



## CURRICULUM VITAE

April 2021

**Name:** Anastasios (Tassos) Bountis

**Date of Birth:** May 31, 1950, Athens, Greece

**Current Position:** Professor Emeritus, Department of Mathematics, University of Patras, Patras 26500, Greece

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### Other Positions (-2016):

- Director of Center for Research and Application of Nonlinear Systems University of Patras, Greece (founded in 1996) <https://thalis.math.upatras.gr/~crans/>
- Director of Laboratory of Nonlinear Systems and Applied Analysis, Department of Mathematics University of Patras (founded in 1991)

### Honors and Awards:

- Member of European Academy of Sciences and Arts, Class of Natural Sciences, September, 2015
- Corresponding Member of the Academy of Athens, chair “Complex Systems”, Class of Natural Sciences, April 2014
- Charles Hermite Science Ambassador Award, Saar Region, Germany, September 2014
- International Conference on “Nonlinear Dynamics and Complexity”, July 12 – 16, 2010 was organized in honor of my 60<sup>th</sup> birthday, <http://nonlinear.web.auth.gr/>
- Academy of Athens Award G. Fwteinos for work on “Dynamical Systems”, 2009
- Associate Member of National Council of Research and Technology of Greece (appointed by the Minister of Development, January 2005 - 2009)
- Magna cum Laude, Undergraduate Diploma, Dartmouth College, 1972.

**Citizenship:** Greek

**Marital Status:** Married, one child

**Education and Professional Experience:**

- 1972: B.A. Degree in Physics (Minor in Mathematics) Dartmouth College, USA, Magna Cum Laude, Honors in Physics.
- 1974: M.S. Degree in Physics, University of Rochester, N.Y.
- 1978: Ph. D. Degree in Theoretical Physics, University of Rochester, N.Y., U.S.A.
- 1978-79: Bateman Research Instructor, Department of Applied Mathematics, California Institute of Technology.
- 1979-81: Visiting Assistant Professor, Department of Mathematics and Computer Science, Clarkson University, N.Y.
- 1981-84: Assistant Professor, Department of Mathematics and Computer Science, Clarkson University, N.Y.
- 1982-83: Research Associate (on leave from Clarkson University), Institute for Theoretical Physics, University of Amsterdam, the Netherlands.
- 1984-86: Associate Professor, Department of Mathematics and Computer Science, Clarkson University, Potsdam, N.Y.
- 1985-86: Visiting Professor (on leave from Clarkson University), Physics Department, University of Thessaloniki, Thessaloniki, Greece.
- 1986-90: Associate Professor, Department of Mathematics, University of Patras, Patras, Greece.
- 1989-90: Visiting Professor, Physics Department, University of Texas at Austin.
- 1990-2016: Professor, Department of Mathematics, University of Patras.
- 2016 - 2020: Professor, Department of Mathematics, Nazarbayev University, Astana, Kazakhstan.

**Recent Scientific Visits:**

- January 1993, Visiting Professor at India Institute of Technology, New Delhi and Bharathidasan University, Tiruchirapalli, Tamilnadu, India
- December 1996 – March 1997 Visiting Professor, Department of Mathematics, University of Amsterdam, the Netherlands.
- January 9 – February 8, 2000, Visiting Researcher, Centro Internacional de Ciencias, Universidad de Morelos, Mexico.
- September 2000-January 2001 Visiting Professor, Department of Mathematics, University of Cyprus, Cyprus.
- September 2000 - 2007: Coordinator of the course "Mathematics I" for the Study Program in Informatics of the Hellenic Open University
- March 1 – May 31, 2005: Visiting Researcher at Max Planck Institute for Complex Systems, Dresden. Germany.
- January 14 – February 6, 2006, Visiting Scientist, Centro Internacional de Ciencias, Universidad de Morelos, Cuernavaca, Mexico.
- January 3 – January 20, 2007, Visiting Scientist, Centro Internacional de Ciencias, Universidad de Morelos, Cuernavaca, Mexico.

- March 30 – April 22, 2007, Visiting Scientist, Waseda University, Tokyo, Japan and Kyoto University, Japan.
- April 12 – 27, 2009, Visiting Professor, Physics Department, University of Rostov – on – Don, Russia.
- March 1 – April 2, 2010, Visiting Researcher, Centro Brasileiro de Pesquisas Fisicas (Brazilian Center of Physics Research), Rio de Janeiro, Brasil.
- April 5 – June 25, 2010: Visiting Researcher at Max Planck Institute for Complex Systems, Dresden. Germany.
- March 1 – April 15, 2013, Visiting Researcher, New Zealand Institute of Advanced Studies, University of Massey, New Zealand.
- April 20 – May 15, 2013, Visiting Researcher, Centro Brasileiro de Pesquisas Fisicas (Brazilian Center of Physics Research), Rio de Janeiro, Brasil.
- 2013, June 4 – 24, Visiting Researcher, Department of Applied Mathematics and Theoretical Physics, Cambridge University, England.
- 2015, June 18 – 25, Visiting Researcher, Weizmann Institute of Sciences, Department of Chemical Physics, Rehovot, Israel.
- 2015, 1-11 September, Visiting Researcher, Center for theoretical Physics of Complex Systems, Institute of Basic Science, Daejeon, Korea.

