

47th World Conference on Applied Science, Engineering & Technology (47th WCASET – 2025)

Organized by IFERP Academy – Thailand Society in association with Shinawatra University, Thailand

Post Conference Report

47th WCASET – 2024, Contributed to Following SDGs



Foreword

Dear Participants,

It gives me great pleasure to share with you the outcomes and results of the 47th WCASET – 2024, with the theme of "WCASET Nexus: Where Science, Education and Technology Converge" which was held at Bangkok, Thailand on 27th and 28th December, 2024. More than 280 people attended the event in person, and more than 500 people watched the live stream online. We were able to actively engage and reach out to a wider spectrum of research communities.



MD & Founder, IFERP Technoarete Group

The 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024), provided a vibrant platform that brings together scholars, educators, and researchers from a variety of disciplines. It is a hub for exchanging innovative research about applied science, engineering & technology, national education policy, flexible hybrid electronics, electric vehicle technology, nano technologies and its applications, business and management studies, life science and agriculture, food security and bioprocess engineering, networking and communications, science and applications, new trends and experience that foster critical and creative thinking, mainly in the educational research, and fostering multidisciplinary exchanges among experts in applied sciences, engineering, technology and management.

We are grateful for the support of many universities and research institutes, whose contributions were vital to the success of this conference. We extend our sincere gratitude and highest respect to the professors who played an important role in the review process, providing valuable feedback and suggestions to authors to improve their work. We also extend our appreciation to the external reviewers for providing additional support in the review process and to the authors for contributing their research results to the 47th World Conference on Applied Science, Engineering & Technology $(47^{th} WCASET - 2024)$

Mr. Siddth Kumar Chhajer

MD & Founder, IFERP Technoarete Group

Table of Contents

1. Conference Summary

- 1.1 Conference Overview
- 1.2 Conference Theme
- 1.3 Objectives & Scope of the Conference
- 2. Guest of Honor, Keynote Speakers, Session Speakers, & Session Chairs

3. Welcoming & Introduction

4. Welcome Speeches

- 4.1 Welcome Speech by Special Guest Mr. A. Siddth Kumar Chhajer
- 4.2 Welcome Speech by Special Guest Dr. Manikandan T
- 4.3 Welcome Speech by Special Guest Dr.S.Ramesh
- 4.4 Welcome Speech by Special Guest Dr. Sipnarong Kanchanawongpaisan
- 4.5 Welcome Speech by Special Guest Dr. Pratikshya Bhandari
- 4.6 Welcome Speech by Special Guest Dr. Venus Dennen Claver

5. Keynote Speeches

- 5.1 Keynote Speech by Dr. Muhamad Firdaus Syahmi Bin Sam-On
- 5.2 Keynote Speech by Assoc Prof Dr. Gurmeet Singh
- 5.3 Keynote Speech by Dr. Sipnarong Kanchanawongpaisan
- 5.4 Keynote Speech by Dr. Mrutunjaya Bhuyan
- 5.5 Keynote Speech by Dr. A. K. Mahbubul Hye
- 5.6 Keynote Speech by Dr. Aswath M U
- 5.7 Keynote Speech by Prof . Dr Zahriladha Zakaria
- 5.8 Keynote Speech by Dr. Prakash Subramaniam
- 5.9 Keynote Speech by Prof. V. Venkata Ramana
- 6. Group Photo
- 7. Inaugural Programme
- 8. Conference Proceedings Book Release
- 9. Momento Ceremony

10. Technical Presentation Sessions

10.1 Technical Presentation Session 1 A

10.1.1 Speech by Session Speaker Assoc Prof. Dr. Dowroong Watcharinrat

10.1.2 - 10.1.11 Scientific Presentations

11. Technical Presentation Sessions

11.1 Technical Presentation Session 1 A

- 11.1.1 Speech by Session Speaker Dr. Kayatri Govindaraju
- 11.1.2 Speech by Session Speaker Prof. Dr. Froilan Mobo
- 11.1.3 Speech by Session Speaker Asst Prof. Dr. Johannes V. Gloria
- 11.1.4 11.1.20 Scientific Presentations

