



2024

DPST

Conference on  
Science and Technology

Conference Schedule  
(as of 24 July 2024)

# DPST CONFERENCE ON SCIENCE AND TECHNOLOGY

# 2024

2<sup>nd</sup> - 4<sup>th</sup> August 2024  
at Miracle Grand Convention Hotel, Bangkok, Thailand

Joint activities with  
the Celebration of 40<sup>th</sup> Anniversary of DPST Scholarship



**Hosted by**

The Institute for the Promotion of Teaching Science and Technology (IPST) and  
The Association of the Scholars of the Development and Promotion of Science and  
Technology Talents (ASDPST)



## Welcome Message

**President of The Institute for the Promotion of Teaching Science and Technology  
DPST Conference on Science and Technology 2024 (DPSTcon2024) on the celebration of  
40<sup>th</sup> Anniversary of DPST Scholarship**



The DPST Conference on Science and Technology 2024 is held on an auspicious occasion to celebrate the 40th Anniversary of DPST Scholarship. DPSTcon is considered an extracurricular activity for students under the Development and Promotion of Science and Technology Talents Project (DPST). The conference aims to provide an academic forum for DPST scholarship students in the 3<sup>rd</sup> and 4<sup>th</sup> year undergraduate levels to present their research findings in science, mathematics and technology, as well as to exchange knowledge with experts, researchers and academics in order to create a network of research cooperation and disseminate science, mathematics and technology outputs. This conference is a combination of

academic work and supplementary activities to enhance the qualifications of scientists and innovators by encouraging DPST scholarship students to demonstrate their creativity and innovation in the various fields categorized as mathematics, physics, chemistry, biology, geology and computer science. The Institute for the Promotion of Teaching Science and Technology (IPST) hopes that DPST scholarship students will be inspired by many DPST alumni and experts. The students will not only receive an excellent academic experience, but also be able to apply the knowledge and experience gained from the academic presentations in order to continue their education at a higher level to develop themselves, society, economy and the country. IPST would like to express our sincere appreciation to the Association of the Scholars of the Development and Promotion for Science and Technology talents project (ASDPST) for hosting the DPSTcon2024. Special thanks to the committee members, professors and staff for their contribution to the success of all activities in the conference and to all the students and DPST alumni for their participation. IPST believes that this conference will serve as a platform for DPST scholarship students to showcase academic achievement, exchange knowledge, and build a strong DPST network, which will eventually benefit all participants in the future for sustainability.

**Associate Professor Dr. Thiradet Jiarasuksakun**

**President of The Institute for the Promotion of Teaching Science and Technology (IPST)**

## Welcome Message

### **President of the Association of Students supported by the Development and Promotion for Science and Technology talents project (ASDPST)**

On behalf of the organizing committee, I am delighted to welcome all participants to the DPST Conference on Science and Technology 2024 (DPSTcon 2024), taking place from 2<sup>nd</sup> to 4<sup>th</sup> August 2024 at Miracle Grand Convention Hotel in Bangkok. This year's conference holds special significance as it forms part of the celebrations marking the 40th anniversary of the DPST Scholarship.



DPSTcon 2024 continues its tradition of providing a valuable platform for 4<sup>th</sup>-year undergraduate students in the DPST program to showcase their research and explore diverse scientific topics. This annual gathering brings together young scientists with their peers and renowned experts from across Thailand, fostering an environment of learning and innovation. The conference enhances students' presentation skills, both oral and poster, while facilitating engaging discussions. As the conference includes various scientific disciplines, it fosters interdisciplinary learning and encourages students to widen their perspectives beyond their primary fields. In addition, students have an opportunity to participate in special seminars, talks, and exhibitions highlighting the achievements of the past four decades of the DPST scholarship and learn from the success stories of DPST alumni. Through dedicated exhibitions and presentations, participants will gain valuable insights into the diverse career paths and practical guidance for their own future endeavors.

The Association of the Scholars of the Development and Promotion for Science and Technology talents project (ASDPST) would like to extend our gratitude to The Institute for the Promotion of Teaching Science and Technology (IPST) for their unwavering support. Our sincere thanks also go to the committees, speakers, session chairs, and the dedicated organizing team for their hard work in making this conference possible. We wish all participants a productive, inspiring, and memorable experience at the DPST Conference on Science and Technology 2024.

**Associate Professor Dr. Parinya Sa Ngiamsunthorn**

**President of the Association of the Scholars of the Development and Promotion for Science and Technology talents project (ASDPST)**

## Academic Committee

### MATH: Mathematics and Statistics

Assoc. Prof. Dr. Pawaton Kaemawichanurat	King Mongkut's University of Technology Thonburi
Assoc. Prof. Dr. Parinya Sa Ngiamsunthorn	King Mongkut's University of Technology Thonburi
Asst. Prof. Dr. Witsarut Pho-On	Srinakharinwirot University
Assoc. Prof. Dr. Athassawat Kammanee	Prince of Songkla University
Dr. Korkeat Korkeathikhun	Chulalongkorn University
Dr. Monchai Kooakachai	Chulalongkorn University
Dr. Rawee Suwandechochai	Mahidol University
Asst. Prof. Dr. Thidaporn Supapakorn	Kasetsart University
Asst. Prof. Dr. Udomsak Rakwongwan	Kasetsart University
Asst. Prof. Dr. Supanut Chaidee	Chiang Mai University

### BIOL: Biological Sciences

Assoc. Prof. Dr. Anchalee Sirikhachornkit	Kasetsart University
Asst. Prof. Dr. Sittiporn Pattaradilokrat	Chulalongkorn University
Asst. Prof. Dr. Pornsri Charoenpanich	Silpakorn University
Asst. Prof. Dr. Wittaya Kaonongbua	King Mongkut's University of Technology Thonburi
Dr. Yaowaluck Maprang Roshorm	King Mongkut's University of Technology Thonburi
Dr. Vachirapong Charoennitiwat	Mahidol University
Dr. Napat Ratnarathorn	Mahidol University

### CHEM: Chemistry

Dr. Aurapat Ngamnithiporn	Chulabhorn Research Institute
Dr. Jutatip Boonsombat	Chulabhorn Research Institute
Dr. Piyachat Chuysinuan	Chulabhorn Research Institute
Dr. Kornkanya Pratumyot	King Mongkut's University of Technology Thonburi
Asst. Prof. Dr. Pakawan Puangsombat	Chiang Mai University

