LARRY S. LIEBOVITCH, Ph.D.

Professor of Physics and Psychology
Queens College, City University of New York
Email: Larry.Liebovitch@qc.cuny.edu
Personal webpage: http://people.qc.cuny.edu/faculty/Larry.Liebovitch/Pages/Default.aspx
Linkedin: http://www.linkedin.com/pub/larry-liebovitch/5a/725/996

Queens College, City University of New York, Flushing, NY
2010-present Professor of Physics and Psychology
2010-present Professor of Physics, Graduate Center, City University of New York
2014-2014 Director of Special Projects
2010-2013 Dean, Division of Mathematics and Natural Sciences overseeing the Departments of Biology; Chemistry and Biochemistry; Computer Science; Earth and Environmental Sciences; Family, Nutrition and Exercise Sciences; Mathematics; Physics; and Psychology.
Accomplishments as Dean: http://people.qc.cuny.edu/Faculty/Larry.Liebovitch/documents/accomplishments.pdf

Columbia University in the City of New York, NY
2014-present Adjunct Senior Research Scholar
Advanced Consortium on Cooperation, Conflict, and Complexity (AC4)

Florida Atlantic University, Boca Raton, FL
Center for Complex Systems and Brain Sciences
Center for Molecular Biology and Biotechnology
Department of Psychology
Department of Biomedical Science
2008-2010 Associate Dean for Graduate Studies and Programs, Charles E. Schmidt College of Science
2007-2008 Graduate Programs Director, Charles E. Schmidt College of Science
2004-2007 Interim Director, Center for Complex Systems and Brain Sciences
1998-2010 Professor
1993-1998 Associate Professor, tenured: August 1996

College of Physicians & Surgeons of Columbia University, NY
Department of Ophthalmology
1985-1993 Assistant Professor
1982-1985 Associate Research Scientist
1979-1982 N.I.H. Postdoctoral Fellow

1978-1979 **Mt. Sinai School of Medicine, City University of New York**
Department of Ophthalmology
N.I.H. Postdoctoral Fellow

1972-1978 **Harvard University, Department of Astronomy, Cambridge, MA**
Ph.D. Astronomy, 1978
A.M. Astronomy, 1973
Thesis: Two dimensional calculation of gas flow in barred spiral galaxies.
Teaching Fellow - Harvard University
Instructor - Cambridge Center for Adult Education
Research Assistant - M.I.T.

1968-1972 **City College, City University of New York**
B.S. summa cum laude, Physics, 1972

PROFESSIONAL HONORS AND POSITIONS

Member of the Editorial Board of the *American Journal of Physiology*, Modeling in Physiology Section, 1991-1996
Chair of the Biophysics Section of the New York Academy of Sciences, 1991-1992
Fellow of the American Physical Society through the Division of Biological Physics, 1995
"For advancing the physics of fractals and chaos and using these methods to analyze and understand biological systems."
Zbigniew Czernicki, Larry Liebovitch, and Wlodzimierz Klonowski: Founding Editors of *Nonlinear Biomedical Physics* published by Biomed Central http://www.nonlinearbiomedphys.com/
Series Editor: Spring Series: Computational Social Sciences, http://www.springer.com/series/11784, 2015-present

Grants:

Principal Investigator:
NIH EY4624 Measurement of Human Corneal Endothelial Fluid Flows 1983-86
Whitaker Foundation: Fractals in Biomedical Signal Processing 1987-90
American Heart Assoication: Established Investigatorship 1988-93
NIH EY6234 Ion Current Analysis in the Cornea 1986-89
NIH EY6234 Ion Current Analysis in the Cornea (Renewal) 1989-94
NIH EY6234 Ion Current Analysis in the Cornea (Renewal) 1994-99
NSF DUE-9752226 Interactive Fractal and Chaos Units 1998-99
NSF DUE-9980715 Integrated Electronic Curricula Material in Fractals and Chaos 2000-2003
NIH GM63527-01 subcontract, Nonlinear Dynamics of Intracellular Signaling 2001-5
McGuire Foundation Nonlinear Analysis of Cardiac Patient Data 2001-2.
U.S.Navy-ASEE Summer Faculty Research Program with Ira Schwartz, Naval Research Laboratory, Washington, DC 2002.
U.S.Navy-ONR-ASEE Summer Faculty Research Program with Ira Schwartz, Naval Research Laboratory, Washington, DC 2003.
U.S.Navy-ONR-ASEE Summer Faculty Research Program with Ira Schwartz, Naval Research Laboratory, Washington, DC 2004.
NSF Application to attend the NSF IUSE Lab, Leesburg, VA, 2014.
PSC-CUNY Award 68047-00 46 Dynamics of Cooperation and Competition on Small World Networks, 2015.
Participant: James S. McDonnell Foundation: Intractable Conflict as a Dynamical System, P.I. Peter T. Coleman, Columbia University 2006-2009.
PSC-CUNY Award # 60089-00 48 Sensor-Based, Approach Analyzing Therapeutic Interactions.PI Dynamical Systems, $3,500, 2017.

