CURRICULUM VITAE

Family name: Skokos
Name: Charalampos (Haris)
Date of birth: 12 Oct. 1968
Place of birth: Sydney, Australia
Citizenship: Greek
Marital status: Married, one son

Professor of Applied Mathematics, University of Cape Town, South Africa
Member of the Academy of Science of South Africa (ASSAf)
Fellow of the Royal Society of South Africa
Member of the College of Fellows of the University of Cape Town

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Education

1997: **Ph.D. in Nonlinear Dynamical Systems,** Department of Astrophysics, Astronomy and Mechanics, Faculty of Physics, University of Athens, Greece. Graduated with honors (excellent). Ph.D. Thesis: "*Numerical and theoretical study of structures in the phase space of dynamical systems with two and three degrees of freedom*". Advisor: Prof. G. Contopoulos (Univ. of Athens, Greece).

1990: **B.Sc. in Physics**, University of Athens, Greece. First class honors (9.11 / maximum 10).

2005: **B.Sc. in Mathematics**, University of Athens, Greece (7.44 / maximum 10).

Research interests

- Nonlinear dynamical systems - Chaotic dynamics - Complex systems
- Hamiltonian systems
- Numerical methods for distinguishing between regular and chaotic behavior - Chaos indicators
- Symplectic integrators
- Nonlinear lattices - Disordered systems
- Granular media
- Graphene and DNA models
- Galactic dynamics - Dynamics of barred galaxies
- Numerical methods for locating periodic orbits - Stability and bifurcations of periodic orbits
- Beam dynamics in particle accelerators
- Celestial mechanics - Three body problem
- Normal forms - Formal integrals
- Discrete breathers - Solitons
- Ordinary and partial non-linear differential equations

Employment

Jan. 2024 – present:	**University of Cape Town (South Africa), Faculty of Science, Department of Mathematics and Applied Mathematics. Professor.** Jan. 2022 – Dec. 2024: **Deputy Dean for Postgraduate Studies and Research, Faculty of Science.**
Jan. 2017 – Dec. 2023:	**University of Cape Town (South Africa), Faculty of Science, Department of Mathematics and Applied Mathematics. Associate Professor.** Aug. 2021 – Jan. 2022: **Deputy Head of Department.** July 2020 – Jan. 2021: **Deputy Head of Department.** Jan. 2020 – June 2020: **Interim Head of Department.** Jan. 2017 – Dec. 2019: **Deputy Head of Department.**
Sept. 2013 – Dec. 2016:	**University of Cape Town (South Africa), Faculty of Science, Department of Mathematics and Applied Mathematics. Senior Lecturer.**
July 2011 – Sept. 2013:	**Aristotle University of Thessaloniki (Greece), School of Science, Physics Department. Assistant Professor.**
Oct. 2006 – July 2013 and June 2000 – July 2005:	**Hellenic Open University (Greece), School of Science and Technology, teaching staff – tutor (annual contracts).** Courses: Mechanics, Thermodynamics, Electromagnetism (2000 – 2005), and Linear Algebra, Single Variable Calculus, Introduction to Probability Theory, Introduction to Matlab and Mathematica (2006 – 2013).
Feb. 2008 – June 2011:	**Max Planck Institute for the Physics of Complex Systems (Dresden, Germany), researcher. Research project** : "*New Methods for Analyzing the Dynamics of Nonlinear Lattices*"
Feb. 2006 – Jan. 2008:	**Observatory of Paris, Institut de Mécanique Céleste et de Calcul des Éphémérides (France), postdoctoral fellow. Research project** : "*Beam Stability in Modern Light Sources via Frequency Map Analysis*". The project was financially supported by the European Union (**Marie Curie, Intra-European Fellowship,** EIF).
Jan. 1999 – Dec. 2005:	**Academy of Athens (Greece)**, **Research Center for Astronomy and Applied Mathematics, postdoctoral researcher. Research project**: "*Theoretical study of galaxies*" (Jan. 1999 – Dec.2001). The project was financially supported by the Greek Ministry of Industry, Research and Technology and the European Union. **Research project**: "*Study of the orbital structure of barred galaxies in N-body simulations*" (Jan. 2002 – Dec. 2004). The project was financially supported by the Research Committee of the Academy of Athens. **Research project**: "*Qualitative and quantitative analysis of chaotic regions of three-dimensional galactic potentials*" (Jan. 2005 – Dec. 2005). The project was financially supported by the Research Committee of the Academy of Athens.
Sept. 2004 – June 2005:	**Technological Educational Institute of Messolonghi (Greece), Faculty of Management and Economics, Department of Applied Informatics in Management and Finance, Assistant Professor (annual contract).** Courses: Econometrics – C programming language (lab).
Jan. 2002 – Dec. 2003:	**University of Patras (Greece), School of Natural Sciences, Department of Mathematics, 'Karatheodoris' postdoctoral researcher. Research project**: "*Chaotic dynamics and statistical behavior of dynamical systems*". The project was financially supported by the Research Committee of the University of Patras (**'Karatheodoris' postdoc fellowship**).
Sept. – Oct. 2003, and Dec. 1998 – July 1999:	**Teacher of Informatics** at the "Hellenic Center of Information Technology" (Athens, Greece), a private Educational and Consulting Company specialized in Informatics, Management and Finance.
June 1999 – Dec. 2000:	**University of Athens (Greece), School of Science, Faculty of Physics, postdoctoral researcher. Research project**: "*National program of controlled thermonuclear fusion*". The project was financially supported by the European Union.
Sept. 1999 – Jan. 2000:	**Scientific collaborator** of the private educational organization Ellinogermaniki Agogi S. A. (Athens, Greece). **Research project** on applying Open Distance Learning (ODL) in Didactics of Physics: "*YouRA: Young researchers in action*". The project was financially supported by E.U. in the framework of E.U. Socrates Programme.
Mar. 1997 – Sept. 1998:	Greek Army, **mandatory military service**.

Mar. 1996 – Mar. 1997: **University of Athens (Greece), School of Science, Faculty of Physics, Department of Astrophysics, Astronomy and Mechanics, postgraduate student**. **Research project**: "*Gravitational collapse and structure of the phase space*". The project was financially supported by the Greek Ministry of Industry, Research and Technology.

Dec. 1993 – Dec. 1994: **National Observatory of Athens (Greece), Astronomical Institute, fellow**.

May 1993 – Feb. 1994: **University of Athens (Greece), School of Science, Faculty of Physics, Department of Astrophysics, Astronomy and Mechanics, postgraduate student**. **Research project** : "*Classical and quantum study of dynamical systems of three degrees of freedom*". The project was financially supported by the Greek Ministry of Industry, Research and Technology.

Visiting

1. **Max Planck Institute for the Physics of Complex Systems, Dresden (Germany).** Guest scientist. Aug. 13, 2025 – Jan. 29, 2026 (UCT sabbatical leave).
2. **Department of Mathematics, Khalifa University, Abu Dhabi (United Arab Emirates).** Invited visitor. Collaboration with Prof. Hadi Susanto. June 2 – June 7, 2025.
3. **Department of Materials Science, University of Patras, Patras (Greece).** Invited visitor. Collaboration with Dr. George Kalosakas. March 26 – April 1, 2025 & Oct. 26 – Nov. 2, 2024 & Nov. 4 – Nov. 18, 2017.
4. **Department of Mathematics, University of Namur, Namur (Belgium).** Invited visitor. Collaboration with Dr. Jérôme Daquin. Feb. 9 – Feb. 14, 2025.
5. **Department of Mechanics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Athens (Greece).** Invited visitor. Collaboration with Prof. Yannis Kominis, Sept. 5 – Sept. 18, 2024 & Sept. 30 – Oct. 14, 2023 & May 22 – May 28, 2022.
6. **Laboratoire d'Acoustique de l'Université du Maine, Le Mans (France).** Invited visitor. Collaboration with Dr. Georgios Theocharis, Dr. Vassos Achilleos and Prof. Olivier Richoux. May 18 – June 1, 2024 & Nov. 5 – Nov. 19, 2022 & Oct. 21 – Nov. 16, 2019 (invited teaching professor) & Jan. 21 – Feb. 3, 2018 (invited teaching professor) & Sept. 17 – Sept. 29, 2017 (invited teaching professor) & Feb. 11 – Feb. 18, 2017 & Nov. 16 – Nov. 21, 2015 & June 22 –June 28, 2015.
7. **Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens (Greece)**. Invited visitor. Collaboration with Prof. Panos Patsis and Dr. Matthaios Katsanikas. Dec. 15, 2022 – Jan. 21, 2023.
8. **Institute of Mathematical Sciences (ICMAT), Spanish National Research council, Madrid (Spain).** Invited visitor. Collaboration with Dr. Makrina Agaoglou and Prof. Ana Mancho, Oct. 22 – Oct. 28, 2022.
9. **Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens (Greece)**. Invited visitor. Collaboration with Prof. Panos Patsis. June 24 – July 27, 2023 & Jan. 24 – Jan. 31, 2020 & July 1 – Aug. 2, 2018 (UCT sabbatical leave) & Sept. 4 – Sept. 13, 2017 & Feb. 26 – March 4, 2017 & Nov. 15 – Nov. 15, 2016 & June 16 – July 14, 2016 & June 14 – July 10, 2015.
10. **Max Planck Institute for the Physics of Complex Systems, Dresden (Germany).** Guest scientist. Collaboration with Prof. Arnd Bäcker. Dec. 8, 2019 – Jan. 12, 2020 & Aug. 3, 2018 – Jan. 3, 2019 (UCT sabbatical leave).
11. **Lohrmann Observatory, Technical University Dresden, Dresden (Germany).** Invited visitor. Collaboration with Dr. Enrico Gerlach. Dec. 8, 2019 – Jan. 12, 2020 & July 4 – July 9, 2016 & Nov. 21 – Nov. 27, 2015 & Apr. 28 – May 13, 2013.
12. **Department of Mathematics, School of Science and Technology, Nazarbayev University, Nur Sultan city (Kazakhstan).** Invited visitor. Collaboration with Prof. Tassos Bountis, May 13 – May 18, 2019.
13. **Institute of Theoretical Physics, Faculty of Physics, Technical University Dresden, Dresden (Germany).** Invited visitor. Collaboration with Prof. Arnd Bäcker. Dec.11 – Dec. 20, 2017.
14. **Center for Theoretical Physics of Complex Systems, Institute for Basic Science, Daejeon (South Korea).** Invited visitor. Collaboration with Prof. Sergej Flach. Aug. 15 – Aug. 23, 2017.
15. **Max Planck Institute for the Physics of Complex Systems, Dresden (Germany).** Invited visitor. Collaboration with Dr. Achilleas Lazarides. Dec. 13, 2014 – Jan. 18, 2015 & May 30 – July 31, 2013 & Jan. 20 – Feb. 20, 2013.
16. **Max Planck Institute for the Physics of Complex Systems, Dresden (Germany).** Invited visitor. Collaboration with Dr. Sergej Flach. July 16 – Aug. 31, 2012 & Jan. 13 – Feb. 12, 2012.
17. **Center for Research and Application of Nonlinear Systems, University of Patras, Patras (Greece).** Invited visitor. Collaboration with Prof. Tassos Bountis. Feb. 22 – Feb. 25, 2011 & Apr. 5 – Apr. 8, 2011 & May 27 – May 30, 2011 & June 12 – June 14, 2011.
18. **Institute for Astronomy, University of Vienna, Vienna (Austria).** Invited visitor. Collaboration with Prof. Rudolf Dvorak. Apr. 19 – Apr. 24, 2010.

19. **Department of Mathematics, University of Namur, Namur (Belgium).** Invited visitor. Collaboration with Dr. Timoteo Carletti. Feb. 1 – Feb. 4, 2010.
20. **European Organization for Nuclear Research (CERN), Geneva (Switzerland).** Visiting researcher. Collaboration with Dr. Yannis Papaphilippou. June 4 – June 20, 2007 & Feb. 1 – Feb. 13, 2007.
21. **European Synchrotron Radiation Facility (ESRF), Grenoble (France).** Invited visitor. Collaboration with Dr. Yannis Papaphilippou. Sept. 19 – Sept. 30, 2005.
22. **Institut de Mécanique Céleste et de Calcul des Éphémérides, Observatory of Paris, Paris (France).** Invited visitor. Collaboration with Prof. Jacques Laskar. Nov. 2 - Nov. 30, 2003.
23. **Observatory of Marseille, Marseille (France).** Invited visitor (research project of CNRS France). Collaboration with Dr. Lia Athanassoula. Feb. 16 - Feb. 28, 2003 & Jan. 27 - Feb. 9, 2002 & Sept. 21 - Oct. 7, 2001 & July 12 - July 28, 2000.
24. **Department of Physics, University of Bologna, Bologna (Italy).** Invited visitor (Human Capital and Mobility program). Collaboration with Prof. Giorgio Turchetti. June 23 - July 6, 2001 & July 1995.
25. **Department of Mathematics, University of Milan, Milan (Italy).** Visiting postgraduate student (Human Capital and Mobility program / ERASMUS grant). Collaboration with Prof. Antonio Giorgilli. July 1995 & Oct. 1992 - Dec. 1992.
26. **Department of Chemistry, University of Crete, Heraklion (Greece).** Visiting postgraduate student (project of Greek Ministry of Industry Research and Technology). Collaboration with Prof. Stavros Farantos. Apr. 1994 & Dec. 1993.

Participation in research projects

1. "*Chaos and natural transport via orbital resonances in low-Earth orbits*", **Principal Investigator,** National Research Foundation (NRF) of South Africa, NRF Grant 2025: SA/Wallonia-Brussel Federation Science and Technology Research Collaboration, 2025 (Grant Number: WABR240401211578), Jan. 2025 – Dec. 2026. Subject: Theoretical and numerical investigation of the stability and chaoticity of motions of resident space objects (RSOs) in detailed dynamical models of the near-Earth space.
2. "*Chaotic behavior of graphene models*", **Principal Investigator** (with G. Kalosakas), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, Jan. 2024 – June 2025. Subject: Numerical investigation of chaos in Hamiltonian models of graphene.
3. "*Chaos in plasma physics models*", **Principal Investigator** (with Y. Kominis), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between National Technical University of Athens, Greece and the University of Cape Town, South Africa, June 2020 – July 2023. Subject: Numerical investigation of chaos in plasma physics models.
4. "*Chaotic behavior of DNA models*", **Principal Investigator** (with G. Kalosakas), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, Jan. 2020 – May 2021. Subject: Numerical investigation of chaos in Hamiltonian models of DNA.
5. "*Chaos in plasma physics models*", **Principal Investigator** (with Y. Kominis), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between National Technical University of Athens, Greece and the University of Cape Town, South Africa, June 2019 – July 2022. Subject: Numerical investigation of chaos in plasma physics models.
6. "*Chaos in plasma physics models*", **Principal Investigator** (with Y. Kominis), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between National Technical University of Athens, Greece and the University of Cape Town, South Africa, June 2018 – July 2021. Subject: Numerical investigation of chaos in plasma physics models.
7. "*Numerical investigation of the impact of complex instability to the phase space structure of dynamical systems with emphasis to barred galaxy models*", **Principal Investigator,** International Collaborative Research Project Award, Research Office of the University of Cape Town, Feb. 2017 – Jan. 2018. Subject: Numerical study of the evolution of phase space structures around complex unstable periodic orbits, in order to understand the mechanisms that introduce chaos in these regions. Investigation of the morphological features of the studied orbits and their importance for the orbital behavior of barred galaxy models.
8. "*Chaotic behavior of DNA models*", **Principal Investigator** (with G. Kalosakas), European Union (EU), Erasmus+ programme: Higher Education Student and Staff Mobility, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, Jan. 2017 – May 2018. Subject: Numerical investigation of chaos in Hamiltonian models of DNA.
9. "*Chaos in disordered nonlinear lattices*", **Principal Investigator,** National Research Foundation (NRF) of South Africa, Jan. 2016 – Dec. 2018. Subject: Investigation of the mechanisms of chaos in various models of disordered nonlinear lattices in one and two dimensions.

10. "*Chaotic energy transport in disordered nonlinear lattices*", **Principal Investigator,** Research Office of the University of Cape Town, Oct. 2014 – Sept. 2016. Subject: Study of the characteristics of the chaotic wave packet spreading in disordered variants of two typical one-dimensional Hamiltonian lattice models, namely the Klein-Gordon (KG) oscillator chain and the discrete nonlinear Schrödinger equation (DNLS).
11. "*Mathematical modeling of complex systems with applications to biomedicine, physics and the technology of materials (MACOMSYS)*", Aristotle University of Thessaloniki, Jan. 2012 – Dec. 2015. Subject: Study of the chaotic behavior of multi-dimensional Hamiltonian systems with emphasis to the problem of energy transport in nonlinear lattices.
12. "*Chaotic energy spreading in disordered nonlinear lattices*", **Principal Investigator,** *Research Committee of the Aristotle University of Thessaloniki (Prog. No 89317), Feb. 2013 – Jan. 2014*. Subject: Study of the chaotic nature of energy spreading in disordered nonlinear lattices.
13. "*Critical phenomena and collective behaviour of multi-particle complex systems (Complex Matter)*", University of Patras, Jan. 2011 – Dec. 2012. Subject: Development of numerical techniques for the integration of differential equations, the distinction between order and chaos, as well as the control of chaotic behavior, and applications to multi-dimensional systems.
14. "*Beam Stability in Modern Light Sources via Frequency Map Analysis*", Observatory of Paris, Feb. 2006 – Jan. 2008. Subject: Application of Frequency Map Analysis for understanding the beam stability limitations in modern light sources.
15. "*Non-linear dynamics and complex systems: Theory and applications to physical and biomedical sciences*", University of Patras, Apr 2005 – Dec. 2006. Subject: Statistical properties of non-linear dynamical systems. Computation of the size of chaotic regions in the phase space of Hamiltonian systems by the Smaller Alignment Index (SALI) method. Study of the complex behavior of coupled non-linear oscillators.
16. "*Orbital structure of 3 dimensional N-body models of barred galaxies*", **Principal Investigator,** Empeirikeion Foundation, Aug. 2004 – Jan. 2006. Subject: Study of the periodic orbits in analytic potentials of N-body simulations of barred galaxies. Comparison of the morphological features of the simulations to the structures observed in real galaxies.
17. "*Qualitative and quantitative analysis of chaotic regions of three-dimensional galactic potentials*", Academy of Athens, Jan 2005 – Dec. 2005. Subject: Study of the phase space's structure in the neighborhood of periodic orbits in 3D galactic potentials by the Smaller Alignment Index (SALI) method.
18. "*Dynamics and fractal structures in discrete dynamical systems*", Empeirikeion Foundation, Aug. 2004 – Sept. 2005. Subject: Study of the dynamics and diffusion properties of non-periodic orbits in discrete dynamical systems, which are influenced by the presence of a fractal set of periodic orbits in the phase space.
19. "*Study of the orbital structure of barred galaxies in N-body simulations*", Academy of Athens, Jan 2002 – Dec 2004. Subject: Study of periodic orbits in potentials derived by N-body simulations.
20. "*Chaotic dynamics and statistical behavior of dynamical systems*", University of Patras, Jan 2002 – Dec. 2003. Subject: Dynamical and statistical study of ordered and chaotic behavior of mappings and Hamiltonian dynamical systems.
21. "*Chaos in three-dimensional N-body models of barred galaxies. Specialized software and new technologies*", Greek State Scholarship's Foundation, Dec. 2002 – Nov. 2003. Subject: Study of the chaotic behavior in potentials of N-body systems, derived by using different algorithms and hardware (GRAPEs and common computers).
22. "*Vertical structure in barred galaxies*", Centre National de la Recherche Scientifique (CNRS) France, July 2000 – Feb. 2003. Subject: Orbital structure of analytic potentials and N-body simulations of barred galaxies.
23. "*Theoretical study of galaxies*", E.U., Greek Ministry of Industry Research and Technology, Academy of Athens, Jan. 1999 – Dec. 2001. Subject: Numerical methods for detecting the chaotic behavior of orbits in dynamical systems with $n \geq 3$ degrees of freedom. Study of periodic orbits in 3D Ferrers bar potentials which are believed to approximate the dynamics of real barred galaxies. Comparison of the morphological features of the periodic orbits to the observed structures in real galaxies.
24. "*National program of controlled thermonuclear fusion*", E.U. – Contract ERB5005CT990100, July 1999 – Dec. 2000. Subject: Study of the different stability types of periodic orbits of high dimensional autonomous Hamiltonian systems.
25. "*YouRA: Young researchers in action*", E.U., Sept. 1999 – Feb. 2000. Subject: Implementation of Open Distance Learning in Didactics of Physics.
26. "*Gravitational collapse and structure of the phase space*", Greek Ministry of Industry Research and Technology, March 1996 – March 1997. Subject: Theoretical and numerical study of the structures in the phase space of dynamical systems with three degrees of freedom and 4D maps.
27. Human Capital and Mobility Program EPB4050PL930312 – E.E.C., 1996. Subject: Study of the features of non-periodic orbits of 4D maps composed of two coupled 2D maps.

