


# Efstathios G. Charalampidis

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CONTACT INFORMATION	<p>Mathematics Department California Polytechnic State University Faculty Offices East Building 25 San Luis Obispo, CA 93407-0403, USA</p> <p>☎ (805) 756-2465 ☎ (413) 801-3991 ✉ <a href="mailto:echarala@calpoly.edu">echarala@calpoly.edu</a> Webpage: <a href="https://www.egcharalampidis.com/">https://www.egcharalampidis.com/</a> Google scholar: <a href="https://scholar.google.com/citations?user=pGrs2YIAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=pGrs2YIAAAAJ&amp;hl=en</a> ResearchGate: <a href="https://www.researchgate.net/profile/Efstathios_Charalampidis">https://www.researchgate.net/profile/Efstathios_Charalampidis</a> ORCID iD:  <a href="https://orcid.org/0000-0002-5417-4431">https://orcid.org/0000-0002-5417-4431</a></p>
RESEARCH INTERESTS	<p>Numerical Analysis, Ordinary and Partial Differential Equations, Applied Mathematics, Mathematical Physics, Gravitation, Nonlinear Waves</p>
EDUCATION	<ul style="list-style-type: none"><li>• <b>Aristotle University of Thessaloniki</b>, Department of Mathematical, Physical and Computational Sciences, Thessaloniki, Greece<ul style="list-style-type: none"><li>▷ <b>Ph.D. in Applied Mathematics</b>, November 2009 - June 2013 Thesis title: <i>“Skyrmions, Topology and Geometry”</i> Advisor: Professor Theodora I. Ioannidou</li></ul></li><li>• <b>Aristotle University of Thessaloniki</b>, Physics Department, Thessaloniki, Greece<ul style="list-style-type: none"><li>▷ <b>M.Sc. in Computational Physics</b>, September 2007 - October 2009</li><li>▷ <b>B.Sc. in Physics</b>, September 2002 - September 2007<ul style="list-style-type: none"><li>★ Major: Theoretical Physics</li></ul></li></ul></li></ul>
ACADEMIC EMPLOYMENT	<ul style="list-style-type: none"><li>• <b>California Polytechnic State University San Luis Obispo</b>, Mathematics Department<ul style="list-style-type: none"><li>▷ Assistant Professor, September 2019 -</li></ul></li><li>• <b>University of Massachusetts Amherst</b>, Department of Mathematics and Statistics<ul style="list-style-type: none"><li>▷ Lecturer and Chief Undergraduate Advisor, September 2018 - August 2019</li><li>▷ Visiting Assistant Professor, September 2015 - August 2018</li><li>▷ Postdoctoral Research Associate, November 2013 - June 2015</li></ul></li></ul>
GRANTS & FELLOWSHIPS	<ul style="list-style-type: none"><li>• National Science Foundation<ul style="list-style-type: none"><li>▷ “Undergraduate Research in Applied Mathematics: Theory, Computation and Algorithms”, amount: \$389,858 (submitted)</li><li>▷ Collaborative Grant: “From Collapse to Rogue Waves and Beyond: A Series of Current Challenges in Nonlinear Waves”, amount: \$122,995 (submitted)</li></ul></li><li>• California Polytechnic State University, San Luis Obispo<ul style="list-style-type: none"><li>▷ Scholarly and Creative Activities (RSCA) grant, amount: \$17,976, July 2020 - June 2021</li></ul></li><li>• US AFOSR (FA9550-12-1-0332) grant<ul style="list-style-type: none"><li>▷ Postdoctoral fellowship, November 2014 - June 2015</li></ul></li><li>• European Commission, Community Research: “FP7, Marie Curie Actions, International Research Staff Exchange Scheme (IRSES-605096)” grant<ul style="list-style-type: none"><li>▷ Postdoctoral fellowship, November 2013 - November 2014</li></ul></li><li>• DFG Research Training Group 1620 “Models of Gravity”, Institut für Physik, Universität Oldenburg, Germany<ul style="list-style-type: none"><li>▷ Research fellowship, August 4 - October 5, 2013</li></ul></li></ul>

