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Volume 15, Issue 1 April 2026

ICIAM Dianoia: The Newsletter of the International Council for Industrial and Applied Mathematics

In the April edition, Dianoia continues to bring its readers current and relevant topics for the global mathematical community. As usual, we gather content that encourages reflection, such as the recent discussion on gender equality in scientific organizations, highlighting both progress and ongoing challenges.

We also feature initiatives that connect mathematics to broader impacts, such as the KE Hub Maths, as well as the announcement of the list of invited speakers for the ICIAM 2027 Congress, anticipating important discussions for the years ahead.

In this way, we continue to share events, trends, and topics that engage with the present and the future of mathematics, keeping our community close and well informed.

José Alberto Cuminato

Editor of Dianoia

Dear ICIAM colleagues and friends,

This new edition of our newsletter *Dianoia* once again contains a wide range of interesting contributions from across our global community. It is always encouraging to see how active and engaged our member societies are, and how strongly industrial and applied mathematics continues to develop worldwide.

From my side, I would like to highlight a number of ongoing activities and developments within ICIAM.

First of all, preparations for the ICIAM 2027 Congress in The Hague are progressing steadily. We are now clearly moving from the planning phase into a more visible and outward-facing stage. The local organisers are working intensively on all aspects of the congress, and recently the call for contributions has been published. In addition, the list of invited speakers is now available, providing an exciting preview of the scientific programme that is taking shape.

In parallel, we have started activities to prepare the Dutch public for the congress. In the coming year, a series of workshops and outreach events will be organised, aimed at increasing awareness of the importance of mathematics for societal and industrial challenges. In this way, the congress will not only be a major scientific event, but also an opportunity to showcase mathematics more broadly.

As always, the ICIAM prizes will be an important highlight of the congress. The prize committees are currently very busy handling a large number of nominations for the six ICIAM prizes as well as for the Olga Taussky-Todd Lecture. The quality and diversity of nominations once again demonstrate the strength of our field worldwide. The prize winners will be announced during the congress itself.

In connection with ICIAM 2027 and the 40th anniversary of our organisation, several publications are in preparation. A book with success stories is being developed, presenting impressive case studies from all over the world on the impact of mathematics in industry and society, complemented by interviews with well-known figures. In addition, a booklet dedicated to the 40-year history

Looking at upcoming events, I would like to draw your attention to the Joint ASEAN–Africa Workshop on Computational and Applied Mathematics, which will take place in Singapore from 13–17 April. This workshop is a very nice example of how ICIAM supports connections between regions, strengthens emerging communities, and fosters international collaboration. I hope that this initiative will be a great success and lead to further joint activities in the future.

In addition, I am very pleased to announce that the renewed ICIAM website is now online. The website has been completely redesigned, with a fresh and modern look, and has been structured in a way that will better support our activities in the years to come. All essential information remains available, but the new platform offers improved accessibility and flexibility for future developments. This renewal has been made possible through the dedicated efforts of a working group consisting of Yvonne Stokes (chair), Kenji Kajiwara, and Jose Carrillo, who have worked intensively over the past year together with the company responsible for the implementation. I would warmly encourage all our members, as well as the broader community, to explore the new website and share their impressions with us — your feedback is most welcome.

Finally, I would like to remind you that next year we will have elections for several officer positions within ICIAM. In view of the importance of these roles, I kindly invite all member societies to start thinking about potential candidates. Strong and dedicated leadership is essential for continuing the development and visibility of our organisation.

All of these activities underline that ICIAM is steadily building towards an important milestone in 2027, while at the same time continuing its mission to promote industrial and applied mathematics worldwide.

I sincerely hope we can continue to count on your support and engagement. Please do not hesitate to share your ideas and suggestions with us. By working together, we can further strengthen the role and visibility of mathematics in science, industry, and society. This remains our shared mission.

With warm regards,

Wil Schilders
President of ICIAM

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NEWS

Updates - ICIAM 2027

By Kees Vuik

Chair Local Organising Committee

It is my pleasure to update you on the progress of the organization of the 11th ICIAM Congress, which will take place in The Hague, The Netherlands, from 12 to 16 July 2027.

Call for mini symposia and posters

The call for mini symposia and posters is open. In order to limit the number of parallel sessions to 45, we are strongly encouraging poster presentations at the congress. Dedicated slots have been reserved in the program for poster sessions, which will be organised in such a way that related posters are grouped together. Using the congress app, participants will be able to locate the posters they are looking for easily. As is customary for a congress of this size, each participant may give only one presentation, either a poster presentation or a presentation in a mini symposium. Organizers of a mini symposium are asked to have 4 or 8 speakers in their mini symposium. This means that a maximum of 2 mini symposia can be organized on one subject.

Satellite Meetings Program

Two Satellite Meetings Programs have already been approved and published on the website. We would also like to draw your attention to the option to propose a workshop at the Lorentz Center in Leiden. Workshops at the Lorentz Center are highly interactive events, well suited if you want to go beyond sharing information and for instance explore future research directions together. The application and evaluation process is managed by the Lorentz Center, with final approval by ICIAM. For information about the Lorentz Center and the application

in the first sentence of the application, that you are interested in an ICIAM-Lorentz 2027 satellite event. Note that the deadline to submit a proposal for a workshop/satellite event at Lorentz Center is May 28, 2026.