28. Human Capital and Mobility Program ERBCHRXCT930330 – E.E.C., 1995. Subject: Study of the bifurcations of periodic orbits in a class of Hénon-like 2D maps, which are simple models of a particle accelerator, having same linear parts but different non-linear behavior.
29. "*Classical and quantum study of dynamical systems of three degrees of freedom*", Greek Ministry of Industry Research and Technology, May 1993 – Feb. 1994. Subject: Study of the irregular periodic orbits in a chemical three body problem: the interaction of two atoms of hydrogen and one atom of fluorine.
30. ERASMUS, University of Milan (Italy), Visiting postgraduate student, Oct. 1992 – Dec. 1992. Subject: Theoretical and numerical study of the effective stability in the restricted problem of three bodies. Application to the Trojan asteroids.

Grants, Fellowships, Proposals, Awards

1. Wilhelm and Else Heraeus Foundation (Germany), Oct. 2024: funding (90,000 EUR) for the organization of the workshop "Nonlinear Dynamics and Anomalous Transport in Low Dimension" in the framework of the foundation's Binatioal Seminars Series ("South African-German Wilhelm and Else Heraeus Seminar"), Cape Town, South Africa, 2 - 6 Feb. 2026.
2. University of Cape Town (South Africa), Science Faculty Block Grant, 13,231 ZAR, Sept. 2025.
3. Elected **Fellow of the Royal Society of South Africa** (Sept. 2025 – present).
4. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant (UCT sabbatical leave), Aug. 13, 2025 – Jan. 29, 2026.
5. Khalifa University (United Arab Emirates), invited visitor grant, 5,800 AED, June 2 – June 7, 2025.
6. National Research Foundation (South Africa). **Principal Investigator,** NRF Grant 2025: SA/Wallonia-Brussel Federation Science and Technology Research Collaboration, 2025, 500,000 ZAR (Grant Number: WABR240401211578), Jan. 2025 – Dec. 2026.
7. Elected **Member of the Academy of Science of South Africa** (ASSAf) (Sept. 2024 – present).
8. Elected **Fellow of the University of Cape Town** by the university's College of Fellows in recognition of my research activity (Sept. 2024 – present).
9. University of Cape Town (South Africa), Science Faculty Block Grant, 13,676 ZAR, July 2024.
10. University of Cape Town (South Africa), Enabling Grant Seeker Excellence Award, 20,000 ZAR, July 2024.
11. University of Cape Town (South Africa), University Research Committee Short Research Visit Grant, 30,000 ZAR, June 2024. Visit at the Khalifa University, Abu Dhabi Campus (United Arab Emirates) to collaborate with Prof. H. Susanto.
12. University of Cape Town (South Africa), Science Faculty, Deputy Dean Research Allowance, 71,506 ZAR, March 2024.
13. European Union (EU), **Principal Investigator** (with G. Kalosakas), Erasmus+ programme, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, 16,100 EUR, Jan. 2024 – June 2025.
14. Max Planck Institute for the Physics of Complex Systems (Germany), Conference Travel Grant, 1,400 EUR. Participation in the Scientific Workshop: 30 years MPI-PKS (Dresden, Germany, 6 – 9 Sept. 2023).
15. University of Cape Town (South Africa), Science Faculty Block Grant, 11,798 ZAR, Aug. 2023.
16. University of Cape Town (South Africa), University Research Committee Conference Travel Grant, 31,664.64 ZAR, May 2023. Invited participation in the International Conference on Statistical Physics 2023, SigmaPhi 2023 (Chania, Crete, Greece, 2023).
17. Isaac Newton Institute for Mathematical Sciences, Cambridge (UK), invited participant to the programme "Mathematical theory and applications of multiple wave scattering", ≈ 1,300 GBP, May 20 – June 3, 2023.
18. University of Cape Town (South Africa), Science Faculty, Deputy Dean Research Allowance, 68,101 ZAR, May 2023.
19. Laboratoire d'Acoustique de l'Université du Maine (France), invited visitor grant, 2,898.27 EUR, Nov. 5 – Nov. 19, 2022.
20. University of Cape Town (South Africa), Science Faculty, Deputy Dean Research Allowance, 66,150 ZAR, Nov. 2022.
21. Institute of Mathematical Sciences (ICMAT), Spanish National Research council, Madrid (Spain), invited visitor grant, 1,287.70 EUR, Oct. 22 – Oct. 28, 2022.
22. University of Cape Town (South Africa), Science Faculty Block Grant, 10,238 ZAR, July 2022.
23. University of Cape Town (South Africa), **Merit Award** 2022-2023 'in recognition of continued strong performance in research', Jan. 2022 – Dec. 2023.
24. University of Cape Town (South Africa), Science Faculty Block Grant, 8,645 ZAR, Nov. 2021.

25. **Awarded a rating of B1[1] (internationally acclaimed researcher)** from the National Research Foundation (South Africa), with Incentive Funding for Rated Researchers 30,000 ZAR and a top-up of 50,000 ZAR from the University of Cape Town, Jan. 2021 – Dec. 2026.
26. University of Cape Town (South Africa), Science Faculty Block Grant, 7,129 ZAR, Nov. 2020.
27. University of Cape Town (South Africa), Science Faculty, Head of Department Research Allowance, 25,500 ZAR, July 2020.
28. European Union (EU), **Principal Investigator** (with Y. Kominis), Erasmus+ programme, Bilateral collaborative project between the National Technical University of Athens, Greece and the University of Cape Town, South Africa, 23,910 EUR, June 2020 – July 2023.
29. University of Cape Town (South Africa), Study Travel Grant, 7,500 ZAR, June 2020.
30. European Union (EU), **Principal Investigator** (with G. Kalosakas), Erasmus+ programme, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, ≈ 2,000 EUR, Jan. 2020 – May 2021.
31. University of Cape Town (South Africa), University Research Committee Short Research Visit Grant, 25,000 ZAR, October 2019. Visit at the Technical University Dresden (Germany) to collaborate with Prof. A. Bäcker and Dr. E. Gerlach (Dec. 2019 - Jan. 2020).
32. University of Cape Town (South Africa), Science Faculty Block Grant, 4,934 ZAR, Nov. 2019.
33. Laboratoire d'Acoustique de l'Université du Maine, Le Mans (France), Invited Teaching Professor, 2,730 EUR, Oct. 21 – Nov. 16, 2019.
34. University of Cape Town (South Africa), Enabling Grant Seeker Excellence Award, 100,000 ZAR, July 2019.
35. European Union (EU), **Principal Investigator** (with Y. Kominis), Erasmus+ programme, Bilateral collaborative project between the National Technical University of Athens, Greece and the University of Cape Town, South Africa, 20,510 EUR, June 2019 – July 2022.
36. University of Cape Town (South Africa), University Research Committee Conference Travel Grant, 20,130 ZAR, May 2019. Participation in the 6th PhD School/Conference on Mathematical Modeling of Complex Systems (Pescara, Italy, 2019).
37. University of Cape Town (South Africa), Science Faculty Block Grant, 8,420 ZAR, Nov. 2018.
38. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant (UCT sabbatical leave), Aug. 3, 2018 – Jan. 3, 2019.
39. European Union (EU), **Principal Investigator** (with Y. Kominis), Erasmus+ programme, Bilateral collaborative project between the National Technical University of Athens, Greece and the University of Cape Town, South Africa, 14,430 EUR, June 2018 – July 2021.
40. University of Cape Town (South Africa), Study Travel Grant, 7,500 ZAR, Jan. 2018.
41. University of Cape Town (South Africa), Science Faculty Block Grant, 10,130 ZAR, Dec. 2017.
42. Laboratoire d'Acoustique de l'Université du Maine, Le Mans (France), Invited Teaching Professor, 4,000 EUR, Sept. 17 – Sept. 29, 2017 & Jan. 21 – Feb. 3, 2018.
43. Center for Theoretical Physics of Complex Systems, Institute for Basic Science (South Korea), guest scientist grant, 1,765,500 KRW, Aug. 15 – Aug. 23, 2017.
44. University of Cape Town (South Africa), University Research Committee Conference Travel Grant, 16,455 ZAR, May 2017. Participation in the International Scientific Workshop "Recent Advances in Hamiltonian and Nonholonomic Dynamics" (Moscow, Russia, 2017).
45. University of Cape Town (South Africa), **Principal Investigator,** International Collaborative Research Project Award, 50,000 ZAR, Feb. 2017 – Jan. 2018.
46. European Union (EU), **Principal Investigator** (with G. Kalosakas), Erasmus+ programme, Bilateral collaborative project between the University of Patras, Greece and the University of Cape Town, South Africa, ≈ 6,000 EUR, Jan. 2017 – May 2018.
47. University of Cape Town (South Africa), Science Faculty Block Grant, 3,745 ZAR, Aug. 2016.
48. Lohrmann Observatory, Technical University Dresden (Germany), visitor grant, 389 EUR, July 4 – July 9, 2016.
49. National Research Foundation (South Africa), **Principal Investigator,** Competitive Programme for Rated Researchers (CPRR) 2016, 630,000 ZAR, Jan. 2016 – Dec. 2018.
50. University of Cape Town (South Africa), Science Faculty Block Grant, 4,547 ZAR, Aug. 2015.
51. Lohrmann Observatory, Technical University Dresden (Germany), visitor grant, 610 EUR, Nov. 21 – Nov. 27, 2015.
52. Laboratoire d'Acoustique de l'Université du Maine (France), visitor grant, 409.86 EUR, Nov. 16 – Nov. 21, 2015.

[1] The NRF rating system is a tool for benchmarking the quality of researchers in South Africa against the best in the world. NRF ratings last for 6 years and are allocated based on a researcher's recent research outputs and impact as perceived by international peer reviewers (https://www.nrf.ac.za/rating).

53. Laboratoire d'Acoustique de l'Université du Maine (France), visitor grant, 650.43 EUR, June 22 – June 28, 2015.
54. **Awarded a rating of B1 (internationally acclaimed researcher)** from the National Research Foundation (South Africa), with Incentive Funding for Rated Researchers, 480,000 ZAR, Jan. 2015 – Dec. 2020.
55. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant, 3,150 EUR, Dec. 13, 2014 – Jan. 18, 2015.
56. University of Cape Town (South Africa), **Principal Investigator,** Research Development Grant, 30,862 ZAR, Oct. 2014 – Sept. 2016.
57. University of Cape Town (South Africa), New Academic Practitioner Programme (NAPP) Start-up Teaching Grant, 5,000 ZAR, June 2014.
58. University of Cape Town (South Africa), Start-up Grant, 20,000 ZAR, Oct. 2013.
59. Max Planck Institute for the Physics of Complex Systems (Germany), funding (≈ 40,000 EUR) for the organization of the workshop "Methods of Chaos Detection and Predictability: Theory and Applications" (MCDPTA13), Dresden, Germany, 17 – 21 June 2013.
60. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant, 5,291 EUR, May 30 – July 31, 2013.
61. Research Committee of the Aristotle University of Thessaloniki (Greece), **Principal Investigator** of a research project, 4,000 EUR, Feb. 2013 – Jan. 2014.
62. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant, 2,760 EUR, Jan. 20 – Feb. 20, 2013.
63. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant, 3,658 EUR, July 16 – Aug. 31, 2012.
64. Max Planck Institute for the Physics of Complex Systems (Germany), guest scientist grant, 2,670 EUR, Jan. 13 – Feb. 12, 2012.
65. 'Maître de conférences' qualification from the French state permitting job applications to French Universities in the field of 'Astronomy and Astrophysics' (section 34). Qualification number: 11234219123, 27 Jan. 2011 – 31 Dec. 2015.
66. Observatoire de Paris (France), **Marie Curie Intra-European Fellowship** (EIF), ≈ 202,000 EUR, Feb. 2006 – Jan. 2008.
67. **Principal Investigator** of an Empeirikeion Foundation Grant (Greece), ≈ 2,000 EUR, Aug. 2004 – Jan. 2006.
68. State Scholarships Foundation of Greece, postdoc fellowship, ≈ 4,000 EUR, Dec. 2002 – Nov. 2003.
69. University of Patras (Greece), Department of Mathematics, **'Karatheodoris' postdoc fellowship,** ≈ 32,000 EUR, Jan. 2002 – Dec. 2003.
70. National Observatory of Athens (Greece), Astronomical Institute, fellowship, Dec. 1993 – Dec. 1994.
71. ERASMUS grant, University of Milan (Italy), Visiting postgraduate student, Oct. 1992 – Dec. 1992.

Editorial Board Memberships

1. **International Journal of Bifurcation and Chaos** (World Scientific).
   Associate Editor: 1/1/2012 - present.
   Guest Associate Editor: 1/1/2011 – 31/12/2011
2. **Punjab University Journal of Mathematics** (Department of Mathematics, Punjab University)
   Associate Editor: 1/2018 - present.
3. **Russian Journal of Nonlinear Dynamics** (Izhevsk Institute of Computer Science, Izhevsk, Russia)
   Member of the Editorial Board: 12/2018 - present.
4. **Journal of Applied Nonlinear Dynamics** (L&H Scientific Publishing).
   Member of the Editorial Board: 1/2020 - present.
5. **Chaos Theory and Applications** (Sakarya University of Applied Sciences)
   Member of the Editorial Board: 5/2020 - present.
6. **International Journal of Modern Physics B** (World Scientific).
   Member of the Editorial Board: 5/2023 - present.
7. **Modern Physics Letters B** (World Scientific).
   Member of the Editorial Board: 5/2023 - present.
8. **Discrete Dynamics in Nature and Society** (Hindawi Publishing Corporation).
   Member of the Editorial Board: 12/2014 – 12/2022.
9. **Frontiers in Applied Mathematics and Statistics** (Frontiers).
   Review Editor in Dynamical Systems: 12/2015 – 10/2021.
10. **Heliyon** (Elsevier).
    Member of the Physics Advisory Board: 5/2015 – 12/2018.

Editorial activity

1. Jan. 2017 – Dec. 2019: member of the editorial team of the **Newsletter of the Department of Mathematics and Applied Mathematics** of the University of Cape Town, South Africa.
2. Co – editor (with Gottwald G. and Laskar J.) of the **'Lecture Notes in Physics' volume 'Chaos Detection and Predictability'**.
   2016, Lect. Notes Phys., Vol. 915.
3. Co – editor (with Gottwald G.) of **the Focus Issue: 'Chaos Detection Methods And Predictability' of the journal 'Chaos: An Interdisciplinary Journal of Nonlinear Science',** where the proceeding of the International Workshop "Methods of Chaos Detection and Predictability: Theory and Applications (MCDPTA13)" (Dresden, Germany, June 2013) were published.
   2014, Chaos, Volume 21, Issue 2.
4. Co – editor (with Nicolis G., Robnik M. and Rothos V.) of two **special issues of the International Journal of Bifurcation and Chaos,** where the proceedings of the International Conference "Nonlinear Dynamics and Complexity: Theory, Methods and Applications" (Thessaloniki, Greece, July 2010) were published.
   Issue 1: 2011, Int. J. Bifurc. Chaos, Volume 21, Issue 8.
   Issue 2: 2012, Int. J. Bifurc. Chaos, Volume 22, Issue 9.
5. November 2012 – Sept. 2013: co-editor of "Fainomenon" (http://phenomenon.physics.auth.gr/), the magazine of the Physics Department of the Aristotle University of Thessaloniki, Greece.
   2013, Fainomenon, Issue (D)18,
   2013, Fainomenon, Issue (D)19.
6. 1991 – 1992: member of the editorial board of "Fysikos Kosmos", the magazine published by the Greek Physicists Society.

Reviewer

a) for journals

Acta Physica Polonica A, Advances in Space Research, AIMS Mathematics, Applied Numerical Mathematics, Astronomical Journal, Astronomy and Astrophysics, Canadian Journal of Physics, Celestial Mechanics and Dynamical Astronomy, Chaos, Chaos Solitons & Fractals, Chinese Physics B, Communications in Nonlinear Science and Numerical Simulations, Composites Part B: Engineering, Differential Equations and Dynamical Systems, Discontinuity Nonlinearity and Complexity, Discrete and Continuous Dynamical System Series-B, Entropy, European Physical Journal C, European Physical Journal - Special Topics, Europhysics Letters, International Journal of Bifurcation and Chaos, International Journal of Computer Mathematics, International Journal of Modern Physics D, International Journal of Non-Linear Mechanics, International Journal of Nonlinear Sciences and Numerical Simulation, Journal of Algorithms and Computational Technology, Journal of Applied Mathematics and Computing, Journal of Applied Mechanics, Journal of Computational and Applied Mathematics, Journal of Computational Physics, Journal of Physical and Natural Sciences, Journal of Physics A: Mathematical and General, Journal of The Franklin Institute, Mathematics and Computers in Simulation, Mathematics in Engineering, Meccanica, Modern Physics Letters A, Modern Physics Letters B, Monthly Notices of the Royal Astronomical Society, New Journal of Physics, Nonlinear Dynamics, Physica A, Physica D, Physical Review A, Physical Review E, Physical Review Letters, Physical Review Research, Physica Scripta, Physics Letters A, Physics of Plasmas, Proceedings of the Royal Society A, Punjab University Journal of Mathematics, Scientific Reports, Superlattices and Microstructures, The Open Applied Informatics Journal.

b) for research organizations

- Expert/evaluator for the Fund for Scientific Research of **Belgium** (F.R.S. - FNRS Fonds de la Recherche Scientifique).
  - 2010: reviewer of 2 postdoctoral research funding proposals.
  - 2012: reviewer of 2 postdoctoral research funding proposals.
  - 2013: reviewer of 1 postdoctoral research funding proposal.
  - 2014: reviewer of 1 postdoctoral research funding proposal.
  - 2017: reviewer of 1 postdoctoral research funding proposal.
  - 2019: reviewer of 1 bilateral (Belgium - China) research funding proposal.
  - 2020: reviewer of 1 research associate funding proposal.
  - 2022: reviewer of 1 research associate funding proposal.
- Expert/evaluator for the Research Promotion Foundation of **Cyprus**.
  - 2013: evaluator of 1 postdoctoral research proposal.
- Expert/evaluator for The Czech Academy of Sciences (**Czech Republic**).
  - 2015: reviewer of 25 research publications.
  - 2020: reviewer of 15 research publications.
- Expert/evaluator for the National Research Agency of **France** (ANR - Agence Nationale de la Recherche).
  - 2011: reviewer of 1 research grant proposal.

