Happy New Year! Here is the first issue of Volume 12 of ICIAM Dianoia. We have an important call for pre-bids for ICIAM 2031, an interview with Past-President Ya-xiang Yuan, news from the International Science Council and other organizations, and more recollections from ICIAM 2023.

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Letter from the ICIAM President Wil Schilders

Dear ICIAM colleagues and friends,

A New Year has begun, and on behalf of all officers I would like to wish you a very successful, happy and healthy 2024. We are looking forward to a new year with many new opportunities to work on our mission to promote industrial and applied mathematics. But we are also looking backward to a very successful year 2023.

Most prominently we look back at the ICIAM 2023 congress which was held in Tokyo, and which was organised very well: the location at Waseda University was great, the distance between the various buildings was minimal and there were many opportunities to sit down and meet colleagues from all over the world and have fruitful discussions. The organisers had to organise this conference in a period where COVID-19 was affecting the entire world, but they managed in a superb way, equipping all rooms with facilities to allow for hybrid sessions, and attracting more than
5000 participants (a few hundred attending online). The conference had 27 renowned keynote speakers who gave splendid talks on a wide variety of subjects, the Olga Taussky-Todd lecture was given by Ilse Ipsen. Furthermore, the 6 winners of the ICIAM prizes were honoured:

- ICIAM Collatz prize: Maria Colombo
- ICIAM Lagrange prize: Alfio Quarteroni
- ICIAM Maxwell prize: Weinan E
- ICIAM Pioneer prize: Leslie Greengard
- ICIAM Su Buchin prize: Jose Mario Martinez Perez
- ICIAM Industry prize: Cleve Moler

The organisers of the next conference (ICIAM 2027 in The Hague) also presented themselves, and the theme will be “Mathematics for a sustainable future”. In the next few years, you will increasingly hear more about this major event. You can visit the website (https://iciam2027.org/) for more information.

The theme of the 2027 ICIAM Congress complies very well with the theme of the “International Decade of Sciences for Sustainable Development” which is a follow-action of the “International Year of Basic Sciences for Sustainable Development (IYBSSD 2022-2023). These initiatives have been put forward to UNESCO by the International Science Foundation (ISC), of which ICIAM is a full member. The ISC committee within ICIAM has been very active in the past year, attending the General Assembly of the ISC in Paris, May 2023, and working closely together with the IMU on the proposed changes of the ISC statutes. It is important that ICIAM is present in the ISC, a powerful organisation that is recognised as one of the main representatives of science. A few years ago, we participated in a storybook (http://stories.council.science/unlocking-science-mathematicians-save-planet) project that the BBC launched together with the ISC:. ICIAM also remained very active in the Standing Committee for Gender Equality in Science (SCGES), formerly an ISC activity. A number of international organizations, among them ICIAM, wishes to act together to further promote gender equality in science by continuing and enlarging the work accomplished by this project and, in particular, by supporting women and girls’ equal access to science education and fostering equal opportunity and treatment for females in their careers.

In 2023, we also saw quite a few conferences, in the same spirit as the ICIAM congress, but specifically held on the regional level. End of January, the first Latin American Congress on Industrial and Applied Mathematics (LACIAM) was held in Rio de Janeiro. It was decided to hold this conference every 3 years, and the next one will be in Valparaiso (Chile) from January 19-23, 2026. End of June, the 22nd congress of the European Consortium of Mathematics for Industry (ECMI) was held in Wroclaw. The next ECMI conference will be held, as many of the previous editions, in an even year again, i.e. in 2026. Right after the ICIAM Congress in Tokyo, the annual Forum Mathematics for Industry (FMfI) was held in Fukuoka. It was the 15th edition of this Forum, since a few years organised by the Asia Pacific Consortium of Mathematics for Industry (APCMfI). In November, the African Conference of Mathematics and Applications (ACOMA 2023) was organised in Rwanda. Plans are being made to make this a regular event, and at the next edition, it is planned to launch an African organisation for industrial and applied mathematics. It is great to see all these regional events, besides that there are many other conferences where industrial and applied mathematics play a major role, often organised by members of ICIAM.

ICIAM was also represented at some important events, such as the annual Abel prize ceremony held in Oslo end of May, and the annual Heidelberg Laureate Forum that was held in Heidelberg end of September where Abel prize and Fields medal winners are present. It is of prime importance to keep on stressing the importance of mathematics for applications, for the challenges of our world, and being visible at the aforementioned events can help to improve the position of ICIAM.
We are also very happy that the ICIAM newsletter “Dianoia” has been continuing its great work, informing our members with news and of important events. Much is happening in the world of applied and industrial mathematics, and the newsletter is a great source of information for this. We encourage all of you to subscribe to this newsletter, and would appreciate very much if you could also stimulate your colleagues to do this. Anyone who is not already a subscriber can just go to the very end of the News (https://iciam.org/newsletter/dianoia) page on the ICIAM website, enter their email address and subscribe! Our aim is to double subscriptions in 2024.