	<ul style="list-style-type: none"> <li>• Department of Mathematical, Physical and Computational Sciences, Aristotle University of Thessaloniki, Greece <ul style="list-style-type: none"> <li>▷ Research studentship, September 2010 - June 2011</li> <li>▷ Research studentship, March 2010 - July 2010</li> </ul> </li> </ul>
HONORS & AWARDS	<ul style="list-style-type: none"> <li>• Institute of Physics (IOP), Journal of Optics <ul style="list-style-type: none"> <li>▷ “Emerging Leaders in Optics 2021”</li> </ul> </li> <li>• University of Massachusetts Amherst <ul style="list-style-type: none"> <li>▷ Finalist for the “Distinguished Teaching Award”, November 2017</li> </ul> </li> <li>• Aristotle University of Thessaloniki, Greece <ul style="list-style-type: none"> <li>▷ “Scholarship of Excellence” awarded by University’s Research Committee, 2012</li> </ul> </li> </ul>
TEACHING EXPERIENCE	<ul style="list-style-type: none"> <li>• California Polytechnic State University San Luis Obispo <ul style="list-style-type: none"> <li>▷ MATH 143 - Calculus III (Fall 2019, Winter 2020, Spring 2020, Fall 2020)</li> <li>▷ MATH 451 - Numerical Analysis I (Winter 2020, Winter 2021)</li> <li>▷ MATH 452 - Numerical Analysis II (Spring 2021)</li> <li>▷ MATH 453 - Numerical Optimization (Spring 2020)</li> </ul> </li> <li>• University of Massachusetts Amherst <ul style="list-style-type: none"> <li>▷ MATH 552 - Applications of Scientific Computing (Spring 2018, Spring 2019)</li> <li>▷ MATH 551 - Introduction to Scientific Computing (Spring 2017, Fall 2017, Spring 2018, Spring 2019)</li> <li>▷ MATH 456 - Mathematical Modeling (Fall 2018)</li> <li>▷ MATH 331 - Ordinary Differential Equations for Scientists and Engineers (Fall 2015, Spring 2016, Fall 2017, Fall 2018)</li> <li>▷ MATH 233 - Multivariable Calculus (Fall 2016)</li> </ul> </li> <li>• Aristotle University of Thessaloniki, Department of Mathematical, Physical and Computational Sciences, Thessaloniki, Greece <ul style="list-style-type: none"> <li>▷ Teaching Assistant for Linear Algebra and Partial Differential Equations, September 2010-June 2013</li> </ul> </li> </ul>
MENTORING EXPERIENCE	<ul style="list-style-type: none"> <li>• California Polytechnic State University San Luis Obispo <ul style="list-style-type: none"> <li>▷ <b>Undergraduate Students:</b> <ul style="list-style-type: none"> <li>★ September 2020 - June 2021: Marisa Lee</li> <li>Project title: “A Roadmap to Energy Harvesting using Granular Crystal Chains” funded by RSCA</li> </ul> </li> <li>▷ <b>FROST funded research:</b> <ul style="list-style-type: none"> <li>★ Summer 2020: Marisa Lee, Harry Yan, and Rachel Loh</li> <li>Project title: “Energy localization in granular crystals for energy harvesting”</li> </ul> </li> <li>▷ <b>Independent study:</b> <ul style="list-style-type: none"> <li>★ Summer 2020: Wesley Khademi</li> <li>Topic: “Artificial Neural Networks and Differential Equations”</li> </ul> </li> </ul> </li> <li>• University of Massachusetts Amherst <ul style="list-style-type: none"> <li>▷ <b>Chief Undergraduate Advisor</b> (CUA) for the Department of Mathematics and Statistics, September 2018 - August 2019</li> <li>▷ <b>Graduate Students:</b> <ul style="list-style-type: none"> <li>★ September 2016 - September 2017: Christian Hoffmann</li> </ul> </li> <li>▷ <b>Undergraduate Theses:</b> <ul style="list-style-type: none"> <li>★ September 2019 - May 2020: Jimmy Hwang</li> <li>Honors Thesis title: “Formation of Bursting Events in a Lattice Dynamical System”</li> <li>★ September 2018 - May 2019: Jennifer Sullivan</li> <li>Honors Thesis title: “On the stability of localized solutions in the Ablowitz-Ladik model”</li> </ul> </li> </ul> </li> </ul>

