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EDITORIAL

FCAA RELATED NEWS, EVENTS AND BOOKS (FCAA–VOLUME 20–3–2017)

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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.

1. Jubilee Events

- Started with Volume 1 (1998), our journal *FCAA* has this year its jubilee **Volume 20 (2017)!**

- On behalf of the Editorial Board, we like to congratulate **Prof. Michele Caputo (Honorary Editor in *FCAA*, born 5 May 1927) on his 90th anniversary!** For his biographical data and some of scientific contributions, see in the previously dedicated issue: *Fract. Calc. Appl. Anal.* **10**, No 3 (2007), 201–204; <http://www.math.bas.bg/~fcaa>, also his profile, https://www.researchgate.net/profile/Michele_Caputo.

We mark now **50 years of the paper:**

M. Caputo, Linear model of dissipation whose Q is almost frequency independent-II. *Geophysical J. Royal Astronomic Soc.* **13** (1967), 529–539 (Reproduced in: *Fract. Calc. Appl. Anal.* **11**, No 1 (2008), 3–14),

in which the author **introduced a variant of the fractional derivative**, called usually in literature after his name, as **Caputo derivative**.

- It is **120th anniversary of the birth of the Russian (Soviet) mechanician Alexey N. Gerasimov (born 24 March 1897)**, a pioneer of using Fractional Calculus in solid mechanics, and in differential equations with fractional order partial derivatives. See the historical survey by O. Novozhenova, dedicated to the anniversary, in this journal’s issue, 790–809.

In a report on May 29, 1947 at the Institute of Mechanics of the USSR Academy of Sciences, **70 years ago, Gerasimov introduced the same kind of fractional derivative**. On the base of this report, the paper:

A.N. Gerasimov, Generalization of laws of the linear deformation and their application to problems of the internal friction (In Russian). *Prikladnaya Matematika i Mekhanika* **12**, No 3 (1948), 251–260,

was published, **but remained not popular** for long time.

2. Calendar of FC Related Events

For other FC related events in 2017, see previous Editorial Notes in Vol. 19, No 4–5–6 (2016) and Vol. 20, No 1–2 (2017). All these Editorial Notes are available online free at journal's website.

Report on International Workshop “Fractional Calculus Day @ TUKE” (FBERG TUKE, Kosice, Slovakia, May 12, 2017)

Please see some details at **Website**:

<http://people.tuke.sk/igor.podlubny/FC-Day-at-TUKE-2017/>.

It was organized and hosted by Technical University of Kosice, BERG Faculty. **Organizers** were:

Tomas Skovranek (Technical University of Kosice, Slovakia) Dominik Sierociuk (Warsaw University of Technology, Poland) Igor Podlubny (Technical University of Kosice, Slovakia) Andrzej Dzielinski (Warsaw University of Technology, Poland)

Scientific Program included the following talks:

- R. Magin: Fractional-order Models of Anomalous Diffusion/Relaxation in Magnetic Resonance Imaging;
- J. Leszczynski: The Use of Fractional Operators for Mathematical Modelling of Granular Mechanics/Flows;
- M. Harker: Survey of Numerical Methods for Fractional Calculus;
- B. Vinagre: Time in Control Theory;
- B. Vinagre: Plenty of Fractional at the Bottom;
- H. HosseinNia: Why Fractional Order Control? From Industries Perspective;
- T. Skovranek, V. Despotovic: Linear Prediction of Speech the Fractional Derivative Formula;
- T. Kisela: Explicit Stability Criteria for Some Fractional Differential Equations;
- B. Datsko: Complex Autowave Solutions Close to Instability Point in Two-Component Time Fractional Reaction-Diffusion Systems;
- M. Macias: Initial Conditions for Output-Additive Variable Fractional-Order Derivative;
- D. Sierociuk, W. Malesza, M. Macias: On the Analog Circuit for Realization of Fractional Variable-type and -order Iterative Operator;
- A. Dzielinski: On Fractional Nonlinear Control - Stabilisation of Furuta Pendulum Case;
- I. Petras, C. Psychalinos: New Analog Implementation Technique of Fractional-Order Controller by Using CMOS Technology;
- Round table Discussion (Chairman: A. Dzielinski)

**8th International Conference TMSF 2017,
“Transform Methods and Special Functions”
(Sofia, Bulgaria, August 27–30, 2017)**

Please follow the details and updates at

Website: <http://www.math.bas.bg/~tmsf/2017/>.

Main organizer and host is the Institute of Mathematics and Informatics – Bulgarian Academy of Sciences (IMI–BAS).

The aim of this conference is to continue the traditions of the series of TMSF conferences in Bulgaria, <http://www.math.bas.bg/~tmsf/>, and to mark some jubilee events, among which are: the **70 years of IMI–BAS**, and the **20th volume of “Fractional Calculus and Applied Analysis”** journal.

