

## **Dr.Instructor DUMITRU BALEANU**

Department of Mathematics, Cankaya University, 06500 Balgat,  
Ankara, Turkey

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### **MAIN RESEARCH INTERESTS**

Fractional dynamics and its applications in science and engineering, fractional differential equations and their applications, discrete mathematics, mathematical physics, dynamic systems on time scales, the wavelet method and its applications, quantization of systems with constraints, the Hamilton-Jacobi formalism, geometries admitting generic and non-generic symmetries.

### **EDUCATION**

- Ph.D.            Physics, Institute of Atomic Physics, Romania 1996  
                  ▪ Thesis: Contributions to the study of spaces with spin variable
- M.Sc.            Physics, Faculty of Physics, Bucharest, Romania 1989  
                  ▪ Thesis: Methods of quantization in quantum field theory
- B.Sc.            Physics, University of Craiova, Faculty of Natural Sciences, Romania, 1988

### **POSITIONS**

- 2006 –            **Scientific Researcher I (Professor)**, Institute of Space Sciences, Magurele-Bucharest, Romania
- 2000 –            **Dr.Instructor**, Dept. of Mathematics, Cankaya University, Ankara, Turkey
- 2001 – 2006      **Scientific Researcher II (Associate Professor)**, National Institute for Laser, Plasma and Radiation Physics, Institute of Space Sciences, Bucharest - Magurele, Romania
- 1996 – 2001      **Scientific Researcher III (Assistant Professor)**, National Institute for Laser, Plasma and Radiation Physics, Institute of Space Sciences, Bucharest - Magurele, Romania
- 1995 – 1996      **Scientific Researcher III (Assistant Professor)**, Institute of Gravity and Space Sciences, Bucharest – Magurele, Romania
- 1990 – 1995      **Physicist**, Institute of Gravity and Space Sciences, Bucharest - Magurele, Romania
- 1989 – 1990      **Physicist**, Institute of Nuclear Reactors, Pitesti, Romania

## VISITING SCIENTIST POSITIONS

- 2012 – 2014 King Abdulaziz University, Jeddah, Saudi Arabia  
1998 – 1999 Middle East Technical University, Ankara, Turkey  
1997 – 1998 Bogoliubov Laboratory of Theoretical Physics, JINR, Dubna, Russia

**Other visiting scientist positions:** ICTP - Trieste, Italy (1995), Doppler Institute and Technical University, Prague, Czech Republic (1998), University of Olomouc, Czech Republic (2005), Southern Illinois University, Carbondale, USA (2006), University of Illinois at Chicago, USA (2006), ISEP Porto, Portugal (2007), Departamento de Matemática Aplicada Universidad Complutense de Madrid, Madrid, Spain (2010), Yeshiva University, New York, USA (2011), Hohai University, China (2016)

## EDITORIAL POSITIONS

- 2018- Editorial Board Member, Mathematical Methods in Applied Sciences- indexed in SCI  
2013 - Editorial Board Member, Fractional Calculus and Applied Analysis –indexed in SCI  
2009 - Editorial Board Member, Open Physics (former Central European Journal of Physics) indexed in SCI  
2009 - Editorial Board Member, Advances in Difference Equations- indexed in SCI  
2014 - Editorial Board Member, Journal of Vibration and Control- indexed in SCI  
2015- Editorial Board Member, Journal of Computational and Nonlinear Dynamics- indexed in SCI  
2016- Editorial Board Member, Cogent Mathematics-indexed in ESCI  
2011- Editorial Board Member, An International Journal of Optimization and Control Theories and Applications (ISSN:2146 0957)  
2011- Editorial Board member, Journal of Fractional Calculus and its Applications (JFCAA) , ISSN: 2090-584X ( print )  
2012- Editorial Board member, Discontinuity, Nonlinearity and Complexity, ISSN 2164-6376 (print),ISSN 2164-6414  
2012- Editorial Board member, Journal of Applied Nonlinear Dynamics, ISSN 2164-6457 ( print), ISSN 2164-6473  
2015- Editor in Chief, Progress in Fractional Differentiations and Applications, ISSN 2356-9336 (print)  
2010 - Member of Advisory Board, "Mathematical Methods for Modeling for Complex Phenomena" book collection, Higher Education Press and Springer  
2011 – 2012- Scientific Board member, Chemistry and Physics of InTech Scientific Board  
2014 – 2015- Scientific Board member, Chemistry and Physics of InTech Scientific Board

