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Newsletter of the International Society of Analysis, Applications and Computation
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Dear ISAAC members,

It has been an eventful year for ISAAC. The reorganization was conducted in autumn 2017 and based on this, an independent bank account was arranged. The organization has also received many new members. We are of course more than happy for this and welcome all of you to ISAAC.

Right now preparations for the next congress are in full progress. The congress will take place in Aveiro, Portugal. Already now you can get an insight into this (see the link below).

This newsletter contains among others information about meetings supported by ISAAC during spring semester 2018, new members (until July 2018) and the next congress. Attached to the letter, there is supplementary material on detailed information of the new members.

Joachim Toft (vice-president of ISAAC)

To the memory of Professor Rudolf Gorenflo (1930 – 2017)

On October 20, 2017, Rudolf Gorenflo, emeritus professor of the Free University Berlin and a member of ISAAC since 2002 passed away. Our society loses one of the active members, a well-known specialist in Fractional Calculus and its Applications.

Rudolf Gorenflo was born on July 31, 1930, in Friedrichstal near Karlsruhe. He studied Mathematics and Physics at the Technical University of Karlsruhe (1950-1956). Under the guidance of Professor Hans Wittich he has chosen the theory of analytic functions as his field of research for his diploma (1956) and degree of Doctor rerum naturalium (1960). During a two-year stay at Standard Elektrik Lorenz (SEL) in Stuttgart (1961-1962) he got to know modern electronic computer systems and the young field of computer science. During the years 1962 - 1970 he researched at the Max Planck Institute for Plasma Physics in Garching at the interface of mathematics and physics with the special use of computer simulations. He completed his habilitation in mathematics in 1970 at the RWTH Aachen, where he was also appointed professor in a timely manner and during the years 1971 - 1973, except for a guest at the University of Heidelberg,

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worked. In 1973, Rudolf Gorenflo was appointed C4 professor at the Free University of Berlin, where he served until his retirement in 1998 and beyond.

His fields of research comprise complex analysis, random numbers and Monte-Carlo simulation, integral transforms and special functions, fractional calculus, diffusion processes (analysis, discretization, stochastics, and simulation), and recent specialization distributed order fractional diffusion processes. A few applications may be mentioned: simulation of queuing systems, simulation of particle flights in rarefied gases, evaluation of spectroscopic measurements, calculation of magnetic fields for toroidal devices of plasma containment in controlled nuclear fusion.

He was really the Man of the World. Many people from different countries got his support and collaborated with him during a long time. He liked to travel and participated in conferences in many countries. Around 1990 R. Gorenflo started his final career as a specialist in fractional calculus which was highly stimulated through friendship and collaboration with Francesco Mainardi. This started with the conference hold in Summer of 1994 in Bordeaux. As their field of highest common interest they chose fractional relaxation and diffusion with related stochastic processes. Jointly with several coauthors, including Mainardi's students, they contributed substantially to the development and applications of fractional calculus and propagated their results in many international conferences. Their joint work culminated in their joint book with the late Prof. Anatoly Kilbas and Prof. Sergei Rogosin from Minsk on

Mittag-Leffler Functions: Related Topics and Applications. Theory and Applications. Springer-Verlag 2014.

The book was quite successful and the authors decided to prepare the second edition discussing recently in Berlin with Professor Gorenflo. He made several important remarks for improving the edition…

Rudolf Gorenflo remains in the warm memory of many people meeting him during his long and successful life.

Author: *Sergei Rogosin with the support of Yuri Luchko and Francesco Mainardi*

In the sources mentioned below everybody can find further information about the life and research by Rudolf Gorenflo.

[1] Homepage of Rudolf Gorenflo at the FU Berlin,

[2] Obituary of the Berlin Mathematical Society in
http://www.math.berlin/nachrufe/rudolf-gorenflo.html
http://page.mi.fu-berlin.de/gorenflo/index.html (http://page.mi.fu-berlin.de/gorenflo/index.html)

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[3] *Professor Rudolf Gorenflo and his contribution to fractional calculus* by Yuri
Luchko, Francesco Mainardi und Sergei Rogosin, in: Fractional Calculus and Applied
Analysis, 14, nr. 1 (2011), P. 3 – 18
(https://www.degruyter.com/downloadpdf/j/fca.2011.14.issue-1/s13540-011-0002-
z/s13540-011-0002-z.pdf)

