ICIAM

The ICIAM Dianoia
Vol. 5, No. 1, January 2017

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On the cover: the cover of this issue is a view of the Valencia Triatalón. The swimming leg of the event is held near the Marina Real Juan Carlos I. In the background is the iconographic Veles e Vents, also known as the America's Cup Building, located at coordinates $39.4613°$N, $0.3264°$W.

ICIAM Announcements

2017 ICIAM Board Meeting

The 2017 Board meeting will take place in Valencia (Spain), the site of the next ICIAM congress, on Saturday, May 20th, 2017. This year important decisions will be made by the Board: the new ICIAM president will be elected. The site of the 2023 congress will be chosen. And, last but not least, the Board will discuss and vote on the list of invited speakers for the 2019 congress that the Scientific Program Committee chaired by Professor A. Quarteroni is currently preparing. It would be excellent if all member societies of ICIAM were represented at this important meeting.

As it is now customary, prior to the Board meeting, on May 18th and 19th, a workshop will take place where delegates can give talks if they volunteer. (See the announcement elsewhere in this newsletter for more information.)

Fall 2016 ICIAM Officers Meeting

The ICIAM officers held their Fall meeting by teleconference on November 28. ICIAM has received two complete bids to host the ICIAM 2023 Congress, from Japan (JSIAM) and Korea (KSIAM), and a subset of the officers will make site visits to both venues during the week of March 6–10, 2017 (and will also hold an officers' meeting during that week). The officers are preparing a template to hold information about both sites, so that we can collect comparable information about each. We are still awaiting nominations for the next President; these are due before the next Board meeting in May 2017.

In other news: The Prize Committees for the 2019 ICIAM prizes are now complete, and have prepared the calls for nominations, which can be found in this newsletter, with a nomination deadline towards the end of 2017. Annual membership fees of member societies for 2017 will be due between January 1 and March 31, 2017. Dues notices were mailed out (electronically) in December.

News from ICSU

ICSU held an "extraordinary assembly" on October 24 in Oslo. The purpose of the assembly was to vote on a merger with ISSC (the International Social Science Council). The vote was favorable, and as a consequence several joint ICSU-ISSC committees have been set up to formulate details of how the merged organization would function, and what would happen to current activities (such as the grant programs that have benefited some of ICIAM's activities), and to the status of current members of ICSU and ISSC. The committees intend to present the results of their deliberations to the general assemblies of each society at their meetings in 2017, where members can approve a final ratification of the merger. As ICIAM does not have a vote, we will simply wait to learn what is decided.

In early December, ICSU asked for input on one of its current projects. They are seeking new members for the Scientific Committee of the 'Integrated Research on Disaster Risk' program. ICIAM has nominated a candidate. Until now, none of our nominations have been successful; however, we intend to keep trying, and encourage anyone with an interest in serving science and society in this way to contact our ICSU Committee and make their interest known, as more opportunities are certain to arise.

ICSU is also currently seeking an Executive Director for 'Future Earth,' a major international research program on global sustainability. Applications are due February 3, 2017.

For people interested in the topic of climate change, we note that ICSU co-organized a side event on 'Urgent questions in climate research' at COP22 (this acronym stands for 'Conference of the Parties,' the 'Parties' in question being the Parties to the Kyoto Protocol (22nd meeting of these), and the Parties to the Paris Agreement (first meeting of these). More information can be found on ICSU's web page, `icsu.org`.

At the end of November, ICSU issued an 'Advisory Note' on gender-based discrimination in the practice of science. Most of ICIAM's member societies already have policies on gender discrimination, but we are publishing the note in this newsletter so that our members can see an international perspective on this topic.

Subscribing to the ICIAM Newsletter

The ICIAM Newsletter appears quarterly, in electronic form, in January, April, July and October. Issues are posted on the ICIAM Web Page at `iciam.org/dianoia`. If you would like to be notified by e-mail when a new issue is available, please subscribe to the Newsletter. There is no charge for subscriptions. To subscribe or unsubscribe, visit the webpage given above.

ICIAM Conference Support for Applied and Industrial Mathematics in Developing Countries

CALL FOR APPLICATIONS

ICIAM has a small budget (up to USD 10,500 per year) that is available to help organizers of conferences, workshops and research schools to include additional delegates from developing countries. Organizers of meetings, who wish to take advantage of this support, are encouraged to apply by sending an e-mail to the ICIAM Secretary (secretary@iciam.org). The level of support is USD 3,500 per conference, to be used to provide ICIAM Fellowships to selected participants from developing countries.

Applications may be submitted at any time. There are three deadlines per year (31 March, 31 July and 30 November); the ICIAM Officers decide on which applications to support within a month of each deadline. To allow for orderly budgeting and planning, proposals for events in a given year should be submitted no later than the year before the event. Preference is given to events held in developing countries, and applicants should indicate how they plan to use the fellowship funds.