**GUEST EDITOR POSITIONS:** Computers & Mathematics with Applications, Physica Scripta - Topical Issues, Advances in Difference Equations, Communications in Nonlinear Science and Numerical Simulation, Journal of Vibration and Control, Nonlinear Dynamics, Open Physics

**CITATIONS:** 7120(excluding Self citations of all authors) in journals covered by SCI

**HIRSCH INDEX: 45**

**PATENT:**

Title: Chaotic series generated by fractional discrete maps

Inventors: Wu Guocheng, Zeng Ligang, Dumitru Baleanu, Shi Xiangchao

Patent No.: ZL 2014 1 0033835.7

Apply date: January 24, 2014

Announcement date of authorization: November 7, 2017

**2015 Highly Cited Papers-Thomson Reuters in Mathematics**

**2016 Highly Cited Papers-Thomson Reuters in Mathematics**

**2017 Highly Cited Papers-Clarivate Analytics in Mathematics**

**REFEREE:** for more than 75 journals indexed in SCI

**CO-AUTHOR OF THE FOLLOWING BOOKS**

- 2015-            “*Asymptotic Integration and Stability for Differential Equations of Fractional Order*”, Dumitru Baleanu and Octavian Mustafa, World Scientific Publishing
- 2015-            “*Local Fractional Integral Transforms and Their Applications*”, Xiao-Jun Yang, Dumitru Baleanu, Hari M. Srivastava, Academic Press,Elsevier
- 2012-            “*Fractional Calculus: Models and Numerical Methods*”, Dumitru Baleanu, Kai Diethelm, Enrico Scalas, Juan J. Trujillo, World Scientific Publishing

**EDITED BOOKS**

- “*Global Analysis and Applied Mathematics: International Workshop on Global Analysis*”, AIP Conference Proceedings, No.729,2004, Kenan Tas, Dumitru Baleanu, Demeter Krupka ,Olga Krupkova
- “*Mathematical Methods in Engineering*”,Springer 2007, Kenan Tas, J.A. Tenreiro Machado, Dumitru Baleanu
- “*New Trends In Nanotechnology And Fractional Calculus Applications*”, Springer 2009, Dumitru Baleanu, J.A. Tenreiro Machado, Ziya B. Guvenc
- “*Dynamical Systems and Methods*”, Springer 2011, Albert Luo, J.A. Tenreiro Machado, Dumitru Baleanu
- “*Nonlinear and Complex Dynamics:Applications in Physical, Biological, and Financial Systems*” ,Springer 2011, J.A.Tenreiro Machado, Dumitru Baleanu, Albert Luo
- “*Fractional Dynamics and Control*”, Springer 2011, Dumitru Baleanu, J.A. Tenreiro Machado, Albert Luo

- **“Wavelet Transforms and Their Recent Applications in Biology and Geoscience”**  
 Edited by **Dumitru Baleanu**, ISBN 978-953-51-0212-0, Hard cover, 298 pages, Publisher: InTech, Published: March 02, **2012** under CC BY 3.0 license, in subject Physics, DOI: 10.5772/2286
- **“Advances in Wavelet Theory and Their Applications in Engineering, Physics and Technology”**, Edited by **Dumitru Baleanu**, ISBN 978-953-51-0494-0, 646 pages, Publisher: InTech, Chapters published April 04, **2012** under CC BY 3.0 license, DOI: 10.5772/2668
- **“Wavelet Transform and Some of its Real-World Applications”**, Edited by **Dumitru Baleanu**, ISBN 978-953-51-2230-2, 124 pages, Publisher: InTech, Chapters published December, **2015**

