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<http://bit.ly/AmaralGoogleScholar>
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APPOINTMENTS	2017–2022	<i>Erastus Otis Haven Professor</i> Northwestern University
	2017–present	<i>Professor</i> (by courtesy) Dept. of Molecular Biosciences Northwestern University
	2015–present	<i>Chair, Steering Committee</i> Data Science Initiative Northwestern University
	2013–present	<i>co-Director</i> Northwestern Institute on Complex Systems (NICO) Northwestern University
	2013–present	<i>Professor</i> (by courtesy) Dept. of Physics and Astronomy Northwestern University
	2011–present	<i>Professor</i> (by courtesy) Dept. of Medicine Northwestern University School of Medicine
	2009–present	<i>Professor</i> Dept. of Chemical and Biological Engineering Northwestern University
	2009–2015	<i>Early Career Scientist</i> Howard Hughes Medical Institute
	2009–2011	<i>Associate Professor</i> (by courtesy) Dept. of Medicine Northwestern University School of Medicine
	2002–2009	<i>Associate Professor</i> Dept. of Chemical Engineering Northwestern University
	2000–2002	<i>Research Associate</i> Depts. of Medicine and Physics Harvard Medical School and Boston University
	1999–2000	<i>Visiting Scholar</i> Depts. of Medicine and Physics Harvard Medical School and Boston University
	1997–1998	<i>Postdoctoral Fellow</i> (Mentor: Mehran Kardar) Condensed Matter Physics MIT
	1995–1996	<i>Postdoctoral Fellow</i> (Mentor: Joachim Krug) Solid State Physics Forschungszentrum Juelich

EDUCATION

- 1996–Jan *Doctor of Philosophy (Ph.D.) — Physics*
Advisor: H. Eugene Stanley
Boston University
- 1992–Oct *Mestrado (M.Sc.) — Física*
Advisor: Benedito J. Costa Cabral
Universidade de Lisboa
- 1990–Sep *Licenciatura (B.Sc.) — Física*
Universidade de Lisboa

PROFESSIONAL AFFILIATIONS

Association for Information Science and Technology, Silver Spring, MD
American Association for the Advancement of Science, Washington, DC
American Institute of Chemical Engineers (life), New York, NY
American Physical Society (life), College Park, MD
Ecological Society of America (life), Washington, DC
Society for Industrial and Applied Mathematics (life), Philadelphia, PA

HONORS AND AWARDS

- 2013 *Fellow*
American Physical Society
- 2012 *Fellow*
American Association for the Advancement of Science
- 2011 *Associate Faculty in Theoretical Ecology*
F1000
- 2009 *Invited Participant (declined)*, Japan-U.S. Frontiers of Engineering Symposium
U.S. National Academy of Engineering
- 2008 *Invited Participant*, NA Keck Futures Initiative – Complex Systems
U.S National Academies
- 2006 *Distinguished Young Scholar in Medical Research*
W.M. Keck Foundation
- 2005 *Organizer and Session Chair*, 10th Frontiers of Engineering Symposium
U.S. National Academy of Engineering
- 2005 *Invited Speaker*, German-American Frontiers of Science Symposium
U.S. National Academy of Sciences and Humboldt Foundation
- 2005 *Invited Participant*, Workshop on Transformative Research
U.S. National Science Board
- 2004 *Junior Fellow*, Searle Center for Teaching Excellence
Northwestern University
- 2004 *Invited Participant*, 10th Frontiers of Engineering Symposium
U.S. National Academy of Engineering
- 2004 *K-25 Career Award*, National Institute of General Medical Sciences
National Institutes of Health
- 2003 *Invited Participant*, 9th Frontiers of Engineering Symposium
U.S. National Academy of Engineering
- 2002 *Searle Leadership Fund Award*
Northwestern University
- 1997 *Postdoctoral Fellowship*, 2 years
Fundação para a Ciência e Tecnologia
- 1997 *Postdoctoral Fellowship*, 15 months
Deutsche Forschungsgemeinschaft
- 1992 *Doctoral Fellowship*, 3 years
Junta Nacional de Investigação Científica e Tecnológica

- 1990 *Pre-doctoral Fellowship*, 2 years
Junta Nacional de Investigação Científica e Tecnológica
- 1981 *Needs-based Merit Scholarship*, 10 years
Fundação Calouste Gulbenkian

