OF A BACTERIAL STRAIN ISOLATED FROM DISEASED SHRIMP SAMPLES COLLECTED FROM SHRIMP POND IN VIETNAM

Tran Thi Mai^{1,2}, Cung Thi Ngoc Mai¹, Do Thi Lien¹, Vuong Thi Nga¹, Quach Thi Lien¹, Le Thi Nhi Cong^{1,2*}

¹Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Ha Noi, Vietnam

²Graduate University of Science and Technology, VAST, 18 Hoang Quoc Viet, Nghia Do, Ha Noi, Vietnam

PI-15 A STUDY ON THE EFFECTIVE REFRACTIVE INDEX AND GROUP VELOCITY IN SUSPENDED-CORE PHOTONIC CRYSTAL FIBERS WITH AN $\text{As}_{38.8}\text{Se}_{61.2}$ SUBSTRATE INFILTRATED WITH CS_2

Thien Nguyen Minh¹, Nam Nguyen Trong¹, Ben Chu Van², Vinh Nguyen Thanh¹, Khoa Dinh Xuan¹, Thanh Thai Doan³, Thuy Nguyen Thi⁴, Trung Le Canh¹, Phuong Nguyen Thi Hong¹, Lanh Chu Van^{1*}

¹Department of Physics, Vinh University, 182 Le Duan, Vinh City, Vietnam

²*Faculty of Electronic Engineering I, Posts and Telecommunications Institute of Technology, Hanoi, Vietnam*

³*Ho Chi Minh city university of industry and trade*

⁴*University of Education, Hue University, 34 Le Loi, Hue City, Vietnam*

PI-16 EFFECT OF PH ON THE MORPHOLOGY AND OPTICAL PROPERTIES OF ORGANIC COMPOUND EXTRACTED FROM BAPHICACANTHUS CUSIA (NEES) BREMEK LEAVES COLLECTED IN NORTHERN VIETNAM

Le Thi Thu Huong^{1,2}, Le Thi Huong¹, Phan Thi Thuy¹, Nguyen Trong Tinh¹, Bach Thanh Son¹, Nguyen Thi Mai Huong¹, Pham Hong Minh¹

¹*Institute of Physics, Vietnam Academy of Science and Technology, No.10 Dao Tan, Ngoc Khanh, Hanoi, Vietnam*

²*Graduate University of Science and Technology, A21, No. 18, Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

PI-17 TOLUENE-INFILTRATED PHOTONIC CRYSTAL FIBER EXHIBITING HIGH BIREFRINGENCE FOR OPTICAL TECHNOLOGY APPLICATIONS

Trong Dang Van^{1,2}, Ben Chu Van³, Thuy Nguyen Thi⁴, Cuong Phan Van¹, Khoa Dinh Xuan², Lanh Chu Van^{2*}

¹*Faculty of Electrical and Electronics, Nha Trang University, Nha Trang, 650000, Vietnam;*

²*Department of Physics, Vinh University, 182 Le Duan, Vinh City, Vietnam;*

³*Faculty of Electronic Engineering I, Posts and Telecommunications Institute of Technology, Hanoi, Vietnam;*

⁴*University of Education, Hue University, 34 Le Loi, Hue City, Vietnam*

PI-18 PHOTOTHERMAL CONVERSION EFFICIENCY OF GOLD NANOSTRUCTURES FOR BIOMEDICAL APPLICATIONS

Nguyen Ngoc Phuong Anh, Tran Thi Thu Ha, Nguyen Duc Toan, Le Thi Hue Chi, Le Thi Minh Phuong, Nguyen Trong Nghia, Nghiem Thi Ha Lien

Institute of Physics, Hanoi, Vietnam

PI-19 FABRICATION OF PERIODIC HIERARCHICAL SILICON STRUCTURES VIA NANOSECOND LASER ABLATION FOR HYDROPHOBIC SERS SUBSTRATES

Nguyen Thi Bich Ngoc¹, Nguyen Trong Nghia¹, Nguyen Duc Toan¹, Nguyen Thi Thuy¹, Doan Cat Cong², Chu Viet Ha³, Tran Thu Thao⁴ and Nghiem Thi Ha Lien¹

¹*Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan Road, Giang Vo, Hanoi, Vietnam;*

²*Graduate University of Science and Technology, 18 Hoang Quoc Viet Road, Hanoi, Vietnam;*

³*Thai Nguyen University of Education, 20 Luong Ngoc Quyen, Thai Nguyen, Vietnam;*

⁴*VNU University of Science, 334 Nguyen Trai, Thanh Xuan, Hanoi, Vietnam*

PI-20 FABRICATION OF SERS SUBSTRATES BASED ON POLYDIMETHYLSILOXANE REPLICATED FROM ROSE PETAL TOPOGRAPHY FOR DOXORUBICIN DETECTION

Nguyen Thi Bich Ngoc¹, Nguyen Trong Nghia¹, Nguyen Duc Toan¹, Nguyen Thi Thuy¹, Doan Cat Cong², Nguyen Thi Hang Nga³, Chu Viet Ha⁴, Tran Thu Thao⁵ and Nghiem Thi Ha Lien¹

¹Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan Road, Giang Vo, Hanoi, Vietnam

²Graduate University of Science and Technology, 18 Hoang Quoc Viet Road, Hanoi, Vietnam

³ThuyLoi University, 175 Tay Son, Dong Da, Hanoi, Vietnam

⁴Thai Nguyen University of Education, 20 Luong Ngoc Quyen, Thai Nguyen, Vietnam

⁵VNU University of Science, 334 Nguyen Trai, Thanh Xuan, Hanoi, Vietnam

PI-21 INVESTIGATION OF 532 NM LASER - INDUCED DAMAGE TO THE COLOR FILTER ARRAY AND MICROLENS IN CMOS IMAGE SENSORS

Doan Cat Cong¹, Nghiem Thi Ha Lien², Nguyen Duc Toan², Nguyen Thi Bich Ngoc², and Nguyen Trong Nghia²

¹Graduate University of Science and Technology, 18 Hoang Quoc Viet Road, Hanoi, Vietnam;

²Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan Road, Giang Vo, Hanoi, Vietnam

PI-22 MAPPING THE VALUE CHAIN OF GYNOSTEMMA PENTAPHYLLUM AS AN AGRITOURISM PRODUCT IN THE NON NUOC CAO BANG UNESCO GLOBAL GEOPARK