    - 2021: reviewer of 1 collaborative research project (PRC).
- Expert/evaluator for the State Scholarships Foundation of **Greece**.
    - 2012: reviewer of 3 fellowship proposals (2 MSc, 1 PhD).
    - 2019: reviewer of 7 postdoctoral research funding proposals.
- Expert/evaluator for the Greek Ministry of Economics and Development, ΕΣΠΑ 2014-2020 program (**Greece**).
    - 2019: reviewer of 7 research grant proposals.
- Expert/evaluator for the **Israel** Science Foundation.
    - 2020: reviewer of 1 personal research grant proposal.
- Expert/evaluator for the National Research Foundation (NRF) of **South Africa**
    - 2016: Member of the 'Mathematical Sciences and Physics' review panel: reviewing applications of the Competitive Programme for Rated Researcher (CPRR), Competitive Support for Unrated Researchers (CSUR) and Research Development Grants for Y-Rated Researchers funding instruments.
    - 2017: reviewer of 6 research grant proposals (2 CPRR and 4 CSUR projects).
    - 2017: reviewer of 1 rating application.
    - 2018: reviewer of 1 rating application.
    - 2019: Member of the 'Physics and Astronomy' review panel: reviewing applications of the Competitive Programme for Rated Researcher (CPRR), Competitive Support for Unrated Researchers (CSUR) and Research Development Grants for Y-Rated Researchers funding instruments.
    - 2019: Member of the 'Physics, Astronomy, Mathematics and ICT, Thuthuka Research Grants' review panel: reviewing 'PhD track', 'Post PhD track' and 'NRF rating track' funding applications.
    - 2020: Member of the standing panel for 'Physics, Astronomy, Mathematics and ICT' for the period 2020 – 2022/2023.
    - 2020: Member of the 'COVID-19 Africa Rapid Grant Fund' review panel: reviewing and evaluating research proposals associated with the COVID-19 pandemic.
    - 2020: Member of the 'Physics, Astronomy, Mathematics and ICT' review panel: reviewing applications of the Competitive Programme for Rated Researcher (CPRR), Competitive Support for Unrated Researchers (CSUR) and Research Development Grants for Y-Rated Researchers funding instruments.
    - 2021: Member of the 'Physics, Astronomy, Mathematics and ICT' review panel: reviewing applications of the Competitive Programme for Rated Researcher (CPRR), Competitive Support for Unrated Researchers (CSUR) and Research Development Grants for Y-Rated Researchers funding instruments.
    - 2021: reviewer of 1 rating application.
    - 2022: Member of the 'Physics, Astronomy, Mathematics and ICT' review panel: reviewing applications of the Competitive Programme for Rated Researcher (CPRR), Competitive Support for Unrated Researchers (CSUR) and Research Development Grants for Y-Rated Researchers funding instruments.
    - 2022: reviewer of 1 rating application.
    - 2024: Member of the Mathematical Sciences (Applied Maths) Specialist Committee of the NRF Rating Panel (June 2024 – Feb. 2027).
- Physics Department, Aristotle University of Thessaloniki, **Greece**: Regular member of an Associate Professor Position Electoral Committee (Nov. 2017 – Apr. 2018). Person appointed: Prof. Efthymia Meletlidou.
- Department of Applied Mathematical and Physical Sciences, National Technical University of Athens, **Greece**: Substitute member of an Assistant Professor Position Electoral Committee (Oct. 2019 – Feb. 2020). Person appointed: Dr. Yannis Kominis.
- Department of Applied Mathematical and Physical Sciences, National Technical University of Athens, **Greece**: Substitute member of an Associate Professor Position Electoral Committee (Jan. 2021 – Aug. 2021). Person appointed: Prof. Yannis Kominis.
- University of Namibia, **Namibia**: Evaluator of an academic staff promotion application (March 2024 – April 2024).
- Physics Department, Aristotle University of Thessaloniki, **Greece**: Regular member of a Full Professor Position Electoral Committee (July 2024 – Oct. 2024). Person appointed: Prof. Christos Efthymiopoulos.
- Research Center for Astronomy and Applied Mathematics, Academy of Athens, **Greece**: Regular member of a Researcher B Position Electoral Committee (December 2024 – March 2025). Person appointed: Dr. Matthaios Katsanikas.
- Department of Applied Mathematical and Physical Sciences, National Technical University of Athens, **Greece**: Regular member of a Full Professor Position Electoral Committee (April 2025 – Sept. 2025). Person appointed: Prof. Yannis Kominis.

c) for web sites

- Mathematical Reviews (http://www.ams.org/mresubs/index.html).
- Physics Comments server.

d) of M.Sc. Theses

- Otlaadisa P.: 2022, "Generation of dissipative and non-dissipative matter-wave soliton trains in spin-orbit coupled Bose-Einstein condensates", M.Sc. Thesis, Botswana International University of Science and Technology, Palapye, Botswana (external reviewer).

e) of Ph.D. Theses

- Gómez M.R.: 2006, "The role of invariant manifolds in the formation of spiral arms and rings in barred galaxies", Ph.D. Thesis, Universitat Politècnica de Catalunya, Spain (external reviewer).
- Manos A. : 2008, "A study of Hamiltonian dynamics with applications to models of barred galaxies", Ph.D. Thesis, Université de Provence, France & University of Patras, Greece (external reviewer).
- Pal A.K.: 2016, "Study of the Sun-Earth-Moon system with Poynting-Robertson drag and solar wind drag", Ph.D. Thesis, Indian School of Mines, Dhanbad, India (external reviewer).
- Daza A.: 2016, "Unpredictability and fractality in nonlinear dynamics", Ph.D. Thesis, Universidad Rey Juan Carlos, Madrid, Spain (external reviewer).
- Mia R.: 2017, "Stability and orbital dynamics in exoplanetary systems", Ph.D. Thesis, Indian School of Mines, Dhanbad, India (external reviewer).
- Srivastava V.K.: 2017, "Lagrangian point halo orbits and transfer trajectories in photogravitational system", Ph.D. Thesis, Indian School of Mines, Dhanbad, India (external reviewer).

Teaching experience

- **University of Cape Town (South Africa),** Sept. 2013 – present.

  Undergraduate Courses:

  1) Mathematics 1A for Engineers (MAM1020F). Content: Differential and Integral Calculus of One Variable Real Functions. Sequences and Series.
     Fall 2016, approximately 700 students, 60 lecture and 24 tutorial hours, course convenor.
     Fall 2017, approximately 650 students, 31 lecture and 28 tutorial hours, course convenor.
     Fall 2018, approximately 620 students, 60 lecture and 24 tutorial hours, course convenor.
     Fall 2021, approximately 650 students, workload: 30 lecture and 14 tutorial hours (online teaching).
     Fall 2022, approximately 650 students, workload: 30 lecture and 12 tutorial hours.
     Fall 2023, approximately 600 students, workload: 30 lecture and 12 tutorial hours.
  2) Mathematics 1A for Engineers (MAM1020S), course convenor. Content: Differential and Integral Calculus of One Variable Real Functions. Sequences and Series.
     Spring 2014, approximately 25 students, 30 lecture and 12 tutorial hours.
     Spring 2015, approximately 35 students, 30 lecture and 12 tutorial hours.
  3) Methods of Functions of Complex Variables (MAM3040W 3CV). Content: Complex Calculus.
     Fall 2014, approximately 20 students, 30 lecture and 12 tutorial hours.
     Fall 2015, approximately 20 students, 30 lecture and 12 tutorial hours.
     Fall 2016, approximately 25 students, 30 lecture and 12 tutorial hours.
     Fall 2017, approximately 20 students, 32 lecture and 14 tutorial hours.
     Fall 2019, approximately 25 students, 30 lecture and 10 tutorial hours.
  4) Applied Mathematics, Third Year Project (MAM3055Z)
     2014, 1 student. Topic: 'Chaos in Hamiltonian systems'.
     2015, 1 student. Topic: 'Numerical symplectic integration techniques for multi-dimensional Hamiltonian systems'.
     2019, 2 students. Topics: 'Low dimensional chaos' and 'Symplectic integrators'.
     2021, 2 students. Topics: 'Nonlinear dynamics of a Hamiltonian prototypical dynamical system' and 'Numerical investigation of the efficacy of high order symplectic integrators'.
     2023, 1 student. Topic: 'Numerical investigation of the efficacy of high order symplectic integrators'.
     2024, 1 student. Topic: 'Using symplectic integrators to investigate the dynamical behavior of the Hénon–Heiles system'.
     2025, 2 students. Topics: 'Visualization of phase space structures by the Lagrangian descriptors method' and 'Numerical investigation of low dimensional chaos'.
  5) Computing for Chemical Engineers (MAM3085F), course convenor. Content: Scientific Programming by utilizing the Scilab computing environment for solving chemical engineering problems, Elements of Numerical Analysis.
     Fall 2014, approximately 90 students, 15 lecture and 33 tutorial hours.
     Fall 2015, approximately 160 students, 24 lecture and 24 tutorial hours.

Postgraduate Courses:

6) Advanced Mathematical Methods 1 (MAM4001W). Content: Numerical investigation of chaos in nonlinear Hamiltonian systems.
   Fall 2019, 9 students, 30 lecture hours.
   Fall 2020, 4 students, 30 lecture hours.
   Fall 2021, 9 students, 30 lecture hours (online teaching).
   Fall 2022, 8 students, 30 lecture hours (hybrid teaching: online and face-to-face activities).
   Fall 2023, 4 students, 30 lecture hours.
   Fall 2024, 3 students, 30 lecture hours.
   Fall 2025, 6 students, 30 lecture hours.
7) Honours Reading Module (MAM4001W)
   Spring 2016, 1 student. Subject: 'Scientific computing with FORTRAN. Application to Hamiltonian dynamics'.
   Spring 2017, 1 student. Subject: 'Methods of chaos detection'.
   Fall and Spring 2025, 1 student. Subject: 'Hamiltonian formalism of the (N+1)-body problem'

- **South African Theory School** (SATS), Aug. 2021 – Dec. 2021.
  Postgraduate Courses:
  1) Nonlinear Hamiltonian Dynamics and Chaos (NHDC). Content: Numerical investigation of chaos in nonlinear Hamiltonian systems.
     Spring 2021, 2 students, 30 lecture hours.
- **Aristotle University of Thessaloniki (Greece),** July 2011 – Sept. 2013.
  Undergraduate Courses (Physics Department):
  1) General Mathematics I. Content: Differential and Integral Calculus of One Variable Real Functions. Sequences and Series.
     Fall 2012, approximately 70 students, 50 lecture hours.
  2) Theoretical Mechanics I. Content: Newtonian Mechanics.
     Spring 2012, approximately 100 students, 50 lecture hours.
     Spring 2013, approximately 100 students, 50 lecture hours.
  3) Theoretical Mechanics II. Content: Lagrangian and Hamiltonian Mechanics.
     Fall 2011, approximately 100 students, 50 lecture hours.
     Fall 2012, approximately 100 students, 50 lecture hours.
  4) Calculus I. Content: Differential and Integral Calculus of One Variable Real Functions.
     Fall 2011, approximately 120 students, 40 lecture hours.

  Undergraduate Courses (Department of Mathematics):
  5) Mechanics of Continuous Media. Content: Introduction to tensor analysis. Deformation of elastic bodies. Ideal and Newtonian fluids.
     Spring 2012, approximately 10 students, 40 lecture hours.
     Spring 2013, approximately 15 students, 40 lecture hours (and Physics Department).

  Postgraduate Courses (Program of Postgraduate Studies in 'Computational Physics', Physics Department):
  6) Simulation of chaotic systems. Content: Numerical methods for nonlinear dynamical systems. Symplectic integrators. Chaos detection techniques.
     Spring 2012, approximately 10 students, 40 lecture hours.
     Spring 2013, approximately 5 students, 40 lecture hours.
- **Hellenic Open University (Greece),** June 2000 – July 2005 and Oct. 2006 – July 2013.
  Undergraduate Courses:
  1) Mathematics for Informatics I (annual course). Content: Linear Algebra, Single Variable Calculus, Introduction to Probability Theory, Introduction to Matlab and Mathematica (2006 – 2013, 7 academic years, approximately 30 students per annum).
  2) Classical Physics I (annual course). Content: Mechanics, Thermodynamics, Electromagnetism (2000 – 2005, 5 academic years, approximately 30 students per annum).
- **Technological Educational Institute of Messolonghi (Greece),** Sept. 2004 – Sept. 2005.
  Undergraduate Courses:
  1) Econometrics (2 semesters, approximately 100 students and 25 lecture hours per semester).
  2) C programming language (lab) (2 semesters, approximately 110 students and 160 lecture hours per semester).
- "Hellenic Center of Information Technology" (Greece), a private Educational and Consulting Company specialized in Informatics, Management and Finance, Dec. 1998 – July 1999 and Sept. – Oct. 2003.
  Courses:
  1) Windows 98.
  2) Microsoft Office 97.

Student Advising, Supervision and Mentoring

a) Postdoctoral researchers

1. Ngapasare A.: Apr. 2021 – March 2024, "Quasi one-dimensional classical lattices: Flat bands and disorder", postdoctoral fellow, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
2. Hillebrand M.: Jan. 2021 – Dec. 2022, "Nonlinear dynamics of Hamiltonian systems: From DNA to galaxies", postdoctoral fellow, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.

b) Ph.D. Theses

1. Du Plessis J.-J.: 2024 - present, "Investigating the chaotic dynamics of nonlinear lattices using symplectic integrators", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
2. Erasmus S.: 2023 - present, "Chaotic dynamics of multidimensional Hamiltonian systems: from nanomaterials to topological discrete lattices", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa (main supervisor, co-supervisors: G. Kalosakas and B. Many Manda).
3. Chrysovalantis Ch.: 2021 - present, "Nonlinear lattice differential equations", Ph.D. Thesis, Department of Mathematics, University of Thessaly, Greece (co-supervision with N. Karachalios and V. Achilleos).
4. Krypotos A.: 2021 - present, "Emergence of spatiotemporal patterns in continuous and discrete dynamical systems", Ph.D. Thesis, Department of Mathematics, University of Thessaly, Greece (co-supervision with N. Karachalios and G. Theocharis).
5. Georgiou P.D.: 2020 - present, "Study of networks of quantum dot vertical surface emitting lasers and applications", Ph.D. Thesis, Department of Materials Science, University of Patras, Greece (co-supervision with D. Alexandropoulos and Ch. Mesaritakis).
6. Moges H.T.: 2025, "Hamiltonian chaos: From galactic dynamics to plasma physics", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
7. Senyange B.: 2021, "Chaotic behavior of disordered nonlinear lattices", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
8. Many Manda B.: 2021, "Nonlinear dynamics and chaos in multidimensional disordered Hamiltonian systems", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
9. Hillebrand M.: 2021, "Chaotic dynamics of polyatomic systems with an emphasis on DNA models", Ph.D. Thesis, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.

c) M.Sc. Theses

1. Theron D.: 2024, "Application of the Lagrangian descriptors method to Hamiltonian systems with emphasis to models of barred galaxies", M.Sc. Thesis (with distinction, mark: 95%), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
2. Du Plessis J.-J.: 2024, "Covariant Lyapunov vectors: investigating the dynamics of multidimensional Hamiltonian systems with application to DNA models", M.Sc. Thesis (with distinction, mark: 95%), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa (main supervisor, co-supervisor: M. Hillebrand).
3. Cheong S.: 2023, "Chaotic behavior and energy polarization in flatband lattice models", M.Sc. Thesis (with distinction, mark: 88%), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa (main supervisor, co-supervisor: A. Ngapasare).
4. Zimper S.: 2023, "Investigating the phase space dynamics of conservative dynamical systems by the Lagrangian descriptors method", M.Sc. Thesis (with distinction, mark: 90%), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa (main supervisor, co-supervisor: A. Ngapasare).
5. Moges H.T.: 2020, "Investigating chaos by the Generalized Alignment Index (GALI) method", M.Sc. Thesis (with distinction), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
6. Ani C. J.: 2019, "Chaotic behavior of charged particles in electromagnetic fields", M.Sc. Thesis (with distinction), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
7. Ngapasare A.: 2017, "Dynamical behavior of graphene models", M.Sc. Thesis (with distinction), Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
8. Ani C. J.: 2017, "Chaotic behavior of Hamiltonian systems: Application to plasma physics", Structured M.Sc. Thesis, minor dissertation (with distinction), African Institute for Mathematical Sciences (AIMS), Muizenberg, South Africa.
9. Rajaobelina Iarilala E.D.: 2015, "Numerical Investigation of Chaos", Structured M.Sc. Thesis, minor dissertation (with distinction), African Institute for Mathematical Sciences (AIMS), Muizenberg, South Africa.

10. Yemata Mekondjou R. M.: 2015, "Numerical investigation of chaos by the Smaller (SALI) and the Generalized (GALI) Alignment Index methods", Structured M.Sc. Thesis, minor dissertation (with distinction), African Institute for Mathematical Sciences (AIMS), Muizenberg, South Africa.
11. Gkolias I.: 2013, "Chaos in 1-dimensional nonlinear disordered lattices", M.Sc. Thesis (with distinction), Physics Department, Aristotle University of Thessaloniki, Greece.
12. Manika D.: 2013, "Application of the Compound Matrix Theory for the computation of Lyapunov exponents of autonomous Hamiltonian systems", M.Sc. Thesis (with distinction), Physics Department, Aristotle University of Thessaloniki, Greece.

d) Honours Projects

1. Marais D.: 2025, "Hamiltonian chaos in a PT-symmetric system", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa (co-supervision with I. Barashenkov).
2. Barbis C.: 2025, "Numerical investigation of chaos in low dimensional dynamical systems", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
3. McMichael W.: 2021, "The Smaller Alignment Index (SALI): Theory and applications", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
4. Alturk A.: 2020, "Numerical investigation of the disordered discrete nonlinear Schrödinger equation (DDNLS)", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
5. Du Plessis J.-J.: 2019, "Chaotic diffusion in disordered nonlinear lattices", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
6. Hillebrand M.: 2017, "Chaotic dynamics of DNA models", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
7. Schwellnus A.M.: 2016, "Chaotic behavior of a multi-dimensional Hamiltonian model of DNA", Honours project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.

e) Internship Projects

1. Higgo Moser F.: 2025, " Investigating the phase space dynamics of Hamiltonian system by the origin-fate map", Internship project, International undergraduate student from the Vrije Universiteit Amsterdam, Netherlands.
2. Albers R.: 2025, "Symplectic integration of Hamiltonian systems", Internship project, International M.Sc. student from the University of Twente, Netherlands.

f) Undergraduate Projects

1. Boeddinghaus M.: 2025, "Numerical investigation of low dimensional chaos", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
2. Saloojee K.: 2025, "Visualization of phase space structures by the Lagrangian descriptors method", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
3. Barbis C.: 2024, "Determining the preferred symplectic integrator to investigate the dynamical behavior of the Hénon–Heiles system", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
4. Greathead C.: 2023, "Numerical investigation of the efficacy of high order symplectic integrators", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
5. Modiba M.: 2021, "Nonlinear dynamics of a Hamiltonian prototypical dynamical system", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
6. Msani H.: 2021, "Numerical investigation of the efficacy of high order symplectic integrators", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
7. Broodryk D.: 2019, "Symplectic integrators", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
8. Morton S.: 2019, "Low dimensional chaos", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
9. Schwellnus A.M.: 2015, "Numerical Symplectic Integration Techniques for Multi-Dimensional Hamiltonian Systems", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.
10. Grunow W.: 2014, "Chaos in Hamiltonian systems", Third year project, Department of Mathematics and Applied Mathematics, University of Cape Town, South Africa.