11.2 Technical Presentation Session 2 A

- 11.2.1 Speech By Session Speaker Dr. Anu Sayal
- 11.2.2 Speech By Session Speaker Asst Prof. Dr. Yogesh Golhar
- 11.2.3 Speech By Session Speaker Dr. Suha Khanfar
- 11.2.4 Speech By Session Speaker Prof. Daisy Mae R.
- 11.2.5 11.2.20 Scientific Presentations

12. Valedictory Function

- 13. Vote of Thanks
- **14. Conference Glimpses**

15. General Comments & Feedbacks

1. Conference Summary



Conference Name	: 47 th World Conference on on Applied Science, Engineering &	
	Technology (47th W	CASET - 2024)
Date	: 27 th & 28 th December, 2024	
Venue	: Bangkok, Thailand	
Conference Theme : WCASET Nexus: Where Science, Education and Technology		
	Converge	
Organized By : Shinawatra University, Thailand		
and IFERP Academy - Thailand Society		
No. of Organizing Committee Members		: 51
No. of Editors/Reviewers		: 23
No. of Speakers		: 24
No. of Abstracts Received		: 386
No. of Participants Registered		: 203
No. of Attendees		: 292

1.1 Conference Overview

47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) was the place where ideas collided and innovations take the spotlight for the contribution towards achieving Sustainable Development Goals! 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) had long been the meeting place for professionals, educators, researchers, policymakers, and industry professionals looking to network, share ideas, and grow in their respective fields. At this applied science, engineering, & technology conference in Bangkok, Thailand, professionals, academics, researchers, and educators were came together to share their groundbreaking research, and different views, and explore unique ideas from various fields.

Through collaboration, the conference explored intersections between various disciplines and created a dynamic environment to enhance educational discussions and explore diverse studies. This International Conference in Bangkok, Thailand was a part of shaping the future of global education. They continued to inspire, transform, and shape education together. Their participation was more than just an RSVP; it is an important role in our community dedicated to academic success and positive change.

1.2 Conference Theme

The theme of the 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) **"WCASET Nexus: Where Science, Education and Technology Converge "** was to provide a lively space where different academic areas come together. 47th WCASET - 2024 stands as a melting pot of ideas, where the boundaries between advances in applied sciences, engineering, and technology disciplines blur, giving rise to innovative solutions that address global challenges. The conference embraces the multidisciplinary nature of educational excellence driving through digital transformation, recognizing that true breakthroughs often occur at the intersections of different fields.

This theme encapsulates the conference's focus on fostering innovation and collaboration across diverse disciplines within applied sciences, engineering, and technology. It encourages participants to explore and present cutting-edge solutions that contribute to the sustainable development of industries, addressing challenges and advancing knowledge for a better future. The multidisciplinary perspective highlights the interconnectedness of various fields in creating holistic and impactful solutions.

1.3 Objectives & Scope of the Conference

The 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) aims to bring together academics, researchers, industry professionals, and students from diverse fields to explore cutting-edge advancements and trends across applied sciences, engineering, technology, and management.

Key objectives include:

- **Promote Multidisciplinary Research :** Facilitate collaboration among researchers, academicians, and industry professionals to explore and discuss innovations in applied science, engineering, and technology.
- Foster Innovation and Creativity : Encourage creative solutions to contemporary challenges by providing a platform for presenting cutting-edge research and technological advancements.
- **Knowledge Exchange :** Provide an opportunity for participants to exchange ideas, share best practices, and learn from experts in various domains.
- **Highlight Societal Impact :** Emphasize the role of applied science and technology in solving global challenges such as sustainability, health, and digital transformation.
- Encourage Networking : Build networks among participants to foster collaborations for future research and development projects.
- **Support Emerging Researchers :** Offer opportunities for early-career researchers and students to showcase their work and receive constructive feedback.

