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ICIAM



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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 from members and associations, both announcing events, on-site reports from events and industry news. www.iciam.org

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Introducing... The ICIAM Dianoia

The competition to select a name for our newsletter produced a few entries, and after long discussions the editors have chosen “The ICIAM Dianoia”. In submitting the winning entry, Sean Bohun, the Newsletter’s Managing Editor, wrote,

“Since the newsletter is profoundly international in its scope I wanted a term that reaches into the underpinnings of the discipline itself and is in a sense somewhat ageless”.

The editors thank Sean and all contestants. To save readers from reaching for their dictionaries, here are a couple of definitions.

From Webster: Dianoia: the capacity for, process of, or result of discursive thinking.

From Wikipedia: Dianoia (Greek: *διανοια*) is a term used by Plato for a type of thinking, specifically about mathematical and technical subjects. It is the capacity for, process of, or result of discursive thinking, in contrast with the immediate apprehension that is characteristic of noesis. In Aristotle, knowledge is further divided into the theoretical (episteme), and the practical, which includes *techne* and *phronesis*.

Liquidation of RAN (Russian Academy of Sciences)

by YULIJ S. ILYASHENKO

Background on the Crisis

A motion is proceeding through the Duma (the Russian Parliament) that, if passed, will fundamentally alter the functioning of the Russian Academy of Sciences (RAN). Below are some quotations from the project of the law that show that the Russian government plans to liquidate the current Russian Academy of Sciences and create a new “Russian Academy of Sciences”.

Article 19 is entitled “Stopping the functioning of Russian Academy of Sciences <...>”. It proposes that the Russian government <...> form a committee for the liquidation of RAN (quoted from Article 19). The RF (Russian Federation) government will analyze the activity of the institutions now subordinate to RAN. Some of them will become subordinate to federal institutions, some will be liquidated (from Article 19.7, shortened). After the registration of “Russian Academy of Sciences”, the liquidation of RAN will proceed (Commentary to the law).

The Next Step of the Liquidation

The state Duma approved the law in the first two readings (July 2013), and then made a break for vacation. At the end of August, it will discuss the law for the third time. If it is approved in the third reading, the law will be accepted, and the liquidation of RAN will start.

What Can Be Done?

Letters from the world scientific community that advocate preserving the existing RAN may prevent the approval of the “liquidation law”, provided that the letters are signed by influential members of the community, and that the total number of signatures is large.

A reference to a circulating letter of this kind is at save-russian-academy.org. In order to sign the letter, you may click the reference above. The letter will appear. Below it there is a button “sign”. Clicking this button, you will see a brief form, asking about your name, position, etc. Filling this form, you click a button “sign” below, and the letter is signed.

Yulij Ilyashenko is a Professor of the Cornell University, Moscow State University, and National Research University Higher School of Economy. He is also the President of the Independent University of Moscow. He was twice an invited speaker of the ICM: 1978 and 1990.



Call for nominations: Olga Taussky-Todd Lecture 2015

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 third Olga Taussky-Todd Lecture, to be given at ICIAM 2015 in Beijing over 10-14 August 2015.

A nomination will consist of:

1. an explanation of why the individual is being nominated, and a description of her work;
2. a brief CV and contact information for the nominee.

The deadline for submission of nominations is: 30 November 2013.

The selection process is conducted by the Olga Taussky-

Todd Lecture Committee. The Committee for the 2015 Lecture consists of:

Helena Nussenzweig Lopes, (Chair) IM-UFRJ, Brasil; Douglas N. Arnold, University of Minnesota, USA; Alison Etheridge, University of Oxford, UK; Mythily Ramaswamy, TIFR Bangalore, India; Barbara Wohlmuth, TU München, Germany; Bin Yu, University of California Berkeley, USA.

Nominations should be sent by email to: hlopes@im.ufrj.br. Receipt of nominations will be acknowledged by email to the nominator. If email is not possible, nominations may be sent by fax or post, but must arrive by the deadline.

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The ICIAM Olga Taussky-Todd Lectures

by BARBARA KEYFITZ

An Olga Taussky-Todd Lecture has been held at each ICIAM Congress, since ICIAM 2007, under the auspices of the International Council on Industrial and Applied Mathematics.

This honor is conferred upon a woman who has made outstanding contributions in applied mathematics and/or scientific computation. The name of this lecture pays 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.

Olga Taussky-Todd's legacy is international, as her career spanned both Europe and North America. Her research helped to establish linear algebra and matrix theory as a research area in mathematics, and her varied appointments, including positions in both academia and government laboratories, set an example for applied mathematicians. Her support and encouragement of younger women mathematicians is warmly remembered in the community.



From left to right: John Todd, Olga Taussky-Todd, Lothar Collatz and Tosio Kato taken on the Skyline Drive in October 1955 by Mizue Kato (Tosio's wife). —Image used with permission.