Programme Committee

The Programme Committee is responsible for the general program and the selection of the invited speakers. For the ICIAM 2027 Congress the Programme Committee consists of:

- Barbara Wohlmuth, Technische Universität München, Germany (Chairperson)
- Gang Bao, Zhejiang University, Hangzhou, China
- Małgorzata Bogdan, University of Wrocław, Poland
- Analisa Buffa, EPFL Lausanne, Switzerland
- José Alberto Cuminato, University of São Paulo, Brazil
- Lisa Fauci, Tulane University, USA
- Eduard Feireisl, Institute of Mathematics AS, Czech Republic
- Poul G. Hjorth, Technical University of Denmark
- Sarah Knepper, Intel, USA
- Stefan Kurz, Bosch, Germany and ETH Zurich, Switzerland
- Monique Laurent, CWI, The Netherlands
- Chang-Ock Lee, KAIST, South Korea
- Mark Lewis, University of Victoria, Canada
- Tom Luo, Hong Kong Chinese University at Shenzhen, Shenzhen, China
- Mary Myerscough, University of Sydney, Australia
- Marie Rognes, imula Research Lab., Oslo, Norway
- Giovanni Russo, University of Catania, Italy
- Kazue Sako, Waseda University, Japan
- Zhouwei Shen, National University of Singapore
- Helen Wilson, University College London, United Kingdom
- Jun Zou, Chinese University of Hong Kong

Local Organising Committee

The Local Organising Committee is responsible for all activities required to ensure that the ICIAM 2027 Congress is well organised and successful. To structure its work effectively, the Committee has established a number of subcommittees, each focusing on specific areas. Important is the close collaboration with the Professional Conference Organiser (PCO): Congress by design.

- Kees Vuik, Delft University of Technology, The Netherlands, Chair
- Diederik Fokkema, ADC Consulting, The Netherlands
- Volker Mehrmann, Technische Universität Berlin, Germany
- Vivi Rottschäfer, Leiden University, The Netherlands
- Véronique Maume-Deschamps, Université Claude Bernard Lyon 1, France
- Karen Veroy-Grepl, Eindhoven University of Technology, The Netherlands
- Rosa M. Donat, University of Valencia, Spain

Summary

Announcement of the List of Invited Speakers for the ICIAM 2027 Congress

Kees Vuik
Chair Local Organising Committee

It is my pleasure to announce the list of invited speakers for the ICIAM 2027 congress, which will take place in The Hague, the Netherlands, from 12 to 16 July 2027. On behalf of ICIAM, I would like to congratulate and thank Barbara Wohlmuth, chair of the Scientific Program committee, together with all committee members, for the excellent work they have done in creating this list. Throughout the process, and following the advice of the ICIAM Board, they have sought to maintain a good balance in terms of gender, geographical

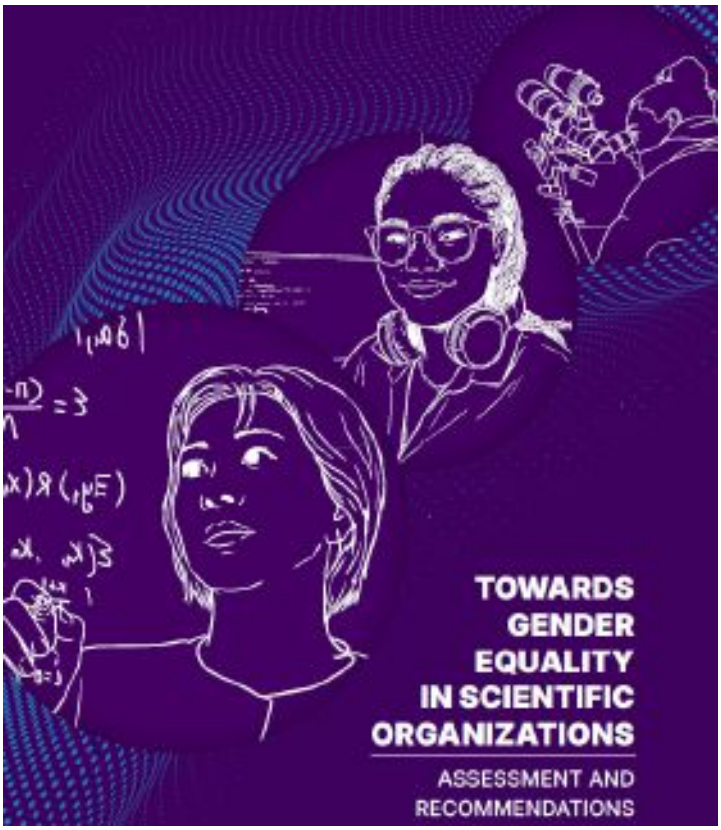
many participants to attend the congress. For more information visit the congress site: iciam2027.org