Member of Juries

a) for Ph.D. Theses

1. Antonenas Y.: 2025, "Hamiltonian particle dynamics in fusion plasmas: Orbital tomography and spectrum analysis for energy and momentum transport under resonant non-axisymmetric perturbations", Ph.D. Thesis, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Athens, Greece, 30 April 2025.

2. Ngapasare A.: 2020, "Waves in disordered and nonlinear mechanical structures", Ph.D. Thesis, Laboratoire d'Acoustique de l'Université du Mans, Le Mans, France, 17 December 2020.
3. Vetas K.: 2018, "Dynamics of nonlinear lattice systems", Ph.D. Thesis, Department of Mathematics, University of the Aegean, Karlovasi, Samos, Greece, 5 October 2018.
4. Sánchez-Martín P.: 2015, "Application of Dynamical System Methods to Galactic Dynamics: from Warps to Double Bars", Ph.D. Thesis, Departament de Matemàtica Aplicada I, Universitat Politècnica de Catalunya, Barcelona, Spain, 29 June 2015. President of the jury.
5. Papadopoulos N. : 2012, "Dynamical study of galaxies as realistic physical systems", Ph.D. Thesis, Section of Astrophysics, Astronomy and Mechanics, Physics Department, Aristotle University of Thessaloniki, Greece, 12 June 2012.
6. Karanis G.I. : 2012, "Simulations of star motion in galactic models and their connection to the inverse problem of dynamics ", Ph.D. Thesis, Section of Astrophysics, Astronomy and Mechanics, Physics Department, Aristotle University of Thessaloniki, Greece, 25 May 2012.

b) for M.Sc. Theses

1. Sotiriadis S. : 2013, "Symplectic integration of the planetary N-body problem on GPU platforms", M.Sc. Thesis, Physics Department, Aristotle University of Thessaloniki, Greece, 4 September 2013.

Languages

- Greek - Mother tongue.
- English - Fluent (Diploma: Lower of the University of Cambridge).
- Italian - Good (Diploma: Palso, Livello Medio).
- French - Basic knowledge.

Computing experience

- Excellent knowledge of the operating systems: LINUX, UNIX, WINDOWS.
- Extensive experience in programming in FORTRAN 90/77.
- Excellent knowledge of the following software: Latex, Gnuplot, Xfig, Xv, Illustrator, Origin, Xmgrace, Mathematica, Scilab, Trip (http://www.imcce.fr/Equipes/ASD/trip/trip.html), FrontPage, Microsoft Office.

Professional memberships

- Member of the Academy of Science of South Africa (ASSAf).
- Fellow of the Royal Society of South Africa.
- Member of the College of Fellows of the University of Cape Town.
- Associate member of the National Institute for Theoretical and Computational Sciences (NITheCS), South Africa.
- Member of the Centre for Theoretical and Mathematical Physics (CTMP) of the University of Cape Town.
- Member of the Complex Systems and Application (COSA) group, Greece.
- Member of the International Astronomical Union (IAU).
- Member of the Governing Council of the Greek Physicists Society: May 2004 – May 2006.

Administrative activities

- Department of Mathematics and Applied Mathematics (MAM) of the University of Cape Town (Cape Town, South Africa)
    1) Jan. 2022 – Dec. 2024: **Deputy Dean** for Postgraduate Studies and Research, Faculty of Science.
    2) Jan. 2022 – Dec. 2024: Member of the Science Faculty Executive Committee (ExCo)
    3) Jan. 2020 – June 2020: **Interim Head of Department.**
    4) Jan. 2017 – Dec. 2019, July 2020 – Jan. 2021 and Aug. 2021 – Jan. 2022: **Deputy Head of Department.**
    5) Jan. 2017 – Jan. 2022: Member of the Department's Executive Committee (ExCo).
    6) Nov. 2024 – present: Member of the Executive Committee (ExCo) of the University of Cape Town node of the National Institute for Theoretical and Computational Sciences (NITheCS).
    7) Aug. 2024 – present: Deputy Chair of the University of Cape Town Committee on Research Reviews (CRR).
    8) Aug. 2024 – present: Deputy Chair of the University Research Committee (URC) of the University of Cape Town.
    9) July 2024 – June 2028: Member of the University of Cape Town University Research Committee (URC) Conference Travel Committee.
    10) Jan. 2022 – present and Jan. 2020 – June 2020: Member of the University of Cape Town Senate.

11) Jan. 2023 – Dec. 2024: Member of the University of Cape Town International Relations Advisory Group (IRAG)
12) Jan. 2022 – Dec. 2024: Member of the University of Cape Town University Research Committee (URC).
13) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Doctoral Degrees Board (DDB).
14) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Postgraduate Studies Funding Committee.
15) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Board for Graduate Studies (BfGS).
16) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Postdoctoral Research Fellows (PDRF) sub-committee.
17) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Research Task Team (RTT).
18) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Postgrad Online Task Team (POTT).
19) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Committee on Research Reviews (CRR).
20) Jan. 2022 – Dec. 2024: Member of the University of Cape Town Research Data Management Governance Committee (RDMGC).

21) Jan. 2024 – present: Member of the Science Faculty Doctoral Degree Committee of Assessors (CoA) core group.
22) Jan. 2022 – Dec. 2024: Chair of the Science Faculty Research Committee (SFRC).
    Selected activities:
    a. 2024: Development of the new ‘Science Faculty Research Strategy 2025-2030’.
    b. Science 'Inter-Faculty Dialogue' event.
        i. Topic: "Computational methods for applied research", 26 Oct. 2022.
        ii. Topic: "Social responsiveness and engaged scholarship", 27 Nov. 2023.
    c. Science Faculty Dean's Dialogue.
        i. Topic: "The Climate Crisis: How is the UCT Science Faculty part of the solution?", 28 Nov. 2022.
        ii. Topic: "How to build and maintain research excellence", 13 Apr. 2023.
        iii. Topic: "Decoloniality and Science", 25 May 2023.
    d. Science Faculty Seminar Series.
        i. Prof. Russ Taylor, "The inter-university institute for data intensive astronomy", 23 March 2023.
        ii. Prof. Marcello Vichi, "The Marine and Antarctic Research Centre for Innovation and Sustainability and its role in South African polar research", 18 May 2023.
        iii. Dr. Roger Diamond, "An introduction and overview of BIOGRIP", 20 June 2023.
        iv. Prof. Kelly Chibale, "The UCT Holis'c Drug Discovery and Development (H3D) Research Centre: Introduction and overview", 29 August 2023.
        v. Prof. Sheetal Silal, "The Modelling and Simulation Hub, Africa (MASHA): Using mathematics to understand and manage disease", 26 September 2023.
        vi. Prof. Susan Cunningham, "The FitzPatrick Institute of African Ornithology: birds as keys to ecology, evolution, and conservation", 26 October 2023.
        vii. Prof. Mark Blumenthal, "A beginners guide to capturing single electrons", 24 April 2024.
        viii. Dr. Alastair Sloan, "Beyond the rift: Southern Africa coming apart at the seams", 28 August 2024.
        ix. Prof. Nicci Illing, " Floral Asymmetry: distinguishing left from right", 25 September 2024.
        x. Prof. Kumar Venayagamoorthy (Clemson University, USA), "Artificial Intelligence based Analytics and Decision-Making for Complex Systems", 31 October 2024.
    e. Science Faculty Post-Doc Day, 6 June 2023.
    f. Science Faculty Post-Grad Day, 23 June 2023.
    g. Science Faculty Post-Doc Day, 18 June 2024.
    h. Science Faculty Post-Grad Day, 23 Oct. 2024.
23) Jan. 2022 – Dec. 2024 and Jan. 2020 – June 2020: Member of the Science Faculty Dean’s Advisory Committee (DAC).
24) Jan. 2022 – Dec. 2024: Member of the Science Faculty Examination Committee (FEC).
25) Jan. 2022 – Dec. 2024: Member of the Science Faculty MSc Degree Committee.
26) Jan. 2022 – Dec. 2024: Member of the Science Faculty Scholarship Committee.
27) Jan. 2022 – Dec. 2024: Member of the Science Faculty Teaching and Learning Committee.
28) Jan. 2022 – Dec. 2024: Member of the Science Faculty Accreditation Committee.

29) Sept. 2024 – Oct. 2024: Member of the SEA Head of Department position Selection Committee. Person appointed: Prof. Marcello Vichi.
30) April. 2024 – July 2024: Chair of the Selection Committee for a Junior Research Fellow position for the Modelling and Simulation Hub, Africa (MASHA) at the Department of Statistical Sciences. Position was not filled.
31) Feb. 2024 – July 2024: Chair of the Selection Committee for a Senior Research Officer/Chief Research Officer position for the African Climate and Development Initiative (ACDI) at the Department of Environmental and Geographical Science. Person appointed: Dr. Nicholas Simpson.
32) Oct. 2023 – June 2024: Member of the Selection Committee for the Faculty of Science Dean's Office Communication & Development and Marketing Manager. Person appointed: Mr. Hishamodien Hoosain.
33) Mar. 2023 – Apr. 2024: Chair of the Selection Committee for a Junior Research Fellow position for the Artificial Intelligence Research Unit (AIRU) at the Department of Computer Science. Person appointed: Dr. Ezgi Su.
34) Oct. 2023 – Jan. 2024: Chair of the Selection Committee for a Junior Research Fellow position at the Department of Molecular and Cell Biology. Person appointed: Dr. Johnson Moliki.
35) Oct. 2023 – Jan. 2024: Chair of the Selection Committee for a Junior Research Fellow position at the Department of Molecular and Cell Biology. Person appointed: Dr. Alexis Bick.
36) Aug. 2023 – Dec. 2023: Member of the Selection Committee for an AXA Research Chair position for the African Climate and Development Initiative (ACDI) at the Department of Environmental and Geographical Science. Person appointed: Dr. Chris Trisos.
37) June 2023 – Sept. 2023: Member of the Selection Committee for a Junior Research Fellow position at the University of Cape Town Drug Discovery and Development (H3D) Centre. Person appointed: Dr. Devasha Redhi.
38) Mar. 2023 – Sept. 2023: Member of the Selection Committee for an Administrative Officer at the Science Faculty Dean's office. Person appointed: Ms. Portia Sithole.
39) Apr. 2023 – Aug. 2023: Member of the Selection Committee for a Research Officer position at the University of Cape Town Drug Discovery and Development (H3D) Centre. Person appointed: Dr. John Woodland.
40) Oct. 2022 – Dec. 2022: Chair of the Selection Committee for a Junior Research Fellow position, for the African Climate and Development Initiative (ACDI) at the Department of Environmental and Geographical Science. Position was not filled.
41) Sept. 2022 – Nov. 2022: Member of the Selection Committee for a Research Officer position, for the Climate System Analysis Group (CSAG) at the Department of Environmental and Geographical Science. Person appointed: Dr. Sabina Abba Omar.
42) Apr. 2016 – Dec. 2019: Member of the Science Faculty Research Committee (SFRC).

43) Feb. 2017 – present: Member of the Internationalization Committee.
44) Aug. 2014 – present: Member of the UCT Mathematics Competition Committee.
45) Nov. 2023 – Sept. 2024: Member of the Selection Committee for two MAM Lecturer positions. People appointed: Dr. Malcolm Hillebrand and Dr. Hendrick Jaconus van Zyl.
46) Aug. 2021 – Jan. 2022: Coordinator for Applied Mathematics postgraduate studies.
47) Aug. 2021 – Jan. 2022: Chair of the Lecture Schedule Committee.
48) Feb. 2021 – Jan. 2022: Coordinator for Engineering Mathematics (EBE Coordinator).
49) Feb. 2021 – Jan. 2022: Member of the Faculty of Engineering & the Built Environment (EBE) First Year Committee.
50) Feb. 2021 – Jan. 2022: Member of the Faculty of Engineering & the Built Environment (EBE) Mathematics Working Group.
51) Jan. 2021 – Jan. 2022: Member of the Research Funding Strategy Committee.
52) Jan. 2017 – Jan. 2022: Member of the Planning Committee.
53) Jan. 2017 – July 2021: Chair of the Workload Distribution Committee.
54) May 2015 – July 2021: Member of the New Departmental Business Plan Committee.
55) June 2020 – Nov. 2020: Member of the MAM Head of Department position Selection Committee. Person appointed: Prof. David Erwin (Associate Professor).
56) April 2020 – Nov. 2020: Member of a MAM position Selection Committee. Person appointed: Prof. Elena Berdysheva (Associate Professor).
57) Aug. 2020 – Sept. 2020: International Mathematical Olympiad (IMO) Commissioner for South Africa (the IMO 2020 took place on September 21-22, 2020).
58) May 2020 – Sept. 2020: Member of a MAM nGAP (new Generation of Academics Programme) position Selection Committee. Person appointed: Mr. Simon Chili (Lecturer).

59) April 2020 – July 2020: Member of a MAM position Selection Committee. Person appointed: Dr. Imran Allie (Lecturer).
60) Aug. 2019 – Dec. 2019: Member of the 2-year Honours Program Committee.
61) Jan. 2017 – Dec. 2019: Member of the editorial team of the Department's Newsletter.
62) Jan. 2017 – Dec. 2019: Line manager of Department's Chief Technical Officer (Mr. Mmoloki Nimrod Matotong).
63) Feb. 2016 – Dec. 2018: Member of the Faculty of Engineering & the Built Environment (EBE) First Year Committee.
64) May 2017 – Dec. 2017: Member of a MAM position Selection Committee and member of the Evaluation Subcommittee. Position was not filled.
65) Feb. 2016 – Dec. 2016: Member of the Workload Distribution Committee.
66) Jan. 2015 – Dec. 2015: Organizer of the "Colloquium Talks" series of the Department of Mathematics and Applied Mathematics.
67) Aug. 2015 – Oct. 2015: Member of the Department of Mathematics and Applied Mathematics Chief Technical Officer Selection Committee. Person appointed: Mr. Mmoloki Nimrod Matotong.
68) May 2015 – July 2015: Member of a MAM position Selection Committee. Person appointed: Dr. Bishop Mongwane (Lecturer).
69) Nov. 2014 – Apr. 2015: Member of the MAM Business Plan Committee.
70) May 2014 – Nov. 2014: Member of the Committee for Subminima.

- Physics Department of the Aristotle University of Thessaloniki (Thessaloniki, Greece)
  1) Nov. 2011 – Sept. 2013: Member of the committee for Financial Issues.
  2) Nov. 2011 – Sept. 2013: Member of the committee for Courses and Lecture Halls Timetables.
  3) Nov. 2011 – Sept. 2013: Member of the committee for Reception of New Students (Educational Advisor).
  4) July 2011 – Sept. 2013: Co-organizer (with Stergioulas N.) of the "Astrophysics, Astronomy and Mechanics Section Seminar".
- Max Planck Institute for the Physics of Complex Systems (Dresden, Germany)
  1) June 2008 – June 2011: Organizer of the "Discrete Breathers Seminar".

Talks

1) "*Numerical methods of chaos detection*", 'Nonlinear Time Series Analysis' Group Seminar, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 6 November 2025.
2) "*Lagrangian Descriptors: A powerful method for investigating the behavior and chaoticity of dynamical systems*", 12th International Conference of Image Processing, Wavelet and Applications on Real World Problems (IWW 2025) (hybrid event – online participation), Istanbul, Turkey, 5 November 2025.
3) "*Numerical methods of chaos detection*", Condensed Matter Group Seminar, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 7 October 2025.
4) "*Analyzing phase space transport using the origin fate map*", 6th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), Yaroslavl, Russia, 25 September 2025.
5) "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice*", International Conference on Nonlinear Science and Complexity, Rio Claro, Brazil, 7 August 2025.
6) "*Numerical methods of chaos detection*", 31st Summer School - Conference "Dynamic Systems and Complexity" (online participation), Lamia, Greece, 10 July 2025.
7) "*Numerical methods of chaos detection*", Mathematics Seminar, Khalifa University, Abu Dhabi, United Arab Emirates, 4 June 2025.
8) "*Lagrangian descriptors: A powerful method for investigating the behavior and chaoticity of dynamical systems*", 6th International Interdisciplinary Symposium on Chaos and Complex Systems (SCCS2025), Istanbul, Turkey, 9 May 2025.
9) "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice model*", 5th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), Yaroslavl, Russia, 9 October 2024.
10) "*Quantifying chaos using Lagrangian descriptors*", International Conference on Nonlinear Science and Complexity, Yibin, China, 5 August 2024.
11) "*Quantifying chaos in conservative dynamical systems by using Lagrangian descriptors*", 2024 International Workshop on Nonlinear Science, Chongqing, China, 3 August 2024.
12) "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice model*", Conference "Ergodicity in physical systems and beyond", Lincoln, UK, 10 July 2024.
13) "*Quantifying chaos using Lagrangian descriptors*", International conference "Applied Nonlinear Dynamical Systems and Chaos" (dedicated to the 65th birthday of Prof. Stephen Wiggins), Madrid, Spain, 2 July 2024.
14) "*Numerical methods of chaos detection*", International Conference "Days of Applied NOnlinearity and Complexity (DANOC)" (online event), Thessaloniki, Greece, 14 January 2024.
15) "*Numerical methods of chaos detection*", 20th Christmas Symposium of Physicists of the University of Maribor, Maribor, Slovenia, 14 December 2023.
16) "*Numerical approaches for investigating the chaotic behavior of multidimensional Hamiltonian systems*", International Conference: "From the nonlinear dynamical systems theory to observational chaos", Toulouse, France, 9 October 2023.
17) "*Quantifying chaos using Lagrangian descriptors*", 4th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), Yaroslavl, Russia, 27 September 2023.
18) "*Spatiotemporal chaos in disordered nonlinear lattices*", Scientific Workshop: 30 years MPI-PKS, Dresden, Germany, 7 September 2023.
19) "*Chaos in Hamiltonian nonlinear lattices*", 29th Summer School – Conference "Dynamical Systems and Complexity", Athens, Greece, 18 July 2023.
20) "*Numerical investigation of spatiotemporal chaos in nonlinear lattice models*", International Conference on Statistical Physics 2023 (SigmaPhi 2023), Chania, Crete, Greece, 11 July 2023.
21) "*Numerical approaches for investigating the chaotic behavior of multidimensional Hamiltonian systems*", Seminar, Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 29 June 2023.
22) "*Numerical approaches for investigating the chaotic behavior of nonlinear disordered lattice models*", Workshop "Multiple scattering in engineering and applied sciences", Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, 26 May 2023.
23) "*Numerical investigation of spatiotemporal chaos in multidimensional Hamiltonian systems*", online seminar, Complex Systems and Applications Network (COSA-Net), Athens, Greece, 23 March 2023.
24) "*Numerical investigation of spatiotemporal chaos in nonlinear lattice models*", Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 10 November 2022.
25) "*Spatiotemporal chaos in multidimensional Hamiltonian systems*", Applied Mathematics Seminar, Institute of Mathematical Sciences (ICMAT), Madrid, Spain, 25 October 2022.
26) "*Detecting chaos by the Smaller (SALI) and the Generalized (GALI) Alignment Index methods*", Applied Mathematics Seminar, Institute of Mathematical Sciences (ICMAT), Madrid, Spain, 24 October 2022.