The series began as an event at ICIAM 2007, spon-

sored by the Congress Director, Rolf Jeltsch, following a suggestion by the Association for Women in Mathematics (AWM) and the society European Women in Mathematics (EWM). In 2008, it was adopted by the ICIAM Council as a permanent feature of ICIAM Congresses. For the first award in 2007, special consideration was given to research in one of the areas in which Olga Taussky-Todd worked: applications of number theory, linear algebra or numerical analysis.

Lecturers are selected by the Olga Taussky-Todd Committee. The Call for Nominations for ICIAM 2015, including the names of Committee members, appears elsewhere in this issue.

The Olga Taussky-Todd Lecture at ICIAM 2011

The ICIAM 2011 Olga Taussky-Todd Lecturer was Beatrice Pelloni, University of Reading, United Kingdom. She spoke on “Boundary Value Problems and Integrability”.

About the Lecturer:



Beatrice Pelloni’s research area is integrable systems and initial-boundary value problems for partial differential equations. Over the last 15 years, Dr. Pelloni, in collaboration with A. T. Fokas, has made radical developments to a key mathematical technique used for solving mathematical problems

throughout the physical sciences and engineering. Dr Pelloni’s work has focused on so-called ‘transform methods’, a basic component in the mathematical toolkit of all mathematicians. These methods are valued by engineers as they lead to simple formulae for the solution to a very wide range of real world problems. Her recent research contributions include deriving integral representation formulae for solutions of initial-boundary value problems for evolution equations in time-dependent domains; analysis of the spectral structure of differential operators on the half-line; spectral representations for some model non-self-adjoint problems; asymptotic behavior of solutions of the sine-Gordon equation on the half-line; and the first general results on the elliptic sine-Gordon equation.

Beatrice Pelloni received her BA (Laurea) in Mathematics from the University of Rome, and an M Phil and PhD in Mathematics from Yale University. She held a research position at the Greek research organization IACM-FORTH before joining the Department of Mathematics at

Imperial College, London. Since 2001 she has been Lecturer, Professor, and, recently, Head of Department, at the University of Reading. She is the mother of four children and a strong advocate for women’s participation in the mathematical sciences. In 2010 she chaired the round table, “Women Mathematicians around the World”, at the International Conference of Women Mathematicians in Hyderabad.

Abstract of Lecture:

I will discuss a unified method for analysing boundary value problems for integrable PDEs posed in a convex polygon. Integrable PDEs are ubiquitous in mathematical physics, as they include linear PDEs with constant coefficients, and several nonlinear PDEs arising in the modelling of a variety of physical phenomena.

Using this method, the solution is expressed as a complex contour integral uniquely defined in terms of the boundary values. I will illustrate, through specific examples, a constructive approach for characterising the unknown boundary values in terms of the given boundary conditions. I will also discuss interesting unexpected consequences of this approach.

The Selection Committee for the 2011 Lecture consisted of: Pauline van den Driessche, (Chair) University of Victoria, Canada; Christine Bernardi, Paris VI, Paris, France; Jill P. Mesirov, Broad Institute of MIT and Harvard, Cambridge, USA; Hans Schneider, University of Wisconsin, Madison, USA; and Robert Tichy, TU Graz, Austria.

The Olga Taussky-Todd Lecture at ICIAM 2007

The first Olga Taussky-Todd Lecture was presented at ICIAM 2007 in Zurich, Switzerland, on Tuesday, July 17, 2007, by Pauline van den Driessche of the University of Victoria, Canada. The title of her talk was “Matrices in action for epidemic models”.



About the Lecturer:

Dr. Pauline van den Driessche, one of Canada’s leading applied mathematicians, has earned an international reputation for her research in both linear algebra and mathematical biology. She was a co-recipient of the Bellman prize for the best paper in the journal *Mathematical Biosciences* in 2002-2003, and was selected by the Canadian

Mathematical Society as the recipient of the 2007 Krieger-Nelson award.

Pauline van den Driessche obtained her BSc and MSc in Applied Mathematics from Imperial College, London, and her PhD in Fluid Mechanics, from the University College of Wales. She was a faculty member in the Department of Mathematics and Statistics, University of Victoria, from 1965 until 2006, when she became an Emeritus Professor in that Department and an Adjunct Professor in the Department of Computer Science.

Of Dr. van den Driessche's more than 150 publications, roughly half are in the area of mathematical biology. Her early papers in that area include seminal work on differential difference equations and Hopf bifurcations. More recently, Dr. van den Driessche's work with a MITACS group on the dynamics of epidemics has had a major impact in mathematical biology. In linear algebra, Dr. van den Driessche is one of the pioneers of combinatorial matrix theory. Her deep work on sign patterns and matrix stability is a cornerstone in the area of qualitative matrix theory.

In her important research contributions to applied mathematics and linear algebra, and also for the care and attention she has taken in mentoring her students, postdoctoral fellows, and younger colleagues, the career and legacy of Pauline van den Driessche bear a striking parallel to Olga Taussky-Todd's. It is fitting that Dr. van den Driessche was ICIAM's inaugural Olga Taussky-Todd Lecturer.

