

ICIAM



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Cover illustration: Many of the covers for DIANOIA have been graciously provided by the organizing committee of the ICIAM Congress. The cover of this issue shows the location of many of these sights: A) Mutianyu Great Wall, B) The Forbidden City, C) The Great Wall of Badaling, D) The Summer Palace, and E) the Chinese National Centre for the Performing Arts.

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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
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EDITORIAL: Ready for ICIAM 2015

by BARBARA LEE KEYFITZ

The ICIAM Congresses are the heart and soul of our organization. All the other things we do — our annual board meetings, our scientific workshops, our developing countries support, our cooperation with other organizations, this newsletter — all are secondary to the Congress.

And now... the countdown to ICIAM 2015, the celebration of applied and industrial mathematics in Beijing, has begun. The invited speakers have been carefully chosen, the prizes arranged, the minisymposia and contributed paper and poster sessions are being finalized. Hotels are filling up, visas are being processed, applications for travel support are being reviewed, and the Beijing Olympic Green is becoming green for spring, awaiting our arrival in August. The ICIAM 2015 web site,

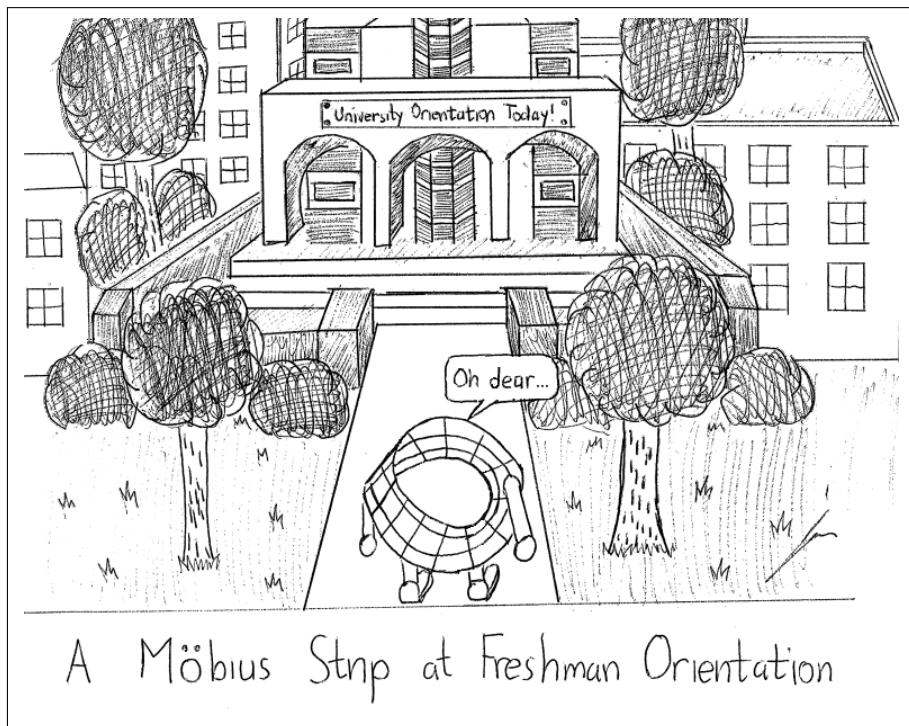
www.iciam2015.cn

has a floating balloon that says, "REGISTER NOW" — and they mean it, since the early bird discount ends on April 30.

The work of organizing this meeting has been the task of the ICIAM 2015 organizers. We, the officers, have been available to offer advice, and the ICIAM Board has, as always, had the final say on the selection of invited speakers.

But full credit goes to the talented group of people in Beijing who have done the work. I will have other occasions to thank them, but I want to start here, by expressing gratitude on behalf of all our members for their efforts, and by inviting you, readers of this newsletter and members of ICIAM member societies, to show your appreciation by attending this Congress. I look forward to seeing you in Beijing!

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 current President of ICIAM.



Our cartoonist is Jim Talamo, who recently graduated from The Ohio State University with a PhD in mathematics. His research focus is in relativistic hydrodynamics.



lezioni LEONARDESCHES

Verso una visione unitaria della Matematica

Andrei Okounkov

Columbia University
BOXCOUNTING

LUNEDÌ 8 GIUGNO / ORE 16.30

Curtis T. McMullen

Harvard University
BILLIARDS AND MODULI SPACES

MARTEDÌ 30 GIUGNO / ORE 16.30

Martin Hairer

University of Warwick
TAMING INFINITIES

LUNEDÌ 5 OTTOBRE / ORE 16.30

Manuel del Pino

Universidad de Chile
*THE ALLEN-CAHN EQUATION AND
MINIMAL SURFACES*

LUNEDÌ 23 NOVEMBRE / ORE 16.30

INFORMAZIONI

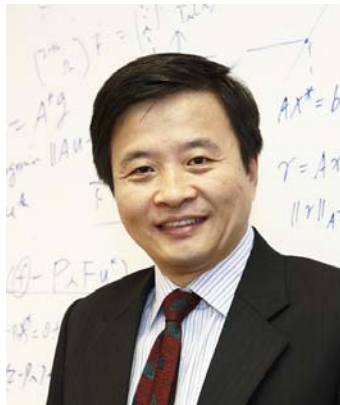
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Invited Speakers of ICIAM2015: Profiles Part II

Zuwei Shen received his B.S. degree in Mathematics from Hohai University, Nanjing, China, in 1982. In 1991 he received his PhD degree in Mathematics from the Department of Mathematics of the University of Alberta, Edmonton, Canada. He then spent two years at the University of Wisconsin-Madison as a Research Associate. Since 1993, he has been with the Department of Mathematics, National University of Singapore, as a Lecturer (1993–1997), Senior Lecturer (1997–1998), Associate Professor (1998–2002), Professor (2002–), Distinguished Professor (2009–2012) and Tan Chin Tuan Centennial Professor (2013–).



Zuwei Shen.

His current research interests are primarily in sparse approximation by redundant systems, such as wavelet frames and Gabor frames, and its applications in imaging science. He has been invited to speak at many international conferences and workshops, including ICM2010, and he is on the editorial board of several journals in applied mathematics. He won the Outstanding University Research Award in 1997 and 2008 at the National University of Singapore and the National Science Award of Singapore in 1998. He was awarded the SPIE Wavelet Pioneer Award in 2012 and was one of the inaugural fellows of the Singapore National Academy of Sciences in 2011.

Personal Homepage: www.math.nus.edu.sg/~matzuows/

Yasumasa Nishiura is a principal investigator and Professor of mathematics at Tohoku University's WPI-AIMR. He received his Doctor of Science in 1982 from Kyoto University. Before joining the faculty of Tohoku University in 2012, he was a Professor at Hiroshima University (1991–1995), then a Professor of Applied Mathematics at the Research Institute for Electronic Science (RIES) of Hokkaido University (1995–2012). He also served as the Director of RIES from



Yasumasa Nishiura.