Organizing Committee: Emilia Bazhlekova and Jordanka Paneva-Konovska (Co-Chairs), etc.

Scientific Program Committee: Virginia Kiryakova, Stepan Tersian (Co-Chairs), Blagovest Sendov, Ivan Dimovski, Nedyu Popivanov, Tsvyatko Rangelov (Bulgaria), Teodor Atanackovic, Stevan Pilipovic, Arpad Takaci, Predrag Rajkovic (Serbia), Nikola Tuneski (Macedonia), Daniel Breaz (Romania), Yuri Luchko (Germany, FCAA)

Topics and Scientific Program of TMSF 2017 will include:

- “*Fractional Calculus and Applied Analysis*” (FCAA) - the topics of this journal;

- “*Transform Methods and Special Functions*” (TMSF) - topics as: Special Functions, Integral Transforms, Convolutional and Operational Calculus, Fractional and High Order Differential Equations, Numerical Methods, Generalized Functions, Complex Analysis, etc.;

- “*Geometric Function Theory and Applications*” (GFTA); Applications etc.

Schedule: Arrivals: 27 August (Sunday); Working days: 28-29-30 August 2017 (Monday-Wednesday); Departures: 31 August.

Venue of the conference: Institute of Mathematics and Informatics - Bulgarian Academy of Sciences, Sofia.

Accommodation: Hotels in walking distance in the area of Institute, the details are now given at the conference website, the menu “Hotels for TMSF 2017”.

Registration fees: 100 EUR (195 BGN), to cover: conference materials, publication of short paper, coffee breaks, welcome cocktail, conference party, sightseeing tour; for accompanying persons: 45 EUR. Payments are to be done in cash at registration desk (for details on bank transfers in advance, contact Organizers).

Important Deadlines: Preregistration was due by May 10, 2017; **For Abstracts: 1 July 2017** (so to be included in conference brochure), Sample file in L^AT_EX and Instructions are available at the website; **for Registration form - 2: 15 July 2017**, where we need all details on your arrival/ departure, hotel choice, title of talk, etc.

Post-conference publications: Special issues of two international journals are planned, all submissions (obligatory in LaTeX) will be peer-reviewed and should not be published or submitted elsewhere:

- *Fractional Calculus and Applied Analysis* (FCAA) - small portion of selected best papers, if closely related to FCAA primary topics;
- *International Journal of Applied Mathematics* (IJAM) - see details at <http://www.diogenes.bg/ijam/>.

Contacts: By e-mail to: <tmsf@math.bas.bg>.

Looking to meet you in Sofia, on behalf of Organizers,

*Virginia Kiryakova, Stepan Tersian,
Emilia Bazhlekova, Jordanka Paneva-Konovska*

3. New Books

A.M. Mathai and H.J. Haubold, *An Introduction to Fractional Calculus*. Nova Science Publishers (2017 - 3rd Quarter), ISBN: 978-1-53612-042-4 (hardcover), Status: Announced.

Details: https://www.novapublishers.com/catalog/product_info.php?products_id=62055.

Book Description: This is a modified version of Module 10 of the Centre for Mathematical and Statistical Sciences (CMSS), Kerala - India. CMSS modules are notes prepared on various topics with many examples from real-life situations and exercises so that the subject matter becomes interesting to students. These modules are used for undergraduate level courses and graduate level training in various topics at CMSS. Aside from Module 8, these modules were developed by Dr. A. M. Mathai, Director of CMSS and Emeritus Professor of Mathematics and Statistics, McGill University, Canada. Module 8 is based on the lecture notes of Professor W. J. Anderson of McGill University, developed for his undergraduate course (Mathematics 447). Professor Dr. Hans J. Haubold has been a research collaborator of Dr. A.M. Mathais since 1984, mainly in the areas of astrophysics, special functions and statistical distribution theory. He is also a lifetime member of CMSS and a Professor at CMSS. A large number of papers have been published jointly in these areas since 1984. The following monographs and books have been brought out in conjunction with this joint research: *Modern Problems in Nuclear and Neutrino Astrophysics*

(A.M. Mathai and H.J. Haubold, 1988, Akademie-Verlag, Berlin); *Special Functions for Applied Scientists* (A.M. Mathai and H.J. Haubold, 2008, Springer, New York); and *The H-Function: Theory and Applications* (A.M. Mathai, R.K. Saxena and H.J. Haubold, 2010, Springer, New York). These CMSS modules are printed at CMSS Press and published by CMSS. Copies are made available to students free of charge, and to researchers and others at production cost. For the preparation of the initial drafts of all these modules, financial assistance was made available from the Department of Science and Technology, the Government of India (DST), New Delhi under project number SR/S4/MS:287/05. Hence, the authors would like to express their thanks and gratitude to DST, the Government of India, for its financial assistance.