#### **Research Grants and Education Programs:**

- 1980-82: Principal Investigator (P.I.) of an N.S.F. grant, Applied Mathematics Division (USA).
- 1983-84: P.I. of a Department of Energy (D.O.E.) grant, Division of Mathematical Sciences (USA).
- 1984-85: P.I. of a D.O.E. grant from the Division of High Energy Physics, and one from Engineering and Mathematical Sciences (USA).
- 1985-86: P.I. of an N.S.F. grant, Mathematical Sciences Division.
- 1985-87: P.I. of a continuation grant from D.O.E., Division of High Energy Physics, on the "Application of Nonlinear Dynamics to the Beam-Beam Interaction".
- 1988-90: P.I. of a grant on the "Applications of Nonlinear Dynamics to Josephson Junctions", Greek Ministry of Industry, Energy and Technology, Secret. Gen. of Research and Technology.
- 1989-91: P.I. of a grant from the E.E.C., Science-Stimulation Program, on "Chaotic Behavior of Classical Mechanical Systems".
- 1990-: University of Patras Representative in 2 "Erasmus" ICP Programs, coordinated by Prof. Sp. Pnevmatikos, University of Crete and Prof. G. Nicolis, ULB, Belgium.
- 1993-96: Participant in 3 Networks of Laboratories entitled "Nonlinear Phenomena and Complex Systems", "Coherent Structures and Fluctuating Processes in Condensed Matter and Optical Physics" and "Nonlinear Problems in Beam Dynamics and Transport", funded by the "Human Capital and Mobility" program of the EEC.
- 1993-96: P.I. of a grant on "Applications of Chaotic Dynamics to Meteorology and Biology", Greek Ministry of Industry, Energy and Technology, General Secretariat of Research and Technology (GSRT).
- 1996-98: P.I. of a grant on "Theory of Chaos and Complexity of Nonlinear Systems", GSRT, Greek Ministry of Development.

- 1999-2001: P.I. of a PENED grant on "Applications of Nonlinear Dynamics to Biological and Biochemical Systems". Greek Ministry of Development, General Secretariat of Research and Technology (GSRT).
- 2000-01: Supervisor of Marie Curie Fellowship by Dr. Elka Yankulova on "Dimensional and Genetic Analysis of Drosophila Cardiac Function", EEC, European Research Program on "Quality of Life and Management of Living Resources".
- 2000-02: P.I. of a Research Exchange Program between Greece and China on "Applications of Nonlinear Dynamics to Biology and DNA Sequences", Greek Ministry of Development, GSRT.
- 2001-03: P.I. of a Research "Caratheodory" Program of the University of Patras entitled "Chaotic Dynamics and Statistical Analysis of Multidimensional Nonlinear Systems", supporting the post-doctoral fellow Dr. Charalampos Skokos.
- 2002-05: P.I. of a Research grant of the "HERAKLEITOS" Program of the Greek Ministry of Education, supporting the doctoral candidate Mr. Christos Antonopoulos.
- 2004 -2005: Representative of Greece in an ERA –NET (European Research Area Network) Specific Support Action Program on “COMPLEXITY”.
- 2005-07: P.I. of a Research grant of the "PYTHAGORAS II" Program of the Greek Ministry of Education, supporting the post – doctoral scientist, Dr. Vassilios Basios.
- 2006 -2010: Representative of Greece in an ERA –NET (European Research Area Network) Coordinated Action Program on “COMPLEXITY”.
- 2007-2008: P.I. of a Research Exchange Program between Greece and Egypt on "Mathematical Study and Applications of Control and Synchronization of Nonlinear Oscillators", Greek Ministry of Development, GSRT.
- 2009 – 2012: Scientific Responsible of Inter-University Network at the University of Patras, entitled “Mathematical Analysis of Complex Systems”, consisting of different research groups from the Departments of Mathematics, Physics, Medicine and Engineering [www.math.upatras.gr/mabiphys](http://www.math.upatras.gr/mabiphys)
- 2010 - 2012: P.I. with Prof. J. P. van der Weele of ERA-Complexity NET project “Complex Matter”, involving CRANS from the University of Patras and groups from the Universite Libre de Bruxelles, the University of Twente, Netherlands and the University of Manchester. <http://complexmatter.wordpress.com> (120000 euro)
- 2012 – 2014: P.I. of post – doctoral fellowship, entitled “Nonlinear Dynamics and Control of Waves in Complex Optical Structures”, funded by the Ministry of Education of Greece, supporting the post – doctoral fellow Dr. Yannis Kominis.
- 2012 – 2015: P.I. of project entitled “Mathematical Modeling of Complex Systems with Applications to Biomedicine, Physics and the Technology of Materials”, in the THALES Program of the Greek Ministry of Education (600000 euro)
- 2017 – 2020: P.I. of ORAU project entitled “Taming Chimeras to Achieve the Superradiant Emitter”, at School of Science and Technology, funded by Nazarbayev University, Astana, Kazakhstan (390000 USD).
- 2020 - : Participant in research grant by the Russian Science Foundation at the University of Yaroslavl, Russia (project No. 21-71-30011).