Invited Speakers

- Prof. Chris Budd (University of Bath, UK)
- Prof. Kees Oosterlee (Utrecht University, The Netherlands)
- Prof. Weizhu Bao (National University of Singapore, Singapore)
- Prof. Paola F. Antonietti (MOX Politechnico di Milano, Italy)
- Dr. Luciana Buriol (Amazon, USA)
- Prof. Zhiming Chen (Chinese Academy of Sciences, China)
- Prof. Qiang Du (Columbia University, USA)
- Prof. Bin Dong (Peking University, China)
- Prof. Heather Harrington (Max Planck Institute of Molecular Cell Biology and Genetics, Germany)
- Prof. Shi Jin (Institute of Natural Sciences, Shanghai Jiao Tong University, China)
- Prof. Peijun Li (Purdue University, USA)
- Prof. Henrik Madsen (Technical University of Denmark, Denmark)
- Prof. Anotida Madzvamuse (University of British Colombia, USA)
- Prof. Verdiana Grace Masanja (Nelson Mandela African Institution of Science and Technology, South Africa)
- Prof. Ruth Misener (Imperial College London, UK)
- Dr. Tatsuaki Okamoto (NTT, Japan)
- Prof. Carola Bibiane Schonlieb (University of Cambridge, UK)
- Prof. Tiago Pereira da Silva (ICMC USP, Brazil)
- Prof. Kate Smith Miles (University Melbourne, Australia)
- Prof. Zhouping Xin (Chinese University of Hong Kong, China)
- Prof. Lei Zhang (Peking University, China)
- Dr. Magnus Fontes (ROCHE, Switzerland)
- Dr. Kate Clark (NVIDIA, USA)
- Prof. Pawel Dlotko (Polish Academy of Sciences, Poland)
- Prof. Camillo De Lellis (Institute for Advanced Study, Princeton, USA)
- Prof. Shafrira Goldwasser (Simons Institute, UC Berkeley, USA)
- Prof. Katherine Evans (Oak Ridge National Laboratory, USA)

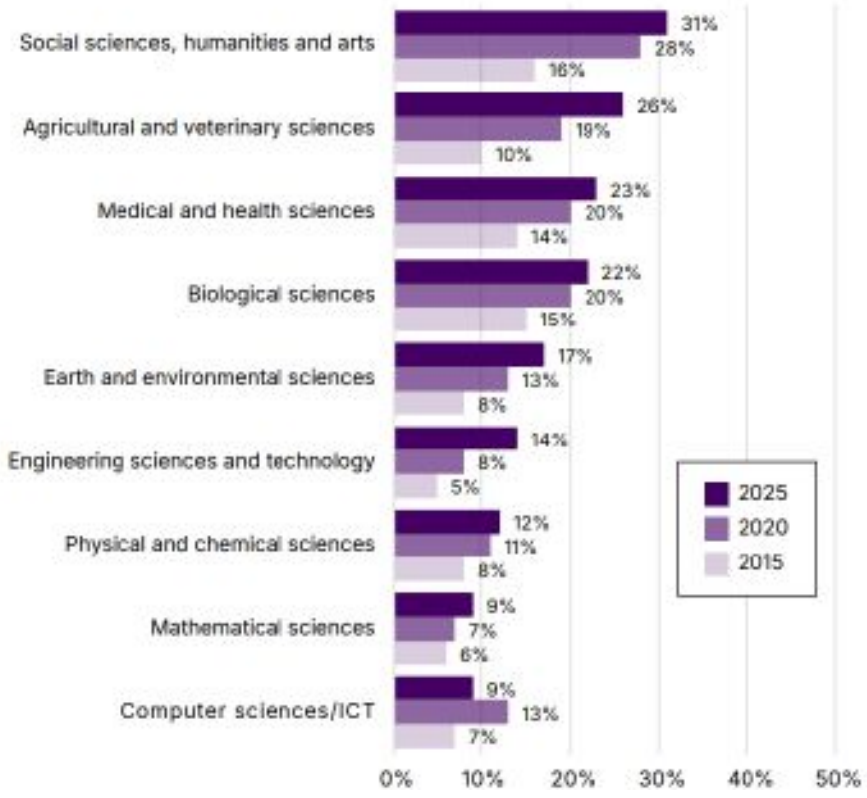
Summary

ISC, IAP, and Gender Equality Committee Release Joint Report on Gender Equality in Scientific



A collaboration between the International Science Council (ISC*), the InterAcademy Partnership (IAP*), and the Standing Committee for Gender Equality in Science (SCGES*) has resulted in a report, "Towards Gender Equality in Scientific Organizations: Assessment and Recommendations". This report overviews the current shape of gender equality in scientific unions and academies and is the result of surveys of scientific unions, science academies, over 500 individual scientists, and several interviews with representatives of unions and academies. These instruments were utilized to develop an understanding of women's roles in academies of science, medicine and engineering, as well as in international scientific unions, organizations which play an important role in shaping scientific agendas, recognizing scientific excellence, and advising policymakers. In executing these activities, these organizations influence whose expertise is visible and whose voices are heard in science. This report presents several findings showing where gaps exist and a series of recommendations which organizations can adopt to reduce them.