### PROFESSIONAL APPOINTMENTS AND ACTIVITIES

- 2008 National Organizer of the 3<sup>rd</sup> IFAC Workshop on Fractional Differentiation and its Applications, Ankara, Turkey
- 2009 Organizer of *Symposia of Fractional Derivatives and Their Applications*, Technical Committee on Multibody Systems and Nonlinear Dynamics, MESA (2009, 2011, 2013, 2015, 2016)
- 2012 Program Committee Chair of the 5<sup>th</sup> *Fractional Differentiation and Its Applications*, Hohai University, China
- 2017 Chairman of the Organizing Committee, International Workshop, Mathematical Methods in Engineering, MME-2017, Cankaya University, Ankara, Turkey, April 27 – April 29, 2017

### INTERNATIONAL CERTIFICATES

- Certificates of appreciation of ASME, Design Engineering Division, Technical Committee on Multibody Systems and Nonlinear Dynamics, 2009, 2011, 2013 and 2015
- Certification of Review, *Physica A: Statistical Mechanics and its Applications*, 2010

### AWARDS

- 2017- *Highly Cited Researcher in Mathematics-Clarivate Analytics*
- 2016- *Highly Cited Researcher in Mathematics-Thomson Reuters*  
 (<http://hcr.stateofinnovation.thomsonreuters.com/>)
- 2016- *ICFDA2016 Dissemination Award*. Dissemination Award is given to an individual whose activities during the last five years are the most active in dissemination of Fractional Calculus among the scientific community, industry and society). The award was obtain during the International Conference on Fractional Differentiation and its Applications, Novi Sad, Serbia, July 18 - 20, 2016(<http://www.icfda16.com/public/announcements.php>)
- 2015- *Highly Cited Researcher in Mathematics- Thomson Reuters*  
 (<http://hcr.stateofinnovation.thomsonreuters.com/page/archives>)

- 2014- *IMACS award for publication of A new Jacobi rational-Gauss collocation method for numerical solution of generalized pantograph equations*, E.H. Dohaa, A.H. Bhrawy, **D. Baleanu**, R.M. Hafez, Vol. 77, Pages 43-54 as 4th most successful paper published in 2013 in *Applied Numerical Mathematics*
- 2010- 2010 award of the Revista de Chimie (SCI indexed journal ) and SYSCOM for the joint manuscript titled “*Wavelet transform and artificial neural network for the quantitative resolution of ternary mixtures*”, published in Rev.Chim., 57(6), 2006, p. 626.
- 2008- ScienceWatch.com feature on *the month's Fast Breaking Paper in the field of Mathematics* (<http://sciencewatch.com/dr/fbp/2008/08octfbp/08octfbpRabeET/>)
- 2006- 2<sup>nd</sup> IFAC Workshop on Fractional Differentiation and its Applications Prize

## AFFILIATIONS

- . American Society of Mechanical Engineering (2010)
- . American Chemical Society (2009)
- . MESA (Mechatronic and Embedded Systems and Applications) (2007)
- . Russian Gravitational Society (2000)
- . American Association for the Advanced of Science (2002)
- . European Physical Society (1999)
- . Turkish Physical Society (1999)
- . Romanian Physical Society (1990)

## INVITED LECTURERS

- 1) **D. Baleanu**, *Difference Discrete Variational Principles*, The 7<sup>th</sup> National Conference of Mathematical Analysis and Its Applications, Craiova, Romania, 23-24 September , **2005**
- 2) **D. Baleanu**, *On Fractional Dynamics and its Applications*, 2nd Conference on Nonlinear Science and Complexity, 28 - 31 July, Porto, Portugal, **2008**
- 3) **D. Baleanu**, *Fractional Variational Principles and their Applications*, 3th IFAC Workshop on Fractional Differentiation and its Applications, Ankara, Turkey, 05 - 07 November, **2008**
- 3) **D. Baleanu**, *New trends in fractional dynamics and its applications*, Yeshiva University, New York, USA, 1 February, **2011**
- 4) **D. Baleanu**, *New Trends in Fractional Dynamics*, First Mexican Workshop in Fractional Calculus, Salamanca, Guanajuato, Mexico, 12-14 December, **2012**