Full details can be found on the ICIAM website, at www.iciam.org/iciam-conference-support-applied-and-industrial-mathematics-developing-countries

The Institute of Mathematics for Industry, Kyushu University: Initiative for Integrating Mathematics and Industry
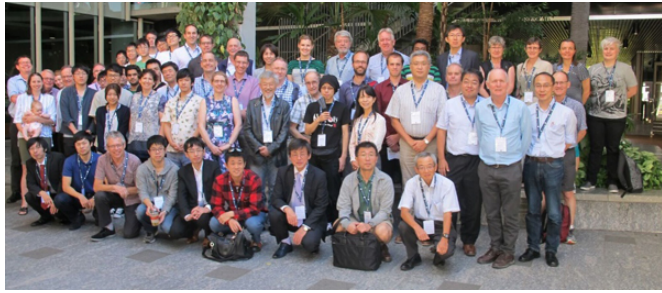
by YASUHIDE FUKUMOTO

The Institute of Mathematics for Industry (hereafter referred to as IMI), Kyushu University, Japan, was founded in April 2011 by dividing and reorganizing the Faculty of Mathematics. IMI is unique in the respect that it covers a diversity of fields of mathematics and mathematical sciences, with one third of the members being engaged in pure mathematics. Both pure and applied mathematicians cooperate to tackle outstanding problems, respecting the short-term needs of industry while deepening the mathematics which contributes to the innovation in future technologies. Amalgamation and reorganization of pure and applied mathematics lie at the heart of "Mathematics for Industry (MI)," this sentiment is the spirit motivating the Global COE Program offered by the Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT) for 2008–2012. IMI's missions also include raising young researchers who shoulder the future of MI. Since its founding, IMI has been offering a platform for collaboration between academia and industry and, as a consequence, the Minister of MEXT approved IMI as the "Joint Research Center for Advanced and Fundamental Mathematics-for-Industry" in April 2013. IMI has joined, together with the Meiji Institute for Advanced Study of Mathematics, the mathematics institutes in Japan, serving the community of mathematics and mathematical sciences, the Institute of Statistical Mathematics and the Research Institute for Mathematical Sciences, Kyoto University.

IMI started with four main divisions (1) Advanced Mathematics Technology, (2) Applied Mathematics, (3) Fundamental Mathematics, and (4) Visiting Section. Soon after the IMI was founded the (5) Office for Promotion of Collaboration and Consultation and (6) Laboratory of Advanced Software in Mathematics were established. Currently, promoting the collaboration of mathematics with social sciences and social systems and developing the collaboration globally is one of our goals. In September 2014, Fujitsu Co Ltd. offered the (6) Collaboration Laboratory for Social Mathematics. Attempts have been made at applying mathematics to contemporary problems arising in Fukuoka City and the Fukuoka Airport. In March 2015, we established the IMI Australia branch at La Trobe University, Melbourne, and hired an associate and an assistant professor there. With this office as a base, we develop cooperation with major research organizations in industrial mathematics in Australia and New Zealand, characterized by strong activities in the field of agriculture, biology and environmental problems. In October 2014, IMI, together with the CSIRO, Australia, took the initiative for launching the Asia-Pacific Consortium of Mathematics for Industry (APCMfI). This platform is part of a global network for jointly working on research and education of industrial mathematics centered on Australia and Japan and extending from south-

east Asia to Hawaii.

The activities of IMI include (i) creating active collaboration with industry, (ii) raising PhDs and post-Docs as future resources in the real world with mathematical backgrounds, (iii) holding seminars for industry-academia partnerships and mathematical tutorials, and (iv) publishing the *Pacific Journal of Mathematics for Industry* (PJMI), collecting original scientific papers, and the *Mathematics for Industry Series*, a lecture note series published by Springer Verlag, and (v) organizing workshops as represented by the Forum Math-for-Industry (FMfI) and Mathematics for Industry Study Groups (MISG). The initial events, FMfI 2008 and MISG 2010, were started as domestic workshops.. In 2016, both workshops became international events, as we exchanged the location of the MSIGs between New Zealand and Japan. Both countries sent delegates to the partner's MISG. The FMfI is now organized in the framework of APCMfI. FMfI 2016 was successfully held at the Queensland University of Technology (QUT), Brisbane, Australia, in November 2016, with its theme entitled "Agriculture as a metaphor for creativity in all human endeavors."

Recently we have embarked on extending the field of MI to cover the energy and environmental sciences, particularly in the field of developing novel technologies for clean energies and environments, and bio- and medical-sciences which have strong demands for unraveling highly complex processes from big data of various kind of measurements, with a high precision. Mathematical modeling, with some rigor, of phenomena and mathematical and computational methods, with intelligence, for gaining information from a sea of data are indispensable for these areas of research.

Yasuhide Fukumoto is a professor at the Institute of Mathematics for Industry, Kyushu University, and has been the director since October 2014. He received his doctoral degree from the University of Tokyo. His research themes include fluid mechanics, magneto-hydrodynamics, Hamiltonian mechanics and integrable systems. He is a Fellow of the Japan Society of Fluid Mechanics and is the Editor-in-Chief of Fluid Dynamics Research.