- ★ September 2018 - May 2019: Fiona McCann  
Honors Thesis title: “Dynamical Research into Bipolar Disorder: A Theoretical Approach”

▷ **REU students:**

- ★ Summer 2018: Katherine Donoghue  
Project title: “The formation of rogue waves in granular crystals”
- ★ Summer 2017: Sydney Hauver and Xinyi He  
Project title: “Study of solitary wave propagation in woodpile chains”
- ★ Summer 2016: Anya Conti  
Project title: “Modeling rogue waves in the nonlinear Schrödinger equation and Ablowitz-Ladik lattice system”

SYNERGISTIC  
ACTIVITIES

- Conference and seminar organization
  - ▷ Co-organizer (with P. Kevrekidis and C. Chong) of the webinar series on “Nonlinear Waves and Coherent Structures”, since September 2020
  - ▷ Co-organizer (with R. Parker and F. Tsitoura) of the special session on “Existence and stability of nonlinear waves: theory and numerical computations”, SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 19 - 23, 2019
  - ▷ Co-organizer (with F. Tsitoura) of the special session on “Nonlinear Evolutionary and Lattice Equations: Theory, Numerics and Experiment”, The 11th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, April 17 - 19, 2019
  - ▷ Member of the Scientific Program Committee of the IMACS International conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, since 2018
  - ▷ Co-organizer (with J. Bramburger and R. Goh) of the Brown/BU/UMass PDE Seminar, since 2018
  - ▷ Co-organizer (with V. Rothos) of the special session on “Localized Structures in Nonlinear Evolution and Lattice Equations”, SIAM Conference on Nonlinear Waves and Coherent Structures, Orange, CA, June 11 - 14, 2018
  - ▷ Co-organizer (with V. Rothos) of the special session on “Nonlinear Waves: Mathematical Methods and Applications”, The 10th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, March 29 - April 1, 2017.
  - ▷ Co-organizer (with C. Chong) of the special session on “Analysis and Applications of the Nonlinear Schrödinger Equation”, SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia, PA, August 8 - 11, 2016
  - ▷ Accompanying REU students from UMass for the 2016 Summer Undergraduate Research Conference, Department of Mathematics and Statistics, Williams College, Williamstown, MA, July 29, 2016
  - ▷ Organizer of the Nonlinear Waves Seminar, Department of Mathematics and Statistics, University of Massachusetts Amherst, MA, September 2015 - September 2017
- Referee for scientific journals and books:
  - ▷ *Physics Letters A*, since 2014
  - ▷ *Journal of Applied Physics* (AIP), since 2017
  - ▷ *European Physical Journal B*, since 2017
  - ▷ *Springer, Applied Sciences*, since 2018
  - ▷ *American Institute of Mathematical Sciences* (AIMS), since 2020
  - ▷ *Chaos, Solitons & Fractals* (Elsevier), since 2020
  - ▷ *Frontiers in Physics*, since 2020

PROFESSIONAL  
MEMBERSHIPS

- Society for Industrial and Applied Mathematics (SIAM), since 2014
- American Mathematical Society (AMS), since 2014

RESEARCH VISITS

- Joint visit: Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, NM; Santa Fe Institute, Santa Fe, NM, March 9 - 12, 2020

- Department of Mathematics, University of Illinois at Urbana-Champaign, IL, August 26 - 28, 2019
- Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, NM, July 11 - 12, 2019
- Division of Applied Mathematics, Brown University, RI, June 26 - 29, 2018
- The Program in Applied & Computational Mathematics, Princeton University, NJ, January 16 - 18, 2017
- The Program in Applied & Computational Mathematics, Princeton University, NJ, September 15 - 21, 2016
- Department of Mathematics and Statistics, San Diego State University, CA, May 15 - 19, 2016
- The Iby and Aladar Fleischman Faculty of Engineering, Tel Aviv University, Israel, July 5 - 10, 2015
- Institut für Physik, Universität Oldenburg, Germany, August 4 - October 5, 2013
- Department of Mathematics and Statistics, University of Massachusetts Amherst, MA, September - October, 2012
- Institut für Physik, Universität Oldenburg, Germany, July, 2012

