

The 12th International Conference on Integration of Science and Technology for Sustainable Development 2024
(12th ICIST 2024)



The 12th International Conference on Integration of Science and Technology for Sustainable Development 2024 (12th ICIST 2024)

29 November – 1 December 2024

Rambhai Barni Rajabhat University (Thailand)

Please visit: www.aatsea.org; Email: aatsea.icist@gmail.com

Organized by

- Rambhai Barni Rajabhat University (Thailand)
- Association of Agricultural Technology in Southeast Asia (AATSEA)
- Research Institute of Modern Organic Agriculture (RIMOA-KMITL, Thailand)
- King Mongkut's Institute of Technology Ladkrabang (KMITL, Thailand)
- Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu (India)
- Rajamangala University of Technology Tawan-ok (RMUTTO, Thailand)
- Bengkulu University (Indonesia)
- Society for Applied Biotechnology (India)
- Periyar University, Salem (India)
- Shwe Kant Kaw, KKS (Myanmar)
- CGC Organic Coffee (Laos)
- General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan)
- National Research Center, Cairo (Egypt)
- Padmavani Arts and Science College for Women Autonomous, Salem (India)
- Center for Closed Agriculture Production System (c-CAPS, Indonesia)

PREFACE



Asst. Prof. Waigoon Tongaram
(President of Rambhai Barni Rajabhat University RBRU)

On behalf of Rambhai Barni Rajabhat University, I am immensely proud and honored to be a co-host for the 12th International Conference on Integration of Science and Technology for Sustainable Development, 2024, which is being held in conjunction with the celebration of the 120th anniversary of the birth of Her Majesty Queen Rambhai Barni, Queen of the Seventh Reign.

The key themes of this conference are soil, water, and environmental conservation; biodiversity; food security and safety; and sustainable agriculture. These topics reflect the commitment of our university and all participants toward sustainable development and environmental stewardship.

Thanks to the grace of Her Majesty Queen Rambhai Barni, this conference has been made possible. Her Majesty's devotion to improving the well-being of the people and her dedication to environmental conservation are fundamental principles that have led to this gathering. Her emphasis on the harmonious relationship between nature and society remains a guiding concept in addressing the challenges of climate change, biodiversity loss, and food insecurity.

The 12th International Conference aims to promote the exchange of knowledge and cooperation between researchers, practitioners, and policymakers, seeking methods for integrating science and technology for sustainable development. Throughout this conference, speakers and experts will share insights on critical issues such as soil quality, water resource management, biodiversity conservation, and sustainable agriculture.

On this occasion, I would like to express my gratitude to the organizing committee, supporters, and volunteers who have worked tirelessly to ensure the success of this conference. The dedication of everyone involved has created an important platform for discussion and collaborative efforts toward shared goals.

I hope the knowledge gained from this conference will contribute to addressing ecological and community issues, while also honoring the legacy of Her Majesty Queen Rambhai Barni, leading us toward a sustainable future that benefits all.

Finally, I would like to thank everyone for giving Rambhai Barni Rajabhat University the opportunity to be part of this conference. I sincerely hope that the knowledge generated here will inspire the creation of new solutions that will bring meaningful benefits to society and communities in the future.

Assistant Professor Waigoon Tongaram
President of Rambhai Barni Rajabhat University



**Prof. Hiroyuki Konuma (Ph.D.)
(Executive Director of GIAPSA, Japan)**

Asst. Prof. Waigoon Tongaram, President of Rambhai Barni Rajabhat University (Thailand),
Assoc. Prof. Dr Komsan Maleesri, President King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand,
Assoc. Prof. Dr. Indra Cahyadinata: Dean Faculty of Agriculture, University of Bengkulu, Indonesia,
Excellency Prof. Dr. Hussein Darwin: President of the National Research Centre, Egypt,
Asst. Prof. Dr. Terdsak Puramongkon: RMUTTO, Thailand,
Dr. Mariazeena Johnson CHANCELLOR, SATHYABAMA Institute of Science and Technology (deemed to be University), India,
Dr. T. Sasipraba VICE CHANCELLOR, SATHYABAMA Institute of Science and Technology (deemed to be University), India
Distinguished Guests, Participants, Ladies and Gentlemen,

On behalf of the Organizing Committee, I have the honor to welcome you all to the 12th International Conference on Integration of Science and Technology for Sustainable Development. I would like to extend my deep appreciation to more than 157 senior and young scientists from 16 countries who registered and participated either on the online or onsite modes. I will look forward for valuable contributions and deliberations during this conference.

In this occasion, I wish to express my sincere gratitude and heartfelt appreciation to Dr. Kasem Soyong for his tireless leadership, and his abled staff for various preparatory arrangements.

My special thanks go to the President of Rambhai Barni Rajabhat for their dedicated colleagues and staff, who have kindly hosted this important conference venue and provided various support for the organization. I wish to acknowledge with utmost gratitude to the members of the organizing committee for their contributions, to all co-organizers and co-sponsors for their valuable support, to all participants for their interest, commitment and active participation, and to all those who provided valuable support for the successful organization and implementation of this conference.

Ladies and gentlemen,

The implementation of Sustainable Development Goals (SDGs) towards achievement by the year 2030 has faced serious challenges in recent past. Now, we have only 6 years left to attain the goals and, yet the situation is worsening in some of key important areas. Indeed, while we all struggled to fight with the negative impacts of climate change such as floods, droughts and cyclones, we also met with new challenges

such as trans-boundary disease pandemics, conflicts, wars and economic slowdowns. Achieving SDG goal No. 2 that is to end hunger, food insecurity and all forms of malnutrition by 2030, is not an exception.

On the other hand, FAO predicts that global food production needs to be increased by 50% by the year 2050 from the level in 2012 to meet increasing population and food demands at that time. FAO also projected that nearly 90 % of the total food production increase is expected to come from existing arable lands by yield increase through harnessing agricultural research and improved farm management technology, as we have very little potential globally to expand arable lands for additional food production. Therefore, it is obviously clear that “science and technology innovation” should play a key role in feeding the future world and ensuring world peace and stability.

The World Food Forum which was held in Rome in October 2022 placed “Science and Innovation” as one of the critical importance of transforming our global agrifood systems. It recognized that science and innovation provide the foundations for evidence-based decision making to meet current global challenges such as hunger and food insecurity issues in both short and long-term. The forum also witnessed a revolution in science and technology that has been moving at an incredible speed in recent past, which includes, among others, genetic improvement of crops and livestock, innovations in breeding methods and gene editing technology, improving nutritive value of diets in Agri-science, innovative use of remote sensing and satellite information, and application of computer technology, drone, mobile phone, robot and auto-drive technology in agriculture.

Ladies and gentlemen,

At the same time, we need to prevent the risk of widening the technology divide. We should share the research results and promote learning from others. We must raise public awareness on the potential benefits of science and technology innovation. At the same time, we should also advocate their risks and unintended negative consequences. We need to promote dialogue and transformative partnerships actively with all relevant stakeholders including private sector and civil society. In this opportunity, I wish to congratulate our researchers and scientists, including young researchers who are present here today who are committed to promoting partnership. This international conference, organized every year, brings all actors together, thereby continuously reaffirming the importance of collaboration, joint efforts and strong partnership.

Before closing, once again, I wish to thank Dr. Kasem Soyong for his dynamic leadership and tireless efforts ensuring the integration of research, science and technology towards a multisectoral partnership for a concerted and unified action. I sincerely wish the successful outcomes of the 12th International Conference on Integration of Science and Technology for Sustainable Development.

Thank you

Hiroyuki Konuma (Ph.D.)

Chairperson of the International Organizing Committee,

Executive Director of GIAPSA, Japan

Former UN/FAO Assistant Director-General and the Regional Representative for Asia and the Pacific

Former Professor of Meiji University, Japan



Prof. Dr. Kasem Soyong
(President of AATSEA)

Asst. Prof. Waigoon Tongaram, President of Rambhai Barni Rajabhat University (Thailand)

Co-organizers:

Rambhai Barni Rajabhat University (RBRU, Thailand), King Mongkut's Institute of Technology Ladkrabang (KMITL, Thailand), Sathyabama Institute of Science and Technology, Chennai, India, Rajamangala University of Technology Tawan-ok (RMUTTO, Thailand), Bengkulu University (Indonesia), Society for Applied Biotechnology (India), SKK (Myanmar), CGC Organic Coffee (Laos), General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), National Research Center, Cairo (Egypt), Periyar University, Salem (India), Padmavani Arts and Science College for Women Autonomous, Salem (India), Center for Closed Agriculture Production System (c-CAPS, Indonesia).