While still enjoying the great feelings about the successful year 2023, let us now look forward to the year 2024. In 2023, we welcomed two new officers-at-large, Yvonne Stokes and Kenji Kajiwara, whereas Luis Vega and Heike Fassbender were elected for a second term. In 2024, we will elect two additional officers-at-large, so that we will be a team of 10. This is absolutely necessary, there are many tasks for the officers. The website needs to be modernised and we will also need to switch to a new system. We would like to see a much more active website, with more news that is important for our members, and with more news that comes from our members. Besides this, ICIAM activity on social media will be increased. We will also employ other ways to make ICIAM more visible; for example, a flyer has been designed that can be downloaded from the website and distributed at conferences and other events.

We would also like to increase the interaction with our member societies. Some officers will take up the task of taking care of certain regions of the world, and to be in close contact with member societies in these regions. In July 2022, the officers had a first meeting with the Latin American member societies, and we wish to have more of such meetings as well as increase membership in all regions of the world. We can learn a lot from each other, and it is good to share these ideas to provide mathematics in industry and applications an even more prominent position. Furthermore, we would like to get to know our member societies better, learn more about how they are organised, what activities they undertake.

As the new president, I launched a plan with quite a number of ideas and suggestions, and these will be discussed amongst the officers, actions will be undertaken, and discussions with the board and our member societies will be held. It remains extremely important to show that mathematics is increasingly crucial and indispensable in our world with its complex challenges that have no simple solutions. Mathematics can help in many ways and in many directions, and politicians as well as policy makers should be made aware of this. Let us all work on this, together we are strong!

Once again, happy New Year to all of you, and let’s make 2024 a very successful year for ICIAM!

Wil Schilders, president

Wil Schilders

ICIAM President Wil Schilders is emeritus professor, Eindhoven University of Technology and director of the Dutch Platform for Mathematics. Previously he worked at Philips Research and NXP Semiconductors. He was founder and President of EU-MATHS-IN.
ICIAM Reminders: January 2024

Many member societies' new officers' terms begin in January. Members are reminded to update their Society's information.

ICIAM maintains a self-service membership directory (http://www.iciam.org/members). Please take this opportunity to check your membership information, and update it if appropriate. Instructions on how to update your entry or to add new information can be found in our membership FAQ (http://www.iciam.org/faq-members).

Members may also be interested in ICIAM's Conference Support Program (https://iciam.org/iciam-conference-support-applied-and-industrial-mathematics-developing-countries) for Applied and Industrial Mathematics in Developing Countries:

In addition to in-person meetings, ICIAM currently offers support for virtual meetings, for example by sponsoring waivers of registrations fees for participants from developing countries, or by supporting streaming or recording services. ICIAM encourages conference organizers to apply for support for virtual meetings using the general principles outlined in the announcement.

Here's a reminder that you can download a PDF file of any issue of ICIAM Dianoia (as long as the editor has remembered to set it up). Clicking on the "Downloads" button at the top of the browser view of the newsletter will bring up a screen that offers you a choice of A4 or US Letter to fit your printer.

Call for pre-bids for hosting and organising the ICIAM 2031 Congress

Dear Presidents and Representatives of Member Societies of ICIAM,
Following current rules, the online 2024 ICIAM Board meeting will be the place to present and discuss the pre-bids for ICIAM 2031. Only pre-bids approved by the Board will be allowed to present a complete bid, to be discussed in the 2025 Board meeting, where the final decision will be made about who will organize ICIAM 2031.

If your society plans to bid for ICIAM 2031, please read the following document describing how to prepare a bid. Note that in a pre-bid details have to be given to the Board about location, organising group, some plans about financial issues, the scientific program committee (SPC), etc., but the pre-bid document does not need to contain the precise and complete information that a final bid contains. As written in the attached rules, pre-bids should be sent to me no later than April 30, 2024, and it is possible to submit the document by email.

If you plan to prepare a bid I would appreciate that you let me know. And, of course, please feel free to ask me, or any of the Officers, any question or doubt that you might have during the preparation of the pre-bid document.

Best regards,

Wil Schilders, President of ICIAM

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Bidding Process for ICIAM 2031

International Council for Industrial and Applied Mathematics (ICIAM)

January 2024

Member societies are invited to apply to hold the Twelfth International Congress of Industrial and Applied Mathematics in 2031.

Rules and resolutions concerning the process

The application process is governed by the “Rules”, given below, and by the following resolution of the ICIAM Board at its meeting in Helsinki in May 2001.

a) Prior to deciding about the location of each ICIAM Congress, the Council, at its Annual Board meeting, will decide on the amount of a financial compensation (license fee) for the use of ICIAM’s name.

b) The amount has to be decided for each Congress.

c) The payment must be transferred at the latest by the end of the Congress.

d) Should there be other smaller conferences where ICIAM’s name is to be used, a similar policy will be implemented.

The ICIAM Board, at its next online meeting on Monday, June 17, 2024, will set the license fee for the Twelfth Congress in 2031 (as a reminder, the license fee for ICIAM 2027 was set at USD 44,000). In addition, the local expenses, including registration fee and travel expenses, of the six ICIAM prize winners and the Olga Taussky-Todd lecturer, are to be covered by the Congress organizers.

Timetable for applications

1. The first of the rules below specifies that the pre-proposal should be submitted, in written form, to the ICIAM Board seven years in advance. In the present circumstances this is interpreted to mean that the pre-proposal should be submitted to the online meeting of the Board on Monday, June 17, 2024. While applications submitted at the meeting itself will be admitted, the Officers request that if possible, applications should be submitted to the ICIAM President, Wil Schilders, no later than April 30, 2024. In this respect “written form” will be considered to allow submissions to be made via email.