#### **Recent Conferences and Lectures:**

- Invited lecturer at Second International Conference on "Basic Science and Advanced Technology", Assiut, Egypt, November 5-9, 2000.
- Invited lecturer at Workshop "Chaos, Demons and Wavelets", Symposium, University of Amsterdam, June 5-7, 2001.

- Lecturer at Workshop "Localization in Nonlinear Lattices", Max Planck Institute for Complex Systems, Dresden, 24-28 September, 2001.
- Invited lecturer at European Advanced Studies Conference, "Nonlinearity, Non-commutativity and Applications", Tracoscan, Croatia, May 9 - 11, 2002.
- Invited lecturer at Summer School/Conference on "Let's Face Chaos Through Nonlinear Dynamics", Maribor, Slovenia, June 29-July 14, 2002.
- Invited lecturer at International Conference "Galaxies and Chaos", Research Center of Astronomy and Applied Mathematics, Academy of Athens, September 16-19, 2002.
- Invited lecturer at European Advanced Studies Conference 4 on "Chaos and Complex Systems" Novacella, Southern Tyrol, Italy, May 29 - June 1, 2003.
- Invited lecturer at International Conference on "Dynamical Chaos in Classical and Quantum Physics", Novosibirsk, August 4-9, 2003 (did not attend).
- Invited lecturer at International Conference on "Invariance and Model Reduction for Multiscale Phenomena" ETH - Zurich, August 26 - 29, 2003.
- Lecturer in "200 Verhulst on Chaos", Workshop organized by the Royal Academy of Belgium, Brussels, 16-18 September, 2004.
- Invited lecturer at Conference on "Advances in Classical and Quantum Mechanics" held in Novacella, Southern Tyrol, Italy, October 1-4, 2004.
- Invited lecturer at Summer School/Conference on "Let's Face Chaos Through Nonlinear Dynamics", Maribor, Slovenia, June 26-July 10, 2005.
- Lecturer at Workshop on Accelerator Beam Dynamics, Senigallia, Italy, September 12 - 16, 2005.
- Lecturer at Conference "Physics and the City", Bologna, Italy, December 14 - 17, 2005.
- Plenary Speaker in 2<sup>nd</sup> International Conference of Nonlinear Science, organized by the Society of Chaos in Psychology and Life Sciences, March 10 - 12, 2006, Heraclion, Crete, Greece.
- Invited speaker at International Conference on the Frontiers of Nonlinear and Complex Systems (ICFNCS) in honor of Prof. Bambi Hu's 60th birthday, Hong Kong Baptist University, 24-26 May, 2006 (did not attend).
- Invited Speaker at International Conference "Dynamics Days 2006", Heraclion, Crete, September 25 - 29, 2006.
- Invited Speaker at International Conference "Chaos and Complex Systems 2006", Monastery of Novacella, Italian Alps, 9th - 12th October 2006.
- Invited Speaker at International Conference "5th Christmas Symposium of Physicists", 14 - 16 Dec. 2006, Maribor, Slovenia.
- Invited Speaker at International Conference "Complexity, Metastability and Extensivity», University of Catania, Italy, July 1-5, 2007.
- Plenary Speaker in the Conference in Numerical Analysis NumAn2007, "Recent Approaches to Numerical Analysis, Theory and Applications", Kalamata, Hellas, September 3 - 7, 2007.
- Invited Speaker at International Conference "Nonlinear Dynamics: Advances and Perspectives", University of Aberdeen, Scotland, September 17 - 22, 2007.
- Invited Speaker at XVth Conference on Applied and Industrial Mathematics (CAIM 2007), Mioveni, Arges county, Romania, October 12-14, 2007.
- Lecturer at Workshop on "Nonlinear Waves in Continuous and Discrete Media", UNAM, Mexico City, 24 - 28 January 2008.