27) "*Numerical investigation of spatiotemporal chaos in multidimensional Hamiltonian systems*", 2022 Conference on Nonlinear Science and Complexity (online event), Thessaloniki, Greece, 27 September 2022.
28) "*Chaos in Hamiltonian systems*", 28th Summer School "Dynamical Systems and Complexity" (hybrid event – online participation), Chania, Crete, Greece, 19 July 2022.
29) "*Numerical investigation of spatiotemporal chaos in multidimensional Hamiltonian systems*", Satellite International Conference on Nonlinear Dynamics & Integrability, and Scientific School "Nonlinear Days" (hybrid event – online participation), Yaroslavl, Russia, 30 June 2022.
30) "*Detecting chaos in Hamiltonian systems by the Smaller (SALI) and the Generalized (GALI) Alignment Index methods*", Seminar, Department of Mechanics, School of Applied Mathematical and Physical Sciences, National Technical University of Athens, Athens, Greece, 23 May 2022.
31) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*", Third International Conference on Integrable Systems & Nonlinear Dynamics, and School "Integrable and Nonlinear Days" (hybrid event – online participation), Yaroslavl, Russia, 5 October 2021.
32) "*Chaotic dynamics of Hamiltonian systems*", 27th Summer School - Conference "Dynamical Systems and Complexity" (online event), Athens, Greece, 19 July 2021.
33) "*Chaotic behavior of disordered Hamiltonian systems*", 12th International Conference on Nonlinear Mathematics and Physics (NoLineal 20-21 – online event), Madrid, Spain, 1 July 2021.
34) "*Chaotic wave packet propagation in disordered nonlinear lattices with one and two spatial dimensions*", Second International Conference on Integrable Systems & Nonlinear Dynamics (hybrid event – online participation), Yaroslavl, Russia, 21 October 2020.
35) "*Chaotic behavior of multidimensional Hamiltonian systems*", International Conference "6th Dynamics Days Central Asia 2020" (online event), Nur-Sultan, Kazakhstan, 2 June 2020.
36) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*", International Workshop "Chaos Indicators, Phase Space and Chemical Reaction Dynamics" (online event), Bristol, United Kingdom, 5 May 2020.
37) "*Nonlinear physics: Hamiltonian Chaos (Part B)*", Postgraduate Course Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 13 November 2019.
38) "*Chaotic wave packet spreading in one-dimensional disordered nonlinear lattices*", Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 12 November 2019.
39) "*Nonlinear physics: Hamiltonian Chaos (Part A)*", Postgraduate Course Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 6 November 2019.
40) "*Chaotic behavior of multidimensional Hamiltonian systems: disordered lattices, granular chains and DNA models*", 6th PhD School/Conference on Mathematical Modeling of Complex Systems, Pescara, Italy, 8 July 2019.
41) "*Chaotic wave packet spreading in one-dimensional disordered nonlinear lattices*", Colloquium, Department of Mathematics, School of Science and Technology, Nazarbayev University, Nur Sultan city, Kazakhstan, 14 May 2019.
42) "*Methods of chaos detection*", Seminar, Quantum Gravity & Strings Laboratory, Department of Mathematics and Applied Mathematics, University of Cape Town, Cape Town, South Africa, 5 April 2019.
43) "*Characteristics of chaos evolution in one-dimensional disordered nonlinear lattices*", online seminar, DST-NRF Centre of Excellence in Mathematical and Statistical Sciences (CoE-MaSS), University of the Witwatersrand, Johannesburg, South Africa, 1 February 2019.
44) "*Chaos and chaos detection techniques*", Seminar, Center for Dynamics, Department of Mathematics, Technical University Dresden, Dresden, Germany, 7 December 2018.
45) "*Characteristics of chaos evolution in one-dimensional disordered nonlinear lattices*", AstroDynamics Group Seminar, Institute for Astronomy, University of Vienna, Vienna, Austria, 22 November 2018.
46) "*Methods of chaos detection*", International Workshop on Chaos-Fractals Theories and Applications, Chongqing, China, 12 October 2018.
47) "*Chaos in disordered nonlinear lattices*", International Conference on "Nonlinear Localization in Lattices", Spetses, Greece, 18 June 2018.
48) "*Hamiltonian Chaos*", Colloquium Talk, Department of Mathematics and Applied Mathematics, University of Western Cape, Cape Town, South Africa, 15 May 2018.
49) "*Nonlinear physics: Hamiltonian Chaos*", Postgraduate Course Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 30 January 2018.
50) "*Heterogeneity and Chaos: Granular Chains and DNA models*", Seminar, Lohrmann Observatory, Technical University Dresden, Dresden, Germany, 18 December 2017.
51) "*Chaotic behavior of disordered nonlinear systems*", Seminar, Institute of Theoretical Physics, Faculty of Physics, Technical University Dresden, Dresden, Germany, 15 December 2017.
52) "*Chaotic behavior of disordered nonlinear systems*", Seminar on Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 9 November 2017.

53) "*Heterogeneity and Chaos: Granular Chains and DNA models*", Seminar, Department of Materials Science, University of Patras, Patras, Greece, 8 November 2017.
54) "*Heterogeneity and Chaos: Granular Chains and DNA models*", Seminar, Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 5 September 2017.
55) "*Chaotic behavior of disordered nonlinear systems*", Seminar, Center for Theoretical Physics of Complex Systems, Institute for Basic Science, Daejeon, South Korea, 17 August 2017.
56) "*The Smaller (SALI) and the Generalized (GALI) Alignment Indices: Efficient methods of chaos detection*", Seminar, Steklov Mathematical Institute of the Russian Academy of Sciences, Moscow, Russia, 19 June 2017.
57) "*Chaos in disordered nonlinear Hamiltonian systems*", International Scientific Workshop "Recent Advances in Hamiltonian and Nonholonomic Dynamics", Moscow, Russia, 15 June 2017.
58) "*Numerical tools for investigating the dynamics of Hamiltonian systems*", Seminar, Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 22 November 2016.
59) "*Efficient integration techniques for the long time simulation of the disordered discrete nonlinear Schrödinger equation*", 59th Annual Congress of the South African Mathematical Society, Cape Town, South Africa, 4 November 2016.
60) "*The Smaller (SALI) and the Generalized (GALI) Alignment Indices: Efficient methods of chaos detection*", 59th Annual Congress of the South African Mathematical Society, Cape Town, South Africa, 4 November 2016.
61) "*Efficient integration techniques for the long time simulation of the disordered discrete nonlinear Schrödinger equation*", International Conference "Dynamics Days Latin America and the Caribbean 2016", Puebla, Mexico, 31 October 2016.
62) "*Chaos in disordered nonlinear lattices*", International Conference "Dynamics Days Latin America and the Caribbean 2016", Puebla, Mexico, 27 October 2016.
63) "*Investigating the dynamics of a time-dependent barred galaxy model by the Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*", International Conference "Dynamics Days Latin America and the Caribbean 2016", Puebla, Mexico, 24 October 2016.
64) "*Symplectic longtime integration of the disordered discrete nonlinear Schrödinger equation*", International Workshop on "Analysis and Applications of Localized Structures in Nonlinear Media", Leiden, The Netherlands, 30 August 2016.
65) "*Numerical tools for investigating the dynamics of Hamiltonian systems*", Seminar, Lohrmann Observatory, Technical University Dresden, Dresden, Germany, 8 July 2016.
66) "*Numerical methods of chaos detection*". Seminar, Center for Dynamics, Department of Mathematics, Technical University Dresden, Dresden, Germany, 25 November 2015.
67) "*Chaotic behavior of disordered nonlinear lattices*". Seminar, Lohrmann Observatory, Technical University Dresden, Dresden, Germany, 23 November 2015.
68) "*Chaotic behavior of disordered nonlinear lattices*". Seminar, Centre for Theoretical and Mathematical Physics (CTMP), University of Cape Town, Cape Town, South Africa, 28 August 2015.
69) "*Numerical Methods for Hamiltonian Systems: Chaos Detection (Part B)*". 5th European PhD Summer School-Conference on "Mathematical Modeling of Complex Systems", Patras, Greece, 25 July 2015.
70) "*Numerical Methods for Hamiltonian Systems: Chaos Detection (Part A)*". 5th European PhD Summer School-Conference on "Mathematical Modeling of Complex Systems", Patras, Greece, 23 July 2015.
71) "*Chaotic behavior of disordered nonlinear lattices*". Seminar, Laboratoire d'Acoustique de l'Université du Maine, Le Mans, France, 23 June 2015.
72) "*Chaotic behavior of disordered nonlinear lattices*". Seminar, Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 16 June 2015.
73) "*Numerical methods of chaos detection (Part B)*". Seminar, Centre for Theoretical and Mathematical Physics (CTMP), University of Cape Town, Cape Town, South Africa, 8 May 2015.
74) "*Chaotic dynamics of disordered nonlinear lattices*". International Workshop in Astronomy and Dynamics, Paris, France, 28 April 2015.
75) "*Numerical methods of chaos detection (Part A)*". Seminar, Centre for Theoretical and Mathematical Physics (CTMP), University of Cape Town, Cape Town, South Africa, 24 April 2015.
76) "*High order three part split symplectic integrators. Application to the disordered discrete nonlinear Schrödinger equation*". Fourth International Workshop on Statistical Mechanics and Dynamical Systems, Athens, Greece, 18 July 2014.
77) "*Chaotic behavior of disordered nonlinear lattices*". 9th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", Maribor, Slovenia, 3 July 2014.
78) "*Teaching the new course MAM3085F: 'Computing for Chemical Engineers'*". Workshop of UCT's New Academic Practitioners' Programme (NAPP), University of Cape Town, Cape Town, South Africa, 26 May 2014.

79) "*Chaos in disordered nonlinear lattices*". International Meeting "Perspectives in Nonlinear Dynamics" (A Satellite meeting of the STATPHYS 25 Conference), Hyderabad, India, 16 July 2013.
80) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*". International Workshop "Methods of Chaos Detection and Predictability: Theory and Applications (MCDPTA13)", Dresden, Germany, 18 June 2013.
81) "*High order three part split symplectic integration schemes*". Mini-Symposium "Complex Problems in Theoretical and Applied Mechanics" of the 10th HSTAM 2013 International Congress on Mechanics, Chania, Greece, 27 May 2013.
82) "*Symplectic integration methods for multidimensional Hamiltonian systems: Application to the disordered discrete nonlinear Schrödinger (DNLS) equation*". Seminar, Lohrmann Observatory, Technical University Dresden, Dresden, Germany, 3 May 2013.
83) "*Symplectic integration methods for multidimensional disordered nonlinear lattices*". Seminar, Department of Mathematics and Applied Mathematics, University of Cape Town, Cape Town, South Africa, 4 December 2012.
84) "*Efficient integration schemes for the discrete nonlinear Schrödinger (DNLS) equation*". Satellite Meeting "Critical Phenomena and Collective Behavior of Multi-Particle Systems" of the European Conference on Complex Systems (ECCS 12), Brussels, Belgium, 5 September 2012.
85) "*Efficient integration schemes for the discrete nonlinear Schrödinger (DNLS) equation*". 2nd Conference on Localized Excitations in Nonlinear Complex Systems (LENCOS' 12), Sevilla, Spain, 10 July 2012.
86) "*Chaos in disordered nonlinear lattices*". Third Plenary Meeting "Complex Matter", Manchester, UK, 30 March 2012.
87) "*Energy transport in disordered nonlinear chains*". Seminar, Section of Astrophysics, Astronomy and Mechanics, Physics Department, Aristotle University of Thessaloniki, Thessaloniki, Greece, 11 January 2012.
88) "*Energy transport in disordered nonlinear chains*". Seminar, Institute for Theoretical Physics, Vienna University of Technology, Vienna, Austria, 18 November 2011.
89) "*Energy localization in disordered nonlinear lattices*". Second Plenary Meeting "Complex Matter", Patras, Greece, 21 July 2011.
90) "*Efficient methods of chaos detection*". 8th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", Maribor, Slovenia, 8 July 2011.
91) "*Efficient methods of chaos detection: theory and applications*". Seminar, Department of Mathematics and Applied Mathematics, University of Cape Town, Cape Town, South Africa, 25 May 2011.
92) "*Energy transport in disordered nonlinear chains*". 8th Alexander von Humboldt Colloquium for Celestial Mechanics, Bad Hofgastein, Austria, 22 March 2011.
93) "*Algorithms for the integration of variational equations of multidimensional Hamiltonian systems*". Deutsche Physikalische Gesellschaft (DPG): 75th Annual Meeting of the DPG and DPG Spring Meeting, Dresden, Germany, 16 March 2011.
94) "*Algorithms for the integration of variational equations of Hamiltonian systems*". Seminar on Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 24 February 2011.
95) "*Numerical integration of variational equations*". International Conference: "Nonlinear Dynamics and Complexity: Theory, Methods and Applications", Thessaloniki, Greece, 13 July 2010.
96) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index Methods of Chaos Detection: Theory and Applications*". International Focus Workshop: "Few Body Dynamics in Atoms, Molecules and Planetary Systems", Dresden, Germany, 1 July 2010.
97) "*Numerical integration of variational equations*". Discrete Breathers Seminar, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 10 June 2010.
98) "*On the numerical integration of variational equations*". American Institute of Mathematical Sciences' (AIMS') 8th International Conference on Dynamical Systems, Differential Equations and Applications, Dresden, Germany, 25 May 2010.
99) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index Methods of Chaos Detection: Theory and Applications*". AstroDynamics Group Seminar, Institute for Astronomy, University of Vienna, Vienna, Austria, 22 April 2010.
100) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index Methods of Chaos Detection: Theory and Applications*". Dynamical Systems Group Seminar, Department of Mathematics, University of Namur, Namur, Belgium, 2 February 2010.
101) "*The Generalized Alignment Index (GALI) Method of Chaos Detection: Theory and Applications*". Lohrmann Observatory, Technical University Dresden, Germany, 15 January 2010.
102) "*Spreading of wave packets in one dimensional disordered nonlinear Klein-Gordon chains*". Condensed Matter Group Seminar, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 4 December 2009.

103) "*On the numerical integration of variational equations*". International Conference "CELMEC V: The Fifth International Meeting on Celestial Mechanics", San Martino al Cimino, Viterbo, Italy, 8 September 2009.
104) "*Spreading of wave packets in one dimensional disordered chains: Different dynamical regimes*". International Conference "Dynamics Days Europe 2009", Göttingen, Germany, 3 September 2009.
105) "*Spreading of wave packets in one dimensional disordered chains*". International Conference "Nonlinear Science and Complexity", Pescara, Italy, 29 July 2009.
106) "*Spreading mechanism of wave packets in one dimensional nonlinear Klein-Gordon chains*". Seminar of Complex Systems and Nonlinear Dynamics Group, Faculty of Natural Sciences, Chemnitz University of Technology, Chemnitz, Germany, 27 May 2009.
107) "*Spreading of wave packets in one dimensional disordered chains - I. Different dynamical regimes*". Deutsche Physikalische Gesellschaft (DPG) Spring Meeting of the Condensed Matter Section, Dresden, Germany, 23 March 2009.
108) "*Spreading of wave packets in disordered Klein-Gordon chains*". Postdoc Day, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 11 December 2008.
109) "*Chaos detection techniques*". 21st International Conference "Nonlinear Science and Complexity", Athens, Greece, 26 July 2008.
110) "*The Generalized Alignment Index (GALI) Method of Chaos Detection: Theory and Applications*". International Conference on the Dynamics of Celestial Bodies, Litohoro, Greece, 26 June 2008.
111) "*Detecting chaos, determining the dimensions of tori and predicting slow diffusion in Fermi-Pasta-Ulam lattices by the GALI method*". 7th Alexander von Humboldt Colloquium for Celestial Mechanics, Bad Hofgastein, Austria, 2 April 2008.
112) "*Detecting Chaos by the Generalized Alignment Index (GALI) Method*". Scientific Jam Session, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 7 March 2008.
113) "*Realistic estimations of the stability region of the Trojan asteroids*". Workshop on Mathematical Aspects of Celestial Mechanics, Paris, France, 12 December 2007.
114) "*Studying the dynamics of conservative dynamical systems by the Generalized Alignment Index (GALI) Method*". Quantum and Classical Dynamics Seminar, Centre de Physique Théorique, Marseille, France, 3 October 2007.
115) "*The Generalized Alignment Index (GALI) Method of Chaos Detection: Theory and Applications*". International Conference "Nonlinear Dynamics and Chaos: Advances and Perspectives", Aberdeen, Scotland, 19 September 2007.
116) "*Beam Stability in Modern Light Sources via Frequency Map Analysis*". 20th International Summer School/Conference "Nonlinear Science and Complexity", Patras, Greece, 19 July 2007.
117) "*Studying the Dynamics of Conservative Dynamical Systems by the Generalized Alignment Index (GALI) Method*". Discrete Breathers Seminar, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 10 July 2007.
118) "*Preliminary Ideas on the Nonlinear Dynamical Analysis of CLIC Damping Rings*". Beam Dynamics Meeting, CERN, Geneva, Switzerland, 13 June 2007.
119) "*Studying the dynamics of conservative dynamical systems by the Generalized Alignment Index (GALI) Method*". Séminaire, Interdisciplinary Centre for Nonlinear Phenomena and Complex Systems, Université Libre de Bruxelles, Brussels, Belgium, 14 May 2007.
120) "*The Smaller (SALI) and the Generalized (GALI) Alignment Index Methods of Chaos Detection: Theory and Applications*". Séminaires 'Temps & Espace', IMCCE – SYRTE, Observatoire de Paris, Paris, France, 2 April 2007.
121) "*Mesure du chaos*". Ecole Thématique du CNRS "Récentes Investigations en Dynamique des Corps Célestes dans les Systèmes Solaire et Extra-solaires", Bad Hofgastein, Austria, 26 March 2007.
122) "*A new method for distinguishing chaos from order in Hamiltonian systems*". 19th Conference and Summer School "Complexity and Nonlinear Dynamics", Thessaloniki, Greece, 24 July 2006.
123) "*The Generalized Alignment Index (GALI) method: Detecting order and chaos in conservative dynamical systems*". American Institute of Mathematical Sciences' (AIMS') Sixth International Conference on Dynamical Systems, Differential Equations and Applications, Poitiers, France, 27 June 2006.
124) "*Detecting chaos by the SALI method. Applications to simple accelerator models*". Machine Division Seminar, European Synchrotron Radiation Facility (ESRF), Grenoble, France, 28 September 2005.
125) "*The importance of periodic orbits in three-dimensional galactic bars and modern numerical techniques for tracing them*". International Conference "CELMEC IV : A Meeting on Celestial Mechanics", San Martino al Cimino, Viterbo, Italy, 14 September 2005.
126) "*Dynamical study of three-dimensional galactic bars: Periodic orbits and new techniques for tracing them*". 18th Summer School / Panhellenic Conference "Non linear Science and Complexity", Volos, Greece, 19 July 2005.

