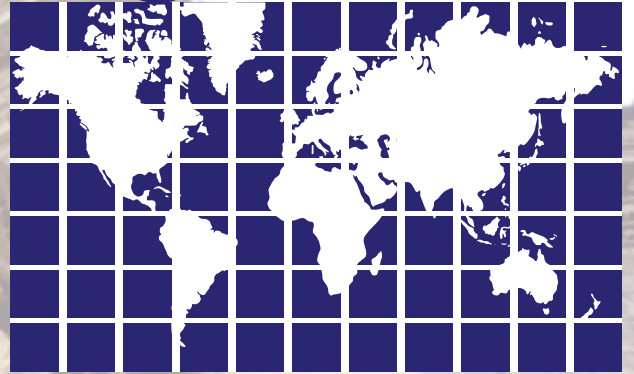


ICIAM



The ICIAM Dianoia Vol. 5, No. 2, April 2017

Managing Editor

C. Sean Bohun

University of Ontario
Institute of Technology
Faculty of Science
2000 Simcoe St. North
Oshawa, ON, Canada
e-mail: sean.bohun@uoit.ca

Editor-in-Chief

Barbara Lee Keyfitz

The Ohio State University
Department of Mathematics
231 West 18th Avenue
Columbus, OH 43210-1174
e-mail: bkeyfitz@math.ohio-state.edu

Editorial Board

James M. Crowley

SIAM
e-mail: jcrowley@siam.org

Thierry Horsin

CNAM, Paris, France
Département Ingénierie
Mathématique
e-mail: thierry.horsin@math.cnrs.fr

Pammy Manchanda

Guru Nanak Dev University
Amritsar, Punjab, India
Department of Mathematics
e-mail: pmanch2k1@yahoo.co.in

Roberto Natalini

Consiglio Nazionale delle
Ricerche, Rome, Italy,
Istituto per le Applicazioni
del Calcolo "M. Picone"
e-mail: roberto.natalini@cnr.it

Timo Reis

University of Hamburg
Department of Mathematics
e-mail: timo.reis@math.uni-hamburg.de

Zdeněk Strakoš

Charles University in Prague
Faculty of Mathematics and
Physics

e-mail: strakos@cs.cas.cz

Reporters

Iain Duff

STFC Rutherford Appleton
Laboratory
Harwell Oxford
Didcot, OX11 0QX, UK
e-mail: iain.duff@stfc.ac.uk

Maria J. Esteban

CEREMADE
Place du Maréchal
Lattre de Tassigny
F-75775 Paris Cedex 16,
France
e-mail: esteban@ceremade.dauphine.fr

Eunok Jung

Konkuk University
Department of Mathematics
1, Hwayang-dong,
Gwangjin-gu
Seoul, South Korea
e-mail: junge@konkuk.ac.kr

Alexander Ostermann

University of Innsbruck
Numerical Analysis Group
Department of Mathematics
Technikerstraße 13/7
6020 Innsbruck, Austria
e-mail: alexander.ostermann@uibk.ac.at

Tomás Chacón Rebollo

Universidad de Sevilla
Departamento de
Ecuaciones Diferenciales y
Análisis Numérico
e-mail: chacon@us.es

On the cover: the cover of
this issue is the Cathedral de
Valencia, also known as Saint
Mary's Cathedral. Built in
the 13th century, this land-
mark is a Roman Catholic
parish located at coordinates
39.4756°N, 0.3774°W.

ICIAM Announcements — <i>Maria J. Esteban</i>	2
ICIAM Conference Support for Applied and Industrial Mathematics in Developing Countries	3
CIMPA 2017 Research Schools	4
The News from CIMPA — <i>Barbara Lee Keyfitz</i>	5
International Workshop on Industrial Mathematics. Valencia, May 18–19, 2017	5
Call for nominations: Olga Tausky-Todd Lecture 2019	6
Abel Prize 2019 Press Release	6
News from the ICSU — <i>Barbara Keyfitz & Tom Mitsui</i>	8
Young Global Changers Scholarship Programme	9
Call for Nominations for ICIAM Prizes for 2019	10
ICSU, ICIAM and the Gender Gap: A New Project for ICIAM — <i>Barbara Keyfitz</i>	11
Series: Brief Interviews with Young Mathematicians: #4 — <i>Roberto Natalini</i>	12
MCA2017	14
About ICIAM	15

The ICIAM newsletter was created to express the interests of our membership and partner organizations and the views expressed in this newsletter are those of the authors and do not necessarily represent those of ICIAM or the Editorial team. We welcome articles and letters from members and associations, announcing events, on-site reports from events and industry news. www.iciam.org
©2013-2017 International Council for Industrial and Applied Mathematics (ICIAM). For reprint permission, advertising requests, potential articles and event notices, please contact: bkeyfitz@math.ohio-state.edu