- 5) **D. Baleanu**, *Fractional Bloch Equation and Chaos*, International Conference on the Theory, Methods and Applications of Nonlinear Equations”, Texas A&M, University Kingsville, Texas, USA, December 17-21, **2012**.
- 6) **D. Baleanu**, *Kompleks sistemlerin kesirli dinamiklerinde ileri düzeyde konular*, 8. Ankara Matematik Günleri, June 13-June 14, **2013**, Cankaya University, Ankara, Turkey
- 7) **D. Baleanu**, *Advanced topics in fractional calculus*, ANCNA 2013: International Conference Anatolian Communications in Nonlinear Analysis, July 03- July 06, **2013**, Bolu, Turkey
- 8) **D. Baleanu**, *Fractional Dynamics*, 3<sup>rd</sup> International Conference on Complex Dynamical Systems and Their Applications: New Mathematical Concepts and Applications in Life Sciences, TOBB, Ankara, November 24-26, **2014**
- 9) **D. Baleanu**, *Open problems in fractional dynamics and its applications*, International Conference on Advances in Applied Mathematics and Mathematical Physics , 19-21 August, Istanbul, **2014**
- 10) **D. Baleanu**, *Discrete fractional calculus*, Second Mexican workshop on fractional calculus, Division de Ingenierias del Campus Irapuato-Salamanca, Universidad de Guanajuato, Mexico, 6-9 October, **2014**
- 11) **D. Baleanu**, *Fractional calculus and signal processing*, Second Mexican workshop on fractional calculus, Division de Ingenierias del Campus Irapuato-Salamanca, Universidad de Guanajuato, Mexico, 6-9 October, **2014**
- 12) **D. Baleanu**, *A review on local fractional derivatives and their applications*, Second Mexican workshop on fractional calculus, Division de Ingenierias del Campus, Irapuato-Salamanca, Universidad de Guanajuato, Mexico, 6-9 October, **2014**
- 13) **D. Baleanu**, *Fractional variational principles and their applications in control theory*, Second Mexican workshop on fractional calculus, Division de Ingenierias del Campus Irapuato-Salamanca, Universidad de Guanajuato, Mexico, 6-9 October, **2014**
- 14) **D. Baleanu**, *Modelling within Fractional Calculus: Theory and Applications*, International Conference On Nonlinear Operators, Differential Equations and Applications, 14 July-17 July **2015**, Babeş-Bolyai University of Cluj-Napoca, Romania
- 15) **D. Baleanu**, *Fractional Calculus: Theory and Applications*, Conference in the honor of Professor Ravi P Agarwal, July 9, **2015**, Ovidius University, Constanta, Romania
- 16) **D. Baleanu**, *40 Years of Real World Applications within Fractional Calculus*, International Conference on Applied Analysis and Mathematical Modeling, 8 June-12 June , **2015**, Yildiz Technical University, Istanbul, Turkey
- 17) A. Atangana and D. Baleanu, *Stability Analysis and Special Solution of the Perturbation  $K(n,m)$  Rosenau-Hyman equation*, Pure Mathematics - Applied Mathematics 2015, Vienna, Austria, March 15-17, **2015**
- 18) **D. Baleanu**, *Some open problems in fractional dynamics*, The International Conference “Mathematical and Computational Modelling in Science and Technology”, August 2-August 7, **2015**, Izmir, Turkey
- 19) **D. Baleanu**, *Open problems in modelling with fractional calculus*, Mechanics Through Mathematical Modelling -MTM2015, Novi Sad, September 7-10, **2015**
- 20) **D. Baleanu**, *Some open problems in fractional calculus*, “Symposium on Fractional Differentiation and its Applications”, December 28th, **2015**, Hohai University, China
- 21) **D. Baleanu**, *Why new fractional derivatives*, 1st International Symposium on Computational Mathematics and Engineering Sciences (CMES 2016), March 2, March 6, **2016**, Errachidia, Morocco
- 22) **D. Baleanu**, *New fractional derivatives and integrals and their applications*, International Conference on Applied Mathematics and Analysis in Memory of Prof. Gusein Sh. Guseinov , Atilim University, Ankara, Turkey, July 11-13, **2016**
- 23) **D. Baleanu**, *New trends in fractional calculus and its applications*, International Conference on Fractional Differentiation and its Applications, July 18 - 20, Novi Sad, Serbia, **2016**
- 24) **D. Baleanu**, *Fractional order complex engineering systems: An overview*, The 12th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications, August 29 – 31, Auckland, New Zealand, **2016**
- 25) **D. Baleanu**, *On fractional derivatives with non-singular kernels*, 3<sup>rd</sup> Mexican Workshop on Fractional Calculus, September 11 – 16, Zacatecas, Mexico, **2016**