At this stage the required amount of documentation is small but do please note the requirement to specify both the location and a preliminary budget.

1. The second of the rules below is expected to be interpreted by the online meeting of the Board on Monday,
June 17, 2024, in the following way:

Some of those who submit an application as above will be invited to submit a more detailed application by November 17, 2024. At this second stage it is important that a more detailed budget be presented, and that a Congress Director be nominated. This is a person who is willing and able to devote considerable time and effort to the project until the Congress in 2031. Past precedent suggests that the Board will also be expecting to see detailed consideration given to the question of how the expected high scientific level is to be achieved.

The early date for the detailed submission, namely middle of November 2024, is to allow the Officers to arrange site visits to each of the remaining candidate sites, and for the reports of the site visits to be consolidated, before the Board meeting to be held in 2025. Of course, no Officer who may be perceived to have a conflict of interest will take any part in the selection process.

The final decision on the site of the 2031 Congress will be made by the Board at its meeting in 2025.

Approved by ICIAM in Helsinki, May 2001

Distributed to member societies, January 2024

Wil Schilders, President, ICIAM

(See the following ‘Rules concerning the application for an ICIAM congress’.)

Rules concerning the application for an ICIAM congress

1. An application for hosting and organizing an ICIAM congress should be submitted to the ICIAM Board seven years in advance. This application is to be submitted in written form and should propose a location and a budget outline.
2. Six years in advance a Congress Director should be nominated and a more detailed budget submitted. On the basis of this information the ICIAM Board will make its decision on the applicants.
3. Five years in advance the hosting society makes a proposal for the chair of the Scientific Program Committee (SPC) to the ICIAM Board which has the final say and appoints the SPC Chair at this time.
4. Four years in advance the SPC Chair submits to the ICIAM Board a proposal concerning the SPC members. Again, the final decision on the composition of the SPC is made by the ICIAM Board (four years in advance). Members of the SPC are individual members and cannot delegate this membership to other representatives. The SPC should be of reasonable size (24–27 members) and of exceptional scientific qualification. The member societies should be involved in the selection of SPC members.
5. Some two years in advance the ICIAM Board will approve/disapprove (not modify) the list of invited speakers submitted by the SPC. The invitations of the invited speakers should be signed by the Congress Director and the SPC Chair.
6. The organizers of ICIAM Congresses are urged to stick to the successful structure of previous ICIAM Congresses. At all of these Congresses the scientific programme consisted of:

• invited lectures;
• mini-symposia;
• contributed presentations in lecture form; and • contributed presentations in poster form.

All types of presentations have to be included, all being weighted equally. Contributed papers have to be accepted to the extent practically possible (a factor to be considered in the choice of a conference venue).

In the composition of the mini-symposia program the member societies, invited by the ICIAM President, are asked to take an active role. The SPC should make sure that all fields, especially those not covered by invited speakers, are represented at the ICIAM Congress and are of highest possible quality.

Approved by CICIAM in Sydney, 29 July 1997.

Revised December 2003 to change ‘CICIAM’ to ‘the ICIAM Board’, and ‘CICIAM Chair’ to ‘ICIAM President’.
ICIAM 2027, July 12-16, The Hague, The Netherlands

Save the Date! ICIAM 2027

The next ICIAM Congress will take place July 12-16, 2027 in The Hague, The Netherlands. Bookmark the congress website (https://iciam2027.org)

This congress, the 11th in the list of ICIAM congresses, has a theme, "Mathematics for a sustainable future".

Watch for information on how to participate.
ICIAM 2023 Featured Several Women Prize Winners and Invited Speakers

The ICIAM 2023 Congress held in Tokyo, Japan last August featured several invited women speakers. Prof. Ilse Ipsen of North Carolina State University gave the ICIAM sponsored Olga Taussky-Todd Lecture (https://iciam.org/iciam-olga-taussky-todd-lectures). Olga Taussky-Todd lecturers are honored as women who have “made outstanding contributions in applied mathematics and/or scientific computation,” and Prof. Ipsen spoke on, “An Introduction to Randomized Matrix Computations.” In addition, the AWM-SIAM Sonia Kovalevsky Lecture (https://awm-math.org/awards/kovalevsky-lectures/) was also given at ICIAM 2023. These lectures “highlight significant contributions of women to applied or computational mathematics” and are usually given at the SIAM Annual Meeting. Because SIAM did not have an Annual Meeting this year, the ICIAM meeting also featured this lecture, given by Prof. Annalisa Buffa of the Ecole Polytechnique Fédérale de Lausanne. Prof. Buffa spoke on, “Simulation of PDEs on Geometries Obtained via Boolean Operations.”

In addition, of the six prize lectures given at the ICIAM 2023 meeting, one was given by a woman, the ICIAM Collatz Prize (https://iciam.org/iciam-collatz-prize-winners). This prize “was established to provide international recognition to individual scientists under 42 years of age for outstanding work on industrial and applied mathematics.” The 2023 recipient of this prize was Prof. Maria Colombo of EPFL Lausanne, and she was awarded the prize “for her fundamental contributions to the regularity theory and the analysis of singularities in elliptic PDEs, geometric variational problems, transport equations, and incompressible fluid dynamics.” Her presentation at the ICIAM meeting was on “Anomalous Dissipation in Fluid Dynamics.”


