

Sorinel Adrian Oprisan

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EDUCATION

Bachelor of Science in Physics, 1987

Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania

Doctor of Philosophy (Physics), 1998

Department of Physics, Alexandru Ioan Cuza University, Iasi, Romania

Dissertation: Contribution to the nonequilibrium processes in far-from-equilibrium systems and self-organization phenomenon

Thesis adviser: Dr. Ignat Margareta

Master of Science in Computer Science, 2005

Department of Computer Science, University of New Orleans, New Orleans, Louisiana

Thesis: A Multi-dimensional width-bounded geometric separator and its applications to protein folding

Thesis adviser: Dr. Bin Fu

APPOINTMENTS

08/2016-present - Professor, College of Charleston, Charleston, SC, USA

08/2011-05/2016 - Associate Professor, College of Charleston

09/2005-05/2011 - Assistant Professor, College of Charleston

08/2001-08/2005 - Research Specialist in Computational Neuroscience, University of New Orleans, Department of Psychology, New Orleans, LA, USA

08/2001-08/2005 - Adjunct Faculty, University of New Orleans, Department of Physics

08/2001-08/2002 - Adjunct Faculty, Delgado College of New Orleans, Science, Engineering and Mathematics Division, New Orleans, LA

06/2000-06/2001 - Postdoctoral Research Associate, University of New Orleans, Departments of Psychology and Physics, Advisor: Dr. Carmen C. Canavier

08/1999-06/2000 - Postdoctoral Research, University of New Orleans, Department of Psychology, Advisor: Dr. Carmen C. Canavier

RESEARCH INTERESTS

Computational neuroscience, particularly mathematical modeling and computer simulations of single cells and biological neural networks. Applications include modeling the prefrontal cortex network from optogenetic data, models of interval timing and hippocampus lesions, predicting network connectivity from electrophysiology and imaging data, and developing criteria for the existence and stability of neural activity.

Machine Learning (ML) and Artificial Intelligence (AI) applications to EEG-based brain-computer interfaces for motor imagery and subvocalization. Acquisition, analysis, and modeling of human physiological data using ML/AI.

HONORS AND AWARDS

- 2023** Governor's Award for Excellence in Scientific Research at a Predominantly Undergraduate Institution
- 2023** Distinguished Research Award, College of Charleston
- 2019** Michael J. Auerbach Award for Excellence in Student Research Mentorship, School of Sciences and Mathematics, College of Charleston
- 2013** William V. Moore Distinguished Teacher-Scholar Award, College of Charleston
- 2011** Gordon E. Jones Distinguished Achievement Award, College of Charleston

EXTERNAL RESEARCH GRANTS

NSF-C: The National Science Foundation CAREER Award

HHMI: Howard Hughes Medical Institute

SCSGC-mR: NASA-South Carolina Space Grant Consortium miniREAP

SCSGC-P: NASA South Carolina Space Grant Consortium Palmetto Academy Site

RET: South Carolina Research Experience for Teachers

2022-2023 - The role of (micro)gravity stressor in time perception, SCSGC-P, \$15k

2020-2021 - The role of (micro)gravity stressor in time perception, SCSGC-P, \$23k

2020-2021 - Enhanced human-machine communication using subvocalization for mission control, SCSGC-mR, \$10k

- Altered time perception under stress. The role of (micro)gravity stressor in time perception, SCSGC-P, \$14.5k

2019-2020 - Altered time perception under stress. The role of (micro)gravity stressor in time perception, SCSGC-P, \$12k

2014-2016 - REU SITE: A Pilot Distributed REU Site Focused on Serving Physics and Astronomy Students from Comprehensive and Community Colleges, NSF (Biophysics REU site subcontract), \$10k

2011-2016 - Prediction of Synchrony and Phase-Locked Modes in Neural Networks based on Stimulus Time Resetting Curve, NSF-C, \$500k

2008-2012 - Riggs-Gelasco PJ (PI), Meyer-Bernstein EL (CoPI), Hurd WM (CoPI), **Oprisan SA** (CoPI), Van Sickle LM (CoPI), HHMI, \$1,500k

2008-2010 - Oprisan A (PI) and **Oprisan SA** (CoPI), Quantitative Description of Fluctuations and Phase Separation Based Image Processing Techniques, SCSGC, \$20.45k

2007-2009 - Rui Q (PI) and **Oprisan SA** (CoPI), Atomistic Simulations of Nanoparticle-Cell Membrane Interactions, SCSGC, \$24,934

2005-2006 - Charleston Chapter of the Society for Neuroscience grant, \$5k

INTERNAL FACULTY RESEARCH AND DEVELOPMENT GRANTS

2020-2021 Do neurons sleep? \$5k

2017-2018	Shining light on brain activity,	\$3.35k
2009-2010	Existence and stability criteria for periodic neural networks,	\$1.5k
2007-2008	Bifurcation structure of a dopaminergic neuron,	\$1k
2006-2007	Numerical investigation of 1:1 phase-locked modes in neural networks,	\$1.9k
2005-2006	Phase resetting in spiking and bursting neurons,	\$1.3k

MENTORED STUDENT GRANTS AND FELLOWSHIPS

SCSGC -P - South Carolina Space Grant Consortium & NASA Palmetto Academy Site
 SCSGC-GSF: NASA-South Carolina Space Grant Consortium Graduate Student Fellowship
 RET – SC Research Experience for Teachers, Furman University
 HHMI – Howard Hughes Medical Institute Undergraduate Science Education Program @ CofC
 INBRE - SC IDeA Networks of Biomedical Research Excellence, College of Charleston
 MAYS - Major Academic Year Support from the College of Charleston
 RPG – Research Presentation Grants from the College of Charleston
 SURF- Summer Undergraduate Research with Faculty from the College of Charleston
 SSM – School of Science and Mathematics Summer Research Grant, College of Charleston
 PHYS- Physics and Astronomy Department Summer Research Grant, College of Charleston

	Student	Major	Grant	
2023	Jason Fitzgerlad	Physics	SCSGC-P	\$15,000
2022	Joseph O’Neill	CS	SCSGC-GSF	\$16,000
2021	Xandre Clementsmith	Psychology	RPG	\$210
	Maria Desbrow	Academic Magnet HS	RET-INBRE	\$5,000
	Brynn Korin	Psychology	SCSGC-P	\$7,500
	Madelynne Sadow	Biology	SCSGC-P	\$7,500
2020	Michael Cox	Mechanical Eng., Clemson	SCSGC	\$7,500
	Xandre Clementsmith	Psychology	NIH-INBRE	\$7,000
	Michael E Bailey	Greenville High School	RET-INBRE	\$5,000
	Dr. Monica Y. Hughey	Greer Middle School	RET-INBRE	\$5,000
2019	Tristan Aft	Physics	SCSGC	\$5,000
	Braylin Williams	Physics	NIH-INBRE	\$5,000
	Xandre Clementsmith	Psychology	NIH-INBRE	\$5,000
2018	Tristan Aft	Physics	NIH-INBRE	\$6,000
	Dave Austin	Physics	NIH-INBRE	\$6,000
	Jessica Helms	Physics	NIH-INBRE	\$6,000
	Braylin Williams	Physics	PHYS	\$3,000
2017	Kaley Sheeley	CS	HHMI	\$6,500
	Tristan Aft	Physics	HHMI	\$6,500
	Dave Austin	Physics	HHMI	\$6,500
	Julia Imperatore	Physics	SSM	\$2,500
	Jessica Helms	Physics	PHYS	\$2,000
2016	Tristan Aft	Physics	HHMI	\$6,500
	Julia Imperatore	Physics	HHMI	\$6,500
	Ashley Rice	Physics	HHMI	\$6,500
	Dave Austin	Physics	NSF	\$6,500

2015	Dave Austin	Physics	HHMI	\$5,000
	Lincoln Fraley	Physics	HHMI	\$5,000
	Lindsay Evans	CS	SURF	\$5,000
2014	Kelsey Vollmer	Physics	RPG	\$750
	Derek Novo	Physics	RPG	\$300
	Derek Novo	Physics	Horatio Hughes	\$3,000
	Derek Tuck	Physics	HHMI	\$5,000
	Travor Proctor	Biology	HHMI	\$5,000
	Garret Arnhold	Physics	CUR-REU Site	\$9,172
2013	Davy Vanderweyen	Physics	RPG	\$750
	Davy Vanderweyen	Physics	HHMI	\$5,000
	Derek Novo	Physics	RPG	\$750
	Derek Novo	Physics	HHMI	\$3,500
	Derek Tuck	Physics	SURF	\$5,000
	Patrick Lynn	CS	NSF	\$5,000
2012	Davy Vanderweyen	Physics	SURF	\$5,000
	Derek Novo	Physics	HHMI	\$4,000
	Patrick Lynn	CS	HHMI	\$4,000
2011	Jack Willson	Psychology	HHMI	\$4,000
	Robert Raidt	Physics	HHMI	\$4,000
2010	Robert Raidt	Physics	HHMI	\$4,000
	Andrew Smith	Physics	HHMI	\$4,000
2009	Steven Dix	CS	SURF	\$6,100
	Joanna Gillespie	Physics	HHMI	\$4,000
2008	Natasha New	Physics	MAYS	\$300
	Chris Marvin	Chemistry	PHYS	\$2,000
	Mathew Baer	CS	PHYS	\$2,000
2007	Katy Holthaus	Biology	SURF	\$4,500
2006	Christian Boutan	Physics	SURF	\$5,000

MENTORED RESEARCH STUDENTS

1. Christian Kohnle, Physics (2023)
2. Jason Fitzgerald, Physics (2023)
3. Joseph O'Neill, MS of Data Science and Analytics (2020-2022)
4. Brynn Korin, Psychology (2021)
5. Maria Desbrow, Science Teacher, Academic Magnet HS (2021)
6. Maximus London-Kolb, Physics (2021-2023)
7. Madelynne Sadow, Biology (2021)
8. Braylin Willimas, Physics major (2018-2020)
9. Xandre Clementsmith, Data Science, Mathematics & Psychology (2017-2021)
10. Michael E Bailey, Science Teacher, Greenville High School (2020)
11. Dr. Monica Y. Hughey, Science Teacher, Greer Middle School (2020)
12. Carlo Negrone, Biology major (2019-2020)
13. Qian Chang Gallo (Academic Magnet 2018-2019)