International Advisory Committee:

Prof. Dr. Hiroyuki Konuma, President of GIAPSA Japan; Assoc. Prof. Dr Komsan Maleesri, President King Mongkut's Institute of Technology Ladkraband (KMITL), Thailand; Assoc. Prof. Dr. Indra Cahyadinata: Dean Faculty of Agriculture, University of Bengkulu, Indonesia; Excellency Prof. Dr. Hussein Darwin: President of the National Research Centre, Egypt; Asst. Prof. Dr. Terdsak Puramongkon: RMUTTO, Thailand; Dr. Mariazeena Johnson CHANCELLOR, SATHYABAMA Institute of Science and Technology (deemed to be University), India; Dr. T. Sasipraba VICE CHANCELLOR, SATHYABAMA Institute of Science and Technology (deemed to be University), India; Distinguished guests, International and local organizing committees, Chairs of organizing committees, Keynote and invited speakers, AATSEA Awardees, All presenters and participants, AATSEA Committees,

Ladies and Gentleman,

The 12th International Conference on Integration of Science and Technology for Sustainable Development 2024 (12th ICIST 2024) on the occasion of the 120th Birth Anniversary of Her Majesty Queen Rambhai Barni of the Seventh Reign with the theme "Soil, water and environmental conservation, biological diversity, food security/ safety and sustainable agriculture" during 29 November – 1 December 2024 at Rambhai Barni Rajabhat University (Thailand) comes to be organized.

With this, the organizers who support the 12th ICIST 2024 as follows:- the Rambhai Barni Rajabhat University (RBRU, Thailand), King Mongkut's Institute of Technology Ladkrabang (KMITL, Thailand),

Sathyabama Institute of Science and Technology, Chennai, India, Rajamangala University of Technology Tawan-ok (RMUTTO, Thailand), Bengkulu University (Indonesia), Society for Applied Biotechnology (India), SKK (Myanmar), CGC Organic Coffee (Laos), General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), National Research Center, Cairo (Egypt), Periyar University, Salem (India), Padmavani Arts and Science College for Women Autonomous, Salem (India), Center for Closed Agriculture Production System (c-CAPS, Indonesia).

The 12th ICIST 2024 includes pre and post conference programs to visit organic farms and continue for renewal the AATSEA Organic Inspectors in each country. In 30 November 2024 is for full day conference with a total of 149 papers for presentation in 10 parallel sessions, and 8 plenary papers from 16 countries and 2-3 December 2024 will be visited AATSEA Laboratory, Research Institute of Modern Organic Agriculture, KMITL, Organic Farms in Ratchaburi and Saraburi provinces.

I am very much appreciated for constantly supported organizers:- Rambhai Barni Rajabhat University (Thailand), King Mongkut's Institute of Technology Ladkrabang, KMITL (Thailand), Rajamangala University of Technology Tawan-ok, Chantaburi Campus (Thailand), Bengkulu University (Indonesia), Society for Applied Biotechnology (India), Shwe Kant Kaw, KKS (Myanmar), CGC organic coffee (Laos), GIAPSA for self-reliance Assoc. (Japan), National Research Center, Cairo, Egypt, Periyar University, Salem (India), Sathyabama Institute of Science and Technology, India,

Association of Agricultural Technology in Southeast Asia (AATSEA) is non-profitable organization which established in 2021. AATSEA has been supported and accepted the membership, especially the group of senior and young scientists from many countries e.g. Thailand, Vietnam, Indonesia, Philippines, Malaysia, Laos, Myanmar, Cambodia, India, Pakistan, Bangladesh, Sri Lanka, Finland, China, Russia, Egypt, Turkey, Iran, South Korea, UK, USA, Boswana, Nigeria etc.

AATSEA activities have been performed as follows:-

1. International Journal of Agricultural Technology (IJAT) since 2005 which indexed in SJR- Scopus, CABI, CAS, ACI and TCI.
2. AATSEA is active in a variety of training programs for sustainable development in agriculture especially organic agriculture.
3. The International Conference on Integration of Science and Technology for Sustainable Development (I-C-I-S-T) since 2012; as said in Thailand (2012, 2013), in Laos(2014) , in Vietnam (2015), in Myanmar(2016), in the Philippines (2017), in Indonesia(2018), in China (2019), in Thailand (2020 and 2021), in India in 2024.
4. Outstanding Leadership Awards in Agriculture
5. AATSEA Scholarships for Masteral and Doctoral degrees
6. AATSEA Research Laboratory
7. AATSEA Organic Farm Model and Training Center
8. AATSEA Organic Certification and Earthsafe powered by AATSEA Organic Certification.

The 10th ICIST 2022, Thailand November 24-26, 2022

AATSEA has signed agreement for research collaboration, contribution of research findings, visiting professors and scientists, and training program as follows:-

1. Egypt: National Research Center (NRC), Cairo, 27 November 2018
2. India: Periva University, Salem, 13 November 2019
3. India: Sathyabama Institute of Science and Technology, Iyappiar Nagar, Chennai, 3 March 2021

4. Indonesia: Bengkulu University, Bengkulu, 5 April 2021.
5. Thailand: Rachmangala University of Technology Tawon-ok (MUTTO), 26 November 2020
6. Thailand: Northern Institute of Vocational Education in 29 January 2021
7. Japan: GIAPSA for self-reliance Assoc. (Japan), 2021
8. Thailand: Rambhai Barni Rajabhat University (Thailand), 2021
- 9 Thailand: Earthsafe Foudation for organic certification, 13 October 2022

Earthsafe Foundation in collaboration of AATSEA must promote non-agrochemicals (NAP) in conversion period to Organic agriculture(OA) for organic certification from production to the markets all over the country (Thailand) with follow the King's Concept of Sufficiency Economy toward sustainable development goals(SDGs).

Furthermore, I would like to acknowledge with sincerely thanks to all committees, members, co-organizers and all participants to help our conference successful and special congratulates to all AATSEA Awardees to deserve the individual to contribute their experience with sacrifice work to the society. I deserve to thanks the AATSEA committee and members, advisory committee, International and local organizing committee, to make this conference completely success.

If there is anything inconveniences and something erroeous management during the conference. I would like to apologize and responsible to all mistake. I will be very appreciated to accept all comments, recommendation, and suggestion to improve in the next conference.

Wishing all of you will have a wonderful time in Thailand and safety back home after conference end.

Hope to meet you again in future activities, and the next conference in China.

Thank you very much for your coming with sincerely heart and attention. I imagine our conference will completely success and hope you will continue to support AATSEA family.

Prof. Dr. Kasem Soyong
AATSEA President



Ref. No.04.1/2024

Date: 2 April 2024

Title: The organizing committee for the 12th ICIST 2024

To Whom it may concerns:

AATSEA will organize the 12th International Conference on Integration of Science and Technology for Sustainable Development 2024 (12th ICIST 2024) on the occasion of the 120th Birth Anniversary of Her Majesty Queen Rambhai Barni of the Seventh Reign with the theme “Soil, water and environmental conservation, biological diversity, food security/ safety and sustainable agriculture” during 29 November – 1 December 2024 at Rambhai Barni Rajabhat University (Thailand).

With this, the organizers are Rambhai Barni Rajabhat University (RBRU, Thailand), Association of Agricultural Technology in Southeast Asia (AATSEA), Research Institute of Modern Organic Agriculture, King Mongkut’s Institute of Technology Ladkrabang (RIMOA-KMITL, Thailand), Sathyabama Institute of Science and Technology, Chennai, India, Rajamangala University of Technology Tawan-ok (RMUTTO, Thailand), Bengkulu University (Indonesia), Society for Applied Biotechnology (India), SKK (Myanmar), CGC Organic Coffee (Laos), General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA, Japan), National Research Center, Cairo (Egypt), Periyar University, Salem (India), Padmavani Arts and Science College for Women Autonomous, Salem (India), Center for Closed Agriculture Production System (c-CAPS, Indonesia).