In addition, ICIAM featured a Community Lecture by Prof. Padmanabhan Seshaiyer of George Mason University who spoke on, “Understanding the Dimensions of Justice, Equity, Diversity and Inclusion (JEDI) across the globe in Applied Mathematics Research and Education.” The talk features several axes of diversity and inclusion.
Interview with ICIAM Past President Ya-xiang Yuan

1. When did you first become involved with ICIAM?

I am a veteran of ICIAM. In 1987, I attended the first ICIAM congress in Paris, at which my supervisor Professor Michael J.D. Powell gave an plenary lecture. Since then I have been involving heavily with ICIAM matters. In 1999, I gave an invited lecture at the fourth ICIAM congress held in Edinburgh. As a delegate representing CSIAM, I attended the ICIAM Board meeting (at that time, the meeting was called CICIAM meeting) held right after the Edinburgh ICIAM Congress. At the 2005 ICIAM Board meeting held in Florence, on behalf of CSIAM, I made the bid for ICIAM 2011, unfortunately that was not accepted. I served the Scientific Committee of ICIAM 2007 which was held in Zurich. At the 2009 ICIAM board meeting held at Oslo, I, presenting CSIAM, made another bid for hosting ICIAM 2015, which was finally approved by the board. I was in the local organizing committee of ICIAM 2015, and also served in the Scientific Committee of that congress.
1. You are not the first ICIAM president who is not from Europe or North America – Ian Sloan preceded both of us – but you are the first from Asia proper. This must give you a different perspective on ICIAM. For example, the Europeans are very interested in interacting with industrial organizations and with government agencies. This must work very differently in China, and in other countries in Asia. What are your thoughts on “the second I in ICIAM”? 

In 2017, at the board meeting held in Valencia I was elected as president of ICIAM, with the term starting from October 1st 2019. As the first ICIAM president from Asia, and also first one from a developing country, I do have a different perspective on ICIAM. For example, I would be happy to see that we can increase the number of ICIAM’s member societies, particularly from developing countries such as those from Africa, South America and also from regions where our member societies are less presented such as Russia, east Europe, and west Asia. However, we did not do a good job in this respect. I also emphasis various balances (such as gender, geographic, research area) in ICIAM when composing committees, selecting invited lectures and choosing prize winners. As academic societies in China do not interact much with industrial organizations or with government agencies, personally I am not good at promoting the second “I” in ICIAM. Nevertheless, I think that industrial mathematics is very important and definitely very valuable part of ICIAM. Fortunately, the majority of the officers of ICIAM were from Europe and USA, and they are very familiar with the links between industry and academic community. ICIAM has been paying more and more attention to Industrial mathematics. For example, we had an Industrial Day in ICIAM 2019 and in ICIAM 2023. I am also very proud that ICIAM establishes its Industry Prize while I was the president.

1. Do you feel that the governing structure of ICIAM works well? So much has changed since I was president! Now one can run meetings over zoom, the officers can meet much more frequently by going online. When I first became an officer (I became treasurer in 2003) we met twice a year in person. And after our first remote meeting, Ian Sloan said that it was too bad - all the fun had gone out of it.
I feel that the governing structure of ICAM works pretty well. When I became an officer of ICIAM (as president-elect in 2017), the officers met only once a year and have another meeting online, which is not as good as meeting in person twice a year. I would definitely agree with Ian Sloan that it has more fun by meeting in person instead of online. However, due to the COVID-19, almost all the officers meetings and board meetings were changed to online or hybrid during the period when I were the president of ICIAM. Online meetings are not only less enjoyable but also less efficient. However, the good thing about online meetings is that we can have more of them. Actually, for the last two years of my presidency, we had officers meeting once a month.

1. How much did you feel constrained by the fact that ICIAM has no staff except for a very part-time webmaster, the IT support given by JSIAM, and the accounting support donated by SIAM? Were you able to get support from your institute? Do you feel that the financial situation of ICIAM is stable?

ICIAM does not have any full-time staff, which makes its running very inefficient. Normally professional organization should have a secretariat office consisting of a few full-time staffs. For example, the Chinese Mathematical Society (for which I was the president) has 3 full time staffs. I am very grateful to JSIAM for its support for maintaining the website of ICIAM, and for SIAM for taking care of ICIAM’s financial account. Their generosities in offering related services helps ICIAM greatly. Though the financial situation of ICIAM is stable, ICIAM is a very poor organization which constrains it from exerting larger function. I would like to thank my institute for giving enormous support, including proving a part-time secretary and also financial support. I always use my research grants to travel for ICIAM matters, since ICIAM's budget for officers’ travels is very limited.

1. One change that I noticed during the past 4 years that you have been president is that ICIAM spends a lot more time interacting with ISC, the International Science Council. (This is in part because I’m on the ISC committee that Maria Esteban chairs, and she has been very active.) Do you have any comments on this effort? Does it seem to you to line up with the mission of ICIAM? In general, ISC tries to advocate for “science for policy” – that is, to be listened to as a voice for science in, for example governmental decisions, or UN priorities. Do you think this is a useful role for ICIAM, and that working with ISC is an effective way to fulfill this role?