- Lecturer at 7<sup>th</sup> Alexander v. Humboldt Colloquium for Celestial Mechanics “The Chaotic Dynamics of Small Bodies and Planets”, Bad Hofgastein, Salzburg, Austria, 30 March - 5 April 2008.
- Invited lecturer at International Conference, “Nonlinear Dynamics and its Applications”, University of Pescara, Italy, July 3 – 8, 2008.
- Invited lecturer at Summer School/Conference on "Let's Face Chaos Through Nonlinear Dynamics", Maribor, Slovenia, June 28-July 13, 2008.
- Invited speaker in “Coping With Complexity: Model Reduction and Data Analysis”, Organized by: University of Leicester, at Ambleside, Lake District, UK, August 31 – September 4, 2009.
- Invited Plenary Lecture at the Meeting of the INCT de Sistemas Complexas, March 1 – 5, 2010, Centro Brasileiro de Pesquisas Fisicas (Brazilian Center of Physics Research), Rio de Janeiro, Brasil.
- Invited lecture at GRTR-Conference on "Statistical Mechanics and Dynamical Systems", Marmaris - Symi, September 5 - 12, 2010.
- Invited lecture at 9th Christmas Physics Conference, Maribor, Slovenia, December 9 - 11, 2010.
- Lecture at 8th Alexander von Humboldt Colloquium for Celestial Mechanics, Bad Hofgastein, Salzburg, Austria, March 20 - 26, 2011.
- Lectures (4 hours) at the 1<sup>st</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 18 – 29, 2011, Patras, Greece.
- Presentation of First Year Activities of the “Complex Matter” ERA-NET Project at European Conference on Complex Systems 2011, Vienna, September 12 – 16, 2011.
- Invited lecture on “Complex Hamiltonian Dynamics”, University of Maribor, Slovenia, October 26, 2011.
- Invited Lecture for the 50 years anniversary of the National Research Center “Demokritos”, Athens, Greece, March 22, 2012.
- Invited Lecturer at the “Out of the Box” Conference, Maribor, Slovenia, May 15-17, 2012.
- Lectures (4 hours) at the 2<sup>nd</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 16 – 28, 2012, Pescara, Italy.
- Lectures (6 hours) at the New Zealand Institute for Advanced Studies, University of Massey, Auckland, New Zealand, on “Mathematical Modeling of Complex Systems”, March 10 – April 10, 2013.
- Lecture at 5<sup>th</sup> Workshop of INCT – SC on Complex Systems in the Physical Sciences, Centro Brasileiro de Pesquisas Fisicas, 22 – 24 April, 2013
- Invited Lecture at Universidad Federal de Rio Grande da Norte, “Mathematical Modeling of Complex Systems”, Natal, Brazil, May 10, 2013.
- Invited semi – plenary lecture entitled “Complex Problems in Theoretical and Applied Mechanics”, 10<sup>th</sup> Congress HSTAM, 25-27 May, 2013, Chania, Crete, Greece.
- Lectures (4 hours) at the 3<sup>d</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 15 – 26, 2013, Heraklion, Crete, Greece.
- Lectures (4 hours) at the 4<sup>th</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 14 – 25, 2014, Athens, Greece.
- Invited Lecture at the Conference "Statistical Mechanics Foundations of Complexity - where do we stand now?", May 8 – 10, 2014, Santa Fe, Institute, Santa Fe, New Mexico, USA.

- Invited Lecture in the Special Session "Dynamics of chaotic and complex systems and applications" (SS25), at the 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain, July 7-11, 2014.
- Invited Lecturer (5 hours) at 9<sup>th</sup> Summer School/Conference on "Let's Face Chaos Through Nonlinear Dynamics", Maribor, Slovenia, 22 June - 6 July, 2014.
- Lecturer and organizer of the Workshop "Mathematical Modeling of Complex Systems: Computational Approaches", NumAn Conference on "Recent Approaches to Numerical Analysis: Theory, Methods and Applications", Chania, Crete, 2 – 5, September, 2014.
- Invited Lecture at European Advanced Studies Conference 2014, Symposium on Differential Equations and Difference Equations, Homburg, Germany, September 5 – 8, 2014.
- Invited Lecture at Symposium on "Classical and Quantum Chaos: What Comes Next?", Ljubljana, Slovenia, October 9 – 11, 2014.
- Invited lectures at the Physics Department and The Singapore Institute for Neurotechnology of the National University of Singapore, December 10 – 15, 2014.
- Invited Plenary Lecture at International Conference IMSQUARE, 4th International Conference on Mathematical Modeling in Physical Sciences, June 5-8, 2015 Mykonos, Greece.
- Invited Lectures at Weizmann Institute of Science, Department of Chemical Physics (invited by Professor Itamar Procaccia), June 18 – 25, 2015.
- Invited Lecture at the Center for Theoretical Physics of Complex Systems, Institute of Basic Science, Daejeon, Korea, 1-11 September 2015.
- Invited Lecturer at the Latin-American School and Workshop on Complex Systems, Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil, 18 – 30 October, 2015.
- Invited Visitor and Lecturer at Nazarbayev University, Astana, Kazakhstan (23-28 November, 2015).
- Invited lecture at International "Christmas Physics Symposium", December 10 – 12, 2015, Maribor Slovenia.
- Lecture at "Dynamics of Complex Systems", International Conference in honor of Robert MacKay's 60<sup>th</sup> Birthday, 18 – 20 May, 2016, University of Warwick, UK.
- Lecture at "3d Dynamics Days Central Asia", Nazarbayev University, Astana, Kazakhstan, 2 – 5 September, 2016.
- Invited speaker at the "Dynamics Days Latin America and the Caribbean", Puebla Mexico, October 24 – November 1, 2016.
- Invited speaker at the International Workshop "Recent Advances in Hamiltonian and Nonholonomic Dynamics", Inst. Of Computer Science, Moscow, 15 - 20 June 2017 <http://hnh-conf.rcd.ru/>
- Invited speaker at the "Let's Face Complexity: New Bridges Between Physical and Social Sciences", Lake Como School of Advanced Studies, Como, Italy, September 4-8, 2017, <http://fcs.lakecomoschool.org/>
- Invited speaker at the conference "Dynamics Days Central Asia", Bukhara, Uzbekistan, 21 – 23 October 2017.
- Invited Speaker at the International Conference "16th Christmas Symposium of Physicists", 14 - 16 December 2017, Maribor, Slovenia.
- Invited Speaker at the International Conference "Quantum and Nonlinear Optics 2018", Kuala Lumpur, Malaysia, 2 – 6 February 2018.
- Invited Speaker at the International Conference "Localization in Nonlinear Lattices", Spetses, Greece, 18 – 22 June 2018.