Thi Toan Luu

VNU School of Interdisciplinary Sciences and Arts, Hanoi, Vietnam

PI-23 RESEARCH TO INCREASE THE STABILITY OF BALLISTIC PROPELLANTS CONTAINING γ -POM

Pham Van Toai¹, Pham Quang Hieu¹, Pham Kim Dao¹, Le Duy Thu¹, Bui Anh Thuc²

¹Institute of Propellant and Explosives, 192 Duc Giang, Ha Noi, Viet Nam

²Institute of Chemistry, Biology and Environment - Academy of Military Science and Technology, 17 Hoang Sam street, Hanoi 100000, Vietnam

PI-24 STUDY ON SYNTHESIS OF AMMONIUM DINITRAMIDE MICROSPHERES FROM GUANYLUREA DINITRAMIDE VIA THE SOLVENT-ANTISOLVENT RECRYSTALLIZATION METHOD

Bui Anh Thuc^{*1,2}, Vu Minh Thanh¹, Cao Hai Thuong³, Pham Quang Hieu², Pham Kim Dao², Pham Van Toai²

¹Institute of Materials, Biology and Environment - Academy of Military Science and Technology, 17 Hoang Sam street, Hanoi 100000, Vietnam

²Institute of Propellants and Explosives, 192 Duc Giang, Hanoi, 100000, Vietnam

³Le Quy Don Technical University, 236 Hoang Quoc Viet, Hanoi, 100000, Vietnam

PI-25 TRACKING OF MANEUVERING TARGETS USING A VARIABLE STRUCTURE MULTIPLE MODEL ALGORITHM

Nguyen Trung Thanh

Academy of Military Science and Technology (17 Hoang Sam, Nghia Do, Ha Noi)

PI-26 RESEARCH AND DESIGN OF A WIDEBAND SIGNAL GENERATOR FOR TESTING DEMODULATORS / RADAR TRANSMITTER SYSTEMS

Nguyen Trung Thanh

Academy of Military Science and Technology (17 Hoang Sam, Nghia Do, Ha Noi)

PI-27 EXPERIMENTAL DEVELOPMENT OF A DUAL-RESONATOR ULTRAVIOLET LASER WITH SIMULTANEOUS EMISSION USING A SINGLE Ce:LiCAF GAIN MEDIUM

Diep Van Nguyen^{1,2,*}, Tu Xuan Nguyen¹, Le Minh Quan^{1,3}, Duong Van Pham¹, Hieu Minh Do¹, Kieu Anh Thi Doan¹, Kieu Hong Hanh², Le Van Dan², Bich Thi Vu⁴ & Minh Hong Pham¹

¹*Institute of Physics, Vietnam Academy of Science and Technology, Ha noi, Viet Nam*

²*Tran Quoc Tuan University, Ha noi, Viet Nam*

³*Graduate University of Sciences and Technology, Hanoi, Vietnam*

⁴*Institute of Theoretical and Applied Research, Duy Tan University, Hanoi, Vietnam*

PI-28 SPECTRAL DYNAMICS OF ULTRA-BROADBAND LASER GENERATION AND AMPLIFICATION USING Ce:LiCAF CRYSTAL

Diep Van Nguyen^{1,2,*}, Tu Xuan Nguyen¹, Le Minh Quan^{1,3}, Hieu Minh Do¹, Kieu Anh Thi Doan¹, Nguyen Thi Nhung², Le Hong Viet², Dang Thi Vui² & Minh Hong Pham¹

¹*Institute of Physics, Vietnam Academy of Science and Technology, Ha noi, Viet Nam*

²*Tran Quoc Tuan University, Ha noi, Viet Nam*

³*Graduate University of Sciences and Technology, Ha noi, Viet Nam*

PI-29 SELF-POWERED MORSE CODE VIA GENERATOR BASED ON TRIBOELECTRIC NANOGENERATOR

Toan Van Nguyen¹, Tien Dung Nguyen², Minh Anh Hoang², Vu Minh Pham³, Hung Lan Nguyen⁴, Ngoc Bao Phi⁵, Tuan Linh Nguyen¹, and Tung Anh Doan¹

¹*Department of Physics, Le Quy Don Technical University, Hanoi, Vietnam*

²*HUS High School for Gifted Students, VNU University of Science, Hanoi, Vietnam*

³*High School for Gifted Students, Hanoi National University of Education, Hanoi, Vietnam*

⁴*Hanoi - Amsterdam High School for the Gifted, Hanoi, Vietnam*

⁵*Chu Van An High School, Hanoi, Vietnam*

PI-30 MONODISPERSE BIOLASERS WITH TUNABLE SIZE FABRICATED VIA INKJET PRINTING

Lien Thi Ngo^{1,2}, Thuong Thi Hoang³, Duy Thanh Nguyen⁴, Son Le Huy^{5,6}, Toan Van Nguyen², Tien Van Nguyen², Thi Ha Lien Nghiem⁷ and Van Duong Ta^{4,*}

¹Graduate University of Science and Technology, Vietnam Academy of Science and Technology, Hanoi, Vietnam

²Department of Physics, Le Quy Don Technical University, Hanoi, Vietnam

³Electro-Optical Center, Viettel High Technology Industries Corporation, Hanoi, Vietnam

⁴Department of Optical Devices, Le Quy Don Technical University, Hanoi, Vietnam

⁵Department of Quantum Optics, Faculty of Physics, Vietnam National University, Hanoi, Vietnam

⁶Faculty of Engineering and Environment, Hanoi Metropolitan University, Hanoi, Vietnam

⁷Institute of Physics, Vietnam Academy of Science and Technology, Hanoi, Vietnam

PI-31 STUDY ON THE SUPERCONTINUUM GENERATION PROCESS IN PHOTONIC CRYSTAL FIBER INFILTRATED WITH BUTANOL

Le Tran Bao Tran¹, Nguyen Tien Dung², Bui Dinh Thuan², Do Thanh Thuy², Luu Tien Hung², Doan The Ngo Vinh², Tran Thien Thanh Tuan², Le Canh Trung²

¹Department of Education, University of Khanh Hoa, 01 Nguyen Chanh, Nha Trang Ward, Khanh Hoa Province, Vietnam