AATSEA is very much appreciated to appoint the organizing committee to manage the conference as follows:-

International Advisory Committee

Chairmanship:

Prof. Dr. Hiroyuki Konuma, President of GIAPSA, Japan

Asst. Prof. Waigoon Thongaram: RBRU, Thailand

Assoc. Prof. Dr Komsan Maleesri, President, King Mongkut’s Institute of Technology Ladkrabang (KMITL), Thailand

Assoc. Prof. Dr. Indra Cahyadinata: Dean Faculty of Agriculture, University of Bengkulu, Indonesia

Excellency Prof. Dr. Hussein Darwin: President of the National Research Centre (NRC, Egypt)

Asst. Prof. Dr. Terdsak Puramongkon: RMUTTO, Thailand

Dr. Mariazeena Johnson, Chancellor, Sathyabama Institute of Science and Technology (deemed to be University), India

Dr. T. Sasipraba Vice Chancellor, Sathyabama Institute of Science and Technology (deemed to be University), India

Committee

Prof. Dr. Juokslahti Tapio (Finland)	Prof. Dr. Wafaa Haggag (Egypt)
Prof. Dr. Bhat, Rajeev (Estonia, EU)	Prof. Dr. Moammar Dayoub (Finland)
Prof. Dr. Danesh, Y. R. (Iran)	Prof. Dr. Thangadurai Devarajan (India)
Prof. Dr. John C. Moreki (Botswana)	Prof. Dr. Laitha S. (India)
Dr. Hoang Pham (Vietnam)	Assoc. Prof. Dr. Indra Cahyadinata (Indonesia)
Dr. Samantha Chadranath karunarathna (Sri Lanka)	Dr. TSSK Patro (India)
Assoc Prof. Dr. Kampon Sriwatanakul (Thailand)	Prof. Dr. Zainal Muktamar (Indonesia)
Assoc. Prof. Dr. Rungtawan Yomla (Thailand)	Prof. Dr. Pakkapong Pongsuk (Thailand)
Assoc. Prof. Dr. Komkhae Pilasombut (Thailand)	Prof. Dr. Dwatmadji (Indonesia)
Prof. Dr. M. Chozin (Indonesia)	Assoc. Prof. Dr. Tatik Suteky (Indonesia)
Prof. Dr. Dwi Wahyuni Ganefianti (Indonesia)	Prof. Dr. Nanik Setyowati (Indonesia)
Prof. Dr. Fahrurrozi (Indonesia)	Assoc. Prof. Dr. Sigit Sudjatmiko (Indonesia)
Dr. Ali, N.F. (Egypt)	Dr. Nithya, Periya (India)
Assoc. Prof. Dr. Supattra Poeaim (Thailand)	Prof. R. Sarada Jayalakshmi (India)
Prof. Dr. TSSK Patro (India)	

International Organizing Committee

Chairman: Prof. Dr. Kasem Soyong (AATSEA; RIMOA-KMITL, Thailand)

Vice-chairman: Asst. Prof. Waigoon Thongaram (RBRU, Thailand), Asst. Prof. Dr. Terdsak Puramongkon (RMUTTO, Thailand), Assoc. Prof. Dr. Indra Cahyadinata (University of Bengkulu, Indonesia), Prof. Dr. Mamdouh Moawad (Egypt), Prof. Dr. Thangadurai Devarajan (SAB, India), Mr. Thet Lwin Htay (Shwe Kant Kaw, Myanmar), Mr. Young Ah Choi (CGC organic coffee, Laos)

Committee

Prof. Dr. Moammar Dayoub (Finland)	Prof. Dr. Okigbo, Raphael (Nigeria)
Prof. Dr. Jin-Cheol Kim (Republic of Korea)	Prof. Dr. Laitha S. (India)
Prof. Dr. John Moreki (Botswana)	Dr. Hoang Pham (Vietnam)
Prof. Dr. Nanik Setyowati (Indonesia)	Prof. Dr. Younes Rezaee Danesh (Iran)
Beletskiy Sergey (Russia)	Dr. Jiaojiao Song (China)
Dr. Md. Asaduzzaman Sarker (Bangladesh)	Maxim Mitrokhin (Russia)
Dr. V. Gopikrishnan (India)	Prof. Dr. Pakkapong Pongsuk (Thailand)
Asst. Prof. Dr. Jakrapan Wongpa (Thailand)	Asst. Prof. Dr. Preeyanan Sittijinda (Thailand)
Dr. Pheaktra Phal (Cambodia)	Assoc. Prof. Dr. Rungtawan Yomla (Thailand)

Chairman and Co-chairs

Plenary Session

Chair: Asst. Prof. Dr. Gopikrishnan, V. (India)

Session 1

Chair: Prof. Dr. MA Sarker (Bangladesh)

Co-chair: Prof. Dr. Pakkapong Pongsuk (Thailand)

Session 2

Chair: Assoc. Prof. Tatik Suteky (Indonesia)

Co-chair: Prof. Dr. Dwatmadji Dwatmadji (Indonesia), Assoc. Prof. Dr. Rungtawan Yomla (Thailand)

Session 3

Chair: Prof. Dr. Mendoza, Bernadette C. (Philippines)

Co-chairs: Dr. Hoang Pham (Vietnam), Dr. Supattra Poeaim (Thailand)

Session 4

Chair: Prof. Dr. Tapio Juokslahti (Finland)

Co-chairs: Dr. Hariz Eko Wibowo (Indonesia), Dr. Naruemon Mongkontanawat (Thailand)

Session 5

Chair: Dr. S. Lalitha (India)

Co-chairs: Assoc. Prof. Dr. Sigit Sudjatmiko (Indonesia), Dr. Bancha Wiangsamut (Thailand)

Session 6

Chair: Prof. Dr. Nagia Farag Ali (Egypt)

Co-chairs: Prof. Dr. Marufa Sultana (Bangladesh)

Session 7

Chair: Prof. Dr. Teodoro C. Mendoza (Philippines)

Co-chairs: Dr. Seon Hwa Kim (Republic of Korea); Dr. Wuri Prameswari (Indonesia)

Session 8

Chair: Prof. Dr. Fahrurrozi Fahrurrozi (Indonesia)

Co-chairs: Prof. Dr. Mohammad Chozin (Indonesia), Prof. Dr. Devarajan Thangadurai (India)

Session 9

Chair: Prof. Dr. Zainal Muktamar (Indonesia)

Co-chair: Prof. Dr. Nanik Setyowati (Indonesia)

Session 10

Chair: Asst. Prof. Dr. Gopikrishnan, V. (India)

Co-chair: Prof. Dr. Preetha Manikandan (India)

Keynote speakers

Dr. Shikh Tanvee Hossain (IFOAM-ASIA)
Prof. Dr. Yu-Wei Yuan (China)
Prof. Jin-Cheol Kim (South Korea)
Prof. Dr. Radhakrishnan Manikkam (India)

Prof. Tapio Juokslaht (Finland)
Prof. Dr. Peter Phongphaew (Germany)
Prof. Dr. Teodoro Mendoza (Philippines)
Prof. Dr. Zainal Muktamar (Indonesia)

Invited speakers

Session 1

Assistant Professor Dr. V. Gopikrishnan (India)
Prof. Dr. Pakkapon Pongsuk (Thailand)

Prof. Dr. M.A. Sarker (Bangladesh)
Assoc. Prof. Dr. Indra Cahyadinata (Indonesia)

Session 2

Assoc. Prof. Dr. Tatik Suteky (Indonesia)

Prof. Dr. Dwatmadji (Indonesia)

Session 3

Prof. Dr. Mendoza, Bernadette C. (Philippines)
Asst. Prof. Dr. V. Gopikrishnan (India)

Dr. Hoang ND Pham (Vietnam)

Session 4

Dr. Govindaraj Dev Kumar (India)

Dr. Naruemon Mongkontanawat (Thailand)

Session 5

Asst. Prof. Dr. Lalitha, S. (India)

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Prof. Dr. Marufa Sultana (Bangladesh)