14. Kyle Sheeley, Computer Science major (2017)
15. Jessica Lynn Helms, Physics & Astronomy major (2016-2018)
16. Katie Shanks, Biology major (2016-2017)
17. Julia Imperatore, Physics & Astronomy major (2016-2017)
18. Ariane Winn McKiernan, Physics & Astronomy major (2015)
19. Tristan Aft, Physics & Astronomy major (2015-2018)
20. Aaron Michael Blotnick, Biology major (2015)
21. Dave Austin, Mathematics and Physics & Astronomy major (2015-2018)
22. Lindsay Marie Evans, Psychology and Computer Science major (2015)
23. Lincoln Dawson Fraley, Physics & Computer Science major (2015)
24. Kelsey Marie Vollmer, Biology major (2014)
25. Avery Cole, Biology major (2014)
26. Garrett Arnhold, Physics major from Edmonds College, WA (2014)
27. Tevin Proctor, Biology major (2014)
28. Derek R Tuck, Physics major (2013-2014)
29. Davy C Vanderweyen, Physics major & Neuroscience Minor (2012-2014)
30. Patrick E Lynn, Computer Science major (2012-2014)
31. Timothy Hayward, Physics major (2012)
32. Derek N Novo, Physics major (2012-2014)
33. Robert Raidt, Physics major & Honors College (2010-2013)
34. Christopher Hipp, Physics major (2011)
35. Jack H Wilson, Psychology & Neuroscience Minor (2011-2012)
36. Andrew Smith, Physics major (2010,2011)
37. Klein Corey, Biology major (2010)
38. Nicole Sztokman, Biology major (2010)
39. Steven Dix, Computer Science major (2009-2010)
40. Joanna Gillespie, Physics major (2009)
41. Fletcher Brandy Moore, Physics major (2009)
42. Matthew David Baer, Computer Science major (2008)
43. Chris Marvin, Chemistry major (2008)
44. Natasha New, Physics major (2008)
45. Luca Pellicoro, Discovery Informatics (2007)
46. Katalina Romero, Biology major (2008)
47. Katy Holthaus, Biology major (2007)
48. Christian Boutan, Physics major (2005-2006)

HONORS AND AWARDS RECEIVED BY UNDERGRADUATES

1. Xandre Clementsmith, Phi Kappa Phi Undergraduate Research and Creative Work Award, May 2021.
2. Dave I Austin, Outstanding Undergraduate Research & Departmental Honors Award, Department of Physics and Astronomy, April 2018.
3. Tristan Aft, Best physics poster presentation, School of Sciences and Mathematics, April 2018.
4. Tristan Aft, Departmental Honors Award, Department of Physics and Astronomy, April 2018.

5. Dave I Austin, Research Poster Award, Southern Atlantic Coast Section of the American Association of Physics Teachers, Francis Marion University, Florence, SC, October 21-22, 2016.
6. Lynn E Patrick, Outstanding Undergraduate Research, Department of Physics and Astronomy, April 2015
7. Vollmer M Kelsey, Outstanding Undergraduate Research, South Carolina Academy of Science & Charleston Chapter of Sigma Xi - The Scientific Research Society, April 2015
8. Derek N Novo, Horatio Hughes Summer Research Award, Department of Physics and Astronomy, April 2014
9. Davy C Vanderweyen, Outstanding Graduate Award & Departmental Honors Award, Department of Physics and Astronomy, April 2014
10. Derek N Novo, Phi Kappa Phi Research Award for Honors College Bachelor's Essay in computational neuroscience, April 2014
11. Robert Raidt, Outstanding Undergraduate Research, Department of Physics and Astronomy, April 19, 2012
12. Robert Raidt, Outstanding Undergraduate Research, South Carolina Academy of Science & Charleston Chapter of Sigma Xi - The Scientific Research Society, April 14, 2012
13. Robert Raidt, American Association for the Advancement of Science Award to the Outstanding Male Undergraduate Scientist, April 14, 2012
14. Fletcher Brandy Moore, Outstanding Undergraduate Research, South Carolina Academy of Science & Charleston and Clemson Chapters of Sigma Xi- The Scientific Research Society, April 2009

LEADERSHIP

- 2010-present**, Director, Biomedical Physics Interdisciplinary Program
2018-2020, 2015-2016 - Director, Neuroscience Interdisciplinary Program
2012-2018 - Councilor, Council on Undergraduate Research (CUR), Division of Physics and Astronomy
2013-2014 - Physics and astronomy program review coordinator, Council on Undergraduate Research
2011-2012 - President, Charleston Chapter of Sigma Xi, The Scientific Research Society
2010-2011 - Vice President, Charleston Chapter of Sigma Xi, The Scientific Research Society

PROFESSIONAL SERVICE

- 2020-2022** - MS Thesis Adviser, Joseph O'Neill, Computer and Information Sciences, College of Charleston
2013-2014 - Postdoctoral Adviser, Dr. Matthew D. Riedy, Co-adviser with Dr. Gary S. Aston-Jones from MUSC, funded by SC INBRE Postdoctoral Academic Career Development Program
2011 - Ph.D. Qualifying Exam Committee, Joshua Swearingen, Neuroscience Institute, MUSC

- Tenure and Promotion external reviewer
2012 - Colgate University
2014 - Polytechnic University of Bucharest

EDITORIAL POSITIONS

Research Journal Editor

2020-present - Review Editor, Frontiers in Cellular Neuroscience

2014-2017- Editor-in-Chief, World Scientific and Engineering Academy and Society (WSEAS)
Transactions on Systems and Control

2013-2018 - Editor, CUR Quarterly

2013 - Recent Advances in Circuits, Communications and Signal Processing, Cambridge, UK

Book Editor

2013 - Recent Advances in Circuits, Communications and Signal Processing, Cambridge, UK, February 20-22, 2013, ISSN: 1790-5117 ISBN: 978-1-61804-164-7 (Eds. Agoujil Said, Collin Howe Hing Tang, Sorinel Oprisan)

2012 - Recent Advances in Mechanical Engineering and Automatic Control, Paris, France, December 2-4, 2012 (Eds. Oguz Arslan and Sorinel Oprisan)

2012 - Advances in Sensors, Signals, Visualization, Imaging and Simulation, 2012, ISSN 1790-5117 (Eds. Ryszard S. Choraś, Sorinel Oprisan, Bogdan Miedziński)

2012 - Advances in Environment, Computational Chemistry and Bioscience, Montreux, Switzerland, December 29-31, 2012, ISBN: 978-1-61804-147-0 (Eds. Sorinel Oprisan, Azami Zaharim, Saeid Eslamian, Ming-Shen Jian, Claudia A .F. Aiub, Ahadollah Azami)

Editorial Board Member

1. International Journal of Mechanics (ISSN: 1998-4448);
2. International Journal of Circuits, Systems and Signal Processing (ISSN: 1998-4464)
3. Journal of Medical Statistics and Informatics (ISSN 2053-7662)
4. Chinese Journal of Biology
5. OA Hepatology (ISSN: 2055-611X)
6. Segment Journals (E-ISSN: 2220-2013)
7. ISRN Computational Biology (ISSN: 2314-4165)
8. WSEAS Transactions on Systems (ISSN: 1109-2777/E-ISSN: 2224-2678)
9. Journal of Computer Engineering and Science
10. Journal of science policies and scientometrics (ISSN: L 1582-1218/ E-ISSN: 2284-7316)
11. Int. Journal of Information and Communication Technology Research (ISSN: 2223-4985)
12. ARPN Journal of Systems and Software (ISSN 2222-9833)
13. J. Emerging Trends in Comp. & Information Sci. (E-ISSN: 2218-6301/ISSN: 2079-8407)
14. Journal of Advanced Research in Physics (ISSN: 2069-7201)

CONFERENCE ORGANIZERS

International Conferences - Scientific Committee Chair (marked with *)/Member

1. 5th European Conference on Electrical Engineering & Computer Science (ELECS 2021), Bern, Switzerland, December 21-23, 2021 (Technical Program Committee)
2. 14th International Conference on Continuum Mechanics (CM '20), Rome, Italy, May 23-25, 2020
3. 20th International Conference on Robotics, Control and Manufacturing Technology (ROCOM '20), Lisbon, Portugal, April 11-13, 2020

4. 15th International Conference on System Science and Simulation in Engineering (ICOSSSE '19), Athens, Greece, December 28-30, 2019
5. 18th International Conference on Circuits, Systems, Electronics, Control & Signal Processing (CSECS '19), Athens, Greece, December 8-10, 2019
6. 19th International Conference on Applied Computer and Applied Computational Science (ACACOS '19), Lisbon, Portugal, April 12-14, 2019
7. 19th International Conference on Robotics, Control and Manufacturing Technology (ROCOM '19), Lisbon, Portugal, April 12-14, 2019
8. Circuits, Systems, Control, and Signals (9th CSCS '18 Sliema, Malta, June 22-24, 2018; 8th CSCS '17 Brasov, Romania June 27-29, 2017; 5th CSCS '14, Salerno, Italy, June 3-5, 2014; 7th CSCS, Venice, Italy, January 29-31, 2016; 6th CSCS, Tenerife, Canary Islands, Spain, January 10-12, 2015)
9. Automotive and Transportation Systems (9th ICAT '18 Sliema, Malta, June 22-24, 2018; 8th ICAT '17 Brasov, Romania June 27-29, 2017; 7th ICAT '16, Bali, Indonesia, May 7-9, 2016; 6th ICAT, Salerno, Italy, June 27-29, 2015; 5th ICAT '14, Cambridge, MA, USA, January 29-31, 2014)
10. Theoretical and Applied Mechanics (9th TAM '18 Sliema, Malta, June 22-24, 2018; 8th TAM '17 Brasov, Romania, June 27-29, 2017; 7th TAM '16 Bali, Indonesia, May 7-9, 2016; 6th TAM, Salerno, Italy, June 27-29, 2015; 5th TAM '14, Lisbon, Portugal, October 30-November 1, 2014)
11. System Theory and Scientific Computation (16th ISTASC '18 Corfu Island, Greece, August 25-27, 2018; 15th ISTASC '17 Corfu Island, Greece, August 24-27, 2017)
12. Cellular and Molecular Biology, Biophysics and Bioengineering (14th BIO '18 Dubrovnik, Croatia, September 26-28, 2018; 13th BIO '17 Dubrovnik, Croatia September 27-29, 2017; 11th BIO, Seoul, Korea, September 5-7, 2015; 10th BIO '14, Istanbul, Turkey, December 15-17, 2014)
13. Electric Power Systems, High Voltage, Electric Machines (POWER '18 Dubrovnik, Croatia, September 26-28, 2018; 15th POWER '17 Dubrovnik, Croatia September 27-29, 2017; 14th POWER '14, Lisbon, Portugal, October 30-November 1, 2014)
14. System Science and Simulation in Engineering (14th ICOSSSE '18 Dubrovnik, Croatia, September 26-28, 2018; 13th ICOSSSE '17 Dubrovnik, Croatia, September 27-29, 2017)
15. Automation Control, Soft Computing and Human-Machine Interaction (6th ASME '18, London, UK, October 26-28, 2018; 4th ASME '16, Bali, Indonesia, May 7-9, 2016; 3rd ASME, Salerno, Italy, June 27-29, 2015)
16. Health Science and Biomedical Systems (7th HSBS '18 Rome, Italy, November 23-25, 2018; 4th HSBS, Sliema, Malta, August 17-19, 2015; 3rd HSBS '14, Florence, Italy, November 22-24, 2014)
17. Data Networks, Communications, Computers (16th DNCOCO '18) Rome, Italy, November 23-25, 2018; 15th DNCOCO '17 Bern, Switzerland November 17-19, 2017; 14th DNCOCO '16, Bern, Switzerland, December 16-18, 2016; 13th DNCOCO, Budapest, Hungary, December 12-14, 2015)
18. Circuits, Systems, Electronics, Control & Signal Processing (17th CSECS '18 Bern, Switzerland, December 20-22, 2018; 15th CSECS '16, Istanbul, April 15-17, 2016; 14th CSECS, Konya, Turkey, May 20-22, 2015; 13th CSECS '14, Lisbon, Portugal, October 30-November 1, 2014)