The results generated by the study show that in general, the situation in national academies is far worse than in scientific organizations, like thematic unions (ICIAM, IMU in mathematics, IUPAP, IUPAC, etc.). For instance, in the Mathematical Sciences sections of national academies, globally, the percentages of women are very low compared to other sections. In addition, while the



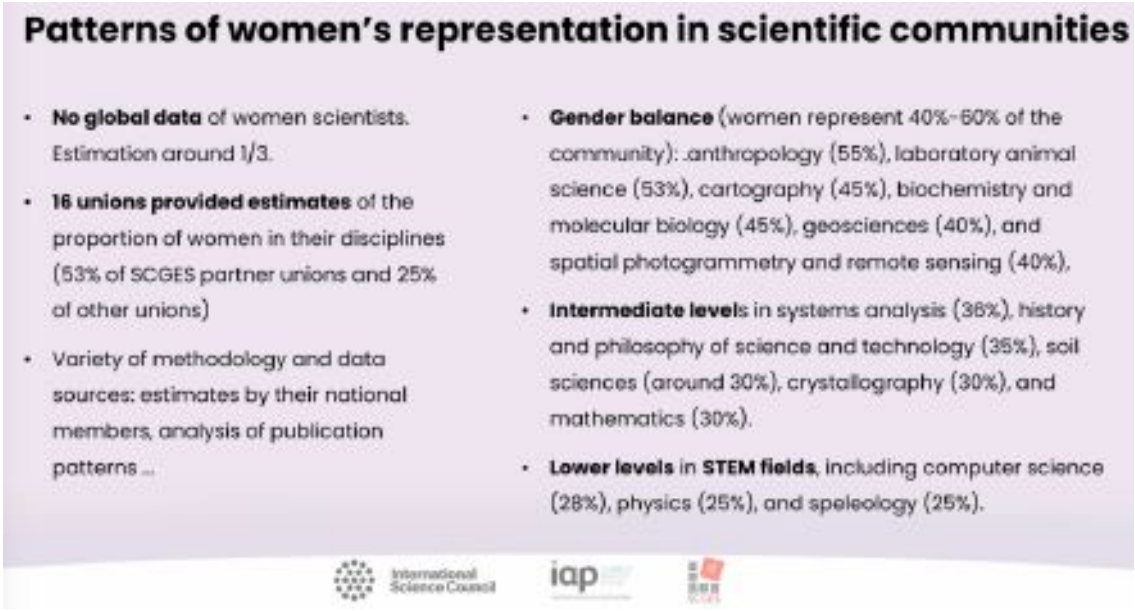
Graphic taken from the ISC-IAP-SCGES report

In 2015 the percentage of women in the mathematical sciences sections of academies was 6%, in 2020 it was 7%, and in 2025 it was 9%. A very (certainly too) slow increase. In the above graphic you can see that Mathematics is not doing well compared to other sciences, except with respect to Computer Science, as far as national academies are concerned. It is also interesting to look at the geographic data. If considering all sciences, without distinction, the best national academies with respect to gender equality are the following:

are **spread geographically**.

- Cuban Academy of Sciences – 39%
- Academy of the Social Sciences in Australia – 38%
- Science Council of Japan – 38%
- Nepal Academy of Science and Technology – 34%
- Mauritius Academy of Science and Technology – 33%
- Royal Society of New Zealand Te Apārangi – 31%
- National Academy of Sciences of Costa Rica – 30%
- Royal Flemish Academy of Belgium for Science and the Arts – 28%
- Pontifical Academy of Sciences – 28%
- Ecuadorian Academy of Sciences – 26%

But if we look at the results of this study concerning scientific organizations, the situation is globally better, and much better concerning Mathematics:



That is, Mathematics is in the middle this time, with an approximate number of 30% of women if we look globally at ICIAM + IMU and the communities they represent.

Interesting information is also available about prize recipients and women in leadership positions. For instance, the gender representation in union leadership is relatively strong: on average women hold 40% of leadership positions. Among the unions which participated in the survey, the share of women in governing bodies rose from 31,8% in 2020 to 45,5% in 2025. Concerning prizes awarded by

Detailed and quite interesting information about this topic can be found in the report, which is available at the SCGES website: https://gender-equality-in-science.org/wp-content/uploads/2026/02/Towards-gender-equality-in-scientific-organizations_final.pdf

To cite this report: International Science Council, InterAcademy Partnership and Standing Committee for Gender Equality in Science (February 2026) Towards gender equality in scientific Organizations: assessment and recommendations. DOI: 10.24948/2026.03.

- The ISC is an international non-profit organization with a unique global membership that brings together 250 scientific organizations around the world, including international scientific unions and associations, national science academies and research councils, international and regional federations and societies, and academies and associations of young scientists. The mission of the Council is to be the global voice for science.

- The IAP is the global network of science, engineering & medical academies working together to provide independent expert advice on scientific, technological & health issues.

- The SCGES is a committee created in 2020 by nine organizations who took part in the project "A Global Approach to the Gender Gap in Mathematical, Computing, and Natural Sciences: How to Measure It, How to Reduce It?". Its partners are now 25 international scientific unions sharing the goal of fostering equal opportunity and treatment for women in scientific careers. ICIAM is a founding partner union in SCGES. ICIAM is represented in SCGES by Carol Woodward (SIAM), who currently serves as Chair of SCGES, and Guying Yan (CSIAM).