Call for Nominations for President-Elect of ICIAM

The ICIAM Board meeting in Valencia, Spain (May 20, 2017) will include the election of the next ICIAM President. According to the ICIAM bylaws:

> The President-Elect is elected for a two-year term on years congruent to 1 mod 4. The President-Elect takes over as President and the President becomes Past-President (for two years) in years congruent to 3 mod 4.

The President-Elect's term will begin on October 1, 2017. The duties of the president are stated in the bylaws:

> The President directs the activities of the organization; she/he is the official representative of the organization and should take an active role in promoting the goals of ICIAM internationally.

Nominations for this position are solicited. Nominations may be made by any member society. While nominations may be made at the Board meeting itself, nominators are encouraged to send material to any of the current Officers before **April 20, 2017**, so that information may be circulated to the Board in advance. While there is no specific form for a nomination, Board members (who vote by secret ballot) will be interested in seeing a brief biographical sketch and a statement that the candidate is willing to serve. Questions about possible nominations may be addressed in confidence to any of the current Officers.

ICIAM Officers serve without remuneration; however, reasonable Officer expenses in carrying out their duties are reimbursed from ICIAM funds. A list of the current Officers and their countries may be found at `www.iciam.org/iciam-officers`; a complete list of past Officers is at `www.iciam.org/early-history-iciam`.

MATHEMATICAL CONGRESS OF THE AMERICAS 2017

JULY 24-28 — MONTREAL

MC of A

Mathematical Council of the Americas

The Mathematical Council of the Americas, which federates the Mathematical Societies of the Americas, invites you to join us in Montreal for the 2017 Mathematical Congress of the Americas, from July 24th to July 28th 2017

PLENARY SPEAKERS

Shafira Goldwasser (MIT) • Andrew Granville (Université de Montréal)
Manuel del Pino (Universidad de Chile) • Peter Ozsvath (Princeton University) • Yuval Peres (Microsoft Seattle)

INVITED SPEAKERS

Nicolas Andruskiewitsch (Universidad Nacional de Córdoba) • Lia Bronsard (McMaster University)
Krzytof Burdzy (University of Washington) • Rustum Choksi (McGill University)
Maria Chudnovsky (Columbia University) • Juan Davila (Universidad de Chile)
Luz de Teresa (UNAM) • Yacov Eliashberg (Stanford) • Pablo Ferrari (Universidad de Buenos Aires)
Harald Helfgott (Université Paris Diderot) • Jeremy Kahn (Brown University)
Matt Kerr (Institute for Advanced Study) • C. Gustavo Moreira (IMPA) • Robert Morris (IMPA)
Paolo Piccione (Instituto de Matemática e Estatística da Universidade de São Paulo) • Jill Pipher (Brown University)
Jeremy Quastel (University of Toronto) • Bernardo Uribe (Universidad del Norte)
Shmuel Weinberger (University of Chicago) • Dani Wise, McGill UniversitY

STEERING COMMITTEE

Susan Friedlander (University of Southern California) • Jacques Hurtubise, McGill University
Jose Antonio de la Pena (Mathematicas Research Center, AC CIMAT)
Andrea Solotar (Universidad de Buenos Aires) • Marcelo Viana (IMPA)

PROGRAM COMMITTEE

Noga Alon (University of Tel Aviv) • Luis Cafarelli (University of Texas at Austin – Chair)
Guillermo Cortiñas (University of Buenos Aires) • Mario Eudave, (Universidad Nacional Autónoma de México - UNAM)
Irene Fonseca (Carnegie-Mellon University) • Servet Martinez (Universidad de Chile)
Welington de Melo (IMPA) • Kumar Murty (University of Toronto) • Yuri Tschinkel (New York University)

There will be a large number of special sessions. Proposals to organise are being accepted until July 2016.
For details, plus information on financial support of participants,
please see the web page. https://mca2017.org/

EU-MATHS-IN and Mathematics in the European Program H2020

by Volker Mehrmann, Wil Schilders & Zdeněk Strakoš

As reported in ICIAM Dianoia 2, No. 1 (2014), the new organization EU-MATHS-IN was established in November 2013 to increase the impact of mathematics on innovations in key technologies and to foster, in particular, the development of new modeling, simulation and optimization tools. It aims to become a dedicated one-stop-shop and service unit to coordinate and facilitate the required exchanges in the field of application-driven mathematical research and its exploitation for innovations in industry, science and society. The foundation was based on the support of the European Consortium for Mathematics in Industry (ECMI) and of the Applied Mathematics Committee (AMC) of the European Mathematical Society (EMS). EU-MATHS-IN has grown since then and has become the organization that currently covers 14 European countries and it is very active in many directions, including discussions with science policy makers within the European Commission of the European Union (EC EU). This has been previously reported in an article appearing in ICIAM Dianoia 3, No. 2 (2015), written by Maria Esteban and Zdeněk Strakoš.