#### SCHOOLS & SEMINARS

- Summer School for Graduate Students, Wolfersdorf, Germany
  - ▷ 17th Saalburg Summer School on “Foundations and New Methods in Theoretical Physics”, August 29 - September 09, 2011
- The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy
  - ▷ “School on Computational Methods in Dynamics”, June 20 - July 1, 2011
- School of Mathematics, Statistics and Actuarial Sciences, University of Kent, UK
  - ▷ “Classical and Quantum Integrable Models”, July 19 - 23, 2010

#### PUBLICATIONS & PREPRINTS

- [33] ***Stability of exact solutions of a nonlocal, nonlinear Schrödinger equation with arbitrary nonlinearity***  
E.G. Charalampidis, F. Cooper, A. Khare, J. Dawson, and A. Saxena  
(in preparation)
- [32] ***Amplitude and frequency dependent scattering of waves in reconfigurable bistable chains with impurities***  
H. Yasuda, E.G. Charalampidis, P.G. Kevrekidis, P.K. Purohit, and J.R. Raney (in preparation)
- [31] ***The existence and stability of self-similar solutions to the focusing Nonlinear Schrödinger Equation with a power law nonlinearity***  
E.G. Charalampidis, D. Mantzavinos, M.E. Kavousanakis, P.G. Kevrekidis, and I.G. Kevrekidis  
(in preparation)
- [30] ***Numerical bifurcation and stability for the capillary-gravity Whitham equation***  
E.G. Charalampidis and V.M. Hur (in preparation)
- [29] ***The stability of peakons of the b-family***  
E.G. Charalampidis, R. Parker, P.G. Kevrekidis, and S. Lafortune  
[arXiv:2012.13019](#) (submitted to Nonlinearity)
- [28] ***Nonlinear Localized Modes in Two-Dimensional Hexagonally-Packed Magnetic Lattices***  
C. Chong, Y. Wang, D. Maréchal, E.G. Charalampidis, M. Molerón, A.J. Martínez, M.A. Porter, P.G. Kevrekidis, and C. Daraio  
[arXiv:2009.10300](#) (submitted to NJP)