Session 7

Prof. Dr. Teodoro C. Mendoza (Philippines)
Assit. Prof. Dr. Lalitha, S. (India)
Prof. Dr. Dwi Wahyuni Ganefianti (Indonesia)

Dr. Seon Hwa Kim (Republic of Korea)
Assoc. Prof. Dr. Usman Siswanto (Indonesia)

Session 8

Prof. Dr. Avinash Sharma (India)
Prof. Dr. Fahrurrozi Fahrurrozi (Indonesia)
Maxim Mitrokhin (Russia)

Prof. Dr. Mohammad Chozin (Indonesia)
Prof. Dr. Devarajan Thangadurai (India)

Session 9

Prof. Dr. Zainal Muktamar (Indonesia)

Prof. Dr. Nanik Setyowati (Indonesia)

Session 10

Prof. Dr. Preetha Manikandan (India)

Local Organizing Committee

Chairman: Asst. Prof. Waigoon Tongaram

Vice-chairman: Prof. Dr. Kasem Soyong, AATSEA, RIMOA-KMITL

Committee

Asst. Prof. Dr. Preeyanan Sittijinda (RBRU)

Assoc. Prof. Dr. Sinat Koslanant (RBRU)

Assoc. Prof. Sawatchai Sripanomthanakorn (RBRU)

Asst. Prof. Dr. Ekachai Kitkasachroen (RBRU)

Asst. Prof. Dr. Wayakorn Udompoch (RBRU)

Asst. Prof. Dr. Nakrob Tian-am (RBRU)

Asst. Prof. Dr. Jakrapan Wongpa (RBRU)

Asst. Prof. Dr. Naknimit Akkasriworn (RBRU)

Asst. Prof. Dr. Arpaporn Boonme (RBRU)

Assoc. Prof. Dr. Rungtawan Yomla (KMITL)

Prof. Dr. Pakkapong Pongsuk (KMITL)

Asst. Prof. Dr. Banha Wiangsamut (RMUTTO, Chanthaburi)

Asst. Prof. Dr. Naruemon Mongkontanawat (RMUTTO, Chanthaburi)

General Secretariats: Dr. Jiaojiao Song (AATSEA, China)

Dr. Rujira Tongon (AATSEA, Thailand)

Vice-General Secretariat: Asst. Prof. Dr. Jakrapan Wongpa (RBRU)

Master of ceremony (MC): Miss. Auemporn Rungsiri (RBRU), Miss. Rawisuda Bunkrong (RBRU), Dr. Maythaya Preeyanon (RBRU), Mr. Suttichai Phetsri (RBRU)

Financial management and Registration: Dr. Jiaojiao Song (China), Dr. Rujira Tongon (AATSEA) and Dr. Rungrat Vareeket (AATSEA), Ms. Benyapha Thongsri (Thailand)

Registration Desk: Ms. Benyapha Thongsri (AATSEA), Ms. Di Chen (China), Ms. Ting-Yu Lin (Taiwan)

Accommodation (Hotel and local transportation): Asst. Prof. Dr. Sutisa Chaikul (RBRU), Mr. Suttichai Phetsri (RBRU), Miss. Kanchana Treerat (RBRU), and Mr. Wipat Wittayanukorn (RBRU)

Food & Coffee break, reception: Ms. Orasa Onthavon (RBRU), Dr. Rungrat Vareeket (AATSEA), Ms. Benyapha Thongsri (AATSEA)

Session management: Ms Benyapa Thongsri, Mr. Soravitch Munsamak, Mr. Fortus Sernan Entierro (Philippines), Ms Di Chen (China)

Proceedings (full manuscripts): Dr. Jiaojiao Song (China), Dr. Rungrat Vareeket (AATSEA)

Souvenirs: Asst. Prof. Dr. Supattra Raksaphort, Sattrapan Boonnoi, Dr. Jiaojiao Song (China)

General management: Mr. Sridhar D. (India), Mr. Fortus Sernan Entierro (Philippines), Mr. Andioka Jody Sertiawean (Indonesia), Ms. Puja Tri Rahma (Indonesia), Ms. Di Chen (China), Ms. Ting-Yu Lin (Taiwan)

Audiovisual, Photographer, IT and Session Convenors:

Puvadon Buabangplu (RBRU)

Mr. Soravitch Munsamak (Thailand)

Mr. Akkharat Jantub (AATSEA)

Pre and Post Conference:

Dr. Jiaojiao Song (China)

Dr. Rungrat Vareeket (AATSEA)

Mr. Andioka Jody Sertiawean (Indonesia)

Mr. Fortus Sernan Entierro (Philippines)

Ms. Puja Tri Rahma (Indonesia)

Ms. Benyapa Thongsri (AATSEA)

Mr. Soravitch Munsamak (RIMOA)

Prof. Dr. Pakkapong Pongsuk (KMITL)

Mr. Sridhar D. (India)

Assoc. Prof. Dr. Rungtawan Yomla (KMITL)

Ms. Di Chen (China)

Ms. Ting-Yu Lin (Taiwan)

I hereby hope that the 12th ICIST 2024 conference are appointed and hopefully the conference will be completely managed upon your help and well co-operated.



Dr. Kasem Soyong
President, AATSEA

AATSEA Outstanding Awards 2024

Lifetime Achievement Award in Scientific Development



Prof. Dr. Hiroyuki Kunoma (Japan)



Prof. Dr. Peter Phongphaew (Germany)



Prof. Dr. Teodoro C. Mendoza (Philippines)

Education and Research Outstanding Awards



Prof. Dwi Wahyuni Ganefianti
(Indonesia)



Prof. Yuli Widiyastuti
(Indonesia)



Prof. Dr. M. Radhakrishnan
(India)

Community Development Outstanding Award



Shaikh Tanveer Hossain (Bangladesh)

Business and Entrepreneurship Outstanding Award



Assoc. Prof. Dr. Boonyen Chinachin (Thailand)

AATSEA Awards for Co-organizers

	Representative	Institutions
1	Asst. Prof. Waigoon Tongaram	Rambhai Barni Rajabhat University (Thailand),
2	Prof. Dr. Pakkapong Pongsuk	King Mongkut's Institute of Technology Ladkrabang (KMITL)
3	Assoc. Prof. Dr. Indra Cahyadinata	Bengkulu University (Indonesia)
4	Asst. Prof. Dr. V. Gopikrishnan (India)	Sathyabama Institute of Science and Technology (India)
5	Prof. Hirayuki Kunoma	General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA)
6	Prof. Dr. Nagia Ali	National Research Center, Cairo, Egypt
7	Asst. Prof. Dr. Terdsak Puramongkon	Rajamangala University of Technology Tawan-ok, Chantaburi Campus (Thailand)
8	Dr. Lalitha, S.	Periyar University, Salem (India)
9	Dr. Lalitha, S.	Padmavani Arts and science college for women India
10	Mr. Thet Lwin Htay	Shwe Kant Kaw, KKS (Myanmar)
11	Prof. Devarajan Thagadurai	Society for Applied Biotechnology (India)
12	Mr. Souvandouane, Souliya	CGC organic coffee (Lao PDR)
13	Prof. Dr. Zainal Mukhtar	Center for Closed Agriculture Production System (c-CAPS, Indonesia)

OVERALL PROGRAM

Venue: Siri Rambhai Bhan Auditorium, Rambhai Barni Rajabhat University (RBRU)

Friday 29 November 2024: Arrival and Registration Day

Saturday 30 November 2024: 8:00-18:00 Conference Day

Session 1: Agricultural Extension, Education and Development

Session 2: Animal, Fisheries Sciences and Entomology, Marine biotechnology

Session 3: Biological Diversity and Microbiology

Session 4: Food Security, Food Safety, Science and Postharvest Technology

Session 5: Plant Science and Pest Management

Session 6: Soil and Environment, Water conservation

Session 7: Biotechnology-and Innovation

Session 8: Organic Agriculture and Smart Farms

Session 9: Plant Biotechnology

Session 10: Animal Biotechnology

Sunday 1 December 2024: Back to Bangkok

DAY 1: Friday 29 November 2024: 3:00 pm. Travelling from Bangkok to Chanthaburi province and check in KP grand hotel

DAY 2: Saturday 30 November 2024: Conference Day (Conference Hall)