I am very happy to see that ICIAM has been very active in the International Science Council, due to the efforts of our ISC committee chaired by my predecessor, Maria Esteban. ICIAM is playing a more important role in ISC. I give two examples here. ICIAM was promoted from affiliate member to full member of ISC, and Maria Esteban was elected as fellow of ISC. ICIAM is active and represented in the Steering Committee of International Year of Basic Sciences for Sustainable Development, which was initiated by ISC and endorsed by the UNESCO, focusing on links between basic sciences and the sustainable development goals. The increasing of the impact of ICIAM in ISC and other international activities is of course along the line of the mission of ICIAM. I would like to see that ICIAM can be more influential in science policy makings to governments and international organization. I believe that being the president of ICIAM helped me a lot for my lobbying the Chinese government to pay more attention to mathematics. Starting from 2011, the Chinese government launched the National and Research and Development Project “Mathematics and Applications” with the budget of 1.5 billion Yuans (approximate 200 million US dollars), which will definitely promote the mathematics research in China. However, I am skeptical about the pure political interests of academic organizations. For example, when some international academic organizations issued statements on Russia-Ukraine conflict, ICIAM did not do the same thing. I do not want to let ICIAM to choose side when there is a political dispute between two countries. Of course, ICIAM is willing to help mathematicians from both Russia and Ukraine as their international exchanges were affected by the conflict.

ICIAM is a founding partner for the establishment of a Standing Committee for Gender Equality in Science (SCGES) (https://gender-equality-in-science.org/), together with International Mathematical Union and other international Societies. Carol S. Woodward (ICIAM's representative in SCGES) and Guiying Yan (deputy representative) did a great job in creating an ICIAM webpage about the Standing Committee on Gender Equality in Science that describes the standing committee and its activities and another page focusing on ICIAM's activities in support of gender
equality and containing recent news articles on the topic. Carol attended ICIAM’s officers meetings many times to
discuss how to promote gender equality within ICIAM. It is expected that an ICIAM Committee on Gender
Equality will be soon created.

1. Related to the previous question is the question of what ICIAM does and should do in addition to
running a Congress every 4 years and awarding prizes. We have a very small effort to assist with
conferences in developing countries. The pandemic slowed this effort down, and I’m not certain it has
recovered. Do you see it as important for ICIAM to use its institutional muscle to do more to advance the
profession, or to increase the influence of applied mathematics outside the profession? And if it’s
important, what are some of the ways that ICIAM could do this?

ICIAM has been supporting conferences held in developing countries, at the scale of about 3 conferences per year.
The pandemic did slow down this effort, nevertheless we were still able to sponsor a few online conferences held in
developing countries during the past four years. I hope that ICIAM can do more in this respect, but currently it is not
easy as ICIAM has a very limited budget. Both to advance the profession and to increase the influence of applied
mathematics outside the profession are important, and they are also the major aims of our member societies. ICIAM
can do more to advance our profession at the international level, such as to promote international exchanges and
collaborations, to launch multi-national projects, to organize cross-disciplinary forums, and to bridge the gap between
mathematics and industry.

1. Is there anything you wish you had been able to do at ICIAM while you were president, and that you will
urge your successor to work on?

The international Mathematical Union has its headquarter and its secretariate in Berlin. I wish that ICIAM also had a
permanent office with a secretariate of a few staffs. I discussed this with the president of CSIAM, professor Pingwen
Zhang, who expressed that CSIAM had an intention to provide office spaces and financial support for ICIAM to set up
and run the secretariate office. But this was interrupted by the pandemic. I would happy to see if ICIAM will continue
to explore the possibility of setting up a permanent secretariate office in the not too far future.

1. And, finally, what are your plans for yourself and your career now that you have completed the
enormous task of being president? How will you celebrate your successful term?

I am very honored to have served ICIAM as the president for the last four years. Due to the pandemic, my term was
not as successful as I had hoped. However, I have been trying my best and I am satisfied with what ICIAM had
achieved in the past four years. As I said in my opening speech at the opening ceremony of ICIAM 2023 in Tokyo:
“The International Council for Industrial and Applied Mathematics has consistently promoted the growth of
mathematics and its applications globally, even amid the challenges posed by COVID-19. In these testing times,
we’ve remained resilient, achieving notable progress.” I am happy that my term ended successfully and from now I
can have more time to enjoy carrying out research and supervising research students at the Chinese Academy of
Sciences.

At the end of my term as president of ICIAM, I would like to thank many people, particularly Maria Esteban, who gave
me tremendous helps by teaching me how to run the organization. Right after my electing as president-elect, Maria
flew to Beijing and sat in my office side-by-side to teach me how to use the ICIAM web system. Maria’s devotion,
dedication and exertion set an unreachable example to me. She gave me many advices and suggestions and I learnt
a lot from her. I also greatly indebted to Sven Leyffer, the ICIAM secretary, whose super strong ability and broad
knowledge on ICIAM matters impressed me greatly, provided me tremendous assistance. I cannot image how I can
survive without him! Due to his becoming the president of SIAM, he resigned from ICIAM secretary one year before
his term, which made my last year as president of ICIAM miserable.
As the president of ICIAM, I wrote a piece of “president’s message”, announcing ICIAM’s activities to our member societies and the board applied and industrial mathematics community, for each issue of ICIAM’s newsletter (the Dianonia). The editor of ICIAM’s newsletter, Barbara Keyfitz, who has been doing a wonderful job in making sure the timely publication of the newsletter, helped me in polishing my articles, including correcting my English errors.