**CHEM: Chemistry (Cont.)**

Asst. Prof. Dr. Panupun Limpachayaporn	Silpakorn University
Dr. Tatchamapan Yoskamtorn	Chulalongkorn University
Dr. Rongrong Cheacharoen	Chulalongkorn University
Assoc. Dr. Thanthapatra Bunchuay	Mahidol University
Dr. Watcharaphol Paritmongkol	VISTEC

**PHYS: Physics**

Dr. Apimook Watcharangkool	NARIT
Asst. Prof. Dr. Busara Pattanasiri	Kasetsart University
Asst. Prof. Dr. Witchukorn Phuthong	Kasetsart University
Dr. Grit Pichayawaytin	NECTEC
Asst. Prof. Dr. Pawin Ittisamai	Chulalongkorn University
Dr. Petchara Pattarakijwanich	Mahidol University
Dr. Preecha Kiatkirakajorn	The Office of National Higher Education Science Research and Innovation Policy Council (NXPO)
Asst. Prof. Dr. Sitti Buathong	Burapha University
Dr. Panupon Samaimongkol	Burapha University, Chanthaburi Campus
Dr. Somrudee Deepaisarn	Sirindhorn International Institute of Technology

**GEOL: Geology**

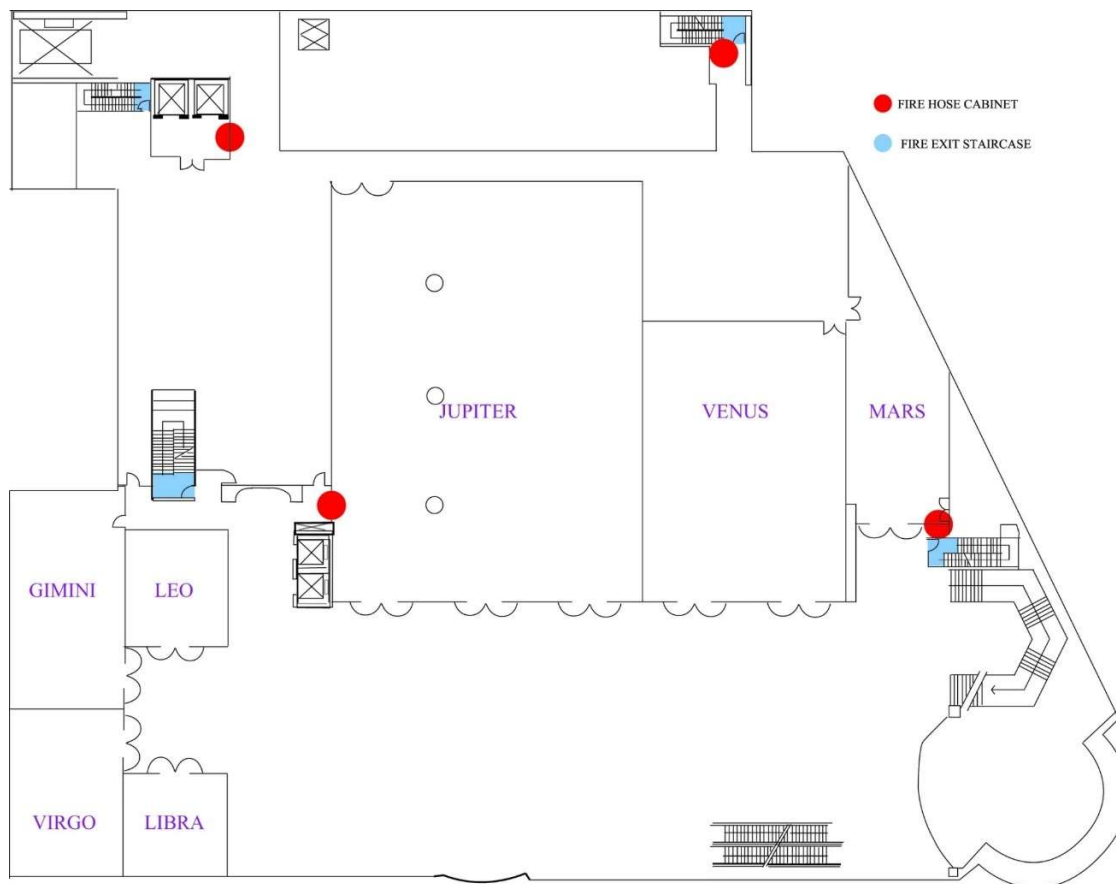
Asst. Prof. Dr. Pichawut Manopkawee	Chiang Mai University
Assoc. Prof. Dr. Sakonvan Chawchai	Chulalongkorn University
Asst. Prof. Dr. Sitti Buathong	Burapha University

**COMP: Computer Science**

Asst. Prof. Dr. Busara Pattanasiri	Kasetsart University
Dr. Pisut Wisessing	CMKL University
Dr. Somrudee Deepaisarn	Sirindhorn International Institute of Technology