Abstract of Lecture:

The spread of an infectious disease can be modeled by a dynamical system that includes important features of the disease. For disease control, the basic reproduction

number R_0 is an important threshold parameter that depends on the model formulation and the parameter values estimated from data. In particular, stability of equilibria depends on the value of R_0 . In ordinary differential equation systems, a method for computing R_0 as the spectral radius of the next generation matrix is derived using the theory of nonnegative and M -matrices. This is illustrated for some diseases, including influenza. For large systems, useful bounds on R_0 are derived from matrix inequalities. Backward bifurcation and bistability are demonstrated in an epidemic model with vaccination, and compound matrices are a key tool in investigating the global behavior.

The 2007 Lecturer was selected by a committee appointed by AWM and EWM; it was chaired by Barbara Keyfitz. Committee Members: Christine Bessenrodt, Mathematics, University of Hanover, Germany; Angelika Bunse-Gerstner, University Bremen, Germany; Chandler Davis, Mathematics, University of Toronto, Canada; Barbara Keyfitz, University of Houston and Fields Institute (chair); Robert Tichy, Mathematics, Technical University at Graz, Austria; Richard Varga, Mathematics, Kent State University, U.S.A.

Barbara Lee Keyfitz (bkeyfitz@math.ohio-state.edu) 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.



2014 SIAM Conference on Optimization (OP14)

by JIM CROWLEY

SIAM will hold its triennial conference on optimization in San Diego, California on May 19-22, 2014. Individuals attending the ICIAM Workshop and Board meeting in Columbus (May 15-17) may be interested in attending the SIAM Conference on Optimization. Some details on the conference and how to participate are below:

- The conference will be held at the Town and Country Resort & Convention Center, San Diego, California, USA May 19-22, 2014
- The SIAM Conference on Optimization will feature the latest research in theory, algorithms, software and applications in optimization problems.

- The Organizing Committee Co-chairs are Miguel F. Anjos, Polytechnique Montréal, Canada; and Michael Jeremy Todd, Cornell University, USA.

SUBMISSION DEADLINES: October 21, 2013 for minisymposium proposals; and November 18, 2013 for submitting abstracts for contributed and minisymposium speakers.

The Call for Presentations is available at: www.siam.org/meetings/op14/

Jim Crowley
Executive Director, SIAM
215-382-9811

Call for nominations for ICIAM Prizes for 2015

by ICIAM PRIZE COMMITTEE

The ICIAM Prize Committee for 2015 calls for nominations for the five ICIAM Prizes to be awarded in 2015. 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/council/PrizeDescriptions.pdf), and should contain the following information:

- Full name and address of person nominated;
- Web home page if any;
- Name of particular ICIAM Prize;
- Proposed citation (concise statement about the outstanding contribution in fewer than 250 words);
- Justification for nomination (cite nominator's reason for considering candidate to be deserving, including explanations of the scientific and practical influence of the candidate's work and publications);
- Brief CV or short biography of the nominee;
- Name and contact details of the proposer.

The deadline for nominations is 31 October 2013. Nominations should be sent to the President of ICIAM, Barbara Keyfitz, preferably in electronic form. Nominations will be acknowledged.

ICIAM Prize committee:

Committee chair: Barbara Keyfitz; Donatella Marini (chair of Collatz Prize Subcommittee) Felix Otto (chair of Lagrange Prize Subcommittee) Pam Cook (chair of Maxwell Prize Subcommittee) Takashi Kako (chair of Pioneer Prize Subcommittee) Philippe Ciarlet (chair of Su Buchin Prize Subcommittee)

ICIAM, the International Council for Industrial and Applied Mathematics, is the world organization for applied mathematics and computational science. Its members are mathematical sciences societies based in more than 20 countries. For more information, see the Council's web page at www.iciam.org.

Barbara Lee Keyfitz
President of ICIAM

The Eighth Pan African Congress of Mathematicians (PACOM) 2013, Abuja, Nigeria

by ANDREAS GRIEWANK

Background

This conference, the eighth in a series of quadriennial meetings, took place in anglophone West Africa with the number of participants from outside that region being rather limited. Long distance travelling in Africa is quite expensive, and African institutions have no resources to support conference attendance, especially of junior staff. It appears that this PACOM was exclusively realized by funds from the Nigerian government, which were secured largely thanks to the efforts of the conference chair, Professor Adewale Solarin.

Venue

The organizers had invited quite a few representatives of professional societies from the North, but most were un-

able to attend or were discouraged by warnings regarding security in Nigeria. Apart from Abba Gumel of Manitoba and some other members of the Nigerian diaspora, Qin Hourong from Nanjing University and I were the only Northerners who attended.