Fellowships:

International Center for Transdisciplinary Studies, International University of Bremen, Germany, 2006.

Member of the following professional societies: (*=currently active)

American Association for the Advancement of Science*
American Association for Artificial Intelligence
American Astronomical Society*
American Physical Society*
Association for Psychological Science*
Association for Research in Vision and Ophthalmology
Basic Science Council of the American Heart Association*
Biophysical Society
International Chemometrics Society
International Neural Network Society
International Society for Eye Research
Mathematical Association of America*
New York Academy of Sciences
Sigma Xi*
Society for Chaos Theory in Psychology and Life Sciences*
Society for Personality and Social Psychology*

Reviewer of grant proposals for the following agencies and foundations:
AIBS Bioelectromagnetics Review Group for the Office of Naval Research
Canadian Cystic Fibrosis Foundation
Department of Energy
Department of the Army
Thomas F. and Kate Miller Jeffress Memorial Trust
Fonds zur Förderung der wissenschaftlichen Forschung (Austrian Science Foundation)
Marsden Fund (Royal Society of New Zealand)
Medical Research Council of Canada
National Institutes of Health
  ad hoc reviewer
  Study Section: VISA special Emphasis
  Study Section: VISA-ZRG(1)
National Science Foundation
  ad hoc reviewer
  Div. Undergraduate Ed., Course Curriculum, and Lab. Improvement Program Panel
  Human and Social Dynamics (HSD) Program
Natural Sciences and Engineering Research Council of Canada
Northwest Health Foundation
Research Corporation, Tucson AZ
Whitaker Foundation

Reviewer of articles submitted to the following Journals:
Advances in Complex Systems
American Behavioral Scientist
American Journal of Physiology
Animal Behavior
Annals of Biomedical Engineering
Biochemica et Biophysica Acta
Bioelectrochemistry and Bioenergetics
Bioinformatics
Biological Cybernetics
Biophysical Chemistry
Biophysical Journal
Bioscience Reports
Biosensors and Bioelectronics
Biosystems
Biotechnology Progress
Bulletin of Mathematical Biology
BMC Systems Biology
Canadian Journal of Physiology and Pharmacology
Cell Biochemistry and Function
Cellular and Molecular Biology Letters
Chaos
The CLAO (Contact Lens Association of Ophthalmologists) Journal
Complex Systems
Croatica Chemica Acta
Current Eye Research
Discrete Dynamics in Nature and Society
Fractals
Experimental Eye Research
European Biophysics Journal
European Journal for Applied Mathematics
Europhysics Letters
IEEE Transactions on Biomedical Engineering
Integrative and Comparitive Biology

International Journal of Conflict and Violence
Investigative Ophthalmology and Visual Science
Journal of Biological Physics
Journal of Biomedical Science
Journal of the Electrochemical Society
Journal of General Physiology
Journal of Membrane Biology
Journal of Neurophysiology
Journal of Neuroscience Methods
Journal of Pediatric Gastroenterology and Nutrition
Journal of Physical Chemistry
Journal of the Royal Society - Interface
Journal of Statistical Physics
Journal of Theoretical Biology
Journal of Thermal Analysis
Langmuir
Mathematical Biosciences
Molecular Psychiatry
Nature, Scientific Reports
Neuroscience Letters
Nonlinear Dynamics, Psychology, and Life Sciences
Pediatric Research
Perception
Physica A
Physica D
Physical Review E
Physical Review Letters
Physics Letters
Plant Biology
PLoS ONE
Proceedings of the National Academy of Sciences (USA)
Proceedings of the Royal Society (London)
Social Cognition
Transactions on Biomedical Engineering