Maria J. Esteban
Chair of the ISC Committee of ICIAM, acting as ICIAM representative at the ISC general assembly and meetings

Carol Woodward
Representative of ICIAM in the SCGES and currently chair of the SCGES

Summary

Sciences

The UK Knowledge Exchange Hub for Mathematical Sciences (KE Hub) is a national initiative designed to connect the United Kingdom's academic mathematical sciences community with business, industry, and government (BIG). Launched in 2022, hosted by the Isaac Newton Institute at the University of Cambridge, and funded by the UK's Engineering and Physical Sciences Research Council (EPSRC), the KE Hub was established following a national review that recommended creating an organisation to facilitate turning mathematical research into real-world impact across the UK.

The KE Hub has established itself to be an outward-facing, inclusive organisation that mobilises mathematical sciences expertise from across UK universities to address practical challenges. It operates across all areas of mathematics and engages organisations of all sizes and sectors.

During its 2022–2025 start-up phase, the KE Hub established strong governance structures, and also built three interconnected national communities: 60 KE Champions representing departments at 52 UK universities, 68 KE Professionals from 38 institutions and national bodies, and 96 BIG Partners, including 45 small and medium-sized enterprises. Regular

knowledge exchange.

A flagship initiative is the National Triage Workshop series, launched in 2024 as fortnightly online sessions where companies and government bodies present live challenges to academic mathematical scientists from across the UK. By mid-2025, 25 workshops had engaged 285 academics from 47 universities, leading to new partnerships with organisations including easyJet and the UK Office for National Statistics.

The KE Hub has also delivered national online training programmes, supported European-style study groups with industry, launched thematic Working Groups in priority areas, and piloted short collaborative projects to cement academic–industry partnerships.

With £2.1 million of UK public funding secured in 2025 to continue the KE Hub through to 2029, the KE Hub is now positioned as the recognised UK focal point for mathematical sciences knowledge exchange. For more details of the KE Hub's activities, structures, and successes, please see The Start-Up Phase 2022–2025 report; further information about current initiatives may be found by visiting www.kehubmaths.org.uk.

Chris Breward
Scientific Director, UK Knowledge Exchange Hub for Mathematical Sciences
Mathematical Institute
University of Oxford

Summary

Latin American Council of Industrial and Applied Mathematics (LACIAM) is established to strengthen regional collaboration

Agreement connects scientific societies from seven countries to promote integration and joint action across the area

The Latin American mathematical community has taken an important step toward deeper integration with the creation of the Latin American Council of Industrial and Applied Mathematics (LACIAM). The initiative consolidates years of collaboration among scientific societies and establishes a coordinated framework to promote research, events, and cooperation in the field.

The origins of the agreement date back to 2019, when its first version – then called CLAMACI – was signed during the National Congress of Applied and Computational Mathematics (CNMAC) in Uberlândia, Brazil. This initial effort laid the groundwork for reciprocity and joint action among participating institutions.

A major milestone was reached on December 27, 2025, when the agreement was formally updated and expanded, consolidating the creation of LACIAM as a regional council. The document reinforces the commitment of the signatory societies to unify efforts, strengthen scientific development, and increase the international visibility of applied mathematics in Latin America.

The agreement brings together seven leading scientific societies in the region: the Argentine Association of Applied, Computational and Industrial Mathematics (ASAMACI); the Brazilian Society of Applied and Computational Mathematics (SBMAC); the Colombian Society of Mathematics (SCM); the Ecuadorian Society of Mathematics (SEdeM); the Paraguayan Mathematical Society (SMP); the Peruvian Society of Applied and Computational Mathematics (SPMAC); and the Chilean Society of Applied, Industrial and Societal Mathematics (SMAIS).

[redacted], who serves as President of the SBMAC. The initiative is designed to function as a coordinating body, fostering collaboration, aligning regional efforts, and promoting strategic actions across Latin America.

Among its main objectives are the promotion of scientific collaboration through joint events, publications, and research initiatives, as well as the implementation of reciprocity benefits among member societies. These include discounted membership fees and equal access to event registration conditions, facilitating greater integration and mobility within the scientific community.

A central pillar of LACIAM's activities is the organization of the Latin American Congress on Industrial and Applied Mathematics, a quadrennial event that brings together researchers, professionals, and students from across the region. The congress has already held two editions: the first in January 2023 at Fundação Getulio Vargas (FGV), and the second in January 2026 in Valparaíso, Chile, each gathering more than 200 participants. The third edition is scheduled for March 2030 in Mar del Plata, Argentina.

The formal announcement of the council took place during the second edition of the congress in Chile, marking a key moment of convergence between institutional coordination and scientific exchange.

The full agreement is available on the SBMAC website.

Looking ahead, a virtual meeting is planned for the second half of this year to further define the council's strategic agenda and expand its network. There is also an expectation that additional scientific societies in the region – such as Mexico's – may join the agreement in future updates, reinforcing its broader integrative ambition.

By consolidating institutional partnerships and promoting coordinated action, LACIAM represents a significant step toward strengthening applied and industrial mathematics in the region and enhancing its presence on the global scientific stage.