Nonetheless, throughout the conference week, there appeared to be little reason to worry about public security. With a few other participants, I was housed at the Best Western Hotel (Ajuji) in suburban Abuja, which was surrounded by a very solid fence and had police protection around the clock. For us, it was somewhat inconvenient that the conference took place at the premises of the Nigeria Atomic Energy Commission (NAEC), near the National Mathematical Center (NMC), 70 kilometers outside Abuja. This required a one hour ride each way, in comfortable and seemingly well-maintained minivans.

(By contrast, the airport pickup that I had been promised did not materialize, and the commercial taxi I took on my return seemed of dubious roadworthiness.) The NAEC itself was a suitable conference venue, and housed most of the participants on its grounds in hostel style accommodation. The hotel and conference venue were periodically affected by power cuts (standard for the region), but the ubiquitous diesel generators reliably kicked in after a delay of about 12 seconds.

General Assembly

On Sunday afternoon the General Assembly of the African Mathematical Union, with some 20 participants, took place at the Ajuji Hotel. Following AMU traditions, the main organizer of the present PACOM conference, Professor Solarin, was elected to be the next president. Daniel Makinde of Cape Peninsula University of Technology, South Africa, stays on as General Secretary, and is an important contact person for non-African organizations. Jacek Banasiak will continue as the editor-in-chief of the AMU's journal *Afrika Matematika*, which had a virtual rebirth in 2010 when it was accepted by Springer. It has a rapidly growing number of submissions and now publishes four rather than two issues a year.

Program and Presentations

The opening ceremony was a truly African event, lasting for more than 5 hours in combination with the closing of the Pan African Mathematical Olympiad. The latter packed several hundred high school students into Abuja's International Convention Center Hall, which is modern and well equipped, but feels a little bit bland. The long duration came about through the distribution of prizes to the students and a long wait for the President's wife Patience Faka Jonathan. The well-known fact that the president cultivates a Zumaesque private life made it a little harder to stomach hours of choreographed chants praising 'Mama Africa', 'Mama Nigeria', 'Mama Mathematica' or simply 'Mommie', who we all were supposed to love. Her comportment as First Lady is somewhat controversial as she gets accused of excessive interference, allegedly controlling some government funds without any official mandate, and occasionally putting her foot in her mouth. This time around she avoided any missteps and was visibly moved by the repeated references to her own mathematics background and the emotional appeal to her motherhood role for science and education in Nigeria and beyond. The local organizers and AMU leaders are expecting some positive rewards for mathematical science projects in Nigeria. One of them went as far as stating that the opening had been a big success, and that the rest of the conference did not really matter very much. I found (and Abba agreed) that the exuberant description of some individual mathematicians also betrayed some

lack of realism regarding their international standing.

As was to be expected from a continent-wide conference, the subjects of the presentations were varied, including algebraic geometry, analysis, mathematical physics, financial mathematics, and dynamical systems with epidemiological applications. Following presentations, there were some vigorous debates, regarding mathematical content and the organization of the mathematical sciences in Africa, criticizing talks that presented minor variations of known results or that had ignored recent developments. Similarly, while some presenters had access to modern technology in preparing their talks, others just showed enlarged excerpts from papers or other notes.

AUST and AIMS

About a quarter of the attendees were students or recent graduates, many from the new African University of Science and Technology (AUST) at Abuja. There were a smaller number from the African Institute of Mathematical Sciences (AIMS) at Mbour, Senegal, and Muizenburg, South Africa. These institutions run one- or two-year diploma, master, or PhD courses for African Bachelors and sometimes Masters of Mathematics. Despite some misgivings from the established university programs they seem to do a good job at selecting, motivating and educating a new crop of mathematical scientists for Africa. Many of these students are looking for the chance to do a PhD or a Post Doc in the North.

Abba Gumel, who was involved in the foundation of AUST, arranged for Jacek Banasiak and me to visit the AUST campus, which lies just outside Abuja on the way to the NMC. With the benefit of funding by the World Bank and the support of local banks and other private organizations, AUST has set up a graduate school in the areas of mathematics, computer science, materials science and petroleum engineering. Apart from a handful of permanent professors, all the teaching is done in three-week courses by carefully selected volunteer faculty from all over Africa and the world. (For example Phillip Griffiths (IAS) has taught at AUST.) They are provided with very comfortable accommodation and an honorarium per course. The students also live on campus, which creates a 24/7 learning atmosphere (also a hallmark of the AIMS system). The President of AUST is Wole Soboyejo, a Materials Scientist from Princeton University. The Mathematics Institute of AUST is currently headed by Professor Charles Chidume, who used to run the mathematics program at ICTP Trieste. There is some evolving complementarity between AUST and the NMC (headed by Professor Solarin); while the latter had, for a while, focussed very much on school mathematics and teacher education, under the current director NMC is returning to being a centre of excellence for research and training in mathematical sciences.

Conclusion

On Thursday afternoon, there was a symposium on the *Influence of the International Scientific Community on Development of Mathematical Talent in Africa* with Professor Solarin, Professor Wandera Ogana of Kenya (University of Nairobi and Director of AMMSI), and myself on the podium. A more complete review of this topic will appear in a future issue of *Dianoia*.