Invited presentations at scientific meetings:
1983
4th International Conference on Physicochemical Hydrodynamics, New York, NY
1987
IEEE Engineering in Medicine and Biology Society, Boston, MA
13th IEEE Annual Northeast Bioengineering Conference, Philadelphia, PA
Workshop on Advanced Methods of Physiological System Modeling, Los Angeles, CA
1988
Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH
Gordon Research Conference on Bioelectrochemistry, Plymouth, NH Workshop on Advanced Methods of Physiological System Modeling, Los Angeles, CA
World Congress on Medical Physics and Biomedical Engineering, San Antonio,TX
1989
American Physical Society - Symposium on Nonlinear Dynamics in Living Systems, St. Louis, MO
New York Academy of Sciences - Mathematical Approaches to Cardiac Arrhythmias, New York, NY
1990
9th International Congress of Eye Research, Helsinki, Finland
NATO Advanced Workshop on Complex Dynamics and Biological Evolution, Hindsgavl, Denmark
1991
2nd Finnish Nonlinear Days, Jyväskylä, Finland

Federation of the Societies of Experimental Biology of Brazil, Brazilian Congress of Biophysics, Symposium on the Functional and Structural Properties of Macromolecules of Cell Membranes, Caxambu, Brazil
Stony Brook Biomathematics Conference, Stony Brook, NY
Contractors Meeting of the Membrane Electrochemistry Program of the Office of Naval Research, Airlie, VA
Annual Fall Meeting of the Biomedical Engineering Society, Charlottesville, VA
American Heart Association, Research Fellowship Symposium, Anaheim, CA
Society for Neuroscience, Symposium on the Dynamical Behavior of Neural Systems, New Orleans, LA
1992
Radiation Research Society, Plenary Lecture: An Introduction to Chaos and Its Application to Biology, Salt Lake City, UT
NATO Advanced Workshop on Stochastic Resonance in Physics and Biology
San Diego, CA
The Head and Heart of Chaos: NIH Workshop on Nonlinear Dynamics in Biological Systems, NIH Bethesda, MD
IEEE Engineering in Medicine and Biology Society, Tutorial: Introduction to Fractals in Biology, Paris, France
1993
Hofstra University Biomathematics and Bioengineering Conference, Hempstead, NY
19th IEEE Annual Northeast Bioengineering Conference: Minisymposium on Fractals and Chaos, Newark, NJ
17th Annual Cell Kinetics Society Meeting, Richland, WA
Biophysics of Membrane Transport: Symposium in Memory of Peter Läuger, Konstanz, Germany
1994
American Physical Society: Fractals in Biological Physics, Symposium of the Division of Biological Physics, Pittsburgh, PA
North American Society for the Psychology of Sport and Physical Activity, Preconference Workshop on Complex Systems, Clearwater, FL
XVII Congress of the International Society for Analytical Cytology, Fronteirs in Science Lecture, Lake Placid, NY
IEEE Engineering in Medicine and Biology Society Workshop on Chaotic Questions: From Theory to Bedside Applications, Baltimore, MD
Dynamical Neuroscience Workshop, Satellite Symposium of the 24th Annual Meeting of the Society for Neuroscience, Boca Raton, FL
Artificial Neural Networks in Engineering, Tutorial on Chaos and Fractals, St. Louis, MO
1995
Biophysical Society, Workshop in Molecular Biophysics, San Francisco, CA
American Physical Society: Applications of Artificial Neural Networks and Other Artificial Intelligence Procedures to Chemical Systems, Symposium of the Division of Chemical Physics, San Jose, CA
Association for Research in Vision and Ophthalmology, Special Interest Group Meeting - Fractals in Ophthalmology: A New Tool for Basic Science and Clinical Diagnosis, Ft. Lauderdale, FL.
Tumor Heterogeneity Workshop, Kananaskis, Alberta, Canada
Workshop on the Role and Control of Random Events in Biological Systems, Sigtuna, Sweden
Flow Cytometry Consensus Meeting of the HIV/AIDS Clinical Trials Network of Canada, Aylmer, Québec, Canada
1996
44th Annual Meeting of the Radiation Research Society, Symposium on New Concepts in Tumor Biology/Physiology, Chicago, IL
Polish-British Workshop on Fractals, Nonlinear Dynamics and Chaos, Zakopane, Poland
1997
13th School on Biophysics of Membrane Transport, Ladek Zdroj, Poland
4-lecture Tutorial at the Polish-Anglosaxon-Italian Forum on Nonlinear Biophysics, Ladek Zdroj, Poland
1998
American Physical Society: Long-range Correlated Fluctuations in Biological Systems, Symposium of the Division of Biological Physics, Los Angeles, CA
Association for Research in Vision and Ophthalmology, Special Interest Group Meeting - Morphology and Differentiation in the Transparent Lens, Ft. Lauderdale, FL.
1999
Membrane Transport and Renal Physiology Workshop, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN
Keynote speaker: Mathematics Awareness Day, Rhode Island College, Providence, RI