Time	
8:00	MC staff
8:00-8:30	Registration
8:30-9:15	<p>Welcoming performance</p> <p>Welcome Address: Mr. Monsit Paisarntanawat, Governor of Chanthaburi Province, Thailand</p> <p>Inaugural address: Asst. Prof. Waigoon Tongaram, President, RBRU, Thailand</p>
	<p>Message for Opening Ceremony: Prof. Dr. Hiroyuki Konuma, President of GIAPSA (Japan)</p>
	<p>Felicitation: Prof. Dr. Kasem Soyong, President, AATSEA, Thailand</p>
	<p>Motivational Song: “Imagine”, Prof. Dr. Kasem Soyong</p>
	<p>AATSEA Awarding Ceremonies</p> <p>Presentation of AATSEA Awards: 8 Awards</p> <p>“Lifetime Achievement Award in Scientific Development”</p> <ul style="list-style-type: none"> - Prof. Dr. Hiroyuki Kunoma (Japan) - Prof. Dr. Peter Phongphaew (Germany) - Prof. Dr. Teodoro C. Mendoza (Philippines) <p>“Education and Research Award”</p> <ul style="list-style-type: none"> - Prof. Dr. Dwi Wahyuni Ganefianti (Indonesia) - Prof. Dr. M. Radhakrishnan (India) - Prof. Dr. Yuli Widiyastuti (Indonesia) <p>“Community Development Award”</p> <ul style="list-style-type: none"> - Shaikh Tanveer Hossain (Bangladesh) <p>“Business and Entrepreneurship Award”</p> <ul style="list-style-type: none"> - Associate Professor Dr. Boonyen Chinachin (Thailand) <p>Awarding the plaque to the co-organizer: 13 Awards</p> <ul style="list-style-type: none"> - Rambhai Barni Rajabhat University (Thailand) - King Mongkut’s Institute of Technology Ladkrabang (KMITL) - Bengkulu University (Indonesia) - Sathyabama Institute of Science and Technology (India) - General Incorporated Association for the Promotion of Self-reliance in Asia (GIAPSA) (Japan) - National Research Center, Cairo (Egypt) - Rajamangala University of Technology Tawan-ok, Chanthaburi Campus (Thailand)

	<ul style="list-style-type: none"> - Periyar University, Salem (India) - Padmavani Arts and science college for women (India) - Shwe Kant Kaw, KKS (Myanmar) - Society for Applied Biotechnology (India) - CGC organic coffee (Lao PDR) - Center for Closed Agriculture Production System (c-CAPS, Indonesia) <p>Offering by Prof. Dr. Kasem Soyong, President of AATSEA</p>
	Group photo
9:15-9:30	COFFEE BREAK
9:30-9:50	<p>Commemorative Speech on “Her Late Majesty Queen Rambhai Barni of the Seventh Reign and her orchard and farm in Chanthaburi” by Assoc. Prof. Prudhisana Jumbala, Committee Member and Secretary - General of the Prajadhipok - Rambhai Barni Foundation</p>

9:50-12:00 Plenary Session— Keynote speakers

Chair: Asst. Prof. Dr. Gopikrishnan, V.

Time	
9:50-10:10	<p>Dr. Shaikh Tanveer Hossain (Bangladesh) (Director, Policy & Strategy, IFOAM – Organics Asia) Smart, innovative organic agriculture for agrifood transformation in Asia</p>
10:10-10:30	<p>Prof. Dr. Tapio Juokslahti (Finland) Food safety in Finland, regulation and some practical implementations</p>
10:30-10:50	<p>Prof. Dr. Yu-Wei Yuan (China) Authenticity discrimination of rice with stable isotope and multielement profiles</p>
10:50-11:10	<p>Prof. Dr. Peter Phongphaew (Germany) Future organic farming</p>
11:10-11:30	<p>Prof. Dr. Jin-Cheol Kim (Republic of Korea) Biological control of pine wilt disease and other plant diseases by <i>Bacillus subtilis</i> JCK-1398</p>
11:30-11:50	<p>Prof. Dr. Teodoro Mendoza (Philippines) Fruit trees in agroecosystems: The way to address food insecurity and climate crisis</p>
11:50-12:10	<p>Prof. Dr. Radhakrishnan Manikkam (India) Harnessing actinobacteria from rare habitats for sustainable agriculture</p>
12:10-12:30	<p>Prof. Dr. Zainal Muktamar (Indonesia) Enhancing soil quality through long-term organic farming practice in tropical highland of Bengkulu, Indonesia</p>
12:30-13:30	LUNCH BREAK

RESEARCH FORUM

13:30-17:30 ORAL PRESENTATION - Parallel Sessions

Session 1: Agricultural Extension, Education and Development

Time	Chair: Prof. Dr. MA Sarker (Bangladesh) Co-chairs: Prof. Dr. Pakkapong Pongsuk (Thailand)
13:30-13:45	IS: Prof. Dr. MA Sarker Rohingya refugee influx and socio-environmental consequences among host communities in the Teknaf Peninsula of Bangladesh
13:45-14:00	IS: Prof. Dr. Pakkapong Pongsuk Development of a commercial meat poultry production subject learning activity module together with the Blended Learning (BL) for knowledge and skill development of agricultural teacher training students
14:00-14:15	IS: Assoc. Prof. Indra Cahyadinata Socio-economic study of mud crab (<i>Scylla serrata</i>) households in Bengkulu Province, Indonesia
14:15-14:30	Patticha Kulsuwan Environmentally friendly consumer training manual and factors influencing buying decisions among undergraduate students at Mahidol University Amnatcharoen Campus, Thailand
14:30-14:45	Elsa Lolita Putri Sustainability issues of social forestry management based on coffee farming intensification in Indonesia
14:45-15:00	Ekkaphon Thongkaew The transmission of local wisdom in herbal processing of Pa Wa agroforestry network members, Kaeng Hang Maeo district, Chanthaburi province
15:00-15:15	Ridha Rizki Novanda Intention of reducing food waste among Indonesian gen Z: The role of religious beliefs, financial attitudes, and consumption cultures
15:15-15:30	Vibol Peuo Assessing the economic impact of livestock disease outbreaks at Battambang Province, Cambodia
15:30-15:45	COFFEE BREAK
15:45-16:00	Kantinan Thongtem Comparison of cost and return for durian farmers on magik growth innovation to increase the quality of durian production in Rayong Province, Thailand
16:00-16:15	Phanu Aeimtom Assessment of landscape quality for agricultural tourism development in Southern Si Chang Island, Chonburi Province
16:15-16:30	Di Chen Guidelines for developing agricultural vocational competencies in the twenty-first century at the Northeastern Institute of Agriculture, Thailand
16:30-16:45	Piyada Sangdang Factors affecting consumer purchasing decision for quality durian in Rayong Province, Thailand
16:45-17:00	Edi Susilo

	Effect of water stress and varieties on the bioherbicidal effectivity of sorghum aqueous extracts
17:00-17:15	Nuttareena Meehat Factors affecting the sharing of information on quality durian production by farmers in Rayong Province, Thailand
17:15-17:30	Natticha Naknat Opinions on factors affecting the use of Web-based Learning by quality durian farmers in Rayong Province, Thailand
17:30-18:30	Closing Ceremony