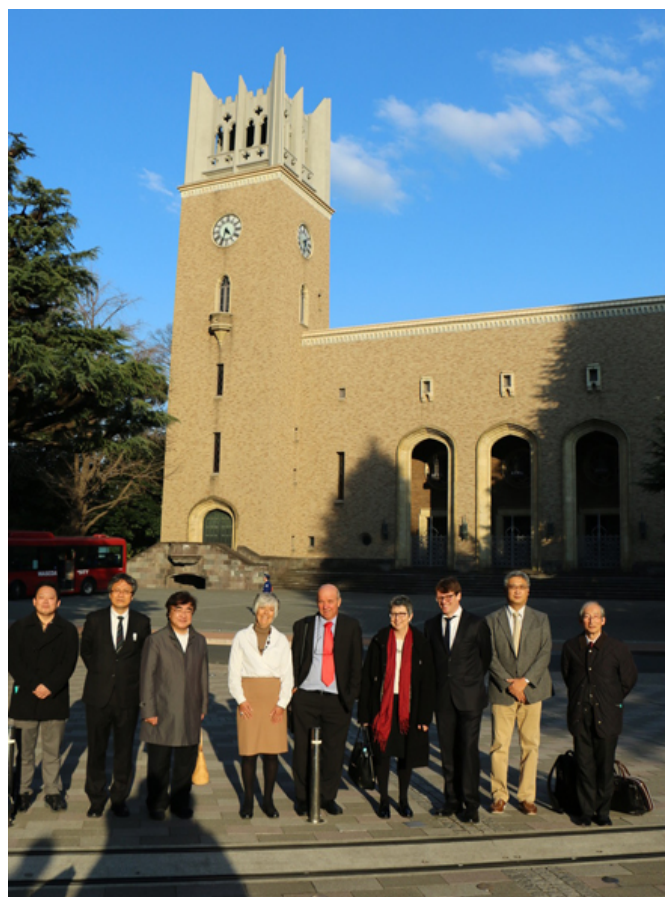
ICIAM Announcements

by MARIA J. ESTEBAN

An Intense Week for the ICIAM Officers

The week of March 6, 2017, was a very intense one for the ICIAM Officers: two site-visits to the cities which are candidates for the ICIAM 2023 Congress and the traditional spring Officers' meeting, all in one week.

Seoul and Tokyo are indeed the two cities which are candidates to organize the ICIAM 2023 Congress, and as is customary, a delegation of ICIAM Officers visited the two cities for assessing the details of the bids. The ICIAM delegation was composed of Maria J. Esteban, president; Barbara Keyfitz, past-president; José Cuminato, treasurer; and Sven Leyffer, secretary.



The site-visit committee and local hosts in front of Waseda University's Okuma Auditorium —Image used with permission.

The first site-visit was that of Seoul, on March 6th and 7th. The first day was mostly spent in the COEX convention center, the venue proposed for the congress. The discussion and the visit to the venue facilities showed

the particulars of KSIAM's proposal. All this will be discussed in the next Board meeting, and the reports of the site-visit committee will be circulated to the Board members, who will vote on the site. Nevertheless, we can say that the Korean mathematical community is clearly all united behind the project, with a strong support shown by the KMS (Korean Mathematical Society) and by all the mathematical institutes and institutions of the country. Also, there is a strong will to increase the interaction of academic mathematical scientists with Korean enterprises, and there have been several governmental plans to help going in this direction. The political institutions (the city of Seoul and the Federal Government, during an interview with the Minister of Science, ICT and Future Planning, Mr. Choi Y-H) also conveyed to us that this congress would mean a lot for the future of mathematics in South Korea, and especially for strengthening the interaction with Korean industry and technological development. This part of the site-visit took place during the second day, March 7.



The site-visit committee, local hosts and representatives from the Seoul Convention Center at the tour of LG Display —Image used with permission.

The site-visit was completed with an interesting visit to *LG Display*, a company which revolutionizes the world of displays with very advanced technology. The atmosphere was very pleasant all along the site-visit. And we were all the time surrounded by mathematicians (representatives of the bidding committee, both from KSIAM and KMS) and also members of their PCO (Professional Congress Organizer). We had a good glimpse of what have been the developments of applied and industrial mathematics in the country in the last decade, and also the projects for the future. The site-visit was supplemented with a half-day workshop containing some presentations (both by Korean mathematicians describing various projects of industrial collaboration, and one by Sven Leyffer) and a round table about industrial mathematics,

where Maria J. Esteban and several mathematicians and representatives from South Korean industry participated.

The close vicinity of Seoul and Tokyo facilitated the organization of the two site-visits one after the other. The site-visit to Tokyo took place on March 9 and 10. Here again we had a very pleasant two days to get acquainted with the details of another very good bid for ICIAM 2023. The Japanese bid is very different in nature from the Korean bid. This time we spent most of our time in or around the Waseda University campus, the proposed venue for the congress. Here also, the first day was devoted to a detailed presentation of the bid, both by the organizers and by representatives of the Tokyo tourism and visitors bureau. We also received a presentation of Japanese mathematical history and the current landscape, by a past-president of JMS (Japanese Mathematical Society) and many discussions, followed by a visit to the venue facilities. The presentations showed once again that the whole Japanese mathematical community is behind the project and that all mathematical institutions are willing to participate in the effort. Actually, in this case, the bid is jointly made by the two Japanese members of ICIAM, the JSIAM and the JMS. The ICIAM delegation was also made aware of the traditional strong industrial links of JSIAM. On March 10th, the ICIAM delegation met with Mr. Y. Tsuruho, Minister of Science and Technology of Japan, who, as in the Korean case, expressed the very strong support of the country for the celebration of the ICIAM congress in Tokyo and the reasons for that. Also, as in Seoul, the last afternoon was devoted, among other things, to a workshop which complemented the site-visit.