- Lecturer in the 25<sup>th</sup> Summer School/Panhellenic Conference on "Dynamical Systems and Complexity", Athens, Greece, 9 – 17 July, 2018.
- Speaker at International Conference Pacific Rim CLEO, Hong Kong 29 July – August, 2018.
- Invited Speaker, 18<sup>th</sup> IFAC Conference on Technology, Culture and International Stability, Baku, Azerbaijan, 13 – 15 September, 2018.
- Invited Speaker and Organizer of the Workshop “Dynamics in Multidimensions”, Universidad Autonoma Mexico, Institute of Applied Mathematics, March 20 – 22, 2019.
- Plenary Speaker, International Conference CHAOS 2019, June 18 – 22, 2019, Chania, Greece.
- Plenary lecture, International Conference on “Actual Problems in Algebra, Analysis and Differential Equations”, October 16 – 19, 2019, Eurasian National University, Nur-Sultan, Kazakhstan.
- Invited Lecture, International Conference on “Dynamical Systems Theory and Applications”, Lodz Polytechnic University, December 2 – 5 2019.
- Invited Lecture, 2<sup>nd</sup> International Conference on “Integrable Systems and Nonlinear Dynamics”, Yaroslavl State University, Yaroslavl, Russia, October 19-23, 2020.

#### **Conference and Summer School Organization:**

- One of 12-member organizing committee for a Workshop on "Orbital Dynamics and Applications to Accelerators", March 7-12, 1985, Lawrence Berkeley Lab., USA.
- Chairman of organizing committee for International Conference on "Non-linear Dynamics and Chaos", Aug. 25-30, 1986, Thessaloniki, Greece.
- Chairman of organizing committee for "Summer School I on Nonlinear Systems", July 1-11, 1987, Patras, Greece.
- One of 3-member organizing committee for the International Conference "Singular Behavior and Nonlinear Dynamics", August 18-26, 1988, Samos, Greece.
- Organizing committee member for 2nd, 3rd 4th and 5th "Summer School on Nonlinear Systems" (July 1988, August 1989 and August 1990, Samos, Greece and July, 1992, Crete, Greece).
- Director of NATO Advanced Research Workshop on "Proton Transfer in Hydrogen-Bonded Systems", May 21-25, 1991, Heraclion, Crete, Greece.
- Director of NATO Advanced Studies Institute on "Chaotic Dynamics: Theory and Practice", July 11-20, 1991, Patras, Greece.
- Organizing Committee member of "Integrability and Chaotic Behavior in Hamiltonian Systems", NATO ARW, June 28 - July 2, 1993, Torun, Poland.
- Organizing Committee Chairman for 6th, 7th, 8th, 9th, 12th, 14th, 15th and 16th Summer School/Panhellenic Conference) on "Nonlinear Systems and Chaotic Dynamics", University of Patras, Greece, July 1993, Xanthi, July 1994 and July 1995, Patras, July 1996, Patras, July 1999, Patras, July 2001, Patras, August 2002 and Chalkis, July 2003.
- Organizing Committee Member for 10th, 11th and 13th Summer School/Panhellenic Conference) on "Nonlinear Dynamics: Chaos and Complexity", Thessaloniki, 1997, Livadeia, 1998 and Chania, 2000.
- Organizing Committee member for International Summer School and Conference on "Let's Face Chaos Through Nonlinear Dynamics", Maribor, Slovenia, June 1996, June 1999, June 2002 and June 2005 and June 2008.