Facets of Universality in Complex Systems: Climate, Biodynamics and Stock Market, Schloss Rauischholzhausen, Germany
12th Marian Smoluchowski Symposium on Statistical Physics, Zakopane, Poland
Complexity Research and Biotechnology in Agriculture and Medicine, Bozeman, MT.
University of Minnesota Institute for Mathematics and its Applications Hot Topics Workshop: Scaling Phenomena in Communications Networks, Minneapolis, MN.
VHA Third Annual Conference on Complexity Science and Health Care, Philadelphia, PA.
Dr. Charles Sing, Genetics Confernce, Ann Arbor, MI.
2000
MAA Mathematics Curriculum for Health and Life Sciences Students Conference, Virginia Commonwealth University, Richmond, VA.
VHA Complexity Leadership and Learning Network Session, Short Hills, NJ.
Society for Chaos Theory in Psychology and Life Sciences: Physiology Workshop: Nonlinear Dynamics in Health and Disease by Susan Mirow and Larry Liebovitch, Philadelphia, PA.
Modeling and Analysis of Genome-Quantitative Phenotype Relationships, Ann Arbor, MI.
Atelier sur les fractales et modelisation en analyse structuelle et dynamique (Workshop on Fractal Modeling in Structural and Dynamical Analysis"), Montreal, Quebec, Canada.
2001
AMATYC (American Mathematics Association of Two Year Colleges), New Visions in Mathematics Education: A Poster Session Featuring Grants Funded by the National Science Foundation, Toronto, Canada.
2002
BioFlorida, Boca Raton, FL.
Workshop on Biotechnology and Complexity in Agriculture and Medicine, Bozeman MT.
2003
Joint Mathematics Meeting, MAA (Mathematical Association of America) Session on Projects Supported by the NSF Division of Undergraduate Education, Baltimore, MD.
Biomathematics Workshop and Summer School, Instituto de Matematica Pure e Aplicada (Institute for Pure and Applied Mathematics), Rio de Janeiro, Brazil.
Uncertainty and Surprise: Questions on Working with the Unexpected and Unknowable, The Plexus Institute and the Red McCombs School of Business, University of Texas, Austin TX.
Workshop: Nonlinear Methods in Psychology, George Mason University, Fairfax, VA.
2003 Allen Cognitive Network Symposium, Tampa, FL.
2004
St. Olaf College's Fifth Annual Science Symposium, "The Strange Attraction of Chaos: Advances in Understanding Complex Systems" St. Olaf College, Northfield, MN.
Society for Chaos Theory in Psychology and Life Science - Tutorial: Introduction to Fractals and Chaos, Milwaukee, WI.
Workshop on Complexity Science and Healthcare Quality: Crafting an International Research Agenda, Harvard Interfaculty Program for Health Systems Improvement and the Plexus Institute, Durham, NH.
2006
BioQUEST Summer Workshop 2006, Beloit, WI.
Society for Chaos Theory in Psychology and Life Science - Tutorial: Introduction to Fractals and Chaos, Baltimore, MD.
2007
Wilhelm and Else Heraeus Summer School, Statistical Physics of Gene Regulation - From Networks to Expression Data and Back, Jacobs University, Bremen, Germany.
Global Futures Form on Genocide Prevention: Complexity Theory and Genocide Prevention, October 18-19, 2007, Washington DC.
2008
Society for Chaos Theory in Psychology and Life Science - Tutorial: Introduction to Fractals and Chaos, Richmond VA.
2015
Sustaining Peace Conference, Columbia University Teachers College, Keynote Talk, "Mathematics of Human Behavior", March 26, 2015.
Expert Meeting on Peace Sustainability, The Advanced Consortium on Cooperation, Conflict and Complexity (AC4), "Value of a Mathematical Model Based on the Casual Loop Diagrams", New York, NY, October 23, 2015.