47th WCASET – 2024 transcends traditional boundaries, providing a platform for comprehensive exploration across a multitude of disciplines. The conference encompasses a wide scope that includes, but is not limited to:

- **Applied Sciences:** Advances in physical, biological, and environmental sciences, with an emphasis on their practical applications and sustainability.
- **Engineering:** Recent developments in mechanical, civil, electrical, chemical, and software engineering; focusing on innovation in design, materials, and systems.
- **Technology:** Emerging technologies such as artificial intelligence, IoT, blockchain, and data science, with discussions on integration, ethics, and security.
- Emerging Trends and Technologies : Explore the latest advancements in AI, renewable energy, healthcare technology, robotics, IoT, and other transformative technologies.

2. Guest of Honor, Keynote Speakers, Session Speakers, & Session Chairs

Special Guest of honor



Mr. A. Siddth Kumar Chhajer

Managing Director & Founder Institute for Engineering Research and Publication (IFERP) Technoarete Groups



Dr. Pratikshya Bhandari Director, International Affairs lectureFaculty of Management Shinawatra University Pathum Thani, Thailand



Dr. Venus Dennen Claver Manager International Relations, Shinawatra University.



Dr. Aswath M U Principal Bangalore Institute of Technology, India.

Keynote Speakers



Prof. Dr Zahriladha Zakaria BEM, SMIEEE Centre for Telecommunication Research & Innovation (CeTRI) Faculty of Electronic and Computer Technology and Engineering, Universiti Teknikal Malaysia Melaka (UTeM), Malaysia.



Dr. MUHAMAD FIRDAUS SYAHMI BIN SAM-ON Senior Lecturer Department of Food Sciences, Faculty of Science and Technology Universiti Kebangsaan, Malaysia.



Assoc Prof Dr. Gurmeet Singh Vice Principal Head to the P.G. Department of Mathematics GSSDGS Khalsa College (Autonomous) Patiala, Punjab.



Prof. V. Venkata Ramana Vice-Chairman, Telangana State Council of Higher Education (TSCHE) & Vice-Chancellor, Rajiv Gandhi University of Knowledge Technologies, <u>Basar</u> & Professor, School of Management Studies, University of Hyderabad, Telangana. India.



Dr. Prakash Subramaniam Dean Sathyabama Institute of Science & Technology, India.



Dr. Mrutunjaya Bhuyan Ramanujan Faculty (Scientist D) Institute of Physics, Bhubaneswar, India.



Dr. Sipnarong Kanchanawongpaisan Deputy Director The Institute of Multidisciplinary Postdoctoral and Franchise Program (IPF), Thailand.



Dr. A. K. Mahbubul Hye Chairperson, Logistic and Supply Chain, Faculty of Management, Shinawatra University, Thailand.

Session Speakers



Prof. Dr. Froilan Mobo Assistant Director Philippine Merchant Marine Academy, Philippines,



Dr. Kayatri Govindaraju Head of Department Department of Pharmaceutical Life Sciences <u>Universiti</u> Malaya, Malaysia.



Asst Prof. Dr. Yogesh Golhar St. Vincent Pallotti College of Engineering & Technology Nagpur University, India.



PROF. DAISY MAE R. BONGTIWON Eulogio Amang Rodriguez Institute Of Science and Technology De la salle University Manila, Philippines.



Asst Prof. Dr. Johannes V. Gloria North Eastern Mindanao State University, Philippines.



Dr. Suha Khanfar Doctor of business administration International American University, Jordan.



Assoc Prof. Dr. Dowroong Watcharinrat Faculty of Liberal Arts Shinawatra University, Thailand.



Prof.MA. LOURDES H. GOMEZ Faculty of Physics and Mathematics Eulogio Amang Rodriguez Institute of science and technology Manila, Philippines.



Dr.B.Purnachandra Rao, Sr Solutions Architect HCL Technologies Bangalore, India.