2003 to 2005. He is the recipient of the Autumn Prize of the Mathematical Society of Japan in 2002 and received the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology in 2012. Nishiura's work focuses on the dynamics of dissipative structures from the dynamical system point of view, in particular, the interplay between intrinsic and extrinsic instabilities of localized patterns including collision, splitting, destruction, and adaptive response to external environments. He is also interested in a topological approach to materials science after moving to WPI-AIMR at Tohoku University. He serves as an editor of *Physica D*, *SIADS*, *CHAOS* (2008–2013), and *European Journal of Applied Mathematics* (2005–2010). He is currently working as the research supervisor of the Alliance for Breakthrough between Mathematics and Sciences funded by the Japan Science and Technology Agency (JST) starting from 2007.

Personal Homepage: www.wpi-aimr.tohoku.ac.jp/en/research/researcher/nishiura_y.html

Nancy Reid is University Professor and Canada Research Chair in Statistical Methodology at the University of Toronto. Her research interests are in statistical theory, likelihood inference, and design of studies. Along with her colleagues she has developed higher order asymptotic methods both for use in applications, and as a means to study theoretical aspects of the foundations of inference, including the interface between Bayesian and frequentist methods.



Nancy Reid.

Professor Reid received her PhD from Stanford University, under the supervision of Rupert Miller. She taught at the University of British Columbia before moving to the University of Toronto, and has held visiting positions at the Harvard School of Public Health, University of Texas at Austin, Ecole Polytechnique Federale de Lausanne, and University College London. She was the first female and first resident Canadian to win the Presidents' Award of the Committee of Presidents of Statistical Societies, awarded to a statistician under the age of 41 in recognition of outstanding contributions to the profession of statistics. In 2009 she received the Gold Medal of the Statistical Society of Canada and the Emanuel and Carol

Parzen Prize for statistical innovation. She is a Fellow of the Royal Society of Canada, the American Association for the Advancement of Science, the Institute of Mathematical Statistics and the American Statistical Association.

Current Research Field

Modern technology has simplified the collection of large and complex sets of data, which are being used to answer important research questions in many fields of science and social science. Statistical models and methods are an essential part of this research, and understanding these methods requires progress on the theory of statistical modelling and inference for complex data. Her research program develops the theory of statistical inference in these complex settings, both to deepen our understanding of the intellectual development of the field of statistics and to provide a framework for developing new methods of analysis.

The use of the *likelihood function* for inference is central to modern approaches to statistics. The likelihood function is simply the statistical model, typically a set of probability distributions indexed by a set of unknown parameters. The likelihood function is proportional to the related density function, considered though as a function of the parameters, with the random outcome, or response, considered fixed. Although a simple change of focus from probability modelling, this change emphasizes the ‘inverse problem’ of statistics, by focussing on the route from observed data to information about an underlying process that may have generated the data, or at least serves as an adequate approximation to the generating mechanism.

Her research program includes the continuing study of asymptotic techniques for likelihood-based inference, exploration of theories of inference and their overlap, and the study of a collection of likelihood-like modes of inference, with special emphasis on so-called *composite likelihood*.

Composite likelihood is a generic term for an inference function that is derived by simplifying the original probability model, either for reasons of computational complexity, or because the model is incompletely specified via a number of smaller components. Much of the literature in this area in contrast tends to be focussed on particular applications, or properties of composite likelihood inference in applied settings.

Her focus has been deepening understanding of the theoretical properties of this process, with a view to developing a more general theory for composite likelihood construction and inference. Together with colleagues and students they have made progress in understanding from a more general point of view how the construction of composite likelihood impacts the inferences that can be made.

The asymptotic theory of likelihood inference, with special emphasis on so-called higher-order approxima-

tions, enables more precise calibration of inference, by providing approximations to inferential quantities that are more accurate than those provided by the limiting distribution (typically Gaussian). One focus of her recent work in this area has been the simplification of both the presentation and the calculation of the relevant quantities, in order to enable their application in practice. An interesting theoretical aspect of this work is a comparison of Bayesian and frequentist methods of inference, with a view to both finding common ground and understanding the limitations of each method.

The profession of statistics is struggling with its role in data science, with the enormous public interest in so-called ‘Big Data’, and with its history of debate within the community on various modes of inference. It is becoming clear that large amounts of data are not synonymous with large amounts of information, and basic ideas of statistical theory and practice, including an emphasis on careful design of investigations and careful attention to properties of inferential methods, are as important as ever in helping science and society to advance learning in the presence of uncertainty. It is also clear that these problems need to be tackled with teams of researchers combining expertise in mathematics, statistics and computer science.

Personal Homepage: www.utstat.utoronto.ca/reid/

Yinyu Ye is currently the K.T. Li Professor of Engineering at the Department of Management Science and Engineering and Institute of Computational and Mathematical Engineering, Stanford University. He is also the Director of the MS&E Industrial Affiliates Program. He received the B.S. degree in System Engineering from the Huazhong University of Science and Technol-



ogy, China, and the M.S. and PhD degrees in Engineering-Economic Systems and Operations Research from Stanford University. His current research interests include Continuous and Discrete Optimization, Algorithm Design and Analysis, Computational Game/Market Equilibrium, Metric Distance Geometry, Dynamic Resource Allocation, and Stochastic and Robust Decision Making, etc. He is an INFORMS (The Institute for Operations Research and the Management Sciences) Fellow since 2012, and has received several academic awards including the inaugural 2012 ISMP Tseng Lectureship Prize for outstanding contribution to continuous optimization, the 2009 John von Neumann Theory Prize for fundamental sustained

Yinyu Ye.

contributions to theory in Operations Research and the Management Sciences, the inaugural 2006 Farkas Prize on Optimization, the 2009 IBM Faculty Award, etc.. He has supervised numerous doctoral students at Stanford who received the 2008 Nicholson Prize and the 2006 and 2010 INFORMS Optimization Prizes for Young Researchers. He is the Chairman of one of the major commercial international optimization software companies. His text book written with David Luenberger, *Linear and Nonlinear Programming*, has been popularly used in academic education. Ye demonstrated his leadership in managing a group of researchers on a broader range of government and industrial projects including Boeing, American Express, Oracle, and IBM, focusing on business analytics, sensor network, big data, risk management, electronic commerce, Internet economics, etc. He also manages a broader range of government and industry funded research projects. He has been the Director of the Stanford Management Science and Engineering Department Industrial Affiliates Program since 2002, where his role is to establish direct links between members of the faculty and industrial affiliates.

Current Research Field

Ye's current research lies in a broader range of computational mathematics and engineering areas crossing complexity theory and numerical algorithm, continuous and combinatorial optimization, game and equilibrium analyses, etc. Linear Programming (LP) has been widely used to optimize communication systems, manage energy networks, control supply-chains, plan investments, and maximize productivities. Ye resolved a major open question in LP research by developing an $\mathcal{O}(n^3L)$ potential reduction interior-point algorithm. He and his coauthors developed a predictor-corrector interior-point algorithm and proved the first quadratic convergence result for the algorithm. Furthermore, they developed a homogeneous and self-dual LP method, which became the Default Solver of the major optimization software package CPLEX-Barrier of IBM in 2011, and has been the foundation of the efficient commercial convex optimization software MOSEK and the most popular public-domain Conic Linear Optimization software such as SEDUMI (by Jos Sturm).