²Vinh University, 182 Le Duan Street, Nghe An Province, Vietnam

PI-32 GROUP VELOCITY CONTROL IN SUSPENDED-CORE $\text{As}_{39}\text{Se}_{61}$ PHOTONIC GROUP VELOCITY CONTROL IN SUSPENDED-CORE $\text{As}_{39}\text{Se}_{61}$ PHOTONIC CRYSTAL FIBERS VIA CS_2 INFILTRATION: TOWARD PASSIVE OPTICAL TIMING APPLICATIONS

Ngoc Vo Thi Minh¹, Nam Nguyen Trong², Ben Chu Van³, Tuyen Ta Thi Kim⁴, Hong Yen Vo Thi⁵, Hoang Nguyen Huy⁶, Lanh Chu Van^{2,*}

¹Physics Team, Huynh Thuc Khang High School, Gia Lai Province, Vietnam

²Department of Physics, Vinh University, 182 Le Duan, Vinh City, Vietnam

³Faculty of Electronic Engineering I, Posts and Telecommunications Institute of Technology, Hanoi, Vietnam

⁴University of Industry and Trade, Ho Chi Minh City, Vietnam

*⁵Chau Thanh 1 High School, Chau Thanh District, Dong Thap Province
⁶Phan Boi Chau High School for the Gifted, Vinh City, Nghe An Province*

PI-33 KERR NONLINEAR EFFECT IN SEMICONDUCTOR QUANTUM WELL WITH THREE-LEVEL LADDER CONFIGURATION

Le Canh Trung¹, Nguyen Tien Duc Minh², Nguyen Tien Dung³

¹Lab for Photonic Crystal Fiber, Vinh University

²School of Materials Science and Engineering, HUST

³School of Engineering and Technology, Vinh University

PI-34 STUDY ON THE SUPERCONTINUUM GENERATION PROCESS IN STEP-INDEX OPTICAL FIBER

Le Canh Trung

Vinh University, 182 Le Duan Street, Nghe An Province, Vietnam

PI-35 MEASUREMENT OF THE REFRACTIVE INDEX OF SOYBEAN OIL AND SESAME OIL BY BROADBAND SOURCE INTERFEROMETRY

Ngo Duc Toan, Hoang Thi Ngoc Yen, Hoang Thi Bich Ngoc, Nguyen Thi Kim Thanh, Ho Nguyen An, Do Thanh Thuy, Nguyen Tien Dung, Bui Dinh Thuan, Le Canh Trung

Vinh University, 182 Le Duan Street, Nghe An Province, Vietnam

PI-36 NUMERICAL STUDY ON DISPERSION CHARACTERISTICS OF OCTAGONAL-LATTICE TELLURITE PHOTONIC CRYSTAL FIBERS

Hoang Trong Duc¹, Chu Van Lanh², Le Tran Uyen Tu³, Nguyen Thi Oanh⁴, and Nguyen Thi Thuy^{1*}

¹University of Education, Hue University, 34 Le Loi, Hue City, Viet Nam

²Department of Physics, Vinh University, 182 Le Duan, Vinh City, Viet Nam

³University of Science, Hue University, 77 Nguyen Hue, Hue City, Viet Nam

⁴Marvell Technology Viet Nam Limited Liability Company, 486 2/9 Road, Da Nang City, Viet Nam

PI-37 A FLAT DISPERSION AND HIGHLY BIREFRINGENT PHOTONIC CRYSTAL FIBER FOR ADVANCED FIBER OPTIC APPLICATIONS: DESIGN AND ANALYSIS

Le Tran Bao Tran¹, Do Thanh Thuy², Nguyen Thanh Vinh², Mai Van Luu³, Ta Tram Anh⁴, Hoang Dinh Hai⁵, Chu Van Lanh^{2*}

¹University of Khanh Hoa, 01 Nguyen Chanh, Khanh Hoa Province, Vietnam

²Vinh University, 182 Le Duan, Nghe An Province, Vietnam

³Hanoi Open University, Nguyen Hien Str., Bach Mai Ward, Ha Noi City, Vietnam

⁴Vinh Medical University, 161 Nguyen Phong Sac, Nghe An Province, Vietnam

⁵Nghe An University, 51 Ly Tu Trong, Nghe An Province, Vietnam

PI-38 CHARACTERIZATION OF ULTRAVIOLET LASER GENERATION FROM AN ALL-SOLID-STATE ULTRABROADBAND MODELESS Ce:LiCAF SYSTEM

Le Minh Quan^{1,2}, Nguyen Van Diep^{1,3}, Nguyen Xuan Tu¹, Pham Hong Minh¹

¹Institute of Physics, Vietnam Academy of Science and Technology, Ha Noi, Vietnam

²Graduate University of Science and Technology, VAST, Ha Noi, Vietnam

³Tran Quoc Tuan University, Vietnam

PI-39 INVESTIGATING THE EPITHERMAL AND THERMAL NEUTRON SELF-SHIELDING FACTORS FOR 182W WIRE TARGETS USING THE PHITS CODE SIMULATION

Truong Phuong Dung, Pham Ngoc Son, Nguyen Bich Thuy

Dalat Nuclear Research Institute, Vietnam

PI-40 MEASUREMENT OF REFRACTIVE INDEX AND ABSORPTION SPECTRUM OF OLIVE OIL

Ngo Duc Toan¹, Nguyen The Quan², Phan Quang Triet², Le Canh Trung¹

¹Vinh University, 182 Le Duan Street, Nghe An Province, Vietnam

²Phan Boi Chau High School, 119 Le Hong Phong Street, Nghe An province, Viet Nam

PI-41 POROD INHOMOGENEITY LENGTH DETERMINATION OF GRAFT-TYPE POLYMER ELECTROLYTE MEMBRANES USING SMALL ANGLE X-RAY SCATTERING ANALYSIS

Nguyen Nhat Kim Ngan^{1,2}, Nguyen Huynh My Tue^{1,3}, Nguyen Manh Tuan^{2,4}, Tran Duy Tap^{2,4}

¹Faculty of Physics and Engineering Physics, University of Science, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam

²Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

³Advanced Materials Technology Institute, Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

⁴Faculty of Materials Science and Technology, University of Science, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam

PI-42 DEVELOPMENT OF PLA FILMS FROM CORN STARCH INCORPORATED WITH SILVER NANOPARTICLES FOR SWEET PASTRY PRESERVATION

Huong Pham Linh, Hoa Thi Nguyen

Xuan Dinh High School, 178 Xuan Dinh, Bac Tu Liem, Hanoi, Vietnam Global Science Journey, 33 Alley 10 Nguyen Thi Dinh, Trung Hoa, Hanoi 100000, Vietnam