- Session Chairman for 4th Conference of Greek Association of Computational Mechanics, Patras, June 27-29, 2002.
- Session Chairman for 1<sup>st</sup> International Conference “From Scientific Computing to Computational Engineering” 1<sup>st</sup> IC-SCCE, Athens, 8-10 September, 2004.
- Organizing Committee Chairman for International Summer School and Conference on "Complexity in Science and Society", 14 – 26 July, 2004, Patras and Olympia, Greece.
- Organizing Committee Chairman for the 18th Summer School/Panhellenic Conference on "Nonlinear Science and Complexity", Volos, Greece, 18 – 30 July 2005.
- Co – Chairman of the Organizing Committee (with Prof. E. Aifantis of the University of Thessaloniki) of the 19<sup>th</sup> Summer School/Panhellenic Conference on "Nonlinear Science and Complexity", Thessaloniki, Greece, 12 – 22 July 2006.
- Organizing Committee Chairman for the International Gathering at Cuernavaca on “Nonlinear Lattice Dynamics: From Localization to Statistical Mechanics”, Centro Internacional de Ciencias, Universidad de Morelos, Cuernavaca, Mexico. , 8 – 24 January, 2007.
- Organizing Committee Chairman for the 20th Summer School/Panhellenic Conference on "Nonlinear Science and Complexity", Patras, Greece, 14 – 26 July 2007.
- Organizing Committee member for Workshop on “Nonlinear Waves in Continuous and Discrete Media”, UNAM, Mexico City, 24 – 28 January 2008.
- Organizing Committee member for Workshop on “Nonlinear Dynamics and Its Applications”, University of Chieti – Pescara, Italy, 3 – 8 July 2008.
- Co – Chairman of the Organizing Committee (with Prof. K. Hizanidis of the National Technical University of Athens) of the 21<sup>st</sup> International Summer School – Conference on "Nonlinear Science and Complexity", Athens, Greece, 21 July – 2 August 2008.
- Organizing Committee Chairman for the 22nd Summer School/Panhellenic Conference on "Nonlinear Science and Complexity", Patras, Greece, 15 – 24 July, 2009.
- Organizing Committee Member for Workshop on “Nonlinear Dynamics and Complex Systems”, University of Chieti – Pescara, Italy, July 28 – 31, 2009.
- Organizing Committee Chairman of University of Patras Workshop, "Control of Dynamical Systems: Theory and Applications", February 19-20, 2010, Achaia Beach Hotel
- Organizing Committee Chairman of Synthesis Workshop, "Conflict and Risk in Dynamical Processes", Thursday, December 22, 2011, Conference Center of the University of Patras
- Organizing Committee Chairman of the 1<sup>st</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 18 – 29, 2011, Patras, Greece.
- Organizing Committee Member of the 2<sup>nd</sup> International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 16 – 28, 2012, Pescara, Italy.
- Organizer of Mini – Symposium on “Complex Problems in Theoretical and Applied Mechanics”, at the 13<sup>th</sup> Congress of HSTAM, 25-27, May, 2013, Chania, Crete.
- Organizing Committee Co – Chairman of the 3d International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 15 – 26, 2013, Heraklion, Crete, Greece.
- Organizing Committee Co – Chairman of the 4th International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 14 – 25, 2014, Athens, Greece.

- Organizer of Symposium on Mathematical Modeling of Complex Systems: Computational Approaches”, NumAn Conference on “Recent Approaches to Numerical Analysis: Theory, Methods and Applications”, Chania, Crete, 2 – 5, September, 2014.
- Organizing Committee Chairman of the 5th International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 20 – 30, 2015, Patras, Greece.
- Organizing Committee Member for the 23<sup>rd</sup> Summer School/Panhellenic Conference on "Dynamical Systems and Complexity", Chalkidiki, Greece, 27/8/2016 – 3/9/2016.
- Organizing Committee Chairman of the 1st Summer School on “Mathematical Methods in Science and Technology”, June 5 – 10, 2017, Nazarbayev University, Astana, Kazakhstan.
- Organizing Committee Member for the 24<sup>th</sup> Summer School/Panhellenic Conference on "Dynamical Systems and Complexity", Volos, Greece, 12 – 20 July, 2017.
- Member of 4 - Director team of organizers for the “Let’s Face Complexity: New Bridges Between Physical and Social Sciences”, Lake Como School of Advanced Studies, Como, Italy, September 4-8, 2017, <http://lfcs.lakecomoschool.org/>
- Organizing Committee Member for the 25<sup>th</sup> Summer School/Panhellenic Conference on "Dynamical Systems and Complexity", Athens, Greece, 9 – 17 July, 2018.
- Co-Chair of Organizing Committee of the 2nd Summer School on “Mathematical Methods in Science and Technology”, May 28 – June 8, 2018, KazNU Al Farabi University, Almaty, Kazakhstan.
- Organizing Committee Member and main lecturer of the 6th International Ph.D. School on “Mathematical Modeling of Complex Systems”, July 3 – 11, 2019, Pescara, Italy. See <http://www.j-npcs.org/abstracts/vol2020no2.html>
- Chairman of Organizing Committee for Virtual (online) 6<sup>th</sup> Dynamics Days Central Asia Conference, June 2-5, 2020, Nazarbayev University, Nur-Sultan, Kazakhstan.

### **Book Authorship:**

1. "Dynamical Systems and Chaos", volume 1, in Greek (G. Papatirou, Athens, 1995).
2. "Dynamical Systems and Chaos", volume 2, in Greek (University of Patras Press, Patras, 1997).
3. "Nonlinear Ordinary Differential Equations", in Greek ( G. Pnevmatikos. Athens, 1997).
4. "Differential Equations I", in Greek (Hellenic Open University Press, 2002).
5. “The Wonderful World of Fractals”, in Greek (Leader Books, Athens, 2004).
6. “Complex Hamiltonian Dynamics”, with Haris Skokos, in English (Synergetics series of Springer Verlag, April 2012).  
<https://www.springer.com/gp/book/9783642273049>
7. «Speaking to Athena about Chaos and Complexity», in Greek, with Tefros Mihailidis (Pataki Publ. House, Athens, 2017).
8. “Dynamical Systems and an Introduction to the Theory of Chaos”, in Greek, with St. Anastassiou (A. Pnevmatikos, Athens 2019).