He and his co-authors resolved several other signifi-

cant theoretical open questions in Operations Research and Mathematical Programming, such as developing a primal-dual interior-point method whose running time depends only on the constraint matrix, producing the first strongly polynomial-time algorithm for Markov Decision Processes (MDP) with a constant discount, proved that the Simplex method of Dantzig is strongly polynomial for the deterministic MDP regardless discount, showing that the Arrow-Debreu equilibrium computation is in PPAD when the utility is a Leontief function, constructing a tractable distributionally-robust optimization model under moment uncertainty, and establishing a unified convex optimization framework for dynamic and online prediction market design.

Ye was one of the pioneer researchers on developing efficient algorithms for semidefinite programming (SDP) and second-order cone programming (SOCP); both are generalized linear programming decision models. He and his students also proved a unified rank-reduction theorem for SDP which has a direct application in low-rank matrix completion. Also, they applied SDP for localizing sensor/target points onto Euclidean spaces with incomplete and noisy metric pair-wise distances information. The result from his research resolved an open problem in graph realization and universal rigidity theory, and their solution technologies are effectively adapted in industries.

He has also made significant contributions for discrete optimization, such as an approximation algorithm for uncapacitated metric facility location, a 70% efficient algorithm for Max-Bisection using a low dimension SDP relaxation, the current best approximation local-search algorithm for capacitated facility location, the best square-root of $\log(n)$ approximation algorithm for the radii of any given set of points on any flat of given dimensions (where n is the number of points), and best approximation efficiency results for a few non-convex quadratic optimization problems.

He not only works on computation theory and algorithm, but also actively does implementations and produces public-domain optimization software (such as DSDP and the initial CVX development) for industrial and academic applications. There are a total of 10 packages developed by his research group and they are widely used by both academics and industries.

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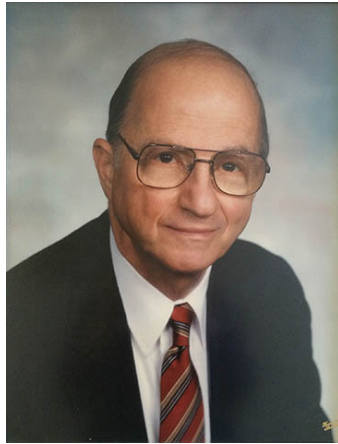
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issue is available, please subscribe to the Newsletter. There is no charge for subscriptions. To subscribe or unsubscribe, visit the webpage given above, or go directly to groups.google.com/group/iciam-news.

ICIAM Foundations: Remembering Ed Block

by JIM CROWLEY & GAIL CORBETT

Anyone whose involvement in ICIAM goes back two decades or more will certainly remember Ed Block, a founder of SIAM (in the early 1950s) and managing director, first as a volunteer and then officially, until his retirement in 1994. Ed died on February 18, near his home in Philadelphia, at the age of 90.



Ed Block.

In addition to his role in creating SIAM and the many programs and activities for which it came to be known, Ed played an important role in the early years of ICIAM. For him, a natural way for SIAM to carry out its mission — promoting the development of mathematical methods and their use in solving real-world problems — was to expand its reach from the local to the national, and, as soon as possible, the international level.

In 1984, Gene Golub organized an international meeting on industrial mathematics. From that meeting emerged the idea of the value of a periodic international conference on applied and industrial mathematics, a counterpart to the ICM. Also in the mid-1980s, Paul Swarztrauber and Françoise Chatelin visited Ed in Philadelphia; their discussions would lead to the first In-

ternational Congress on Industrial and Applied Mathematics, held in Paris in 1987. Four years later, as managing director of SIAM, Ed turned his considerable energy and many of SIAM's resources to the organization of the second ICIAM, held in Washington, DC, in 1991.

Bob O'Malley, chair of the program committee for ICIAM 91, wrote in SIAM News (April 2015) about the experience of working on the congress with Ed: "As usual, Ed took the pictures, scheduled meetings with all those who could provide input regarding his latest ideas for projects, and knew who hadn't paid the registration fee." As with all SIAM projects, no detail was too small to merit careful handling by Ed.

Firmly convinced of the importance of the "I" in SIAM, Ed, like many of the other early SIAM members, had worked in industry himself. He encouraged the development of industrial mathematics as part of applied mathematics — another direction that carried over to ICIAM and to sister societies of SIAM. Ed's work in establishing the SIAM journals played a major role in securing a place for applied mathematics on the map of respected academic disciplines.

Certainly Ed Block was instrumental, with the support of many other dedicated applied mathematicians, in shaping scientific societies around the world dedicated to applied and industrial mathematics. That legacy lives on today. Readers are encouraged to read the obituary posted in the April 2015 issue of SIAM News; siam.org/DetailsPage/tabid/607/ArticleID/445

Announcing MATHESIA

by LUCA FORMAGGIA

Announcing MATHESIA, a new and we believe unique social/crowdsourcing network. Dedicated to mathematics and to math specialists, its aim is to provide a venue where "mathematics meets industry to create innovation".

In case you would like to know more, and we hope you do, please visit us at www.mathesia.com. Registration is free before December 1st, 2015.



mathesia



Appointment of the Director of the International Centre for Pure and Applied Mathematics

According to the statutes, the International Centre for Pure and Applied Mathematics (ICPAM) was founded in 1978 with the following aims, expressed by the 18th General Conference of UNESCO:

- training mathematicians with a priority for those coming from developing countries, by means of university courses or summer schools, also paying special attention to library and documentation problems,
- ICPAM has the purpose of relating the Mathematical Sciences, in the broadest meaning of the expression, with social development.

The director's duties :

The Executive Director of ICPAM is in charge of the management of the current affairs. She or he is appointed for a 4-year term by the President, after advice from the Administrative Council. The appointment can be renewed only once, for a second 4-year term.

One can also consult ICPAM's web page: <http://www.cimpa-icpam.org/>

Call for candidates

A call for applications for the next Director of CIMPA (International Centre of Pure and Applied Mathematics) is now open. The new director will start his/her term of office in October 2016. The candidate should be a well recognized mathematician with good experience in management. The term is for four years, renewable once.

Being the director of CIMPA requires a complete discharge of teaching duties, and numerous trips worldwide, particularly for CIMPA research schools. Candidates are thus encouraged to contact their institution about this discharge of teaching duties. Their favourable view on this potential request will be an important point for discussion during a possible interview. If the successful candidate is a postholder in a French university, University Nice Sophia Antipolis offers the post of a professor for the specific purpose of hosting the CIMPA director.

It is also imperative that the director of CIMPA should maintain a sustained presence in Nice (where the CIMPA secretariat is situated). A transfer of principal residence to Nice is therefore desirable.

