

A BRIEF HISTORY OF ATCM

The Asian Technology Conference in Mathematics (**ATCM**: <http://atcm.mathandtech.org>) was founded by Professor **Wei-Chi Yang**, from Radford University of Virginia, USA. Professor Yang learned that technologies would influence our teaching, learning and research in mathematics after he attended a two-week workshop in the US in 1991. Professor Yang subsequently delivered many presentations in several Asian Pacific regions such as Taiwan, Korea, Japan, Singapore, Malaysia, Korea, China and Hong Kong during 1991 and 1994. With further encouragements from the founders of the ICTCM (International Conference on Technology in Collegiate Mathematics), Professors Bert K. Waits and Franklin D. Demana in 1994, Professor Yang decided to launch the first ATCM at the National Institute of Education in Singapore in 1995. In his paper *Mathematics Education Reform in the East and the West Technology Issues*, he pointed out that technological tools made significant impact on mathematics teaching, learning and research in the US, and computer software had influenced ways of teaching and research in higher education. Dr. Yang was further convinced that ATCM could provide an excellent forum for mathematics educators, researchers, software developers and practitioners to discuss important issues surrounding mathematics and technology.

The National Institute of Education in Singapore hosted the very first Asian Technology Conference in Mathematics in 1995. The purpose of this conference was to facilitate a series of discussions on the use of computers and related software in mathematics research and teaching among Asian countries. The conference theme was *how Mathematics Software could be used in Research and Teaching Activities*. The conference attracted more than 300 scholars from 22 countries around the world. About 40% of participants were from Singapore and 60% from other countries. More than 80 presented papers were published in the conference proceedings. The conference had wonderful support from participants around the world as well as software and hardware developers.

The ATCM is actually an international conference held in Asian Pacific regions annually. We list the hosting universities from 1997 to 2018 as follows:

- ATCM 1997 was held in Penang (**Universiti of Sains Malaya**), in Malaysia. Topics such as *Distance Learning* and *Teaching with Multimedia Technologies* started appearing.
- ATCM 1998 was held in **University of Tsukuba**, in Japan. Scholars gathered in the University of Tsukuba for the third ATCM conference. Although the conference theme was *Research and Teaching with Computer Algebra Systems (CAS)*, the topic *Computer Assisted Teaching and Learning in Mathematics* was also among the main topics discussed. The topic of *Distance Learning through the World Wide Web* was seriously discussed as well.
- ATCM 1999 was held in Guangzhou Normal University, China, and hosted by Guangzhou Normal University, with the theme of *Applying Scientific and Technological Methods in Mathematics Research and Teaching*. The conference first established the *Best Papers Award*.
- ATCM 2000 was held in Chiang Mai, Thailand, and hosted by **Chiang Mai University**. The major

topics for the conference were *Graphics Calculators, Computational Algebra and Geometry, Internet Technology for Mathematics, Machine Learning and Theorem Proving, and Parallel and Distributed Computing and Applications*.