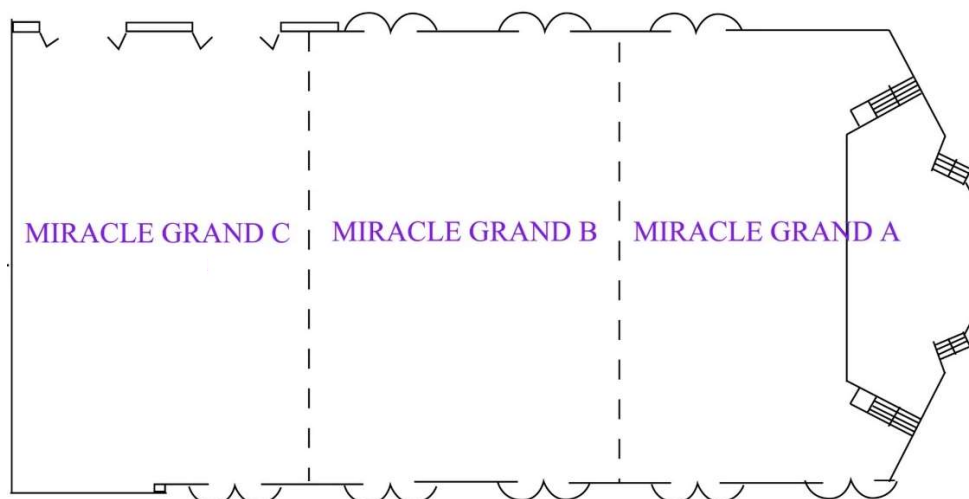
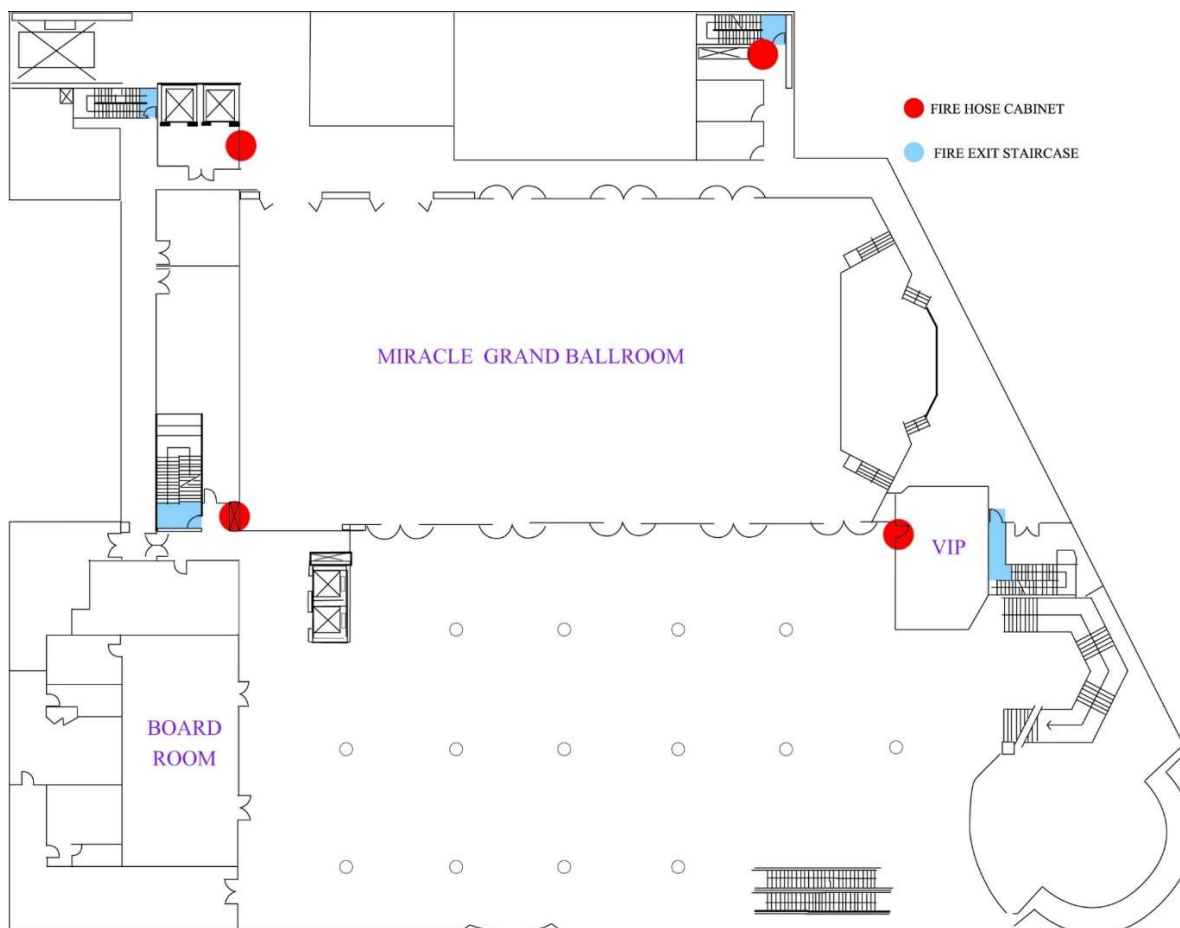
## Floor Plans

### 3<sup>rd</sup> Floor: Presentation Rooms & Lunch





## 4<sup>th</sup> Floor: Main Event Rooms & Presentation Rooms



## Program Overview

Time	Programs	Places
<b>1<sup>st</sup> August 2024</b>		
15.00 - 20.00	Registration	Grand Ballroom Foyer
15.00 - 20.00	Poster registration	Miracle Grand C
15.00 - 20.00	Submission of oral presentation file	Online
<b>2<sup>nd</sup> August 2024</b>		
8.00 - 8.30	Registration	Grand Ballroom Foyer
8.30 - 10.00	Opening ceremony	Miracle Grand A - B
10.00 - 10.30	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
10.30 - 10.40	Coffee break	
10.40 - 12.00	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
12.00 - 13.00	Lunch	Jupiter Room
13.00 - 15.00	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
15.00 - 15.30	Coffee break and job fair I	Miracle Grand A - B
15.30 - 16.30	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
16.30 - 18.30	Poster session I	Miracle Grand C
18.30 - 22.00	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
<b>3<sup>rd</sup> August 2024</b>		
8.00 - 9.00	Registration	Grand Ballroom Foyer
9.00 - 10.15	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
10.15 - 10.45	Coffee break and job fair II	Miracle Grand A - B
10.45 - 12.00	Activity of the 40 <sup>th</sup> Anniversary Celebration	Miracle Grand A - B
12.00 - 13.00	Lunch	Jupiter Room
13.00 - 14.00	Oral presentation session I	Parallel sessions
14.00 - 14.30	Coffee break and job fair III	Miracle Grand A - B
14.30 - 17.00	Oral presentation session II	Parallel sessions
17.00 - 19.00	Poster session II	Miracle Grand C
19.00 - 22.00	Activity of the 40 <sup>th</sup> Anniversary Celebration	Jupiter Room



Time	Programs	Places
<b>4<sup>th</sup> August 2024</b>		
8.00 - 8.45	Registration	Grand Ballroom Foyer
8.45 - 9.45	Oral presentation session III	Parallel sessions
9.45 - 10.30	Coffee break	
12.00 - 13.00	Lunch	Jupiter Room
13.00 - 14.30	Closing ceremony and awards	Miracle Grand A - B
14.30	Coffee break	
14.30	Poster removal	Miracle Grand C