PI-43 DOSE RATE EFFECTS OF GAMMA IRRADIATION ON THE MOLECULAR STRUCTURE OF POLY(ETHYLENE-CO-TETRAFLUOROETHYLENE) FILMS

Hoang Anh Tuan^{1,2,3}, Nguyen Huynh My Tue^{1,2,3}, Nguyen Nhat Kim Ngan^{2,4}, Tran Duy Tap^{1,2}

¹Faculty of Materials Science and Technology, University of Science, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam

²Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

³Advanced Materials Technology Institute, Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

⁴Faculty of Physics and Engineering Physics, University of Science, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam

PI-44 POST-GAMMA IRRADIATION EFFECTS ON THE MOLECULAR STRUCTURE OF NAFION MEMBRANES

Dinh Tran Trong Hieu^{1,2,3,4}, Tran Ngoc Tien Phat^{1,2}, Tran Duy Tap^{1,2}

¹Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam

²Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

³Physics Laboratory, Le Thanh Ton high school, Tan Hung Ward, Ho Chi Minh City, Vietnam

⁴Advanced Materials Technology Institute, Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam

PI-45 SU-8 PHOTORESIST BASED MICROFIBER LASERS

Son Le Huy^{1,2}, Toan Van Nguyen³ and Van Duong Ta⁴

¹Department of Quantum Optics, Faculty of Physics, Vietnam National University

²Faculty of Engineering and Environment, Hanoi Metropolitan University

³Department of Physics, Le Quy Don Technical University

⁴Department of Optical Devices, Le Quy Don Technical University

PI-46 ASSESSMENT OF AIRBORNE HEAVY METAL POLLUTION IN HAI PHONG CITY USING LICHEN BIOMONITORING AND ICP-OES ANALYSIS

Le Dai Nam^{1,2}, Nguyen Thi Minh Sang³, Inga Zinicovscaia^{4,5}, Le Hong Khiem^{1,2}, Nguyen An Son³, Nikita Yushin⁵, Omari Chaligava⁵, Vergel Konstantin⁵

¹Institute of Physics, VietNam Academy of science and technology

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology

³Faculty of Physics and Nuclear Engineering, Dalat University, Da Lat, Vietnam

⁴Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, Bucharest - Magurele, Romania

⁵Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Russia

POSTER PRESENTATION II

13:30 - 17:00, 30 September 2025 (Tuesday)

Chairperson:

Prof. Jacque Lynn F Gabayno (*Mapua University, Philippines*)

Dr. Le Canh Trung (*Vinh University, Vietnam*)

Dr. Pham Van Duong (*IOP, VAST*)

**PII-01 PREPARATION AND APPLICATION OF SILVER NANOSTRUCTURES
IN RECENT YEARS: A REVIEW**

Vu Van Thu, Nguyen Dac Dien

Vietnam Trade Union University

**PII-02 DESIGN AND IMPLEMENTATION OF TRANSMITTER AND
RECEIVER CIRCUITS FOR A 500 KHZ WIRELESS POWER TRANSFER
SYSTEM**

Van Dung Nguyen, Trong Khiem Nguyen, Thanh Son Pham*

*School of Electrical and Electronic Engineering, Hanoi University of Industry, 298
Cau Dien, Tay Tuu, Ha Noi, Viet Nam*

**PII-03 DESIGN OF A LIGHT-CONTROLLED DUAL-BAND MAGNETO-
INDUCTIVE WAVEGUIDE USING A METAMATERIAL ARRAY
OPERATING AT 13 AND 13.56 MHz**

**Thanh Son Pham^{*,1}, Kim Hoan Vu¹, Huu Tu Nguyen², Xuan Bach Nguyen³,
Anh Tu Tran³, Quang Minh Ngo³**

¹*School of Electrical and Electronic Engineering, Hanoi University of Industry,
298 Cau Dien, Tay Tuu, Ha Noi, Viet Nam;*

²*Viet Duc College of Medicine and Medical Device, Viet Duc University Hospital,
1/89 Luong Dinh Cua, Kim Lien, Hanoi, Vietnam;*

³*University of Science and Technology of Hanoi, Vietnam Academy of Science and
Technology, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam*

**PII-04 SURFACE FEATURES OF ETFE FILMS UNDER GAMMA
IRRADIATION**

Nguyen Huynh My Tue^{1,2,3}, Nguyen Nhat Kim Ngan^{2,4}, Tran Duy Tap^{1,2}

¹*Faculty of Materials Science and Technology, University of Science, Ho Chi Minh
City, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam*

²*Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh
City, Vietnam*

³*Advanced Materials Technology Institute, Vietnam National University, Ho Chi
Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam*

^{U4}*Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam*

PII-05 TWO-DIMENSIONAL XPS CORRELATION ANALYSIS OF GRAFT-TYPE POLYMER ELECTROLYTE MEMBRANES

Nguyen Huynh My Tue^{1,2,3}, Nguyen Nhat Kim Ngan^{2,4}, Tran Duy Tap^{1,2}

¹*Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam*

²*Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam*

³*Advanced Materials Technology Institute, Vietnam National University, Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City, Vietnam*

⁴*Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City, 227 Nguyen Van Cu, Cho Quan Ward, Ho Chi Minh City, Vietnam*

PII-06 A HYBRID EULER–NAS FRAMEWORK FOR POTENTIAL FIELD DATA AND PERSPECTIVES FOR MULTI-METHOD INTEGRATION

Ton V. THAI¹, Dung T. NGUYEN², Hai H. Nguyen^{*,1}

¹*Faculty of Sciences, Nong Lam University – Ho Chi Minh City, Vietnam;*

²*An Giang University, VNU-HCM, Vietnam.*

PII-07 MULTI-STAGE GRADIENT FILTERING TO DELINEATE GEOLOGICAL BOUNDARIES FROM AEROMAGNETIC SURVEYS

Ton V. THAI¹, Dung T. NGUYEN², Hai H. Nguyen^{*,1}

¹*Faculty of Sciences, Nong Lam University – Ho Chi Minh City, Vietnam*

²*An Giang University, VNU-HCM, Vietnam.*

PII-08 ARTIFICIAL INTELLIGENCE APPROACH FOR 2.5D GRAVITY ANOMALY INTERPRETATION: A PRELIMINARY STUDY IN CA MAU

Ton V. THAI¹, Dung T. NGUYEN², Hai H. Nguyen^{*,1}

¹*Faculty of Sciences, Nong Lam University – Ho Chi Minh City, Vietnam;*

²*An Giang University, VNU-HCM, Vietnam.*

PII-09 EFFECT OF NAFION MEMBRANE THICKNESS ON ELECTROCHEMICAL PROPERTIES USING ONE-DIMENSIONAL MATLAB SIMULATIONS

Tran Ngoc Tien Phat^{1,2,3}, Nguyen Nhat Kim Ngan^{2,4}, Tran Duy Tap^{1,2}

¹*Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, Cho Quan Ward, Ho Chi Minh City, Vietnam*