- [27] *Behavior of solitary waves of coupled nonlinear Schrödinger equations subjected to complex external periodic potentials with odd- $\mathcal{PT}$  symmetry*  
E.G. Charalampidis, F. Cooper, J. Dawson, A. Khare, and A. Saxena  
[arXiv:2009.03989](#) (submitted to JPA)
- [26] *Kuznetsov-Ma breather-like solutions in the Salerno model*  
J. Sullivan, E.G. Charalampidis, J. Cuevas-Maraver, P.G. Kevrekidis, and N. Karachalios  
[Eur. Phys. J. Plus](#) **135**, 607 (2020)
- [25] *Deflation-based Identification of Nonlinear Excitations of the three-dimensional Gross-Pitaevskii equation*  
N. Boullé, E.G. Charalampidis, P.E. Farrell and P.G. Kevrekidis  
[Phys. Rev. A](#) **102**, 053307 (2020)
- [24] *Stability and response of trapped solitary wave solutions of coupled nonlinear Schrödinger equations in an external,  $\mathcal{PT}$ - and supersymmetric potential*  
E.G. Charalampidis, J. Dawson, F. Cooper, A. Khare, and A. Saxena  
[J. Phys. A: Math. and Theor.](#) **53**, 455702 (2020)
- [23] *Dark-dark soliton breathing patterns in multi-component Bose-Einstein condensates*  
W. Wang, L.-C. Zhao, E.G. Charalampidis and P.G. Kevrekidis  
[arXiv:2003.10679](#) (submitted)
- [22] *Bifurcation analysis of stationary solutions of two-dimensional coupled Gross-Pitaevskii equations using deflated continuation*  
E.G. Charalampidis, N. Boullé, P.E. Farrell and P.G. Kevrekidis  
[Commun. Nonlinear Sci. Numer. Simulat](#) **87**, 105255 (2020)
- [21] *Breathers and other time-periodic solutions in an array of cantilevers decorated with magnets*  
C. Chong, A. Foehr, E.G. Charalampidis, P.G. Kevrekidis and C. Daraio  
[Math. Engin.](#) **1**(3), 489 (2019)
- [20] *Origami-based impact mitigation via rarefaction solitary wave creation*  
H. Yasuda, Y. Miyazawa, E.G. Charalampidis, C. Chong, P.G. Kevrekidis and J. Yang  
[Sci. Adv.](#) **5**, eaau2835 (2019)
- [19] *Phononic rogue waves*  
E.G. Charalampidis, J. Lee, P.G. Kevrekidis and C. Chong  
[Phys. Rev. E](#) **98**, 032903 (2018)
- [18] *Lattices with internal resonator defects*  
S. Hauver, X. He, D. Mei, E.G. Charalampidis, P.G. Kevrekidis, E. Kim, J. Yang and A. Vainchtein  
[Phys. Rev. E](#) **98**, 032902 (2018)
- [17] *Peregrine solitons and gradient catastrophes in discrete nonlinear Schrödinger systems*  
C. Hoffmann, E.G. Charalampidis, D.J. Frantzeskakis and P.G. Kevrekidis  
[Phys. Lett. A](#) **382**, 3064 (2018)
- [16] *Computing stationary solutions of the two-dimensional Gross-Pitaevskii equation with deflated continuation*  
E.G. Charalampidis, P.G. Kevrekidis and P.E. Farrell  
[Commun. Nonlinear Sci. Numer. Simulat](#) **54**, 482 (2018)
- [15] *Rogue waves in ultracold bosonic seas*  
E.G. Charalampidis, J. Cuevas-Maraver, D.J. Frantzeskakis and P.G. Kevrekidis  
[Rom. Rep. Phys.](#) **70**, 504 (2018)
- [14] *Discrete BPS Skyrmions*  
M. Agaoglou, E.G. Charalampidis, T.A. Ioannidou and P. G. Kevrekidis  
[J. Math. Phys.](#) **58**, 091501 (2017)

- [13] ***Revisiting Diffusion: Self-similar Solutions and the  $t^{-1/2}$  Decay in Initial and Initial-Boundary Value Problems***  
P.G. Kevrekidis, M.O. Williams, D. Mantzavinos, E.G. Charalampidis, M. Choi and I.G. Kevrekidis  
*Quart. Appl. Math.* **75**, 581 (2017)
- [12] ***SO(2)-induced breathing patterns in multi-component Bose-Einstein condensates***  
E.G. Charalampidis, W. Wang, P.G. Kevrekidis, D.J. Frantzeskakis and J. Cuevas-Maraver  
*Phys. Rev. A* **93**, 063623 (2016)
- [11] ***Vortex-soliton complexes in coupled nonlinear Schrödinger equations with unequal dispersion coefficients***  
E.G. Charalampidis, P.G. Kevrekidis, D.J. Frantzeskakis and B.A. Malomed  
*Phys. Rev. E* **94**, 022207 (2016)
- [10] ***Nonlinear vibrational-state excitation and piezoelectric energy conversion in harmonically driven granular chains***  
C. Chong, E. Kim, E.G. Charalampidis, H. Kim, F. Li, P.G. Kevrekidis, J. Lydon, C. Daraio and J. Yang  
*Phys. Rev. E* **93**, 052203 (2016)
- [9] ***Formation of rarefaction waves in origami-based metamaterials***  
H. Yasuda, C. Chong, E.G. Charalampidis, P.G. Kevrekidis and J. Yang  
*Phys. Rev. E* **93**, 043004 (2016)
- [8] ***Wormholes from chiral fields***  
E.G. Charalampidis, T.A. Ioannidou, B. Kleihaus and J. Kunz  
*J. Phys. Conf. Ser.* **574**, 012058 (2015)
- [7] ***Time-Periodic Solutions of Driven-Damped Trimer Granular Crystals***  
E.G. Charalampidis, F. Li, C. Chong, J. Yang and P.G. Kevrekidis  
*Math. Prob. in Eng.* **2015**, 830978 (2015)
- [6] ***Lattice three-dimensional skyrmions revisited***  
E.G. Charalampidis, T.A. Ioannidou and P.G. Kevrekidis  
*Phys. Scr.*, **90** 025202 (2015)
- [5] ***Dark-bright solitons in coupled nonlinear Schrödinger equations with unequal dispersion coefficients***  
E.G. Charalampidis, P.G. Kevrekidis, D.J. Frantzeskakis and B.A. Malomed  
*Phys. Rev. E* **91**, 012924 (2015)
- [4] ***Vector rogue waves and dark-bright boomeronic solitons in autonomous and non-autonomous settings***  
R. Babu Mareeswaran, E.G. Charalampidis, T. Kanna, P.G. Kevrekidis and D.J. Frantzeskakis  
*Phys. Rev. E* **90**, 042912 (2014)
- [3] ***Rogue waves in nonlinear Schrödinger models with variable coefficients: Application to Bose-Einstein condensates***  
J.S. He, E.G. Charalampidis, P.G. Kevrekidis and D.J. Frantzeskakis  
*Phys. Lett. A* **378**, 577 (2014)
- [2] ***Wormholes threaded by chiral fields***  
E.G. Charalampidis, T.A. Ioannidou, B. Kleihaus and J. Kunz  
*Phys. Rev. D* **87**, 084069 (2013)
- [1] ***Skyrmions, rational maps and scaling identities***  
E.G. Charalampidis, T.A. Ioannidou and N.S. Manton  
*J. Math. Phys.* **52**, 033509 (2011)