Applications comprising a CV and a motivation letter should be sent by electronic mail before 15 May 2015 to:

Dr. TSOU Sheung Tsun
President of the Administrative Council of CIMPA
cimpa@unice.fr



Partial Differential Equations: Analysis, Numerics and Applications to Floods and Tsunamis

A CIMPA – ICIAM – IMU-CDC RESEARCH SCHOOL

by JOSE ERNIE C. LOPE, PATRIZIA DONATO & MARIAN P. ROQUE

The Research School was held on 23 June – 04 July 2014 at the Institute of Mathematics, University of the Philippines Diliman in Quezon City, Philippines. The idea of conducting a school on partial differential equations was conceived during one of Patrizia Donato's visits to UP Diliman as part of her on-going research collaboration with Marian Roque.

The school was intended for graduate students who wish to specialize in partial differential equations. The lectures were conceptualized to arm students with the necessary tools for the analysis of PDEs, their numerical approximation and applications in the modeling of natural phenomena. In particular, models of waves and tsunamis were discussed as these would be meaningful in the Southeast Asian region.

THE ORGANIZERS

The scientific and administrative coordinators were Patrizia Donato of the University of Rouen in France and Jose Ernie Lope of UP Diliman. Brigitte Lucquin and Doina Cioranescu (University of Paris VI) also contributed significantly in the conceptualization of the lectures and in selecting the non-Filipino participants to the Research School.



Local organizers with UPD Chancellor and CS Dean.
—Image used with permission.

Doina Cioranescu is an old friend of the Institute and was among the organizers of a CIMPA School held at UP in the late 1990s. Patrizia Donato and Brigitte Lucquin first visited UP more than five years ago through the EU-funded program IMAMIS; they both gave a series of

lectures on PDEs over a span of two weeks. Even after the IMAMIS Program, Marian Roque continued the collaboration with Patrizia and Doina and the three of them co-authored a book on PDEs.



A typical lecture hall scene. —Image used with permission.

On the local end, the school would not be possible without the efforts of Marian Roque, who is also the Director of UP Diliman's Institute of Mathematics. She was assisted by the following faculty members: Jasmin Mae Santos, May Anne Tirado, Kelvin Lagota, Bituin Cabarubias, Dennis Leyson, and many others.

THE LECTURERS

Seven renowned professors, five (5) males and two (2) females, were invited to give lectures at the school. Four (4) came from France, and one (1) each from the Netherlands, the U.S.A. and Japan. Listed below, in alphabetical order, are their names, their affiliations and the titles of their talks:

1. Adel Blouza (University of Rouen, France; Variational problems)
2. Patrizia Donato (University of Rouen, France; Sobolev spaces)
3. David Lannes (Ecole Normale Supérieure de Paris, France; The water waves equations)
4. Brigitte Lucquin (University Pierre et Marie Curie, France; Numerical approximation of some partial differential equations)

5. Masahisa Tabata (Waseda University, Japan; Numerical analysis of flow problems)
6. Bogdan Vernescu (Worcester Polytechnic Institute, U.S.A.; Introduction to the modeling of viscous fluids)
7. Marcel Zijlema (Delft University of Technology, The Netherlands; Numerical modeling of waves and applications to wind waves, hurricanes and flooding waves)

Some of the speakers gave elementary lectures on PDEs for the benefit of those who are new to the field. Towards the latter half of the school, the talks shifted to more advanced topics that can be the seeds of future research investigations.



Prof. David Lannes giving a lecture.
—Image used with permission.

THE PARTICIPANTS

A total of 55 students were supposed to take part in the Research School but four (4) eventually did not make it for various reasons. Of the 51 participants, 37 were Filipinos and 14 were from the following countries: Cambodia (5), India (1), Indonesia (3), Japan (1), Nepal (2), Nigeria (1) and Pakistan (1). It must be noted, however, that three (3) of the Cambodians are currently enrolled at the Institute of Mathematics and one (1) Filipino is a graduate student in Japan.

All the participants from abroad, except for the lone Japanese, were fully supported by the Research School. The Japanese student paid for his own airfare and accommodations but was not charged for lunch and snacks for the whole duration of the school.

Of the Filipino participants, 25 were from Metro Manila and 12 were not; the participation of these 12 was supported in full (transportation, board and lodging).

There was a relatively good gender balance among the participants: there were a total of 16 females and 35 males.

THE VENUE

The lectures were held at a medium-sized room on the 3rd floor of the Math Building Annex. The room has a wall-length blackboard, an LCD projector and a projection screen. There was also the possibility of using a microphone if necessary.

Coffee and snacks were served just outside this room. During the breaks, participants usually ate and chatted in the hallway until it was time for the next lecture. Lunch was served on the same floor, in an open-air portion of the building. The air-conditioned room adjacent to the lecture room was available during rainy days and also for those who didn't wish to dine al fresco.

Wi-Fi was made available for everyone. Four wireless routers at the Math Building Annex were configured for the sole use of the school participants. Most, if not all, of the participants brought their own laptops or tablets so there was no need to set up a computer for email or other needs.

BOARD AND LODGING

The speakers and the non-Filipino participants (except for one who arrived after the start of the school) were met at the airport by members of the local organizing committee and brought to their respective places of stay.

The speakers were billeted either at the University Hotel or at Balay Kalinaw. There is a restaurant at the University Hotel so those staying at Balay (just a couple hundred meters away from the hotel) could just walk over to the hotel to eat breakfast or dinner.

The foreign participants stayed at the UP NISMED Hostel, which was about five minutes away from the Institute on foot. The non-Metro Manila participants stayed at the SOLAIR Hostel, also inside the UP Diliman Campus.

Participants were asked beforehand of their food preferences. Except at the initial day of the school, halal and vegetarian meals were available. Those without restrictions had a fair sample of Filipino viands and snacks during their two-week stay.

The organizers did not make arrangements for breakfast and dinner nor for weekend meals. Instead, the participants and speakers were given a meal allowance. Cheap meals could be taken at the canteen of NISMED Hostel or at the shopping center of UP Diliman. Those wanting more options could go to the nearby UP Town Center or to one of the middle-range restaurants on campus.

OTHER ACTIVITIES

A short opening program was held at an auditorium of the Institute of Mathematics before the start of the school. The Dean of the College of Science, Professor Jose Maria

Balmaceda (also a mathematician), opened the program. Prof Alain Damlamian gave a message as CIMPA Representative while Patrizia Donato and Jose Ernie Lope spoke as Scientific and Administrative Coordinators.



Excursion to Taal Volcano. —Image used with permission.

The school's welcome dinner was held at the Executive House (official residence of the President of the UP System). The Chancellor of UP Diliman, Professor Michael Tan, accepted the organizers' invitation to give a message to the lecturers and participants.

The two Wednesday afternoons were purposely left free for short trips within Metro Manila. On the first, the participants and some speakers went to Intramuros, the seat of power during the long Spanish occupation of the Philippines. On the second, some participants went to a nearby mall to buy souvenirs or other personal items. A day-long excursion was organized on Saturday, June 28. The participants went to Tagaytay (about 50 km away, two hours by car) to see Taal Volcano, an active volcano inside a scenic lake.