- ATCM 2001 was held in Melbourne, Australia, and was hosted by **RMIT University**. The major topics discussed at this conference included *Implementing Technology in Education from K-12 to University Level, Assessment of Implementation of Technology in Education, and Mathematics and Information Technology*.
- ATCM 2002 was held in Melaka, Malaysia, and hosted by **Multimedia University**. The major theme of the conference was *Multimedia for the Advancement of Mathematics*. At this year's conference, suggested by the host University, *Multimedia Distance Learning* was added as one of the major topics for discussion. More than 300 scholars attended the conference. The number of participants was about the same as in the previous conferences. More than 90 presented papers were published in the conference proceedings.
- ATCM 2003 was held in Hsin-Chu, Taiwan, and hosted by **Chung Hua University**. This was the very first ATCM conference in Taiwan. Like the hosting universities of the previous ATCM conferences, Chung Hua University made great efforts to make the conference a success. This year's conference attracted experts in this field from all over the world, and provided opportunities for Taiwanese experts in this field to exchange ideas and experiences with the conference attendees. This made clear that ATCM was the most important conference in the field of technology application in mathematics research and teaching in Asia.
- ATCM 2004 was held in Singapore, and hosted by the **National Institute of Education** and Nanyang Technological University. The conference theme was *Technology in Mathematics: Engaging Learners, Empowering Teachers, and Enabling Research*. The conference attracted over 400 participants around the world.
- ATCM 2005 was held in Cheong-Ju, South Korea, and hosted by **Korea National University of Education**. The conference theme was *Enriching Technology in Enhancing Mathematics for All*.
- ATCM 2006 was held in Hong Kong, and hosted by the **Hong Kong Polytechnic University**. The conference theme was *Advancing and Fostering Mathematical Sciences and Education through Technology*.
- The ATCM Conference was conducted in Taiwan for the second time in 2007. At this time ATCM 2007 was hosted by the **National Tsing Hua University**. The conference theme was *Making Mathematics Fun, Accessible and Challenging through Technology*. The number and reputation of the speakers has surpassed the records of all previous conferences. The Electronic Proceedings of ATCM 2007 are now available at this site, <http://atcm.mathandtech.org/EP2007/EP2007.htm>.
- The 13th Asian Technology Conference in Mathematics was held at **Suan Sunandha Rajabhat University**, in Bangkok, Thailand in December 15-19, 2008. Thanks to IPST, MOE and many sponsors, the conference was well attended by over 400 participants representing from over 33 countries around the world. We are sure many of you, who have attended the conference; agree that the conference was indeed both enjoyable and instructive thanks to the hospitality of hosting university.
- The 14th ATCM at the **Beijing Normal University, Beijing, China**, December 17-21, 2009 was a blast, we attracted over 400 participants representing 29 countries. There were lots of interests in the use of technology from school teachers in China. We believe we will come back to China soon.
- The 15th ATCM was hosted by the **University of Malaya, Kuala Lumpur, Malaysia**, December 17-21, 2010. The country is in the process of changing the education curriculum using local languages in addition to English. We hope ATCM 2010 did provide enough guidelines and stress the importance of integrating technology in mathematics teaching and learning for the country.

- The 16th ATCM was hosted by the **Abant İzzet Baysal University, Bolu, Turkey**, September 19-23, 2011. The selection of Turkey is symbolic, it shows the ATCM is not only an international mathematics and technology conference held in Asia but because of location of the venue, we have attracted many European participants to this event. All in all, attracted over 300 participants from over 25 countries.
- ATCM 2012 with the theme of "*Creative and Critical Thinking in Mathematics Through Technology*" was held at **Suan Sunandha Rajabhat University**, in Bangkok, Thailand (December 16-20, 2012) second time in ATCM history. It was co-sponsored by the Institute for Promotion and Science and Technology of Thailand, the conference attracted over 400 local and foreign participants representing 28 countries around the world. The enthusiasm of participations from abroad and local, as expected, is overwhelming, and the Local Organizing Committee made a splash on the cultural performance during the conference dinner.
- The 18th ATCM, carrying the theme of "*Technology Integration in Math Curriculum*", was first time held in India at IIT-Powai, Bombay of December 7-11, 2013. It was indeed a remarkable experience to see various corners of lives from Mumbai. The success of the conference can be seen from many smiling faces from local and foreign participants during the closing ceremony.
- The 19th ATCM, November 26-30, 2014, was held jointly with local conferences at the State University of Yogyakarta, Yogyakarta, Indonesia. With the contributions from all parties, there were over 500 participants representing 20 countries and regions around the world at the joint conference. We were thrilled to see many wonderful local presentations in English. Thanks to the efforts of LOC, the detailed planning of the programs including performance at the reception, conference dinner, and closing ceremony were very much enjoyed by all participants. The ATCM 2014 indeed has been an enjoyable and instructive conference.
- We celebrated the 20th ATCM (ATCM 2015) during December 16-20 in Leshan China, which we attracted over 300 participants representing 22 countries and regions around the world. This is the first time we invited two members of the Chinese Academy of Sciences, Professor Zhang Jing-zhong and Professor Lin Qun to give plenary speeches. The performances during the conference reception, opening ceremony, and conference dinner were all very enjoyable. We thank HP for providing ATCM 2015 an opportunity to bring participants to visit local middle schools in Leshan to observe how teachers and students utilize the technological tool in a classroom. The conference boat tour to Leshan Giant Buddha was also delightful too. The conference theme for ATCM 2015 was 'Celebrating Mathematics and Technology'.
- The 21st ATCM (ATCM 2016) was held in Pattaya, Thailand. We are very thankful that the conference was organized by SSRU of Thailand and sponsored by the IPST of Thailand for the third time since 2008 and 2012. We start seeing the conference is being attended by many high school students from China and participants truly appreciate such an internationally renowned conference is being held in Asian Pacific regions year after year.
- The 22nd ATCM was held in Zhongli, Taiwan, and was hosted by Chung Yuan Christian University during December 15-19. The conference attracted over 350 participants representing over 20 countries around the world. Presenters celebrated the theme of *Technological Creativity and Innovation in Mathematics Applications*.
- The 23rd ATCM was held in Yogyakarta State University in Indonesia during November 20-24, 2018. The conference attracted over 300 participants from over 20 countries. We can humbly say that the conference has made the promise of being instructive and enjoyable. The conference theme was Innovative Technology in Mathematics: New Ways for Learning, Teaching, and Researching Mathematics.
- We held the 24th ATCM at the Leshan Vocational and Technical College during December 15-19, 2019. Under the leadership of the president, IPC member and chair of LOC, Professor Liu Zhong provided a wonderful conference venue for ATCM 2019. We are extremely grateful for his efforts.
- We celebrated the 25th ATCM through an unexpected virtual format due to the pandemic, it was hosted by the Radford University, Virginia USA, and the Suan Sunandha Rajabhat University of Thailand