### Poster Presentation Program

<b>Poster presentation session I 2<sup>nd</sup> August 2024 16.30 – 18.30</b>			
MATH01	BIOL01	CHEM01	PHYS01
MATH03	BIOL03	CHEM03	PHYS03
MATH05	BIOL05	CHEM05	PHYS05
MATH07	BIOL07	CHEM07	PHYS07
MATH09	BIOL09	CHEM09	PHYS09
MATH11	BIOL11	CHEM11	PHYS11
MATH13	BIOL13	CHEM13	PHYS13
MATH15	BIOL15	CHEM15	PHYS15
MATH17	BIOL17	CHEM17	PHYS17
MATH19	BIOL19	CHEM19	PHYS19
MATH21	BIOL21	CHEM21	PHYS21
MATH23	BIOL23	CHEM23	PHYS23
MATH25	BIOL25	CHEM25	PHYS25
MATH27	BIOL27	CHEM27	PHYS27
MATH29	BIOL29		
MATH31	BIOL31		
MATH33	BIOL33		
MATH35	BIOL35		
MATH37	BIOL37		

<b>Poster presentation session II 3<sup>rd</sup> August 2024 17.00 – 19.00</b>					
MATH02	BIOL02	CHEM02	PHYS02	COMP01	GEOL01
MATH04	BIOL04	CHEM04	PHYS04	COMP02	GEOL02
MATH06	BIOL06	CHEM06	PHYS06	COMP03	GEOL03
MATH08	BIOL08	CHEM08	PHYS08		
MATH10	BIOL10	CHEM10	PHYS10		
MATH12	BIOL12	CHEM12	PHYS12		
MATH14	BIOL14	CHEM14	PHYS14		
MATH16	BIOL16	CHEM16	PHYS16		
MATH18	BIOL18	CHEM18	PHYS18		
MATH20	BIOL20	CHEM20	PHYS20		
MATH22	BIOL22	CHEM22	PHYS22		
MATH24	BIOL24	CHEM24	PHYS24		
MATH26	BIOL26	CHEM26	PHYS26		
MATH28	BIOL28	CHEM28			
MATH30	BIOL30				
MATH32	BIOL32				
MATH34	BIOL34				
MATH36	BIOL36				

## Oral Presentation Program

Time\Room	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8
<b>3<sup>rd</sup> Aug 2024</b>	<b>Miracle Grand A</b>	<b>Miracle Grand B</b>	<b>Leo</b>	<b>Gemini</b>	<b>Virgo</b>	<b>Libra</b>	<b>Venus</b>	<b>Mars</b>
13.00 - 13.15			MATH01	MATH19	COMP01	GEO01	BIOL01	BIOL18
13.15 - 13.30	CHEM01	CHEM13	MATH02	MATH20	COMP02	GEO02	BIOL02	BIOL19
13.30 - 13.45	CHEM02	CHEM14	MATH03	MATH21	COMP03	GEO03	BIOL03	BIOL20
13.45 - 14.00	CHEM03	CHEM15	MATH04	MATH22	MATH37		BIOL04	BIOL21
14.00 - 14.30	Break							
14.30 - 14.45	CHEM04	CHEM16	MATH05	MATH23	PHYS01	PHYS15	BIOL05	BIOL22
14.45 - 15.00	CHEM05	CHEM17	MATH06	MATH24	PHYS02	PHYS16	BIOL06	BIOL23
15.00 - 15.15	CHEM06	CHEM18	MATH07	MATH25	PHYS03	PHYS17	BIOL07	BIOL24
15.15 - 15.30	CHEM07	CHEM19	MATH08	MATH26	PHYS04	PHYS18	BIOL08	BIOL25
15.30 - 15.45	CHEM08	CHEM20	MATH09	MATH27	PHYS05	PHYS19	BIOL09	BIOL26
15.45 - 16.00	CHEM09	CHEM21	MATH10	MATH28	PHYS06	PHYS20	BIOL10	BIOL27
16.00 - 16.15	CHEM10	CHEM22	MATH11	MATH29	PHYS07	PHYS21	BIOL11	BIOL28
16.15 - 16.30	CHEM11	CHEM23	MATH12	MATH30	PHYS08	PHYS22	BIOL12	BIOL29
16.30 - 16.45	CHEM12	CHEM24	MATH13	MATH31	PHYS09	PHYS23	BIOL13	
16.45 - 17.00			MATH14	MATH32	PHYS10			
<b>4<sup>th</sup> Aug 2024</b>	<b>Miracle Grand A</b>	<b>Board Room</b>	<b>Leo</b>	<b>Gemini</b>	<b>Virgo</b>	<b>Libra</b>	<b>Venus</b>	<b>Mars</b>
8.45 - 9.00	BIOL34	CHEM25	MATH15	MATH33	PHYS11	PHYS24	BIOL14	BIOL30
9.00 - 9.15	BIOL35	CHEM26	MATH16	MATH34	PHYS12	PHYS25	BIOL15	BIOL31
9.15 - 9.30	BIOL36	CHEM27	MATH17	MATH35	PHYS13	PHYS26	BIOL16	BIOL32
9.30 - 9.45	BIOL37	CHEM28	MATH18	MATH36	PHYS14	PHYS27	BIOL17	BIOL33

## Detailed Oral Presentation Program

### 3<sup>rd</sup> August 2024

3<sup>rd</sup> August 2024

Room 1: Miracle Grand A

Time	Code	Title	Presenter	Affiliation
13.15 - 13.30	CHEM01	Monolithic Sorbents for Micro-solid Phase Extraction of Cancer Marker, 8-Hydroxy-2'-deoxyguanosine in Human Urine	Manaphon Traswiman	Suranaree University of Technology
13.30 - 13.45	CHEM02	Expression and Purification of Ferritin for Light-Activated Carbon Monoxide Release Using a Nanocarrier Approach	Tanunya Kamthong	Suranaree University of Technology
13.45 - 14.00	CHEM03	Activated Charcoal Composite Monolith for Micro-solid Phase Extraction of 5-Hydroxyindoleacetic Acid in Human Urine	Rawisara Woensanthia	Suranaree University of Technology