Overall, it was a good meeting with some 150 attendees and a positive spirit despite some delays and other minor inconveniences. The outlook for mathematics in Nigeria and Africa as a whole is positive and one would hope that the connections not only to the developed countries in the North but also to developing countries, especially the BRIC states, can be strengthened. Enhanced connections may already be reflected at the next PACOM, which is currently planned for Tunis in 2017.

Andreas Griewank grew up in Germany, obtained his first degree at the University of Freiburg, and MSc and PhD in mathematics at the Australian National University in Canberra. After a post-doc in Cambridge, England he spent 5 years as Assistant/Associate Prof at SMU in Dallas and 5 years as Associate/Senior Scientist at Argonne National Laboratory in Illinois. Finally, he has been ten years each as full professor at the TU Dresden



2015 CIMPA Research Schools Call for Projects

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, counting with the support of the University of Nice Sophia-Antipolis.

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, 2013**. The application form is available on the CIMPA website

www.cimpa-icpam.org/spip.php?article154

and you may also write to cimpa@unice.fr. The deadline for a (non-mandatory) pre-proposal is **June 15, 2013**. The complete proposal is due **October 1, 2013**. Proposals related to applications of mathematics are especially welcome.

2014 ICIAM Board Meeting and Workshop



THE OHIO STATE UNIVERSITY

By resolution of the ICIAM Board at its May 2013 meeting, the 2014 ICIAM Board Meeting will take place in Columbus, Ohio, USA on Saturday, May 17, 2014. It will be preceded by a two-day workshop, Thursday and Friday, May 15-16, 2014 on the campus of the Ohio State University. All Board members are invited to participate in the workshop; those who wish to speak are encouraged to notify the ICIAM President. Details on accommoda-

tion, schedule and other arrangements will be distributed later.

At this time, some Board members may be interested in two scientific meetings that are scheduled immediately after the Board meeting: the SIAM Activity Group on Optimization Conference, May 19-22, in San Diego, California, USA; and the IEEE International Parallel and Distributed Processing Symposium, May 19-23, in Phoenix, Arizona, USA. Information about both meetings appears elsewhere in this newsletter.



ICIAM 2015: Call for Proposals of Thematic and Industrial Minisymposia

by SCIENTIFIC PROGRAM COMMITTEE OF ICIAM 2015

Dear colleagues:

The Scientific Program Committee (SPC) of ICIAM 2015 is now in the stage of identifying active and important areas in applied, industrial and computational mathematics, and selecting thematic and industrial minisymposia as well as possible candidates of the organizers of the minisymposia.

This is an open call for proposals of thematic and industrial minisymposia (and possible organizers) to be presented at the ICIAM 2015 in Beijing. Please send your proposals to the secretary of the SPC Miss Jie Zhang (jiezhang@math.tsinghua.edu.cn) and carbon copy

(cc) to the Chairman of the SPC Prof. Zhi-Ming Ma (mazm@amt.ac.cn) before the end of September 2013.

The SPC will solicit and select thematic and industrial minisymposia from the proposals. The number of selected thematic and industrial minisymposia will depend on the situation (in ICIAM 2011 there were 17 thematic minisymposia and 3 industrial minisymposia).

In the next stage, the Organizing Committee will have a more general open call for proposals of contributed minisymposia. The proposals in this stage which are not in the list of selected ones may be considered as proposals in the next stage.

SIAM Conference on



OPTIMIZATION

Based on Audet and Dennis' plot of Kolda, Lewis and Torczon's modification of the Dennis-Wood canoe function.

May 19-22, 2014
**Town and Country Resort
 & Convention Center**
San Diego, California, USA

Description The SIAM Conference on Optimization will feature the latest research in theory, algorithms, software and applications in optimization problems. A particular emphasis will be put on applications of optimization in health care, biology, finance, aeronautics, control, operations research, and other areas of science and engineering. The conference brings together mathematicians, operations researchers, computer scientists, engineers, software developers and practitioners, thus providing an ideal environment to share new ideas and important problems among specialists and users of optimization in academia, government, and industry.

Themes

- Applications in health care
- Applications in engineering
- Conic optimization
- Polynomial optimization
- Mixed integer nonlinear optimization
- Nonlinear optimization
- Stochastic optimization
- Derivative-free optimization

Organizing Committee Co-chairs

Miguel F. Anjos, Polytechnique Montréal, Canada
 Michael Jeremy Todd, Cornell University, USA

Organizing Committee

Aharon Ben-Tal, Technion - Israel Institute of Technology, Israel
 Andrew Conn, IBM Research, USA
 Mirjam Dür, University of Trier, Germany
 Michael Hintermüller, Humboldt-Universität zu Berlin, Germany
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 Jon Lee, University of Michigan, USA
 Todd Munson, Argonne National Laboratory, USA
 Warren Powell, Princeton University, USA
 Daniel Ralph, University of Cambridge, United Kingdom
 Ariela Sofer, George Mason University, USA
 Akiko Yoshise, University of Tsukuba, Japan