"We are very pleased with this agreement, which represents the culmination of efforts spanning more than a decade. These efforts began with contributions from researchers such as Domingo Tarzia (Argentina), Christian E. Schaerer (Paraguay), Juan Carlos De Los Reyes (Ecuador), João Frederico C. A. Meyer (Brazil), among many others. Each step forward reflects meaningful progress in strengthening our collaborations. In recent years, the Executive Board of SBMAC has actively worked to engage Latin American colleagues by inviting them to

are confident that this initiative will further bring our scientific communities together and foster a more unified and collaborative environment", Aronna said.

Summary

Gerd Faltings awarded the 2026 Abel Prize

The Norwegian Academy of Science and Letters has decided to award the Abel Prize for 2026 to Gerd Faltings of the Max Planck Institute for Mathematics, Bonn, Germany

Gerd Faltings - Abel Prize Laureate 2026. Photo: Peter Badge/Typos1/The Abel Prize 2026

"for introducing powerful tools in arithmetic geometry and resolving long-standing diophantine conjectures of Mordell and Lang"

Historical mathematical riddles at the heart of the Abel Prize

Towering figure

Gerd Faltings is a towering figure in arithmetic geometry. His ideas and results have reshaped the field. Not only did he settle major long-standing conjectures, but he also established new frameworks that have guided decades of subsequent work. His exceptional achievements unite geometric and arithmetic perspectives and exemplify the power of deep structural insight.

Diophantine equations

One of the oldest and most central parts of mathematics is solving equations using only integers (a whole number which is either positive, negative or zero). These problems are called diophantine equations. One example is given by the Pythagorean theorem ($x^2+y^2=z^2$). This equation has infinitely many solutions that are integers. Two simple examples are $3^2+4^2=5^2$, or 9+16=25, and 52 + 122 = 132, or 25 + 144 = 169. Diophantine equations are at the core of Gerd Faltings' work within arithmetic geometry.

Historical mathematical mysteries

A diophantine problem known as the Mordell conjecture (1922) had fascinated the mathematical world for 60 years. This conjecture says that a wide class of equations can only have finitely many rational solutions. Faltings did not start out with the goal to solve the conjecture but hoped something interesting would come out of the work. Suddenly cracking this riddle that had puzzled the mathematical world for so long, made him famous overnight in 1983. The proof amazed the experts. Thus, the Mordell conjecture became Faltings' theorem.

In the following decades new problems were solved like mathematical pearls on a string for Faltings.

In 1989, another mathematician, Paul Vojta, found an alternative solution to the Mordell conjecture. Inspired by this, Faltings developed a new tool, known as Faltings' product theorem. Using this tool, he cracked another enduring mathematical conundrum – the Mordell-Lang conjecture. This is also one of his great achievements.

Gerd Faltings - Abel Prize Laureate 2026. Photo: Peter Badge/Typos1/The Abel Prize

Early years

fellow at Harvard. “My first goal was to get tenure, so I could make a living out of mathematics”, Faltings said in 2024.

At the age of 28, in 1982, he became a full professor at the University of Wuppertal, Germany. The following year he proved the Mordell conjecture and thus turned it into Faltings’ theorem.

While working at Wuppertal, he met fellow mathematician Angelika Tschimmel. The couple married in 1984. Sadly, Angelika passed away in 2011. In 1985 Faltings took up a full professorship at Princeton University, where their two daughters were born. He also was a visiting scholar at the Institute for Advanced Study in Princeton, New Jersey on several occasions.

Faltings and his family moved back to Germany in 1994, and he took a post at the Max Planck Institute for Mathematics in Bonn. Being a director there gave Faltings exceptional freedom to pursue his research. As one of the most prominent mathematicians in Germany, he attracted a lot of talent, and the institute in Bonn became a worldwide centre for arithmetic algebraic geometry.

Today, an emeritus director at the Max Planck since 2023, Faltings continues his research. “I’m still doing maths, but I don’t have to go to administrative meetings”, Faltings said in a previous interview.

Awards and honours

- 2026 – The Abel Prize
- 2024 – Pour le Mérite
- 2017 – Cantor Medal
- 2015 – Shaw Prize
- 2014 - King Faisal International Prize
- 2010 - Heinz Gumin Prize
- 2008 – von Staudt Prize
- 1996 – Leibniz Prize
- 1988 – Guggenheim Fellowship
- 1986, 1994 - ICM Speaker
- 1986 – Fields Medal
- 1983 – Dannie Heineman Prize

Member of

- North Rhine-Westphalian Academy of Sciences, Humanities and the Arts
- Deutsche Akademie der Naturforscher Leopoldina

- The Göttingen Academy of Sciences and Humanities
- The Royal Society (UK)
- National Academy of Sciences (US)
- The Norwegian Academy of Science and Letters