One of the speakers took a day-trip to Corregidor Island, the last stronghold of the Filipinos and Americans during the Second World War.

SUPPORT FOR THE SCHOOL

The school received tremendous support from CIMPA in the amount of 7,570 euros. In addition, the International Mathematical Union – Committee for Developing Countries (IMU-CDC) gave 2,000 euros while the International Council for Industrial and Applied Mathematics (ICIAM) gave 3,500 US dollars. On the local side, the Institute of Mathematics and UP's Office for Institutional Linkages each gave 100,000 pesos (about 2,300 US dollars) while the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) gave 50,000 pesos (about 1,150 US dollars).

Other than these monetary contributions, the school organizers would like to acknowledge the free use of the Institute of Mathematics' various facilities and resources. Thanks also go to the junior faculty members and institute staff who volunteered time and effort in meeting the guests at the airport, showing them around, organizing the excursions and helping with the other activities of the school.



Time to say "Good-bye!" —Image used with permission.

Announcement of MCA-2017

Following the very successful first Mathematical Congress of the Americas, MCA-2013 in Guanajuato, the second such Congress, MCA-2017, will take place in Montreal, Canada on July 23–28, 2017. The confirmed plenary speakers at MCA-2017 are

- Shafira Goldwasser (MIT, USA)
- Manuel del Pino (Universidad de Chile)
- Andrew Granville (Université de Montréal, Canada)

- Peter Ozsvath (Princeton University, USA)
- Yuval Peres (Microsoft Research, USA)

The Congress is organized under the auspices of the Mathematical Council of the Americas. For more information: www.mcofamericas.org.

We look forward to seeing mathematicians from throughout the world in Montreal in July, 2017.

Press Release: Americans Nash and Nirenberg share the 2015 Abel Prize

The Norwegian Academy of Sciences and Letters has decided to award the Abel Prize for 2015 to American mathematicians John F. Nash Jr. and Louis Nirenberg “*for striking and seminal contributions to the theory of nonlinear partial differential equations and its applications to geometric analysis.*”

The Abel Prize, which has been awarded annually since 2003, recognizes contributions of extraordinary depth and influence to the mathematical sciences and comes with a cash award of NOK 6,000,000 (about EUR 700,000 or USD 750,000). The President of the Academy, Kirsti Strøm Bull, announced the new laureates and they will receive the Abel Prize from His Majesty King Harald at a ceremony in Oslo on 19 May.

John F. Nash Jr., aged 86, spent his career at Princeton University and the Massachusetts Institute of Technology. Louis Nirenberg, aged 90, worked at New York University’s Courant Institute of Mathematical Sciences. Even though they did not formally collaborate on any papers, they influenced each other greatly during the 1950s. The results of their work are felt more strongly today than ever before.

Nash and Nirenberg are two mathematical giants of the twentieth century. They are being recognized for their contributions to the field of partial differential equations (PDEs), which are equations involving rates of change that originally arose to describe physical phenomena but, as they showed, are also helpful in analysing abstract geometrical objects. The Abel committee writes: “Their breakthroughs have developed into versatile and robust techniques that have become essential tools for the study of nonlinear partial differential equations. Their impact can be felt in all branches of the theory.”

In the 1950s Nash proved important theorems about PDEs, which are considered by his peers to be his deepest work. Outside mathematics, however, Nash is best known for a paper he wrote about game theory, the mathematics of decision-making, which ultimately won him the 1994 Nobel Prize for economics, and which features strongly in the 2001 film about him, *A Beautiful Mind*.

Nirenberg, who was born in Canada, has had one of the longest and most feted careers in mathematics, having produced important results right up until his 70s. Unlike Nash, who wrote papers alone, Nirenberg preferred to work in collaboration with others, with more than 90 per cent of his papers written jointly. Many results in the world of elliptic PDEs are named after him and his collaborators, such as the Gagliardo–Nirenberg inequalities, the John–Nirenberg inequality and the Kohn–Nirenberg

theory of pseudo-differential operators.

“Far from being confined to the solutions of the problems for which they were devised, the results proven by Nash and Nirenberg have become very useful tools and have found tremendous applications in further contexts,” the Abel committee said.

Both men have received many distinguished awards. As well as winning the prize in economic sciences in memory of Alfred Nobel, Nash has won the John von Neumann Theory Prize (1978) and the American Mathematical Society’s Steele Prize for a Seminal Contribution to Research (1999). Nirenberg has won the American Mathematical Society’s Bôcher Memorial Prize (1959) the inaugural Crafoord Prize awarded by the Royal Swedish Academy of Science (1982), the Steele Prize for Lifetime Achievement from the American Mathematical Society (1994) and the first Chern Medal for lifetime achievement from the International Mathematical Union and the Chern Medal Foundation (2010).



ABEL
PRISEN

The Abel Prize: The prize is awarded by the Norwegian Academy of Science and Letters. The choice of the Abel Laureate is based on the recommendation of the Abel Committee, which is composed of five internationally recognized mathematicians. The Abel Prize and associated events are funded by the Norwegian Government.

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

SAMM 2015

September 07 – 11, 2015, Stuttgart

Materials with Discontinuities

Venue: Pfaffenwaldring 57, 70569 Stuttgart, Germany
<http://www.wias-berlin.de/workshops/SAMM2015>
samm2015@wias-berlin.de

The SAMM 2015 is devoted to the modeling, analysis, and simulation of materials with discontinuities caused by dissipative processes such as phase transition or separation processes, plastification, damage, and fracture. The school will give an overview on thermodynamical modeling, mathematical solution concepts, and numerical schemes for dissipative processes, minimization problems for functions of bounded variation, and phase field models.

Organizers:

Marita Thomas (WIAS Berlin)

Jan Giesselmann (U Stuttgart)

Lecturers:

Helmut Abels (U Regensburg):

Analysis of phase field models and their sharp interface limits

Sören Bartels (U Freiburg):

Numerical analysis and simulation of non-smooth problems

Dorothee Knees (U Kassel):

Analysis for damage and fracture models: solution concepts

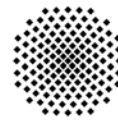
Christian Miehe (U Stuttgart):

Modeling and simulation of dissipative processes in solids

Poster session on September 08, 2015

Registration & submission of posters via:

<http://www.wias-berlin.de/workshops/SAMM2015>



University of Stuttgart
Germany



Dr. Klaus Körper Stiftung



GESELLSCHAFT für
ANGEWANDTE MATHEMATIK und MECHANIK e.V.
INTERNATIONAL ASSOCIATION of APPLIED MATHEMATICS and MECHANICS

EU-MATHS-IN, Year 1

by MARIA J. ESTEBAN & ZDENĚK STRAKOŠ

The January 2014 issue of DIANOIA announced the launch of the European EU-MATHS-IN initiative to support applied and industrial mathematics in Europe. It was formally established in Amsterdam on November 27th, 2013. EU-MATHS-IN is formed as a network of national networks that represent the community in their respective countries. In 2013, at its creation, there were 6 national network members. Currently 13 countries are already on board: *IMNA (Austria)*, *EU-MATHS-IN.cz (Czech Republic)*, *AMIES (France)*, *KoMSO (Germany)*, *HSNMII (Hungary)*, *MACSI (Ireland)*, *Sportello Matematico (Italy)*, *NNMII (Norway)*, *PL-MATHS-IN (Poland)*, *Math-in (Spain)*, *EU-MATHS-IN.se (Sweden)*, *PWN (The Netherlands)*, *Smith Institute (UK)*, with Finland and Portugal getting ready to adhere soon, and Bulgaria working on it.