²*Vietnam National University, Linh Xuan Ward, Ho Chi Minh City, Vietnam*

³*Ngo Thoi Nhiem School, Phuoc Long Ward, Ho Chi Minh City, Vietnam*

⁴*Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City, Vietnam*

PII-10 EFFECTS OF NEUTRON IRRADIATION ON VARIOUS NAFION MEMBRANES REVEALED BY TWO-DIMENSIONAL CORRELATION XRD AND UV-VIS SPECTRA

Tran Ngoc Tien Phat^{1,2,3}, Huynh Truc Phuong^{2,4}, Nguyen Nhat Kim Ngan^{2,4}, Tran Duy Tap^{1,2}

¹Faculty of Materials Science and Technology, University of Science, Ho Chi Minh City, Cho Quan Ward, Ho Chi Minh City, Vietnam

²Vietnam National University, Linh Xuan Ward, Ho Chi Minh City, Vietnam

³Ngo Thoi Nhiem School, Phuoc Long Ward, Ho Chi Minh City, Vietnam

⁴Faculty of Physics and Engineering Physics, University of Science, Ho Chi Minh City, Vietnam

PII-11 ASSESSMENT OF RADIOACTIVITY IN BOTTOM ASH FROM WASTE TO ENERGY PLANTS

Nguyen Thi Thuy Hang^{*1,2}, Khuat Thi Hong^{1,3}, Nguyen Thi Hoa¹, Bui Thi Phuong^{1,2}, Do Thuy Duong⁴, Nghiem Van Khanh⁵, Nguyen Thi Thao⁶

¹Institute of Physic - Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Ha Noi, Viet Nam.

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Ha Noi, Viet Nam.

³VNU School of Interdisciplinary Sciences and Arts - Vietnam National University, Hanoi, Viet Nam, 144 Xuan Thuy, Cau Giay, Ha Noi, Viet Nam

⁴Green Industry Environment Company Limited, Xuan Mai, Phuc Yen, Phu Tho, Viet Nam

⁵Ha Noi Architectural University, Tran Phu, Ha Dong, Ha Noi, Viet Nam

⁶Institute of Design, General Department of logistics and Engineering, Ministry of National Defense, 21 Le Van Luong, Yen Hoa, Ha Noi, Viet Nam

PII-12 EVALUATION OF WASTEWATER TREATMENT EFFICIENCY AT THE LONG SON CEMENT PLANT

Nguyen Van Duc¹, Khuat Thi Hong^{*2,3}, Nguyen Thi Hoa², Nguyen Thi Thuy Hang^{2,4}, Nguyen Van Hong^{5,6}, Nguyen Thi Oanh³, Bui Thi Thu Phuong^{2,4}, Tran Tuan Cuong⁷

¹Long Son Cement Factory, Thanh Hoa – Truong Son Residential Group, Bim Son Ward, Thanh Hoa Province, Vietnam

²Institute of Physic - Vietnam Academy of Science and Technology - 10 Dao Tan, Giang Vo, Ha Noi, Viet Nam

³VNU School of Interdisciplinary Sciences and Arts - Vietnam National University, Hanoi - 144 Xuan Thuy str., Cau Giay dist., Hanoi, Vietnam

⁴Graduate University of Science and Technology, Vietnam Academy of Science and Technology - 18 Hoang Quoc Viet str., Cau Giay dist., Hanoi, Vietnam

⁵Institute of Earth Sciencs, Vietnam Academy of Science and Technology - 68, Huynh Thuc Khang str., Dong Da dist., Hanoi, Vietnam

⁶Faculty of Geography, Graduate University of Science and Technology - 18 Hoang Quoc Viet str., Cau Giay dist., Hanoi, Vietnam

⁷Hanoi Thien Y Environmental Energy Joint Stock Company - Nam Son Solid Waste Treatment Complex, Trung Gia Commune, Hanoi City

PII-13 DEVELOPMENT OF HIGH-PERFORMANCE, ENVIRONMENTALLY FRIENDLY PHOTOCATALYSTS BASED ON CuO@CQDs NANOCOMPOSITE MATERIALS

Kieu Xuan Phong¹, Dinh Hoai Nam¹, Nguyen Huu Hai², Nguyen Trong Tuyen², Pham Thi Chuyen³, Nguyen Thanh Binh⁴, Pham Van Duong^{4*}

¹Faculty of Engineering Physics and Nanotechnology, VNU-University of Engineering and Technology, 144 Xuan Thuy Road, Cau Giay District Hanoi 100000, Vietnam

²Faculty of Fundamental Science, Vietnam-Hungary Industrial University, Hanoi, Vietnam

³Department of Chemistry, Faculty of Natural Science and Technology, Tay Bac University, Son La, Son La province, Vietnam

⁴Institute of Physics, Vietnamese Academy of Science and Technology, Hanoi, Vietnam

PII-14 SUSTAINABLE PLASMA-DRIVEN SYNTHESIS AND ULTRAFAST SPECTROSCOPIC CHARACTERIZATION OF N,S-CODOPED CARBON QUANTUM DOTS

Do Minh Hieu¹, Tran Duc Minh¹, Le Anh Thi^{2,3}, Nguyen Minh Hoa⁴, Pham Thi Chuyen⁵, Nguyen Thi Khanh Van¹, Pham Hong Minh¹, Nguyen Thanh Binh¹, Pham Van Duong^{1*}

¹Institute of Physics, Vietnam Academy of Science and Technology

²Institute of Research and Development, Duy Tan University, Da Nang 550000, Vietnam

³Faculty of Natural Sciences, Duy Tan University, Da Nang 550000, Vietnam

⁴Faculty of Fundamental Sciences, Hue University of Medicine and Pharmacy, Hue University, Hue, Vietnam