19. Mathematics and Computers in Biology and Chemistry (16th MCBC '19 Madrid, Spain, January 19-21, 2019; 15th MCBC '18 Budapest, Hungary January 19-21, 2018; 14th MCBC '17, Rome, Italy, January 27-29, 2017)
20. Circuits, Systems, Signal and Telecommunications (12th CSST '19, Madrid, Spain, January 19-21, 2019; 11th CSST '18, Budapest, Hungary, January 19-21, 2018; 8th CSST '14, Tenerife, Spain, January 10-12, 2014; 10th CSST, Barcelona, Spain, February 13-15, 2016; 9th CSST, Dubai, United Arab Emirates, February 22-24, 2015).
21. Nanotechnology (10th NANOTECHNOLOGY '19, London, UK, February 23-25, 2019; 9th NANOTECHNOLOGY '18, Cambridge, UK February 16-18, 2018; 7th NANOTECHNOLOGY '16, Rome, Italy, October 21-23, 2016; *6th NANOTECHNOLOGY '15, Rome, Italy, November 7-9, 2015; *5th NANOTECHNOLOGY '13, Cambridge, UK, February 20-22, 2013)
22. Applied Mathematics, Simulation, Modelling (13th ASM '19, Lisbon, Portugal, April 12-14, 2019; 2nd ASM '18, Paris, France, April 13-15, 2018; 11th ASM '17 Venice, Italy, April 26-28, 2017; 10th ASM '16 Istanbul, Turkey, April 15-17, 2016; 9th ASM, Konya, Turkey, May 20-22, 2015; 8th ASM '14, Florence, Italy, November 22-24, 2014)
23. Applied Computer and Applied Computational Science (19th ACACOS '19 Lisbon, Portugal, April 12-14, 2019; 18th ACACOS '18 Paris, France, April 13-15, 2018; 14th ACACOS, Kuala Lumpur, Malaysia, April 23-25, 2015; 13th ACACOS '14, Kuala Lumpur, Malaysia, April 23-25, 2014)
24. Instrumentation, Measurement, Circuits and Systems (19th IMCAS, Lisbon, Portugal, April 12-14, 2019; Salerno, Italy, June 27-29, 2015; 18th IMCAS '18 Paris, France, April 13-15, 2018; 15th IMCAS '16, Bali, Indonesia, May 7-9, 2016; 13th IMCAS '14, Istanbul, Turkey, December 15-17, 2014)
25. Robotics, Control and Manufacturing Technology (19th ROCOM '19 Lisbon, Portugal, April 12-14, 2019; 18th ROCOM '18 Paris, France April 13-15, 2018; 15th ROCOM, Kuala Lumpur, Malaysia, April 23-25, 2015; 14th ROCOM '14, Kuala Lumpur, Malaysia, April 23-25, 2014)
26. Non-Linear Analysis, Non-Linear Systems and Chaos (8th NOLASC '19 Rome, Italy, May 25-27, 2019; May 25-27, 2019; 17th NOLASC '18 Rome, Italy May 26-28, 2018; 16th NOLASC '17 Barcelona, Spain May 10-12, 2017; 15th NOLASC '16, Rome, Italy, October 21-23, 2016; 14th NOLASC, Rome, Italy, November 7-9, 2015)
27. Signal Processing (16th SIP '19 Rome, Italy; 14th SIP '17 Barcelona, Spain May 10-12, 2017)
28. Applied Electromagnetics, Wireless and Optical Communications (13th ELECTROSCIENCE '18 Florence, Italy March 24-26, 2018; 12th ELECTROSCIENCE '17 Berlin, Germany, March 31-April 2, 2017)
29. Urban Planning and Transportation (11th UPT '18 Cambridge, UK February 16-18, 2018; 7th UPT '14, Salerno, Italy, June 3-5, 2014; 9th UPT, Venice, Italy, January 29-31, 2016)
30. Circuits, Systems and Signals (9th CSS '16, Dubrovnik, Croatia, September 28-30, 2016; 8th CSS, Michigan State University, East Lansing, MI, USA, September 20-22, 2015)
31. 8th European Computing Conference, Budapest, Hungary, December 12-14, 2015
32. 2nd International Conference on Computational and Experimental Mechanics (CEM '14), Florence, Italy, November 22-24, 2014
33. 7th WSEAS International Conference on Computer Engineering and Applications (CEA '13), Milan, Italy, January 9-11, 2013 (Scientific Committee Chair)

34. European Conference of Control (ECC '12), Paris, France, December 2-4, 2012 (Scientific Committee Chair)
35. European Conference of Computer Science (ECCS '12), Paris, France, December 2-4, 2012
36. 5th WSEAS International Conference on Visualization, Imaging and Simulation (VIS '12), Sliema, Malta, September 7-9, 2012 (Scientific Committee Chair)
37. 12th WSEAS International Conference on Applied Informatics and Communications (AIC '12), Istanbul, Turkey, August 21-23, 2012
38. 5th WSEAS International Conference on Biomedical Electronics and Biomedical Informatics (BEBI '12), Turkey, August 21-23, 2012
39. South Atlantic Section of the American Association of Physics Teachers, Charleston, SC, October 22-23, 2010 (Organizing Committee Member)
40. International Conference on Intelligent Systems Design and Applications, Rio de Janeiro, Brazil, October 22-24, 2007 (International Program Committee Member)

Regional Meetings (co-chair of the organizing committee)

Co-Chair Organizing Committee, South Atlantic Section of the American Association of Physics Teachers, Charleston, SC, October 24-25, 2014 & October 24, 2010

Local Meetings (co-chair of the organizing committee)

Chairman, Neuropalooza – College of Charleston & Medical University of South Carolina Neuroscience Symposium, November 22, 2013; January 30, 2015; February 5, 2016; February 10, 2017.

SCIENTIFIC REVIEWER

Scientific Journal Referee

1. Frontiers in Cellular Neuroscience (2020-)
2. European Journal of Physics (2015-)
3. Journal of Neurophysiology (2015-)
4. Medical Hypotheses (2013-)
5. ISRN Computational Biology (2012-)
6. PLoS ONE (2012-)
7. WSEAS Transactions on Mathematics Journal (2011-)
8. WSEAS Journal Transactions on Signal Processing (2011-)
9. Journal of Theoretical Biology (2005-)
10. Journal of Computational Neuroscience (2004-)

Conference Referee

1. Organization for Computational Neuroscience, (2005-). Intelligent Systems Design and Applications, 20-24 Oct. 2007, Rio de Janeiro, Brazil
2. Sixth Intelligent System Design and Applications, October 16-18, 2006, Jinan, Shandong, China (<http://isda2006.ujn.edu.cn/isda/>)

Research Grant Referee

1. Nation Science Foundation (October 2016; January 2017)
2. U.S. Civilian Research and Development Foundation (2007)

3. Ralph E. Powe Junior Faculty Award from Oak Ridge Associated Universities (2006-2011)

Outreach and Science Fair Judge

1. STEM events (Charleston STEM Festival, Brittlebank Park, Charleston, 2018; Charleston STEM Festival, Brittlebank Park, Charleston, February 6, 2016; STEM College and Career Conference, Charleston, February 8, 2016)
2. STEM events (Lady Cougars STEM Education Day, 2018; Lady Cougars STEM Education Day, January 27, 2017; Charleston STEM Festival, February 8, 2014; Lady Cougars STEM Education Day, February 27, 2014; Riverdogs STEM Education Day, April 9, 2014)
3. Physics and Astronomy Open Night (2019, 2018)
4. Mitchell Elementary School Science Outreach, College of Charleston, Charleston, SC (January 2011-2016, 03/20/2018)
5. Orange Grove Elementary School Science Fair Judge (03/19/2018)
6. MUSC Student Research Day Judge (November 2010-)
7. Sigma Xi, 2015 Student Research Showcase Judge
8. Lowcountry Regional Science and Engineering Fair (March 2006-)

INVITED AND CONTRIBUTED TALKS

1. Computational neuroscience and biomedical physics research, Oprisan S.A, Physics and Astronomy Department Seminar Series, Oct. 12, 2023, College of Charleston.
2. Interval timing - a computational mode, Oprisan S.A, Biology Department Seminar Series, Oct. 02, 2023, College of Charleston.
3. An Online Tool to Augment Traditional Computational Physics Teaching, Oprisan S.A and A. Oprisan, 7th Annual Teaching, Learning & Technology Conference (TLTCon23), May 17, 2023, College of Charleston.
4. A computational model of time perception, Physics Department, Polytechnic University of Bucharest, June 02, 2022.
5. Data mining in neuroscience, Computer Science Research Seminar, College of Charleston, November 22, 2021.
6. Interdisciplinary computational modeling of biophysical processes, PICUP Virtual Capstone Conference, August 11-13, 2021.
7. Biophysical Modeling of Excitable Cells - A New Approach to Undergraduate Computational Biology Curriculum Development. 21st Annual International Conference on Computational Science, Kraków, Poland, June 16-18, 2021.
8. Convolutional and recurrent neural networks applications to subvocalized words identification from electroencephalograms, MUSC AI Hub, March 10, 2021.
9. Models of interval timing, Models for Perceiving and Learning Time Intervals and Rhythms Workshop, 27th Annual Computational Neuroscience Meeting, Allen Institute, Seattle, WA, July 17, 2018
10. Viscosity measurements using Pasco video analysis, South Atlantic Section-American Association of Physics Teachers Conference Fall 2016 Meeting, Francis Marion University Florence, SC, October 21-22, 2016.
11. Challenges and the rewards of an undergraduate interdisciplinary computational neuroscience, South Atlantic Section-American Association of Physics Teachers Conference Spring 2016 Meeting, Clayton State University, April 15 & 16, 2016
12. Integrating teaching and research – high-impact teaching and learning strategy, South Atlantic Section-American Association of Physics Teachers Conference Fall 2015 Meeting, The Citadel, Charleston, October 30-31, 2015.
13. Challenges and the rewards of undergraduate interdisciplinary computational bio-related programs, South Atlantic Section-American Association of Physics Teachers Conference Spring 2015 Meeting, Georgia State University, Atlanta, Georgia, April 10-11, 2015.
14. Acoustic method for the coefficient of restitution measurement, South Atlantic Section-American Association of Physics Teachers Conference Fall 2015 Meeting, College of Charleston, October 24-25, 2014.
15. Phase resetting curve and its role in predicting phase-locked modes of neural networks, College of Charleston, Department of Mathematics Colloquium Series, Charleston, September 26, 2014.
16. The impact of NSF CAREER award on my research, teaching and undergraduate mentoring, Board of Trustees of the College of Charleston, Charleston, March 20, 2014.
17. Investigating the conservation of energy in real-time, South Atlantic Section-American Association of Physics Teachers Conference Fall 2013 Meeting, Furman University, Greenville, SC, October 25-26, 2013.