As one of the outcomes of the discussions stimulated by EU-MATHS-IN, Anni Hellman from the directorate DG CNECT of EC EU has organized an online consultation "Mathematics for Europe," that was carried out from January 29 to May 15, 2016. An article appearing in ICIAM Dianoia 4, No. 2 (2016) provided further details on the Consultation and asked for worldwide contributions. Overall, 181 responses were received covering a wealth of mathematical disciplines. The final report was published by the EC in June 2016. This report with its Annex containing the individual contributions that the authors agreed to be published is available through the following link: ec.europa.eu/futurium/en/content/mathematics-europe-report-open-consultation

As a follow-up, a special session Mathematics in H2020 took place at the Information and Communication Technologies (ICT) Proposer's Day 2016, which was held in Bratislava, Slovakia on September 26–27, 2016. The (ICT) Proposer's Day was a networking event promoting European ICT Research & Innovation and focusing on the Horizon 2020 Work Program; see ec.europa.eu/digital-single-market/en/ict-proposers-day-2016. It also offered opportunities for discussion with the officials from various EC directorates governing science. Many leading mathematicians were actively involved in the discussions. The importance of the special session on Mathematics was also underlined by the presence of the acting President of the European Mathematical Society, Pavel Exner.

Anni Hellman stressed in her announcement at the session that Mathematics is recognized today as essential for addressing the major challenges in science, technology and society. Faced with the abundance of data on social, economic, ecological, and technological systems, new and sophisticated mathematical tools are required for these data to help us tackle pressing societal challenges and provide us with the necessary technological advantages. Clever mathematical algorithms are needed, for example, to optimize the processing, parallelization and localization of data and computing. There is considerable mathematical talent in Europe to respond to these challenges. In the numerous topics discussed at the Horizon2020 Work Programs, mathematical skills are a prerequisite, and mathematical methods are foreseen: modelling, simulation and optimization, creation of new, optimized algorithms, methods for big data analysis, mathematics of high performance computing, just to name a few. Mathematical methods are the basis to the achievement of many of the Work Programs' goals. Wil Schilders, Volker Mehrmann, Alexander Martin and Marc Asch, among others, presented convincing examples of how Mathematics is in service in other fields, as well as arguments for supporting the role of Mathematics within the European programs in a more adequate way. One of the policy makers made the statement: "Mathematics is often the missing component in European project proposals." But despite the understanding of importance of Mathematics at the side of mathematicians, as well as at the side of the scientific policy makers, there seems to be a persisting substantial difference in the opinion on the way the mathematical research should be supported.

The policy makers emphasize financing of research focused on challenges, and wish to identify and support challenges in which mathematics plays an important role. This is certainly a valid point of view. Mathematics indeed contributes, very substantially, to the solution of many existing challenges that are important for the society. It is important that mathematicians are included in teams for solving individual challenges. Mathematics has also been beneficial in the development of ideas from applications. This important view is, however, only partially reflecting the role of mathematics in science, technology and society. The point is that the term "challenges" does not include challenges within Mathematics itself. Mathematics is not recognized as a discipline enabling the devel-

opment of sciences, engineering, environment, economics and other fields.

The power of mathematics lies in its ability to synthesize, abstract and generalize. This leads to new widely applicable mathematical concepts, where the wide areas of application can be completely out of sight of the original particular application field or the original practical challenge where the ideas may have originated. The synthesis, abstraction and generalization can only be obtained through development within mathematics itself. Only through such inner mathematical development can the ideas from one sort of challenge develop into a mature theory that can efficiently transfer models and methods for transferring solutions from one sector of application to another, very different, application. Without supporting such inner mathematical life, the individually developed ideas will only very slowly generalize and mature, and very similar paths will have to be struggled through inefficiently within each individual challenge sector. Mathematics can be seen as a soil in which other sciences, technology and applications are deeply rooted. Its role is principally different from the role of other disciplines that is serves.

The mathematical iceburg.

Within the current framework of financing science in the EU, there seems to be no scheme that supports the mathematical synthesis, abstraction and generalization through collaboration of different groups and teams within Mathematics itself. If this deficiency continues, the ability of EU science in solving future challenges will be undermined. Mathematics is like an iceberg. When we look at it from above, we see only a small part. This is exactly the part that is visible in applications. But in order to float, the whole invisible part of the iceberg must be supported by the ocean. Without supporting the large invisible part, there will be no part seen from above.

If we wish to have Mathematics ready for future applications and challenges, we must support it as a discipline together with stimulating its immediate applications that are indispensable for society.

Volker Mehrmann received his PhD from the University of Bielefeld (Germany) in 1982. He is a recently appointed ICIAM Officer-at-Large and his research interests are in the areas of numerical mathematics/scientific computing, applied and numerical linear algebra, control theory, and the theory and numerical solution of differential-algebraic equations.