127) "*The importance of periodic orbits in three-dimensional galactic bars and modern numerical techniques for tracing them*". 6th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", Maribor, Slovenia, 7 July 2005.
128) "*Smaller Alignment Index (SALI): An efficient method of chaos detection*". Seminar of the Department of Astrophysics, Astronomy and Mechanics, University of Thessaloniki, Thessaloniki, Greece, 17 May 2005
129) "*Particle Swarm Optimization (PSO) : An efficient method for tracing periodic orbits in 3D galactic potentials*". Seminar of the Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 16 November 2004
130) "*A Numerical Study of Soliton Solutions of the Boussinesq Equation using Spectral methods*". International Conference on Numerical Analysis and Applied Mathematics, Chalkida, Greece, 11 September 2004
131) "*Tracing Periodic Orbits in 3D Galactic Potentials by the Particle Swarm Optimization method*". 1st International Conference "From Scientific Computing to Computational Engineering", Athens, Greece, 9 September 2004.
132) "*Numerical Solution of the Boussinesq Equation using Spectral Methods and Stability of Solitary Wave Propagation*". 1st International Conference "From Scientific Computing to Computational Engineering", Athens, Greece, 9 September 2004.
133) "*Detecting Chaos by the Smaller Alignment Index (SALI) method*". International Conference & Summer School: Complexity in Science and Society, Ancient Olympia, Greece, 22 July 2004.
134) "*Detecting Chaos in Autonomous Hamiltonian Systems and Symplectic Maps*". International Conference & Summer School: Complexity in Science and Society, Patras , Greece, 16 July 2004.
135) "*Detecting order and chaos by the Smaller Alignment Index (SALI) method*". Séminaire Astronomie et Systèmes Dynamiques, Institute de Mécanique Céleste, Observatoire de Paris, Paris, France, 20 November 2003.
136) "*Smaller Alignment Index - SALI: A Simple Tool to Distinguish Chaotic from Ordered Motion*". NATO ASI "Chaotic Worlds: From Order to Disorder in Gravitational N-Body Dynamical Systems", Cortina d' Ampezzo, Italy, 12 September 2003.
137) "*Smaller Alignment Index method (SALI). A fast and efficient method to distinguish Chaos from Order in Conservative Dynamical Systems*". Graduate Seminar, Department of Mathematics, University of Patras, Patras, Greece, 12 December 2002.
138) "*Detecting Ordered or Chaotic Motion in Hamiltonian Systems by the Smaller Alignment Index (SALI) Method*". International Workshop on Galaxies and Chaos, Theory and Observations, Athens, Greece, 18 September 2002.
139) "*Indices for distinguishing between regular and chaotic dynamics*". 15th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity", Patras, Greece, 21 August 2002.
140) "*Determining the ordered or chaotic nature of orbits in Hamiltonian systems by the Smaller Alignment Index (SALI) method*". 5th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", Maribor, Slovenia, 6 July 2002.
141) "*Smaller alignment index (SALI): Detecting order and chaos in conservative dynamical systems*". GRACM 2002 - 4th GRACM Congress on Computational Mechanics, Patras, Greece, 27 June 2002.
142) "*Smaller alignment index (SALI): Determining the ordered or chaotic nature of orbits in conservative dynamical systems*". International Conference on Libration Point Orbits and Applications, Aiguablava, Spain, 13 June 2002.
143) "*Hamilton-Jacobi theory and the action-angle variables*". CRANS Seminar series, Center for Research and Applications of Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 22 May 2002.
144) "*The symplectic formalism of Hamilton's equations and the Hamilton - Jacobi theory*". CRANS Seminar series, Center for Research and Applications of Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 17 April 2002.
145) "*Hamilton's Equations of Motion*". CRANS Seminar series, Center for Research and Applications of Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 10 April 2002.
146) "*Lagrangian Mechanics and the Principle of Least Action*". CRANS Seminar series, Center for Research and Applications of Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 3 April 2002.
147) "*Local analysis of area preserving maps by topological degree theory*". Seminar of the Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 5 March 2002.
148) "*Methods of studying the structure of the phase space in dynamical systems*". Department of Astrophysics, Astronomy and Mechanics, University of Athens, Athens, Greece, 15 November 2001.
149) "*Study of the stability problem of the Trojan asteroids*". CRANS Seminar series, Center for Research and Applications of Nonlinear Systems, Department of Mathematics, University of Patras, Patras, Greece, 31 October 2001.

150) "*Study of the stability problem of the Trojan asteroids*". Division of Applied Analysis, Department of Mathematics, University of Patras, Patras, Greece, 31 October 2001.
151) "*Alignment indices: a new method for determining the ordered or chaotic nature of orbits*". 5th Hellenic Astronomical Conference, Fodele, Crete, Greece, 20 September 2001.
152) "*Stability of periodic orbits in multi-dimensional Hamiltonian systems*". 14th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity", Patras, Greece, 23 July 2001.
153) "*On the effective stability of the Trojan asteroids*". International Conference "CELMEC III : Third Meeting on Celestial Mechanics", Monte Porzio Catone, Italy, 22 June 2001.
154) "*Stability of periodic orbits in high dimensional Hamiltonian systems*". Seminar of the Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 24 April 2001.
155) "*Regions of effective stability in the restricted three body problem*". Seminar of the Research Center for Astronomy and Applied Mathematics, Academy of Athens, Athens, Greece, 24 February 2000.
156) "*Regions of effective stability in the restricted problem of three bodies*". 4th Hellenic Astronomical Conference, Samos, Greece, 17 September 1999.
157) "*Dynamical spectra in systems with three degrees of freedom*". 4th Hellenic Astronomical Conference, Samos, Greece, 17 September 1999.
158) "*Dynamical spectra and structures in the phase space of a four-dimensional symplectic map*". 12th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity", Patras, Greece, 19 July 1999.
159) "*Introduction to nonlinear dynamics*". One-day course "Nonlinear dynamics, chaos, fractals, fractal kinetics in drug research", Athens, Greece, 1996.
160) "*Study of a 4-D mapping*". First Panhellenic Astronomical Meeting, Athens, Greece, September 1992.

Meetings - Conferences

Organization of conferences

1) International Conference on Nonlinear Science and Complexity, Thessaloniki, Greece, 14-17 July 2026, member of the Scientific Committee.
2) International Conference on Statistical Physics 2026 (SigmaPhi 2026), Chania, Crete, Greece, 6-10 July 2026, member of the Advisory Committee.
3) International Workshop "Nonlinear Dynamics and Anomalous Transport in Low Dimension", Cape Town, South Africa, 2-6 February 2026, **Main Organizer** (with R. Moessner).
4) International Conference "2nd Days of Applied NOnlinearity and Complexity (DANOC)" (online event), Thessaloniki, Greece, 23-25 January 2026, member of the Scientific Committee.
5) 12th International Conference of Image Processing, Wavelet and Applications on Real World Problems (IWW 2025) (hybrid event), Istanbul, Turkey, 3-5 November 2025, member of the International Advisory Committee and Co-chair of the Panel Session on Complexity, Chaos and Applications in Medicine, Biology, to Engineering and Computational Sciences.
6) 6th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event), Yaroslavl, Russia, 22-26 September 2025, member of the Programme Committee.
7) International Conference on Nonlinear Science and Complexity, Rio Claro, Brazil, 4-8 August 2025, member of the International Technical Committee.
8) 31st Summer School - Conference "Dynamic Systems and Complexity", Lamia, Greece, 7-15 July 2025, member of the Scientific Committee.
9) 6th International Interdisciplinary Symposium on Chaos and Complex Systems (SCCS2025), Istanbul, Turkey, 8-10 May 2025, member of the Scientific Committee.
10) International Conference on Nonlinear Science and Complexity, Yibin, China, 5-10 August 2024, member of the International Technical Committee.
11) International Conference "Days of Applied NOnlinearity and Complexity (DANOC)" (online event), Thessaloniki, Greece, 12-14 January 2024, member of the Scientific and Awards Committees.
12) 2022 Conference on Nonlinear Science and Complexity (online event), Thessaloniki, Greece, 26-29 September 2022, member of the Scientific Organizing Committee.
13) 10th International Scientific Conference on Physics and Control (PhysCon2021, hybrid event), Shanghai, China, 4 - 8 October 2021, member of the International Program Committee.
14) 27th Summer School - Conference "Dynamical Systems and Complexity" (online event), Athens, Greece, 19 - 24 July 2021, member of the Scientific Organizing Committee. **Main Organizer** (with G. Tsironis) of a 2-day event celebrating Tassos Bountis' 70th birthday.
15) 62nd Annual Congress of the South African Mathematical Society, Cape Town, South Africa, 2 - 4 December 2019, **Chair of the Organizing Committee.**
16) 26th Summer School - Conference "Dynamical Systems and Complexity", Athens, Greece, 14 - 20 July 2019, member of the Scientific Organizing Committee.
17) International Workshop "Methods of Chaos Detection and Predictability: Theory and Applications (MCDPTA13)", Dresden, Germany, 17 – 21 June 2013, **Main Organizer** (with J. Laskar and G. Gottwald).
18) International Conference "Nonlinear Dynamics and Complexity: Theory, Methods and Applications", Thessaloniki, Greece, 12 – 16 July 2010, **Main Organizer** (with V. Rothos). Member of the Scientific Program Committee and the Organizing Committee.
19) 21st International Conference "Nonlinear Science and Complexity", Athens, Greece, 21 July – 2 August 2008, member of the Local Organizing Committee.
20) 20th International Summer School/Conference "Nonlinear Science and Complexity", Patras, Greece, 19 – 29 July 2007, member of the Local Organizing Committee.
21) 4th Scientific Symposium "Great Moments of Physics: Current tendencies and achievements of Physical Sciences", Athens, Greece, 1 - 3 April 2005, member of the Organizing Committee
22) International Conference & Summer School "Complexity in Science and Society", Patras and Ancient Olympia, Greece, 14 - 16 July 2004, member of the Local Organizing Committee.
23) 3rd Scientific Symposium "Great Moments of Physics: The current developments in Physics and their influence at society", Larisa, Greece, 7 - 9 May 2004, member of the Organizing Committee.
24) 15th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity", Patras, Greece, 19 - 30 August 2002, member of the Local Organizing Committee.

Invited participations

1) 22nd Christmas Symposium of Physicists, Center for Applied Mathematics and Theoretical Physics (CAMTP), **invited speaker** – **oral presentation**: "*Origin fate map: a simple and efficient numerical tool for analyzing phase space transport*" **(**Maribor, Slovenia, 2025).
2) 6th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), **keynote speaker** – **oral presentation**: "*Analyzing phase space transport using the origin fate map*" (Yaroslavl, Russia, 2025).
3) International Conference on Nonlinear Science and Complexity, **invited speaker** – **oral presentation**: "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice*" (Rio Claro, Brazil, 2025).
4) 31st Summer School - Conference "Dynamic Systems and Complexity" (online participation), **invited speaker** – **oral presentation**: "*Numerical methods of chaos detection*" (Lamia, Greece, 2025).
5) Advanced School and Workshop: StatPhys in Kigali, **invited speaker** – did not attend (Kigali, Rwanda, 2025).
6) 6th International Interdisciplinary Symposium on Chaos and Complex Systems (SCCS2025), **invited speaker** – **oral presentation**: "*Lagrangian descriptors: A powerful method for investigating the behavior and chaoticity of dynamical systems*" (Istanbul, Turkey, 2025).
7) 5th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), **invited plenary speaker** – **oral presentation**: "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice model* " (Yaroslavl, Russia, 2024).
8) International Conference on Nonlinear Science and Complexity, **invited speaker** – **oral presentation**: "*Quantifying chaos using Lagrangian descriptors*" **(**Yibin, China, 2024).
9) 2024 International Workshop on Nonlinear Science, **invited speaker** – **oral presentation**: "*Quantifying chaos in conservative dynamical systems by using Lagrangian descriptors*" **(**Chongqing, China, 2024).
10) Conference "Ergodicity in physical systems and beyond", **invited speaker** – **oral presentation**: "*Energy transport and chaos in a one-dimensional disordered nonlinear stub lattice model*" and **poster presentation**: "*Instantaneous Lyapunov vectors in DNA*" (Lincoln, UK, 2024).
11) International conference "Applied Nonlinear Dynamical Systems and Chaos" (dedicated to the 65th birthday of Prof. Stephen Wiggins), **invited speaker** – **oral presentation**: "*Quantifying chaos using Lagrangian descriptors*" and **poster presentations**: "*Instantaneous Lyapunov vectors in DNA*", "*Nonlinear dynamics of one-dimensional topological systems*" **(**Madrid, Spain, 2024).
12) International Conference "Days of Applied NOnlinearity and Complexity (DANOC)" (online event), **keynote speaker** – **oral presentation**: "*Numerical methods of chaos detection*" (Thessaloniki, Greece, 2024).
13) 20th Christmas Symposium of Physicists, Center for Applied Mathematics and Theoretical Physics (CAMTP), **invited speaker** – **oral presentation**: "*Numerical methods of chaos detection*" **(**Maribor, Slovenia, 2023).
14) 4th International Conference on Integrable Systems and Nonlinear Dynamics (hybrid event – online participation), **invited speaker** – **oral presentation**: "*Quantifying chaos using Lagrangian descriptors*" (Yaroslavl, Russia, 2023).
15) 29th Summer School – Conference "Dynamical Systems and Complexity", **invited speaker** – **oral presentation**: "*Chaos in Hamiltonian nonlinear lattices*" (Athens, Greece, 2023).
16) International Conference on Statistical Physics 2023 (SigmaPhi 2023), **invited speaker** – **oral presentation**: "*Numerical investigation of spatiotemporal chaos in nonlinear lattice models*" and **poster presentation**: "*Instantaneous Lyapunov vectors in DNA*" (Chania, Crete, Greece, 2023).
17) Workshop "Multiple scattering in engineering and applied sciences", **invited speaker** – **oral presentation**: "*Numerical approaches for investigating the chaotic behavior of nonlinear disordered lattice models*" (Cambridge, United Kingdom, 2023).
18) 2022 Conference on Nonlinear Science and Complexity (online event), **invited speaker** – **oral presentation**: "*Numerical investigation of spatiotemporal chaos in multidimensional Hamiltonian systems*" (Thessaloniki, Greece, 2022).
19) 28th Summer School "Dynamical Systems and Complexity" (hybrid event – online participation), **invited speaker** – **oral presentation**: "*Chaos in Hamiltonian systems*" (Chania, Crete, Greece, 2022).
20) Satellite International Conference on Nonlinear Dynamics & Integrability, and Scientific School "Nonlinear Days" (hybrid event – online participation), **invited plenary speaker** – **oral presentation**: "*Numerical investigation of spatiotemporal chaos in multidimensional Hamiltonian systems*" (Yaroslavl, Russia, 2022).
21) Third International Conference on Integrable Systems & Nonlinear Dynamics, and School "Integrable and Nonlinear Days" (hybrid event – online participation), **invited speaker** – **oral presentation**: "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*" (Yaroslavl, Russia, 2021).

22) 27th Summer School - Conference "Dynamical Systems and Complexity" (online event), **invited speaker** – **oral presentation**: "*Chaotic dynamics of Hamiltonian systems*" (Athens, Greece, 2021).
23) 12th International Conference on Nonlinear Mathematics and Physics (NoLineal 20-21 – online event), **invited speaker** – **oral presentation**: "*Chaotic behavior of disordered Hamiltonian systems*" (Madrid, Spain, 2021).
24) Second International Conference on Integrable Systems & Nonlinear Dynamics (hybrid event – online participation), **invited speaker** – **oral presentation**: "*Chaotic wave packet propagation in disordered nonlinear lattices with one and two spatial dimensions*" (Yaroslavl, Russia, 2020).
25) International Conference "6th Dynamics Days Central Asia 2020" (online event), **invited speaker** – **oral presentation**: "*Chaotic behavior of multidimensional Hamiltonian systems*" (Nur-Sultan, Kazakhstan, 2020).
26) International Workshop "Chaos Indicators, Phase Space and Chemical Reaction Dynamics" (online event), **invited speaker** – **oral presentation**: "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*" (Bristol, United Kingdom, 2020).
27) 6th PhD School/Conference on Mathematical Modeling of Complex Systems, **invited speaker** – **oral presentation**: "*Chaotic behavior of multidimensional Hamiltonian systems: disordered lattices, granular chains and DNA models*" and **poster presentation**: "*Investigating Chaos by the Generalized Alignment Index (GALI) Method*" (Pescara, Italy, 2019).
28) International Workshop on Chaos-Fractals Theories and Applications, **invited plenary speaker** – **oral presentation**: "*Methods of chaos detection*" (Chongqing, China, 2018).
29) International Conference on "Nonlinear Localization in Lattices", **invited speaker** – **oral presentation**: "*Chaos in disordered nonlinear lattices*" and **poster presentations**: "*Chaotic dynamics of one-dimensional disordered nonlinear lattices*", "*Chaotic behaviour of the Peyrard-Bishop-Dauxois model of DNA*" and "*Dynamical behavior of a 2D planar model of graphene*" (Spetses, Greece, 2018).
30) Workshop "Write Science: An interactive learning experience", **invited session panelist,** University of Cape Town, (Cape Town, South Africa, 2017).
31) International Scientific Workshop "Recent Advances in Hamiltonian and Nonholonomic Dynamics", **invited speaker** – **oral presentation**: "*Chaos in disordered nonlinear Hamiltonian systems*" and **poster presentation**: "A dynamical model for graphene" (Moscow, Russia, 2017).
32) International Conference "Dynamics Days Latin America and the Caribbean 2016", **invited speaker** – **oral presentations**: "*Investigating the dynamics of a time-dependent barred galaxy model by the Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*", "*Chaos in disordered nonlinear lattices*" and "*Efficient integration techniques for the long time simulation of the disordered discrete nonlinear Schrödinger equation*" (Puebla, Mexico, 2016).
33) International Workshop on "Analysis and Applications of Localized Structures in Nonlinear Media", **invited speaker** – **oral presentation**: "*Symplectic longtime integration of the disordered discrete nonlinear Schrödinger equation*" (Leiden, The Netherlands, 2016).
34) 5th European PhD Summer School-Conference on "Mathematical Modeling of Complex Systems", **invited speaker** – **oral presentations**: "*Numerical Methods for Hamiltonian Systems: Chaos Detection (Part A)*" and "*Numerical Methods for Hamiltonian Systems: Chaos Detection (Part B)*" (Patras, Greece, 2015).
35) International Workshop in Astronomy and Dynamics, **invited speaker** – **oral presentation**: "*Chaotic dynamics of disordered nonlinear lattices*" (Paris, France, 2015).
36) Fourth International Workshop on Statistical Mechanics and Dynamical Systems, **invited speaker** – **oral presentation**: "*High order three part split symplectic integrators. Application to the disordered discrete nonlinear Schrödinger equation*" (Athens, Greece, 2014).
37) 9th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", **invited speaker** – **oral presentation**: "*Chaotic behavior of disordered nonlinear lattices*" (Maribor, Slovenia, 2014).
38) International Meeting "Perspectives in Nonlinear Dynamics" (A Satellite meeting of the STATPHYS 25 Conference), **invited speaker** – **oral presentation**: "*Chaos in disordered nonlinear lattices*" (Hyderabad, India, 2013).
39) 8th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics", **invited speaker** – **oral presentation**: "*Efficient methods of chaos detection*" (Maribor, Slovenia, 2011).
40) "8th Alexander von Humboldt Colloquium for Celestial Mechanics", **invited speaker** – **oral presentation**: "*Energy transport in disordered nonlinear chains*" (Bad Hofgastein, Austria, 2011).
41) International Conference "CELMEC V: The Fifth International Meeting on Celestial Mechanics", **invited speaker** – **oral presentation**: "*On the numerical integration of variational equations*" and **poster presentation**: "*Some aspects of the numerical integration of variational equations*" (San Martino al Cimino, Viterbo, Italy, 2009).
42) International Conference "Nonlinear Science and Complexity", **invited speaker** – **oral presentation**: "*Spreading of wave packets in one dimensional disordered chains*" and **poster presentation**: "*Behavior of the GALI indices for periodic orbits*" (Pescara, Italy, 2009).