18. How does the brain keep track of time? New Jersey Institute of Technology and Rutgers University, NJ, March 5, 2013.
19. Online homework systems, Faculty Development Workshop, Physics and Astronomy Department, College of Charleston, August 14, 2012.
20. Physics labs with PASCO, Professional Development Workshop, Department of Physics and Astronomy, College of Charleston, Charleston, SC, August 14, 2012.
21. Sound perception and its neural coding, guest lecture for PHYS 103 - The Physics of Sound and Music, College of Charleston, March 29, 2012.
22. Biomedical Physics and Computational Biology at the College of Charleston, Department of Physics and Astronomy, College of Charleston, Charleston, SC, February 20, 2012.
23. Prediction of Synchrony and Phase-Locked Modes in Neural Networks based on Stimulus Time Resetting Curve, Center for Cognitive Neuroscience at MUSC, Charleston, SC, February 06, 2012.
24. How our brain keeps track of time, Honors Faculty Lecture Series, College of Charleston, Charleston, SC, October 14th, 2011.
25. What is computational neuroscience?, HHMI review session, College of Charleston, Charleston, SC, July 27th, 2011.
26. Computational Biology Program at the College of Charleston, HHMI review session, College of Charleston, Charleston, SC, July 15th, 2010.
27. Nonlinear dynamics and computational models for neural networks, Department of Physics, Alexandru Ioan Cuza University, Romania, June 4th, 2010.
28. Of mice and computers, Department of Biology, Neuroscience Seminar, College of Charleston, Charleston, SC, February 1st, 2010.
29. Four years after Katrina, Department of Physics and Astronomy, Meteorology Seminar, College of Charleston, Charleston, SC, November 19th, 2009.
30. From Ohm's law and Kirchoff's rules to predicting side effects of psychotic drugs using a computer model of dopamine neurons, Department of Physics, Francis Marion University, Florence, SC, February 26th, 2009.
31. Side effects of psychotic drugs predicted by a computer model of dopamine neurons, Department of Biology, Neuroscience Seminar, College of Charleston, Charleston, SC, February 9th, 2009.
32. Computational Neuroscience & Artificial Intelligence for physicists, Department of Physics and Astronomy, 419 Research Seminar, College of Charleston, Charleston, SC, February 3rd, 2009.
33. Computational methods for predicting 1:1 entrainment and phase-locked modes in small neural networks, Department of Biostatistics, Bioinformatics, and Epidemiology, Medical University of South Carolina, Charleston, SC, October 3rd, 2008.
34. Chaotic brain, Department of Physics and Astronomy, Chaos Seminar, College of Charleston, Charleston, SC, April 2008.
35. What is computational neuroscience?, Medical University of South Carolina, Charleston, SC, October 24th, 2007.
36. Computing in the Liberal Arts and Sciences, Panel Organized by Computer Science and the Center for Faculty Development, College of Charleston, Charleston, SC, April 27th, 2007.
37. Physics experiments using PASCO, Department of Physics and Astronomy, College of Charleston, Charleston, SC, February 28th, 2007.

38. An improved geometrical separator for HP protein folding model, 3rd SC-INBRE Bioinformatics Research Symposium, Clemson University, SC, January 18-19, 2007.
39. Modeling dopaminergic neurons, Mathematical Biology Division of New Jersey Institute for Technology, Newark, New Jersey, May 2nd, 2006.
40. A biologically-inspired sorting algorithm, Computer Science Department, College of Charleston, Charleston, SC, March 30th, 2006.
41. A computational model of dopamine neurons, Physics and Astronomy Department, College of Charleston, Charleston, SC, January 17th, 2006.
42. 1:1 Phase Locking in Hybrid Neural Circuits, Physics and Astronomy Department, College of Charleston, Charleston, SC, March 2005.
43. Memory registers optimization in stochastic functional self-organized sorting performed by a team of autonomous mobile agents, International Conference on Intelligent Autonomous Systems (IAS-7), Marina del Rey, CA, March 25-27, 2002.
44. Quantitative measures of organizational degree induced by mobile agents, 7th International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, FL, January 2-4, 2002.
45. Predicting Phase Locked Modes in a Hybrid Circuit from the Phase Resetting Curve, Psychology Department, University of New Orleans, New Orleans, LA, December 10, 2002.
46. Can coherent macroscopic behavior emerge from random microscopic motion? An agent-based model of swarm intelligence, Physics Department, University of New Orleans, New Orleans, April 4, 2002.
47. Advantages and limits of biologically inspired models in artificial intelligence. Stochastic functional self-organized sorting in autonomous mobile agent dynamics, Electrical Engineering and Computer Science Department, Tulane University, New Orleans, LA, February 1, 2002.
48. Dynamics and the Geometry of Phase Space. Extracting Phase Resetting Curve from Experimental Time Series, Brandeis University, Volen Center for Complex Systems, Waltham January 2001.
49. A Topological Approach on the Phase Resetting Curve Construction, International Conference on Complex Systems (ICCS), Nashua, NH, May 21-26, 2000.
50. From neuron to behavior. An artificial neural network model of quadrupedal locomotion, September 2000, Psychology Department, University of New Orleans, New Orleans, LA.
51. The global dynamic of tumor growth via mesoscopic dynamics, 1st International Biosciences Days, Antalya, Turkey, 20-24 April 1999.
52. The control of chaos by periodic perturbations. A theoretical approach, International Conference on Nonlinear Dynamics, Chaotic and Complex Systems, Zakopane, Poland, 7-12 November 1995.

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Undergraduate co-authors marked with *

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1. Oprisan, S. A., Clementsmith, X., Tompa, T., & Lavin, A. (2023). Empirical mode decomposition of local field potential data from optogenetic experiments. *Frontiers in Computational Neuroscience*, 17, 1223879 (DOI: 10.3389/fncom.2023.1223879).
2. Buhusi, C. V., Oprisan, S. A., & Buhusi, M. (2023). The future of integrative neuroscience: The big questions. *Frontiers in Integrative Neuroscience*, 17, 1113238 (DOI: 10.3389/fnint.2023.1113238).
3. Oprisan A, Morgado D*, Zoppelt S*, **Oprisan SA**, Garrabos Y, Lecoutre-Chabot C, and Beysens D (2022) Transport phenomena near the critical point of fluids under weightlessness, *Frontiers in Space Technologies*, 3:1-17 (DOI: 10.3389/frspt.2022.883899).
4. Buhusi M, **Oprisan SA**, Buhusi CV (2022) Not All Mice Are Created Equal: Interval Timing Accuracy and Scalar Timing in 129, Swiss-Webster, and C57Bl/6 Mice, *Timing and Time Perception*, (DOI: 10.1163/22134468-bja10052; IF 1.483).
5. **Oprisan SA**, Novo D*, Buhusi M, and Buhusi CV (2022) Resource allocation in the noise-free striatal beat frequency model of interval timing, *Timing and Time Perception* (DOI: 10.1163/22134468-bja10056; IF 1.483).
6. **Oprisan SA** (2022) Interdisciplinary curriculum for computational neuroscience at primarily undergraduate institutions, *Journal of Computational Science*, 61: 101642 (DOI: 10.1016/j.jocs.2022.101642; IF 3.976).
7. Vanderweyen D*, Tuck D*, and **Oprisan SA** (2021) Is the net electric charge injected into a cell the only driver of its response? *Revue Roumaine de Chimie* 66 (10-11): 813–818 (DOI: 10.33224/rrch.2021.66.10-11.04).
8. Oprisan A, **Oprisan SA**, Garrabos Y, Lecoutre-Chabot C, and Beysens D (2021) Density fluctuation analysis very near above and below critical point using morphological and spatiotemporal information. *Eur. Phys. J. Plus* 136, 523 (DOI: 10.1140/epjp/s13360-021-01531-8; IF 3.758).
9. Aft T*, **Oprisan SA**, Buhusi CV (2021) Is the scalar property of interval timing preserved after hippocampus lesions? *Journal of Theoretical Biology* 516: 110605 (DOI: 10.1016/j.jtbi.2021.110605; IF 2.691).
10. **Oprisan SA**, Clementsmith X*, Tompa T, Lavin A (2019) Dopamine receptor antagonists effects on low-dimensional attractors of local field potentials in optogenetic mice, *PLOS ONE* 14(10): e0223469 (DOI: 10.1371/journal.pone.0223469; IF 2.74).
11. Blanco-Centurion C, Luo S, Spergel DJ, Vidal-Ortiz A, **Oprisan SA**, Van den Pol AN, Liu M, and Shiromani PJ (2019) Dynamic Network Activation of Hypothalamic MCH Neurons in REM Sleep and Exploratory Behavior, *Journal of Neuroscience* (DOI: 10.1523/JNEUROSCI.0305-19.2019; IF 6.709).
12. **Oprisan SA**, Buhusi M, Buhusi CV (2018) A population-based model of the temporal memory in the hippocampus, *Frontiers in Neuroscience* 12: 521 (DOI: 0.3389/fnins.2018.00521, IF: 3.877).
13. **Oprisan SA**, Imperatore J*, Helms J*, Tompa T, and Lavin A (2018) Cocaine-Induced Changes in Low-Dimensional Attractors of Local Field Potentials in Optogenetic Mice,

- Frontiers in Computational Neuroscience 12 (2):1-16 (DOI: 10.3389/fncom.2018.00002; IF 1.821).
14. Buhusi CV, Reyes MB, Gathers C-A, **Oprisan SA**, Buhusi M (2018), Inactivation of the Medial-Prefrontal Cortex Impairs Interval Timing Precision, but Not Timing Accuracy or Scalar Timing in a Peak-Interval Procedure in Rats, *Frontiers in Integrative Neuroscience* 12:20 (DOI: 10.3389/fnint.2018.00020; IF 2.81)
 15. **Oprisan SA**, Aft T*, Buhusi M, Buhusi CV (2018) Scalar timing in memory: A temporal map in the hippocampus, *Journal of Theoretical Biology*, 438: 133-142 (DOI: 10.1016/j.jtbi.2017.11.012; IF 2.049).
 16. **Oprisan SA** (2017) A consistent definition of phase resetting using Hilbert transform, *International Scholarly Research Notices on Computational Biology*, Volume 2017, Article ID 5865101 (DOI: 10.1155/2017/5865101).
 17. Buhusi CV, **Oprisan SA**, and Buhusi M (2017) Biological and Cognitive Frameworks for a Mental Timeline, *Frontiers in Neuroscience* 12: 377 (DOI: 10.3389/fnins.2018.00377; IF: 3.877)
 18. **Oprisan SA** (2017) Predicting the Existence and Stability of Phase-Locked Mode in Neural Networks using Generalized Phase Resetting Curve, *Neural Computation*, 29 (8): 2030-2054 (DOI: 10.1162/NECO_a_00983; IF 1.626).
 19. **Oprisan SA** and Austin DI* (2017) A Generalized Phase Resetting Method for Phase-Locked Modes Prediction, *PLoS ONE* 12(3): e0174304 (DOI:10.1371/journal.pone.0174304; IF 3.057).
 20. Oprisan A, Rice A*, **Oprisan SA**, Giraudet C, and Croccolo F (2017) Non-equilibrium concentration fluctuations in superparamagnetic nanocolloids, *The European Physical Journal E* 40: 14 (DOI: 10.1140/epje/i2017-11503-y; IF 1.625).
 21. Buhusi CV, **Oprisan SA**, and Buhusi M (2016) Clocks within clocks: timing by coincidence detection, *Current Opinion in Behavioral Sciences* 8: 207–213 (DOI: 10.1016/j.cobeha.2016.02.024; IF 1.717).
 22. **Oprisan SA**, Lynn PE*, Tompa T, and Lavin A (2015) Low-dimensional attractor for neural activity from local field potentials in optogenetic mice, *Frontiers in Computational Neuroscience* 9:125-153 (DOI: 10.3389/fncom.2015.00125; IF 2.653).
 23. Vollmer MK*, Vanderweyen CD*, Tuck DR*, and **Oprisan SA** (2015) Predicting phase resetting due to multiple stimuli, *Journal of the South Carolina Academy of Science*, 13(2): 10-14.
 24. Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, Lecoutre C, and Beysens D (2015) Direct imaging of long-range concentration fluctuations in a ternary mixture, *The European Physical Journal E* 38 (17): 1-9 (DOI: 10.1140/epje/i2015-15017-4; IF 1.625).
 25. **Oprisan SA**, Dix S*, and Buhusi CV (2014) Phase resetting and its implications for interval timing with intruders, *Behavioral Processes*, 111: 146-153 (DOI: 10.1016/j.beproc.2013.09.005; IF 1.318).
 26. Oprisan A and **Oprisan SA** (2014) Quantitative estimates of the electric charge for a classical electrostatics experiment, *The European Journal of Physics* 35(5): 055001 (DOI: 10.1088/0143-0807/35/5/055001; IF 0.608).
 27. **Oprisan SA** and Buhusi CV (2014) What is all the noise about in interval timing? *Philosophical Transactions of the Royal Society B: Biological Sciences*, 396(1637): 20120459 (DOI: 10.1098/rstb.2012.0459; IF 8.33).

28. Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, Lecoutre-Chabot C, and Beysens D (2014) Dimple coalescence and liquid droplets distributions during phase separation in a pure fluid under microgravity, *The European Physical Journal E Soft Matter*, 37(9): 41 (DOI: 10.1140/epje/i2014-14085-2; IF 1.625).
29. **Oprisan SA** (2014) Local linear approximation of the Jacobian matrix better captures phase resetting of neural limit-cycle oscillators, *Neural Computation*, 26 (1): 132-157 (DOI: 10.1162/NECO_a_00536; IF 1.626).
30. **Oprisan SA** and Buhusi CV (2013) Why noise is useful in functional and neural mechanisms of interval timing? *BMC Neuroscience*, 14:84 (DOI: 10.1186/1471-2202-14-84; IF 1.28).
31. **Oprisan SA** and Buhusi CV (2013) How noise contributes to time-scale invariance of interval timing, *Physical Review E*, 87(5): 052717 (DOI: 10.1103/PhysRevE.87.052717; IF 2.252).
32. Buhusi CV and **Oprisan SA** (2013) Time-scale invariance as an emergent property in a perceptron with realistic, noisy neurons, *Behavioral Processes*, 59: 60-70 (DOI: 10.1016/j.beproc.2013.02.015; IF 1.318).
33. Raidt AR* and **Oprisan SA** (2013) Fourier Analysis of Phase Resetting Curves of Neural Oscillators, *Journal of the South Carolina Academy of Science*, 11(2): 1-7.
34. Oprisan A, **Oprisan SA**, Bayley B*, Hegseth JJ, Garrabos Y, Lecoutre-Chabot C, and Beysens D (2012) Dynamic structure factor of density fluctuations from direct imaging very near above and below the critical point of SF₆, *Physical Review E* 86(6): 061501 (DOI: 10.1103/PhysRevE.86.061501; IF 2.252).
35. **Oprisan SA** and Buhusi CV (2011), Modeling pharmacological clock and memory patterns of interval timing in a striatal beat-frequency model with realistic, noisy neurons. *Frontiers in Integrative Neuroscience*, 5:52 (DOI: 10.3389/fnint.2011.00052; IF 6.53).
36. **Oprisan SA** (2010) Existence and stability criteria for phase-locked modes in ring neural networks based on the spike time resetting curve method. *Journal of Theoretical Biology* 262:232–244 (DOI: 10.1016/j.jtbi.2009.09.036; IF 2.371).
37. Oprisan A, **Oprisan SA**, and Teklu A (2010) Experimental study of nonequilibrium fluctuations during free diffusion in nanocolloids using microscopic techniques. *Applied Optics* 49(1):86-96 (DOI: 10.1364/AO.49.000086; IF 2.27).
38. **Oprisan SA** (2009) Stability of synchronous oscillations in a periodic network. *International Journal of Neuroscience* 119(4):482-491 (DOI:10.1080/00207450802336766; IF 1.42).
39. **Oprisan SA** (2009) Reducing the complexity of computational models of neurons using bifurcation diagrams. *Revue Roumaine de Chimie* 54(6):465–475 (IF 0.23).
40. Klein BM*, Andrews JB*, Bannan BA*, Nazario-Toole AE*, Jenkins TC*, Christensen KD*, **Oprisan SA**, and Meyer-Bernstein EL (2008) Phospholipase C beta 4 in mouse hepatocytes: Rhythmic expression and cellular distribution. *Comparative Hepatology* 7(8):1-9 (DOI: 10.1186/1476-5926-7-8; IF 3.25).
41. **Oprisan SA** (2008) Rebalancing Na and K ionic fluxes in dopaminergic neurons. *Revue Roumaine de Chimie* 59(11):1222-1224 (IF 0.23).
42. **Oprisan SA** and Boutan C* (2008) Prediction of Entrainment and 1:1 Phase-Locked Modes in Two-Neuron Networks Based on the Phase Resetting Curve Method. *International Journal of Neuroscience* 118:867-890 (DOI: 10.1080/00207450701750471; IF 1.42).
43. Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, Lecoutre-Chabot C, and Beysens D (2008) Universality in early-stage growth of phase separating domains near the critical point. *Phys. Rev. E* 77:051118 (DOI: 10.1103/PhysRevE.77.051118; IF 2.82).

44. Canavier CC, **Oprisan SA**, Callaway JC, Ji H, and Shepard PD (2007) Computational Model Predicts a Role for ERG Current in Repolarizing Plateau Potentials in Dopamine Neurons: Implications for Modulation of Neuronal Activity. *Journal of Neurophysiology* 98:3006-3022 (DOI: 10.1152/jn.00422.2007; IF 4.20).
45. **Oprisan SA** and Canavier CC (2006) Technique for eliminating nonessential components in the refinement of a model of dopamine neurons. *Neurocomputing* 69:1030-1034 (DOI: 10.1016/j.neucom.2005.12.039; IF 1.20).
46. **Oprisan SA** and Oprisan A (2006) A computational model of oncogenesis using a systemic approach. *Axiomathes (Complex Systems Biology and Life's Logic in memory of Robert Rosen. Guest Editor(s): Ion Baianu)* DOI: 10.1007/s10516-005-4943-x, 16(1-2):155-163.
47. **Oprisan SA** and Canavier CC (2005) Stability criterion for a two-neuron reciprocally coupled network based on the phase and burst resetting curves. *Neurocomputing* 65:733-739 (DOI: 10.1016/j.neucom.2004.10.069; IF 1.20).
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49. **Oprisan SA**, Prinz AA, and Canavier CC (2004) Phase resetting and phase locking in hybrid circuits of one model and one biological neuron. *Biophysical Journal* 87(4):2283-2298 (DOI: 10.1529/biophysj.104.046193).
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55. **Oprisan SA** and Canavier CC (2002) The influence of limit cycle topology on the phase resetting curve. *Neural Computation* 14(5):1027-1057 (DOI: 10.1162/089976602753633376; IF: 3.824).
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57. **Oprisan SA** (2001) Theoretical approach on microscopic bases of stochastic functional self-organization. Quantitative measures of the organizational degree of the environment. *Journal of Physics A: Mathematical & General* 34(47):10013-10028 (DOI: 10.1088/0305-4470/34/47/308; IF 2.263).
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66. **Oprisan SA** (1997) Analytic periodic solutions for domain-wall motion. *Physical Review B* 56(1):79-83 (DOI: 10.1103/PhysRevB.56.79).
67. **Oprisan SA** (1997) The classical gases in the Tsallis statistics using the generalized Riemann zeta functions. *Journal de Physique I France* 7(7):853-862 (DOI: 10.1051/jp1:1997201).
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1. **Oprisan SA** (2022) Multistability of Coupled Neuronal Oscillators, Encyclopedia of Computational Neuroscience, Jaeger Dieter and Jung Ranu (eds.), Springer, New York (DOI: 10.1007/978-1-4614-7320-6_303-1).
2. **Oprisan SA** (2014) Multistability of Coupled Neuronal Oscillators, Encyclopedia of Computational Neuroscience, Jaeger Dieter and Jung Ranu (eds.), Springer, New York (DOI: 10.1007/978-1-4614-7320-6_303-1).
3. **Oprisan SA** (2012) A Geometric Approach to Phase Resetting Estimation Based on Mapping Temporal to Geometric Phase, in Phase Response Curves in Neuroscience: Theory, Experiment, and Analysis, Springer Series in Computational Neuroscience, N.W. Schultheiss et al. (eds.), p:131-162 (DOI: 10.1007/978-1-4614-0739-3_6).
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6. Bin F, **Oprisan SA**, and Lizhe X (2005) Multi-directional Width-Bounded Geometric Separator and Protein Folding, In: Lecture Note in Computer Science, Editors: Xiaotie Deng, and Dingzhu Du, Springer Berlin/Heidelberg, Vol. **3827**:995-1006 (DOI: 10.1007/11602613_99).
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CONFERENCE PROCEEDINGS

Undergraduate co-authors marked with *

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NATIONAL & INTERNATIONAL PROFESSIONAL MEETINGS

APS – The American Physical Society
CNS* - The Organization for Computational Neuroscience
ICMN – International Conference on Mathematical Neuroscience
NCUR - National Conference on Undergraduate Research
SFN - Annual Meeting of the Society for Neuroscience,
STP - Symposium Thermophysical Properties

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PUBLISHED ABSTRACTS REGIONAL & STATE PROFESSIONAL MEETINGS

Abbreviations

PICUP - Partnership for Integration of Computation into Undergraduate Physics

NSC-AAPT - North Carolina Section of the American Association of Physics Teachers

SACS-AAPT - South Atlantic Coast Section of the American Association of Physics Teachers