**26) D. Baleanu**, *Open problems in fractional calculus and its applications*, 3rd International Conference on Pure and Applied Sciences, February 2– 6, Dubai, UAE, **2017**

**27) D. Baleanu**, *New trends in fractional calculus and its applications*, 6th International Conference on Mathematics and Information Sciences, February 09-11, Cairo, Zewail City of Science and Technology, Egypt, **2017**

**28) D. Baleanu**, *Fractional calculus and non-locality*, International Workshop, Mathematical Methods in Engineering, MME-2017, Cankaya University, Ankara, Turkey, April 27 – April 29, **2017**

**29) D. Baleanu**, *Advances in discrete fractional calculus: theory and applications*, The Second International Conference on Computational Mathematics and Engineering Sciences (CMES2017), May 20-May 22, Istanbul, Turkey, **2017**

**30) D. Baleanu**, *About fractional calculus and applications*, Ankara Matematik Günleri, Turkey, May 25 – May 26, **2017**

**30) D. Baleanu**, *About some new derivatives in the area of fractional calculus and its applications*, International Conference on Mathematical Modelling in Applied Sciences, ICMMAS'17", SPbPU, Saint Petersburg-Russia, 24 July -28 July, **2017**

## **SOME SEMINARS**

**D. Baleanu**, “*Fractional Calculus and its Applications*”, Middle East Technical University, Department of Mathematics, Ankara, Turkey ,13 March **2008**

**D. Baleanu**, “*New Trends in Fractional Calculus: Theory and Applications*”, Bilkent University, Department of Mathematics, Ankara, Turkey, 3 December **2008**

**D. Baleanu**, “*Fractional Calculus with Applications*”, Atatürk Üniversitesi, Department of Mathematics, Erzurum, Turkey, 14 June **2009**

**D. Baleanu**, “*Fractional Calculus with Delay*”, Atatürk Üniversitesi, Department of Mathematics, Erzurum, Turkey, 22 June, **2010**

**D. Baleanu**, “*Fractional Calculus and Applications*”, TOBB University, Ankara, Turkey, 17 October, **2012**

**D. Baleanu**, “*Fractional Calculus: Theory And Its Applications*”, **THK University, Ankara, Turkey, 26 October, 2017**