Sessions organized at scientific meetings:
1991
Workshop on Physical and Mathematical Theories of Ion Channel Gating at the 35th Annual Meeting of the Biophysical Society, San Francisco, CA
Fractals and Mathematical Models at the 17th Annual Northeast Bioengineering Conference, Hartford, CT
1995
Fractals in Molecular Biophysics at the 39th Annual Meeting of the Biophysical Society, San Francisco, CA
Special Interest Group Meeting, Fractals in Ophthalmology: A New Tool for Basic Science and Clinical Diagnosis at the 1995 Annual Meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL
1998
Tutorial: Additional Instructor in Fractal Biology and Chaos in Medicine, March Meeting of the American Physical Society, Los Angeles, CA
2003
Workshop: Introduction to Fractals and Chaos, Society for Chaos Theory in Psychology and Life Sciences, Boston, MA

Scientific meetings and workshops organized:
2003
Program Committee, International Nonlinear Sciences Conference: Research and Applications in the Life Sciences, Vienna, Austria.
2005
FAU Center for Complex Systems and Brain Sciences - Plexus Institute Conference: On the Verge: Changing Lives, Organizations and MindsL Complexity Science in a Changing World, Boca Raton and Delray Beach Florida.
2006
Programme Committee, Fractal 2006, Vienna, Austria.
2011
Core Faculty of the DST (Dynamical Systems Theory) Innovation Lab, Sheboygan, WI
http://conflictinnovationlab.org/lab-2013/
2012
Core Faculty of the DST (Dynamical Systems Theory) Innovation Lab, Ko Olina, Oahu, HI
http://conflictinnovationlab.org/lab-2014/lab-focus-2014/

Invited seminars at universities, research institutes, and corporations:
1986
CUNY Mt. Sinai School of Medicine, NY (Dept. of Physiology and Biophysics)
1987
Albert Einstein College of Medicine (Dept. of Physiology and Biophysics)
The City College of New York (Sigma Chi Lecture)
Columbia University (Dept. of Applied Mathematics, Dept. of Ophthalmology,
Dept. of Physiology and Biophysics)
Cornell University Medical College (Dept. of Physiology and Biophysics)
New York University (Courant Institute)
Syracuse University (Depts. of Physics and Biophysics)
University of Maryland (Dept. of Physiology)
University of Rhode Island (Dept. of Electrical Engineering)
Weizmann Institute (Dept. of Applied Mathematics)
1988
Columbia University (Dept. of Ophthalmology)
University of Connecticut Health Sciences (Dept. of Pharmacology) University of Washington (Dept. of Bioengineering)
1989
Boston University School of Medicine (Dept. of Physiology)