Important Dates

Minisymposium proposals	Oct. 21, 2013
Abstracts for contributed and minisymposium speakers	Nov. 18, 2013
SIAM Student Travel Award and Post-doc/Early Career Travel Award Applications	Nov. 4, 2013
Pre-Registration	Apr. 21, 2014
Disconnect time is 4:00 PM EDT	
Hotel Reservation	Apr. 14, 2014

To RSVP to the conference on Facebook and connect with other attendees, find roommates etc., please visit www.facebook.com/events/118163328394763/. If you are tweeting about the conference, please use the designated hashtag to enable other attendees to keep up with the Twitter conversation and to allow better archiving of our conference discussions. The hashtag for this meeting is #SIAMOP14.

SIAM and the Conference Organizing Committee wish to extend their thanks and appreciation to the U.S. National Science Foundation and the U.S. Department of Energy (DOE), Office of Science, for their support of this conference.



First Vietnam International Applied Mathematics Conference (VIAMC)

Dates: December 19–20, 2013
 Place: Sai Gon University,
 273 An Du'ong Vu'ong phu'ong 3,
 District 5, Ho Chi Minh City, Vietnam
 Organized by:

- Vietnam Society for Application of Mathematics (VSAM)
- Sai Gon University (SGU)
- International Institute for Research, Training and Development of Human Resource (IHR)

Description This is the first international conference organized by VSAM, and therefore the organizers are making a world-wide call for participants from Vietnam and abroad. We appeal to the ICIAM family to join this academic activity, in order to increase international co-operation with VSAM and, more generally, with the Vietnamese mathematical community.

Main Topics of the Conference Applied Algebra, Logic and Cryptology; Applied Analysis; Applied Probability and Statistics; Computer Science; Mathematical Finance and Management; Industrial Mathematics (with a focus on application of mathematics to problems arising from industry, the economy and society); Scientific Computation and Numerical Analysis.

Other topics of mathematical application will be gladly welcomed. The conference will include 6-8 plenary invited lectures by outstanding mathematicians (final list available by the end of September 2013) and contributed short talks in parallel sessions.

Scientific Program Committee

Co-chairs: Le Hung Son (Hanoi University of Science and Technology, Vietnam) and Taketomo Mitsui (ICIAM-Officer at Large, Japan)

Pham Ky Anh (Hanoi University of Science, Vietnam), Dang Quang A (Vietnam Academy of Science and Technology, Vietnam), Jacques Belair (University of Montréal, Canada), Pham Huy Dien (Vietnam Academy of Science and Technology, Vietnam), Nguyen Quy Hy (Hanoi University of Science, Vietnam), Tran Van Lang (Institute for Applied

Informatics and Mechanics, Ho Chi Minh City, Vietnam), Tong Dinh Quy (Hanoi University of Science and Technology, Vietnam), Phan Dinh Tuan (University of Technology, Ho Chi Minh City, Vietnam)

Organizing Committee

Co-chairs: Nguyen Viet Ngoan (Rector of Sai Gon University) and Hoang The Dung (Secretary General of VSAM)
 Tong Dinh Quy (Hanoi University of Science and Technology, Hanoi), Tran Tuan (CRV Co. Jsc, Hanoi)

Registration Participants may register through the conference website www.vietsam.org.vn/viamc2013 or by sending the completed registration form directly (by email) to the contact by November 15, 2013. The registration fees are 50 USD for ordinary participants (25 USD for students and accompanying persons). Fee includes conference banquet, lunches, coffee breaks, conference materials and proceedings. Fees are payable in cash at the registration desk of the conference.

Excursions We are planning to organize a tour to visit Angkor Wat (Cambodia), December 21–23, 2013. The tour cost will be announced soon.

Deadlines

Registration Form	Oct. 21, 2013
Submission of abstracts	Nov. 18, 2013

Conference Contact Address:

www.vietsam.org.vn/viamc2013

Or contact: Prof. Le Hung Son, School of Applied Mathematics and Informatics, Hanoi University of Science and Technology (HUST), Dai Co Viet Road Nr.1, Hanoi
 Email: 1/ son.lehung@hust.edu.vn
 2/ sonlehungbk44@gmail.com

We look forward to welcoming you to Vietnam, in December 2013.

E.O. Wilson and the Mathematicians

by JAMES CARLSON

In early April, the well-known biologist E.O. Wilson published a short article in the Wall Street Journal with the title “Great Scientist \neq Good at Math” and the subtitle (non sequitur *Dianoia* readers will appreciate) “E.O. Wilson shares a secret: Discoveries emerge from ideas, not number-crunching”. Although Wilson’s main point was basically a positive one — that students who have difficulty with mathematics should not decide on that account that they have no future in science, and that scientists should not use calculus as a filter to eliminate some groups from scientific careers — the article contained a number of inflammatory statements that other commentators have noted are simply untrue. Anyone interested in seeing the original article can find it at: online.wsj.com/article/wilson

Dianoia is pleased to be able to publish a commentary on the article by James Carlson, former Director of the Clay Mathematics Institute. We thank Jim for permission to use his letter.