- SIAM Conference on Applications of Dynamical Systems, Portland, OR, May 23 - 27, 2021. Talk title: “*Nonlinear waves in shallow water equations: Existence, stability and dynamics.*”
- SIAM Conference on Analysis of Partial Differential Equations, La Quinta, CA, December 11 - 14, 2019. Talk title: “*Bifurcation analysis of nonlinear PDEs using deflated continuation*”
- Colloquium, Mathematics Department, California Polytechnic State University, San Luis Obispo, CA, October 25, 2019. Talk title: “*Deflated Continuation: A bifurcation analysis tool for Nonlinear Complex Dynamical Systems*”
- Colloquium, Department of Mathematics, University of Illinois at Urbana-Champaign, IL, August 27, 2019. Talk title: “*Deflated Continuation: A bifurcation analysis tool for Nonlinear Schrödinger (NLS) Systems*”
- Colloquium, Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, NM, July 12, 2019. Talk title: “*Deflated Continuation: A bifurcation analysis tool for Nonlinear Schrödinger (NLS) Systems*”
- SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 19 - 23, 2019. Talk title: “*Bifurcation analysis in NLS systems using deflated continuation*”
- The 11th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, April 17 - 19, 2019. Talk title: “*Formation of extreme events in nonlinear Schrödinger (NLS) systems*”
- Colloquium, Department of Mathematics, New York Institute of Technology, Old Westbury, NY, February 26, 2019. Talk title: “*Nonlinear waves: From optics to matter waves and beyond*”
- Colloquium, Department of Applied Mathematics and Statistics, Johns Hopkins University, Baltimore, MD, February 15, 2019. Talk title: “*Nonlinear waves: From optics to matter waves and beyond*”
- Colloquium, Department of Mathematics and Statistics, San José State University, San José, CA, February 11, 2019. Talk title: “*Nonlinear waves: From optics to matter waves and beyond*”
- Colloquium, Mathematics Department, California Polytechnic State University, San Luis Obispo, CA, February 8, 2019. Talk title: “*Nonlinear waves: From optics to matter waves and beyond*”
- Nonlinear Waves Seminar, Department of Mathematics and Statistics, University of Massachusetts Amherst, MA, December 7, 2018. Talk title: “*Rogue waves in ultracold physics: from continuous to discrete models*”
- Colloquium, Department of Mathematics, Bowdoin College, Brunswick, ME, May 3, 2018. Talk title: “*Nonlinear waves in atomic Bose-Einstein Condensates: Theory and Computation*”
- Brown/Boston University Dynamics and PDEs Seminar, Brown University, Providence, RI, April 19, 2018. Talk title: “*Formation of rogue waves in continuous and discrete models: Theory and Computation*”
- AMS Spring Central Sectional Meeting, Ohio State University, Columbus, OH, March 17 - 18, 2018. Talk title: “*Formation of rogue waves in continuous and discrete models: Theory and Computation*”
- Colloquium, William E. Boeing Department of Aeronautics & Astronautics, University of Washington, Seattle, WA, October 6, 2017. Talk title: “*Nonlinear waves in Granular Crystals*”
- The IV AMMCS International Conference, Wilfrid Laurier University, Waterloo, ON, Canada, August 20 - 25, 2017. Talk title: “*Nonlinear waves in nonlinear Schrödinger (NLS) systems*”
- The 10th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, March 29 - April 1, 2017. First talk title: “*Formation of rogue waves in nonlinear Schrödinger (NLS) systems: Theory and*”

