

## IMU-Net 82: May 2017

A Bimonthly Email Newsletter from the International Mathematical Union

Editor: Martin Raussen, Aalborg University, Denmark

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#### 1. EDITORIAL: EPISCIENCES – A FREE PUBLISHING PLATFORM FOR OPEN ARCHIVE OVERLAY JOURNALS

"Episciences" (<https://www.episciences.org/>) is a project developed by the Centre pour la Communication Scientifique Directe (CCSD), located at Lyon University, in collaboration with [INRIA](#) and [Institut Fourier Grenoble](#). Its aim is to provide a free and open access publishing platform that makes it as easy as possible to host, run or create open archive overlay journals based on [arXiv](#) or [HAL](#). The latter is an e-service hosted by CCSD that incorporates a permanent bidirectional interconnection with arXiv.

The journals hosted by Episciences, called epijournals, can be either new publications or already existing journals that accept to operate in an open access mode. Episciences actually started around mid-2015, and now includes 5 epijournals in computer science, 2 epijournals in mathematics and 3 journals in social sciences, with many more to come. The platform maintains automatically a website for each registered epijournal, with a large variation of possible styles and internal structures. It also offers a sophisticated support for generating e-mail letters, in the form of templates that can be personalized according to the various editorial events. A feature that can save a lot of time is the possibility to open a direct anonymous communication channel between the authors and the referees. If a journal has no financial or staff support to take care of typesetting issues, a possibility is to enforce the use of normalized (La)TeX styles along with the demand that authors or their institutes deliver a professional typesetting quality.

The editorial management policy can be extremely flexible. In particular, it can follow the standard process that is nowadays common to more traditional scientific journals. Authors first make their articles available on arXiv or HAL, and then submit their work by providing the ID of their e-print to a specified epijournal of their choice. At this point, the corresponding editorial board handles the submission in the usual way, appointing referees, and deciding to publish - or not - when the report is received. If the article is accepted after suitable corrections have been made, it is subsequently listed on the web page of the journal as a link to the actual file, the final version of which is sent back to arXiv or HAL. Other possibilities could of course be envisioned for the scientific activity of editorial boards hosted by Episciences, such as producing reviews or comments about papers published in the literature.

In each discipline, Episciences is to be supervised by a dedicated "Epicommittee", the role of which is to pay attention to ethics and quality issues. In mathematics, an "epi-math" committee has been created quite early in 2013; it is the authority to which new epijournal applications should be addressed.

Jean-Pierre Demailly

Institut Fourier, Université Grenoble Alpes and Académie des Sciences de Paris

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## 2. LUDVIG FADDEEV (1934 – 2017)

[Ludvig Faddeev](#), eminent Russian mathematical physicist, passed away on 26 February 2017. He is famous in particular for his contributions to the quantum mechanical three-body problem and for his work on the quantization of non-abelian gauge field theories. He was certainly one of the few scientists who effectively bridged the gap between mathematics and physics.

Ludvig Faddeev served IMU for 12 years, first as vice-president in 1983-1986, then as president in 1987-1990 and past-president in 1991-1994. His contribution to IMU was as exceptional as his scientific career. As president, he worked tirelessly on improving frameworks for cooperation between mathematicians from all regions of the world; moreover, good relations to neighboring sciences were important on his agenda. Very recently, he was deeply involved in the Russian bid for organizing ICM 2022 in St. Petersburg.

For many years, Faddeev was head of the St. Petersburg Department of the Steklov Institute of Mathematic of the Russian Academy of Sciences; he is the founder of the Euler International Mathematical Institute in St. Petersburg. Among his many rewards, the Henri Poincaré Prize (2006) and the Shaw Prize (2008) deserve particular attention.

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## 3. ICM 2018

The ICM 2018 Organizing Committee is launching the Open Arms program to support the participation of mathematicians from developing countries. Open Arms will grant 550 travel awards (200 of them for mathematicians from Latin American countries other than Brazil) and is sponsored by [IMPA](#) - Instituto de Matemática Pura e Aplicada and [SBM](#)-Sociedade Brasileira de Matemática alongside a generous offer of 50 travel grants from IMU -International Mathematical Union. Applications will be received from April 15 to July 20, 2017. For more information, please check <http://www.icm2018.org/portal/en/travel-grants-program> .