PROFESSIONAL SERVICE

Northwestern University Service

- 2018–present *Advisory Board Member*, Masters in Artificial Intelligence
Dept. of Electric Engineering and Computer Science
- 2016–present *Advisory Council on Women Faculty*
Office of the Provost
- 2016–present *Advisory Council on Faculty Diversity and Excellence*
Office of the Provost
- 2016–2017 *Steering Committee*, One Book
Office of the President
- 2015–present *Steering Committee Chair*, Data Science Initiative
Office of Research
- 2014–present *Promotion and Tenure Committee*
School of Engineering
- 2014 *Organizer and Chair*, Faculty Workshop on Big Data
Office of the Provost
- 2013 *Organizer and Chair*, L. Dumas Domain Dinner on Big Data
Office of the Provost
- 2011 *Chair*, NUIN Graduate Program Review
The Graduate School
- 2010–2011 *Co-chair, Purple Sky Workgroup*, Strategic Plan
Office of the Provost
- 2010–2014 *Limited Submissions Committee*
Office of Research
- 2009–present *Searle Leadership Fund Selection Committee*
Office of Research
- 2008–2014 *Director*, Graduate Studies
Dept. of Chemical and Biological Engineering
- 2007–2016 *Editor*, Departmental Newsletter
Dept. of Chemical and Biological Engineering
- 2007–present *Graduate Studies Committee*
Dept. of Chemical and Biological Engineering
- 2007–2008 *One Northwestern Task Force on Integrated Enterprise*
Office of the Provost
- 2006 *Bioinformatics Task Force*
School of Medicine
- 2006 *Executive Committee*
NU Clinical and Translational Sciences (NU-CATS) Institute
- 2006–2007 *Faculty Search Committee*
Dept. of Chemical and Biological Engineering
- 2006 *Organizer*, Annual Conference
Northwestern Institute on Complex Systems
- 2005–2006 *Executive Committee*
Computational Biology and Bioinformatics
- 2005–2006 *Preceptor*, Graduate Program
Computational Biology and Bioinformatics

2005–present *Preceptor*, Graduate Program
Medical Scientist Training Program

2005–present *Preceptor*, Graduate Program
Biotechnology Training Program

2005–2006 Faculty Search Committee
Dept. of Engineering Sciences and Applied Mathematics

2005–2006 *Organizer*, Weekly colloquium
Dept. of Chemical Engineering

2005 Graduate Admissions Committee
Inter-departmental Biological Sciences Program

2004–present Executive Committee
Northwestern Institute on Complex Systems

2004–2005 Faculty Search Committee
Dept. of Chemical Engineering

2004–2005 Faculty Search Committee
Dept. of Physics and Astronomy

2004–2006 Planning Committee
Chemistry of Life Processes Institute

2004–present *Member* Robert H. Lurie Comprehensive Cancer Center

2003–2014 Computing Committee
School of Engineering

2003–2005 Undergraduate Education Committee
Dept. of Chemical Engineering

2002–present *Preceptor*, Graduate Program
Inter-departmental Biological Sciences Program

External Service

2017–present *Advisory Board Member*, COMBINE Program
University of Maryland

2017 *Program Committee Member*, 3rd International Conference on Computational Social Science
Leibniz Institute for the Social Sciences

2017 *Program Committee Member*, Workshop on Network Science
Society for Industrial and Applied Mathematics (SIAM)

2013–2016 *At large member, Executive Committee*, Topical Group on Statistical and Nonlinear Physics
American Physical Society

2013–2015 *Program Committee Member*, International Workshop on Complex Networks and their Applications
Italian Society for Chaos and Complexity (SICC)

2011–present *Editor*, PLoS One
Public Library of Science

2011–2013 *Editorial Board Member*, Am. J. Respiratory and Critical Care Medicine
American Thoracic Society

2010–2016 *Editorial Advisory Board Member*, Nature Communications
Nature Publishing Group

2010 *Selection Committee Member*, CBC Junior Scholar
Chicago Biomedical Consortium

2009–2016 *Advisory Board Member*, Complex Systems Program
James S. McDonnell Foundation

2008–2009	<i>Spark Council</i> , Spark Awards Chicago Biomedical Consortium
2008	<i>Program Committee Member</i> , Modeling and Simulation Workshop Department of Homeland Security – Science and Technology
2006–2009	<i>Editor</i> , European Physical Journal B European Physics Societies
2006	<i>Guest Editor</i> , PLoS Computational Biology Public Library of Science
2006	<i>Guest Editor</i> , Management Science Institute for Operations Research and Management Sciences (INFORMS)
2005	<i>Program Committee Member</i> , 5th International Workshop on Biosignal Interpretation International Federation for Medical and Biological Engineering, International Medical Informatics Association, IEEE Engineering in Medicine and Biology, Japan Society of Medical Electronics and Biomedical Engineering
2004–present	<i>Editor</i> , Journal of Statistical Mechanics: Theory and Experiment Institute of Physics (IOP) and SISSA
2004–2005	<i>Organizing Committee Member</i> , 11th Frontiers of Engineering Symposium National Academy of Engineering
2004–present	<i>Reviewer</i> Center for Scientific Review, National Science Foundation, U.S. Department of Energy, U.S. Department of Defense
2003–2005	<i>Organizer</i> , Invited Symposia at the APS March Meeting American Physical Society
1995–present	<i>Reviewer</i> Nature and Nature Journals, Science and Science Journals, JAMA, PNAS, Royal Society journals, AIChE Journal, Physical Review journals, PLOS journals, BMC journals, etc.