## **PROJECTS**

Project Title	Organization/Funds	Period
<p><b>International research member</b> of the project titled "<i>OII74001 - Dynamics of hybrid systems with complex structures. Mechanics of materials</i>" with project leader: Dr. Katica Hedrih, 40 participants from various countries, e-mail: <i>katica@masfak.ni.ac.yu</i>, supported by the Ministry of Educations, Sciences and Technological Development of Republic of Serbia</p>	<p>Ministry of Sciences and Technology, Republic of Serbia/<b>150000 Euros</b></p>	<p>2011-2014</p>
<p><b>Group of relationship between theoretical chemistry and experimental probability:</b>  Project title: <i>On similarities in Infra Red Spectra of Tetra-substituted Metallophthalocyanine Derivatives</i>  PI: Associate Prof. Dr. Tamer Ezzat Youssef Moustafa  CoI: Prof. Hamad Al Turaif  CoII: Prof. Dumitru Baleanu  Grant DSR: 135-138-D1435</p>	<p>King Abdulaziz University, Jeddah, Saudi Arabia/<b>3000 USD</b></p>	<p>2014-2015</p>
<p><b>Research Group: Modeling and Simulation of Complex Systems:</b>  Project Title: <i>New Efficient Spectral Techniques for Numerical Solutions of Fractional Order Partial Differential Equations Arising in Mathematical Physics</i>  PI: Professor Abdulrahim Al-Zahrani  <b>International reseacher:</b> Professor Dumitru Baleanu  CO II: Assoc.Prof. Ali H. Bhrawy  COIII: Dr. Ebraheem Othman Alzahrani  Grant DSR: 14-135-35-RG  The project can be seen under the following page:   <a href="http://dsc.kau.edu.sa/Content.aspx?Site_ID=302015&amp;lng=AR&amp;cid=249635">http://dsc.kau.edu.sa/Content.aspx?Site_ID=302015&amp;lng=AR&amp;cid=249635</a>   which is the official page of King Abdulaziz University from Jeddah, Saudi Arabia.</p>	<p>King Abdulaziz University, Jeddah, Saudi Arabia/<b>48 000 USD</b></p>	<p>2014-2015</p>
<p><b>Research Group: Modeling and Simulation of Complex Systems:</b>  Project title: <i>Efficient spectral methods for solving fractional differential equations on a semi-infinite interval</i>  PI: Assoc..Prof. Ali H. Bhrawy  <b>International researcher:</b> Professor Dumitru Baleanu  CO II: Professor Abdulrahim Al-Zahrani  COIII: Professor Yahia Alhamed  Grant DSR: 4-135-35-RG  The project can be seen under the following page:   <a href="http://dsc.kau.edu.sa/Content.aspx?Site_ID=302015&amp;lng=AR&amp;cid=249635">http://dsc.kau.edu.sa/Content.aspx?Site_ID=302015&amp;lng=AR&amp;cid=249635</a>   </p>	<p>King Abdulaziz University, Jeddah, Saudi Arabia/<b>48 000 USD</b></p>	<p>2014-2015</p>



which is the official page of King Abdulaziz University from Jeddah, Saudi Arabia.		
<p><b>Research Group: Modeling and Simulation of Complex Systems:</b></p> <p>Project title: <i>Fractional Dynamics of Complex Systems</i>  PI: Professor Abdulrahim Al-Zahrani  CO I: Professor Dumitru Baleanu  COII: Professor Yahia Alhamed  COIII: Professor Adnan Zahid  Grant DSR: GR 34- 11</p>	King Abdulaziz University, Jeddah, Saudi Arabia/ <b>48000 USD</b>	2013-2014
<p><b>Researcher of the COST CA15225 European Proposal "FRACTAL - Fractional-order systems analysis, synthesis and their importance for future design"</b></p>	EU COST Project	2015-2019
<p><b>Kesirli Dinamik Modeller Ve Uygulamaları</b></p>	TUBITAK Project	2018-2020

#### MASTER STUDENTS THESIS SUPERVISOR

Halil Sezgin Can	<i>Fractional derivatives with Mittag-Leffler kernel and their Applications</i>	<b>2018</b>
Hayder Kareem	<i>Discrete fractional calculus and its applications</i>	<b>2015</b>
Ronak Bagelany	<i>Lyapunov stability with some applications</i>	<b>2015</b>
Ahmed Kareem	<i>Fractional Caputo-Fabrizio derivative with applications</i>	<b>2015</b>
Zainab Weli Murad	<i>Basin's fractal via complex Newton's method</i>	<b>2015</b>
Suaad Madhat Abdullah	<i>Some new trends in superintegrable systems</i>	<b>2015</b>
Metin Özyürek	<i>On some applications of local fractional calculus</i>	<b>2015</b>
Tuğba Yılmaz	<i>Variational iteration method for fractional Davey-Stewartson Equations</i>	<b>2012</b>
Tansel Avkar	<i>Fractional differential equations and their applications</i>	2004
Özlem Defterli	<i>Mathematical aspects of superintegrable systems</i>	2004
Murat Cenk	<i>New Geometrical Aspects of Constrained Systems</i>	2003