Wil Schilders is currently the President of the EU-MATHS-IN (European Service Network of Mathematics for Industry and Innovation) and a Professor at TU Eindhoven. His research interests include numerical linear algebra, model order reduction, numerical methods for the simulation of semiconductor devices, scientific computing and industrial mathematics.

Zdeněk Strakoš is a Professor at the Charles University in Prague. He received his PhD and DSc in Computer Science and Mathematics from the Academy of Sciences of the Czech Republic. In addition to holding various positions in his home country, he spent three years at Emory University, Atlanta. His main research interests include analysis of numerical methods, algebraic matrix computations, Krylov subspace methods and numerical stability. He is a member of the Applied Mathematics Committee of the EMS and of the Householder Committee.

EU-MATHS-IN and Mathematics in the European Program H2020: An Exchange

The article "EU-MATHS-IN . . . " occasioned the following exchange between Barbara Keyfitz (BLK) and Zdeněk Strakoš (ZS).

BLK: In particular, as I read your article it seems to repeat a point that was made in an earlier article on the funding policies' approach to math: that mathematics is still not adequately recognized as a key technology, and this is not good. Do I understand this correctly? Although our members do not need to be told this, I think it's important for all of us to try to find successful strategies to change this situation. (I'm not sure that anyone has succeeded yet.)

ZS: You are completely right and it seems to me that the overall situation is getting worse. Math is increasingly considered as a "serving" discipline that is essentially finished (apart, perhaps, from some "abstract mathematical stuff" that does not have in the minds of many any economic impact anyway). The feeling that computer technology with the appropriate hardware and software development and the related computer science research alone will resolve all problems is on the rise. The push towards an immediate economic (but also citation!!!) impact is for mathematics much more dangerous than for other fields. As a consequence, a general support and funding for the crucial inner development within mathematics is shrinking.

Announcement

International Workshop on Industrial Mathematics. Valencia, May 18–19, 2017.
Organized by Association ICIAM2019-Valencia

Following tradition, the ICIAM Board meeting for 2017 will be preceded by a two-day workshop. Both will take place on the campus of Valencia University.

The workshop will deal with both scientific and management/funding aspects of Industrial Mathematics. Interested speakers are welcome, and are invited to contact any of the committee members below.

Scientific Committee:

María J. Esteban

Tomás Chacón

Barbara Keyfitz
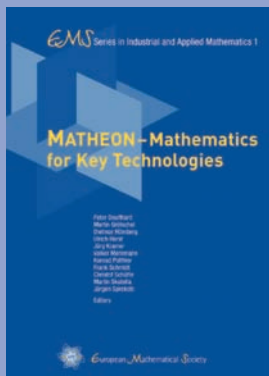
Taketomo Mitsui

Volker Mehrmann

Peregrina Quintela

Local Committee:

Rosa Donat

Pep Mulet

Jose Mas

Sergio Blanes

Francisco G. Morillas

Administrative contact: Teresa Ayuga, `iciam2019-admin@us.es`

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On the Way to ICIAM2019

by Tomás Chacón

The organization of the ICIAM2019-Valencia (Mon July 15 – Fri July 19, 2019) congress continues its steady progress since the ICIAM Board awarded it to the Spanish Society for Applied Mathematics (SEMA) in May 2013. It is being enthusiastically supported by the industrial and applied mathematics community in Spain, as well as by the Spanish society in general, and especially by King Felipe VI, who has accepted the Honour Presidency of the Congress.

Formally, the organization is in charge of the "Asociación ICIAM2019-Valencia," which is the legal entity created by SEMA with this purpose. It is sponsored by 27 senior Spanish mathematicians with vast experience in mathematical research and management. The Asociación has created an Organizing Committee split into 11 thematic committees, inspired by the organization structure of the preceding ICIAM Congresses (see Appendix 1).

The main activities of the Organizing Committee up to the moment are:

- **Appointment of Sub-Venues:** These will be five Spanish cities or regions (Bilbao, Málaga, Galicia, Sevilla, Zaragoza) that will host several satellite meetings, on both industrial and applied mathematics.
- **Scholarship program:** The Asociación has signed an agreement with Banco Santander, that will provide funding for 150 scholarships for young researchers attending ICIAM2019. Also, a crowdfunding program (P2B) for scholarships has been launched in 2015 among Spanish mathematics departments and research centres. It is providing yearly funding for some 40 scholarships.
- **Appointment of a Professional Congress Organizer:** The Asociación launched a call among PCOs to organize ICIAM2019. Grupo Pacífico was finally chosen among eight excellent candidacies. Grupo Pacífico has since then launched the web page of the Congress, that you are kindly invited to visit to obtain detailed information: `iciam2019.org`
- **Publicity Program:** A program for publicity of

ICIAM2019 in the upcoming congresses has been approved. Our main asset is the ICIAM2019 toy oranges, that had a great success at ICIAM2015 congress in Beijing.
- **Academic Calendar:** The Academic Calendar has just been approved, it may be found in Appendix 2.