### **Editorial Activities:**

- "Singular Behavior and Nonlinear Dynamics" Proceedings of Intern. Conf. August 18-26, 1988, Samos, Greece, ed. with Sp. and St. Pnevmatikos (World Scientific, 1989).

- Editor of Proceedings of NATO ARW on "Proton Transfer in Hydrogen-Bonded Systems" (Plenum, London, 1992).
- Editor of Proceedings of NATO ASI on "Chaotic Dynamics: Theory and Practice" (Plenum, London, 1992).
- Co - editor of the series "Order and Chaos", Proceedings of Panhellenic Summer Schools on "Nonlinear Dynamics: Chaos and Complexity", 7 volumes edited by G. Pnevmatikos (Athens, 1987, 1988, 1990, 1992, 1998, 2000, 2002) and 8th volume with K. Sfakianaki (Thessaloniki, 2003).
- Co – editor (with Professor Nikolaos Vlahos of the University of Thessaly) of the 9<sup>th</sup> volume of the series “Taksi kai Xaos” (Order and Chaos), University of Thessaly Press, 2006.
- Editor of two Special Issues of the International Journal of Bifurcation and Chaos, Volume: 16, Issue: 6 (June 2006) Volume: 16, Issue: 7 (July 2006) for the Proceedings of the Conference “Complexity in Science and Society”, Patras and Olympia, 14 – 26 July, 2004.
- Co – editor (with Professor Spyros Pnevmatikos of the University of Patras) of the 10<sup>th</sup> volume of the series “Taksi kai Xaos” (Order and Chaos), University of Patras Press, 2008.
- Co – editor (with Prof. K. Hizanidis and Dr. A. Provata) of the volume 11(2) of the International Journal of “Nonlinear Phenomena and Complex Systems”, Proceedings of the 21<sup>st</sup> International Conference –Summer School “Nonlinear Dynamics: Chaos and Complexity”, June 2008.
- Chairman of Editorial Committee for European Physics Journal Special Theme issue with the proceedings of the 5<sup>th</sup> Ph.D. School Conference on “Mathematical Modeling of Complex Systems”, EPJST **225 (5)**, Springer, 2016.
- Co -Editor of Proceedings of 6<sup>th</sup> Ph.D. School on “Mathematical Modeling of Complex Systems”, University of “G. d’ Annunzio”, Pescara, July 3 – 10, 2019, Nonlinear Phenomena in Complex Systems, **2 (3)**, 2020.

#### **Editorial Board Membership:**

- Member of the Editorial Board of the "International Journal of Bifurcation and Chaos", Editor-in-Chief Prof. Guanron Chen, World Scientific.
- Member of Editorial Board of the journal "Russian Journal of Nonlinear Dynamics ", Editors-in-Chief A. Borisov, I. Mamaev, Institute of Computer Science Izhevsk.
- Member of the Editorial Board of the "Nonlinear Phenomena in Complex Systems", Editors-in-Chief A. Gaisyonov and V I. Kuvshinov, Minsk, Belarus.

#### **M. Sc. Theses Supervision:**

1. G. Thanassoulia, "Period Doubling Bifurcations and Break – Up of Invariant Curves in Conservative Dynamical Systems", University of Patras, May 1998.
2. Y. Exintaridis, "Analytical and Numerical Solution of Linear and Nonlinear Partial Differential Equations", University of Patras, May 1999.
3. C. Georgalakis, "Study of the Dynamics and Breather Solutions of 1-Dimensional Non-linear Lattices", University of Patras, June 1999.
4. E. Tzanaki, "Nonlinear Analysis of Time Series of Seismological Data", University of Patras, June 2000.

5. C. Apokis, "Propagation of Solitary Surface Waves in a Shallow Water Layer", University of Patras, March 2003.
6. P. Soulis, "Regular and Chaotic Motion in Sitnikov's Circular 3-Body Problem", University of Patras, October 2003.
7. A. Manos, "Regular and Chaotic Motion of Multi-Degree of Freedom Hamiltonian Systems", University of Patras, October 2004.
8. Th. Vardaxis, "Dynamics of Epidemics: Analytical and Numerical Study of Nonlinear Models", University of Patras, July 2006.
9. P. Yannopoulos, "Transport and Diffusion of Atmospheric Pollution by the Wind", University of Patras, October 2007.
10. A. Vlisidou, "Study of the Function of a Catalytic Converter Using Partial Differential Equations", October 2008.
11. V. Soulioti, "Study of a Dynamical System in Discrete Time with a Linear Part and Discontinuity", October 2008.
12. O. Pandis, "Traces of Chaos in Quantum Mechanics: Some Examples of Quantum Billiards", June 2009.
13. S. Koutsokeras, "Models of Population Evolution: Stable and Chaotic Dynamics", March 2009.
14. M. Pashalidou, "Description and Study of Boundary Value Problems", February 2010.
15. D. Koliniati, "Study of Bifurcations and Normal Forms of Vector Fields", February 2010.
16. Ch. Papanicolaou, "Study of the van der Pol Equation in the plane and in the Presence of Periodic Perturbations", April 2014.
17. Ilias Panagiotopoulos, "Localized Oscillations in Nonlinear Hamiltonian Lattices", October 2014.
18. Dimitra Karatzia, "Ordinary Differential Equations of Physical Sciences and Applications of q-Distributions, July 2016.
19. Evangelos Mitsokapas, "Statistical Mechanics and Entropy of Complex Systems", July 2016.
20. Christos Katsivelos, "Dynamics of Hamiltonian Systems and Localized Oscillations in a 2- Dimensional Lattice of Graphene", December 2016.
21. Banu Zharas, "Synchronization Properties of Coupled Nonlinear Oscillators With Applications to Photonic arrays", MSc. Thesis, Nazarbayev University (May 2019).
22. Aigerim Zholmaganbetova, "The Dynamics of Hamiltonian Lattices with Application to Hollomon Oscillators", MSc. Thesis, Nazarbayev University (May 2019).

