20ACC
ASIACHEM2025
20th Asian Chemical Congress
June 23-27, 2025
Bangkok, THAILAND

Abstract E-book



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Prof. Dr. Supa Hannongbua

*Chairperson of the 20th Asian Chemical Congress (**20ACC**) or **ASIACHEM2025***

Message from the Chairperson of the 20th Asian Chemical Congress

On behalf of the organizing committee, I am delighted to welcome you all to the 20th Asian Chemical Congress (20ACC) or ASIACHEM2025, taking place from June 22nd to 26th, 2025, at the Berkeley Hotel Pratunam in the heart of Bangkok, Thailand.

For nearly four decades, the Asian Chemical Congress has served as a significant international platform in the field of chemistry, bringing together researchers and scientists from across Asia and around the world. It offers a valuable opportunity to present the latest research, exchange ideas, explore new scientific directions, and foster collaborations in both pure and applied chemistry.

The Chemical Society of Thailand jointly organizes the 20th Asian Chemical Congress (ACC) under the Patronage of Her Royal Highness Princess Chulabhorn Krom Phra Srisavangavadhana and under the auspices of the Federation of Asian Chemical Societies (FACS). We are also profoundly grateful for the generous support of various local and international organizations whose contributions have been instrumental in making this congress possible.

The 20ACC stands out for its emphasis on the theme "**Responsible Chemical Sciences for World Sustainability**," underscoring its greater significance in today's context. This congress is particularly well-aligned with the evolving role of chemistry and the chemical sciences in addressing pressing global challenges related to the environment, health, and energy.

The congress brings together almost nine hundred participants from both Thailand and abroad, representing 45 countries. Among the distinguished speakers are seven plenary lecturers, including Nobel Laureate in Chemistry (2004) Prof. Dr. Aaron Ciechanover, IUPAC President Prof. Dr. Ehud Keinan, and other renowned scientists. Additionally, approximately 200 invited speakers from 25 countries will share their expertise.

The latest advancements in chemical research, development, and education will be showcased across 11 regular sessions, 15 specialized symposia, and two side events designed to inspire and engage the younger generation with a passion for

science. The program highlights progress in both pure and applied chemistry, emphasizing their contributions to technological innovation. Moreover, the congress will feature three poster presentation sessions and a comprehensive exhibition on chemicals and scientific instrumentation.

Organizing an event of this scale would not have been possible without the dedication and outstanding teamwork of many individuals who contributed generously in various capacities. I sincerely hope that the presentations and discussions held during the congress will foster continued academic advancement and promote deeper research collaboration both within the region and globally.

Notably, the congress also provided scholarships and valuable opportunities for young chemists and scientists to engage with leading experts in their respective fields, encouraging the exchange of knowledge and the passing of research experience from one generation to the next.

Aside from the congress, you will have the chance to experience a myriad of Thailand's exceptional and exotic tourist and cultural attractions. You will find the congress both valuable and enjoyable.

Last but not least, I am confident that, with your active participation and valuable contributions, the 20th Asian Chemical Congress will be among the most successful in its history. I sincerely wish you a memorable and rewarding experience during your stay in Bangkok.

With warmest regards,

Prof. Dr. Supa Hannongbua
Chairperson of the 20th Asian Chemical Congress (20ACC) or ASIACHEM2025



Prof. Dr. Vudhichai Parasuk

President of Chemical Society of Thailand

Message from the President of the Chemical Society of Thailand

It is my great pleasure to welcome you to the 20th Asian Chemical Congress (20ACC) and to host the 22nd FACS General Assembly, which takes place from June 22 to 26, 2025, at The Berkeley Hotel Pratunam in the vibrant city of Bangkok, Thailand. This prestigious biennial event brings together chemists and researchers from across Asia and around the world to share their latest discoveries and innovations.

As President of the Chemical Society of Thailand, the proud host of this year's congress, I am honored to welcome you to what promises to be an inspiring and intellectually enriching event. The 20ACC serves as a premier platform for presenting groundbreaking research, fostering international collaborations, and cultivating lasting professional networks across all areas of chemistry.

In addition to the academic exchange, Bangkok offers a remarkable experience with its rich cultural heritage, renowned hospitality, and an array of leisure and culinary delights. We encourage you to take some time to explore and enjoy all that this dynamic city has to offer.

I wish you productive discussions, meaningful connections, and a memorable experience both at the congress and throughout your stay in Thailand.

With warmest regards,

Professor Dr. Vudhichai Parasuk
President of the Chemical Society of Thailand

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Development of Chemistry Education Research (CER) as a field of inquiry and current status of CER in the world

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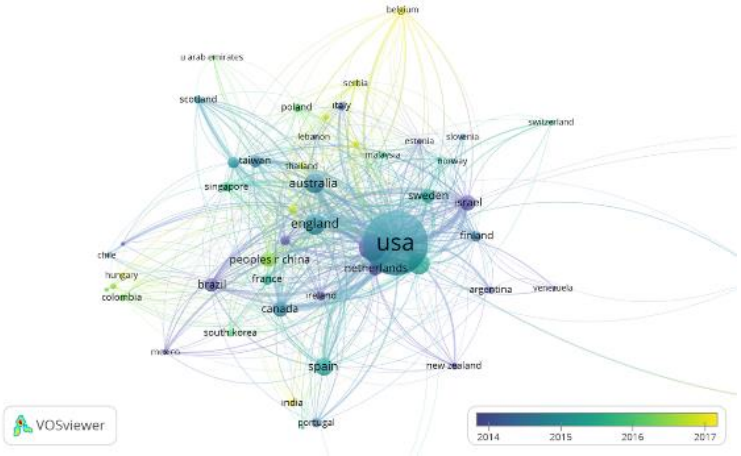
Chemistry education research (CER) could be considered as the inquiry aiming to improve the teaching and learning of chemistry. The wider scope of CER covers areas of research such matters as the chemistry curriculum; how learning of chemistry is assessed; the discipline specific aspects of how teachers are prepared for and developed in their work; the design of teaching resources that represent chemical knowledge in ways informed by knowledge of human learning processes or to support particular pedagogies [*Disc. Interdisc. Sci. Educ. Res*. **2019**, *1*, 1–8]. It is important to reveal the trends in the literature in order to develop solutions to meet these needs in chemistry education. With the determination of trends, current developments in chemistry education will be revealed and it will contribute to the planning of future research. This talk will focus on development of CER as a research field and continue with an analysis focusing on bibliometric data to show how CER is developed and what is the current status of the research output around the world. The findings will be presented in a comparative way to show the contribution of the different countries to CER.

Keywords: chemistry education research; development; history





Mustafa Sözbilir was born in 1973. He received his undergraduate and MSc degrees from Atatürk University/Türkiye in chemistry education and PhD in Educational Studies with a science education focus from the University of York/UK, in 2001. He is currently a full professor in chemistry education at the Department of Mathematics and Science Education at Atatürk University, Türkiye. His research interests include science/chemistry teacher training, students' learning in science/chemistry, undergraduates' understandings of chemical ideas in thermodynamics, trends in science/chemistry education research, and teaching science/chemistry to visually impaired students.

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