The latest ICM Newsletter (News 05: <http://www.icm2018.org/portal/en/news> ) contains moreover information on accommodation in Rio de Janeiro during the Congress (<http://www.icm2018.org/portal/en/news27> ), the submission of abstracts (<http://www.icm2018.org/portal/en/news23> ) and the mascot of ICM 2018 (<http://www.icm2018.org/portal/en/news26> ).

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#### 4. ICSU GRANTS TO PROJECTS WITH IMU PARTICIPATION

In 2016, [ICSU](#) (International Council for Science) announced a new grant programme to address long-standing priorities for ICSU members in developing science education, outreach, and public engagement activities, and to mobilize resources for international scientific collaboration. The IMU led one application and supported two others. Three grants of 300,000 Euros (100,000 Euros per year over the three years 2017-2019) were awarded. Of these winning projects, the IMU won one and is involved in another.

The IMU is leading the project "[A Global Approach to the Gender Gap in Mathematical and Natural Sciences: How to Measure It, How to Reduce It?](#)" Eight organizations are participating: six ICSU members (International Union of Pure and Applied Chemistry, International Union of Pure and Applied Physics, International Astronomical Union, International Union of Biological Sciences, International Council for Industrial and Applied Mathematics and International Union for History and Philosophy of Science and Technology), UNESCO, and Gender in Science, Innovation, Technology and Engineering. The coordinator of the project is Marie-Francoise Roy, chair of the IMU Committee for Women in Mathematics.

The motivation for the project comes from the persistence of a significant gender gap at all levels between women and men. Barriers to achievement by women persist, especially in developing countries, in spite of the fact that mathematical and natural sciences have long and honorable traditions of participation by highly creative female contributors.

The project will produce sound data, including trends (since the situation for women continues to change around the world, with some negative developments), to support the choices of interventions that ICSU and member unions can feasibly undertake. It will provide evidence for informed decisions and will provide easy access to materials proven to be useful in encouraging girls and young women to study and work in these fields. Regional information about careers, jobs and salaries will be included.

A Joint Global Survey is planned to reach 45,000 respondents in more than 130 countries using at least 10 languages, while a Joint study on publication patterns will analyze comprehensive metadata sources corresponding to publications of more than 500,000 scientists since 1970. Contrasts and common ground across regions and cultures, less developed and highly developed countries, men and women, mathematical and natural sciences, will be highlighted.

IMU also supported the successful application: "TROP-ICSU: Trans-disciplinary Research Oriented Pedagogy for Improving Climate Studies and Understanding" presented by the International Union of Biological Sciences ([IUBS](#)): <http://www.icsu.org/what-we-do/projects-activities/icsu-grants-programme/IUBSINQUA.pdf>. The interdisciplinary project consists in developing and testing education, outreach and public engagement modules in different parts of the world. Christiane Rousseau is the IMU representative on this project. IMAGINARY is also involved with its Open Source platform for exhibits.

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#### 5. YVES MEYER RECEIVES THE ABEL PRIZE 2017

The Norwegian Academy of Science and Letters has decided to award the [Abel Prize](#) for 2017 to Yves Meyer of the École normale supérieure Paris-Saclay, France "for his pivotal role in the

development of the mathematical theory of wavelets. Yves Meyer was the visionary leader in the modern development of this theory, at the intersection of mathematics, information technology and computational science". Yves Meyer will receive the Abel Prize from His Majesty King Harald V at an award ceremony in Oslo on 23 May.

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## 6. ICIAM OLGA TAUSSKY-TODD LECTURE 2019: CALL FOR NOMINATIONS

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

The officers and board of ICIAM now call for nominations for the Olga Taussky-Todd Lecture, to be given at the ICIAM 2019 congress, to take place in Valencia (Spain) from July 15 to July 19, 2019. [Nominations](https://iciamprizes.org/) should be made electronically through the website <https://iciamprizes.org/>. The deadline for nominations is September 30th, 2017. Additional information: <http://www.iciam.org/news/17/3/17/olga-taussky-todd-lecture-2019-call-nominations>

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