[4] *Professor Rudolf Gorenflo – Citation for His 85th Birthday*, by Francesco Mainardi,
in: New Trends in Analysis and Interdisciplinary Applications – Selected
Contributions of the 10 ISAAC Congress, Macau 2015, Eds.: Pei Dang, Min Ku, Tao
Qian, Luigi G. Rodino, Springer – Birkhäuser, 2017, S. XV – XVIII

[5] Photo gallery http://www.fracalmo.org/gallery/index.htm

Meetings since January 2018 supported by ISAAC:

Conference "PDE in Bari", 1-2 February 2018
"Celebrating the 60th birthday of Enrico Jannelli"

The conference "PDE in Bari" held in the occasion of the 60th birthday of Enrico Jannelli, at University of Bari, on 1-2 February, 2018.

Eight invited speakers participated at the conference, each one delivering a talk of 45 minutes about recent research topics in partial differential equations:

- Piermarco Cannarsa (University of Roma "Tor Vergata")
  Control of degenerate parabolic operators: old and new
- Massimo Cicognani (University of Bologna)
  Equazioni di p-evoluzione con caratteristiche reali
- Piero D'Ancona (University of Roma "La Sapienza")
  Esistenza globale e scattering per l'equazione di Dirac non lineare con un potenziale elettromagnetico grande
- Teresa D'Aprile (University of Roma "Tor Vergata")
  Il problema della curvatura Gaussiana prescritta su superfici con singolarità coniche
- Luca Fanelli (University of Roma "La Sapienza")
  About the Uncertainty Principle
- Antonio Leaci (University of Salento)
  Fractional Sobolev Spaces and Functions of Bounded Variation in One Variable
- Sergio Solimini (Politecnico of Bari)
  Il Profile Decomposition Theorem: risultati vecchi e nuovi
- Ferruccio Colombini (University of Pisa)
  Linear second order Hyperbolic Equations: strictly Hyperbolic with nonregular coefficients, or weakly Hyperbolic

The conference has been attended by many local professors, Ph.D and Master students, not only from the field of partial differential equations and mathematical analysis, and some participants from other universities in Italy.

The outcome of the conference has been positive from the point of view of sharing different perspectives on modern topics on PDEs, and for giving the chance to strengthen the scientific relations between several participants and speakers.

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Some of the Ph.D and Master students had the chance to discuss about possible future collaborations with the speakers.

The opening address has been delivered by the prorector Angelo Vacca.
The conference has been supported by INdAM – GNAMPA and ISAAC.
The web of the conference is https://sites.google.com/view/pdeinbari

Author: *Prof. Marcello D'Abbicco (Bari)*

Prof. Enrico
Jannelli,
University of Bari

Modern Methods, Problems and Applications of Operator Theory and Harmonic Analysis-VIII (OTHA 2018)

From April 22 to 27, the ISAAC-sponsored OTHA 2018 conference took place in Rostov-on-Don, Russia (http://otha.sfedu.ru/).

The conference was well organized and very successful. It was hosted by the Southern Federal University and the Don State Technical University and partially supported by the Russian Foundation for Fundamental Research. There were more than 120 participants from many Russian universities, but also from numerous universities from abroad. Mathematicians from Armenia, Azerbaijan, Belarus, Canada, Colombia, Georgia, Germany, Greece, Hungary, Iran, Israel, Lithuania, Mexico, Poland, Portugal, Sweden, Syria, Turkey, UAE, USA, Uzbekistan and Yemen were present. The core of the conference program was formed by 28 plenary lectures given by leading experts in many areas of analysis: real analysis, complex analysis, functional analysis, harmonic analysis, approximation theory, theory of ordinary and partial differential equations,and finally, analysis in applications.

In recognition of her achievements in study and research, the young mathematician Dr. Elza Bakhtigareeva from the RUDN University in Moscow was awarded an ISAAC life membership. The award was presented during a lecture on ISAAC by its President Prof. M. Reissig. The selected papers from participants of the conference will compose a special volume in the book series Springer Proceedings in Mathematics & Statistics in the frame of the agreement between the ISAAC and Springer publishing house. Plenary lectures were videotaped and will be uploaded on the website of the conference after necessary adjustments.