After the first anniversary of EU-MATHS-IN, let us make a summary of this year's activities in order to show the direction that this large initiative is taking. We hope that this will serve as inspiration for other initiatives in other countries or continents.

The EU-MATHS-IN Council met first in November 2013, and also, informally, at the ECMI 2014 conference, in Taormina in July 2014. At this occasion, a very nice and pleasant session was organized by our colleagues from Spain and Italy, with participation from many national networks. Council meetings take place once a year, but large international conferences may be used for intermediate meetings. The Executive Committee meet on a more regular basis, the intention is to have a Skype meeting every month. The 2014 Council meeting took place on December 3rd, in Paris. During the first year of its existence, EU-MATHS-IN initiated and were involved in many activities. They include, in particular,

- Launch of the European job portal for jobs in companies or in academia, but related to industrial contracts (set-up and managed by AMIES, France).
- Proactive proposal for establishing “Mathematical modeling, simulation and optimization” as a Future Emerging Technology (FET) within the framework of the European program Horizon 2020, launched in June. As a result, the European Commission Directorate General for Communications Networks, Content and Technology (DG Connect) decided to launch an online consultation on “Mathematics and Digital Science” (mentioning High Performance Computing (HPC) in our FET Proactive text was the reason for DG Connect to couple the initiative to “digital science”). This triggered many

likes and many comments, showing the strength of the concept “network of networks”. This also led to the organization by DG Connect of a workshop on November 6, in Brussels, about the topic “Mathematics and Digital Sciences”. The outcome of all these actions is a document which synthesizes the contributions of that day and which will serve as a source of inspiration for the writing of the Horizon 2020 Work Program 2016–2017 of DG Connect.

- Meeting with the European Commission Directorate General for Research and Development (DG R&I) on September 25th, to discuss the role of mathematical sciences within Horizon 2020 Work Program 2016–2017. This meeting was triggered by our campaign (jointly with ECMI and EMS) to sell “Modeling, Simulation and Optimization” (MSO) as a future Key Enabling Technology (KET). Further to this, we published a position paper on our website, which can be read here. www.eu-maths-in.eu/index.php?page=generalReports
- Meeting with DG Connect on December 15th, to discuss the document “Mathematics and the Digital Sciences” (see also the website above) and to further discuss how the mathematical community could enter into EU programs.
- Ongoing initiative for an e-infrastructure proposal within the EC call eINFRA-5 (January 2015 deadline). This project will include work packages corresponding to the projects of EU-MATHS-IN as well as some work package lead by the consortium EuDML devoted to digital mathematical libraries.
- Discussion with the European Network for Business and Industrial Statistics (ENBIS, www.enbis.org) about possible collaborations. ENBIS has expressed an interest to join EU-MATHS-IN, but this is not possible unless there is a change of statutes. Cross participation in council meetings and discussion of joint initiatives will take place.
- Coordination of a COST proposal Modeling, Simulation, Optimization and Control of Large Infrastructure Networks, which was not accepted for funding.
- Two-day meeting with the President and two Vice-Presidents of SIAM. The goal was to exchange information on actions related to mathematics and industry both in the US and in Europe, to discuss

existing documents and to define a strategy for further collaboration. As a result there have already been some actions (see below) and there is a project of a SIAM annual conference organized in Europe jointly with EU-MATHS-IN or one of its networks.

EU-MATHS-IN works on outreach by presenting the network-of-networks and its activities at various occasions:

- Article in SIAM News, December 2013.
- European Mathematics Representatives Meeting (EMRM) in Helsinki, May 9, 2014.
- ICIAM council meeting in Columbus, May 17, 2014.
- ECMI conference in Taormina, June 11, 2014.
- Panel discussion at SIAM Annual Meeting, July 2014.
- Meeting of Portuguese Mathematical Society in Braga, September 26, 2014.
- Meeting of the EMS-AMC (Applied Math Committee of the EMS) in London, October 24, 2014.

Conclusion for the first year:

- The quick increase in the number of countries which are part of our network is a very encouraging factor. Also, there have been a large number of presentations in various conferences or before various institutions.
- The contacts of EU-MATHS-IN with the European Commission structures in Brussels have increased in the past year, and regular contacts both with DG R&I and in DG Connect have been established.
- Developing EU-MATHS-IN as the network of networks was an excellent idea. It is a strong concept regarding discussions with the EU structures and representatives. It demonstrates unity in action for the same cause. That has been recognized in many EU countries. Together we have a chance for changing the global situation for mathematics in Europe.
- It is crucial that EU-MATHS-IN fosters its collaboration with the partner organizations worldwide, including ICIAM. We certainly have to pay more attention to the visibility of mathematics, and learn from the experiences of other disciplines.

- We should also be present and active in the emerging discussions on the role of mathematics in applications and explain our views actively. The inspirational article titled “Is Big Data Enough?,” a Reflection on the Changing Role of Mathematics in Applications, by Napoletani, Panza and Struppa, that appeared in the May 2014 issue of the *Notices of the AMS*, shows that the ideas presented by EU-MATHS-IN on various occasions have a solid basis and resonates with the field at large. In particular, as well argued and substantiated in the above mentioned article, HPC and Big Data require mathematics not only in the form of particular tools for solving separated problems, but also, more substantially, as integrated methodology which could develop in order to enable understanding the phenomena.

Maria J. Esteban is research director at CNRS since 1991 and works at University Paris-Dauphine. Her research themes include the study of nonlinear partial differential equations, specially by variational methods; relativistic and nonrelativistic quantum mechanics, with applications to quantum chemistry; fluid-structure interactions, etc. Until recently she was president of SMAI (Société de Mathématiques Appliquées et Industrielles) and

currently she is the chair of the Applied Mathematics Committee of the EMS.



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. Besides holding various positions at 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.





CENTRE INTERNATIONAL DE MATHÉMATIQUES PURES ET APPLIQUÉES
INTERNATIONAL CENTRE FOR PURE AND APPLIED MATHEMATICS

2017 CIMPA Research Schools Call for Projects

Proposals in applied mathematics or related to applications of mathematics are especially welcome.

Proposals in the most mathematically or economically deprived areas are encouraged and will be given priority.

The aim of the International Centre for Pure and Applied Mathematics (CIMPA) is to promote international cooperation in higher education and research in mathematics and their interactions, as well as related subjects, for the benefit of developing countries. Our action concentrates at the places where mathematics emerges and develops, and where a research project is possible.

CIMPA is a UNESCO centre based in Nice, financed by France, Switzerland, Norway and Spain, with the additional support of the University of Nice Sophia-Antipolis and the University of Montpellier 2.