Dr. Manikandan T Professor Department of CSBS Rajalakshmi Engineering College, Rajalakshmi Nagar, <u>Thandalam</u>, Chennai



Dr.S.Ramesh Assistant Professor (SS), Department of Mechatronics Engineering, Rajalakshmi Engineering College, Thandalam, Chennai



Dr. MADHURIMADASGUPTA,HOD, DEPARTMENT OF GENDER STUDIES, ASHADI WISDOM CAMPUS, Sri Lanka & Post-doctoral fellow, Abo-<u>Akademi</u> University, Finland



DR. LHYNETTE T. ZAMBALES Assistant Professor, College of Business PALAWAN STATE UNIVERSITY Palawan, Philippines



Dr. Jemmarie G. SuetosAssistant Professor II College of Agriculture Food and Sustainable Development

3. Welcoming & Introduction

Welcome to the 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024), where we gather the brightest minds and the most innovative ideas to inspire, educate, and connect. Before we dive into today's agenda, let's take a moment to appreciate the vibrant atmosphere here at Bangkok, Thailand. This location has been thoughtfully chosen to provide an inspiring environment for our discussions and networking. The theme of 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) is "WCASET Nexus: Where Science, Education and Technology Converge ". Our objective is to explore new technologies in applied sciences, engineering, and technology, discuss emerging trends, foster collaboration, etc. Over the next two days, we have a packed schedule with three sessions, and twenty four keynote presentations from industry leaders and experts. This conference would not be possible without the hard work and dedication of many individuals. We would like to extend a special thank you to our conference managers, and organizing committee members.

4. Welcome Speeches

4.1 Welcome Speech by Special Guest - Mr. A. Siddth Kumar Chhajer

Special Guest of honor



Mr. A. Siddth Kumar Chhajer

Managing Director & Founder Institute for Engineering Research and Publication (IFERP) Technoarete Groups 4.2 Welcome Speech by Special Guest - Dr. Manikandan T



Dr. Manikandan T Professor Department of CSBS Rajalakshmi Engineering College, Rajalakshmi Nagar, <u>Thandalam</u>, Chennai

4.3 Welcome Speech by Special Guest - Dr.S.Ramesh



Dr.S.Ramesh Assistant Professor (SS), Department of Mechatronics Engineering, Rajalakshmi Engineering College, <u>Thandalam,</u> Chennai

4.4 Welcome Speech by Special Guest - Dr. Sipnarong Kanchanawongpaisan



Dr. Sipnarong Kanchanawongpaisan Deputy Director The Institute of Multidisciplinary Postdoctoral and Franchise Program (IPF), Thailand. 4.5 Welcome Speech by Special Guest - Dr. Pratikshya Bhandari



Dr. Pratikshya Bhandari Director, International Affairs lectureFaculty of Management Shinawatra University Pathum Thani, Thailand

4.6 Welcome Speech by Special Guest - Dr. Venus Dennen Claver



Dr. Venus Dennen Claver Manager International Relations, Shinawatra University.

5. Keynote Speeches

5.1 Speech by Keynote speaker - Dr. Muhamad Firdaus Syahmi Bin Sam-On



5.2 Speech by Keynote speaker – Assoc Prof Dr. Gurmeet Singh



Assoc Prof Dr. Gurmeet Singh Vice Principal Head to the P.G. Department of Mathematics GSSDGS Khalsa College (Autonomous) Patiala, Punjab.

5.3 Speech by Keynote speaker – Dr. Sipnarong Kanchanawongpaisan



Dr. Sipnarong Kanchanawongpaisan Deputy Director The Institute of Multidisciplinary Postdoctoral and Franchise Program (IPF), Thailand.

5.4 Speech by Keynote speaker – Dr. Mrutunjaya Bhuyan



Dr. Mrutunjaya Bhuyan Ramanujan Faculty (Scientist D) Institute of Physics, Bhubaneswar, India. 5.5 Speech by Keynote speaker – Dr. A. K. Mahbubul Hye



Dr. A. K. Mahbubul Hye Chairperson, Logistic and Supply Chain, Faculty of Management, Shinawatra University, Thailand.

5.6 Speech by Keynote speaker – Dr. Aswath M U



Dr. Aswath M U Principal Bangalore Institute of Technology, India.

5.7 Speech by Keynote speaker – Prof . Dr Zahriladha Zakaria



Prof . Dr Zahriladha Zakaria BEM, SMIEEE Centre for Telecommunication Research & Innovation (CeTRI) Faculty of Electronic and Computer Technology and Engineering, Universiti Teknikal Malaysia Melaka (UTeM), Malaysia.