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	CHEM04	Development of Zwitterionic Polymer Hydrogel for Glucose Detection	Tasanaipimol Sivaranon	Chulalongkorn University
14.45 - 15.00	CHEM05	Development of Cellulose Hydrogels Derived from Paper Wastes for Drug Release Applications	Phatthanan Laddawan	Silpakorn University
15.00 - 15.15	CHEM06	The Study of Natural Products from the Culture of <i>Pseudolagarobasidium</i> sp. PP17-33 Fungus	Issara Wongsahassawat	Khon Kaen University
15.15 - 15.30	CHEM07	Synthesis of Hexaphenylacepleiadylene	Kittithuch Photong	Mahidol University
15.30 - 15.45	CHEM08	Synthesis of Alkyne Probes of Lovastatin Derivatives	Sasikan Boonsanong	Prince of Songkla University
15.45 - 16.00	CHEM09	Synthesis of Quinuclidinium-containing Methacrylamide-based Monomers for Dental Resin Adhesive	Veerapat Suksai	Prince of Songkla University
16.00 - 16.15	CHEM10	Development of Surface-coated SO <sub>3</sub> H Carbon Based Catalysts via Condensation of SO <sub>3</sub> H Containing Monomer	Niratchada Klayphet	Prince of Songkla University
16.15 - 16.30	CHEM11	A Fluorescence Sensor Employs Alizarin-boronic Acid Adduct for Fructose Detection on a Miniature Fluorescence Device-based Smartphone	Aphsit Roschan	Khon Kaen University
16.30 - 16.45	CHEM12	Performance of Lignin and Lignin/AgNPs as Eco-friendly Reinforcing Fillers in Dental Resin Adhesives.	Suphannikar Matphang	Kasetsart University

3<sup>rd</sup> August 2024

Room 2: Miracle Grand B

Time	Code	Title	Presenter	Affiliation
13.15 - 13.30	CHEM13	Structural Studies of Substituent Effects in [Fe(qsal-X) <sub>2</sub> ]OTf Complexes	Pannawich Jaratape	Walailak University
13.30 - 13.45	CHEM14	Development of WO <sub>3</sub> /Cs <sub>3</sub> Sb <sub>2</sub> Br <sub>9</sub> Composite Photocatalyst for Oxidation of Benzyl Alcohol under Green Light Irradiation	Sutsiri Wongngam	Chiang Mai University
13.45 - 14.00	CHEM15	Decoration of Single Gold Atoms and Gold Nanoclusters Supported on MoS <sub>2</sub> Nanosheets for Enhanced Hydrogen Evolution Reaction	Nichakarn Sornnoi	Kasetsart University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	CHEM16	Coupled High- and Low-temperature Hydrides for Thermochemical Heat Storage	Chonticha Hansongkram	Suranaree University of Technology
14.45 - 15.00	CHEM17	Boron-doped Diamond Electrode for Electrochemical Detection of Melatonin	Witchayatip Satianram	Suranaree University of Technology
15.00 - 15.15	CHEM18	Low-cost Gold Leaf Electrochemical Sensor and Performance in Detection of Formaldehyde	Supakorn Kittikomoldej	Mahidol University
15.15 - 15.30	CHEM19	A Study of Appropriate Conditions in P-doped Synthesis of Molybdenum Nickel Sulfide Alloys for Application as a Catalyst in the Hydrogen Evolution Reaction	Parinthorn Rattanapan	Walailak University
15.30 - 15.45	CHEM20	Investigation of Carbon Dots (CDs)-Based Fluorescence Turn-off and Turn-on Sensing for Detection of Aspartame	Rewat Nakwisai	Mahidol University
15.45 - 16.00	CHEM21	Development of Portable Retinoic Acid Sensor in Acne Treatment Medicine Using MoS <sub>2</sub> -modified Screen-printed Carbon Electrode	Pimphavee Jandahong	Silpakorn University (Sanam Chandra Palace Campus)
16.00 - 16.15	CHEM22	Multivariate Optimization for Vortex-assisted Dispersive Liquid-liquid Microextraction Using Solidified Floating Organic Drop for Nickel Determination in Food Samples by FAAS	Kwanjira Rattakham	Naresuan University
16.15 - 16.30	CHEM23	Fabrication of a Compact Screen-printed Carbon Electrode for Hydrogen Peroxide Detection Based on Bipolar Electrochemiluminescence	Saharat Srisawan	Chiang Mai University
16.30 - 16.45	CHEM24	A Smartphone-based Portable Fluorescence Device for the Detection of Sulfide Ions	Samuch Phetduang	Khon Kaen University

3<sup>rd</sup> August 2024

Room 3: Leo

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	MATH01	Some Acyclically 5-Choosable Graphs	Sajjaporn Srinet	Khon Kaen University
13.15 - 13.30	MATH02	Edge Coloring and List Edge Coloring of Uma's Graphs and Ryu's Graphs	Chayanon Boonsri	Khon Kaen University
13.30 - 13.45	MATH03	The Roman Domination Number of GCD-Graph	Wachirawut Talwong	Khon Kaen University
13.45 - 14.00	MATH04	Hamiltonian Cycles in Cayley Graphs of Gyrogroups	Charawi Detphumi	Walailak University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	MATH05	Some Generalization of Integral Inequalities Similar to Hardy's Inequalities via $(p,q)$ -Calculus	Yuttagarn Nanjamrat	Khon Kaen University
14.45 - 15.00	MATH06	Fixed Point Theorem for Mappings of Generalized Edelstein-Suzuki's Type	Chaichol Hengsuwan	Khon Kaen University
15.00 - 15.15	MATH07	Novel Closed-form Formula for Conditional Moments of Ornstein-Uhlenbeck Process: A PDE Approach	Phanumas Saengpak	Kasetsart University
15.15 - 15.30	MATH08	Iterative Laplace Transform Method for the Time-Fractional Equations	Chayanon Wannarat	Prince of Songkla University

Time	Code	Title	Presenter	Affiliation
15.30 - 15.45	MATH09	General Solution of the Maxwell Equations to the Stagnation Point Problem with Cylindrical Symmetry	Chittawan Chittam	Suranaree University of Technology
15.45 - 16.00	MATH10	Complete Solutions for Second-order Ordinary Differential Equations	Praeploy Poonprapan	Khon Kaen University
16.00 - 16.15	MATH11	Convergences of Weighted Averaged Operators in p-Uniformly Convex Metric Spaces	Anawat Rodchan	Khon Kaen University
16.15 - 16.30	MATH12	Optimizing Neural Ordinary Differential Equations with Lookahead Optimizer	Niyata Sanngai	Chiang Mai University
16.30 - 16.45	MATH13	Extension of Cover's Probability Puzzle	Taratep Rodchomngam	Chulalongkorn University
16.45 - 17.00	MATH14	Global Stability and Optimal Control of Within-host Model of Dengue Virus Infection with Vaccination and Immune Response	Pornthera Aimrod	Naresuan University