In this case, Barbara Keyfitz and José Cuminato made presentations, together with two Japanese mathematicians.

The day between the two site-visits was used by the Officers to have the traditional spring Officers' meeting that is devoted to the preparation of the annual Board meeting. This meeting was joined by the two officers-at-large, Tom Mitsui and Volker Mehrmann (on remote mode). The agenda for the board meeting was prepared in detail, as well as the list of papers that will be sent to all Council members in the coming weeks.



The ICIAM site-visit committee with Takeshi Ogita and Naoya Yamanaka —Image used with permission.

Last but not least, the visit to Tokyo was the occasion to meet Takeshi Ogita and Naoya Yamanaka, who so efficiently take care of the ICIAM server. The Officers discussed with them some projects about the hosting of ICIAM's website, domains and email accounts, and expressed to them ICIAM's thanks for their valuable help.

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

Buenos Aires
Argentina July 31 › Aug 11

Harmonic analysis,
geometric measure theory
and applications

Urcuquí
Ecuador Sep 18 › 29

Algorithmic nonsmooth
optimization

Havana
Cuba March 6 › 17

Spatial statistics: extreme
value and epidemiology

Sao Paulo
Brazil July 2 › 15

Algebraic methods
in coding theory

Kingston
Jamaica Jan 8 › 20

Representation theory and
applications to differential
equations

Lima
Peru Sep 4 › 15

Group actions on algebraic
varieties

Novosibirsk
Russian Federation Aug 7 › 19

Associative and non-associative
algebras

Settat
Morocco Apr 16 › 28

Aspects algébrique,
combinatoire et analytique
des probabilités libres

Meknès
Morocco May 1 › 10

Analyse numérique & équations
aux dérivées partielles

Sirince
Turkey May 29 › June 12

Artin L-functions, Artin's
primitive roots conjecture
and applications – with ICTP

Beyrouth
Lebanon Feb 13 › 22

Graph theory and
(its) applications

Ankara
Turkey Sep 11 › 22

Quasi-cyclic and related
algebraic codes

Pune
India June 19 › 30

Recent trends in
non-commutative algebras

Kanpur
India July 10 › 21

Summer school on multiscale
computational methods
and error control

Ziguinchor
Senegal Nov 20 › Dec 2

Géométrie complexe
et applications

Abidjan
Ivory Coast Apr 10 › 22

Théorie algébrique des
nombres et applications
notamment en cryptographie
– with ICTP

Ibadan
Nigeria June 11 › 24

Combinatorial and
computational algebraic
geometry

Quy Nhon
Viet Nam July 12 › 22

Noncommutative geometry and
applications to quantum physics

Vientiane
LAO PDR Jan 3 › 13

Introduction to the mathematical
analysis of differential equations
and real-life applications

Khovd
Mongolia July 17 › 28

Functional analysis and partial
differential equations

CIMPA 2017

Écoles de recherche Research Schools

INTERNATIONAL CENTRE FOR PURE AND APPLIED MATHEMATICS (CIMPA) is an international organisation that promotes research and higher education in Mathematics in developing countries. CIMPA is sponsored by UNESCO and supported by Research Ministries from France, Spain and Norway, by University of Nice Sophia-Antipolis (France) and by the Centre National de la Recherche Scientifique (France).

Le CENTRE INTERNATIONAL DE MATHÉMATIQUES PURES ET APPLIQUÉES (CIMPA) est une organisation internationale destinée à promouvoir la recherche et l'enseignement supérieur en mathématiques dans les pays en voie de développement. Le CIMPA est soutenu par l'UNESCO et subventionné par les ministères de la recherche de la France, de l'Espagne et de la Norvège, par l'Université Nice Sophia-Antipolis (UNSA) et le Centre national de la recherche scientifique (CNRS).

<http://cimpa.info>



The News from CIMPA

by BARBARA LEE KEYFITZ

ICIAM is a Scientific Partner of CIMPA (in English, the International Center for Pure and Applied Mathematics). CIMPA's principal activity is running advanced schools for graduate students and researchers in developing countries. The colorful poster accompanying this article gives an indication of the scope and variety of their programs. (We note that the workshop in Meknes in May has received some support from the ICIAM DCS funding program.)

Once a year, CIMPA accepts new proposals for schools

and workshops. The next opportunity will be funding for programs in 2019; a call will be issued around the middle of April, 2017. (www.cimpa.info) Please read the information if you are considering an activity of this type.