5.8 Speech by Keynote speaker – Dr. Prakash Subramaniam



Dr. Prakash Subramaniam Dean Sathyabama Institute of Science & Technology, India.

5.9 Speech by Keynote speaker – Prof. V. Venkata Ramana



Prof. V. Venkata Ramana Vice-Chairman, Telangana State Council of Higher Education (TSCHE) & Vice-Chancellor, Rajiv Gandhi University of Knowledge Technologies, Basar & Professor, School of Management Studies, University of Hyderabad, Telangana. India.

6. Group Photo



7. Inaugural Programme

The inaugural program of the 47th World Conference on Applied Science, Engineering & Technology (46th WCASET - 2024), Bangkok, Thailand on 27th & 28th December, 2024 conference sets the tone for the entire event, providing an opportunity to introduce the theme, objectives, and key participants. The inaugural program included inaugural addresses, proceedings release, Momento ceremony & Institutional Membership Benefits etc. The inaugural program was a crucial part of the conference, serving to welcome and engage participants, set the context for discussions, and recognize the contributions of key individuals.

8. Conference Proceedings Book Release

The 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024) Conference proceedings was a comprehensive collection of the papers presented at the 47th WCASET – 2024. The Conference Proceedings serve as a valuable record of the research and discussions that occurred during the 47th WCASET – 2024 conference, providing insights into current trends, innovations, and the future direction of multidisciplinary research studies, applied sciences, engineering, and technology.

On behalf of the organizing committee of the 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024), the conference proceedings was released.





https://www.iferp.in/past-conferences.php

9. Momento Ceremony

The conference speakers, session speakers, & session chairs were awarded with Momentos.



10. Technical Presentation Sessions

10.1 Technical Presentation Session 1 A

10.1.1 Speech by Session Speaker Assoc Prof. Dr. Dowroong Watcharinrat



Assoc Prof. Dr. Dowroong Watcharinrat Faculty of Liberal Arts Shinawatra University, Thailand.

10.1.2 – 10.1.11 Total 11 Scientific Presentations were presented in the Technical Presentation Session 1 A

11. Technical Presentation Sessions

11.1 Technical Presentation Session 1 A

11.1.1 Speech by Session Speaker Dr. Kayatri Govindaraju



Dr. Kayatri Govindaraju Head of Department Department of Pharmaceutical Life Sciences Universiti Malaya, Malaysia.

11.1.2 Speech by Session Speaker Prof. Dr. Froilan Mobo



Prof. Dr. Froilan Mobo Assistant Director Philippine Merchant Marine Academy, Philippines.

11.1.3 Speech by Session Speaker Asst Prof. Dr. Johannes V. Gloria



Asst Prof. Dr. Johannes V. Gloria North Eastern Mindanao State University, Philippines.

11.1.4 – 11.1.20 Total 20 Scientific Presentations were presented in the Technical Presentation Session 1 A

11.2 Technical Presentation Session 2 A

11.2.1 Speech by Session Speaker Dr. Anu Sayal



Dr. Anu Sayal

Faculty of Business and Law School of Accounting and Finance, Taylor's University, 11.2.2 Speech by Session Speaker Asst Prof. Dr. Yogesh Golhar



Asst Prof. Dr. Yogesh Golhar St. Vincent Pallotti College of Engineering & Technology Nagpur University, India.

11.2.3 Speech by Session Speaker Dr. Suha Khanfar



Dr. Suha Khanfar Doctor of business administration International American University, Jordan.

11.2.4 Speech by Session Speaker Prof. Daisy Mae R.



PROF. DAISY MAE R. BONGTIWON Eulogio Amang Rodriguez Institute Of Science and Technology De la salle University Manila, Philippines.