State University of New York at Stony Brook (Dept. of Applied Mathematics & State University of New York at Stony Brook (Dept. of Applied Mathematics & Statistics)
University of Illinois at Urbana (Dept. of Physics)
Washington University (Jewish Hospital)
1990
Columbia University (Dept. of Ophthalmology)
FDA (Center for Devices and Radiological Health)
Johns Hopkins University School of Medicine (Dept. of Bioengineering)
University of Alberta (Dept. of Physiology)
University of Pennsylvania (Dept. of Physiology)
1991
Cornell University Medical College (Dept. of Pharmacology)
CUNY Mt. Sinai School of Medicine, NY (Dept. of Biomathematical Sciences)
University of Southern California (Dept. of Biomedical Engineering)
University of Oulu Finland (Dept. of Physiology)
Columbia University (Dept. of Developmental Psychobiology)
City College of New York (Dept. of Biology)
The Rockefeller University (Biophysics Laboratory)
Boston University School of Medicine (Dept. of Physiology)
SUNY Health Sciences at Syracuse (Dept. of Physiology)
Syracuse University (Dept. of Physics)
Cornell University (Dept. of Pharmacology, Biophysics Seminar)
Federal University in Rio de Janeiro (Institute of Biophysics)
Brazilian Center for Research in Physics (Dept. of Condensed Matter and Spectroscopy)
Geisinger Medical Center (Weis Center for Research)
Columbia University (Dept. of Ophthalmology)
1992
Emory University (Dept. of Physics)
The City College of New York (Biomechanics Seminar Series)
Princeton University (Dept. of Physics)
University of Utah (Dept. of Applied Mathematics)
University of Washington (Dept. of Bioengineering)
University of California at Santa Cruz (Dept. of Chemistry)
The City College of New York (Levich Institute for Physico-Chemical Hydrodynamics)
University of Chicago (Depts. of Cardiology and Neurology)
National Institutes of Health (National Eye Institute)
Boston University (Dept. of Bioengineering)
1993
Rutgers University, Newark (Frontiers in Biomedical Science)
University of Washington (Dept. of Bioengineering)
Florida Atlantic University (Center for Complex Systems)
CUNY Mt. Sinai School of Medicine, NY (Dept. of Biomathematical Sciences)
University of Helsinki (Institute of Physics)
1994
Florida Atlantic University (Dept. of Biology)
New Jersey Institute of Technology (Dept. of Bioengineering)
Columbia University (Comprehensive Cancer Center)
Yale University (Dept. of Cellular and Molecular Physiology)
Carnegie Mellon University (Dept. of Physics)
Columbia University (Dept. of Medical Informatics)
Coulter Corporation (Miami, FL)
Boca Raton Members of the New York Academy of Sciences
1995
Columbia University (Dept. of Ophthalmology)
Columbia University (Biophysics Seminar Series)
University of Alberta, Edmonton, Alberta, Canada (Dept. of Physiology)

Florida International University (Dept. of Physics)
Florida Atlantic University (Dept. of Physics)
1996
Polish Academy of Sciences, Warsaw (Institute of Theoretical Physics)
Columbia University (Dept. of Ophthalmology)
University of Rochester (Dept. of Physics and Astronomy)
1997
Columbia University (Dept. of Ophthalmology)
Silesian Technical University, Gliwice, Poland (Dept. Physical Chemistry and Polymer Technology)
University of Bremen, Germany (Center for Complex Systems and Visualization).
Florida Atlantic University (Dept. of Electrical Engineering)
1998
Columbia University (Dept. of Ophthalmology)
Borders, Ft. Lauderdale
Technion, Haifa, Israel (Dept. of Physiology and Biophysics)
Technion, Haifa, Israel (Dept. of Physics)
University of Texas Medical Branch, Galveston, TX (Dept. of Ophthalmology)
University of Texas Medical Branch, Galveston, TX (Dept. of Physiology and Biophysics)
1999
Florida Atlantic University (Center for Molecular Biology & Biotechnology)
Rhode Island College (Department of Mathematics)
University of Technology, Darmstadt, Germany (Botanical Institute)
2000
Florida Atlantic University (Dept. of Physics)
Mayo Clinic, Rochester, MN (Dept. of Biochemistry & Molecular Biology)
University of Michigan, MI (Center for the Study of Complex Systems)
Florida Atlantic University (Center for Molecular Biology & Biotechnology)
University of Technology, Darmstadt, Germany (Botanical Institute)
GSI (Gesellschaft fur Schwerionenforschung) Darmstadt, Germany (Dept. of Material Sciences)
Dalhousie University, Halifax, Canada (Dept. of Physiology & Biophysics)
University of Miami School of Medicine (Grand Rounds: Daughtry Family Dept. of Surgery & UM/JM Burn Center)
2001
Keck Graduate Institute of Applied Life Sciences
University of Texas Health Science Center Houston (Center for Compuational Medicine)
University of Giessen, Germany (Institute for Theoretical Physics III)
University of Bremen, Germany (Center for Complex Systems and Visualization and Center for Medical Diagnostic Systems and Visualization)
Max Planck Instutite for Flow Research (Max-Planck-Institut fur Stromungsforschung), Goettingen, Germany (Department of Nonlinear Dynamics)
Syracuse University, New York (Dept. of Physics)
Florida Atlantic University (Center for Molecular Biology & Biotechnology)
2002
Naval Research Laboratory, Washington, DC (Plasma Physics Div.)
2003
Florida Atlantic University (Center for Molecular Biology & Biotechnology)
2005
Syracuse University (Department of Physics)
2006
International University Bremen, Germany (International Center for Transdisciplinary Science)
Florida Atlantic University (Division of Research, Lunch and Learn)
2007
Champlain College, St-Lambert, QC, Canada (Pedagogical Day Winter 2007)
Broward Community College (Davie FL, Pembroke Pines FL)
College of Charleston, Charleston, SC (Biology Department)
Medical University of South Carolina, Charleston SC (Hollings Marine Laboratory)