PII-15 ENHANCEMENT OF PHOTOCATALYTIC EFFICIENCY OF TiO₂ USING PLASMA-ENHANCED WET CHEMICAL SURFACE TREATMENT BASED ON Pd NANOPARTICLES

Dinh Hoai Nam¹, Kieu Xuan Phong¹, Nguyen Dinh Lam¹, Nguyen Dac Dien², Vu Van Thu², Pham Hong Minh³, Sergei I. Kudryashov⁴, Pham Van Duong^{3*}

¹Faculty of Engineering Physics and Nanotechnology, VNU-University of Engineering and Technology, 144 Xuan Thuy Road, Cau Giay District Hanoi 100000, Vietnam

²Trade Union University - 169 Tay Son - Kim Lien Ward - Hanoi City

³Institute of Physics, Vietnamese Academy of Science and Technology, Hanoi, Vietnam

⁴Lebedev Physical Institute, Russian Academy of Sciences, Moscow, 119991 Russia

- PII-16 DEVELOPMENT AND FIELD TESTING OF A COST-EFFECTIVE 150W SINGLE-AXIS SOLAR TRACKING SYSTEM USING A REAL-TIME LABVIEW DAQ MONITORING MODULE**
Lemthong Lathdavong*, Bounkong Keomounlath and Young Joo Song
National University of Laos, Faculty of Natural Sciences, Department of Physics, Laos
- PII-17 ELECTROMAGNETICALLY INDUCED TRANSPARENCY IN A FOUR-LEVEL DIAMOND-TYPE ATOMIC SYSTEM**
Le Quang Trung, Hoang Thi Bich Ngoc, Nguyen Thu An, Ho Nguyen An, Dang Khanh Huyen, Nguyen Quynh Anh, Ho Hai Quang, Luong Thi Yen Nga, and Le Van Doai*
Vinh University, 182 Le Duan Street, Vinh City, Vietnam.
- PII-18 OPTICAL BISTABILITY IN A FOUR-LEVEL $V+\Xi$ TYPE ATOMIC SYSTEM**
Nguyen Huy Bang¹, Dinh Xuan Khoa¹, Luong Thi Yen Nga¹, Hoang Minh Dong², Nguyen Tuan Anh², Nguyen Thi Thu Hien², Le Nguyen Mai Anh³, Le Thi Minh Phuong⁴ and Le Van Doai^{1*}
¹*Vinh University, 182 Le Duan Street, Nghe An Province,, Vietnam.*
²*Ho Chi Minh City University of Industry and Trade, Ho Chi Minh City, Vietnam*
³*Nong Lam University, Ho Chi Minh City, Vietnam* ⁴*Sai Gon University, Ho Chi Minh City, Vietnam*
- PII-19 HIGH-REYNOLDS-NUMBER UNSTEADY FLOW PAST A CIRCULAR CYLINDER: A COMPUTATIONAL STUDY**
Do Xuan Doanh, Nguyen Trung Thanh
Academy of Military Science and Technology (17 Hoang Sam, Nghia Do, Ha Noi)
- PII-20 NUMERICAL INVESTIGATION OF FUSELAGE ASPECT RATIO EFFECTS ON AIRCRAFT DRAG**
Do Xuan Doanh, Le Van Ha
Academy of Military Science and Technology (17 Hoang Sam, Nghia Do, Ha Noi)
- PII-21 OPTIMIZING COMPRESSIVE STRENGTH FOR MG-AL ALLOY AND RED PHOSPHORUS-BASED SMOKE PELLETS USING TAGUCHI DESIGN METHOD**
Pham Dinh Thang, Phan Duc Nhan, Nguyen Trung Toan
Le Quy Don Technical University, 236 Hoang Quoc Viet, Hanoi, Vietnam
- PII-22 INCREASING THE CAPACITY OF P2-TYPE SODIUM NICKEL MANGANESE OXIDE CATHODE BY MULTI-ELEMENT SUBSTITUTION**
Tomioka Yoichiro¹, Nishikawa Kei², Nagamine Masayuki², Zettsu Nobuyuki²
¹*Graduate School of Science and Technology, Shinshu University, Japan*
²*Institute for Aqua-Regeneration, Shinshu University, Japan*

PII-23 ARABINOSINE CYTOSINE: A NEW APPROACH AT CHANGING THE RADIOSENSITIVITY OF CELLS

Pham Thi Duyen^{1,2*}, A.V. Boreyko^{1,3}, V.N. Chausov^{1,3}, R.A. Kozhina¹, E.A. Kuzmina^{1,3}, D.D. Shamina¹, S.I. Tiouchik¹

¹Joint institute for nuclear research, Dubna, Russia

²Vietnam National University, Hanoi, Vietnam

³State University "Dubna", Dubna, Russia

PII-24 MULTI-ELEMENT SUBSTITUTION STRATEGY AIMED AT CONTROLLING THE CHARGE-DISCHARGE REACTION MECHANISM OF LITHIUM-ION BATTERY CATHODE MATERIALS

Shunsuke Narumi¹, Tien Quang Nguyen², Shiho Mukaida², Kei Nishikawa², Masayuki Nagamine², Nobuyuki Zettsu²

¹Graduate School of Medicine, Science and Technology, Shinshu University, Japan

²Institute for Aqua Regeneration, Shinshu University, Japan

PII-25 PHYSICAL DYNAMICS OF CO₂ UNDERGROUND STORAGE IN GEOLOGICAL FORMATIONS

Phan Van Cuong^{1,2}

¹Department of Physics, Nha Trang University, 02 Nguyen Dinh Chieu Street., Nha Trang, Vietnam

²Physical Society of Khanh Hoa, Vietnam

PII-26 DEVELOP ANTI-REFLECTION COATINGS FOR Ge AND ZnSe IR LENSES OPERATING IN THE SPECTRAL RANGE OF 8–12 μm

M. T. K. Trang*, N. M. Hue, P. N. Nhue, D. C. Dung, B. D. Bao, M. V. Huy
Department of Optical Devices, Le Quy Don Technical University, Hanoi, Vietnam.