Session 2: Animal, Fisheries Sciences and Entomology, Marine biotechnology

Time	Chair: Assoc. Prof. Tatik Suteky (Indonesia) Co-chairs: Prof. Dwatmadji Dwatmadji (Indonesia), Assoc. Prof. Dr. Rungtawan Yomma (Thailand)
13:30-13:45	IS: Assoc. Prof. Tatik Suteky Digestible nutrient intake in naturally infected goats with gastrointestinal strongyles in response to mixed-herb pellet supplementation
13:45-14:00	IS: Prof. Dwatmadji Dwatmadji Feed digestibility and efficiency of Bali cattle supplemented with herbs and humic acid fed with fermented palm oil sludge
14:00-14:15	Parinya Tiyaprasertkul Thymol-carvacrol supplementation in broilers: Impact on performance, blood biomarkers, and gut health
14:15-14:30	Papawee Phungkeha Fructooligosaccharides supplementation: Effects on broiler chicken performance, intestinal morphology, microbial community, and stress indicators
14:30-14:45	Endang Sulistyowati Feeding diet containing concentrate with fermented <i>Arenga pinnata</i> by-product on nutrient intakes, digestibility, and milk quality of lactating dairy cows
14:45-15:00	Paitoon Kaewhom The prevalence of capripoxvirus causing lumpy skin disease in beef cattle with no clinical signs on a well-managed cooperative farm
15:00-15:15	Surewan Srijad The effect of different periods aestivation on recovery and nutritional composition of Apple snail (<i>Pomace</i> sp.)
15:15-15:30	Phunsin Kantha Comparative analysis between <i>Artemia parthenogenetica</i> and <i>Artemia franciscana</i> size from China, Vietnam and United States of America sources
15:30-15:45	COFFEE BREAK
15:45-16:00	Lerma Ocampo Cryo-survivability of frozen-thawed spermatozoa from commercially sold locally processed boar semen: Prospects for Animal Genetic Resources Cryobanking in the Philippines
16:00-16:15	Rachid Pengseesang

	Effects of dietary supplementation with Garlic and <i>Bacillus subtilis</i> on growth performance of <i>Anabas testudineus</i>
16:15-16:30	Hataichanok Passara Adulticidal activity of star anise, turmeric, cloves and combinations against houseflies
16:30-16:45	Krissana Ruang-Rit Species of commercially-farmed crickets in Thailand
16:45-17:00	Heri Dwi Putranto The KUB chicken feathers growth during 6 weeks of starter phase intensive management
17:00-17:15	Jirisuda Sinthusiri Lavicidal and Pupicidal activity of two plant essential oils and their major compositions against <i>Aedes aegypti</i>
17:15-17:30	Nawapol Arhamad-Armeen Efficacy of plant essential oils for repelling against American cockroach adults (<i>Periplaneta americana</i> L.)
17:30-18:30	Closing Ceremony

Session 3: Biological Diversity and Microbiology

Time	Chair: Prof. Dr. Mendoza, Bernadette C. (Philippines) Co-chairs: Dr. Hougng Pham (Vietnam), Dr. Supattra Poeaim (Thailand)
13:30-13:45	IS: Prof. Dr. Mendoza, Bernadette C. Pathogenic potential of gram-negative bacteria isolated from organically grown lettuce samples, farm soil and fish amino acid fertilizer in two farms in Sariaya and Tayabas City, Philippines
13:45-14:00	IS: Dr. Hoang Pham The Edible Ectomycorrhizal Mushrooms (EEM) in southern Viet Nam: from nature to utilization
14:00-14:15	IS: Asst. Prof. Dr. Gopikrishnan, V. Exploration of associated actinobacteria for agricultural applications
14:15-14:30	Supattra Poeaim Evaluation of genetic diversity by molecular markers in Indian gooseberry (<i>Phyllanthus emblica</i>)
14:30-14:45	Patamaporn Tilarux Characterization and biological screening of the culturable endophytic actinomycetes from <i>Garcinia cowa</i> Roxb.
14:45-15:00	Nontakorn Taweekchaijaroen Screening and characterization of Plant Growth-Promoting Bacteria from plant roots
15:00-15:15	Khemvaneek Sukkasem Effects of probiotics, <i>Lacticaseibacillus paracasei</i> and <i>Bacillus amyloliquefaciens</i> on water quality and inhibition of <i>Vibrio vulnificus</i> and <i>Vibrio alginolyticus</i> in White Shrimp, <i>Litopenaeus vannamei</i>
15:15-15:30	Sukritta Anutrakunchai Efficacy of indigenous <i>Beauveria bassiana</i> and <i>Purpureocillium lilacinum</i> for controlling <i>Planococcus minor</i> (Maskell) in durian fruits

15:30-15:45	COFFEE BREAK
15:45-16:00	IS: Asst. Prof. Dr. Gopikrishnan, V. Bioprospecting of earthworm cast associated actinobacteria for sustainable agriculture
16:00-16:15	Sararat Monkhung Efficacy of antagonistic bacteria for controlling major fungal rice (<i>Oryza sativa</i> L.) pathogens
16:15-16:30	Junaiporn Banluehan Biocontrol potential of the six strains of <i>Bacillus</i> sp. against rice pathogens, <i>Xanthomonas oryzae</i> .
16:30-16:45	Atcharawan Prathong Efficacy of the strains of <i>Pseudomonas</i> and <i>Acinetobacter</i> as biocontrol agents against bacterial wilt disease in chili
16:45-17:00	Aueangporn Somsri Application of tempeh and split gill mushroom extracts in herbal fresh sausage: Evaluation of antioxidant and antimicrobial activities
17:00-17:15	Karthik Prakash M P Bioprospecting of fish gut associated Actinobacteria for its probiotic properties
17:15-17:30	Tra H MAI Biological characteristics and cultivation of wild <i>Auricularia cornea</i> recorded in southern Viet Nam
17:30-18:30	Closing Ceremony

Session 4: Food Security, Food Safety, Science and Postharvest Technology

Time	Chair: Prof. Dr. Tapio Juokslahti (Finland) Co-chairs: Dr. Hariz Eko Wibowo (Indonesia), Dr. Naruemon Mongkontanawat (Thailand)
13:30-13:45	IS: Dr. Govindaraj Dev Kumar Photon based sanitation of food contact surfaces
13:45-14:00	IS: Dr. Naruemon Mongkontanawat Vinegar production from pickled mango peel waste
14:00-14:15	Hariz Eko Wibowo Analysis of household food security post pandemic in Mukomuko District, Bengkulu Province
14:15-14:30	Wanninee Chankaew Evaluation of plant-based protein products: Tempeh derived from the local edible freshwater alga <i>Chara corallina</i> Willdenow on immune function, toxicity, and antioxidant activity
14:30-14:45	Khanitta Ratprakhon Result of forming packaging from durian husk using modified starch and cassava starch
14:45-15:00	Kanyarat Lueangprasert NaCl floatation method on physicochemical quality of Kaew Kamin Mango during harvesting indices
15:00-15:15	Kannikar Charoensuk

	The nutritional values of chicken feet and effect of cryogenic freezing techniques on freezing rate and its frozen product quality
15:15-15:30	Suharyanto Suharyanto Effect of <i>Melastoma malabathricum</i> leaf powder particle size on the physicochemical properties and acceptability of beef meatballs
15:30-15:45	COFFEE BREAK
15:45-16:00	Uracha Wanich Dried pork curry with Cowa leaves sausage: The effect of drying time and temperature on quality attributes
16:00-16:15	Chirasak Phoemchalard Using Orange Data Mining for meat classification: A preliminary application of machine learning
16:15-16:30	Boondarika Sumana Potential of snake fruit (<i>Salacca zalacca</i>) cultivars on product quality for fermented vinegar beverages
16:30-16:45	Kannikar Charoensuk Formulation, physiochemical and antibacterial of mangosteen (<i>Garcinia mangostana</i>) juice
16:45-17:00	Usman Kris Joko Suharjo Pre-harvest dormancy breaking of potato seeds by gamma-ray irradiation and foliar spray of GA3 applied at different times
17:00-17:15	Ananya Chantharobol Development of healthier durian cookie with added inulin
17:15-17:30	Ma Ysalou Agbayani Antibacterial potential of chitosan extracted from the shells of green mussels (<i>Perna viridis</i> ; linnaeus, 1758) against <i>Escherichia coli</i> and <i>Staphylococcus aureus</i>
17:30-18:30	Closing Ceremony

Session 5: Plant Science and Pest Management

Time	Chair: Dr. S. Lalitha (India) Co-chairs: Assoc. Prof. Sigit Sudjtmiko (Indonesia), Bancha Wiangsamut (Thailand)
13:30-13:45	IS: Dr. S. Lalitha Plant growth promoting rhizobacteria adoptive responses of sesame under salinity stress
13:45-14:00	IS: Assoc. Prof. Sigit Sudjtmiko Impact of urea foliar application frequency on swamp rice strains
14:00-14:15	Bancha Wiangsamut Effects of sterilizing agents, phenolic compound inhibitors, and plant hormones on <i>in vitro</i> lateral bud explant culture of three Durian varieties
14:15-14:30	Ritchuda Kaokrathok Growth and yield of newly-released Bambara groundnut variety grown in the Central plain of Thailand
14:30-14:45	Muhammad Faiz Barchia