#### **Ph. D. Theses Supervision:**

1. N. Budinsky, "Stability of Periodic Orbits and Chaotic Behaviour in Hamiltonian Systems" Math. Dept., Clarkson University (1984).
2. G.M. Mahmoud, "Analytical and Numerical Approaches to Periodic Orbits of Dynamical Systems", Math. Dept., Clarkson University (1987).
3. M. Bier, "On Global Properties of Solutions of Nonlinear Systems", Math. Dept., Clarkson University (1988).
4. V. Papageorgiou, "Analytical Approaches to Integrable and Near-Integrable Dynamical Systems", Math. Dept., Clarkson University (1988).
5. L. Drossos, "Analytical and Numerical Methods of Chaotic Dynamics", Math. Dept., University of Patras, (1993).

6. G. Papaioannou, "Analysis and Prediction of Chaotic Time Series Using Methods of Nonlinear Dynamics", Math. Dept. University of Patras, June 1998.
7. V. M. Rothos, "Mel'nikov Analysis and Homoclinic Chaos in Nonlinear Dynamical Systems", Math. Dept., University of Patras, September 1998.
8. M. Kollmann, "Coherence and Diffusion in Classical and Quantum Nonlinear Systems", Co – advisor with Professor Hans W. Capel, Dept. of Physics, University of Amsterdam, December 1998 .
9. V. Marinakis, "Integrability and Solvability of Nonlinear Systems with Algebraic Singularities", Math. Dept., University of Patras, November, 2001.
10. J. Bergamin, "Localized Oscillations in 1-D Nonlinear Lattices", Math. Dept., University of Patras, October 2003.
11. C. Antonopoulos, "Stability and Chaos in Multi-Degree of Freedom Hamiltonian Systems: From Classical to Statistical Mechanics", Math. Dept., University of Patras, July 2007.
12. A. Manos, "A Study of Hamiltonian Dynamics With Applications to Models of Barred Galaxies", University of Patras and University of Marseille I (Université de Provence), November 2008.
13. H. Christodoulidi, "The Dynamics of Low – Dimensional Tori in Multidimensional Hamiltonian Systems", Math. Dept., University of Patras, February, 2010.
14. K. Andriopoulos, "Mathematical Methods in Microeconomics and Finance", Math. Dept., University of Patras, February, 2011.
15. S. Scarlatos, "Voter Models with Confidence Parameter", Math. Dept., University of Patras, July 2013.
16. (Co – Promotor) G. Papantonopoulos, "On the use of complexity methods in "personalized Periodontology and Implant Dentistry", University of Amsterdam, December 2016.

#### **List of Publications:**

(More than 6000 citations, h-index: 40, i10-index: 127, Source: Google Scholar, Research Gate Score: 39)

#### **In Refereed Journals:**

1. T. Bountis, R. Helleman, "Exact Statistical Mechanics of Some Classical 1D Systems", *J. Math. Phys.* **19** (2), 477 (1978).
2. R. Helleman, T. Bountis, "Periodic Solutions of Arbitrary Period, Variational Methods", *Lectures Notes in Physics* **93**, 353 (1978).
3. T. Bountis, R. Helleman, "On the Stability of Periodic Orbits of Two-Dimensional Mappings", *J. Math. Phys.* **22** (9), 1867 (1981).
4. T. Bountis, "Period-Doubling Bifurcations and Universality in Conservative Systems", *Physica* **3D**, 577 (1981).
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8. T. Bountis, "Note on the Painleve Property of Anharmonic Systems with an External Periodic Field", *Physics Letters* **97A** (3), 85 (1983).
9. T. Bountis, N. Budinsky, C.R. Eminhizer, "Resonance Criteria for Minimizing Blow-Up Effects in Colliding Beams", *Nucl. Instr. Meth.* **227**, 205 (1984).

10. A. Ramani, B. Grammaticos, T. Bountis, "Integrability and the Painleve Property of Low-Dimensional Systems", *J. Math. Phys.* **25**(4), 878 (1984).
11. T. Bountis, B. Grammaticos, A. Ramani, "On the Complete and Partial Integrability of Non-Hamiltonian Dynamical Systems", *Physica* **128A** , 268, (1984).
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