EDITORIAL

FCAA RELATED NEWS, EVENTS AND BOOKS (FCAA–VOLUME 22–3–2019)

Virginia Kiryakova

Dear readers,

in the Editorial Notes we announce news for our journal, anniversaries, information on international meetings, events, new books, etc. related to the *FCAA* (“Fractional Calculus and Applied Analysis”) areas. All these Notes are published online with free open access.

1. Reports on Some FC Related Meetings in 2019

**“2019 International Conference on
Fractional Calculus Theory and Applications”
(25-26 April 2019, INSA Centre Val de Loire, Bourges, France)**

**Website: [http://www.lestudium-ias.com/event/
2019-international-conference-fractional-calculus-theory
-and-applications-icfcta-2019](http://www.lestudium-ias.com/event/2019-international-conference-fractional-calculus-theory-and-applications-icfcta-2019)**

Prof. Driss Boutat, Prof. Yiming Chen and Dr. Da-Yan Liu organized “2019 International Conference on Fractional Calculus Theory and Applications” (ICFCTA 2019) from April 25 to April 26, in Bourges, France. The conference was co-sponsored by LE STUDIUM Loire Valley Institute for Advanced Studies (France), National Institute of Applied Sciences (INSA) of Centre Val de Loire (France), Yanshan University (China), and the Technical Committee on Fractional Order Systems and Control of Chinese Association of Automation. This conference also belongs to the series of workshops called “Fractional Calculus Day” organized by Prof. Igor Podlubny together with Prof. YangQuan Chen from 2007 in different universities around the world. In 2019, the “Fractional Calculus Day” has been hold in INSA Centre Val de Loire, France.

This conference provided a platform for researchers in fractional calculus theory and applications to exchange results and advanced technology.

There were more than 40 participants from 11 countries attended the

conference: Australia, China, France, Germany, Oman, Poland, Portugal, Saudi Arabia, Slovakia, Ukraine, USA. The conference contained 6 invited plenary lectures:

- Prof. Igor Podlubny - Modeling of real materials: time and structure
- Prof. Manuel D. Ortigueira - Fractional derivatives: What are? Which choose?
- Prof. Peng Shi - Analysis and design on fractional-order descriptor systems
- Prof. YangQuan Chen - MAD (modeling, analysis and design) about variabilities: when fractional calculus meets big data and machine learning
- Prof. Pierre Melchior and Dr Stéphane Victor - From system identification to optimal and robust control of fractional systems
- Prof. Dingyu Xue - A tutorial on a universal framework for fractional-order systems simulation

Moreover, 17 oral talks were given and 12 research papers were selected for communication between participants. More details about this conference are available at:

<http://www.lestudium-ias.com/event/2019-international-conference-fractional-calculus-theory-and-applications-icfcta-2019>.

**AMEE 2019: 45th International Conference
“Applications of Mathematics in Engineering and Economics”
(7-13 June 2019, Sozopol, Bulgaria)
Website: <http://amee.tu-sofia.bg/>**

In frames of the Conference, a **Special Session “Fractional Calculus, Special Functions and Applications”** was announced and organized by Prof. Virginia Kiryakova, IMI – BAS and Prof. Jordanka Paneva-Konovska, FAMI – TU Sofia:

The following talks on the topic were presented:

- N. Popivanov (Plenary talk): Pohozhaev identities and applications for semi-linear elliptic-hyperbolic equations and for fractional Laplacian; • S. Momani (Invited talk, Jordan): Tuning PID and fractional PID controllers using particle swarm optimization algorithm via ElKhazali’s approach; • D. Rajter-Ciric (Serbia): A note on stochastic fractional heat equation with variable coefficients; • S. Tersian: Homoclinic solutions for fractional differential equations via variational method; • V. Kiryakova: Special functions related to fractional differential operators and equations; • J. Paneva-Konovska: Multi-index Mittag-Leffler functions: Some integral and differential relations; • Y. Tsankov: Exact solution of spherical symmetric heat equation; • M. Petkova, A. Zahariev, etc.: About the Cauchy Problem for nonlinear fractional system with conformable derivatives and variable delays; • E. Bazhlekova: Analyticity of solution operators to space-time fractional evolution equations; • I. Bazhlekov: Fractional derivative model of biosurfactant production and distribution in multiphase fluid systems.

2. Calendar of Coming FC Related Meetings

**The 11th International Conference on
Non-Integer Order Calculus And Its Applications (RRNR 2019)
(September 12-13, 2019, Częstochowa, Poland)
Website: <http://im.pcz.pl/rrnr2019>**

This is a Second Announcement on the Conference to be held in the Częstochowa University of Technology, Poland. The tentative deadline for the abstract submission is June 30, 2019 (but please check with Organizers).

Selected papers, presented at the conference by one of the authors, after a careful reviewing process will be published (after the Conference) in the *Bulletin of the Polish Academy of Sciences: Technical Sciences* (BPAS:TS) (<http://www.czasopisma.pan.pl/bpas>), or in the *Journal of Applied Mathematics and Computational Mechanics* (<http://amcm.pcz.pl/>).

Note the metrics of BPAS:TS (JCR Impact Factor 2017 = 1.361) and that JAMCM is an Open Access Journal indexed in Emerging Sources Citation Index (ESCI) - Web of Science Core Collection.

Acceptance will be based on the following reviewing procedures:
https://www.editorialsystem.com/bpasts/journal/for_authors/,
 or http://amcm.pcz.pl/?id=for_authors.

Contacts: rrnr2019@wimii.pcz.pl

On behalf of the Organizing Committee, I would like to invite you to participate in this conference.

Tomasz Blaszczyk

3. New Books

Weihua Deng, Zhijiang Zhang, *High Accuracy Algorithm for the Differential Equations Governing Anomalous Diffusion (Algorithm and Models for Anomalous Diffusion)*. World Scientific; February 2019, 296 pp., ISBN: 978-981-3142-20-6 (hardcover), ISBN: 978-981-3142-22-0 (ebook).

Details: <https://www.worldscientific.com/worldscibooks/10.1142/10095>;
<https://doi.org/10.1142/10095>

Description: The aim of this book is to extend the application field of 'anomalous diffusion', and describe the newly built models and the simulation techniques to the models. The book first introduces 'anomalous diffusion' from the statistical physics point of view, then discusses the models characterizing anomalous diffusion and its applications, including the Fokker–Planck equation, the Feymann–Kac equations describing the functional distribution of the anomalous trajectories of the particles, and also the microscopic model — Langevin type equation. The second main part focuses on providing the high accuracy schemes for these kinds of models, and the corresponding convergence and stability analysis.

Contents: • Introduction; • Mathematical Models; • Numerical Methods for the Time Fractional Differential Equations; • High Order Finite Difference Methods for the Space Fractional PDEs; • Variation Numerical Method for the Space Fractional PDEs.

Readership: Graduate students and researchers in Numerical Analysis, Integral Equations, Partial Differential Equations, Statistical Physics, Computational Physics.

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