In parallel, the Scientific Panel Committee, chaired by Prof. Alfio Quarteroni, has been working on the selection of the 27 invited speakers since its appointment by the ICIAM Board in May 2016. It has just approved a proposal, that will be submitted for its approval by the ICIAM Board meeting next May 2017.

At the present moment the Asociación is preparing the organization of the next meeting of the ICIAM Board, as well as the associated "International Workshop on Industrial Mathematics," that will take place in Valencia in May 2017.

We will continue, with pleasure, our organizing work to make ICIAM2019-Valencia a great scientific event, to support the overall development of the research in industrial and applied mathematics. You are all kindly invited to participate in it!

Appendix 1: Organizing Committee of ICIAM2019-Valencia Congresses.

Chairman: Tomás Chacón (Univ. Sevilla)

Thematic Committees

1. Academic: Amadeu Delshams (Technical Univ. Catalonia).
2. Finance: Eduardo Casas (Univ. Cantabria).
3. Fundraising: Carlos Vázquez (Univ. La Coruña).
4. ICIAM Liaison. Tomás Chacón (Univ. Sevilla).
5. Industrial Advisory: Peregrina Quintela (Univ. Santiago de Compostela).
6. Local Arrangements: Rosa Donat (Univ. València).
7. Publications and Promotions: Inmaculada Higueras (Univ. Pública de Navarra).

8. Public Relations: Henar Herrero (Univ. Castilla-La Mancha).

9. Satellite & Embedded Meetings: María Paz Calvo (Univ. Valladolid).

10. Outreach: Henar Herrero (Univ. Castilla-La Mancha), Juan I. Montijano (Univ. Zaragoza).

11. Travel Support: Elena Vázquez Cendón (Univ. Santiago de Compostela).

Appendix 2: Academic Calendar of ICIAM2019

Minisymposia
Submissions open on: Sun March 04, 2018
Notification of early decisions: Mon July 30, 2018
Closing date for the submission of proposals: Mon November 05, 2018
Notification of final decisions: Mon November 19, 2018
Submissions due of accepted minisymposium abstracts: Mon March 04, 2019

Contributed Papers
Submissions open on: Sun July 01, 2018
Notification of early decisions: Mon October 01, 2018
Closing date for submissions: Mon January 7, 2019
Notification of decisions: Mon February 04, 2019

Posters
Submissions open on: Sun July 01, 2018
Closing date for submissions: Mon April 1, 2019
Notification of decision: Mon May 6, 2019

Satellite Conferences
Submissions open on: Sun 18 June 2017
Closing date for submissions: Mon October 1, 2018
Notification of decision: within one month of submission

Embedded Conferences
Submissions open on: Sun December 03, 2017
Closing date for submissions: Mon October 1, 2018
Notification of decision: within one month of submission
Submission due of accepted embedded meeting abstract: Mon March 04, 2019

Conference Registration
Early bird registration: Sun November 11, 2018 – Mon March 04, 2019
Regular registration: Tue March 05 – Mon May 20, 2019
Late & On-site registration (only for non-paper-presenting participants):
Tue May 21 - Mon July 15, 2019

Accommodation
Hotel registration opens: Sun December 02, 2018
Hotel registration closes: Sun June 09, 2019

Program
Block program online: Mon November 06, 2017
Final program online: Mon May 06, 2019

Financial Aid for Participants from Developing Countries
Applications open: Sun July 22, 2018
Closing date for applications: Mon February 25, 2019
Notification of early decisions: Mon March 18, 2019
Notification of final decisions: Mon April 01, 2019

ICIAM2019 Congress
Mon July 15 – Fri July 19, 2019

ICSU Committee on Freedom and Responsibility in the Conduct of Science (CFRS)[1] — Advisory Note[2]

Mobility and Field Research in the Sciences: Gender Equality and Prevention of Harassment

This Advisory Note provides advice on strategies to promote gender equality and equitable access to all resources in the practice of science, and to remove barriers to the full participation in science mobility and internationalization by women. Its focus is on field work and visiting scholars carrying out short- to medium-term research studies at home or abroad.

Research has shown that mobility is an important component of successful long term career advancement — particularly for women. Internationalization and the global cooperation of scientists is enhanced by mobility. ICSU Statute 5 on the Principle of Universality of Science commits ICSU and its Members to ensure the freedom of movement, association, expression and communi-

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[1] The CFRS is a policy advisory committee of the International Council for Science (ICSU). See `www.icsu.org/freedom-responsibility/freedom-responsibility-portal` for its terms of reference and further information.

[2] This Advisory Note was developed by CFRS and does not necessarily reflect the views of individual ICSU Member organisations.

cation for scientists and to promote equitable and non-discriminatory access to science.[3] One of the challenges in supporting freedom of movement and equitable access to science is harassment, especially gender-based harassment in the scientific workplace, be it a laboratory or a field research site. Scientific field work, research and scholarship that moves beyond normally regulated workplace practices, provide particularly sensitive areas and are of concern to ICSU.