INBRE - South Carolina IDeA Networks of Biomedical Research Excellence Science

Symposium

SCAS - South Carolina Academy of Science

SYNAPSE - Symposium for Young Neuroscientists and Professors of the SouthEast

Undergraduate co-authors marked with * and science teachers with **

1. Oprisan A and **Oprisan SA**, Early detection of students who need extra help in introductory physics classes using online homework system, SACS-AAPT, Nov. 12, 2021.
2. **Oprisan SA**, An Interdisciplinary Physics Course with Biology and Psychology, SACS-AAPT, Nov. 12, 2021.
3. **Oprisan SA**, Interdisciplinary computational modeling of biophysical processes. PICUP Virtual Capstone Conference, August 11-13, 2021.
4. Clementsmith X*, **Oprisan SA**, Tompa T, and Lavin A, Empirical mode decomposition of nonstationary optogenetic data, SCAS, April 17, 2021.
5. Clementsmith X*, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, Causality measures among hypothalamic MCH neurons during REM sleep, SCAS, April 17, 2021.
6. London-Kolb M* and **Oprisan SA**, A deep learning neural network for subvocalized sounds identification from electroencephalograms, SCAS, April 17, 2021
7. Clementsmith X*, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, Inferring hypothalamic network activity from calcium imaging data during REM sleep, 12th SC INBRE Virtual Science Symposium (<https://youtu.be/HkH8qNy2Ai4>), January 23, 2021.
8. Hughey MY**, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, Dynamic network activation of hypothalamic MCH neurons in REM sleep and exploratory behavior, 12th SC INBRE Virtual Science Symposium (<https://youtu.be/-uPYU6HtI5M>), January 23, 2021.
9. Bailey ME**, Buhusi M, Buhusi CV, and **Oprisan SA**, Neural network resource allocation during interval timing tasks, 12th SC INBRE Virtual Science Symposium (<https://youtu.be/9k2ZinQ9WWE>), January 23, 2021.
10. **Oprisan SA**, Oprisan A, A Novel Approach to Teaching Computational Physics with Matlab Online Tools, NCS/SACS-AAPT, Nov. 07, 2020.
11. Dorf D*, Simonson P*, **Oprisan SA**, Oprisan A, Investigating Magnetic Nanocolloids Using Shadowgraphy, NCS/SACS-AAPT, Nov. 07, 2020.
12. **Oprisan SA**, Oprisan A, New tools in our digital signal and image processing classroom, PICUP, June 26-July 1st, 2020.
13. Clementsmith X*, **Oprisan SA**, Tompa T, Lavin A, Optogenetic data mining using empirical mode decomposition, SCAS, Florence, SC March 30, 2019

14. Aft T*, **Oprisan SA**, Buhus M, and Buhusi CV, Lesions of the hippocampus can alter time perception, SCAS, Presbyterian College in Clinton SC, April 14, 2018
15. Austin DI* and **Oprisan SA**, Generalized phase resetting and phase-locked mode prediction in biologically-relevant neural networks, SCAS, Presbyterian College in Clinton SC, April 14, 2018
16. Helms J*, Clementsmith X*, Lavin A, and **Oprisan SA**, Changes in the prefrontal cortex revealed by optogenetic experiments, SCAS, Presbyterian College in Clinton SC, April 14, 2018
17. Shanks MK* and **Oprisan SA**, Functional near-infrared spectroscopy (fNIRS) while performing temporal discrimination tasks, SYNAPSE, Presbyterian College, Clinton SC, March 25, 2017.
18. Imperatore J* and **Oprisan SA**, Low-dimensional chaos in optogenetic mice injected with cocaine, SCAS, Coastal Carolina in Conway SC, March 25, 2017
19. Austin D* and **Oprisan SA**, Recursive resetting in neural networks, SCAS, Coastal Carolina in Conway SC, March 25, 2017
20. Austin DI* and **Oprisan SA**, Existence and Stability Phase-Locked Modes in Neural Networks, SACS-AAPT, Francis Marion University Florence, SC, October 21-22, 2016.
21. Evans LM*, Austin DI*, and **Oprisan SA**, Nonlinear effects of stimuli on phase resetting curve of different neural types, SACS-AAPT, Clayton State University, April 15 & 16, 2016
22. Austin DI*, Evans LM*, Aft T*, Imperatore I*, and Sorinel Adrian Oprisan, Phase resetting curves due to recursive stimuli in Morris-Lecar model neurons, SACS-AAPT, Clayton State University, April 15 & 16, 2016
23. Austin DI*, Evans LM*, Aft T*, Imperatore J*, **Oprisan SA**, Phase resetting curves due to recursive stimuli, SCAS, Winthrop University, Rock Hill, SC, April 16, 2016.
24. Evans LM*, Austin DI*, **Oprisan SA**, Nonlinear effects of recursive stimuli on phase resetting curves, SCAS, Winthrop University, Rock Hill, SC, April 16, 2016.
25. Fraley LD*, **Oprisan SA**, Oprisan A, Light scattering measurements of biologically-relevant properties of nanomaterials, SCAS, Winthrop University, Rock Hill, SC, April 16, 2016.
26. **Oprisan SA** and Ana Oprisan, Integrating teaching and research –a high-impact teaching and learning strategy, SACS-AAPT, The Citadel, Charleston, SC, October 30-31, 2015.
27. Fraley L*, **Oprisan SA** and Oprisan A, Response of class 1 excitable cells to current pulses, SACS-AAPT, The Citadel, Charleston, SC, October 30-31, 2015.
28. Austin D*, Evans LM* and **Oprisan SA**, Response of class 2 excitable cells to current pulses, SACS-AAPT, The Citadel, Charleston, SC, October 30-31, 2015.
29. Oprisan A and **Oprisan SA**, A studio physics class model for science teachers, SACS-AAPT, The Citadel, Charleston, SC, October 30-31, 2015.
30. **Oprisan SA**, Challenges and the rewards of undergraduate interdisciplinary computational bio-related programs, SACS-AAPT, Atlanta, GA, April 10-11, 2015.
31. Oprisan A and **Oprisan SA**, If a picture is worth a thousand words, then how much more is a video worth? SACS-AAPT, Atlanta, GA, April 10-11, 2015.
32. Lynn PE*, **Oprisan SA**, Lavin A, and Tompa T, Towards a low-dimensional model of the neural network responsible for gamma synchronization using optogenetics, SCAS, Furman University, Greenville, SC, April 11, 2015.

33. Vollmer KM* and **Oprisan SA**, Phase resetting of neural oscillators subject to multiple inputs, SCAS, Furman University, Greenville, SC, April 11, 2015.
34. **Oprisan SA** and Oprisan A, Acoustic method for the coefficient of restitution measurement, SACS-AAPT, Charleston, SC, Oct. 24-25, 2014.
35. Novo ND*, Arnhold GJ*, and **Oprisan SA**. Noise around the clock, SACS-AAPT Charleston, SC, Oct. 24-25, 2014.
36. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, poster presentation, 2014 SC EPSCoR/IDeA State Conference, Columbia, SC, April 24, 2014.
37. Novo ND* and **Oprisan SA**, Accuracy and precision of interval timing with striatal beat frequency model, SCAS, Trident Tech, Charleston, SC, April 05, 2014.
38. Vanderweyen CD* and **Oprisan SA**, A novel mechanism of neural response modulation, SCAS, Trident Tech, Charleston, SC, April 05, 2014.
39. Novo ND*, **Oprisan SA**, and Buhusi CV. Effect of prefrontal cortex pre-allocation on cortico-striatal network response, SYNAPSE, Asheville, NC, March 2014.
40. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, The Effect of the Triangular Shape of Presynaptic Stimuli on the Phase Resetting Curve, SCAS, April 2013.
41. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, The Effect of the Shape of Presynaptic Stimuli on the Phase Resetting Curve of a Neuron Model, SYNAPSE, March 2013.
42. Raidt R* and **Oprisan SA**, Fourier Analysis of Phase Resetting Curves of Type II Oscillators, SCAS, April 13-14, 2012, Aiken, SC.
43. Dix S*, **Oprisan SA**, and Buhusi CV, A computational model of timing with biologically realistic model neurons, SCAS, Charleston, SC, April 2010.
44. Sztokman N*, Klein CE*, and **Oprisan SA**, Random stimulation of the Morris-Lecar computational model, SCAS, Charleston, SC, April 2010.
45. Oprisan A and **Oprisan SA**, Determine RC time constant with a charge sensor, SACS-AAPT, University of South Carolina, Aiken, March 19-20, 2010.
46. **Oprisan SA** and Oprisan A, Determination of Planck's constant using photoelectric effect with monochromatic light-emitting diodes sources, SACS-AAPT, University of South Carolina, Aiken, March 19-20, 2010.
47. Klein CE*, Sztokman N*, and **Oprisan SA**, The effect of noise on neurons - a computational approach, SACS-AAPT, University of South Carolina, Aiken, March 19-20, 2010.
48. Smith G*, Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, and Beysens D, Phase Separation and Wetting Layer Effects in Near Critical Sulfur Hexafluoride, SCAS, Columbia, SC, April 2009.
49. Oprisan A and **Oprisan SA**, What strategies are used to solve online homework assignments? SACS-AAPT, Gainesville, GA, April 2008.
50. **Oprisan SA** and Oprisan A, Object-oriented programming for non-programmers with AgentSheets, SACS-AAPT, Gainesville, GA, April 2008.
51. **Oprisan SA**, Electrogenic calcium pump drives cell depolarization in a computational model of dopamine neurons, SYNAPSE Charleston, SC, March 28, 2008.
52. New N*, **Oprisan SA**, and Lavin A, Computational Model of CA1 Pyramidal Neurons in the Hippocampus of Mice, SYNAPSE, College of Charleston, Charleston, SC, March 15, 2008.
53. New N*, **Oprisan SA**, Lavin A, and Glenn B, Computational Model of Pyramidal Neurons in Hippocampus of Mice, SACS, Clemson, SC, March 20, 2008.

54. **Oprisan SA**, Digital image processing using Random Markov Fields. The National Academy of Military Aviation "Henri Coanda," Brasov, Romania, November 1996.
55. **Oprisan SA**, Control and synchronization of chaotic oscillators. The National Academy of Military Aviation "Henri Coanda," Brasov, Romania, November 1996.
56. Badescu CSt*, Ignat M, and **Oprisan SA**, On the chaotic oscillations of Bloch walls and their control. Symposium on Physics and Technological Physics, Iasi, Romania, October 1995.
57. **Oprisan SA**, Holban V, and Moldoveanu B, Stochastic functional self-organization using a weighted memory function. Symposium on Physics and Technological Physics, Iasi, Romania, October 1995.