	Shallot cultivation on unsuitable agro-climate and marginal lowland treated with chicken manure in Bengkulu, Indonesia
14:45-15:00	Pakanan Jiamtae Evaluation of soybean (<i>Glycine max</i> L.) under different salinity stress on seedling growth and biochemical responses
15:00-15:15	Wikanya Prathumyot Effect of seed soaking with nitrophenolate–based biostimulant on germination and growth of Chili var. Kanchanaburi 1
15:15-15:30	Ngoc-An Nguyen <i>In vitro</i> antagonistic effect of <i>Bacillus subtilis</i> D5 against <i>Fusarium oxysporum</i> pathogenic to tomato
15:30-15:45	COFFEE BREAK
15:45-16:00	Supattra Poeaim Evaluation of structural traits and starch yield in sixteen cassava (<i>Manihot esculenta</i> Crantz) varieties grown in Ong Phra Subdistrict, Dan Chang District, Suphan Buri Province
16:00-16:15	Chatphon Tebdoie Optimizing simplified growing media for enhanced cannabis cultivation
16:15-16:30	Jirachaya Yeemin Effect of gamma irradiation on median lethal dose for mutation induction in <i>Zinnia elegans</i> and <i>Cosmos bipinnatus</i>
16:30-16:45	Sutinee Supreeworakij Influence of media and plant growth regulators (PGRs) on <i>in vitro</i> seed germination and development of <i>Doritis pulcherrima</i> Lindl.
16:45-17:00	Porntinun Pitisom Efficacy of mangosteen peel extract and phosphonic acid on Durian root rot disease (<i>Phytophthora palmivora</i>) <i>in vitro</i>
17:00-17:15	Varee Yoosumran Induced mutation of Curcuma hybrid cv. sweetmemory through tissue culture by Ethyl Methanesulphonate (EMS)
17:15-17:30	Pushpalatha Ganesh Genome-wide identification and a relative expression analysis of <i>OsFAR1/FHY3</i> gene family under salt stress in among <i>Oryza sativa japonica</i> and <i>Oryza sativa indica</i>
17:30-18:30	Closing Ceremony

Session 6: Soil and Environment, Water conservation

Time	Chair: Prof. Dr. Nagia Farag Ali (Egypt) Co-chairs: Prof. Dr. Marufa Sultana (Bangladesh)
13:30-13:45	IS: Prof. Dr. Nagia Farag Ali Biodegradation of dyes in textile wastewater using some newly fungal isolates and immobilization method
13:45-14:00	IS: Dr. Marufa Sultana Sustaining soil fertility and enhancing yields in Maize-Mungbean-t. Aman cropping system through long-term integrated nutrient management

14:00-14:15	Prat Kongsombut Metrics analysis and evaluation of landscape mosaic changes to monitor the identity of forest monastery green space, Northeast Thailand
14:15-14:30	Khairul Amri Determining water flow efficiencies at Kah Pulo Geto primary irrigation channels, Bengkulu, Indonesia
14:30-14:45	Uthaiwan Phewphan Utilizing of aerial photography to study the distribution of seaweed in Saphan Hin Park, Mueang District, Phuket Province, Thailand
14:45-15:00	Thanadech Kangsawat Water management in areas outside irrigation zone of Tha Takiap sub-district, Tha Takiap district, Chachoengsao province, Thailand
15:00-15:15	Priyono Prawito Population and diversity of soil macrofauna in oil palm - banana cropping system in Indonesia
15:15-15:30	Elsa Lolita Putri Projected land use change and impact in South Seluma Sub-district Bengkulu
15:30-15:45	COFFEE BREAK
15:45-16:00	Bandi Hermawan Comparison of permeable and water holding capacity between flat and steep soils
16:00-16:15	Benyapha Thongsri Microorganisms for bioremediation of soils contaminated with heavy metals
16:15-16:30	Pattana Somniyam Growth and yield of Japonica rice (Koshihikari Var.) that affected by vermicompost
16:30-16:45	Jiraporn Phumthong Acceptance of nutrient management based on soil analysis values among durian farmers in Rayong Province, Thailand
16:45-17:00	Mayamor Soyong Improving geolocation data from IRRI germplasm collection of rice and Geographic Population Structure (GPS)
17:30-18:30	Closing Ceremony

Session 7: Biotechnology and Innovation

Time	Chair: Prof. Dr. Teodoro C. Mendoza (Philippines) Co-chairs: Seon Hwa Kim (Republic of Korea); Wuri Prameswari (Indonesia)
13:30-13:45	IS: Prof. Dr. Teodoro C. Mendoza Hybrid rice genotypes: The innovation pathway to make the Philippines rice self-sufficient
13:45-14:00	IS: Seon Hwa Kim Successful commercialization of <i>Bacillus methylotrophicus</i> 8-2 as a biocontrol agent against various plant diseases
14:00-14:15	IS: Dr. S. Lalitha The effect of Plant Growth-Promoting Rhizobacteria (PGPR) on arsenic accumulation and the growth of Pigeonpea (<i>Cajanus cajan</i> L. Millsp)

14:15-14:30	IS: Assoc. Prof. Usman Siswanto Yield and artemisinin content of six polyploid accessions of <i>Artemisia annua</i> grown at medium altitude in Indonesia
14:30-14:45	Sane Buasanit The effect of using Chinese Water Chestnut flour to partially replace wheat flour in steamed cake (Pui Fai)
14:45-15:00	Sureporn Boonna Production of herbal kombucha with agarwood (<i>Aquilaria crassna</i> Pierre ex Lec.) levae and its biological properties
15:00-15:15	Muhammad Farid Estimation of sediment thickness in oil palm plantations using the HVSR method and its relation to the crop's productivity
15:15-15:30	Hanh Thi Dieu Nguyen Characterization of antagonistic actinomycete on dragon fruit fungal pathogen <i>Neoscytalidium dimidiatum</i>
15:30-15:45	COFFEE BREAK
15:45-16:00	IS: Dwi Wahyuni Ganefianti Testing the advantages of six new hybrid chili pepper genotypes in the lowlands
16:00-16:15	Sittipun Sinumporn Investigation of Genetic diversity of two elite rice cultivars using SSR based marker
16:15-16:30	Reny Herawati Detection of blast resistance genes in inbred rice lines using site-specific blast races
16:30-16:45	Thanaset Thongsaklaing Identification of new position of DNA insertion and 24-bp INDEL Mutation polymorphism in prolactin gene promoter of Thai native chickens
16:45-17:00	Wuri Prameswari Total phenolic content, flavonoid content, and antioxidant activity in various parts of butterfly pea accessions in Bengkulu, Indonesia
17:00-17:15	Somphit Sornyotha The family 36 carbohydrate-binding module of <i>Paenibacillus xylanoclasticus</i> TW1 xylanase: Characterization and recognition in epidermal tissue of sweet potato roots
17:15-17:30	Putri Mian Hairani Glucose content, viability and vigor four cucumber seed lots
17:30-18:30	Closing Ceremony

Session 8: Organic Agriculture and Smart Farms

Time	Chair: Prof. Dr. Fahrurrozi Fahrurrozi (Indonesia) Co-chairs: Prof. Dr. Mohammad Chozin (Indonesia), Prof. Dr. Devarajan Thangadurai (India)
13:30-13:45	IS: Prof. Dr. Avinash Sharma Discovering previously uncultured microorganisms from antarctica to exploit their biotechnological potential for a sustainable future
13:45-14:00	IS: Prof. Mohammad Chozin Evaluation of ear yield stability of organic sweet corn hybrids at different elevations in a humid tropical climate