*Computation*"; second talk title: "*Multi-component nonlinear waves in nonlinear Schrödinger (NLS) systems*"

- AMS Spring Southeastern Sectional Meeting, College of Charleston, Charleston, SC, March 10 - 12, 2017. Talk title: "*Multi-component nonlinear Schrödinger (NLS) systems: From Theory to Numerical Computations*"
- Colloquium, Department of Mathematics, Miami University, Oxford, OH, January 25, 2017. Talk title: "*Nonlinear waves in NLS systems and beyond: Theory and Computation*"
- AMS Fall Eastern Sectional Meeting, Bowdoin College, Brunswick, ME, September 24 - 25, 2016. Talk title: "*Multi-component nonlinear waves in one and two dimensional coupled nonlinear Schrödinger (NLS) systems: Theory and Numerical Computations*"
- Colloquium, Department of Mathematics and Statistics, San Diego State University, San Diego, CA, May 16, 2016. Talk title: "*Dark-bright solitons and their two-dimensional counterparts in coupled nonlinear Schrödinger (NLS) Systems*"
- Colloquium, Department of Mathematics, Bowdoin College, Brunswick, ME, March 8, 2016. Talk title: "*Dark-bright solitons and their two-dimensional counterparts in coupled nonlinear Schrödinger (NLS) Systems*"
- Emergent Paradigms in Nonlinear Complexity: From *PT*-Symmetry to Nonlinear Dirac Systems, From Polaritons to Skyrmions, Santa Fe Institute, Santa Fe, NM, June 8 - 10, 2015. Talk title: "*Skyrmions, Topology and Geometry*"
- SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 17 - 21, 2015. Talk title: "*Vector Rogue Waves and Dark-Bright Boomeronic Solitons in Autonomous and Non-Autonomous Settings*"
- The 9th IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, Athens, GA, April 1 - 4, 2015. Talk title: "*Dark-bright solitons in coupled nonlinear Schrödinger (NLS) equations with unequal dispersion coefficients*"
- Colloquium, Institut für Physik, Universität Oldenburg, Germany, September 27, 2013. Talk title: "*Topological properties of the Skyrme model*"
- Nonlinear Waves Seminar, Department of Mathematics and Statistics, University of Massachusetts Amherst, MA, September 28, 2012. Talk title: "*Skyrmions, rational maps and scaling identities*"
- IMA's Conference on Nonlinearity and Coherent Structures, University of Reading, UK, July 6 - 8, 2011. Talk title: "*Skyrmions, rational maps and scaling identities*"
- 2019 Joint Mathematics Meeting (AMS & MAA), Baltimore, MD, January 16 - 19, 2019. Talk title: "*Peregrine solitons and gradient catastrophes in continuous and discrete NLS systems*"
- SIAM Conference on Nonlinear Waves and Coherent Structures, Orange, CA, June 11 - 14, 2018. Talk title: "*Formation of rogue waves in continuum and discrete models: Theory and Computation*"
- SIAM Conference on Nonlinear Waves and Coherent Structures, Philadelphia, PA, August 8 - 11, 2016. Talk title: "*Dark-bright solitons and their two-dimensional counterparts in coupled nonlinear Schrödinger (NLS) Systems*"
- Nonlinear Waves Seminar, Department of Mathematics and Statistics, University of Massachusetts Amherst, MA, February 12, 2016. Talk title: "*Skyrmions, Topology and Geometry*"
- Conference on Computational Methods in Dynamics, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy, July 4 - 8, 2011