Barriers and challenges

Gender-based harassment, both overt and subtle, is reported to be a significant form of discrimination against women and occasionally men. This harassment includes actions by supervisors or peers as well as by other individuals encountered in field research circumstances. It creates a barrier to mobility and scientific networking and is contrary to the Principle of Universality of Science. The potential for gender-based harassment in the context of social hierarchies or dependencies in academic settings forces a particular responsibility on academic or research institutions to set clear standards, and on individual scientists and scholars to guard against any forms of gender-based harassment. As noted, women, in particular, are at risk for gender-based harassment. This can limit their mobility, and contribute to the well-documented under-representation of women among senior career scholars and leaders in science and industry. If not consistently and adequately addressed, these issues will negatively impact the scientific enterprise. They have the potential to harm the integrity of the research community, relationships among its practitioners, and the commitment of those affected by harassment to scientific research and scholarship.

Addressing this challenge to equitable access requires consistent strategies:

1. **Documentation.**
   Systematic data on the incidence and prevalence of gender-based harassment in the science and research workforce in general, and in field work in particular, are lacking. ICSU Members, higher education and research institutions, and non-governmental organizations are therefore encouraged to collect relevant data and metrics on the harassment of scholars engaged in field research. Analysis and interpretation of these data should be a subject of publications, scientific meetings and advisory bodies.

2. **Policies and Procedures.**
   Existing local or national harassment policies and the codes of conduct of universities and other research organisations must adequately cover field research and international research visits. In particular, the policies or codes of conduct should include a statement to the effect that scientific visitors to an organisation are covered by such a code and they should be so informed as part of their appointment or recruitment process.

Funding bodies are advised to ensure commitment to such practices at an organisational level for any research or scholarship activities they support. ICSU Members are encouraged to promote policies and procedures to address harassment in these international contexts.

These would typically include:

- Providing training to all members of the research community on the many forms of harassment, how to identify them, and how to deal with them;
- Developing a strong statement from research and scholarly organisations that any form of harassment is unacceptable;
- Developing easily accessible, transparent and confidential reporting mechanisms that can be readily invoked by field researchers in all circumstances. These could be an ombudsperson, a web resource or other crisis intervention resources;
- Implementing clear and well documented processes for ensuring reported harassment is reviewed and dealt with efficiently;
- Instituting clearly articulated sanctions against those found to perpetrate harassment, be they organisational members, visiting scholars, field researchers or interns, or others; and
- Supporting other organisations in dealing with harassment issues.

Harassment, particularly of field researchers or visiting scholars, is a scourge that must be purged from the scientific landscape.

This can be achieved with concerted action, and will lead to an improved work environment, increased gender equity, and measurably better outcomes for the practice of science.[4]

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[3]This commitment is echoed in the UN Sustainable Development Goals (SGD's, www.un.org/sustainabledevelopment/sustainable-development-goals; and see ISCU comments at www.icsu.org/publications/reports-and-reviews/review-of-targets-for-the-sustainable-development-goals-the-science-perspective-2015/SDG-Report.pdf).

[4]This Advisory Note benefited from the presentations and discussion at the International Workshop "Gender Issues in Field Research. Mobility and Internationalization of Science," held in Mexico City on 27 April 2016. This event was organised by the Mexican Academy of Sciences, ICSU Regional Office of Latin America and the Caribbean and ICSU/CFRS (see www.icsu.org/news-centre/news/top-news/icsu-cfrs-workshop-on-gender-issues-in-field-research).

Call for Nominations for ICIAM Prizes for 2019

by ICIAM Prize Committee

The ICIAM Prize Committee for 2019 calls for nominations for the five ICIAM Prizes to be awarded in 2019 (the Collatz Prize, the Lagrange Prize, the Maxwell Prize, the Pioneer Prize and the Su Buchin Prize). Each ICIAM Prize has its own special character, but each one is truly international in character. Nominations are therefore welcomed from every part of the world. A nomination should take into account the specifications for a particular prize (see www.iciam.org/iciam-prizes and see below), and should contain the following information:

- Full name and address of person nominated;
- Web home page if any;
- Name of particular ICIAM Prize;
- Proposed citation (concise statement about the outstanding contribution in fewer than 250 words);
- Justification for nomination (cite nominator's reason for considering candidate to be deserving, including explanations of the scientific and practical influence of the candidate's work and publications);
- CV of the nominee;
- 2–3 letters of support from experts in the field and/or 2–3 names of experts to be consulted by the Prize Committee;
- Name and contact details of the proposer.

Prizes' Descriptions

ICIAM Collatz Prize The Collatz Prize was established to provide international recognition to individual scientists under 42 years of age for outstanding work on industrial and applied mathematics. A recipient's 42nd birthday must not occur before 1st January of the year in which the prize is presented.