43) Ecole Thématique du CNRS "Récentes Investigations en Dynamique des Corps Célestes dans les Systèmes Solaire et Extra-solaires", **invited speaker** – **oral presentation**: "*Mesure du chaos*" (Bad Hofgastein, Austria, 2007).

Oral and poster presentations

1) 12th International Conference of Image Processing, Wavelet and Applications on Real World Problems (IWW 2025) (hybrid event – online participation) – **oral presentation**: "*Lagrangian Descriptors: A powerful method for investigating the behavior and chaoticity of dynamical systems*" (Istanbul, Turkey, 2025).
2) International Conference: "From the nonlinear dynamical systems theory to observational chaos" – **oral presentation**: "*Numerical approaches for investigating the chaotic behavior of multidimensional Hamiltonian systems*" (Toulouse, France, 2023).
3) Scientific Workshop: 30 years MPI-PKS – **oral presentation**: "*Spatiotemporal chaos in disordered nonlinear lattices*" (Dresden, Germany, 2023).
4) 59th Annual Congress of the South African Mathematical Society – **oral presentations**: "*The Smaller (SALI) and the Generalized (GALI) Alignment Indices: Efficient methods of chaos detection*" and "*Efficient integration techniques for the long time simulation of the disordered discrete nonlinear Schrödinger equation*" (Cape Town, South Africa, 2016).
5) Workshop of UCT's New Academic Practitioners' Programme (NAPP) – **oral presentation**: "*Teaching the new course: MAM3085F 'Computing for Chemical Engineers'*" (Stellenbosch & Cape Town, South Africa, 2014).
6) International Workshop "Methods of Chaos Detection and Predictability: Theory and Applications (MCDPTA13)", **Main Organizer** – **oral presentation**: "*The Smaller (SALI) and the Generalized (GALI) Alignment Index methods of chaos detection*" and **poster presentations**: "*Chaos and Localization on 1-dimensional Nonlinear Disordered Lattices*", "*Computation of Lyapunov Characteristic Exponents Spectrum by the Compound Matrix Method*" and "*Dynamical Behavior of a System of Interacting Vortices in a Confined Bose-Einstein Condensate*" (Dresden, Germany, 2013).
7) 10th HSTAM 2013 International Congress on Mechanics – **oral presentation**: "*High order three part split symplectic integration schemes*", Mini-Symposium "Complex Problems in Theoretical and Applied Mechanics" (Chania, Greece, 2013).
8) European Conference on Complex Systems (ECCS 12) – **oral presentation**: "*Efficient integration schemes for the discrete nonlinear Schrödinger (DNLS) equation*", Satellite Meeting "Critical Phenomena and Collective Behavior of Multi-Particle Systems" (Brussels, Belgium, 2012).
9) 2nd Conference on Localized Excitations in Nonlinear Complex Systems (LENCOS' 12) – **oral presentation**: "*Efficient integration schemes for the discrete nonlinear Schrödinger (DNLS) equation*" (Sevilla, Spain, 2012).
10) Third Plenary Meeting "Complex Matter" – **oral presentation**: "*Chaos in disordered nonlinear lattices*" (Manchester, UK, 2012).
11) Second Plenary Meeting "Complex Matter" – **oral presentation**: "*Energy localization in disordered nonlinear lattices*" (Patras, Greece, 2011).
12) Deutsche Physikalische Gesellschaft (DPG): 75th Annual Meeting of the DPG and DPG Spring Meeting – **oral presentation**: "*Algorithms for the integration of variational equations of multidimensional Hamiltonian systems*" (Dresden, Germany, 2011).
13) International Conference: "Nonlinear Dynamics and Complexity: Theory, Methods and Applications", **Main Organizer** – **oral presentation**: "*Numerical integration of variational equations*" and **poster presentation**: "*A study of tangent dynamics using the GALI method: from the center of islands to the edge of chaos*" (Thessaloniki, Greece, 2010).
14) International Focus Workshop: "Few Body Dynamics in Atoms, Molecules and Planetary Systems" – **oral presentation**: "*The Smaller (SALI) and the Generalized (GALI) Alignment Index Methods of Chaos Detection: Theory and Applications*" (Dresden, Germany, 2010).
15) American Institute of Mathematical Sciences' (AIMS') 8th International Conference on Dynamical Systems, Differential Equations and Applications – **oral presentation**: "*On the numerical integration of variational equations*" (Dresden, Germany, 2010).
16) International Conference "Dynamics Days Europe 2009"– **oral presentation**: "*Spreading of wave packets in one dimensional disordered chains: Different dynamical regimes*" (Göttingen, Germany, 2009).
17) Deutsche Physikalische Gesellschaft (DPG) Spring Meeting of the Condensed Matter Section – **oral presentation**: "*Spreading of wave packets in one dimensional disordered chains - I. Different dynamical regimes*" and **poster presentation**: "*Detecting chaos and determining the dimensions of tori in Fermi-Pasta-Ulam lattices by the Generalized Alignment Index method*" (Dresden, Germany, 2009).
18) International Workshop on Anderson Localization in Nonlinear and Many-Body Systems - **poster presentations**: "*Spreading of Wavepackets in One-Dimensional Disordered Chains: Different Dynamical*

Regimes", "*Spreading of Wavepackets in One-Dimensional Disordered Chains. Spreading Mechanisms*" and "*On the Energy Transfer in FPU Lattices*" (Dresden, Germany, 2009).

19) 21st International Conference "Nonlinear Science and Complexity" – **oral presentation**: "*Chaos detection techniques*" (Athens, Greece, 2008).
20) International Conference on the Dynamics of Celestial Bodies – **oral presentation**: "*The Generalized Alignment Index (GALI) Method of Chaos Detection: Theory and Applications*" (Litohoro, Greece, 2008).
21) "7th Alexander von Humboldt Colloquium for Celestial Mechanics" – **oral presentation**: "*Detecting chaos, determining the dimensions of tori and predicting slow diffusion in Fermi-Pasta-Ulam lattices by the GALI method*" (Bad Hofgastein, Austria, 2008).
22) "Workshop on Mathematical Aspects of Celestial Mechanics"– **oral presentation**: "*Realistic estimations of the stability region of the Trojan asteroids*" (Paris, France, 2007).
23) International Conference "Nonlinear Dynamics and Chaos: Advances and Perspectives" – **oral presentation**: "*The Generalized Alignment Index (GALI) Method of Chaos Detection: Theory and Applications*" and **poster presentation**: "*Studying the dynamics of particle accelerators by the Frequency Map Analysis method using multi-bpm data*" (Aberdeen, Scotland, 2007).
24) 20th International Summer School/Conference "Nonlinear Science and Complexity" – **oral presentation**: "*Beam Stability in Modern Light Sources via Frequency Map Analysis*" and **poster presentation**: "*Application of the Generalized Alignment Index Method to the Dynamics of Multi-dimensional Symplectic Maps*" (Patras, Greece, 2007).
25) 22nd Particle Accelerator Conference, PAC07 – **poster presentation**: "*Precise tune measurements from multiple beam position monitors*" (Albuquerque, USA, 2007).
26) 19th Conference and Summer School "Complexity and Nonlinear Dynamics" – **oral presentation**: "*A new method for distinguishing chaos from order in Hamiltonian systems*" and **poster presentation**: "*Chaotic dynamics of N-degree of freedom Hamiltonian systems*" (Thessaloniki, Greece, 2006).
27) American Institute of Mathematical Sciences' (AIMS') Sixth International Conference on Dynamical Systems, Differential Equations and Applications – **oral presentation**: "*The Generalized Alignment Index (GALI) method: Detecting order and chaos in conservative dynamical systems*" (Poitiers, France, 2006).
28) International Conference "Carles Simó Fest" - **poster presentation**: "*The Generalized Alignment Index (GALI) method: Detecting order and chaos in conservative dynamical systems*" (S' Agaró, Spain, 2006).
29) International Conference "CELMEC IV: A Meeting on Celestial Mechanics" – **oral presentation**: "*The importance of periodic orbits in three-dimensional galactic bars and modern numerical techniques for tracing them*" (San Martino al Cimino, Viterbo, Italy, 2005).
30) 18th Summer School / Panhellenic Conference "Non linear Science and Complexity" – **oral presentation**: "*Dynamical study of three-dimensional galactic bars: Periodic orbits and new techniques for tracing them*" and **poster presentation**: "*Chaotic dynamics of N-degree of freedom Hamiltonian systems*" (Volos, Greece, 2005).
31) 6th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics" – **oral presentation**: "*The importance of periodic orbits in three-dimensional galactic bars and modern numerical techniques for tracing them*" and **poster presentation**: "*Chaotic dynamics of N-degree of freedom Hamiltonian systems*" (Maribor, Slovenia, 2005).
32) International Conference on Numerical Analysis and Applied Mathematics – **oral presentation**: "*A Numerical Study of Soliton Solutions of the Boussinesq Equation using Spectral methods*" (Chalkida, Greece, 2004).
33) 1st International Conference "From Scientific Computing to Computational Engineering" – **oral presentations**: "*Tracing Periodic Orbits in 3D Galactic Potentials by the Particle Swarm Optimization method*" and "*Numerical Solution of the Boussinesq Equation using Spectral Methods and Stability of Solitary Wave Propagation*" (Athens, Greece, 2004).
34) International Conference & Summer School "Complexity in Science and Society" – **oral presentations**: "*Detecting Chaos in Autonomous Hamiltonian Systems and Symplectic Maps*", "*Detecting Chaos by the Smaller Alignment Index (SALI) method*" and **poster presentation**: "*SALI: An Efficient Indicator of Regular and Chaotic motion of Multi – Degree of Freedom Hamiltonian Systems* " (Patras and Ancient Olympia, Greece, 2004).
35) 6th Hellenic Astronomical Conference – **poster presentations**: "*Tracing periodic orbits in 3D galactic potentials by the Particle Swarm Optimization method*" and "*Face-on views of 3D barred galaxies*" (Penteli, Greece, 2003).
36) NATO ASI "Chaotic Worlds: From Order to Disorder in Gravitational N-Body Dynamical Systems"– **oral presentation**: "*Smaller Alignment Index - SALI: A Simple Tool to Distinguish Chaotic from Ordered Motion*" and **poster presentation**: "*Tracing periodic orbits in 3D galactic potentials by the Particle Swarm Optimization method*" (Cortina d' Ampezzo, Italy, 2003).

37) International Astronomical Union XXVth General Assembly, Symposium 220 "Dark Matter in Galaxies" – **poster presentations**: "*Boxy isophotes in face-on views of barred galaxies*" and "*Formation of inner rings in 3D potentials of barred galaxies*" (Sydney, Australia, 2003).
38) International Workshop on Galaxies and Chaos, Theory and Observations – **oral presentation**: "*Detecting ordered or chaotic motion in Hamiltonian systems by the Smaller Alignment Index (SALI) method*" (Athens, Greece, 2002).
39) 15th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity" – **oral presentation**: "*Indices for distinguishing between regular and chaotic dynamics*" (Patras, Greece, 2002).
40) 5th International Summer School / Conference "Let's Face Chaos through Nonlinear Dynamics" – **oral presentation**: "*Determining the ordered or chaotic nature of orbits in Hamiltonian systems by the Smaller Alignment Index (SALI) method*" and **poster presentation**: "*Finding periodic orbits in area preserving mappings by Topological Degree theory*" (Maribor, Slovenia, 2002).
41) GRACM 2002 - 4th GRACM Congress on Computational Mechanics – **oral presentation**: "*Smaller alignment index (SALI): Detecting order and chaos in conservative dynamical systems*" (Patras, Greece, 2002).
42) International Conference on Libration Point Orbits and Applications – **oral presentation**: "*Smaller alignment index (SALI): Determining the ordered or chaotic nature of orbits in conservative dynamical systems*" and **poster presentation**: "*Locating periodic orbits by Topological Degree theory*" (Aiguablava, Spain, 2002).
43) 5th Hellenic Astronomical Conference – **oral presentation**: "*Alignment indices: a new method for determining the ordered or chaotic nature of orbits*" and **poster presentations**: "*Stability types of periodic orbits of multidimensional Hamiltonian systems*", "*Realistic estimations of the effective stability region of the Trojan asteroids*" and "*The backbone of 3D bars*" (Heraklion, Greece 2001).
44) 14th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity" – **oral presentation**: "*Stability of periodic orbits in multi-dimensional Hamiltonian systems*" (Patras, Greece 2001).
45) International Conference "CELMEC III : Third Meeting on Celestial Mechanics"– **oral presentation**: "*On the effective stability of the Trojan asteroids*" and **poster presentation**: "*Alignment indices: a new indicator distinguishing between ordered and chaotic orbits*" (Rome, Italy 2001).
46) 4th Hellenic Astronomical Conference – **oral presentations**: "*Regions of effective stability in the restricted problem of three bodies*" and "*Dynamical spectra in systems with three degrees of freedom*" (Samos, Greece 1999).
47) 12th Summer School / Panhellenic Conference "Non linear dynamics: Chaos and Complexity" – **oral presentation**: "*Dynamical spectra and structures in the phase space of a four-dimensional symplectic map*" (Patras, Greece 1999).
48) 8th Summer School / 3rd Panhellenic Conference "Complexity and chaotic dynamics of nonlinear systems" – **poster presentation**: "*Periodic orbits in the potential of FH_2*" (Patras, Greece 1996).
49) One-day course "Nonlinear dynamics, chaos, fractals, fractal kinetics in drug research" – **oral presentation**: "*Introduction to nonlinear dynamics*" (Athens, Greece 1996).
50) International Conference "Hamiltonian systems with three or more degrees of freedom" – **poster presentation**: "*Numerical study of the phase space of a four dimensional symplectic map*" (Barcelona, Spain 1995).
51) First Panhellenic Astronomical Meeting – **oral presentation**: "*Study of a 4-D mapping*" (Athens, Greece 1992).

Attendance

52) Event "Wave scattering in complex matter: Advances in material characterisation and the design of materials" (Cambridge, United Kingdom, 2023).
53) "Random operators Arising in the study of random Walks (RAW)" Graduate School (online event - Paris, France, 2021).
54) Workshop "Korteweg-de Vries equation, Toda lattice and their relevance to the FPUT problem" (online event – Lincoln, UK, 2021).
55) Science, Technology, Engineering, Mathematics & Innovation (STEMI) Olympiads & Competitions Conference (Johannesburg, South Africa, 2015).
56) 4th Ph.D. Summer School - Conference on "Mathematical Modeling of Complex Systems" (Athens, Greece, 2014).
57) Workshop "Asteroids and resonances: open problems and perspectives", Commemorative workshop for the 70-th anniversary of Prof. Sylvio Ferraz Mello (Meudon, France, 2006).
58) 4th Scientific Symposium "Great Moments of Physics: Current tendencies and achievements of Physical Sciences" (Athens, Greece, 2005).
59) Workshop "Experimental Frequency Map Analysis in Accelerator Physics" (Paris, France, 2003).

60) 1st Interdisciplinary Symposium on Nonlinear Problems (Athens, Greece, 2000).
61) International Workshop "Galactic Disks 99" (Heidelberg, Germany, 1999).
62) International Workshop "Astronomy 2000+" (Athens, Greece, 1998).
63) 5th Summer School of Nonlinear Physics and Mathematics (Heraklion, Greece, 1992).
64) International Conference "Chaotic dynamics : theory and practice" (Patras, Greece, 1991).
65) 4th Summer School of Nonlinear Physics and Mathematics (Samos, Greece, 1990).
66) 2nd Summer School of Nonlinear Physics and Mathematics (Samos, Greece, 1988).

List of publications

Total number of known citations (excluding self and co-author citations): **3299**♦
h-index = 27 (Web of Science), **27 (**Scopus), **37** (Google Scholar)

[1]Supervised Honours (4th year) student, [2]Supervised MSc student, [3]Supervised PhD student,
[4]Mentored postdoctoral researcher

Ph.D. Thesis

T.1. **Skokos Ch.**: 1997, "*Numerical and theoretical study of structures in the phase space of dynamical systems with two and three degrees of freedom*", Ph.D. Thesis, Section of Astrophysics, Astronomy and Mechanics, Physics Department, Univ. of Athens (in Greek). **(3 known citations)**

Books

B.1. Bountis T. C. & **Skokos Ch.**: 2012, "*Complex Hamiltonian Dynamics*", 255 pages, Springer Series in Synergetics, Springer-Verlag, Berlin Heidelberg. **(58 known citations)**

Edited volumes

EV.1. Nicolis G., Robnik M., Rothos V. & **Skokos Ch.** (eds.): 2011, International Journal of Bifurcation and Chaos, Volume 21, Issue 8. Special issue: Proceedings of the International Conference "Nonlinear Dynamics and Complexity: Theory, Methods and Applications", Thessaloniki, Greece, July 2010, Vol. 1. Editorial: 2011, Int. J. Bifurc. Chaos, 21(8), 2077-2088.