PII-27 INTELLIGENT ENERGY MONITORING SYSTEM: APPLYING IOT FOR MANAGEMENT AND ALERTING OF ELECTRICAL ISSUES IN HOUSEHOLD SYSTEMS

Nguyen Vu Hoang Anh¹, Nguyen Duc Minh¹, Nguyen Liem Son¹, Nguyen Thanh Huong², Dang Minh Duc¹ and Dang Van Hieu^{1,*}

¹FPT University, Hoa Lac High Tech Park, Hanoi, Vietnam

²Faculty of Information Technology, National Economics University, Vietnam

PII-28 SURVEYING THE CONCENTRATION OF ELEMENTS IN THE AIR AT SOME LOCATIONS OF THE BAUXITE MINE AREA (LAM DONG) THROUGH THE ABSORPTION OF BARBULA INDICA USING ICP-OES TECHNIQUE

Nguyen Thi Minh Sang^{1*}, Le Dai Nam^{2,3}, Le Hong Khiem², Nguyen An Son¹, Inga Zinicovskaia^{4,5}, Nikita Yushin⁴, Omari Chaligava⁴, Vergel Konstantin⁴

¹Dalat University, 01 Phu Dong Thien Vuong, Dalat, Lam Dong, Viet Nam

²Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan, Ba Dinh, Hanoi, Viet Nam

³Graduate University of Science and Technology, Vietnam Academy of Science and Technology

⁴Frank Laboratory of Neutron Physics (FLNP), Joint Institute for Nuclear Research, Joliot-Curie Str.6, 141980, Dubna, Russia.

⁵Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering, 30 Reactorului Str.MG-6, 077125 Magurele, Rumania

PII-29 FABRICATION OF A LOW-COST SELF-POWERED IMPACT FORCE SENSOR BASED ON TRIBOELECTRIC NANOGENERATOR

Thanh-Nam Nguyen, Anh Hung Vu, Tuan Linh Nguyen and Toan Van Nguyen

Department of Physics, Le Quy Don Technical University, Hanoi, Vietnam

PII-30 HIGH-PERFORMANCE AUTOMOTIVE HEADS-UP DISPLAY USING SINGLE FREEFORM MIRROR: AN INVERSE DESIGN APPROACH

Vo Quang Sang

Le Quy Don Technical University, Vietnam

PII-31 STUDY ON THE SOME COMBUSTION CHARACTERISTICS OF KNO₃ and DCD-BASED AEROSOL FIRE-EXTINGUISHING MATERIALS

Nguyen Duy Tuan¹, Doan Minh Khai^{1,*}, Hoang Trung Huu¹, Dam Quang Sang¹, Pham Kim Dao²

¹*Le Quy Don Technical University, 236 Hoang Quoc Viet, Ha Noi, Viet Nam;*

²*Vietnam Institute of Propellant and Explosives, 192 Duc Giang, Ha Noi, Viet Nam*

PII-32 EVALUATION OF THERMAL SIGNATURE MANAGEMENT OF CAMOUFLAGE COVERS USING SPECTRAL RADIANCE

Nguyen Anh Tuan

Institute of Defence Equipment, Academy of Military Science and Technology, Vietnam

PII-33 STUDY ON SURFACE EMISSIVITY CALCULATION OF COVER SHEETS FOR THERMAL CAMOUFLAGE OF GROUND VEHICLES

Nguyen Ngoc Son¹, Tong Minh Hoa¹, Nguyen Anh Tuan¹, Nguyen Manh Thang²

¹*Institute of Defence Equipment, Academy of Military Science and Technology;*

²*Academy of Military Science and Technology, Vietnam*

PII-34 NUMERICAL MODELING OF A SESAM-MODE-LOCKED, EOM-CAVITY-DUMPED Nd:YVO₄ PICOSECOND LASER WITH kHz–MHz REPETITION-RATE CONTROL

Nguyen Xuan Tu, Le Minh Quan, Pham Hong Minh

Institute of Physics, VAST - 10 Dao Tan, Giang Vo, Hanoi, Vietnam

PII-35 INFLUENCE OF STRUCTURAL PARAMETERS ON GROUP VELOCITY DISPERSION IN AsSe₂ PHOTONIC CRYSTAL FIBER

Tham Hong Tran¹, Hien Vu Thi Thu¹, Vu Vo Hoang¹, Huyen Nguyen Thi Cam¹, Mai Tran Huynh Phuong¹, Hieu Le Van², Lanh Chu Van^{1*}

¹Department of Physics, Vinh University, 182 Le Duan, Truong Vinh ward, Nghe An province, Vietnam;

²Faculty of Natural Sciences, Hong Duc University, 565 Quang Trung, Hac Thanh ward, Thanh Hoa province, Vietnam.

PII-36 INVESTIGATION OF BIAS VOLTAGE EFFECTS ON THE REFRACTIVE INDEX OF DLC FILMS ON Si SUBSTRATES USING PECVD

Mai Thi Kieu Trang*, Nguyen Minh Hue, Phan Nguyen Nhue, Duong Chi Dung, Bui Dinh Bao, Vo Quang Sang

Department of Optical Equipment, Military Technical Academy, No. 236 Hoang Quoc Viet, Bac Tu Liem, Hanoi, Vietnam

PII-37 COMBINING MORPHOLOGICAL AND MOLECULAR DATA FOR THE IDENTIFICATION OF *Padina* SEAWEED COLLECTED FROM CU LAO CHAM ISLAND, DA NANG, VIETNAM

Vu Dinh Phong^{1,2}, Nguyen Thi Bich Ngoc³, Huynh Thi Thu Hue^{2,3}, Le Tat Thanh^{2,4*}

¹Faculty of Pharmacy, Hoa Binh University, 8 Bui Xuan Phai, Tu Liem, Ha Noi, Viet Nam.

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Ha Noi, Viet Nam.

³Center for Applied Research in Marine Biotechnology and Genomics (CMBG), Institute of Biology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Ha Noi, Viet Nam.

⁴Department of Planning and Finance, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Ha Noi, Viet Nam.