ICIAM Lagrange Prize The Lagrange Prize was established to provide international recognition to individual mathematicians who have made an exceptional contribution to applied mathematics throughout their careers.

ICIAM Maxwell Prize The Maxwell Prize was established to provide international recognition to a mathematician who has demonstrated originality in applied mathematics.

Nominations should be made electronically through the website iciamprizes.org. The deadline for nominations is July 15th, 2017. Please contact president@iciam.org if you have any question regarding the nomination procedure.

ICIAM Prize committee:
Committee chair: Maria J. Esteban; Zdeněk Strakoš (Chair of Collatz Prize Subcommittee) Alexandre Chorin (Chair of Lagrange Prize Subcommittee) Alexander Mielke (Chair of Maxwell Prize Subcommittee) Denis Talay (Chair of Pioneer Prize Subcommittee) Zuowei Shen (Chair of Su Buchin Prize Subcommittee) Margaret H. Wright.

ICIAM, the International Council for Industrial and Applied Mathematics, is the world organization for applied and industrial mathematics. Its members are mathematical societies based in more than 25 countries. For more information, see the Council's web page at www.iciam.org.

Maria J. Esteban
President of ICIAM

ICIAM Pioneer Prize The Pioneer Prize was established for pioneering work introducing applied mathematical methods and scientific computing techniques to an industrial problem area or a new scientific field of applications.

ICIAM Su Buchin Prize Established in 2003 to provide international recognition of an outstanding contribution by an individual in the application of mathematics to emerging economies and human development, in particular at the economic and cultural level in developing countries. This includes efforts to improve mathematical research and teaching in those countries.

Press Release: ICSU Response to the US Travel Ban

International Council for Science (ICSU) calls on the government of the United States to rescind the Executive Order "Protecting the Nation from Foreign Terrorist Entry into the United States"

Paris, 31 January 2017 — Joining many national and international organizations, the International Council for Science (ICSU) calls on the government of the United States of America to rescind the Executive Order "Protecting the Nation from Foreign Terrorist Entry into the United States," which is effectively banning entry to the United States for citizens of seven countries.

In the opinion of the Council, the Order is inappropriately broad in its scope and unfairly targets individuals based on their origin, putting it into violation of the Principle of Universality of Science, enshrined in the Council's statutes. It is also concerned about the negative effects the Order will have on the freedom of scientific exchange among scientists and students of science worldwide, resulting in negative impacts on the progress of science, and impeding societies around the globe from benefitting from this progress.

As the world's leading non-governmental international scientific organization, the Council promotes the Universality of Science on the basis that science is a common human endeavor that transcends national boundaries and is to be shared by all people. It believes that scientific progress results from global exchange of ideas, data, research materials and understanding of the work of others.

In advocating the free and responsible practice of science, ICSU promotes equitable opportunities for access to science and its benefits, and opposes discrimination based on such factors as ethnic origin, religion, citizenship, language, political or other opinion, sex, gender identity, sexual orientation, disability, or age. The Council believes that the complex problems of our world can only be solved through international dialogue, collaboration and the sharing and exchange of ideas and research findings.

Statute 5 of the International Council for Science (ICSU) states: The Principle of Universality (freedom and responsibility) of Science: the free and responsible practice of science is fundamental to scientific advancement and human and environmental well-being. Such practice, in all its aspects, requires freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information, and other resources for research. It requires responsibility at all levels to carry out and communicate scientific work with integrity, respect, fairness, trustworthiness, and transparency, recognising its benefits and possible harms.

About the International Council for Science (ICSU)

The International Council for Science (ICSU) is a non-governmental organization with a global membership of national scientific bodies (122 members, representing 142 countries) and international scientific unions (31 members). ICSU mobilizes the knowledge and resources of the international scientific community to strengthen international science for the benefit of society.

Media contacts

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About ICIAM

The International Council for Industrial and Applied Mathematics (ICIAM) is a worldwide organization for professional applied mathematics societies. Its members are national and regional societies dedicated to applied and industrial mathematics, and other societies with a significant interest in industrial or applied mathematics.

ICIAM is governed by a Board comprising representatives of its member societies. Programs run by ICIAM, and the By-Laws of the organization, can be found on the ICIAM web page, www.iciam.org.

The Full Members and their representatives

ANZIAM (Australia and New Zealand Industrial and Applied Mathematics): Ian H. Sloan and Michael Plank

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CAIMS-SCMAI (Canadian Applied and Industrial Mathematics Society, Société Canadienne de Mathématiques Appliquées et Industrielles): Raymond Spiteri

CSCM (Chinese Society for Computational Mathematics): Xuejun Xu

CSIAM (China Society for Industrial and Applied Mathematics): Pingwen Zhang and Xiao-Shan Gao

ECMI (European Consortium for Mathematics in Industry): Michael Günther

ESMTB (European Society for Mathematical and Theoretical Biology): Andrea De Gaetano

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