14:00-14:15	IS: Prof. Fahrurrozi Fahrurrozi Weed-based liquid organic fertilizer increased growth and yields of organically grown sweet corn
14:15-14:30	IS: Devarajan Thangadurai Phenetic Engineering of Potential Microbes for Biocontrol and Biofertilizer Applications in Chilli and Coffee
14:30-14:45	Bodin Phadungsawat Effects of LDD1 compost and chemical fertilizer on the growth, yield and antioxidant activity of <i>Chrysanthemum indicum</i> L.
14:45-15:00	Pattana Somniyam Effects of local planting materials on the growth of organic chinese kale in raised bed technique
15:00-15:15	Dwi Wahyuni Ganefianti Growth of Dendrobium Oryen orchids at the acclimatization stage by providing organic materials to the planting media and the spraying foliar fertilizer
15:15-15:30	Souvandouane, Souliya Organic agriculture history in Laos
15:30-15:45	COFFEE BREAK
15:45-16:00	IS: Maxim Mitrokhin RF practices with organic and halal products
16:00-16:15	Kasem Soyong Modern organic agriculture and earthsafe powered by AATSEA organic certification from farm to table
16:15-16:30	Sernan Fortus Pre-test of investigating the impact of organic production in comparison with chemical production on the growth and yield of lettuce in various hydroponics system
16:30-16:45	Panida Duangkaew Yield enhancement efficacy of <i>Bacillus</i> sp. biofertilizer on pineapple (<i>Ananas comosus</i> L. Merr.) production in Prachuap Khiri Khan, Thailand
16:45-17:00	Kartika Utami Distribution of humic substances and organic matter fraction: effects of long-term application of vermicompost
17:00-17:15	Sunisa Prawat Adoption of organic agricultural standards in organic farming: a case study in community enterprises in Roi-Et Province, Thailand
17:30-18:30	Closing Ceremony

Session 9: Plant Biotechnology

Time	Chair: Prof. Dr. Zainal Mukhtar (Indonesia) Co-chairs: Prof. Dr. Nanik Setyowati (Indonesia)
13:30-13:45	IS: Prof. Dr. Zainal Mukhtar Distribution of weed species and soil nitrogen, phosphorus, and potassium across various land uses in coastal areas
13:45-14:00	IS: Prof. Dr. Nanik Setyowati Weed control in water-saturated soybean cultivation in the coastal area
14:00-14:15	Yupa Pootaeng-On Assessment of bioactive compounds from <i>Miliusa sessilis</i> plant against anthracnose diseases on mango fruits (<i>Mangifera indica</i> L. 'Nam Dok Mai Si Thong')
14:15-14:30	Chaowanee Laosutthipong Genetic diversity of common figs (<i>Ficus carica</i>) cultivated in Thailand determined by 18S ribosomal RNA sequence
14:30-14:45	Yuli Widiyastuti Morphological variation and chemical profile of <i>Ficus septica</i> Burm. f from different natural population
14:45-15:00	Suthida Aphichartphankawee Nutritional evaluation of santol (<i>Sandoricum koetjape</i>) and the effects of santol flesh extract on <i>Drosophila melanogaster</i>
15:00-15:15	Sempurna Ginting Attack intensity and effectiveness pheromone on <i>Oryctes rhinoceros</i> L. in oil palm, Seluma district, Bengkulu
15:15-15:30	Florenda Temanel <i>In vitro</i> propagation of Turmeric (<i>Curcuma longa</i> Linn.) using Murashige and Skoog (MS) media supplemented with varying concentrations of Thidiazuron (TDZ)
15:30-15:45	COFFEE BREAK
15:45-16:00	Pattama Nitthaisong Optimum potassium fertilizer rate for growth, biomass yield, and fuel properties of <i>Leucaena</i> (<i>Leucaena leucocephala</i>) cv. Tarramba in sandy soil
16:00-16:15	Atra Romeida The screening of soybean drought tolerant using polyethylene glycol 6000 for entisol of Bengkulu Coastal Land
16:15-16:30	Angsima Jitwetkul Plant regeneration of <i>Dimocarpus longan</i> var. obtusus Leenh. by tissue culture technique
16:30-16:45	Wimonsiri Sehawong Comparative effects of drought stress on growth and yield components of Riceberry and KDML 105 rice varieties
16:45-17:00	Marlin Marlin The growth and yield of second-generation of shallot mutants caused by gamma-ray irradiation (<i>Allium cepa</i> var. <i>Aggregatum</i>)
17:00-17:15	Hesti Nur'Aini Morphological diversity of banana accessions collected from Bengkulu Province, Indonesia
17:15-17:30	Indah Liswanti

	Growth and yield of maize treated with plant-based liquid fertilizers at varying concentrations and frequency of application
17:30-18:30	Closing Ceremony

Session 10: Animal Biotechnology

Time	Chair: Asst. Prof. Dr. Gopikrishnan, V. (India) Co-chairs: Prof. Dr. Preetha Manikandan (India)
13:30-13:45	IS: Prof. Dr. Preetha Manikandan Transformation of waste to wealth from cow dung
13:45-14:00	Excel Rio S. Maylem Overcoming summer infertility in water buffaloes in the Philippines using double PGF2a in a 7-day cidrsynch timed artificial insemination
14:00-14:15	Ilyas Waesulong Effect of supplemented liquid pigments in the diet on growth performance and body skin color of Jewel cichlid (<i>Hemichromis lifalili</i>) fish
14:15-14:30	Yusup Sopian Meta-analysis of dietary supplementation with hemp products (<i>Cannabis sativa</i> L.) in broiler chicken: performances, blood profiles, intestinal morphology, and meat physicochemical parameters
14:30-14:45	Katatikarn Sahatsanon Meta-Analysis of multi-strain bacterial probiotic supplementation on growth performance of post-weaning piglets
14:45-15:00	Hataichanok Passara Plant essential oils, trans-anethole and eugenol, for housefly knockdown and mortality
15:00-15:15	Manatsanun Nopparatmaitree Effect of Phytobiotics from Yanang (<i>Tiliacora triandra</i>) leaf extract containing <i>Pediococcus acidilactici</i> V202 product (PYLEPP) supplementation in diets on in vitro prediction of true nutrient digestibility and cecal fermentation by broiler microbiota
15:15-15:30	Adisak Kongkeaw Optimization of phytocannabinoid extraction from <i>Cannabis sativa</i> L. (Hemp) using crude palm kernel oil via decarboxylation and its potential as an energy supplement for suckling piglets
15:30-15:45	COFFEE BREAK
15:45-16:00	Suwit Thip-Uten Effect of different diets on growth performance and carcass characteristic of Nu Phuk (<i>Bandicota indica</i>) raised under circle cement pond
16:00-16:15	Supawitch Janrong Effect of milk thistle with artichoke or Gingko leaves extract on growth performance and carcass characteristics in broilers
16:15-16:30	Jamree Khrueahong Needs for processing career promotion course to add value for freshwater fish farmers in Nakhon Sawan Province
16:30-16:45	Kannikar Charoensuk

	Effect of supplementing red pigment from <i>Monascus</i> sp. fermented native black rice (Maepayathong Dum Rice) on production performance and egg quality in laying hens
16:45-17:00	Sayan Subepang Effect of feeding system on productive performance, nutrient digestibility, and economic return in Brahman crossbred cattle
17:00-17:15	Wanninee Chankaew Effectiveness of <i>Chara corallina</i> ingredients fermented and unferment on growth performance and digestive enzyme activity of giant freshwater prawn (<i>Macrobrachium rosenbergii</i> de Man 1879)
17:15-17:30	Sukritta Anutrakunchai Stingless Bees Collecting Pollen in Durian Orchards, Khao Khitchakut District, Chanthaburi Province
17:30-18:30	Closing Ceremony

17:30-18:30	Closing Ceremony
	Concluding Remarks by Prof. Dr. Kasem Soyong, President of AATSEA, Thailand Venue: Conference Hall, Siri Rambhai Bhan Auditorium, Rambhai Barni Rajabhat University (RBRU)
	Best Presentation Award
	Closing address by Rambhai Barni Rajabhat University representative
	Closing remarks by Prof. Dr. Hiroyuki Konuma, President (GIAPSA) (Japan)
	Summary and Closing remarks by Prof. Kasem Soyong, President, AATSEA, Thailand
	Congratulations on hosting the 13th ICIST 2025 address by China representative
	Motivational Song: Prof. Dr. Kasem Soyong and Team
18:30-20:00	Cultural performances & Dinner Venue: Suan Ban Kaew Palace, Rambhai Barni Rajabhat University (RBRU)

Sunday 1 December 2024: Back to Bangkok