PUBLISHED ABSTRACTS LOCAL PROFESSIONAL MEETINGS

Abbreviations

SCSGC-P – South Carolina Space Grant Consortium – Palmetto Academy Site

RET- South Carolina Established Program to Stimulate Competitive Research (EPSCoR) & IDeA Networks of Biomedical Research Excellence (INBRE) Research Experience for Teachers (RET)

FNR – Medical University of South Carolina Frontiers in Neuroscience Research Meeting

SURF - Celebration of Scholars: Exposition of Faculty and Student Research, Scholarship and Creativity, College of Charleston

SSM - Annual Poster Session of School of Sciences and Mathematics, College of Charleston

Undergraduate co-authors marked with *

1. Korin B*, Buhusi M, Buhusi CV, and **Oprisan SA**, The effect of microgravity stressors on interval timing. A basal ganglia perspective, SCSGC-P, August 2021
2. Sadow M*, Buhusi M, Buhusi CV, and **Oprisan SA**, The effect of microgravity stressors on interval timing. A short-term memory perspective, SCSGC-P, August 2021
3. Cox MR*, Buhusi M, Buhusi CV, and **Oprisan SA**, Neural network resource allocation during interval timing tasks, SCSGC-P, August 2020
4. Clementsmith X*, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, Dynamic network activation of hypothalamic neurons in rem sleep, SURF, August 2020
5. Dorf D*, Oprisan A, Oprisan SA, Investigating nanocolloids using shadowgraphy, SURF, August 2020
6. Bailey ME**, Buhusi M, Buhusi CV, and **Oprisan SA**, Neural network resource allocation during interval timing tasks, SC RET, August 2020
7. Hughey MY**, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, dynamic network activation of hypothalamic MCH neurons in REM sleep and exploratory behavior, SC RET, August 2020
8. Clementsmith X*, Blanco-Centurion C, Shiromani PJ, and **Oprisan SA**, Direct Topological Reconstruction of Neuronal Network Weights from Calcium Imaging, SURF, August 19, 2019
9. Aft T*, Buhusi M, Buhusi CV, and **Oprisan SA**, Modeling Shifts in Time Perception Experienced under Microgravity, SURF, August 19, 2019
10. Williams B* and **Oprisan SA**, Locking in AII-AII Neural Networks, SURF, August 19, 2019
11. Helms J*, Clementsmith X*, Lavin A, and **Oprisan SA**, Optogenetic-based models for prefrontal cortex, SURF, August 20, 2018
12. Aft T*, **Oprisan SA**, Buhus M, and Buhusi CV, A computational model of hippocampus lesions, SURF, August 20, 2018
13. Austin DI*, Williams B*, and **Oprisan SA**, Generalized phase resetting phenomena in neural networks activity, SURF, August 20, 2018
14. Seymore G*, Rice A*, Oprisan A, and Oprisan SA, The Confinement Effect on a Superparamagnetic Nanocolloid, 30th SSM, April 12, 2018

15. Aft T*, Oprisan SA, Buhusi M, Buhusi CV, Hippocampus lesions and their effect on time perception, 30th SSM, April 12, 2018
16. Dave A*, and Oprisan SA, Phase resetting generalization and phase-locked mode prediction in biologically-relevant neural networks, 30th SSM, April 12, 2018
17. Helms J*, Clementsmith X*, Oprisan SA, Lavin A, Optogenetic experiments reveal some aspects of brain dynamics, 30th SSM, April 12, 2018
18. Austin DI* and **Oprisan SA**, Stability and Existence for Three Coupled Neurons (plenary talk), Neuropalooza, February 10, 2017.
19. Aft T*, **Oprisan SA**, and Buhusi CV, Modeling of Perceived Duration Shifts due to Cortical Lesions, Neuropalooza, February 10, 2017.
20. Austin DI* and **Oprisan SA**, Predicting the Stability and existence of 3 Coupled Neurons in a 2 to 1 Phased locked Mode, Neuropalooza, February 10, 2017.
21. Shanks M* and **Oprisan SA**, Functional near-infrared spectroscopy (fNIRS) while performing temporal discrimination tasks, Neuropalooza, February 10, 2017.
22. Austin DI* and **Oprisan SA**, Predicting the Existence and Stability Phase-Locked Modes in a 3-Neuron Network, Department of Physics and Astronomy Colloquium, Sept. 22, 2016.
23. Imperatore J*, **Oprisan SA**, Tompa T, and Lavin A, Low-dimensional chaos in optogenetic mice injected with cocaine, Meet & Greet MUSC Neuroscience Institute, August 25, 2016.
24. Aft T*, **Oprisan SA**, and Buhusi CV, Modeling of Perceived Duration Shifts Due to Hippocampal Lesions, Meet & Greet MUSC Neuroscience Institute, August 25, 2016.
25. Austin DI* and **Oprisan SA**, Predicting the Stability of 3 Coupled Neurons with a 2 to 1 Phase Locked Mode, Meet & Greet MUSC Neuroscience Institute, August 25, 2016.
26. Imperatore J*, **Oprisan SA**, Tompa T, and Lavin A, Low-dimensional chaos in optogenetic mice injected with cocaine, SURF, August 22, 2016.
27. Aft T*, **Oprisan SA**, and Buhusi CV, Modeling of Perceived Duration Shifts Due to Hippocampal Lesions, SURF, August 22, 2016.
28. Austin DI* and **Oprisan SA**, Predicting the Stability of 3 Coupled Neurons with a 2 to 1 Phase Locked Mode, SURF, August 22, 2016.
29. Austin DI*, Evans LM*, Aft T*, Imperatore J*, **Oprisan SA**, Phase resetting curves due to recursive stimuli in Morris-Lecar model neurons, SSM, Charleston, SC, April 14, 2016.
30. Fraley LD*, **Oprisan SA**, Oprisan A, Light scattering measurements of biologically-relevant properties of nanomaterials, SSM, Charleston, SC, April 14, 2016.
31. Evans LM*, Austin DI*, **Oprisan SA**, Nonlinear effects of stimuli on phase resetting curve of different neural types, SSM, Charleston, SC, April 14, 2016.
32. Austin DI*, Evans LM*, Aft T*, Imperatore J*, **Oprisan SA**, Phase resetting curves due to recursive stimuli in Morris-Lecar model neurons, Department of Physics and Astronomy Research Poster Session, Charleston, SC, April 5, 2016.
33. Fraley LD*, **Oprisan SA**, Oprisan A, Light scattering measurements of biologically-relevant properties of nanomaterials, Department of Physics and Astronomy Research Poster Session, Charleston, SC, April 5, 2016
34. **Oprisan SA** (2016) Innovative computational neuroscience curriculum at undergraduate institutions – a high-impact teaching and learning experience, 17th FNR, Charleston, SC, April 4, 2016.
35. Vollmer KM*, Austin DI*, Aft T*, Imperatore J*, **Oprisan SA** (2016) Nonlinear neural response and phase resetting induced by concurrent stimuli, 17th FNR, Charleston, SC, April 4, 2016.

36. Lynn PE*, Evans LM*, Austin DI*, Aft T*, Imperatore J*, **Oprisan SA**, Tompa T, Lavin A (2016) Delay-embedding reconstruction of local field potential from optogenetic data, 17th FNR, Charleston, SC, April 4, 2016.
37. Austin DI*, Evans LM*, Aft T*, Imperatore J*, Oprisan SA, Phase Resetting Curves Induced by Recurrent Stimuli, 17th FNR, Charleston, SC, April 4, 2016.
38. Evans LM*, Austin DI*, Oprisan SA, Nonlinear effects of recursive stimuli on phase resetting curves, 17th FNR, Charleston, SC, April 4, 2016.
39. Austin D*, Evens LM*, and **Oprisan SA**, Scaling Properties of Type 2 Phase Resetting Curves, Celebration of Summer Scholars: Exposition of Faculty and Student Research, Scholarship & Creativity at the College of Charleston, August 24, 2015.
40. Evans LM*, Austin D*, and **Oprisan SA**, Effects of stimulus amplitude and duration on type I excitability neurons, SURF, August 24, 2015.
41. Fraley LD*, Oprisan A, and **Oprisan SA**, Spatiotemporal evolution of nonequilibrium fluctuations and correlation function, SURF, August 24, 2015.
42. Derek N*, **Oprisan SA**, and Buhusi CV, How noise influences the interval timing clock, SSM, April 16, 2015
43. Kelsey V* and **Oprisan SA**, Phase resetting of neural oscillators subject to multiple inputs, SSM, April 16, 2015
44. Novo D*, **Oprisan SA**, and Buhusi CV, Fluctuations in network's parameters and their effects on the shape of interval timing output, Neuropalooza, Charleston, SC, January 2015.
45. Novo ND*, Arnhold GJ*, and **Oprisan SA**. Noise around the clock, Medical University of South Carolina *Meet and Greet* for the Neuroscience Institute, August 2014, Charleston, SC.
46. Tuck RD*, Vollmer MK*, Vanderweyen CD*, and **Oprisan SA**, How Neurons Encode a Single Stimulus, SURF, August 2014.
47. Proctor T*, Cole A*, and **Oprisan SA**, Fractals everywhere, SURF, August 2014.
48. Novo ND*, Arnhold GJ*, **Oprisan SA**, and Buhusi CV, Noise around the clock, SURF, August 2014.
49. Vollmer MK*, Tuck RD*, and **Oprisan SA**, How Neurons Encode Multiple Stimuli, SURF, August 2014.
50. Novo ND*, **Oprisan SA**, and Buhusi CV. The effect of noise on timing network response, 26th SSM, April 2014, Charleston, SC.
51. Vanderweyen CD* and **Oprisan SA**, Research talk, Department of Physics and Astronomy Colloquium, College of Charleston, April 22, 2014.
52. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, Modeling the Response of Neurons to Unconventional Stimuli, SSM, College of Charleston, April 2014.
53. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, Modeling the Response of Neurons to Unconventional Stimuli, Department of Physics and Astronomy Poster Session, College of Charleston, April 11, 2014.
54. Novo ND*, **Oprisan SA**, and Buhusi CV. What is all the noise about in interval timing? Neuropalooza, Charleston, SC, November 2013.
55. Novo ND*, **Oprisan SA**, and Buhusi CV, When more is not better – a numerical investigation of neural oscillators allocation during interval timing tasks, SURF, August 2013.
56. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, Are Action Potentials Stereotypical? Case Study - Rectangular Presynaptic Stimuli, SURF, August 2013.

57. Tuck RD*, Vandwerweyen CD*, and **Oprisan SA**. Are Action Potentials Stereotypical? Case Study - Triangular Presynaptic Stimuli, SURF, August 2013.
58. Vanderweyen CD*, Tuck RD*, and **Oprisan SA**, Phase resetting curve of a neuron model subject to realistic presynaptic currents, SSM, April 18, 2013.
59. Novo ND*, **Oprisan SA**, and Buhusi CV, When the brain loses track of time, SSM, April 18, 2013.
60. Lynn P*, **Oprisan SA**, Lavin A, and Tompa T, Computational investigation of gamma synchronization using optogenetic modulation of front cortex neurons, SSM, April 18, 2013.
61. Raidt R* and **Oprisan SA**, Linear response region of the Phase Resetting Curve, 24th SSM, April 19, 2012, Charleston, SC.
62. Bayley B*, Oprisan A, Hegseth JJ, **Oprisan SA**, Beysens D, Lecoutre C, and Garrabos Y, Thermal fluctuation exponents for two near-critical point systems, SSM, April 23, 2010.
63. Sztokman N*, Klein CE*, and **Oprisan SA**, Random Stimulation of the Morris-Lecar Computational Model, SSM, April 23, 2010.
64. Smith G*, Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, and Beysens D, Cluster Analysis, Wetting Layer Growth, and Droplet Formation in Near Critical Sulfur Hexafluoride, SSM, April 2009.
65. **Oprisan SA**, A simplified computer model of electrogenic calcium pump for dopamine neurons, 10th FNR, Charleston, SC, March 2009.
66. Smith G*, Oprisan A, **Oprisan SA**, Hegseth JJ, Garrabos Y, and Beysens D, Texture Analysis of Phase Separation Images Recorded in Microgravity, SSM, April 11, 2008.
67. New N*, **Oprisan SA**, Lavin A, and Glenn B, Computational Model of Pyramidal Neurons in Hippocampus of Mice, SSM, April 11, 2008.
68. Boutan C*, **Oprisan SA**, and Mills L, Bifurcation Mapping to find Transitions Between Entrainment Modes in Small Neural Networks Using Approximated Phase Resetting Curves, SSM, April 14, 2006.
69. **Oprisan SA**, Pinz AA, and Canavier CC, Prediction of the phase relationships in and stability of 1:1 phase-locking of reciprocally inhibitory hybrid circuits of two bursting neurons. 16th Annual Neuroscience Retreat LSUHSC Neuroscience Center of Excellence, New Orleans, April 19, 2004.
70. **Oprisan SA**, Pinz AA, Marder E, and Canavier CC, Recurrent Maps Method used to predict the Phase-locked Modes in a Hybrid Circuit based on the Phase Resetting Curve. 15th Annual Neuroscience Retreat LSUHSC Neuroscience Center of Excellence, New Orleans, March 1, 2003.