Florida Atlantic University (Department of Psychology)
MeVis Research Center for Medical Imaging Computing, Bremen, Germany
International Center for Cooperation and Conflict Resolution, Teachers College, Columbia University, New York, NY
2008
Helmholtz Zentrum Munchen, Institute for Bioinformatics and Systems Biology, Munich, Germany
2009
Florida Atlantic University, Frontiers in Science Public Lecture Series, Boca Raton, FL
2010
City College, City University of New York, Department of Chemistry.
2014
Webinar: Human Systems Dynamics Institute - Systems and Peace: Emerging Frontiers Webinar. "What Mathematical Models Can Tell Us About Human Behavior".
http://www.linkedin.com/redir/redirect?url=https%3A%2F%2Fhsdinstitute.adobeconnect.com%2F_a1079188209%2Fp8upnthug5u%2F%3Flauncher=false%26fcsContent=true%26pbMode=normal&urlhash=aeop&trk=prof-publication-title-link
Columbia University Faculty Seminar on Complexity Science, Modeling and Sustainability. “Simple Quantitative Measures to Evaluate System Properties: Examples from Social Interactions”.
Columbia University,WKCR-FM Interview. http://www.studentaffairs.columbia.edu/wkcr/audio/ac4-december-0
2016
Visualizing Sustainable Peace: An Introduction to AC4's Sustainable Peace Project. Columbia University, NY.
Analysis and Models of Social Systems: Sustaining Peace & Human Behavior, Queens College, CUNY, Department of Economics.
2018
L. S. Liebovitch. Mathematical Models and Data Science of Sustainable Peace. Peace, Justice and Human Rights (PJHR) Initiative Colloquium. Florida Atlantic University, Boca Raton, FL. March 20, 2018.
L. S. Liebovitch. Models and Simulations for Maintaining Sustainable Peace in the World. UX + Data / Data + The Greater Good Meetup. New York, NY. May 1, 2018.
L. S. Liebovitch. A Very Basic Introduction to Quantum Computing. Physics Department, Queens College City University of New York. October 15, 2018.
L. S. Liebovitch. What We Know and Don't Know About Complex Systems. Faculty Seminar on Complexity Science, Modeling and Sustainability, Columbia University, New York, NY. November 13, 2018.
L. S. Liebovitch. A Basic Introduction to Quantum Computing: Hardware, Software and Applications. I-SENSE Seminar Series. Florida Atlantic University, Boca Raton, FL. November 16, 2018.

TEACHING

Harvard University - Teaching Fellow
Natural Sciences 9 - History and Introduction to Astronomy
Astronomy 8 - Astronomy for Nonscience Students
Astronomy 14 - Advanced Astronomy for Nonscience Students

Cambridge Center for Adult Education - Instructor
The Astronomical Universe - astronomy for nonscientists

Columbia University, College of Physicians and Surgeons
Basic Science Course for Residents in Ophthalmology
Lecture: Why are eyes round?
Lecture: Intercellular junctions
Physiology Graduate Course G4001 - Introduction to Membrane Biophysics
Lecture: Kinetics of ion channels
Physiology 101F - Human Physiology for Medical and Dental Students

Laboratory: Resting and action potentials in single muscle fibers
Anatomy 101F - Microscopic Anatomy for Medical and Dental Students
Laboratory: Anatomy of the eye