We organize research schools of about two weeks in developing countries. The purpose of these schools is to contribute to the research training of the new generation of mathematicians, women and men.

The Scientific Council and the Steering Council of CIMPA evaluate the projects and select the best and most appropriate. The research schools are organized locally with the help of CIMPA. CIMPA's financial contribution is essentially for young mathematicians from neighbouring countries to be able to attend the research school. CIMPA can help with obtaining funds from other sources. Additional and essential information can be found in the roadmap (available on the web site of CIMPA). You can also write to CIMPA for further information.

Research schools call for projects begins on **March 1st, 2015**.

The deadline for a (non-mandatory) pre-proposal is **June 15, 2015**.

The complete proposal is due **October 1, 2015**.

The application form is available on the CIMPA website: proposals.cimpa.info



Call for Nominations for The Felix Klein Prize

The call of nominations for the Felix Klein prize of the EMS is open.

Principal Guidelines

It will be awarded to "to a young scientist or a small group of young scientists (normally under the age of 38) for using sophisticated methods to give an outstanding solution, which meets with the complete satisfaction of industry, to a concrete and difficult industrial problem".

Deadline for Submission

Nominations for the prize should be addressed to the chairman of the Prize Committee, Professor Mario Primicerio (University of Florence). The nomination letter must reach

the EMS office at the following address, not later than December 31, 2015:

EMS Secretariat
Ms. Elvira Hyvönen
Department of Mathematics & Statistics
P.O.Box 68 (Gustaf Hällströmink. 2b) 00014
University of Helsinki
Finland

The prize will be presented at the 7th European Congress of Mathematics (Berlin 2016). For more information please see the website www.euro-math-soc.eu/felix-klein-prize

Call for Nominations for ICIAM Officers: Secretary, Treasurer, Officers-at-Large

The ICIAM Board Meeting in Beijing (August, 2015) will include elections to fill all the ICIAM officer positions except President/President-Elect (which was filled in 2013): The ICIAM By-Laws state that elections for Secretary, Treasurer and Officers at Large take place on years congruent to 3 mod 4. The terms, which are four years in duration, begin on October 1 of the election year.

The current president is Barbara Keyfitz (USA), and the president-elect is Maria J. Esteban (France), whose term as President will begin October 1, 2015. The other officers are as follows.

- Alistair Fitt (UK), Secretary, will have served two terms in 2015.
NOT eligible for renewal
- Jose A. Cuminato (Brazil), Treasurer, will have served one term in 2015.
ELIGIBLE for renewal
- Taketomo (Tom) Mitsui (Japan), Officer-at-Large, will have served one term in 2015.
ELIGIBLE for renewal
- Mario Primicerio (Italy), Officer-at-Large, will have served two terms in 2015.
NOT eligible for renewal

The duties of these positions are described in the By-Laws as follows.

The **Secretary** maintains the records of the organization in cooperation with the President and in accordance with the decisions made by the Board.

The **Treasurer** is responsible for the funds of the organization and annually presents a report on these funds to the Board.

Officers-at-Large do not have specific duties assigned by the By-Laws. At present Mario Primicerio chairs the membership committee and Tom Mitsui chairs the ICSU committee.

Nominations for all of these positions are solicited, and may be sent to any of the current officers, any time before the 2015 Board Meeting, but preferably before July 10, 2015, so that information may be circulated to the Board in advance. ICIAM Officers serve without remuneration; however, reasonable officer expenses in carrying out their duties are reimbursed from ICIAM funds.

Anyone with an interest in becoming or nominating an ICIAM Officer is invited to discuss the positions with any of the current officers.

Mathematics Research and the Economy

by BARBARA LEE KEYFITZ

Last year I reviewed an interesting report by the UK accounting firm Deloitte, commissioned by the UK Engineering and Physical Sciences Research Council, which reported on the economic benefit, to employment and GDP, of research in mathematical sciences to the UK economy. The numbers were astonishing: 10% of employment and 16% of gross domestic product were attributed, by Deloitte's measure, to mathematical sciences research.

I've just learned of a more recent report, "Mathematical sciences and their value for the Dutch economy", also performed by Deloitte. This report was commissioned by the "Platform Wiskunde Nederland" (PWN), an organization representing the Dutch mathematical community. While PWN is obviously interested in a result favoring the importance of mathematical research, let us assume that an accounting firm will follow professional standards (which must accept that all clients are biased in one di-

rection or another).

The conclusions of this report are very like those of the UK study. Some of the similarity is surely due to the similar methodology. The project began by identifying jobs where the results of mathematical sciences research (MSR) are used, and the extent to which MSR is used in the job (as a percentage, say). Then, the jobs of each kind in each industry, and the value they added to the industry product, were calculated. Deloitte then amplified this result, which they refer to as the "direct" effect, by calculating the economic impact (for example, by purchases of goods) of this activity on other industries. In addition, the report includes what are termed "induced" effects — goods and services purchased by people in the jobs counted as a direct effect.

One might argue about whether some of this amounts to double counting, just as there is always a question of

which technologies are really developments of current or recent mathematics research and which use only information that might be considered to be “in the public domain” at this time. There is a long latency period for mathematics research. A thorough calculation (which could be performed only by some omniscient entity) would trace market effects back to their origins, with appropriate discounts. Or one could attempt to project forward, and to compute the prospective benefits of research being funded today, this time attempting to forecast the most probable time-lags and the probability of eventual success.

However, the main conclusions to be drawn from the report are straightforward. Counting all three categories, Deloitte finds that mathematical sciences contribute to 26% of employment. I calculate, based on their figures, that even if one counted only the direct effects, one obtains a figure of 10% of employment and 12% of income — figures comparable to the UK numbers of 10% and 16% respectively. (It is tempting to infer that the difference in the income numbers is due to greater income inequality in the UK and the concentration there of mathematical

sciences jobs in the financial industry. But this is merely a guess on my part, not mentioned in the report.)

One feature of the Dutch report is a significant section titled, “Lack of fostering mathematical talent weakens Dutch competitiveness”. While the causes of this deficit are not explored, data shows that relative to the rest of Europe, the percentage of university students pursuing mathematics, science and engineering degrees in the Netherlands is low. (The implications of this are quite unclear, however. For example, Greece has one of the highest shares; Romania is right in the middle and Norway close to the bottom. This might not be the distribution one would expect.) The report makes an eloquent plea for “more and better usage of mathematical sciences” to enable the Netherlands to maintain its economic competitiveness. Of course, this is what we all want for our own countries. It may seem self-serving, but I, for one, appreciate that this seems more like a race to the top than a race to the bottom — and this is the sort of race we all should like.

SAVE THE DATE!

August 10–14, 2015

Beijing, China



Conference Registration

Early Bird Registration: January 1 – April 30, 2015

Regular Registration: May 1 – July 31, 2015

Late & On-site Registration: August 1 – 10, 2015

Contributed Papers - Closed

Mini-symposia - Closed

Posters

Submission Open: July 30, 2014

Submission Due: April 30, 2015

Satellite Conferences - Closed

Embedded Conferences - Closed

The Secretariat of ICIAM 2015

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Email: iciam2015@amss.ac.cn

Tel: 8610-62613242

Fax: 8610-62616840



About ICIAM

The International Council for Industrial and Applied Mathematics (ICIAM) is a worldwide organisation 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.