The next General Assembly (GA) of CIMPA will take place on June 30, 2017 at 01:00 pm, at IHP, Rue Pierre et Marie Curie, 75005 Paris. The General Assembly is usually a routine administrative meeting; scientific decisions are made by the scientific committee. At this time the agenda of the GA has not yet been published.

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

Call for nominations: Olga Taussky-Todd Lecture 2019

by OLGA TAUSSKY-TODD LECTURE COMMITTEE

The Olga Taussky-Todd Lecture is held every four years at the International Congress on Industrial and Applied Mathematics (ICIAM). This honor is conferred on a woman who has made outstanding contributions in applied mathematics and/or scientific computation. The lecture is named in tribute to the memory of Olga Taussky-Todd, whose scientific legacy is in both theoretical and applied mathematics, and whose work exemplifies the qualities to be recognized.

The Officers and board of ICIAM now call for nominations for the Olga Taussky-Todd Lecture, to be given at ICIAM 2019 congress, to take place in Valencia (Spain) from July 15 to July 19, 2019.

A nomination will consist of:

1. Full name and address of person nominated;
2. Web page if any;
3. Justification for nomination (in at most two pages, 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);
4. 2-3 letters of support from experts in the field (not mandatory). Each of them having a maximum length of two pages;

5. CV of the nominee;
6. Name and contact details of the proposer.

Please contact president@iciam.org if you have any questions regarding the nomination procedure.

The selection process is conducted by the Olga Taussky-Todd Lecture Committee. The Committee for the 2019 Lecture consists of:

Liliana Borcea, (Chair) University of Michigan;
Raymond Chan, The Chinese University of Hong Kong;
Ingrid Daubechies, Duke University;
Nick Higham, University of Manchester;
Sofia C. Ohlede, University of College London;
Anna Karin Tornberg, KTH, Stockholm.

Nominations should be made electronically through the website iciamprizes.org. The deadline for nominations is September 30, 2017.

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 30 countries. For more information, see the Council's web page at www.iciam.org

Maria J. Esteban, ICIAM President

Abel Prize 2019 Press Release

Yves Meyer receives the Abel Prize

The Norwegian Academy of Science and Letters has decided to award the Abel Prize for 2017 to Yves Meyer (77) of the École normale supérieure Paris-Saclay, France, "*for his pivotal role in the development of the mathematical theory of wavelets.*"

Yves Meyer was the visionary leader in the modern development of this theory, at the intersection of mathematics, information technology and computational science.

Wavelet analysis has been applied in a wide variety of arenas as diverse as applied and computational harmonic analysis, data compression, noise reduction, med-

ical imaging, archiving, digital cinema, deconvolution of the Hubble space telescope images, and the recent LIGO detection of gravitational waves created by the collision of two black holes.

The President of the Norwegian Academy of Science and Letters, Ole M. Sejersted, announced the winner of the 2017 Abel Prize at the Academy in Oslo today, 21 March.

Yves Meyer will receive the Abel Prize from His Majesty King Harald V at an award ceremony in Oslo on 23 May.

The Abel Prize recognizes contributions of extraordinary depth and influence to the mathematical sciences and has been awarded annually since 2003. It carries a

cash award of 6 million NOK (about 675,000 Euro or 715,000 USD).

An Intellectual Nomad

Having made important contributions to the field of number theory early in his career, Meyer's boundless energy and curiosity prompted him to work on methods for breaking down complex mathematical objects into simpler wavelike components — a topic called harmonic analysis. This led him in turn to help construct a theory for analysing complicated signals, with important ramifications for computer and information technologies. Then he moved on again to tackle fundamental problems in the mathematics of fluid flow. "During my professional life I obsessively tried to cross the frontiers," he says.

Meyer's work has a relevance extending from theoretical areas of mathematics to the development of practical tools in computer and information science. As such it is a perfect example of the claim that work in pure mathematics often turns out to have important and useful real-world applications.



ABEL PRISEN

Yves Meyer has inspired a generation of mathematicians who have gone on to make contributions in their own right. His collaborator on wavelet theory Stéphane Mallat calls him a "visionary" whose work cannot be la-

belled either pure or applied mathematics, nor computer science either, but simply "amazing."

Biography

Yves Meyer, born 19 July 1939 of French nationality, grew up in Tunis on the North African coast. He entered the elite *École normale supérieure de la rue d'Ulm* in Paris in 1957, coming first in the entrance examination. After graduating, Meyer completed his military service as a teacher in a military school. He obtained his PhD in 1966 from the University of Strasbourg.

He became a professor of mathematics first at the Université Paris-Sud, as it is now known, (1966-1980), then the *École Polytechnique* (1980-1986), and the Université Paris-Dauphine (1986-1995). He moved to the *École normale supérieure Cachan* (recently renamed the ENS Paris-Saclay) in 1995, where he worked at the Centre of Mathematics and its Applications (CMLA) until formally retiring in 2008. But he is still an associate member of the research centre.

