Fractional Calculus & Applied Analysis

An International Journal for Theory and Applications

VOLUME 23, NUMBER 4 (2020)

(Print) ISSN 1311-0454
(Electronic) ISSN 1314-2224

EDITORIAL

FCAA RELATED NEWS, EVENTS AND BOOKS (FCAA–VOLUME 23–4–2020)

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. Announces related to COST Action CA15225 “Fractional”

Training School “Qualitative theory of fractional-order systems” Budva, Montenegro. Oct. 1–5, 2020

Dear colleagues, after receiving the Grant Period extension approval (the end date is now April 2, 2021), a new period for the Training School (TS) taking place in Budva was set: October 1-5, 2020. All required information about the TS can be found here: <https://fractional-systems.eu/ts-2020/>.

The local organizer is Darko Mitrovic (darkom@ucg.ac.me). Please announce the event mainly among your PhD students to apply for Trainee via the Application form: <https://forms.gle/mM33JTCYKMP1pahv7>.

Compared to previous events, the COST Association newly defines “daily allowance” that covers the expenses for accommodation, meals and local transport. Only for long-distance travel invoices are needed to be uploaded in e-COST once finalizing the Travel Reimbursement Request. This holds both for Trainers and Trainees (i.e. there are no more COST Grants for Trainees).

For all financial and administrative details, list of invited trainers and their topics, deadlines, etc. see at the website.

**Call for Special Issue on
Fractional Calculus in Control and Modelling**

Dear colleagues, let me inform you that Riccardo Caponetto, MC member of our COST Action, is as Guest Editor organizing a special issue “Fractional Calculus in Control and Modelling” to be published in “*Fractal and Fractional*” (<https://www.mdpi.com/journal/fractalfract>), an open access Journal.

The deadline for manuscripts submission is 30 September 2020. For more details please visit the website: https://www.mdpi.com/journal/fractalfract/special_issues/Fract_Calculus_Control_Modelling.

If you are interested in contributing, please send to Riccardo Caponetto (riccardo.caponetto@unict.it) (and cc: Editor at Fractal and Fractional, fractalfract@mdpi.com) a short abstract or tentative title in advance for initial checking, and an expected submission date for our reference.

On behalf of Cost Action CA 15225,
Jaroslav Koton, ca15225-bounces@feec.vutbr.cz

2. New Books

Elina Shishkina, Sergei Sitnik, *Transmutations, Singular and Fractional Differential Equations with Applications to Mathematical Physics*. Ser. Mathematics in Science and Engineering, Academic Press / Elsevier (July 2020), 592 pp., p-ISBN 9780128197813, e-ISBN 9780128204078.

Details: <https://www.elsevier.com/books/transmutations-singular-and-fractional-differential-equations-with-applications-to-mathematical-physics/shishkina/978-0-12-819781-3>.

Annotation: The book is devoted to the so-called Transmutation Method that connects / transforms / transmutes the (unknown) solutions of difficult problems into (known or easier to be found) solutions to similar more simple ones. The book targets tools for differential and integral equations and systems and for many theoretical and applied problems in mathematics, mathematical physics, probability and statistics, applied computer science and numerical methods. In addition to being exposed to recent advances, readers learn to use transmutation methods not only as practical tools, but also as vehicles that deliver theoretical insights.

Key Features: – Presents the universal transmutation method as the most powerful for solving many problems in mathematics, mathematical physics, probability and statistics, applied computer science and numerical methods; – Combines mathematical rigor with an illuminating exposition

full of historical notes and fascinating details; – Enables researchers, lecturers and students to find material under the single “roof”.

Readership: Researchers, students working in the area of partial differential equations. Advanced undergraduate students, postgraduate students, researchers interested in new methods in differential equations and mathematical physics.