The Council works

- to promote industrial and applied mathematics globally;
- to promote interactions between member societies;
- to promote the goals of these member societies;

and to coordinate planning for the ICIAM Congresses, held every four years, on industrial and applied mathematics.

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

The Full Members and their representatives (when known)

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

ASAMACI (Asociación Argentina de Matemática Aplicada Computacional e Industrial): Eduardo Adrián Santillan Marcus

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

CSCM (Chinese Society for Computational Mathematics): Xuejun Xu

CSIAM (China Society for Industrial and Applied Mathematics): Pingwen Zhang and Guiying Yan

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

ESMTB (European Society for Mathematical and Theoretical Biology): Roeland Merks

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

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

MOS (Mathematical Optimization Society (formerly Mathematical Programming Society)): William (Bill) Cook

NORTIM (Nordiska föreningen för Tillämpad och Industriell Matematik): Helge Holden

ROMAI (Societatea Română de Matematică Aplicată și

Industrială): Costica Morosanu

SBMAC (Sociedade Brasileira de Matemática Aplicada e Computacional): Helena J. Nussenzeig Lopes

SEMA (Sociedad Española de Matemática Aplicada): Tomás Chacón Rebollo

SIAM (Society for Industrial and Applied Mathematics): Pam Cook and Cynthia Phillips

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

SMAI (Société de Mathématiques Appliquées et Industrielles): Grégoire Allaire and Alain Damlamian

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

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

The Associate Members and their representatives

AIRO (Associazione Italiana di Ricerca Operativa):

AMS (American Mathematical Society): Don McClure

AWM (Association for Women in Mathematics): Jill Pipher

ChinaMS (Chinese Mathematical Society): Xiaoshan Gao

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

DMV (Deutsche Mathematiker-Vereinigung): Günther Leugering

EMS (European Mathematical Society): Franco Brezzi

IMS (Institute of Mathematical Statistics):

IMU (Israel Mathematical Union): Edriss S. Titi

LMS (London Mathematical Society): Stephen Huggett

MSJ (Mathematical Society of Japan): Yoichi Miyaoka

ÖMG (Österreichische Mathematische Gesellschaft): Alexander Ostermann

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

RSME (Real Sociedad Matemática Española): Antonio Campillo López

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): Mayra Nuñez-Lopez

SPM (Sociedade Portuguesa de Matemática):

UMI (Unione Matematica Italiana): Pierangelo Marcati

The current officers of ICIAM

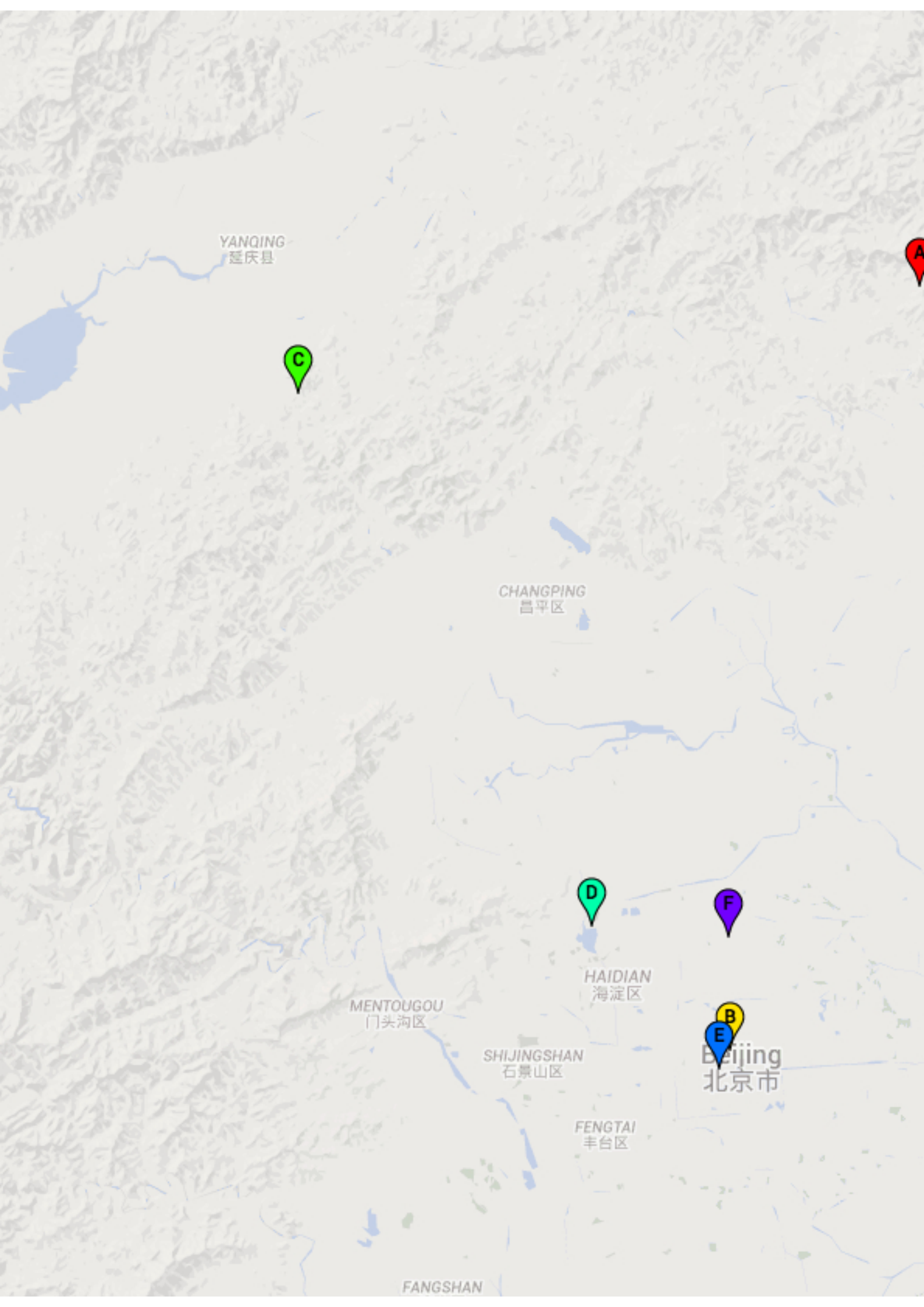
President: Barbara Lee Keyfitz, USA

President-Elect: Maria J. Esteban, France

Secretary: Alistair Fitt, UK

Treasurer: Jose Alberto Cuminato, Brazil

Members-at-Large: Mario Primicerio, Italy and Taketomo (Tom) Mitsui, Japan



YANQING
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CHANGPING
昌平区



HAI DIAN
海淀区



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门头沟区

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丰台区

FANG SHAN