11.2.5 – 11.2.20 Total 20 Scientific Presentations were presented in the Technical Presentation Session 2 A

12. Valedictory Function

12.1 Conference - Conclusion Summary

The 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024), held on 27th & 28th December, 2024, at Bangkok, Thailand organized by Shinawatra University, Thailand and IFERP Academy – Thailand Society brought together a diverse group of experts, practitioners, and enthusiasts from various fields. The central theme of the conference was "WCASET Nexus: Where Science, Education and Technology Converge " and it successfully fostered a collaborative environment for sharing knowledge, insights, and advancements to achieve SDGs.

Key Highlights:

The conference commenced with an inspiring Special Guest of Speech by Mr. Siddth Kumar Chhajer, MD & Founder, Technoarete Group, who emphasized the importance of Empowering Innovation: IFERP's Role in Shaping Global Research Excellence through the SDGs, multidisciplinary conferences, collaboration and innovation, QS University World Rankings and Times Higher Education (THE) University World Rankings. Keynote Speakers highlighted the recent breakthroughs and the potential for future developments in applied science, engineering & technology and multidisciplinary areas.

Research Presentations:

Over 203 research papers were presented, covering a wide range of topics. These presentations showcased cutting-edge research and fostered lively discussions.

Networking Opportunities:

The conference facilitated numerous networking events, allowing attendees to connect with peers, potential collaborators, and industry leaders. The virtual and in-person networking sessions were particularly well-received, enhancing professional relationships and sparking new partnerships.

Achievements and Outcomes:

- Several new collaborative initiatives were announced, aiming to address global challenges. These initiatives will leverage the collective expertise and resources of participating organizations.
- Publication of Proceedings including the conference proceedings, including research papers and keynote addresses, will be published. Future Conferences: Plans for the next conference were

discussed, with suggestions for topics and formats that could further enhance engagement and impact.

Closing Remarks:

In the closing session, IFERP Academy expressed its gratitude to all the participants, academic partners, sponsors, and organizers. IFERP Academy highlighted the conference's success in achieving its objectives and underscored the importance of continued collaboration and innovation. Attendees left with a sense of accomplishment and a renewed commitment to advancing in their fields.

The conference concluded on a high note, with participants energized and motivated to apply the insights gained to their respective fields. The event not only celebrated current achievements but also set a forward-looking agenda for future research and development.

13. Vote of Thanks

Dear Researchers, Academicians & Students,

As we draw to the close of this remarkable 47th World Conference on Applied Science, Engineering & Technology (47th WCASET - 2024), it is our honor and privilege to extend a vote of thanks on behalf of the organizing committee. Today has been a day filled with insights, inspiration, and invaluable networking opportunities, and none of this would have been possible without the collective efforts of many individuals and organizations.

Firstly, we would like to express our deepest gratitude to our esteemed speakers. Your expertise, thoughtful presentations, and engaging discussions have been the highlight of this conference. You have not only enlightened us with new knowledge but have also inspired us to think critically and creatively about the challenges and opportunities in our field.

A special thanks to our dedicated organizing committee and volunteers. Your hard work behind the scenes, meticulous planning, and tireless efforts have ensured that everything ran smoothly. Your passion and dedication are truly commendable, and this event could not have happened without you.

We are also grateful to our attendees. Your active participation, thoughtful questions, and enthusiastic engagement have added great value to this conference. It is your eagerness to learn and share that makes the events like this so rewarding and worthwhile.

We would like to acknowledge the venue staff for their excellent service and hospitality, providing us with a comfortable and conducive environment for our discussions and networking. Finally, I want to thank everyone who has contributed, in big ways and small, to the success of this conference. Whether you were a speaker, sponsor, attendee, or volunteer, your involvement has been crucial.

As we conclude, let us take with us the knowledge we have gained, the connections we have made, and the inspiration to drive forward in our respective fields. We look forward to seeing you at future conferences and continuing these valuable conversations.

14. Conference Glimpses











15. General Comments & Feedbacks

Overall Comments of the Participants:

- Organizing and Coordination of the conference was excellent and professional.
- Speakers were no doubt enriching.
- Overall, an excellent International Conference.
- If Workshops and Panel Discussions were integrated with the conferences, it will be better
- The introduction of the conference program was so effective that it distracts you from the research topic
- Keynote speakers talks were worth listening.
- Issues were resolved carefully.