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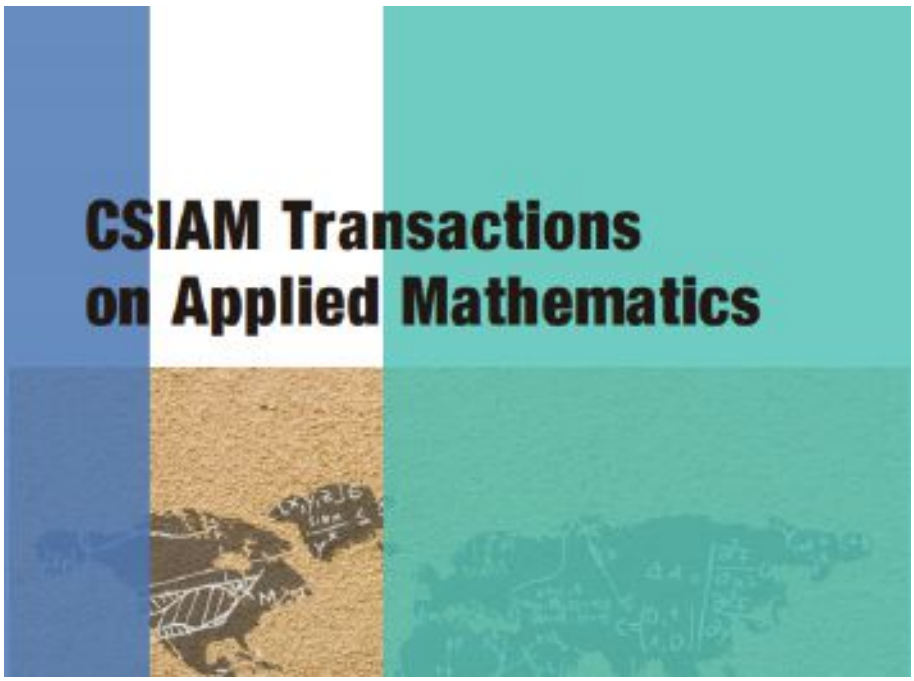
Summary

CSIAM-AM Launches a Special Issue on African Applied Mathematics to Deepen China-Africa Academic Cooperation



Mathematics (ICIAM), the China Society for Industrial and Applied Mathematics (CSIAM) is committed to promoting exchange and collaboration in the global applied mathematics community. In April 2026, CSIAM Transactions on Applied Mathematics (CSIAM-AM), the society's flagship journal, officially released a special issue in Vol. 7, No. 2, dedicated to the African Society of Applied and Industrial Mathematics. This milestone represents a significant achievement in deepening cooperation between the Chinese and African applied mathematics communities and provides a vital window for the global academic world to observe the latest developments in African applied mathematics.

Founded in April 2020, CSIAM-AM is an English-language quarterly co-published by CSIAM and Global Science Press (Hong Kong). The journal is indexed in major international databases, including Scopus, the Emerging Sources Citation Index (ESCI), Mathematical Reviews (MR), and Zentralblatt für Mathematik (zbMATH). It is also recognized as a Tier 1 journal (the highest level) in the Applied Mathematics category of China's High-Quality Scientific Journal Classification Directory. In January 2026, the editorial board was renewed, with Academician Gang Bao (Zhejiang University), President of CSIAM, appointed as Editor-in-Chief, and Professor Lei Zhang (Peking University), Vice President of CSIAM, serving as Managing Editor. Focusing on original research and high-quality reviews in applied mathematics, computational mathematics, and scientific computing, the journal underscores the core role of mathematics in modern technological advancement and industrial practice, and has become a key platform for the international exchange of Chinese applied mathematics.

Collaboration between CSIAM and the African applied mathematics community originated at the 1st African Congress on Industrial and Applied Mathematics (ACIAM 2024), held in Cape Town, South Africa, in 2024. A CSIAM delegation attended the conference, where experts led by Professor Yunqing Huang engaged in in-depth exchanges with African counterparts. These discussions built a bridge for China-Africa mathematical cooperation and laid the foundation for this special issue. With strong support from Academicians Pingwen Zhang and Gang Bao, and the active promotion of scholars like Professor Huang, China-Africa exchanges have advanced steadily, yielding substantive outcomes.

This special issue features nine recent research articles by African scholars, covering diverse fields such as the environment, energy, data science, agriculture, public health, and socio-economics. These works comprehensively showcase the unique characteristics and cutting-edge progress of African applied mathematics, reflecting its critical value in addressing practical challenges. Key research directions include:

- **Environment & Public Health**: Water quality assessment and human health risk analysis in South Africa's Inkomati River Catchment Basin; simulation of contaminant transport in complex media.
- **Energy & Engineering:** Fractional-order dynamic optimization for biodiesel production; thermodynamic studies on solar-driven seawater desalination.
- **Data Science & AI:** Optimization methods via distribution transformations; facial recognition research based on dimensionality reduction and deep learning.
- **Statistics & Agriculture:** Novel probability distributions and their applications in agricultural statistical process control.
- **Infectious Diseases & Socio-Economic Models:** Dynamic analysis of Marburg haemorrhagic fever; mathematical modeling and governance strategies regarding the impact of corruption.

These contributions highlight the distinctive perspectives and innovative thinking of African scholars, underscoring the unique role of mathematics in addressing both regional development needs and global challenges. The publication of this special issue aims to establish a robust communication channel for African scholars to engage with the international community, further fostering dialogue and cooperation across China, Africa, and the wider global community.

As an academic platform connecting mathematical communities across different regions, CSIAM-AM remains dedicated to an open and inclusive editorial philosophy, welcoming manuscripts and exchanges from scholars worldwide. We hope this special issue will serve as a catalyst for more cross-regional partnerships, working hand-in-hand with ICIAM and mathematical societies globally to advance the prosperity of the field of industrial and applied mathematics.