The original aim of founding ICIAM is to organize an international congress on industrial and applied mathematics once every four years. Thus, it is my opinion that to maintain the congress series and to elevate the level of the ICIAM congresses, and to make the ICIAM congresses more influential should be always the most important aims of ICIAM.

I am very luck to have taken many difference roles within ICIAM: participant, contributed speaker, mini-symposium speaker, mini-symposium organizer, invited speaker, member of scientific committee, member of local organizing committee, delegate to the board, and an officer. Though I experienced many activities of the society, such as chairing office meetings, board meetings and the prize committee because of being the president, the most enjoyable experience of mine with ICIAM is attending ICIAM congresses as an ordinary participant, starting from the very first one in Paris to the last one in Tokyo. I am very happy to see that the last ICIAM congress in Tokyo had attracted more than 5000 participants with about one third from China. It is always a delight to participant in ICIAM congresses where one can meet old friends, get acquainted with new ones and exchange ideas with other participants. At the Tokyo congress I was able to meet many old friends whom I had not seen for nearly four years due to the pandemic. For example, I was very happy to see Nick Trefethen and Iain Duff, both of them also have attended all the previous ICIAM congresses.

(Ya-xiang Yuan, Nick Trefethen, Iain Duff, photo taken before Cleve Moler’s Lecture)

The ISC Report on the Future of Scientific Publishing

The International Science Council (ISC) has issued two recent papers on scientific publishing, "Key Principles (https://council.science/publications/key-principles-for-scientific-publishing/) for Scientific Publishing (and the extent to which they are observed)” and "The Case for Reform (https://council.science/publications/reform-of-scientific-publishing/) of Scientific Publishing".
The ISC will be taking comments on these reports until **March 1, 2024**. Because a number of the arguments made here are somewhat controversial, ICIAM members are encouraged to voice their opinions by scrolling down to the bottom of the second online report and completing the survey there.

The reports are the product of several years of discussion by international committees, both of them chaired by Geoffrey Boulton, a well-respected British geoscientist. The committees, as might be expected, were truly international, with members from all continents. The first, short paper documents eight "key principles". As befits an organization that is aware of the disadvantages scientists in many countries face in obtaining access to publications, the report devotes several points to access to published work, and also to publishing and distributing one's work. The first principle, for example, is that there should be "universal, prompt open access ... with no barriers to participation ... based on ability to pay, institutional privilege, language or geography". Peer review is emphasized: "rigorous, timely, ongoing peer review". In an online discussion of the report, Professor Boulton commented that pre-publication peer review is haphazard and not very useful. Definitive review, particularly in the lab sciences, is guaranteed only by replication of the results. Some of the principles are less clear. The need for respect for different disciplines and cultures is fair enough; the report also expresses concern about the "governance" of the publication process. Specifically it is concerned by the claimed monopolization of publishing by "major commercial publishers", who appear in the report as agents with few redeeming qualities.

That many of these principles are not observed leaves questions that are partially addressed in the second report, which is authored by a smaller committee, with some overlap in personnel with the first. One might summarize its regretful, somewhat querulous tone as a lament that the promise of the digital revolution has been deflected by some major villains: the use of bibliometric indices to evaluate scientists' productivity, and a vast predatory publishing industry.

The argument makes interesting reading. Most of the mathematicians reading this review may find that the impact of these deficiencies in the system on their careers is small. But it does not take much imagination to see that the advent of "large language" AI systems may lead to plagiarism on a large scale, and that the clogging of avenues of scientific exchange by junk publications is not only inefficient for scientists in search of trustworthy results but provides an opportunity for mischief-making and conspiracy theories.

Scientific research is expensive. That it is performed at all is due to someone's footing the bill - often a government agency, a public or private sector research laboratory, or a university whose revenue may derive from a combination of public and private, mission-oriented or philanthropic, sources. One of the most cogent findings of this committee is that publication is an essential part of scientific research, and should not be considered or funded separately. And once the powerful interests that fund research take it into their hands to restore agency over publication to the scientific community, rather than leaving individual scientists to navigate unaided the maze of adding to and retrieving the scientific record, we may see better days.

An interesting comment, almost off-hand, is found in item 14 of the report (which is organized as numbered bullets - 30 of them altogether). Why has the advent of digital technology and the internet failed to do more than simply replace the printed page with a PDF of that page? Later on, in items 18 and 19, the committee notes the potential for harm of generative AI, but does not envisage any potential for good.

The focus on the evil of commercial publishers will be irritating to some readers and will be applauded by others, so let's leave that argument aside. The idea that new digital technologies present an opportunity to realize the principles formulated in the first report, and what is wanting is the imagination to take advantage of this opportunity, offers a challenge to everyone in the scientific community. After all, this report is making the case for reform, not trying to guess how it will happen. Perhaps we can anticipate a further report: "The reform is taking place".
Barbara Lee Keyfitz
Barbara Lee Keyfitz is Professor of Mathematics at The Ohio State University. Her research area is the analysis of partial differential equations. She is a former president of ICIAM, and is Editor-in-Chief of the ICIAM Dianoia.