Awards and Recognitions

Yves Meyer has been a member of the French Académie des Sciences since 1993. In 1994 he was elected foreign honorary member of the American Academy of Arts and Sciences and became a foreign associate of the US National Academy of Sciences in 2014.

Yves Meyer became a fellow of the American Mathematical Society in 2012. He was an invited speaker at the International Congress of Mathematicians in 1970 (Nice), in 1983 (Warsaw), and in 1990 (Kyoto). He was an invited speaker at the International Congress of Mathematical Physics in 1988 (Swansea).

His prizes include the Salem (1970) and Gauss (2010) prizes, the latter awarded jointly by the International Mathematical Union and the German Mathematical Society for advances in mathematics that have had an impact outside the field.

The Abel Prize

The Abel Prize is awarded by the Norwegian Academy of Science and Letters. The choice of laureate is based on the recommendation of the Abel Committee, which is composed of five internationally recognized mathematicians. The members of the current committee are: John Rognes (chair), Marta Sanz-Solé, Luigi Ambrosio, Marie-France Vignéras and Ben J. Green.

The Abel Prize and associated events are funded by the Norwegian Government

For more information about the laureate, his achievements and the Abel Prize, please consult the Abel Prize website www.abelprize.no

News from the ICSU

by BARBARA KEYFITZ & TOM MITSUI

Matters concerning ICSU have been much on our minds for the past few months. What has occupied most of our attention is ICIAM's participation in a newly funded ICSU project on the "Gender Gap," which is described in a separate article in this issue of DIANOIA. But there is much more. ICSU itself is contemplating merging with its counterpart in the social sciences, ISSC. In previous issues, we have reported on preliminary meetings, including an extraordinary General Assembly, where it was decided to move the process forward along two lines via two working groups, a Strategy Working Group (SWG) devoted to formulating a rationale for the new council, and a Transition Task Force (TTF) tasked with developing the logistics of the merger. ICIAM is particularly interested in the second, as our status within the current ICSU hierarchy is that of "Associate Member" only, and it is currently unclear what will become of this membership class. The TTF has not yet issued a report, but a draft of the SWG's document, *Advancing Science as a Global Public Good*, has just been circulated to ICSU members, and our ICSU Committee is currently studying it. It's rather long for a mission statement, and contains the premise that the new organization will consider itself a "Council." We have been invited to comment on the document, and will prepare a summary of the draft, and our comments on it, for the next issue of DIANOIA.

Meanwhile, the ICIAM ICSU Committee is renewing itself. Members of ICIAM committees are expected to serve four-year terms, and the terms of some of our "charter members" will end this year (at the end of September). As co-chairs of the committee, we thank all those members for helping the committee get started, and extend our best wishes to those members who are leaving the committee after one term. We have issued invitations to several member societies to propose new committee members, and, consistent with the inclusive climate of ICIAM, we extend a general invitation to all member societies to volunteer for this committee. We will announce the new roster after the Board meeting in May.

Although the Gender Gap project is not the first ICSU-supported effort that has involved ICIAM (there have been two workshops, both initiated by the IMU but with strong involvement by the applied mathematics community of ICIAM), it is by far the largest, and it is the first time that ICIAM, through ICSU, will have been part of a policy-oriented (rather than research- or education-oriented) project. To what extent does ICIAM's participation in such an effort add value to the outcome? And how much is this seen by our members as an important aspect of ICIAM's function? Our committee will be responsible for evaluating these questions.

When the US President issued an Executive Order in

January, calling for a travel ban on entry into the United States, the officers were approached about issuing a statement decrying this action. (Of course, the matter was rendered moot shortly afterward when a US court struck down the travel ban. However, it has since been re-issued, and is again being held up, so the matter is not resolved.) According to the by-laws and the opinions of the Board, the officers are not justified in making statements on topics of this sort without consulting the Board, and clearly there was not an opportunity to do that in a timely way. However, ICSU, in a few days, made a very strong statement, "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'."

Finally, and for information purposes only since the deadline will be behind us by the time you see this announcement, we draw your attention to an opportunity we received notice of on April 2, the "Young Global Changers Scholarship Programme." We are reprinting the flyer to show the ICIAM community some of the initiatives where ICSU is focusing its resources. This scholarship opportunity brings to the fore the interaction of scientific and engineering topics with policy issues.

Barbara Lee Keyfitz is the Dr. Charles Saltzer Professor of Mathematics at the Ohio State University. She has a PhD from New York University, and works in partial differential equations. She is the Past-President of ICIAM.



Taketomo (Tom) Mitsui is Professor Emeritus of Nagoya University, Nagoya, Japan. He received his doctoral degree from Kyoto University and has been engaged with several universities, the last one was Doshisha University, Kyoto, Japan. His main research interest is numerical analysis of ordinary differential equations and related topics. He is a Fellow of the Japan Society for Industrial and Applied Mathemat-

ics, and is currently serving ICIAM as Officer-at-Large.