**3<sup>rd</sup> August 2024**

**Room 4: Gemini**

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	MATH19	Efficiency of Minimizing Risk Model in Investment in Stock Markets and Its Application in the Stock Exchange of Thailand	Maikwan Pungsrinon	Walailak University
13.15 - 13.30	MATH20	Markowitz Portfolio Theory on Set 50	Rattikarn Pankadae	Walailak University
13.30 - 13.45	MATH21	Application of Real Option to Solve the Venture Problem of Polyplex (Thailand) Public Company Limited	Monthicha Anunak	Silpakorn University
13.45 - 14.00	MATH22	Forecasting Technology Sector Stock Prices Using Machine Learning LSTM and Seasonal Autoregressive Integrated Moving Average	Phontagorn Boonjen	Walailak University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	MATH23	Analysis of Road Traffic Accidents in Thailand Using Machine Learning Techniques	Totsaprach Phanwichit	Suranaree University of Technology
14.45 - 15.00	MATH24	Delivery Zones Partitioning Considering Workload Balance Using Clustering Algorithm	Jaruwan Wangwattanakool	Mahidol University
15.00 - 15.15	MATH25	Data Analysis of Coffee Consumption and Cardiovascular Disease and Development of an Integrated Data Mining Framework for Disease Classification	Nattanicha Reanroo	Mahidol University
15.15 - 15.30	MATH26	Classification of Rice Grains Using a Feedforward Neural Network: An Analysis of Optimization Techniques and Activation Functions	Peerawit Yongyinghan	Suranaree University of Technology
15.30 - 15.45	MATH27	A Comparison of the Efficiency of the DEWMA DMEWMA and MEC Control Chart for Normal Distribution	Chawanagorn Sujintwong	Silpakorn University
15.45 - 16.00	MATH28	Negative Binomial-Size Biased Three-Parameter Lindley Distribution with Properties and Applications	Chorchaba Huneim	Silpakorn University

Time	Code	Title	Presenter	Affiliation
16.00 - 16.15	MATH29	Prediction Model of PM 2.5 Concentration in Northern Region of Thailand Using Atmospheric Parameters	Sila Chalee	Chiang Mai University
16.15 - 16.30	MATH30	Using Convex Hull for Analyzing the State of Fall Detection	Kanchanok Udomjetjamnong	Suranaree University of Technology
16.30 - 16.45	MATH31	The Prediction of Silpakorn Pradit Acrylic Colors Combinations Using the Kubelka-Munk Model	Autcha Sudjai	Silpakorn University
16.45 - 17.00	MATH32	Optimization Methods for Solving the Capacitated Vehicle Routing Problems with Discrete Uniform Distribution Demand	Phuttharak Khadchaphuthad	Khon Kaen University

**3<sup>rd</sup> August 2024**

**Room 5: Virgo**

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	COMP01	Comparison of Neural Network Models for Digital Image Colorization	Sunisa Duangtham	Naresuan University
13.15 - 13.30	COMP02	Innovative VR Solutions for Chest X-ray Training: Improving Skills and Student Satisfaction	Vachirapon Tosawat	Naresuan University
13.30 - 13.45	COMP03	Improving Underwater Object Detection Through Data Augmentation.	Sarawut Buakanok	Naresuan University
13.45 - 14.00	MATH37	DeepToothDuo: Multi-task Age-Sex Estimation and Understanding via Panoramic Radiograph	Natthanich Hirunchavarod	Khon Kaen University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	PHYS01	Particle Energization in Collisionless Shocks through Particle-in-Cell Simulations	Kittiya Plianaek	Kasetsart University
14.45 - 15.00	PHYS02	Simulation of Electron-Nuclear Spin Dynamics Using Liouville Superoperator	Teerapath Sitawan	Suranaree University of Technology
15.00 - 15.15	PHYS03	The Convergence of Ollivier-Ricci Curvature Scalar in the Grid Geometric Graphs	Chattong Yubonpan	Khon Kaen University
15.15 - 15.30	PHYS04	Traversable Wormholes in Minimally Geometrical Deformed Trace-Free Gravity Using Gravitational Decoupling	Piyachat Panyasiripan	Walailak University
15.30 - 15.45	PHYS05	Confronting Interstellar Extinction in the Line of Sight of Galactic Bulge with the VVV Survey	Tanagodchaporn Inyanya	Chiang Mai University
15.45 - 16.00	PHYS06	Long-term Study of PSR J2129-0429 with the Thai National Telescope	Sittipong Konkaew	Chiang Mai University
16.00 - 16.15	PHYS07	Evolution of Axial Ratio Distribution of Galaxies across 13 Billion Years of the Universe	Nattaporn Thongphaijit	Mahidol University
16.15 - 16.30	PHYS08	Powering the Extended Corona near Accreting Black Holes	Sirichok Khumwiriyaun	Suranaree University of Technology
16.30 - 16.45	PHYS09	Using a Neural Network to Determine the Atmospheric Parameters of Exoplanets	Phloiphailin Wiangsanthia	Suranaree University of Technology
16.45 - 17.00	PHYS10	Demonstration of 3D Dipole Light Scattering	Nicharee Janjuang	Naresuan University



3<sup>rd</sup> August 2024

Room 6: Libra

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	GEOL01	A Preliminary Study of Traveltime Anomaly of Seismic Waves: An Implication for Deep Geological Structure Beneath Thailand	Thanakan Anchana	Mahidol University Kanchanaburi Campus
13.15 - 13.30	GEOL02	Characterization of Impact-generated High-pressure (HP) Glass Using Atomic Force Microscopy	Muanfan Wantong	Kasetsart University
13.30 - 13.45	GEOL03	Influence of Seasonal Factors on Heavy Metals Concentration in Estuaries of the Inner Gulf of Thailand	Phannathon Samaiklang	Kasetsart University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	PHYS15	Daily Solar Radiation and PM2.5 Concentration Forecasting in Thailand Using Long Short-term Memory Neural Network	Pasin Kiratipongwut	Silpakorn University
14.45 - 15.00	PHYS16	Optimizing Acoustic Diffuser Surfaces with Neural Network Predictions	Kadbodee Pliphon	Walailak University
15.00 - 15.15	PHYS17	Machine Learning-Designed Phononic Crystals for Acoustic Cloaking	Soravit Aiammee	Walailak University
15.15 - 15.30	PHYS18	Effects of Indium Chloride Additive in Tin Oxide Electron Transport Layer on Photovoltaic Properties of Perovskite Solar Cells	Teerapong Watthana	Chiang Mai University
15.30 - 15.45	PHYS19	Designing a 2-dimensional Heater for Uniform Heating of Freely Suspended Liquid Crystal Films Inside the Payload for Liquid Crystal Space Experiment	Jurarat Artsri	Kasetsart University
15.45 - 16.00	PHYS20	Calculation of the Critical Temperature of Molybdenum Sulfide Hydride (MoSH) through Density Functional Theory (DFT) Simulations	Attawat Duangnil	Chulalongkorn University
16.00 - 16.15	PHYS21	Design of Faraday Cup for Compact Accelerator Mass Spectrometer	Jetsada Phomuen	Suranaree University of Technology
16.15 - 16.30	PHYS22	Design of Tandem Accelerator for Accelerator Mass Spectrometer for Radiocarbon Dating	Nontaphat Promsena	Suranaree University of Technology
16.30 - 16.45	PHYS23	Magnetic Field Simulation and Measurement of Electromagnetic Undulator for Terahertz Radiation Production	Waralak Jaipang	Chiang Mai University