International Science Council and its Global Knowledge Dialogue

The International Science Council (ISC) was launched in 2018 following a merger of the International Council for Sciences (ICSU), which was created in 1931, and the International Social Science Council (ISSC), created in 1952. The ISC’s vision is of science as a global public good. Its mission is to be the global voice for science: a trusted voice that speaks for the value of all Science, everywhere. The ISC works at the global level to catalyse and convene scientific expertise, advice and influence on issues of major concern to both science and society. The ISC has a growing global membership that brings together over 220 organizations by 2023, including international scientific unions and associations from the natural and social sciences, and national and regional scientific organizations such as academies and research councils. The International Council for Industrial and Applied Mathematics (ICIAM) has been a member of ICSU since 2011 and a member of ISC science 2018.

The ISC’s Action Plan 2022-2024 sets out a framework for impactful activities across the following five domains:

- Global Sustainability,
- Converging Science and Technology in a Digital Era,
- Science in Policy and Public Discourse,
- Changing Practice in Science and Science Systems,
- Freedom and Responsibility in Science.

For more information about ISC, please refer to: https://council.science/ (https://council.science/)

The Global Knowledge Dialogue (GKD) is a series of events convened by ISC in the various regions of the world, starting in Africa in 2022 at the World Science Forum, continued in 2023 in Europe and Asia-Pacific as well as Latin-America-Caribbean in 2024. The aim of the series is to secure a powerful global voice for science by engaging the ISC membership and fostering international scientific collaboration between governments, scientists, research funders, the private sector and civil society.
On October 6, 2023, the ISC Global Knowledge Dialogue (GKD) for Asia and the Pacific was held at the Kuala Lumpur Convention Center, Malaysia during the 2023 International Greentech & Eco Products Exhibition & Conference (IGEM). It serves to strengthen the voice of science in the Asia and the Pacific Region and works towards developing the actionable pathways that advance science as a global public good. More than 140 Member representatives from 30 countries attended the dialogue.

The programme of the ISC Asia-Pacific Global Knowledge Dialogue includes

- Welcome Remarks by Professor Hazami Habib, CEO of the Academy of Sciences Malaysia, Professor Tengku Mohd Azzman Shariffadeen, President Academy of Sciences Malaysia, and Professor Chennupati Jagadish, President Australian Academy of Science (Represented by Prof Frances Separovic).
- Ministerial Address by Mr. Yang Berhormat Datuk Arthur Joseph Kurup, Deputy Minister of Science, Technology, and Innovation Malaysia.
- Part I: ISC Advancing Planetary Health in the Multilateral Space.
- Part II: Opportunities and Challenges for the 2030 Agenda through scientific diplomacy, scientific advice and new technologies.
- Part III: The ISC in a regional context: A dialogue looking at key priorities areas for strengthening science systems and the role of an ISC regional focal point.
- Part IV: Next steps for the Regional Focal Point of Asia and the Pacific – turning dialogue into action.

Two GKD pre-events were held on October 5, 2023:

- Freedoms and Responsibilities in Science Round Table (for ISC Member delegates)
- ISC Young Academies and Associations Roundtable.

The ISC Global Knowledge Dialogue for Asia and the Pacific was hosted by the International Science Council (ISC), the Academy of Sciences Malaysia (ASM) and the ISC Regional Focal Point for Asia and the Pacific (ISC RFP-AP) at the Australian Academy of Science.

Nominated by the ICIAM President, Professor Wil Schilders, I attended the ISC Asia-Pacific Global Knowledge Dialogue and its pre-event Freedoms and Responsibilities in Science Round Table as a representative of ICIAM. During the event, I chatted and interacted with many participants and tried my best to strengthen the voice of industrial and applied mathematics in the Asia and the Pacific Region and beyond.

For more information, please refer to: https://council.science/events/gkd-asia-pacific/

Weizhu Bao

Weizhu Bao is Professor of Mathematics at the National University of Singapore. His interests include quantum physics, chemistry and materials science, especially Bose-Einstein condensation and highly oscillatory partial differential equations.
Is the gender gap worse among mathematicians than in other scientific communities? And what about Africa compared to other continents?

Information and discussions about the ‘Gender Gap in Science project (https://gender-gap-in-science.org)’ have appeared several times in DIANOIA. This project was mainly funded by ICSU (later to become the ISC (International Science Council)), and some international scientific bodies participating in the project also contributed with some funds, among them, ICIAM.

One of the main achievements of that project was conducting a Global Survey of Scientists to assess various aspects of the gender gap among scientists. Maybe some of you remember having answered the many questions contained in it, since the proportion of applied mathematicians having answered them online was important. An analysis of the main information gathered from the Global Survey was presented in the book ‘Gender Gap in Science: a Global Approach to the Gender Gap (https://zenodo.org/records/3882609)’.

After the project was finalized, it was decided that the important database gathered through the Global Survey will remain usable for studies of interest to the topic of gender gap among scientists. A group of four French mathematicians, using funds from ICIAM and from the IMU, decided to run two additional studies using statistical analysis.

The first one would allow to compare the answers of global scientists with those of mathematicians and also of applied mathematicians. In summary, the idea was to see whether the gender gap and its many aspects were different among mathematicians than among scientists in general. The results of this analysis can be read in a recent article to be published in the EMS Magazine, a publication of the European Mathematical Society. The article’s title is ‘Aspects of the gender gap in Mathematics (https://hal.science/hal-04278806)’, and it has been written by Sophie Dabo-Niang, Maria J. Esteban, Colette Guillopé and Marie-Françoise Roy. If interested, you can have access to it following the link under the article’s title.