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- Fractional Calculus in the Complex Case
- Fractional Derivatives in the Complex Case
- Appendix, Author Index, Subject Index

4. In Memoriam

Recently, we have received the sad news that Prof. Ron Bagley passed away.

To the Memory of Dr. Ronald L. Bagley

With great regret, I must announce to the fractional calculus community the passing of Dr. Ronald L. Bagley, age 69, on May 4th, 2017. He is survived by his wife, Carla Jeanne, of Boerne TX, a son, Ross and Sylvia Bagley of Kenmore WA, a daughter, Melissa and Mark Schloneger of Kettering OH, and a stepson, William and Dana Aufrance of San Antonio TX, as well as several grandchildren.

To those familiar with Dr. Bagley, or at the very least with his work, this is a great loss to our discipline and to our community. To those not familiar, it can be said with no exaggeration that the fractional calculus enjoys the popularity it has today due to his work in describing viscoelastic behavior using generalized derivatives. Ronald's most popular paper

now has over one thousand citations with two more papers of his not far behind. There is also, of course, the equation of motion for the vibration of a fractionally damped system that has since come to be known in the literature as the Bagley-Torvik equation. This equation has received a significant amount of attention as a topic in applied mathematics since its 'christening' by Igor Podlubny in his 1999 book on Fractional Differential Equations. Needless to say, Ronald Bagley's contributions to the field are now considered to be the textbook examples of applied fractional calculus.

Ronald Bagley was born in Indiana, Pennsylvania on May 31st, 1947. He graduated from Robert E. Lee High School in Springfield, VA in 1965. He received his Bachelor's and Master's degrees in Aeronautics and Astronautics from the Massachusetts Institute of Technology in 1969 and 1971, respectively.

Having done Air Force ROTC at MIT, Lieutenant Bagley came on active duty in the United States Air Force in August 1971. After earning his navigator's wings in May 1972, he served as a navigator in B-57 Canberra electronic warfare aircraft at Malmstrom Air Force Base, Montana. Because of his brilliant work in the squadron, he was recommended for the PhD program at the Air Force Institute of Technology (AFIT) at Wright Patterson Air Force Base (WPAFB) in 1976 where he earned his PhD in Aeronautical Engineering in 1979 after completing his dissertation under Professor Peter Torvik on the application of fractional derivatives to the characterization of viscoelastic materials. After a tour on the faculty of the Air Force Academy from 1980 to 1984 and an assignment to the Test Wing at WPAFB, he joined the faculty of AFIT. His final Air Force assignment was as a senior scientist/researcher in the Air Force Research Laboratory, WPAFB, from which he retired in 1995 as a Colonel. That same year, Dr. Bagley accepted a tenured position on the faculty of the University of Texas at San Antonio in the Mechanical Engineering Department.

I came under the tutelage of Ron in earnest in the spring of 2011 as his second and last PhD student, his first being Michele Deveraux Gaudreault at AFIT. Hailing from the United States Air Force as well, Ron and I had a special bond from the beginning that quickly grew beyond the normal teacher-pupil relationship to that of wingman to best friends shortly afterward. Being the humble man he was, Ron never asserted himself to be the teacher nor demanded the respect that often comes with that title. He always let me take the first step and lead the way in our research. More often than not, this resulted in my returning to him with my findings only to realize he had known what I would find all along. The knowledge Ron possessed regarding the fractional calculus was vast and at times seemed boundless. Together, we quickly completed my dissertation research and

successfully demonstrated the application of Ron's work in viscoelasticity to dielectric theory in electromagnetics in the spring of 2013. Ron retired from the University of Texas at San Antonio two years later.

Even though I had attained my PhD, Ron and I continued to stay in close contact and collaborated on several papers; one of which was published in this journal in 2015. Ron would continue to take me to school on a regular basis regarding my research up until the very end with our last conversation involving pushing the envelope of what we knew of the fractional calculus even further.

With all of this said, I believe it appropriate to end this memorial note with an excerpt from the acknowledgements given in the dissertation I did for and with Ron:

“Finally, I'd like to give an extra special thanks to my supervising professor and dissertation committee chairman, Dr. Ronald Bagley. Words cannot express how grateful I am to have even met this man nor can they even begin to express how thankful I am for all of the guidance, encouragement, and support he has given me before, during, and even after my dissertation effort. Sincere thanks goes to him as well for introducing me to the application of the fractional calculus and giving me the privilege of having the opportunity to extend his work in viscoelasticity.”

On behalf of his family, friends, and colleagues,

Andrew W. Wharmby, Ph.D.,
711th HPW/RHDO USAF, Fort Sam Houston, Texas, USA

On behalf of Editorial Board of the journal and the FC family, we express our sorrow and condolences to Ron's family, friends and colleagues.

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