## PHD STUDENTS THESIS CO-SUPERVISOR

1. **Kerboua Mourad** (University Guelma, Algeria, 2013-2016), PhD Thesis Title: *Contrôle dynamique de quelques systèmes fractionnaires non-local et leurs applications*
2. **Haleh Tajadodi** (University of Mazandaran, Iran, 2012-2015) PhD Thesis Title: *New Methods and Their Improvement for Solving Fractional Differential Equations*
3. **Rahmat Soltani**(University of Mazandaran,Iran, 2013-2016) PhD Thesis Title: *The first integral methods for solving ordinary and fractional order differential equations*

## INSTRUCTED COURSES

### A) Undergraduate

*Linear Algebra for Engineers, Special Topics in Mathematics, Algebra I, Algebra II , Linear Algebra, General Physics I, General Physics 2, General Physics for Engineering I,General Physics for Engineering 2, Partial Differential Equations, Analytic Geometry, The Wavelet Method, Complex Analysis I, Complex Analysis II, Business Mathematics, Fuzzy Sets, Calculus of Variations ,Introduction to Fractional Differential Equations*

### B) Graduate

*Algebra I, Algebra II, Partial Differential Equations,Advanced Topics in Mathematical Modelling,Special Topics in Fractional Differential Equations, Nonlinear Dynamical Systems,Advanced Dynamic Equations On Time Scale, Applied Functional Analysis, Ordinary Differential Equations. Real Analysis*

## SELECTED LIST OF PUBLICATIONS

### A. Publications in Science Citation Index Journals during the period 2012-2017

1) *Fractional differential equations of Caputo-Katugampola type and numerical solutions*

Zeng, Shengda; **Baleanu, Dumitru**; Bai, Yunru; et al.

APPLIED MATHEMATICS AND COMPUTATION Volume: 315 Pages: 549-554 Published: DEC 15 2017

2) *Stable Numerical Approach for Fractional Delay Differential Equations*

Singh, Harendra; Pandey, Rajesh K.; **Baleanu, D.**

**Baleanu, Dumitru** FEW-BODY SYSTEMS Volume: 58 Issue: 6 Article Number: UNSP 156 Published: DEC 2017

3) *Lyapunov functions for Riemann-Liouville-like fractional difference equations*

Wu, Guo-Cheng;; Luo, Wei-Hua

APPLIED MATHEMATICS AND COMPUTATION Volume: 314 Pages: 228-236 Published: DEC 1 2017

4) *Uncertain viscoelastic models with fractional order: A new spectral tau method to study the numerical simulations of the solution*

Ahmadian, A.; Ismail, F.; Salahshour, S.; et al.

COMMUNICATIONS IN NONLINEAR SCIENCE AND NUMERICAL SIMULATION  
Volume: 53 Pages: 44-64 Published: DEC 2017

5) *Existence theorems and Hyers-Ulam stability for a coupled system of fractional differential equations with  $p$ -Laplacian operator*

Khan, Hasib; Li, Yongjin; Chen, Wen; et al.

BOUNDARY VALUE PROBLEMS Article Number: 157 Published: OCT 30 2017

6) *On the existence of solutions for some infinite coefficient-symmetric Caputo-Fabrizio fractional integro-differential equations*

**Baleanu, Dumitru**; Mousalou, Asef; Rezapour, Shahram

BOUNDARY VALUE PROBLEMS Article Number: 145 Published: OCT 5 2017

7) *On the analysis of chemical kinetics system pertaining to a fractional derivative with Mittag-Leffler type kernel*

Singh, Jagdev; Kumar, Devendra; **Baleanu, Dumitru**

CHAOS Volume: 27 Issue: 10 Article Number: 103113 Published: OCT 2017

8) *New solutions for conformable fractional Nizhnik-Novikov-Veselov system via  $G'/G$  expansion method and homotopy analysis methods*