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Authors:

*Prof. A.N. Karapetyants (Chairman of
OTHA 2018) and*
*Prof. V.I. Burenkov (Vice president of
ISAAC from 2003 to 2013)*

The next (12th) ISAAC congress in Aveiro:

We are happy to invite you to attend the next ISAAC International Congress in Portugal. Participants are welcome to contribute to special sessions, devoted to recent results in their specific fields of interest. As in precedent ISAAC meetings, this is an opportunity to meet new and old colleagues, to continue or start international collaborations, and to broaden their scientific interests.

Looking forward to meet you at Aveiro, Portugal.

Information is available at the website http://isaac2019.web.ua.pt/

Important informations:

1. Plenary speakers:

Afonso Bandeira - Courant Institute, NYU, USA

Alexander Grigoryan - Universität Bielefeld, Bielefeld, Germany

Karlheinz Groechenig - Universität Wien, Wien, Austria

Håkan Hedenmalm - The Royal Institute of Technology, Sweden

André Neves - University of Chicago, USA

Roman Novikov - Centre de Mathématiques Appliquées, École Polytechnique, France

Tohru Ozawa - Waseda University, Tokyo, Japan

Samuli Siltanen - University of Helsinki, Finland

Durvudkhan Suragan - Nazarbayev University, Kazakhstan

2. Preliminary list of sessions and their organizers:

• Applications of dynamical systems theory in biology (Torsten Lindström)

• Complex Analysis and Partial Differential Equations (Okay Celebi, Sergei Rogosin)

• Complex Geometry (Alexander Schmitt)

• Complex Variables and Potential Theory (Tahir Aliyev Azeroglu, Massimo Lanza de Cristoforis, Anatoly Golberg, Sergiy Plaksa)

• Fixed Point Theory, Ulam stability and related applications (Erdal Karapinar, Janusz Brzdek)

• Function Spaces and Applications (Alexandre Almeida, António Caetano, Stefan Samko)

• Generalized Functions and Applications (Michael Kunzinger, Michael Oberguggenberger, Stefan Pilipovic)

• Harmonic Analysis and PDEs (Vladimir Georgiev, Tohru Ozawa, Michael Ruzhansky, Jens Wirth)

• Integral transforms and reproducing kernels (Zouhaïr Mouayn)

• Pseudo differential operators (M. W. Wong)

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• Quaternionic and Clifford Analysis (Swanhild Bernstein, Uwe Kähler, Irene Sabadini, Franciscus Sommen)

• Recent progress in evolution equations (Marcello D'Abbicco, Marcelo Rempel Ebert)

• Theory and applications of boundary-domain integral and pseudodifferential operators (Sergey Mikhailov, David Natroshvili)

• Time-frequency Analysis and Acoustical Modelling (Luis Daniel Abreu, Peter Balazs)

• Wavelet theory and its related topics (Keiko Fujita, Akira Morimoto)

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New members since the last ISAAC congress in Växjö and until July 2018:

Abdeljawad, Ahmed
Ameur, Yacin
Anh, Dao Tuan
Aslan, Halit Sevki
Atanasova, Sanja
Bakhtigareeva, Elza
Barrera-Figueroa, Victor
Cappiello Marco
Chen, Wenhui
Dalarsson, Mariana
da Luz, Cleverson Roberto
Djaouti, Abdelhamid Mohammed
Fujiwara, Kazumasa
Hytönen, Tuomas
Karapetyan, Garnik
Karapetyants, Mikhail
Kubo, Akisato
Lenells, Jonatan

Loiudice, Annunziata
Louhichi, Issam
Lucente, Sandra
Nunes do Nascimento Wanderley
Olofsson, Anders
Palmieri, Alessandro
Picon, Tiago Henrique
Pham, Trieu Duong
Said-Houari, Belkacem
Taskinen, Jari
Sandikci, Ayse
Soufyane, Abdelaziz
Stratis, Ioannis
Tuomela, Yakku
Velinov, Daniel
Wakasugi, Yuta
Wittsten, Jens
Yoshikawa, Shuji

Home page and postal address for ISAAC:

http://www.isaacmath.org/home/

ISAAC
Fakulty of Technology, building B
Linnæus University
35195 Växjö
Sweden