University of Jyväskylä, Finland
International Summer School CH3 - Nonlinear Chemical and Physical Processes in Biology

University of Alberta, Alberta, Canada
Examiner on Ph.D. committee of A. Pece in the Department of Physiology

Silesian Technical University, Gliwice, Poland
Examiner on Ph.D. committee of Z. Siwy in the Department of Physical Chemistry
and Polymer Technology

University of Technology, Darmstadt, Germany
Graduiertenkolleg 340 - Fractal Geometry in Biology
Jacobs University, Bremen Germany
Heraeus International Summer School - Statistical Physics of Gene Regulation

Florida Atlantic University
Courses:
Psychology PSY 3213 - Research Methods in Psychology
Psychology PSY 4906 - Directed Independent Undergraduate Study
Psychology PSY 5721 - Fractals and Chaos in the Life Sciences
Psychology PSY 5930 - Fractals and Chaos in the Life Sciences
Psychology PSY 3502 - Fractals in Psychology
Psychology ISC 6908 - Directed Independent Graduate Study
Psychology ISC 6930 - Methods in Complex Systems
Psychology PSY 6930 - Research in Pyschobiophyiscs
Mathematics MAT1932 - Mathematics & Science of Fractals
Psychology PSY 4930 - Psychology of the Internet
Complex Systems ISC 6937 - Proseminar
Psychology PSY 5930 - Complexity for the Life Sciences
Complex Systems ISC 6930 - Seminars in Neuroscience

Master Students -Primary Advisor
Jay Michaels, awarded 2009.

Master Students - Committe Member
T. Holroyd (Psychology), M.A. awarded.
K. Kogan (Psychology)
J. Fernandes (Biological Sciences), M.A. awarded.
R. Deitsch (Chemistry and Biochemistry)
D. Knickerbocker (Biological Sciences)

Ph.D. Students - Primary Advisor
Lina Shehadeh (Complex Systems and Brain Sciences), Ph.D. awarded 2002.
Young-Ah Rho (Complex Systems and Brain Sciences) (Co-Advisor), Ph.D. awarded 2009.
Carey Witkov (Complex Systems and Brain Sciences), Ph.D. awarded 2011.
Jay Michaels (Psychology) (Primary and later Co-Advisor), Ph.D. awarded 2012.
Michael Norman (Complex Systems and Brain Sciences), Ph.D. awarded 2012.

Ph.D. Students - Committee Member
C. Anderson (Psychology), Ph.D. awarded.
T. Dineva (Physics), Ph.D. awarded.
M. Rockloff (Psychology), Ph.D. awarded.

Z. Albo (Complex Systems and Brain Sciences), Ph.D. awarded.
R. Sambrook (Complex Systems and Brain Sciences), Ph.D. awarded.
R. Gross (Physics). Ph.D. awarded.
Katharine Kaye McMIllan (Psychology), Ph.D. awarded 2005

Queens College, City University of New York
Courses:
Astronomy 2 - General Astronomy Lab
Physics 1214 – General Physics 1
Physics 1224 - General Physics 2
Physics 1221 - General Physics Lab 2
Physics 1451 - Principles of Physics Lab 1
Physics 204 – Physics for Computer Science - 2
Physics 260 - Introduction to Modern Physics

Ph.D. Students - Committee Member
Dov Lazar Fields (Physics)

PUBLICATIONS

Books:
J. Bassingthwaighte, L. Liebovitch and B. West. 1994. *Fractal Physiology.* Volume 2 in the series Methods in Physiology from the American Physiological Society. Oxford University Press, New York.
L. S. Liebovitch. 1998. *Fractals and Chaos Simplified for the Life Sciences.* Oxford University Press, New York.
C. T. Brown and L. S. Liebovitch. 2010. Fractal Analysis, Quantitative Applications in the Social Sciences, Volume 165, SAGE Publications, Los Angeles, CA.
R. R. Vallacher, P. T. Coleman, A. Nowak, L. Bui-Wrzosinska, L. S. Liebovitch, K. Kugler, and A. Bartoli. 2013. *Attracted to Conflict: Dynamic Foundations of Destructive Social Relations*. Springer, New York.
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