The second project aimed to compare the results of the Global Survey concerning Africa with respect to the rest of the world. In this case the comparison was not concerned with different scientific fields, it was only concerned with possible geographical discrepancies. The same group of authors have written the results of this comparative study in the article entitled ‘An analysis of the gender gap among African scientists (https://hal.science/hal-04278870)’

The two articles are in English and are posted in an open French equivalent of arxiv called HAL (https://hal.science).

Since all the results obtained in these two statistical analysis could not be integrated in the articles, the authors decided to also create a website showing all the results (https://gender-gap-in-science.org/visualisation/).

The part of it directly concerned with the comparison of Mathematics, Applied Mathematics with other sciences at: https://gender-gap-in-science.org/mathvisualisation/ (https://gender-gap-in-science.org/mathvisualisation/)

and the one containing the analysis and figures about the comparison between Africa and the rest of the World, at: https://gender-gap-in-science.org/africavisualisation/ (https://gender-gap-in-science.org/africavisualisation/)
Maria J. Esteban

Maria J. Esteban is a senior researcher at CNRS and works at the University Paris-Dauphine. Her research area includes nonlinear partial differential equations, especially variational methods. Her term as President of ICIAM ended October 1, 2019.

SciCADE 2024 to be Held in Singapore

The International Conference on Scientific Computation and Differential Equations (SciCADE) is a biennial meeting that focuses on scientific computation using numerical methods for ordinary and partial differential equations, differential algebraic equations, stochastic differential equations and dynamical systems, among others. It was first held in 1993 at the University of Auckland, New Zealand. The last eight meetings in this series were held at Saint-Malo (France, 2007), Beijing (China, 2009), Toronto (Canada, 2011), Valladolid (Spain, 2013), Potsdam (Germany, 2015), Bath (United Kingdom, 2017), Innsbruck (Austria, 2019), and Reykjavik (Iceland, 2022).

The SciCADE 2024 will be hosted by the National University of Singapore, Singapore, July 15 - 19, 2024. There are eight invited Plenary Speakers including

- Ann ALMGREN, Lawrence Berkeley National Laboratory, USA
- Elena CELLEDONI, Norwegian University of Science and Technology, Norway
- Qianxiao LI, National University of Singapore, Singapore
- Jianfeng LU, Duke University, USA
- Carola-Bibiane SCHÖNLIEB, University of Cambridge, UK
- Jie SHEN, Eastern Institute of Technology, Ningbo, China
- Gilles VILMART, University of Geneva, Switzerland
- Lei ZHANG, Peking University, China

Some important dates:

- January 15, 2024: Deadline for submission of minisymposium proposals
- February 1, 2024: Notice of acceptance of minisymposia
- April 15, 2024: Deadline for abstract submissions for minisymposium talks, contributed talks and posters
- April 25, 2024: Notice of acceptance for contributed talks and posters.
- May 1, 2024: Deadline for early bird registration
- June 15, 2024: Deadline for online registration
- July 8 - 12, 2024: Summer School
- July 15 - 19, 2024: Conference

Sponsors:
Weizhu Bao

Weizhu Bao is Professor of Mathematics at the National University of Singapore. His interests include quantum physics, chemistry and materials science, especially Bose-Einstein condensation and highly oscillatory partial differential equations.

"Mathematics for Humanity" international programme at ICMS

In 2023 the International Center for Mathematical Sciences (ICMS, Edinburgh, UK) launched a new program of international activities in the mathematical sciences devoted to education, research and scholarly exchange with the potential for direct relevance to the betterment of humanity. This has been made possible by a generous donation from Alex Gerko, Founder of XTX Markets.

Applicants are invited to submit proposals belonging to one of the three themes for a satellite event at any location in the world that is optimal for impact, accessibility, and sustainability. As part of this effort, we expect to be able to fund up to ten global workshops for humanity with a maximum budget of 35,000 GBP each.

The ICMS invites proposals for activities that revolve around three inter-related themes:

A. Integrating the global research community (GRC)

B. Mathematical challenges for humanity (MCH)

C. Global history of mathematics (GHM)

The 2024 call for proposal (https://www.icms.org.uk/funding-opportunities/mathematics-humanity-activities-worldwide) is now out, and the deadline is June 1st, 2024.
The Mathematical Congress of the Americas 2025: Final Call for Special Session Proposals

The fourth Mathematical Congress of the Americas, MCA 2025, will take place in Miami, Florida, USA; the dates are July 21-25, 2025. A list of invited speakers and other information can be found at the Congress website (https://www.mca2025.org/event/9e9666dd-2643-423b-b343-91f10f36e686/summary). Proposals to organize a special session are welcomed; the deadline is March 31, 2024. Organizational teams should have representation from two or more countries in the Americas, and proposals should be topically broad, with the potential to bring together diverse groups of researchers from multiple countries in the Americas. Proposals will be reviewed on a rolling basis, so early submission is encouraged. We have space for roughly 60 special sessions. More information and instructions for submitting a proposal may be found here. (https://www.mca2025.org/event/9e9666dd-2643-423b-b343-91f10f36e686/websitePage:cd17a057-cb25-4de1-b822-d311708b3e56)