EV.2. Nicolis G., Robnik M., Rothos V. & **Skokos Ch.** (eds.): 2012, International Journal of Bifurcation and Chaos. Volume 22, Issue 9. Theme section: Proceedings of the International Conference "Nonlinear Dynamics and Complexity: Theory, Methods and Applications", Thessaloniki, Greece, July 2010, Vol. 2. Editorial: 2012, Int. J. Bifurc. Chaos, 22(9), 1202008

EV.3. Gottwald G. & **Skokos Ch.** (eds.): 2014, Chaos, Volume 24, Issue 2. Focus Issue: "Chaos Detection Methods and Predictability". Editorial: "*Preface to the Focus Issue: Chaos Detection Methods and Predictability*", 2014, Chaos, 24, 024201. **(2 known citations)**

EV.4. **Skokos Ch.**, Gottwald G. & Laskar J. (eds.): 2016, "*Chaos detection and predictability*", Lecture Notes in Physics, 2016, Vol. 915, Springer-Verlag, Berlin Heidelberg. **(85 known citations)**

Book chapters

BC.1. **Skokos Ch.**: 2010, "*The Lyapunov Characteristic Exponents and their computation*", Lect. Notes Phys., 790, 63-135. **(378 known citations)**

BC.2. **Skokos Ch.** & Manos T.: 2016, "*The Smaller (SALI) and the Generalized (GALI) alignment indices: Efficient methods of chaos detection*", Lect. Notes Phys., 915, 129-181. **(56 known citations)**

BC.3. [2]Theron D. & **Skokos Ch.**: 2025, "*Manifold dynamics and orbital properties in a two-dimensional galactic model*", in "Nonlinear Complex Systems II: Attractors, Solitons, and Waves", eds. Xing S., Volchenkov D., Xu Y. & Huang J., Nonlinear Physical Science, Springer (accepted for publication – in press), arXiv:nlin.CD/2505.10901. **(1 known citation)**

In refereed journals

P.1. Giorgilli A. & **Skokos Ch.**: 1997, "*On the stability of the Trojan asteroids*", Astron. Astroph., 317, 254-261. **(111 known citations)**

P.2. **Skokos Ch.**, Contopoulos G. & Polymilis C.: 1997, "*Structures in the phase space of a four dimensional symplectic map*", Cel. Mech. Dyn. Astron., 65, 223-251. **(40 known citations)**

P.3. Polymilis C., Servizi G. & **Skokos Ch.**: 1997, "*A quantitative bifurcation analysis of Hénon-like 2D maps*", Cel. Mech. Dyn. Astron., 66, 365-385. **(6 known citations)**

P.4. Founargiotakis M., Farantos S. C., **Skokos Ch.** & Contopoulos G.: 1997, "*Bifurcation diagrams of periodic orbits for unbound molecular systems: FH_2*", Chem. Phys. Let., 277, 456-464. **(15 known citations)**

P.5. Polymilis C., **Skokos Ch.**, Kollias G., Servizi G. & Turchetti G.: 2000, "*Bifurcations of beam-beam like maps*", J. Phys. A, 33, 1055-1064. **(8 known citations)**

P.6. **Skokos Ch.** & Dokoumetzidis A.: 2001, "*Effective stability of the Trojan asteroids*", Astron. Astroph. , 367, 729-736. **(42 known citations)**

P.7. **Skokos Ch.**: 2001, "*On the stability of periodic orbits of high dimensional autonomous Hamiltonian systems*", Physica D, 159, No 3-4, 155-179. **(53 known citations)**

♦ The list of these citations can be found at the web page http://math_research.uct.ac.za/~hskokos/

P.8. **Skokos Ch.**: 2001, "*Alignment indices: A new, simple method for determining the ordered or chaotic nature of orbits*", J. Phys. A, 34, 10029-10043. **(337 known citations)**

P.9. **Skokos Ch.**, Patsis P. A. & Athanassoula E.: 2002, "*Orbital dynamics of three-dimensional bars - I. The backbone of three-dimensional bars. A fiducial case*", MNRAS, 333, 847-860. **(116 known citations)**

P.10. **Skokos Ch.**, Patsis P. A. & Athanassoula E.: 2002, "*Orbital dynamics of three-dimensional bars - II. Investigation of the parameter space*", MNRAS, 333, 861-870. **(50 known citations)**

P.11. Patsis P. A., Athanassoula E., Grosbøl P. & **Skokos Ch.**: 2002, "*Edge-on boxy profiles in non-barred disc galaxies*", MNRAS, 335, 1049-1053. **(34 known citations)**

P.12. Patsis P. A., **Skokos Ch.** & Athanassoula E.: 2002, "*Orbital dynamics of three-dimensional bars - III. Boxy/Peanut edge-on profiles*", MNRAS, 337, 578-596. **(109 known citations)**

P.13. Polymilis C., Servizi G., **Skokos Ch.**, Turchetti G. & Vrahatis M. N.: 2003, "*Topological degree theory and local analysis of area preserving maps*" Chaos, 13, 1, 94-104. **(13 known citations)**

P.14. Patsis P. A., **Skokos Ch.** & Athanassoula E. 2003, "*Orbital dynamics of three-dimensional bars - IV. Boxy isophotes in face-on views*", MNRAS, 342, 69-78. **(29 known citations)**

P.15. **Skokos Ch.**, Antonopoulos Ch., Bountis T. C. & Vrahatis M. N.: 2003, "*How does the Smaller Alignment Index (SALI) distinguish order from chaos?*", Prog. Theor. Phys. Supp., 150, 439-443. **(53 known citations)**

P.16. Patsis P. A., **Skokos Ch.** & Athanassoula E.: 2003, "*On the 3D dynamics and morphology of inner rings*", MNRAS, 346, 1031-1040. **(25 known citations)**

P.17. **Skokos Ch.**, Antonopoulos Ch., Bountis T. C. & Vrahatis M. N.: 2004, "*Detecting order and chaos in Hamiltonian systems by the SALI method*", J. Phys. A, 37, 6269-6284. **(154 known citations)**

P.18. Panagopoulos P., Bountis T. C. & **Skokos Ch.**: 2004, "*Existence and stability of localized oscillations in 1-dimensional lattices with soft spring and hard spring potentials*", J. Vibration & Acoustics, 126, 520-527. **(18 known citations)**

P.19. **Skokos Ch.**, Parsopoulos K. E., Patsis P. A. & Vrahatis M. N.: 2005, "*Particle Swarm Optimization: An efficient method for tracing periodic orbits in 3D galactic potentials*", MNRAS, 359, 251-260. **(21 known citations)**

P.20. Bountis T. C. & **Skokos Ch.**: 2006, "*Application of the SALI chaos detection method to accelerator mappings*", Nucl. Instr. Meth. Phys. Res. – Sect. A, 561, 173-179. **(13 known citations)**

P.21. Bountis T. & **Skokos Ch.**: 2006, "*Space charges can significantly affect the dynamics of accelerator maps*", Phys. Let. A, 358, 126-133. **(5 known citations)**

P.22. Antonopoulos Ch., Bountis T. C. & **Skokos Ch.**: 2006, "*Chaotic dynamics of N-degree of freedom Hamiltonian systems*", Int. J. Bifurc. Chaos, 16(6), 1777-1793. **(18 known citations)**

P.23. **Skokos Ch.**, Bountis T. C. & Antonopoulos Ch.: 2007, "*Geometrical properties of local dynamics in Hamiltonian systems: the Generalized Alignment Index (GALI) method*", Physica D, 231, 30-54. **(164 known citations)**

P.24. Manos T., **Skokos Ch.**, Athanassoula E. & Bountis T.: 2008, "*Studying the global dynamics of conservative dynamical systems using the SALI chaos detection method*", Nonlin. Phenom. Complex Syst., 11, 171-176. **(12 known citations)**

P.25. **Skokos Ch.**, Bountis T. C. & Antonopoulos Ch.: 2008, "*Detecting chaos, determining the dimensions of tori and predicting slow diffusion in Fermi-Pasta-Ulam lattices by the Generalized Alignment Index method*", Eur. Phys. J. Sp. Top., 165, 5-14. **(48 known citations)**

P.26. Flach S., Krimer D. O. & **Skokos Ch.**: 2009, "*Universal spreading of wave packets in disordered nonlinear systems*", Phys. Rev. Let., 102, 024101 (Erratum: Phys. Rev. Let., 102, 209903). **(282 known citations)**

P.27. **Skokos Ch.**, Krimer D. O., Komineas S. & Flach S.: 2009, "*Delocalization of wave packets in disordered nonlinear chains*", Phys. Rev. E, 79, 056211 (Erratum: Phys. Rev. E., 89, 029907). **(140 known citations)**

P.28. **Skokos Ch.** & Flach S.: 2010, "*Spreading of wave packets in disordered systems with tunable nonlinearity*", Phys. Rev. E, 82, 016208. **(43 known citations)**

P.29. Laptyeva T. V., Bodyfelt J. D., Krimer D. O., **Skokos Ch.** & Flach S.: 2010, "*The crossover from strong to weak chaos for nonlinear waves in disordered systems*", Europhysics Letters, 91, 30001. **(72 known citations)**

P.30. **Skokos Ch.** & Gerlach E.: 2010, "*Numerical integration of variational equations*", Phys. Rev. E, 82, 036704. **(62 known citations)**

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P.32. Bodyfelt J. D., Laptyeva T. V., Gligoric G., Krimer D. O., **Skokos Ch.** & Flach S.: 2011, "*Wave interactions in localizing media - a coin with many faces*", Int. J. Bifurc. Chaos, 21(8), 2107-2124. **(10 known citations)**

P.33. Ponno A., Christodoulidi H., **Skokos Ch.** & Flach S.: 2011, "*The two-stage dynamics in the Fermi-Pasta-Ulam problem: from regular to diffusive behavior*", Chaos, 21,043127. **(36 known citations)**

P.34. Boreux J., Carletti T., **Skokos Ch.** & Vittot M.: 2012, "*Hamiltonian control used to improve the beam stability in particle accelerator models*", Commun. Nonlinear Sci. Num. Simulat., 17, 1725-1738. **(5 known citations)**

P.35. Gerlach E., Eggl S. & **Skokos Ch.**: 2012, "*Efficient integration of the variational equations of multi-dimensional Hamiltonian systems: Application to the Fermi-Pasta-Ulam lattice*", Int. J. Bifurc. Chaos, 22(9), 1250216. **(11 known citations)**

P.36. Manos T., **Skokos Ch.** & Antonopoulos Ch.: 2012, "*Probing the local dynamics of periodic orbits by the generalized alignment index (GALI) method*", Int. J. Bifurc. Chaos, 22(9), 1250218. **(25 known citations)**

P.37. Boreux J., Carletti T., **Skokos Ch.**, Papaphilippou Y. & Vittot M.: 2012, "*Efficient control of accelerator maps*", Int. J. Bifurc. Chaos, 22(9), 1250219. **(2 known citations)**

P.38. Manos T., Bountis T. & **Skokos Ch.**: 2013, "*Interplay between chaotic and regular motion in a time-dependent barred galaxy model*", J. Phys. A, 46, 254017. **(23 known citations)**

P.39. **Skokos Ch.**, [2]Gkolias I. & Flach S.: 2013, "*Nonequilibrium chaos of disordered nonlinear waves*", Phys. Rev. Let., 111, 064101 (Editors' Suggestion). **(51 known citations)**

P.40. Tieleman O., **Skokos Ch.** & Lazarides A.: 2014, "*Chaoticity without thermalisation in disordered lattices*", Europhysics Letters, 105, 20001. **(5 known citations)**

P.41. **Skokos Ch.,** Gerlach E., Bodyfelt J. D., Papamikos G. & Eggl S.: 2014, "*High order three part split symplectic integrators: Efficient techniques for the long time simulation of the disordered discrete non linear Schrödinger equation*", Phys. Let. A, 378, 1809-1815. **(22 known citations)**

P.42. Antonopoulos Ch., Bountis T., **Skokos Ch.** & Drossos L.: 2014, "*Complex statistics and diffusion in nonlinear disordered particle chains*", Chaos, 24, 024405. **(5 known citations)**

P.43. Kyriakopoulos N., Koukouloyannis V., **Skokos Ch.** & Kevrekidis P.: 2014, "*Chaotic behavior of three interacting vortices in a confined Bose-Einstein condensate*", Chaos, 24, 024410. **(11 known citations)**

P.44. Achilleos V., Theocharis G. & **Skokos Ch.**: 2016, "*Energy transport in one-dimensional disordered granular solids*", Phys. Rev. E, 93, 022903. **(20 known citations)**

P.45. Gerlach E., Meichsner J, & **Skokos Ch.**: 2016, "*On the symplectic integration of the discrete nonlinear Schrödinger equation with disorder*", Eur. Phys. J. Sp. Top., 225, 1103-1114. **(8 known citations)**

P.46. Antonopoulos Ch., **Skokos Ch.**, Bountis T. & Flach S.: 2017, "*Analyzing chaos in higher order disordered quartic-sextic Klein-Gordon lattices using q-statistics*", Chaos Sol. Fract., 104, 129-134. **(7 known citations)**

P.47. Chaves-Velasquez L., Patsis P. A., Puerari I., **Skokos Ch.** & Manos T.: 2017, "*Boxy orbital structures in rotating bar models*", Astroph. J., 850, 145. **(13 known citations)**

P.48. [1]Hillebrand M., Paterson-Jones G., Kalosakas G. & **Skokos Ch.**: 2018, "*Distribution of Base Pair Alternations in a Periodic DNA Chain: Application of Pólya Counting to a Physical System*", Regular and Chaotic Dynamics, 23, 135-151.

P.49. Achilleos V., Theocharis G. & **Skokos Ch.**: 2018, "*Chaos and Anderson-like localization in polydisperse granular chains*", Phys. Rev. E, 97, 042220. **(7 known citations)**

P.50. [3]Senyange B. & **Skokos Ch.**: 2018, "*Computational efficiency of symplectic integration schemes: Application to multidimensional disordered Klein-Gordon lattices*", Eur. Phys. J. Sp. Top., 227, 625-643. **(15 known citations)**

P.51. [3]Senyange B., [3]Many Manda B. & **Skokos Ch.**: 2018, "*Characteristics of chaos evolution in one-dimensional disordered nonlinear lattices*", Phys. Rev. E, 98, 052229 (Erratum: Phys. Rev. E., 99, 069903). **(28 known citations)**

P.52. [3]Hillebrand M., Kalosakas G., [1]Schwellnus A. & **Skokos Ch.**: 2019, "*Heterogeneity and chaos in the Peyrard-Bishop-Dauxois DNA model*", Phys. Rev. E, 99, 022213. **(24 known citations)**

P.53. Ngapasare A., Theocharis G., Richoux O., **Skokos Ch.** & Achilleos V.: 2019, "*Chaos and Anderson Localisation in Disordered Classical Chains: Hertzian versus Fermi-Pasta-Ulam-Tsingou models*", Phys. Rev. E, 99, 032211. **(11 known citations)**

P.54. Danieli C., [3]Many Manda B., Mithun T. & **Skokos Ch.**: 2019, "*Computational efficiency of numerical integration methods for the tangent dynamics of many-body Hamiltonian systems in one and two spatial dimensions*", Math. in Engineering, 1, 447-488. **(15 known citations)**

P.55. [3]Many Manda B., [3]Senyange B. & **Skokos Ch.**: 2020, "*Chaotic wave packet spreading in two-dimensional disordered nonlinear lattices*", Phys. Rev. E, 101, 032206. **(13 known citations)**

P.56. [3]Hillebrand M., [3]Many Manda B., Kalosakas G., Gerlach E. & **Skokos Ch.**: 2020, "*Chaotic dynamics of graphene and graphene nanoribbons*", Chaos, 30, 063150 (Erratum: Chaos, 35, 019901). **(8 known citations)**

P.57. [2]Moges H. T., Manos T. & **Skokos Ch.**: 2020, "*On the behavior of the Generalized Alignment Index (GALI) method for regular motion in multidimensional Hamiltonian systems*", Nonlin. Phenom. Complex Syst., 23, 153-164. **(3 known citations)**

P.58. [3]Senyange B., [1]du Plessis J.-J., [3]Many Manda B. & **Skokos Ch.**: 2020, "*Properties of normal modes in a modified disordered Klein-Gordon lattice: From disorder to order*", Nonlin. Phenom. Complex Syst., 23, 165-171.

P.59. Ngapasare A., Theocharis G., Richoux O., **Skokos Ch.** & Achilleos V.: 2020, "*Wave propagation in a strongly disordered one-dimensional 1D phononic lattice supporting rotational waves*", Phys. Rev. B, 102, 054201. **(5 known citations)**

P.60. Tchakui M. V., Woafo P. & **Skokos Ch.**: 2020, "*Chaotic dynamics of piezoelectric MEMS based on maximum Lyapunov Exponent and Smaller Alignment Index computations*", Int. J. Bifurc. Chaos, 30, 2030025. **(4 known citations)**

P.61. [3]Hillebrand M., Kalosakas G., **Skokos Ch.** & Bishop A.R.: 2020, "*Distributions of bubble lifetimes and bubble lengths in DNA*", Phys. Rev. E, 102, 062114. **(16 known citations)**

P.62. Bountis A., Kaloudis K., Oikonomou Th., [3]Many Manda B. & **Skokos Ch.**: 2020, "*Stability properties of 1-dimensional Hamiltonian lattices with nonanalytic potentials*", Int. J. Bifurc. Chaos, 30, 2030047. **(2 known citations)**

P.63. Mithun T., Maluckov A., [3]Many Manda B., **Skokos Ch.**, Bishop A., Saxena A., Khare A. & Kevrekidis P. G.: 2021, "*Thermalization in the one-dimensional Salerno model lattice*", Phys. Rev. E, 103, 032211. **(2 known citations)**

P.64. [4]Hillebrand M., Kalosakas G., Bishop A.R. & **Skokos Ch.**: 2021, "*Bubble lifetimes in DNA gene promoters and their mutations affecting transcription*", J. Chem. Phys., 155, 095101. **(14 known citations)**

P.65. [3]Georgiou P., Tselios Ch., Mourkioti G., **Skokos Ch.** & Alexandropoulos D.: 2021, "*Effect of excited state lasing on the chaotic dynamics of spin QD-VCSELs*", Nonlin. Dyn., 106, 3637-3646. **(10 known citations)**

P.66. Patsis P. A., Manos T. Chaves-Velasquez L., **Skokos Ch.** & Puerari I.: 2022, "*Chaoticity in the vicinity of complex unstable periodic orbits in galactic type potentials*", Physica D, 429, 133050. **(2 known citations)**

P.67. Manos T., **Skokos Ch.** & Patsis P. A.: 2022, "*Orbit evolution in growing stellar bars: bar-supporting orbits at the vertical ILR region*", MNRAS, 509, 1995-2012. **(3 known citations)**

P.68. [3]Moges H. T., Manos T. & **Skokos Ch.**: 2022, "*Anomalous diffusion in single and coupled standard maps with extensive chaotic phase spaces*", Physica D, 431, 133120. **(7 known citations)**

P.69. [4]Ngapasare A., Theocharis G., Richoux O., Achilleos V. & **Skokos Ch.**: 2022, "*Energy spreading, equipartition, and chaos in lattices with non-central forces*", Chinese Phys. B, 31, 020506.

P.70. Senyange B. & **Skokos Ch.**: 2022, "*Identifying localized and spreading chaos in nonlinear disordered lattices by the Generalized Alignment Index (GALI) method*", Physica D, 432, 133154. **(9 known citations)**

P.71. Many Manda B., Chaunsali R., Theocharis G. & **Skokos Ch.**: 2022, "*Nonlinear topological edge states: From dynamic delocalization to thermalization*", Phys. Rev. B, 105, 104308. **(9 known citations)**

P.72. Skoufaris K., Laskar J., Papaphilippou Y. & **Skokos Ch.**: 2022, "*Application of high order symplectic integration methods with forward integration steps in beam dynamics*", Phys. Rev. Accel. Beams, 25, 034001. **(3 known citations)**

P.73. **Skokos Ch.**, Gerlach E. & Flach S.: 2022, "*Frequency map analysis of spatiotemporal chaos in the nonlinear disordered Klein-Gordon lattice*", Int. J. Bifurc. Chaos, 32, 2250074. **(3 known citations)**

P.74. [4]Ngapasare A., Theocharis G., Richoux O., **Skokos Ch.** & Achilleos V.: 2022, "*Wave-packet spreading in disordered soft architected structures*", Chaos, 32, 053116. **(6 known citations)**

P.75. Bountis T., Kaloudis K., Shena J., **Skokos Ch.** & Spitas Ch.: 2022, "*Energy transport in one-dimensional oscillator arrays with hysteretic damping*", Eur. Phys. J. Sp. Top., 231, 225-236. **(9 known citations)**

P.76. Katsanikas M., [4]Hillebrand M., **Skokos Ch.** & Wiggins S.: 2022, "*The influence of asymmetry on the dynamics associated with a Caldera potential energy surface*", Int. J. Bifurc. Chaos, 32, 2230030. **(1 known citation)**

P.77. [4]Hillebrand M., [2]Zimper S., [4]Ngapasare A., Katsanikas M., Wiggins S. & **Skokos Ch.**: 2022, "*Quantifying chaos using Lagrangian descriptors*", Chaos, 32, 123122. **(18 known citations)**

P.78. Katsanikas M., [4]Hillebrand M., **Skokos Ch.** & Wiggins S.: 2023, "*A new type of dynamical matching in an asymmetric Caldera potential energy surface*", Chem. Phys. Lett., 811, 140208. **(2 known citations)**

P.79. [4]Hillebrand M., Kalosakas G., Bishop A.R. & **Skokos Ch.**: 2023, "*Bubble relaxation dynamics in homopolymer DNA sequences*", Molecules, 28, 1041. **(2 known citations)**

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