

ISAAC - Small Newsletter

Conferences:

12th ISAAC congress

The 12th ISAAC congress took place at the University of Aveiro from July 29 until August 2. With more than 500 participants from 64 countries who listened to 433 talks in 23 sessions it was one of the largest international conferences in Mathematics in Portugal and one of the largest ISAAC congresses. Plenary speakers were Afonso Bandeira (Courant Institute, NYU, USA), Alexander Grigoryan (Universität Bielefeld, Germany), Karlheinz Gröchenig (Universität Wien, Austria), Håkan Hedenmalm (The Royal Institute of Technology, Sweden), André Neves (University of Chicago, USA), Roman Novikov (École Polytechnique, France), Tohru Ozawa (Waseda University, Japan), Samuli Siltanen (University of Helsinki, Finland), and Durbudkhan Suragan (Nazarbayev University, Kazakhstan). They provided a broad overview on recent developments. During the congress several participants also decided to join ISAAC. It is particularly noteworthy that many of them are rather young mathematicians still in their twenties and thirties.

More details can be found at
<http://isaac2019.web.ua.pt/>



18th Harmonic Analysis and PDE International conference

The 18th Harmonic Analysis and PDE International conference 2019 took place at the Holon Institute of Technology from May 26 until May 31, 2019. Being founded by Prof. Eduard Yakubov, President of HIT, 18 years ago these conferences have already a long tradition and provide a forum for discussions and exchange of new ideas, perspectives and recent developments in the broad field of Modern Analysis. Principal topics for this years conference were Complex and Harmonic Analysis, Partial Differential Equation, Operator Theory and Nonlinear Analysis, and Quasiconformal Mappings and Geometry.

This year's conference was also held in honor of Vladimir Maz'ya, who strongly influenced the development of mathematical analysis and the theory of partial differential equations and also part of the opening ceremonies of HIT's 50th Jubilee.

For details see

https://www.hit.ac.il/en/news/news-and-stories/Harmonic_Analysis_and_PDE



International Workshop on Harmonic Analysis and Operator Theory

The International Workshop on Harmonic Analysis and Operator Theory (WHO 2019) was held from August, 26 until August, 29, 2019 at Istanbul University, Istanbul, Turkey. The workshop was one of the first meetings bringing together mathematicians working in both fields. It counted with 61 participants and 46 speakers from 18 countries. Principal organizers were Serap Oztop, H. Turgay Kaptanoglu, and Aurelian Gheondea. Funding was provided by ISAAC, Istanbul University, Scientific and Technological Research Council of Turkey, and the Turkish Mathematical Society. ISAAC was the first institution that provided funding, and its early support made us to go ahead with the whole project.

The workshop took place the main campus of Istanbul University and its congress center in the heart of historical part of Istanbul. Many important touristic attractions are withing walking distance, and the participants had a chance to visit them in one free afternoon in the four days of the workshop. In the evening, interested participants joined in a boat tour with dinner along the Bosphorus.

More details can be found at <https://who.istanbul.edu.tr/>

Owing to the success of the workshop the organisers plan to continue with these workshops in two-year intervals.



ISAAC award 2019:

During the 12th ISAAC congress the ISAAC AWARD 2019 was shared between two outstanding mathematicians, Afonso Bandeira and Fábio Pusateri. During the conference both awardees decided to join ISAAC.

Afonso Bandeira

Afonso Bandeira is a Portuguese born Mathematician. He obtained his Ph.D. in Mathematics from Princeton University in 2015, with the thesis “Convex relaxations for certain inverse problems on graphs”. He worked at the Massachusetts Institute of Technology from July 2015 to June 2016 and at the Courant Institute from 2016 to March 2019. Currently, he is a Professor at the ETH Zürich. His contributions to mathematics cover a broad range starting from classic analysis to applications in inverse problems, graphs theory, random matrices, optimisation, probability theory, statistical physics, etc. Among his major contributions are applications of methods from analysis to the theory of neural networks and deep learning.

His publication list is distributed among top journals in both applied and pure mathematics, statistics, information theory and data science, including journals like Communications on Pure and Applied Mathematics, Applied and Computational Harmonic Analysis, and Annals of Probability.

His papers have high impact, and many are already within the most cited in the corresponding fields. In a unique combination of extraordinary gifts, work discipline and monumental generosity, Afonso shares his talent, his skills, his wise, his contacts, and, perhaps most notably, his passion for science, with those who collaborate with him. Not only he is a first-rate mathematician, but he is also a first-rate human being.



Caption: Afonso Bandeira (right) together with the Rector of the University of Aveiro

Fábio Pusateri



Caption: Fábio Pusateri (left) together with Fabrizio Colombo

Fábio Pusateri is an Italian born mathematician who obtained his PhD at the Courant Institute (NYU) in 2011 where he studied nonlinear evolution equations of hyperbolic and dispersive type. Part of his thesis treats interface problems between two fluids which in case of water waves is an old problem which finds its roots in a classical work of Arnold which appeared 1966 in Annales de l'Institut Fourier. From 2011 until 2018 he worked at Princeton University. Since then he is Assistant Professor at the University of Toronto. Fábio Pusateri made major contributions to the study of the water wave problems with and without surface tension and with/without vorticity in 2D and 3D. In particular, he proved remarkable results like the first global smooth, nontrivial solutions of gravity water waves systems in 2D. His study of the existence of global solutions to initial value problems for water waves in 3D and the long-time regularity for the gravity-capillary water-wave model in 3D were published in a two-part paper which appeared in Acta Mathematica in 2017. Additionally, he published in many first class journals like Inventiones Mathematicae, Advances in Mathematics, Geometric and Functional Analysis, Memoirs of American Mathematical Society, Journal of Functional Analysis, and Annales Institute Henri Poincaré. We believe he has a bright future ahead of him and we wish him to continue to make major contributions in Analysis.

Conferences and Intensive courses in 2020:

- International conference on Hypercomplex Analysis in Mathematics and in the Applied Sciences, February 19-21, 2020, Weimar, Germany, <https://www.uni-weimar.de/de/bauingenieurwesen/professuren/angewandte-mathematik/tagungen/hams2020/>
- 24th European Intensive Course on Complex Analysis, its Generalizations and Applications, March 16-19, 2020, Universidade de Aveiro, Portugal <http://sweet.ua.pt/pceres/complex2020/>

- 20th Annual Workshop on Applications and Generalizations of Complex Analysis, March 20-21, 2020, Universidade de Aveiro, Portugal
<http://sweet.ua.pt/pceres/complex2020/Webpage/Workshop.html>
- Modern Methods, Problems and Applications of Operator Theory and Harmonic Analysis - OTHA-2020, April 26 - May 01, 2020, Rostov-on-Don, Russia
<http://otha.sfedu.ru/conf2020/>
- Harmonic Analysis and related topics - celebrating Michael Lacey's birthday, May 25-29, 2020, Centre de Recerca Matemàtica, Barcelona, Catalunya, Spain,
<http://people.math.gatech.edu/~glivshyts6/Lacey-conference.html>
- Applied Harmonic Analysis and Friends, Strobl, Austria, June 1st - 5th 2020
<https://www.univie.ac.at/projektservice-mathematik/e/?event=strobl20>
- 12th International Conference on Clifford Algebras and Their Applications in Mathematical Physics (ICCA12), August 3 - 7, 2020, University of Science and Technology of China (USTC)
<http://www.smartchair.org/hp/ICCA2020/>
- International Conference on Generalized Functions GF2020, August 31 - September 4, 2020, Ghent University, Belgium