3<sup>rd</sup> August 2024

Room 7: Venus

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	BIOL01	Microsatellite Distribution Analysis and Comparison in Genome Sequences of Acheta Domesticus and Gryllus Bimaculatus (Orthoptera: Gryllidae)	Niramai Arkhom	Naresuan University
13.15 - 13.30	BIOL02	Detecting Foreign DNA in Crickets Using Polymerase Chain Reaction (PCR) Technique	Chutiwan Pankram	Naresuan University
13.30 - 13.45	BIOL03	Mitogenomes of the Sea Nomads from Southern Thailand	Apisit Cheukaw	Naresuan University
13.45 - 14.00	BIOL04	Rapid Visual Detection of <i>Aeromonas hydrophila</i> Using Recombinase Polymerase Amplification Combined CRISPR/Cas12a	Donlaya Pinmuang	Naresuan University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	BIOL05	Development of the Estradiol Detection System Based on Aptasensor Coupled with Asymmetric Stem-loop-mediated Isothermal DNA Amplification	Sunisa Rothom	Suranaree University of Technology
14.45 - 15.00	BIOL06	Application of the Methyltransferase Enzyme Assay for Discovery of the Dengue Virus Inhibitor	Vipanee Vibulakhaophan	Chulalongkorn University
15.00 - 15.15	BIOL07	Characterization of Lysin Motif Depolymerase Enzyme from <i>Clostridioides difficile</i> Phage	Chan Chanduaywit	Mahidol University
15.15 - 15.30	BIOL08	Comparison of the LPS Extraction Methods of <i>Brucella melitensis</i> ( <i>B. melitensis</i> ) Using n-butanol-water and Hot Phenol-water to Produce Antigen for iELISA Test Kit	Thongchai Dichayanant	Kasetsart University
15.30 - 15.45	BIOL09	Effects of Hypergravity on Anoikis Resistance in Human Pancreatic Cancer Cells	Natchanon Wasusantakul	Mahidol University
15.45 - 16.00	BIOL10	Antioxidant and Anti-cancer Properties of <i>Moringa oleifera</i> Extracts	Wannapat Masangwunthong	Khon Kaen University
16.00 - 16.15	BIOL11	Biological Activities of <i>Calotropis</i> sp. Crude Latex in the HaCaT Cell Line	Waralee Choowong	Silpakorn University
16.15 - 16.30	BIOL12	Antiproliferative Activity of Curcumin Derivative CU18 on Lung Cancer Cells	Napongsadis Khruangphathee	Khon Kaen University
16.30 - 16.45	BIOL13	The Effects of Crude Extracts from <i>Senna siamea</i> Lamk. and <i>Senna tora</i> Linn. on Lipid Accumulation in THP-1	Kanpitcha Yongrattana	Silpakorn University

### 3<sup>rd</sup> August 2024

#### Room 8: Mars

Time	Code	Title	Presenter	Affiliation
13.00 - 13.15	BIOL18	Diagnosis of <i>Strongyloides stercoralis</i> Infection in Rubber Plantation in the Phitsanulok Province with Basic Techniques and Confirm by PCR	Sarinthip Khamthiang	Naresuan University
13.15 - 13.30	BIOL19	Species Delimitation of <i>Impatiens semounensis</i> Hook.f. Based on ITS and atpB-rbcL Spacer Sequences	Silakan Khunnok	Khon Kaen University
13.30 - 13.45	BIOL20	Taxonomy and Phylogeny of <i>Gibellula</i> (Cordycipitaceae, Hypocreales) in Thailand	Korawitch Keereerak	Walailak University
13.45 - 14.00	BIOL21	Microplastic Bioadsorption Efficiency in Three Freshwater Filamentous Algae	Kanticha Jutharee	Silpakorn University

Time	Code	Title	Presenter	Affiliation
14.30 - 14.45	BIOL22	Investigation of Growth and Metabolite Production of <i>Limosilactobacillus fermentum</i> KUB-D18	Suttavadee Junyakul	Kasetsart University
14.45 - 15.00	BIOL23	Investigation of Herbicide Resistance in Barnyard Grass ( <i>Echinochloa crus-galli</i> (L.) P. Beauv) in Thailand	Sakawwarin Prommana	Chiang Mai University
15.00 - 15.15	BIOL24	Isolation of Lactic Acid Bacteria from Local Fermented Foods and Characterization of Their Anti-Bacterial Activities	Pornpubed Aisarasak Na Ayutaya	Kasetsart University
15.15 - 15.30	BIOL25	Isolation of Endophytic Actinomycetes from <i>Andrographis paniculata</i> , <i>Aloe vera</i> , <i>Cymbopogon citratus</i> and <i>Azadirachta indica</i> and Their Antibacterial Activity	Chayada Sarnthong	Silpakorn University

Time	Code	Title	Presenter	Affiliation
15.30 - 15.45	BIOL26	Isolation and Screening of Yeasts from Fermented Foods for Effective Antimicrobial Activities	Rungnapa Pichaikarn	Walailak University
15.45 - 16.00	BIOL27	Molecular Mechanism of Antifungal Activity of Asiatic Acid Against <i>Cryptococcus neoformans</i>	Chayakorn Supatthathum	Mahidol University
16.00 - 16.15	BIOL28	Exploring Algal Leaf Spot: Successful Isolation and Growth of <i>Cephaleuros</i> from <i>Epipremnum aureum</i>	Jor. Pongsapatchanok Chanok	Silpakorn University
16.15 - 16.30	BIOL29	Metabolomics Profiles of Solid State and Submerge Fermentation of Corn Silk Using Mixed Microbes	Watchaphon Wutthiyan	Naresuan University