CONFERENCE  
PRESENTATIONS &  
PARTICIPATION



- Young Researchers in Mathematics 2011, Mathematics Institute, University of Warwick, UK, April 14 - 16, 2011. Talk title: “*Skyrmions, rational maps and scaling identities*”
- Department of Mathematical, Physical and Computational Sciences, Aristotle University of Thessaloniki, Greece, December 2010. 1st meeting of PhD candidates. Talk title: “*Skyrmions, rational maps and scaling identities*”
- Geometry and Physics in Cracow, Institute of Mathematics, Jagiellonian University, Cracow, Poland, September 21 - 25, 2010. Poster presentation
- 10th Hellenic School and Workshops on Elementary Particle Physics and Gravity, Corfu, Greece, September 8 - 12, 2010
- 2010 Workshop on Recent Advances in Particle Physics, Aristotle University of Thessaloniki, Thessaloniki, Greece, March 25 - 28, 2010

#### COMPUTER SKILLS

- Computer proficient: Operating systems Linux, Unix, MacOS, Windows
- Programming Languages: Fortran, C/C++, Python, Bash scripting, Java
- Software: Mathematica, MATLAB, Julia, Maple, AUTO software for continuation and bifurcation problems, REDUCE algebra system, Root
- Parallel Programming: OpenMP

#### OTHER ACTIVITIES & INTERESTS

- Jazz and classical harmony; degree in jazz guitar, June 2008
- Acoustic and electric guitar instructor at the Conservatory of Municipality of Ampelokipoi, Thessaloniki, Greece, October 2007 - January 2008
- Electronics: Design and construction of hi-fi tube amplifiers
- Sports: Participated in weightlifting competitions (Gold medal in the Northern Greece Championship), 1997 - 2000
- Philosophy of Science, history of music and physics; literature

PROFESSIONAL  
REFERENCES

**Panayotis Kevrekidis**

Department of Mathematics and Statistics  
University of Massachusetts Amherst  
Amherst, MA 01003-9305, USA

✉ kevrekid@math.umass.edu

☎ (413) 577-1977

**Jinkyu Yang**

Department of Aeronautics & Astronautics  
University of Washington  
Seattle, WA 98195-2400, USA

✉ jkyang@aa.washington.edu

☎ (206) 543-6612

**Chiara Daraio**

Division of Engineering & Applied Science  
California Institute of Technology  
Pasadena, CA 91125, USA

✉ daraio@caltech.edu

☎ (626) 395-8515

**Christopher Chong**

Department of Mathematics  
Bowdoin College  
Brunswick, ME 04011, USA

✉ cchong@bowdoin.edu

☎ (207) 725-3577

**Avadh Saxena**

Theoretical Division, T-4 (MS-B262)  
Condensed Matter & Complex Systems  
Los Alamos National Laboratory  
Los Alamos, NM 87545, USA

✉ avadh@lanl.gov

☎ (505) 667-5227

**Ioannis Kevrekidis**

Departments of Chemical and Biomolecular  
Engineering, Applied Mathematics  
and Statistics, and of Urology

Johns Hopkins University

Baltimore, MD 21218, USA

✉ yannisk@jhu.edu

☎ (609) 532-0772

**Boris Malomed**

Department of Physical Electronics  
School of Electrical Engineering  
Faculty of Engineering

Tel Aviv University

Ramat Aviv 69978, Israel

✉ malomed@post.tau.ac.il

☎ (+972) 3-640-6413

**Dimitri Frantzeskakis**

Department of Physics  
University of Athens

Zografos, 15784, Athens, Greece

✉ dfrantz@phys.uoa.gr

☎ (+30) 210 727-6714