I read with interest the article by E.O. Wilson, a distinguished scientist whose work I greatly admire. Wilson addresses a problem that concerns us all: the declining interest of young people in science.

I agree with much in Wilson’s article, e.g., that ideas play a key role, that disciplined fantasies are the fountainhead of creativity, etc. This said, I take issue with the implication that mathematical semiliteracy is an adequate preparation for a young person interested in science. What is sufficient in one generation may not be in the next. Consider two fundamental advances in physics: Faraday’s law of induction, which makes possible the electric generator, and Maxwell’s discovery that electromagnetic waves can propagate in a vacuum at the speed of

light, which made possible radio communication. Just thirty years apart, one discovery was made without mathematics, while the other used the most sophisticated mathematics of the day — and did come from “staring at the equations”.

One sees the same progression in biology. In the days of Linnaeus and Darwin, mathematics played no role. But now whole fields of biology have been created using mathematics. It is one thing to cut chromosomes into pieces with enzymes. It is another to assemble the pieces into a map, a dictionary of life. That was done with a sophisticated piece of mathematics, the Smith-Waterman algorithm. Mathematics also plays a key role in reconstructing the tree of life: when and how did species branch off from their ancestors. Darwin would be pleased!

Back to Wilson’s concern — no student should be deterred from a career in science by mathematics — but that same student should know enough mathematics to collaborate fruitfully and to be conversant with ideas his colleagues will use: statistical argument, model, simulation, algorithm, etc. Better to enter the game with a full deck.

James Carlson was born and educated in Lewiston Idaho. He received a BS in Mathematics from the University of Idaho in 1964, a PhD from Princeton University in 1971, and joined the faculty of the University of Utah in 1976, where he remained until 2003. From 2003 to 2012 he served as president of the

Clay Mathematics Institute.



ICIAM Board Meeting Held in Beijing

by LI WANG

The ICIAM Board Meeting was held in Beijing on May 11. More than 40 delegates from 16 countries attended the meeting. Issues decided in the meeting included the ICIAM bylaws amendment, the host country for the next ICIAM Congress, and the ICIAM president-elect election. As the Congress Director of ICIAM 2015, Prof. Lei Guo, gave a presentation about the preparation progress on ICIAM 2015. Prof. Zhi-Ming Ma, Chair of

the Scientific Program Committee, proposed a preliminary list of invited speakers which were approved by the board meeting. In addition, the meeting was preceded by a one-day workshop held on May 10. Ten presentations focussing on industrial and applied mathematics were given by the board members. The secretariat of ICIAM2015 is responsible for the local organization of the meeting. (May 15, 2013)



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IPDPS 2014 PRELIMINARY CALL FOR PARTICIPATION

The 28th IEEE-IPDPS will be held in Phoenix at the Arizona Grand Resort, an all-suites family-friendly resort and meeting place. Phoenix has an international airport and is the hub for several US airlines. It is only a six hour drive from Los Angeles and Las Vegas and the starting point for one day tours of the Grand Canyon as well as other historic communities in the area. Visit the IPDPS Website at www.ipdps.org for more information.

IPDPS 2014 CALL FOR PAPERS

SCOPE: Authors are invited to submit manuscripts that present original unpublished research in all areas of parallel and distributed processing, including the development of experimental or commercial systems. Work focusing on emerging technologies is especially welcome. Topics of interest include, but are not limited to:

- Parallel and distributed algorithms, focusing on topics such as: numerical, combinatorial, and data-intensive parallel algorithms, scalability of algorithms and data structures for parallel and distributed systems, communication and synchronization protocols, network algorithms, scheduling, and load balancing.
- Applications of parallel and distributed computing, including computational and data-enabled science and engineering, big data applications, parallel crowd sourcing, large-scale social network analysis, management of big data, cloud and grid computing, scientific and biomedical applications, and mobile computing. Papers focusing on applications using novel commercial or research architectures, big data approaches, or discussing scalability toward the exascale level are encouraged.
- Parallel and distributed architectures, including architectures for instruction-level and thread-level parallelism; petascale and exascale systems designs; novel big data architectures; special-purpose architectures, including graphics processors, signal processors, network processors, media accelerators, and other special purpose processors and accelerators; impact of technology on architecture; network and interconnect architectures; parallel I/O and storage systems; architecture of the memory hierarchy; power-efficient and green computing architectures; dependable architectures; and performance modeling and evaluation.
- Parallel and distributed software, including parallel and multicore programming languages and compilers, runtime systems, operating systems, resource management including green computing, middleware for grids, clouds, and data centers, libraries, performance modeling and evaluation, parallel programming paradigms, and programming environments and tools. Papers focusing on novel software systems for big data and exascale systems are encouraged.