during December 14-16, 2020. It was a marathon conference which lasted almost 9 hours each day. The conference was a great success with the presenters and participants from over 26 countries such as Singapore, Australia, China, Taiwan, Philippines, Thailand, Japan, India, Pakistan, Malaysia, USA, Brazil, Poland, UAE, Portugal, Mexico, Canada, UK, Luxembourg, Sweden, Spain, Hungary, Austria, Israel, Iceland, Germany and many more. The complete proceedings with video clips can be found at the Electronic Proceedings of ATCM 2020 at <https://atcm.mathandtech.org/EP2020/>. We are proud to say this year's Proceedings have been indexed by Scopus.

- Due to Covid-19, we held the 26th ATCM in virtual format again. We were happy to have mini-sessions, which were conducted in face-to-face and virtual hybrid modes. These are contributed by Universidad Antonio de Nebrija (Madrid), Spain, University of South Bohemia, Czech Republic, Jerusalem College of Technology, Israel, Radford University, USA and Suan Sunandha Rajabhat University, Thailand. As we did in the 25th ATCM, we successfully ran the virtual conference during December 13-15, from mornings to evenings, whose high levels of enthusiasm were demonstrated by ATCM participants. We attracted participants from over 30 countries around the world.
- The ATCM 2022 was originally planned as an in-person conference at the beginning, we switched to a hybrid mode only in August of this year due to necessity. We had about 70 international participants representing 22 countries at this ATCM 2022 (40 of whom are in-person and 30 are virtual). This is the first time we have held a face-to-face meeting since ATCM 2019 due to Covid-19. We are very thankful to the hosting university, Czech University of Life Sciences Prague (CZU), for hosting the ATCM for the first time in Europe. We are proud to present the special session, which will be presented virtually, from Madrid on December 12, 2022.
- The 28th ATCM, which was held at the Nongnooch Pattaya Garden & Resort, Pattaya, Thailand, from December 10-13, 2023. It was organized as a hybrid mode, where we gathered renowned speakers from around the world. We particularly thank many local high school teachers and students who presented some interesting mathematical discoveries during the conference.

We are at the crossroads of integrating evolving technological tools into teaching and research in mathematics. The adoption of technology varies from country to country. Many people wonder if students from some countries did so well in the Program for International Student Assessment (*PISA*), where is the role of technology? Some will say that it is not simply how well students can perform in a test, it is how well they can discover more mathematics (if technological tools are adopted) and enhance their mathematics understanding to a higher level. In addition, we believe that making basic knowledge of math and science accessible to more people is essential in any education system.

Come, join us, and contribute to **the 29th ATCM**, which is to be held at the Yogyakarta, Indonesia, hosted by Universitas Negeri Yogyakarta December 8-11, 2024. For more information, please visit the website at <https://atcm.mathandtech.org/>.

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