YOUNG GLOBAL CHANGERS SCHOLARSHIP PROGRAMME

Background

In the context of Germany's G20 presidency in 2017, the Think 20 (T20) network of premier Think Tanks from the G20 economies will gather on 29-30 May 2017 in Berlin. Having GLOBAL SOLUTIONS as its motto, the Think 20 Summit will bring together the world's foremost think tank experts and Nobel Laureates to deliver implementable policy recommendations for G20 leaders.

Objective

The Think 20 Summit GLOBAL SOLUTIONS is committed to involve the views and ideas of the next generation into global problem-solving. To do so, we encourage the most promising young talents to apply for the Young Global Changers scholarship programme.

Outstanding early-career professionals (researchers, entrepreneurs, technology experts and journalists) from all over the world who are working on a project or research topic that addresses one or more of the key challenges of human development (i.e. globalisation, migration, climate change, digitalisation) on a local, national or international level are invited to apply.

The Young Global Changers will be able to attend the conference in Berlin and get a once-in-a-lifetime opportunity to meet Nobel Laureates and pitch their ideas and projects to renowned experts of world-leading think tanks. They will take part in a number of dedicated side events from 28-31 May 2017 particularly targeted at them and become part of an exclusive network of like-minded professionals.

Selection Process

Interested early-career professionals are invited to apply using the online [application form](#). Deadline for applications is **12 PM (CET) on Monday, 10 April 2017**.

Scholarship recipients will be selected by the Young Global Changers jury, composed of one representative from each of the organising and sponsoring institutions.

The scholarship will cover accommodation for three nights including breakfast, conference fees and meals. Scholarship recipients will also receive a lump-sum, depending on the location of origin, to contribute to travel expenses.

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 the 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) Zuwei 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.

ICSU, ICIAM and the Gender Gap: A New Project for ICIAM

by BARBARA KEYFITZ

ICIAM is a partner in a major initiative, funded by ICSU and involving a number of the international unions in ICSU, along with other supporting organizations. The project has the title *A Global Approach to the Gender Gap in Mathematical and Natural Sciences: How to Measure It? How to Reduce It?*

As the title suggests, this project aims to perform a scientifically valid study of gender discrepancies in the sciences that will be consistent across disciplines and international in scope. In addition, it will research interventions aimed at increasing the number of women in science. The IMU and IUPAC (Chemistry) are the lead organizations, joined by IUPAP (Physics), IAU (Astronomy), IUBS (Biological Sciences), ICIAM, UNESCO and GenderInSITE. A proposal was submitted to ICSU at the beginning of October, 2016, and in early February we learned that it has been supported at the level of 300,000 Euros for the next three years. Additional support, committed and anticipated, by the organizations involved will bring the total funding to 450,000 Euros. The ICIAM officers plan to ask the Board, at the May Board Meeting, to offer support of 5,000 Euros per year for three years.

The project itself is structured around three specific objectives. Task 1 is a joint global survey, patterned after a narrower survey of the international physics community (see www.aip.org) carried out a few years ago. That survey had 15,000 respondents (both women and men) from 130 countries, and collected data that has now been extensively analysed. Task 2 is a joint data-backed study on publication patterns. This also takes its lead from a smaller but well-regarded study, of publication patterns in core mathematics, which was published a few months ago “The Effect of Gender in the Publication Patterns in Mathematics,” Helena Mihaljević-Brandt, Lucía Santamaría and Marco Tullney, *PLoS One*, October 25, 2016). Finally, the third task proposes to create an online database of good practices for girls and young women, parents and organizations, hosted by the IMU but seeking contributions from all disciplines. To the best of my knowledge, no prototype for this sort of database exists, and this task forms the most open-ended part of the project.

Most of the organizations participating in this project will be familiar to the ICIAM community, as the international unions are among the members of ICSU. The union most familiar to many ICIAM members, IUTAM (Mechanics), is not a principal in the initiative, but will follow it as an observer. A participant whose mission may be

new to most of us (including this writer) is GenderInSITE (science, innovation, technology and engineering), an organization with headquarters at ICTP in Trieste that focuses on bringing more women into decision-making on science-related topics in the developing world. In addition, the project expects to enlist the help of a social-science-based network, GGD (Gender, Globalisation and Democratisation) sponsored by the International Social Science Council, with which ICSU is pursuing a merger.

When ICIAM was offered the opportunity to join the project, shortly before the deadline, the officers consulted with each other and with the ICSU Committee, and the idea of participating received overwhelming support. While we could not pledge any resources without approval from the Board, we did make the commitment to request the same amount that IUPAP, IAU and IUBS have provided. The lead organizations are supplying somewhat more (60,000 Euros from IMU and 30,000 from IUPAC). The majority of the money will be spent on designing, administering and analyzing the global survey and the study on publication patterns; the remainder on meetings of the working groups, and on communication and dissemination of the results.



Jean Taylor

—Image used with permission.