BEST PAPERS AWARDS: The program committee will nominate papers for recognition in several categories including the four conference topic areas and will consider other paper attributes that merit recognition from the conference. The four top best papers will be selected for presentation and the others will receive honorable mention in the conference program.

WHAT/WHERE TO SUBMIT: Submitted manuscripts may not exceed ten (10) single-spaced double-column pages using 10-point size font on 8.5x11 inch pages (IEEE conference style), including figures, tables, and references. See IPDPS Website for details. IPDPS will again require submission of abstracts and registration of papers one week before the paper submission deadline without any late exceptions.

REVIEW OF MANUSCRIPTS: All submitted manuscripts will be reviewed. Submissions will be judged on correctness, originality, technical strength, significance, quality of presentation, and interest and relevance to the conference scope. Submitted papers should NOT have appeared in or be under consideration for another conference, workshop or journal. Abstracts are due October 11, 2013, and **full manuscripts must be received by October 18, 2013**. This is a final, hard deadline; to ensure fairness, no extensions will be given. Notification of final decisions will be mailed by December 09, 2013, and camera-ready papers will be due February 01, 2014. Questions may be sent to PC2014@ipdps.org.

IMPORTANT DATES

•August 01, 2013	Proposals for new workshops due
•October 11, 2013	Abstracts due
•October 18, 2013	Submission deadline
•December 09, 2013	Author notification
•February 01, 2014	Camera ready due

IPDPS 2014 CALL FOR NEW WORKSHOPS

IPDPS workshops, held on the first and last days of the symposium, provide attendees an opportunity to explore special topics. For more information on organizing a new workshop, contact the Workshops Chair (workshops@ipdps.org) **before August 1, 2013**.

ENHANCED STUDENT AUTHOR PROGRAM 2014

All student authors at IPDPS 2014 will also have the opportunity to present a poster and participate in the TCPP-sponsored mentoring program. Deadlines for PhD Forum poster proposals and mentoring program enrollment to will be **after January 1, 2014**.

A Press Release from TWAS



In April, TWAS (The World Academy of Sciences) announced a new and very prestigious prize in science, the TWAS-Lenovo Science Prize. This prize will be given each year in one of four scientific disciplines; the prize in mathematics will be awarded in 2015. Here is the original announcement of the program.

Lenovo is a USD30-billion personal technology company, and one of the top two PC makers globally, serving customers in more than 160 countries. Dedicated to building exceptionally engineered PCs and mobile internet devices, Lenovo's business is built on product innovation, a highly efficient global supply chain and strong strategic execution.

The rapid growth Lenovo has recently experienced in emerging markets has prompted the company to partner with TWAS to launch a high-level prize to give international recognition and visibility to individual scientists in the developing world for their outstanding scientific achievements.



The TWAS-Lenovo Science Prize will carry a mone-

tary award of USD100,000 provided by Lenovo, as well as a medal and a certificate highlighting the recipient's major contributions to science. The prize will be presented to the recipient at a special ceremony arranged by TWAS.

Field. During the first four-year cycle (2013-2016), the prize subject will focus on the basic sciences, with the specific subject area changing each year: physics and astronomy (2013), biological sciences (2014), **mathematics (2015)** and chemical sciences (2016).

Nominations. Nominations are invited from TWAS members, selected individuals, as well as from science academies, national research councils, universities and scientific institutions. Nominations of women scientists are particularly encouraged. Self-nominations will not be accepted.

Eligibility. Candidates must be nationals of a developing country and must have lived and worked in a developing country for the last 10 years. The prizes will only be awarded to individuals for scientific research of outstanding international merit carried out at institutions in developing countries.

Evaluation. The evaluation and selection will be carried out by an authoritative international jury chaired by the TWAS president and a representative from Lenovo. Jury members and previous winners of the Trieste Science Prize (also administered by TWAS) will not be eligible for the TWAS-Lenovo Science Prize.

For further information please see twas.ictp.it/prog/prizes/prizes/twas-lenovo-science-prize

Subscribing to the ICIAM Newsletter

The ICIAM Newsletter will appear quarterly, in electronic form, in January, April, July and October. Issues will be posted on the ICIAM Web Page at www.iciam.org/News. If you would like to be notified by e-mail when a new is-

sue 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.

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

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
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CSIAM (China Society for Industrial and Applied Mathematics): Pingwen Zhang and Ya-xiang Yuan
ECMI (European Consortium for Mathematics in Industry): Michael Günther
ESMTB (European Society for Mathematical and Theoretical Biology): Vincenzo Capasso
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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
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AMS (American Mathematical Society): Don McClure
AWM (Association for Women in Mathematics): Jill Pipher
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The current officers of ICIAM

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ICIAM 2015



The 8th International Congress on

Industrial and Applied Mathematics

August 10-14, 2015, Beijing, China