4<sup>th</sup> August 2024

4<sup>th</sup> August 2024

Room 1: Miracle Grand A

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	BIOL34	Carbon Dots as a Deliver Vehicle of CpG Oligodeoxynucleotides into Fish Cells	Wasu Thongsri	Suranaree University of Technology
09.00 - 09.15	BIOL35	Production of Carbon Dots for DNA Delivery into Bacterial Cells	Anutida Tamputsa	Suranaree University of Technology
09.15 - 09.30	BIOL36	Effects of Adjuvants on Physical and Chemical Properties of Kaolin as a Coating Substance for Reducing Leaf and Fruit Surface Temperature of <i>Citrus</i>	Nichagarn Greetatorn	Kasetsart University
09.30 - 09.45	BIOL37	Effect of Fraction from Riceberry ( <i>Oryza sativa</i> ) on Breast Cancer Cell Progression	Panadda Meesakul	Kasetsart University

4<sup>th</sup> August 2024

Room 2: Board Room

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	CHEM25	Apatite Growth on Bioactive Glass Modified with Biopolymer	Phimmada Nithipongwarodom	Silpakorn University
09.00 - 09.15	CHEM26	Design and Fabrication of Scaffold for Bone Regeneration in Dentistry	Nattapong Wongpraphan	Naresuan University
09.15 - 09.30	CHEM27	3D Porous Socket Preservation in Dentistry: The Fabrication and Characterization	Sarawut Jaimook	Naresuan University
09.30 - 09.45	CHEM28	Instant Prediction of Texture Properties of Waxy Corn Using near Infrared Spectroscopy	Chevaporn Chudoung	Chiang Mai University

4<sup>th</sup> August 2024

Room 3: Leo

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	MATH15	Enumeration of Symmetric Tridiagonal Matrices with Prescribed Determinant over $\mathbb{Z}_p$ and $\mathbb{Z}_{p^2}$	Neennara Rodnit	Silpakorn University
09.00 - 09.15	MATH16	Some Results on the Bipolar Set via the Abstract Algebra	Thawit Hanvattanakul	Walailak University
09.15 - 09.30	MATH17	On the Diophantine Equation $x+y=xy$ over the Ring of Integers of a Quadratic Number Field	Piyawan Aryapitak	Prince of Songkla University
09.30 - 09.45	MATH18	On Generalized Fibonacci and Lucas Sequences	Piyaphat Lormprakhon	Khon Kaen University

**4<sup>th</sup> August 2024**

**Room 4: Gemini**

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	MATH33	Submodularity Property for Facility Locations of Dynamic Flow Networks	Peerawit Suriya	Chiang Mai University
09.00 - 09.15	MATH34	An Optimization Model for a Hospital Operating Room Scheduling Problem	Warisara Boontieaw	Mahidol University
09.15 - 09.30	MATH35	Origami Construction of a Regular Tridecagon	Amonthep Boonrit	Chulalongkorn University
09.30 - 09.45	MATH36	Reversible Properties of Polyhedral	Ponpailin Homsombut	Chiang Mai University

**4<sup>th</sup> August 2024**

**Room 5: Virgo**

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	PHYS11	Application of CMOS Image Sensors in Luminescence Measurements	Pornpansa Jarana	Naresuan University
09.00 - 09.15	PHYS12	Design and Construction of Multi-Plane Light Converter (MPLC)	Kesini Chumphuthong	Prince of Songkla University
09.15 - 09.30	PHYS13	The Simulation of the Three-dimensional Optical Tweezers Pattern	Supawit Sungthong	Chiang Mai University
09.30 - 09.45	PHYS14	Non-relativistic Charmonium Mass Spectra with Cornell Potential by Using Nikiforov-Uvarov Method	Taksaporn Promjak	Suranaree University of Technology

**4<sup>th</sup> August 2024**

**Room 6: Libra**

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	PHYS24	The 2D Measurement Processing Software for the Profile Projector	Makornkunthon Paidech	Kasetsart University
09.00 - 09.15	PHYS25	Shimming Coil Design and Fabrication for NMR/MRI's Halbach Array Magnet	Sorrakrit Wannawong	Khon Kaen University
09.15 - 09.30	PHYS26	Design and Program Gradient Device Using STM32F767ZI Board	Witsavawit Boonying	Khon Kaen University
09.30 - 09.45	PHYS27	Designing and Construction of H-shape Permanent Magnet for Measuring the Nuclear Magnetic Resonance Signal	Pongsapol Khumma	Khon Kaen University

4<sup>th</sup> August 2024

Room 7: Venus

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	BIOL14	Effects of <i>Lactiplantibacillus pentosus</i> SF66 on Anxiety-related Behavior and Gene Expression in Stress-induced Zebrafish	Kritsada Sertjantuk	Khon Kaen university
09.00 - 09.15	BIOL15	Investigation of the effect of Kratom Leaf Extract on Colonic Function in Water Avoidance Stress-induced Mouse Model	Panida Chumpong	Prince of Songkla University
09.15 - 09.30	BIOL16	Short-term High-fat and High-sugar Diets Affect Zebrafish ( <i>Danio rerio</i> ) Behavior and Body Changes	Bhornawan Jannu	Prince of Songkla university
09.30 - 09.45	BIOL17	The Examination of Food and Microplastics in the Digestive Tract of <i>Cerberus rynchops</i>	Chompoonut Pengchui	Walailak University

4<sup>th</sup> August 2024

Room 8: Mars

Time	Code	Title	Presenter	Affiliation
08.45 - 09.00	BIOL30	Taxonomic Status of an Unknown <i>Derris</i> Species from Kaeng Krachan National Park, Phetchaburi Province	Kanyarat Rakpong	Silpakorn University
09.00 - 09.15	BIOL31	Soil Seed Banks and Floristic Diversity of Coastal Sand Dune Vegetation in Tha Kham, Hat Yai District, Songkhla Province	Pruchayakorn Pawatung	Prince of Songkla University
09.15 - 09.30	BIOL32	Leaf Epidermis of Some Species of Fabaceae in Limestone Area of Thung Song District, Nakhon Si Thammarat Province	Wichuda Manarin	Walailak University
09.30 - 09.45	BIOL33	Effects of Seed Treatments on Germination of Four Evergreen Tree Species for Forest Restoration	Jirawan Khamkong	Chiang Mai University





## **The Association of the Scholars of the Development and Promotion of Science and Technology Talents (ASDPST)**

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