Each of the eight groups charged with carrying out the project has designated a coordinator, with the overall management in the hands of Marie-Françoise Roy, Chair of the IMU's Committee for Women in Mathematics. ICIAM has been fortunate that Jean Taylor (Rutgers and NYU), whose career profile includes both research in applied analysis and materials science and leadership in women's organizations (member society AWM) and interdisciplinary societies (AAAS), is assuming the role of coordinator for ICIAM's part in the project. In the proposal, ICIAM undertook to contribute to tasks 2 and 3. Our members' expertise in data analysis provides opportunities to contribute to quantitative aspects of the program, and, collectively, we can supply something more: a "link between academia and companies." Readers may recall the successful collaboration with ICMI (mathematics instruction) and the publication Educational Interfaces between Mathematics and Industry that serves as a model for how we have worked with our counterparts in other unions.

This project is bringing together a large group of people (besides the eight coordinators, there is a group of ten people who have already signed up to work actively on the project, and a growing group of people, women and men, who are available if called upon for advice), many of whom have never met, let alone worked with each other. Things are getting started quickly, with deadline pressures already being felt, via a planning meeting in Paris at the beginning of June. At that meeting, individual tasks, timelines and responsibilities will be negotiated.

The enthusiastic endorsement of the project from ev-

eryone in the ICIAM community with whom we consulted has convinced the officers that our members will see the value of this project. It is not too early for us to invite anyone who would like to be involved, at any level, to contact any of the officers about their interest. Jean has also invited any reader who wants to put their name forward as a possible resource to contact her directly (jtaylor@cims.nyu.edu). After the Paris meeting we will have a better idea of the details of how the work will be carried out, and how we may best assist. We look forward to sharing this news with ICIAM members as we learn it.

Finally, it is probably not necessary to say this: one of the motivations for the project is that the full participation of women in the scientific workforce is a benefit not only to individual women and girls but to all of society. For that reason, the project welcomes the participation of all, women and men, in accomplishing its goals.

Barbara Lee Keyfitz is the Dr. Charles Saltzer Professor of Mathematics at the Ohio State University. She has a PhD from New York University, and works in partial differential equations. She is the Past-President of ICIAM.



Series: Brief Interviews with Young Mathematicians: #4

by ROBERTO NATALINI

DIANOIA is publishing a series of interviews with young applied mathematicians. Here Roberto Natalini interviews Simone Göttlich, Full Professor for Scientific Computing at University of Mannheim in Germany.

Q: How did you decide to become a mathematician? What has been the influence of your parents?

A: My mother (commercial assistant) wanted me to become a banker while my father (electrical engineer) pushed me into the direction of a computer scientist. I guess, studying math was a good compromise.

Q: Could you mention some people who have been important for your education?

A: Spontaneously I would say my elementary school teacher, a really strong woman, that discovered my talent

to play with numbers and my high school math teacher who was simply a very cool guy.

Q: To be a woman has been a problem to choose mathematics as a profession? And in your career?

A: Honestly, I never thought about this issue.

Q: What is your main focus in mathematics, the main direction in your research?

A: My scientific interests cover the research areas mathematical modeling with differential equations, numerical simulation and optimization with applications to manufacturing systems, traffic and pedestrian flow, and further engineering applications.

Q: Could you single out your best achievement up to now, something you are really proud of?

A: My daughter. Everything else is work in progress. Please ask me again in a couple of years.

Q: You have a strong focus on applications. Why are you interested in this direction? Also, according to you, is there a separation between applied and industrial math?

A: This might be not typical for a mathematician, but I get inspired by applications. In my point of view applications represent an unlimited source of interesting, challenging and exciting problems due to its interdisciplinary nature and diversity.

A separation between applied and industrial math is probably a matter of taste. Industrial math seek software or scientific consulting solutions while applied math is more concerned with the development of a research framework implying emerging techniques and methods.

Q: What are the main skills that are necessary to be a good applied mathematician?



A: A good applied mathematician should be curious, critical thinking, persistent, open-minded and, last but not least, a passionate teacher.

Q: Are you able to directly interact with your industrial

partners, do you need some intermediate collaborators to translate math in practical implementations?

A: Industry contacts may take various forms, e.g. student projects (internship, master thesis), workshops or joint research projects. In most cases, the contact is direct and therefore requires good communication skills. The latter is, by the way, a further characteristic for a good applied mathematician.

Q: How do you spend your time when you are not working?

A: Currently, I try to solve my personal time management problem, where the most important restriction is to spend as much time as possible with my one year old daughter.

Q: Have you other interests or hobbies? Who are your favorite writers?

A: I really love doing sports. When I was younger, I was quite a good tennis player and I also joined a handball team. However, after several injuries, I have changed to more smooth sports such as running and biking.

My favorite writer is Ferdinand von Schirach, a German lawyer. He is able to explain complex and challenging legal problems in a fascinating manner.

Q: Finally, a last general question. What do you wish for Mathematics in the next few years?

A: Currently, there is a measurable awareness for math as a key technology. But we need more positive visibility and attractive role models for the young generation. Unfortunately, mathematicians tend to undervalue themselves. We need to be more confident, more energetic and probably more enthusiastic — in particular in the public's eye!