PROFESSIONAL MEMBERSHIPS

Society for Neuroscience (1999-)
 Organization for Computational Neuroscience (1999-)
 The Honor Society of Phi Kappa Phi (2014-)
 Sigma Xi, The Scientific Research Society (2006-)
 South Atlantic Section-American Association of Physics Teachers (2005-)
 Faculty for Undergraduate Neuroscience (2006-)
 American Physical Society (2002-)

TEACHING EXPERIENCE

2005-present Department of Physics and Astronomy, College of Charleston

	Fall	Spring	Summer
2023	PHYS 111 PHYS 111Lab BIOL 396/PHYS 396 PHYS 420 PHYS 390	PHYS 394 PHYS 394 Lab PHYS 419 PHYS 397-3 PHYS 397-4	PHYS 397-11
2022	PHYS 112Lab FYES 130 PHYS 396	PHYS 394 PHYS 394 Lab PHYS 419	
2021	PHYS 102L PHYS 112 – 01&02 BIOL 396/PHYS 396 CSCI 699	Sabbatical PSYC 448B-01 BIOL 397-03 & 05 &09 PHYS 390-06	Sabbatical BIOL 397-01&02
2020	Sabbatical PHYS 420-05 PSYC 448A-01	PHYS 301 PHYS394 PHYS 394L PHYS 420 – 17 PHYS 397-04	PHYS 397-01
2019	PHYS 101 -09&10 BIOL 396/PHYS 396 BIOL 448-01 BIOL 450-02&04	PHYS 102L 09 PHYS 230 PHYS 397 – 04 & 05 BIOL 448 – 01 & 02 & 03 & 04	PHYS 397 – 12 PHYS 397 – 13 PHYS 397 – 16
2018	PHYS 101 – 09&10 PHYS 101L – 09 BIOL 396/PHYS 396 PHYS 397 – 04 & 05 BIOL 448 – 01 & 02 & 03	PHYS 112 – 01&02 PHYS 394 PHYS 394 Lab PHYS 420 - 01&10&15	PHYS 397 – 03 & 07 & 12 & 13
2017	PHYS 111 – 01&02 PHYS 111L – 01 BIOL 396/PHYS 396	PHYS 111 – 01&02 PHYS 111L – 01 PHYS 111L – 02 PHYS 397- 04 & 11 PHYS 420 – 03	PHYS 397 – 06 & 08 & 12 & 14

2016	PHYS 111 – 03&04 PHYS 111L – 04 BIOL 396/PHYS 396 PHYS 390 – 01 PHYS 397 – 08 & 09 BIOL 448	PHYS 394 PHYS 394 Lab FYER 109 BIOL 448 - 07 & 11	PHYS 390 – 01 PHYS 397 – 08&09
2015	PHYS 111 – 01&02 PHYS 111L – 01 BIOL 396/PHYS 396 PHYS 390	PHYS 112 01&02 PHYS 112L 01 PHYS 112L 02 FYER 109 HONS 499-03 PHYS 499-03 PHYS 397	PHYS 397 – 02&04
2014	PHYS 111 – 03&04 PHYS 111L – 04 BIOL 396/PHYS 396 PHYS 390 -04 PHYS 499 - 03	PHYS 394 PHYS 394 Lab FYER 109 PHYS 499-01	PHYS 397-05 & 05 HONS 399 – 01
2013	HONS 157 HONS 157 Lab PHYS 396/BIOL 396 PHYS 390-04 & 06 PHYS 499 – 01	Sabbatical PHYS 397-02 & 03	PHYS 390-04 PHYS 397-02 & 04 & 05
2012	Sabbatical PHYS 397-02 & 03	PHYS 101L-03 PHYS 101L-04 PHYS 301 PHYS 499-03	PHYS 390 – 01 & 02 PHYS 397 – 01 & 02 & 03 & 09 & 10 & 11
2011	PHYS 101L-01 FYSM 157 BIOL 396/PHYS 296	PHYS 102-07 PHYS 102L-07 PHYS 112L-03 PHYS 420-05 PSYC 448-01	PHYS 397-03 & 07 & 13 & 14 & 15
2010	PHYS 101-01 & 02 PHYS 101L-01 PHYS 296/BIOL 396	PHYS 101-03 & 04 PHYS 101L-03 PHYS 101L-04	PHYS 397-01 & 02 & 03 & 04
2009	PHYS 102-01 & 02 PHYS 102L-01 PHYS 296/BIOL 396	PHYS 101-L06 PHYS 101-L09 PHYS 230 PHYS 420-03	PHYS 397-01 & 02 & 03
2008	PHYS 112-01 PHYS 112L-01	PHYS 201-01 PHYS 201L-01 PHYS 101-01 PHYS 390 PHYS 420-05	PHYS 397-02 & 02
2007	PHYS 101-04 PHYS 101-L02	PHYS 101 L02 PHYS 101 L05	PHYS 101-01 PHYS 101L-02

	PHYS 202-01 PHYS 390-04 & 05 PHYS 397-01	PHYS 301 PHYS 298/BIOL 446/PSYC 446 BIOL 450-09	
2006	PHYS 101-04 PHYS 101L-06 PHYS 101L-90 PHYS 420-01	PHYS 102-03 PHYS 102-L04 PHYS 330-01	

2001-2005 Department of Physics, University of New Orleans

- PHYS 1031 - General Physics (Fall 2005, Fall 2004)
- PHYS 1031 L- General Physics I Lab (Fall 2003, Fall 2002, Fall 2001)

2004 Delgado Community College, New Orleans, LA

- PHYS 141 - General Physics (Fall 2004)

NEW CURRICULUM DEVELOPED AND IMPLEMENTED

1. Biomedical Instrumentation and Measurements (PHYS 395, created 2022)
2. iHuman (FYSE 130, created 2022)
3. Seminar in Biomedical Physics (PHYS 209, created 2022)
4. Physics and Astronomy Research Rotation (PHYS 181L, created 2022)
5. Digital Signal and Image Processing with Biomedical Applications (PHYS 394 Lecture & Laboratory)
6. All models are wrong. Why do we still use them? (FYSM 157)
7. How things work: The Physics of Everyday Life (FYSM 154)
8. Biophysical Modeling of Excitable Cells (PHYS 296/BIOL 396)
9. Connecting Physics and Mathematics (Freshmen Learning Community)
10. Introduction to Computational Neuroscience (PHYS 298)

COLLEGE-WIDE SERVICE

- William V. Moore Distinguished Teacher-Scholar Award (2018-2019, 2017-2018 (Chair), 2014-2017, 2013-2014 (Chair))
- Undergraduate Research and Creative Activities Grants Reviewer (2017-2019, 2022)
- Compensation Committee (2016-2019)
- Adjuncts Oversight Committee (2017-2018)
- Science Fair and Math Meet Coordinators (2007-)
- Neuroscience Steering Committee (2018-2020 (Director), 2016-2018, 2015-2016 (Director), 2005-2015)
- Convocation with Faculty (2017-2019, 2013-2015)
- Honors College Committee (2013-2014)
- Research and Development Committee (2010-2012)
- Steering Committee of Howard Hughes Medical Institute Grant (2008-2012)
- Faculty Senator (2007-2010)
- Institutional Representative to Oak Ridge Associated Universities (2008-2010)
- Academic Planning Committee (2008-2009)

- Quattrochi Merit Scholarship Committee (2006-2008)

DEPARTMENT SERVICE

- Faculty Mentor (2020-)
- Program Assessment (Biomedical Physics, 2011-)
- Systems Engineering Search Committee (2019-2020, Chair)
- Tenure and Promotion (2011-)
- Orientation/Recruitment/Outreach (2013-)
- Director of Interdisciplinary Minor in Biomedical Physics (2021-)
- Coordinator of Biomedical Physics Minor (2010-2021)
- Coordinator of Computational Neuroscience Concentration (2013-)
- Library representative (2011-)
- Origin site license manager (2008-)
- Matlab site license manager (2008-2017)
- Recording Secretary (2016-2017, 2011-2012, 2009-2010)
- Physics Search Committee (2013-2014, Chair)
- General Education Committee (2005-2006, 2011-2012)
- Awards and Scholarships Committee (2007-2010, 2010-2011, Chair)
- Colloquium Committee (2009-2010)
- Biomedical Physics Committee (2009-2010)
- Astrophysics Search Committee (2007-2008)
- Biophysics Committee (2005-2008)
- Physics Curriculum Committee (2006-2008)
- Fred Watts Scholarship Committee (2006-2008)
- Mathematica site license manager (2006-2007)
- Physics Wall Mural Committee (2005-2006)

PROFESSIONAL DEVELOPMENT ACTIVITIES

1. CETL/FYE workshops, College of Charleston, February 22, 2023.
2. Google Cloud Fundamentals: Big Data & Machine Learning training course, NIH STRIDES Initiative, July 16, 2021.
3. ZEISS Microscopes for the Forensic Laboratory Workshop, June 22, 2021.
4. Frontiers Forum - Solving Consciousness, June 24, 2021.
5. Neuroscience Workshop (David Donley & Satish Nair), June 24, 2021.
6. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2020.
7. The Faculty Distance Education Readiness Course, Summer 2020.
8. Spring Break 2019 Writers' Retreat, College of Charleston, March 2019.
9. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2018.
10. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2017.
11. WebAssign Users Group Workshop (Virtual WAUG 2017), August 14, 2017.

12. Workshop on fostering the integration of computational practices into physics courses, South Atlantic Section-American Association of Physics Teachers Conference Meeting, Clayton State University, April 16, 2016.
13. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2015.
14. Faculty Technology Institute, College of Charleston, Charleston, SC, May 2015
15. MathWorks Seminars, Brainstorm: Imaging Neural Activity at the Speed of Brain with MATLAB, March 27, 2015.
16. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2014.
17. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2013
18. WebAssign Users Group Workshop, Raleigh, NC, June 27-28, 2013.
19. MathWorks Seminars, Medical University of South Carolina, May 22, 2013.
20. Becoming the Messenger Workshop, NSF-South Carolina EPSCoR/IDeA, Clemson University, January 16-17, 2013.
21. Faculty Development Workshop, Physics and Astronomy, College of Charleston, August 2012.
22. First-Year Experience Workshop, Physics and Astronomy, College of Charleston, August 2011.
23. First-Year Experience Workshop, College of Charleston, May 12-15, 2009.
24. Faculty Technology Institute, College of Charleston, Charleston, SC, May 2008.
25. Workshop “Mathematica 6 in Education and Research”, College of Charleston, ^[1]_[SEP]02/2008.
26. Education Program SC07, The International Conference for High-Performance Computing, Networking, Storage and Analysis, November 10-13, 2007, Reno, Nevada.
27. PASCO Scientific Probeware Workshop, Charleston, SC, August 29, 2007.