PII-38 ROBUST RATIOMETRIC pH SENSING VIA FÖRSTER RESONANCE ENERGY TRANSFER BETWEEN PLASMA-SYNTHESIZED CARBON QUANTUM DOTS AND RHODAMINE 6G

Nguyen Thi Thuy¹, Tran Duc Minh², Do Minh Hieu², Le Anh Thi^{3,4}, Nguyen Minh Hoa⁵, Pham Hong Minh², Nguyen Thanh Binh², Pham Van Duong^{2*}

¹Hung Yen University of Technical Education, Viet Tien Commune, Hung Yen Province

²Institute of Physics, Vietnam Academy of Science and Technology

³Institute of Research and Development, Duy Tan University, Da Nang 550000, Vietnam

⁴Faculty of Natural Sciences, Duy Tan University, Da Nang 550000, Vietnam

⁵Faculty of Fundamental Sciences, Hue University of Medicine and Pharmacy, Hue University, Hue, Vietnam

PII-39 INVESTIGATION OF NITROGEN-DOPED GRAPHENE QUANTUM DOTS AND NANOCOMPOSITE FOR POTENTIAL APPLICATION IN PHOTOACTIVITY AND BIOLOGY

Pham Nam Thang^{*1,2}, Bui Le Yen Chi^{*3}, Phan Xuan Thien^{2,7}, Vu Duc Chinh¹, Tran Van Thanh Dong⁴, Nguyen Minh Phuong⁵, Pham Thanh Binh¹, Pham DuyLong¹, Le Ha Chi¹, Nguyen Lai Thanh³

¹Institute of Materials Science, Vietnam Academy of Science and Technology (VAST), 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam

²Faculty of Materials Science and Energy Engineering, Graduate University of Science and Technology, VAST, 18 Hoang Quoc Viet, Nghia Do, Hanoi, Vietnam

³Faculty of Biology, University of Science, Vietnam National University, Hanoi 100000, Vietnam

⁴Hanoi University of Science and Technology, 1 Dai Co Viet street, Hanoi, Vietnam

⁵Faculty of Pharmacy, Hanoi University of Business and Technology, Ha Noi, Vietnam

⁶Chemical and Physical Technique Department, Le Quy Don Technical University, 236 Hoang Quoc Viet street, Bac Tu Liem, Hanoi, Vietnam

⁷Institute of Physics, VAST, 10 Dao Tan, Ba Dinh, Ha Noi, Vietnam

PII-40 GENERATION OF FLIP-MODE TERAHERTZ BEAMS USING A 3D-PRINTED π -STEP PHASE PLATE

Kenneth Alaba^{*2}, Ivan Cedrick Verona¹, Kristiene Joy Fernandez², Jose Mari Sebastian Arcilla¹, Lourdes Nicole Dela Rosa¹, Hannah R. Bardolaza¹, Rayko Ivanov Stantchev³, Nathaniel P. Hermosa II¹, and Elmer S. Estacio¹

¹National Institute of Physics, University of the Philippines, Diliman, Philippines

²Materials Science and Engineering Program, College of Science, University of the Philippines, Diliman, Philippines

³Department of Physics, National Sun Yat-sen University, Kaohsiung, Taiwan (China)

PII-41 SELECTION, AND CLASSIFICATION OF STREPTOMYCES SP. STRAINS CAPABLE PRODUCING α -GLUCOSIDASE INHIBITORS ISOLATED FROM COASTAL REGIONS OF NHA TRANG, VIETNAM

Bui Binh An, Le Thanh Hoang, Luu Minh Duc, Nguyen Thi Thao, Nguyen Thi Trung, Do Thi Tuyen

Institute of Biology, Vietnam Academy of Science and Technology Graduate University of Science and Technology, Vietnam Academy of Science and Technology

PII-42 DETERMINATION OF THE OPTICAL BAND GAP OF ZnO THIN FILMS USING TAUC PLOT METHOD

Bui Thi Thu Phuong^{*1,2}, Vu Thi Kim Oanh², Nguyen Thi Minh Hien¹, Nguyen Van Kha¹

¹Institute of Physic - Vietnam Academy of Science and Technology, 10 Dao Tan, Giang Vo, Ha Noi, Viet Nam

²Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Nghia Do, Ha Noi, Viet Nam.

PII-43 OME RESEARCH RESULTS ON LASER MODULE CONTROL APPLICATION IN MULTI-FUNCTIONAL DIGITAL CAMERA

Le Van The

Institute of Defence Equipment, Academy of Military Science and Technology

PII-44 INVESTIGATION AND EVALUATION OF LUMINESCENCE PROPERTIES OF Pr³⁺-DOPED Lu₃Al₅O₁₂ SINGLE CRYSTALS GROWN BY MICRO-PULLING DOWN (μ -PD) METHOD

Doan Thi Kieu Anh^{1,2,*}, Takahiko Horiai³, Masao Yoshino⁴, Pham Hong Minh¹, Akira Yoshikawa^{4,5}

¹*Institute of Physics, Vietnam Academy of Science and Technology, 10 Dao Tan, Ba Dinh, Hanoi, Vietnam;*

²*Graduate University of Science and Technology, Vietnam Academy of Science and Technology, 18 Hoang Quoc Viet, Cau Giay, Hanoi, Vietnam;*

³*National Institute of Advanced Industrial Science and Technology, 1-1-1 Higashi, Tsukuba, Ibaraki, Japan;*

⁴*New Industry Creation Hatchery Center, Tohoku University, 6-6-10 Aramaki Aza Aoba, Aoba-ku, Sendai, Miyagi, Japan;*

⁵*Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Miyagi, Japan*

PII-45 SPATIO-TEMPORAL ASSESSMENT OF URBAN AIR POLLUTION IN HANOI USING SENTINEL-5P TROPOMI AND TERRA MODIS OBSERVATIONS

Phu Van Le¹, Anh Tung Doan², Ninh Hai Dang², Hai Van Bui^{2,*}, Oanh Thi Kim Vu³, Tu Xuan Nguyen³, Kha Van Nguyen³, Van Thi Khanh Nguyen³, Dan Quynh Pham⁴, Giang Truong Nguyen⁵

¹*Vietnam People's Navy, Haiphong, Vietnam*

²*Le Quy Don Technical University, Hanoi, Vietnam*

³*Institute of Physics, Vietnam Academy of Science and Technology, Hanoi, Vietnam*

⁴*University of Massachusetts - Amherst*

⁵*Vietnam Defence Industry, Hanoi, Vietnam*

PII-46 FABRICATION OF MICRO-HOLES OF ARRAY IN THIN FILM Au/Pd BY FEMTOSECOND LASER PULSES FOR CHEMO-SENSING APPLICATION

Nguyen Thi Huyen Trang¹, Sergey Ivanovich Kudryashov²

¹*Vinh university, 182 Le Duan, Truong Vinh, Nghe An, Viet Nam*

²*Lebedev Physical Institute, Leninskiy prospect 53, 119991 Moscow, Russia*

ABSTRACTS

PLENARY SESSION