Roberto Natalini received his PhD in Mathematics from the University of Bordeaux (France) in 1986. He is director of the Istituto per le Applicazioni del Calcolo "Mauro Picone" of the National Research Council of Italy since 2014. His research themes include: fluid dynamics, road traffic, semiconductors, chemical damage of monuments, and biomathematics. He is Chair of the Raising Awareness Commit-

tee of the European Mathematical Society, and coordinates the web site Mathematics in Europe mathematics-in-europe.eu.



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.

A N N O U N C E M E N T

MATHEMATICAL CONGRESS OF THE AMERICAS JULY 24-28 2017 MONTREAL



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)
Krzysztof Burdzy (University of Washington) • Rustom 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 (Matemáticas 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 Martínez (Universidad de Chile)
Wellington 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/>

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

ASAMACI (Asociación Argentina de Matemática Aplicada Computacional e Industrial): Rubén Daniel Spies

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

GAMM (Gesellschaft für Angewandte Mathematik und Mechanik): Peter Benner and Sergio Conti

IMA (Institute of Mathematics and its Applications): Iain S. Duff and David Abrahams

ISIAM (Indian Society of Industrial and Applied Mathematics): Abul Hasan Siddiqi and Pammy Manchanda

JSIAM (Japan Society for Industrial and Applied Mathematics): Shin'ichi Oishi and Hiroshi Kokubu

KSIAM (Korean Society for Industrial and Applied Mathematics): Chang Ock Lee

MOS (Mathematical Optimization Society): Karen Aardal

ROMAI (Societatea Română de Matematică Aplicată și Industrială): Costica Morosanu

SBMAC (Sociedade Brasileira de Matemática Aplicada e Computacional): Paulo Fernando de Arruda Mancera

SEMA (Sociedad Española de Matemática Aplicada): Rosa Donat

SIAM (Society for Industrial and Applied Mathematics): Nicholas Higham and Cynthia Phillips

SIMAI (Società Italiana di Matematica Applicata e Industriale): Alessandro Speranza and Giovanni Russo

SMAI (Société de Mathématiques Appliquées et Industrielles): Fatiha Alabau-Boussouira and Thierry Horsin

SPMAC (Sociedad Peruana de Matemática Aplicada y Computacional): Obidio Rubio Mercedes

VSAM (Vietnamese Society for Applications of Mathematics): Lê Hùng Són

ICIAM Newsletter April 2017

The Associate Members and their representatives

AIRO (Associazione Italiana di Ricerca Operativa): Anna Sciomachen

AMS (American Mathematical Society): Catherine Roberts

AWM (Association for Women in Mathematics): Barbara Lee Keyfitz

ChinaMS (Chinese Mathematical Society): Ya-xiang Yuan

CMS-SMC (Canadian Mathematical Society, Société Canadienne de Mathématiques): Elena Braverman

CzechMS (Czech Mathematical Society): Zdeněk Strakoš

DMF-DMS (Dansk Matematisk Forening - Danish Mathematical Society): Poul Hjorth

DMV (Deutsche Mathematiker-Vereinigung): Günther Leugering

EMS (European Mathematical Society): Franco Brezzi

ENBIS (European Network for Business and Industrial Statistics): Rainer Göb

FMS-SMY-FMF (Finnish Mathematical Society, Suomen matemaattinen yhdistys, Finlands matematiska förening): Samuli Siltanen

IMS (Institute of Mathematical Statistics): Hans Rudolf Künsch

IMU (Israel Mathematical Union): Amy Novick-Cohen

KMS (Korean Mathematical Society):

LMS (London Mathematical Society): Stephen Huggett

MSJ (Mathematical Society of Japan): Yoichi Miyaoka

NMF (Norwegian Mathematical Society): Elena Celledoni

ÖMG (Österreichische Mathematische Gesellschaft): Alexander Ostermann

PTM (Polskie Towarzystwo Matematyczne (Polish Mathematical Society)): Łukasz Stettner

RSME (Real Sociedad Matemática Española): Mercedes Siles Molina

SingMS (Singapore Mathematical Society): Weizhu Bao

SMF (Société Mathématique de France): Bernard Helffer

SMG-SMS (Schweizerische Mathematische Gesellschaft - Société Mathématique Suisse - Swiss Mathematical Society): Jean-Paul Berrut

SMM (Sociedad Matemática Mexicana): Jorge X. Velasco-Hernandez

SPM (Sociedade Portuguesa de Matemática): Fernando Pestaña da Costa

SvMS (Swedish Mathematical Society, Svenska matematikersamfundet): Åke Brännström

UMI (Unione Matematica Italiana): Adriana Garroni

The current Officers of ICIAM

President: Maria J. Esteban, France

Past President: Barbara Lee Keyfitz, USA

Secretary: Sven Leyffer, USA

Treasurer: Jose Alberto Cuminato, Brazil

Members-at-Large: Taketomo (Tom) Mitsui, Japan and Volker Mehrmann, Germany