Kurt, A.; Tasbozan, O.; **Baleanu, D.**

OPTICAL AND QUANTUM ELECTRONICS Volume: 49 Issue: 10 Article Number: 333  
Published: OCT 2017

9) *Second-order fast terminal sliding mode control design based on LMI for a class of non-linear uncertain systems and its application to chaotic systems*

Mobayen, Saleh; **Baleanu, Dumitru**; Tchier, Fairouz

JOURNAL OF VIBRATION AND CONTROL Volume: 23 Issue: 18 Pages: 2912-2925  
Published: OCT 2017

10) *A new analysis for fractional model of regularized long-wave equation arising in ion acoustic plasma waves*

Kumar, Devendra; Singh, Jagdev; Baleanu, Dumitru

MATHEMATICAL METHODS IN THE APPLIED SCIENCES Volume: 40 Issue: 15 Pages: 5642-5653  
Published: OCT 2017

11) *A finite difference scheme based on cubic trigonometric B-splines for a time fractional diffusion-wave equation*

Yaseen, Muhammad; Abbas, Muhammad; Nazir, Tahir; et al.

ADVANCES IN DIFFERENCE EQUATIONS Article Number: 274 Published: SEP 8 2017

- 12) *Optical solitons and stability analysis of the NLSE with anti cubic nonlinearity***  
Asian, Ebru Cavlak; Inc, Mustafa; **Baleanu, Dumitru**  
SUPERLATTICES AND MICROSTRUCTURES Volume: 109 Pages: 784-793 Published:  
SEP 2017
- 13) *Almost local stability in discrete delayed chaotic systems***  
Nategh, Mehdi; **Baleanu, Dumitru**; Taghizadeh, Elham; et al.  
NONLINEAR DYNAMICS Volume: 89 Issue: 4 Pages: 2393-2402 Published: SEP 2017
- 14) *Chaos analysis and asymptotic stability of generalized Caputo fractional differential equations***  
**Baleanu, Dumitru**; Wu, Guo-Cheng; Zeng, Sheng-Da  
CHAOS SOLITONS & FRACTALS Volume: 102 Pages: 99-105 Published: SEP 2017
- 15) *Monotonicity analysis of a nabla discrete fractional operator with discrete Mittag-Leffler kernel***  
Abdeljawad, Thabet; **Baleanu, Dumitru**  
CHAOS SOLITONS & FRACTALS Volume: 102 Pages: 106-110 Published: SEP 2017
- 16) *On a new class of fractional operators***  
Jarad, Fahd; Ugurlu, Ekin; Abdeljawad, Thabet; et al.  
ADVANCES IN DIFFERENCE EQUATIONS Article Number: 247 Published: AUG 22 2017
- 17) *New study of weakly singular kernel fractional fourth-order partial integro-differential equations based on the optimum q-homotopic analysis method***  
**Baleanu, Dumitru**; Darzi, Rahmat; Agheli, Bahram  
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS Volume: 320 Pages:  
193-201 Published: AUG 15 2017
- 18) *On approximate solutions for two higher-order Caputo-Fabrizio fractional integro-differential equations***  
Aydogan, S. Melike; **Baleanu, Dumitru**; Mousalou, Asef; et al.  
ADVANCES IN DIFFERENCE EQUATIONS Article Number: 221 Published: AUG 3 2017
- 19) *Study of a class of arbitrary order differential equations by a coincidence degree method***  
Ali, Nigar; Shah, Kamal; **Baleanu, Dumitru**; et al.  
BOUNDARY VALUE PROBLEMS Article Number: 111 Published: AUG 3 2017
- 20) *On fractional derivatives with exponential kernel and their discrete versions***  
Abdeljawad, Thabet; **Baleanu, Dumitru**  
REPORTS ON MATHEMATICAL PHYSICS Volume: 80 Issue: 1 Pages: 11-27 Published:  
AUG 2017
- 21) *Exact traveling-wave solution for local fractional Boussinesq equation in fractal domain***  
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**341)** On a nonlinear fractional differential equation on partially ordered metric spaces

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