Table of Contents: – Introduction; Acknowledgement and thanks; – 1. Basic definitions and propositions; – 2. Basics of fractional calculus and fractional order differential equations; – 3. Essential of the transmutations; – 4. Weighted generalized functions generated by quadratic form; – 5. Buschman-Erdelyi integral and transmutation operators; – 6. Integral transforms compositions method for transmutations; – 7. Differential equations with Bessel operator; – 8. Applications of transmutations to the different problems; – 9. Fractional powers of Bessel operators; – 10. B-potentials theory; – 11. Fractional differential equations with singular coefficients; – Conclusion; – References

Ninghu Su, *Fractional Calculus for Hydrology, Soil Science and Geomechanics: An Introduction to Applications*. CRC Press (November 2020/ 2021), 340 pp., ISBN 9781351032421.

Details: <https://www.routledge.com/Fractional-Calculus-for-Hydrology-Soil-Science-and-Geomechanics-An-Introduction/Su/p/book/9781351032421>.

Annotation: This book is an unique integrated treatise, on the concepts of fractional calculus as models with applications in hydrology, soil science and geomechanics. The models are primarily fractional partial differential equations (fPDEs), and in limited cases, fractional differential equations (fDEs). It develops and applies relevant fPDEs and fDEs mainly to water flow and solute transport in porous media and overland, and in some cases, to concurrent flow and energy transfer. It is an integrated resource with theory and applications for those interested in hydrology, hydraulics and fluid mechanics. The self-contained book summaries the fundamentals for porous media and essential mathematics with extensive references supporting the development of the model and applications.

Table of Contents: See at the weblink above, and https://books.google.bg/books?id=i-XyDwAAQBAJ&printsec=frontcover&source=gbs_atb#v=onepage&q&f=false.

3. 80th Anniversary of Professor Hari Mohan Srivastava

The Honorary Editor in our journal “*Fract. Calc. Appl. Anal.*”, Prof. Srivastava is celebrating his 80th Anniversary. Born on 05 July 1940 in the Province of Uttar Pradesh in India, he began his university-level teaching career right after having received M.Sc. degree in 1959 at the age of 19 years. He earned his Ph.D. degree in 1965 while he was a full-time member of the teaching faculty at the Jai Narain Vyas University of Jodhpur in India (since 1963). Currently, he holds the position of Professor Emeritus in the Department of Mathematics and Statistics at the University of Victoria in Canada, having joined the faculty there in 1969. Professor Srivastava has held (and continues to hold) numerous Visiting and Chair Professorships at many universities and research institutes in many different parts of the world. Having received several D.Sc. (honoris causa) degrees as well as honorary memberships and fellowships of many scientific academies and scientific societies around the world, he is also actively associated editorially with numerous international scientific journals as an Honorary or Advisory Editor or as an Editorial Board Member, or as Lead Guest Editor for many Special Issues there. He is a Clarivate Analytics [Thomson Reuters] (Web of Science) Highly-Cited Researcher.

Professor Srivastava’s research interests include several areas of pure and applied mathematical sciences, such as real and complex analysis, fractional calculus and applications, integral equations and transforms, special functions and their applications, q -series and q -polynomials, analytic number theory, analytic and geometric inequalities, probability and statistics, and inventory modeling and optimization. He has published 33 books, monographs, and edited volumes, 33 book (and encyclopedia) chapters, 48 papers in international conference proceedings, and more than 1200 peer-reviewed journal articles, as well as Forewords and Prefaces to many books and journals. Further details about Professor Srivastava’s professional achievements and science contributions, honors, awards and distinctions, can be found at the weblinks: <https://www.math.uvic.ca/~harimsri/>
<https://scholar.google.com/citations?user=cdRbfo8AAAAJ&hl=en>

On behalf of Editorial Board we like to pass him and his family our sincere best regards and wishes for health and continued energy for new activities.

*Virginia Kiryakova, Institute of Mathematics and Informatics
 Bulgarian Academy of Sciences, Acad. G. Bontchev Str., Block 8
 Sofia 1113 – BULGARIA, e-mail: virginia@diogenes.bg*

Please cite to this paper as “Ed. Note, FCAA–Volume 23–4–2020”,
 publ. in: *Fract. Calc. Appl. Anal.*, Vol. **23**, No 4 (2020), pp. 935–938,
 DOI: 10.1515/fca-2020-0048; at <https://www.degruyter.com/view/j/fca>.