CSIAM-AM Website: https://global-sci.com/index.php/csiam-am

Submission System: https://mc03.manuscriptcentral.com/csiam

Summary

The International Science Council has opened applications for the third round of its Asia-Pacific Academic Mentoring Program, starting in September 2026.

The initiative connects early-career researchers with senior scientists, offering a year-long mentoring experience across disciplines.

Participants benefit from workshops, one-on-one sessions, and international networking opportunities, including a launch event in Canberra.

The program targets researchers from Pacific Island nations and selected Southeast Asian countries, strengthening regional scientific capacity.

Applications are open until April 28, 2026. Read more: https://council.science/news/ap-academic-mentoring-program-round-three/

The 23rd ECMI Conference on Industrial and Applied Mathematics will be held from June 29 to July 3, 2026, at Kaunas University of Technology, Lithuania.

The event will gather researchers, practitioners, and industry professionals working in industrial and applied mathematics.

The program includes 22 mini-symposia on emerging topics and 8 plenary talks by leading international experts.

Key themes span areas such as data science, cybersecurity, energy systems, biology, economics, and operations research.

The early bird registration deadline has been extended to March 2, 2026, offering additional time for participants to register.

The VI International Conference on Optimization, Learning Algorithms and Applications (OL2A 2026) will take place from June 10 to 12, 2026, as a hybrid event in Málaga, Spain, and online.

advances in optimization theory, learning algorithms, and real-world applications.

Key topics include machine learning, data-driven models, metaheuristics, and optimization methods across multiple domains.
All submissions undergo peer review, with proceedings published in the Springer CCIS series and indexed in Scopus.

The event fosters international collaboration across mathematics, computer science, engineering, and industry.

The XXV Latin American Congress on Automation (CLA 2026) will bring together researchers and professionals in automation and control from across the region.

The event will be held in 2026 at the Pontifical Catholic University of Peru (PUCP), in Lima, Peru.

The program will feature technical sessions, keynote talks, and opportunities for academic and industry collaboration.

CLA 2026 aims to promote advances in automation, control systems, and applied technologies in Latin America.

Read more: https://sites.google.com/pucp.edu.pe/xxvcla2026

The 7th International Conference on Mathematics and Computers in Science and Engineering (MACISE) will take place from April 29 to May 1, 2026, in Athens, Greece.

The event brings together researchers, engineers, and industry professionals to discuss advances in applied mathematics, computing, and engineering.

The conference covers topics such as artificial intelligence, optimization, dynamical systems, and scientific computing.

MACISE also fosters networking and international collaboration between academia and industry.

The Korean Mathematical Society (KMS) continues to promote international collaboration through scientific events throughout 2026.

Highlights include the Young Geometric Group Theory conference and the KMS 80th Anniversary International Conference, to be held from June 22 to 25 in Seoul.

These events bring together researchers from diverse fields, strengthening global scientific exchange.

The initiative reinforces KMS's role in advancing mathematical research and international cooperation.

Read more: https://www.kms.or.kr/eng/

The CAIMS*SCMAI Annual Conference will take place from June 15 to 19, 2026, at the University of Regina, Canada, bringing together researchers in applied and industrial mathematics.

Registration is now open, with an early bird deadline of May 1, 2026, and abstract submissions accepted until April 30.

The event will feature contributed talks, minisymposia, and opportunities for collaboration within the mathematical sciences community.

Following the conference, the Queen's University Mathematics Summer School will be held from June 22 to 26, 2026, for undergraduate and early graduate students.

The program offers intensive courses, networking opportunities, and limited funding for travel and accommodation support.

YOU MIGHT ALSO WANT TO KNOW

The United States Congress has passed a bipartisan resolution supporting the designation of 2026 as the "Year of Mathematics" in the country.

The initiative aims to highlight the importance of mathematics for innovation, education, and economic competitiveness.

The proposal involves both the House of Representatives and the Senate, reinforcing the national scope of the effort.

The measure also seeks to increase public interest in the field and encourage investment in education and research.

Experts note that the action could strengthen strategic science and education policies in the U.S.

Read more: AMS Website

A new report by the Institute of Mathematics and its Applications highlights a £23 billion annual economic opportunity linked to improving ethnic diversity in the UK's mathematical sciences workforce.

The study shows that minority ethnic groups remain underrepresented in the sector despite strong demand for skills in areas such as AI and data science. Closing this gap could significantly boost productivity and support growth across high-value industries.

The report calls for coordinated action from government, industry, and academia to address structural barriers.

Read more: Full article

The London Mathematical Society highlights the Computable90 Conference, celebrating 90 years of computability theory.

directions in logic, computation, and theoretical computer science.

The program features expert talks and discussions on the impact of computability across mathematics and related fields.

It offers a platform for collaboration among established scholars and early-career researchers.

Read more: https://www.lms.ac.uk/news/computable90-conference

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The Koninklijk Wiskundig Genootschap has launched its new website, offering a more modern and accessible experience for the mathematics community.

The platform brings together information on events, publications, and initiatives in both pure and applied mathematics.

The new digital environment improves navigation and expands access to relevant content for researchers and students.

This initiative reinforces the society's commitment to knowledge dissemination and international engagement.

Explore: https://kwg.nl/

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