RESEARCH SUPPORT

- 2018–2023 *Successful Clinical Response in Pneumonia Therapy (SCRIPT) Systems Biology Center* [PI of Modeling Core]
National Institute of Allergy and Infectious Diseases
- 2014–present *Adoption of innovations* [PI]
Leslie and John (Mac) McQuown Gift
- 2014–2018 *10.2: Adoption of innovations in work networks* [PI]
Army Research Office
- 2013–2016 *Metaknowledge Network – Measuring scientific impact* [PI of subcontract]
The John Templeton Foundation
- 2008–2013 *Chicago Consortium for Systems Biology – Core 2: Eukaryotic stress networks* [Consortium co-PI, co-PI of Core 2]
National Institute of General Medical Sciences
- 2006–2012 *Distinguished Young Scholar in Medical Research* [PI]
William M. Keck Foundation
- 2008–2012 *Early prediction of the impact of research through large-scale analysis and modeling of citation dynamics* [co-PI, PI]
National Science Foundation
- 2008–2012 *Collaborative VOSS: Understanding and enabling network dynamics in virtual communities* [co-PI]
National Science Foundation
- 2004–2009 *K25 – Integrative approach to characterizing gene regulation* [PI]
National Institute of General Medical Sciences
- 2004–2007 *Critical care interdisciplinary research consortium: A 21st Century complex systems collaboratory* [PI of Core 2/4]
J. S. McDonnell Foundation

MENTORING

Graduate Students

- 2017–present *Ziyou Ren* [co-advised with Scott Buddinger]
2016–present *Kathryn Albretch* [co-advised with Adam Pah and John Hagan]
2016–present *Meagan Bechel* [co-advised with Curtis Weiss]
2016–present *Hanyu Shi*
2014–present *Sebastian Bernasek* [co-advised with Neda Bagheri]
2014–present *Sophia Liu*
Honors: Biotechnology Training Program Trainee
2014–present *Kazi Helal* [co-advised with M. Mrksich]
Honors: NSF Graduate Research Fellow
2013–present *Hyojun (June) Ada Lee*
2012–2017 *João Moreira*
Honors: Fundação para a Ciência e Tecnologia Fellow
2011–2017 *Adam Hockenberry* [co-advised with Michael Jewett]
Postdoctoral Fellow
University of Texas, Austin
Honors: NU Presidential Fellow
2009–2016 *Nicolas Pelaez, Ph.D.* [co-advised with Richard Carthew]
Postdoctoral Fellow
Caltech
Honors: Howard Hughes Medical Institute International Student Research Fellow; Chicago Biomedical Consortium Scholar Award,
2009–2015 *Peter B. Winter, Ph.D.* [co-advised with Richard Morimoto]
Data Scientist
Datascope Analytics LLC
2010–2014 *Max Wasserman, Ph.D.*
Data Scientist
Federal Reserve Board
2010–2014 *Xiaohan Zeng, Ph.D.*
Software Development Engineer
Groupon
2010–2012 *Rufaro Mukogo, M.Sc.*
Senior Risk and Market Analyst
Trafigura
2009–2013 *Adam R. Pah, Ph.D.*
Clinical Faculty, Kellogg School of Management
Northwestern University
Honors: Chicago Biomedical Consortium Scholar Award; Biotechnology Training Program Trainee
2008–2010 *Xuan Zhang, M.Sc.*
Deputy General Manager
China Resources (Holdings) Co
2007–2014 *M. Irmak Sirer, Ph.D.*
Partner
Datascope Analytics LLC
2006–2011 *Patrick D. McMullen, Ph.D.* [co-advised with Richard Morimoto]
Director, Computational Toxicology
ScitoVation
Honors: Runner-up, Distinguished Graduate Researcher Award
2005–2011 *Samuel M. D. Seaver, Ph.D.*
Assistant Computational Scientist
Argonne National Laboratory

- 2005–2010 *Erin N. Sawardecker-Amundsen, Ph.D.*
Director, Crude and Desalting
 Phillips 66
- 2005–2009 *Michael J. Stringer, Ph.D.*
Founder, Managing Partner
 Datascope Analytics LLC
 Honors: NSF IGERT Trainee
- 2005–2009 *R. Dean Malmgren, Ph.D.* [co-advised with Julio Ottino]
Founder, Managing Partner
 Datascope Analytics LLC
 Honors: NSF IGERT Trainee; Runner-up, Distinguished Graduate Researcher Award
- 2003–2007 *Daniel B. Stouffer, Ph.D.*
Associate Professor, School of Biological Sciences
 University of Canterbury, New Zealand
 Honors: NSF IGERT Trainee; Junta para la Ampliacion de Estudios, Juan de la Cierva Fellowship, University of Canterbury Early and Emerging Career Researcher Award; Rutherford Discovery Fellow; ESA Junior Fellow

Postdoctoral Fellows

- 2018–present *Julia Poncela-Casasnovas*
Postdoctoral Fellow
 Northwestern University
- 2016–2017 *Yang Yang, Ph.D.*
Data Scientist
 Honors: nan
- 2016–present *Thomas Stoeger, Ph.D.*
 Honors: Data Science Scholar
- 2016–present *Martin Gerlach, Ph.D.*
- 2016–2017 *Diego Fregolent Mendes de Oliveira, Ph.D.* [co-advised with B. Uzzi]
Research Scientist
 Army Research Laboratory
- 2015–2016 *Beatriz Penalver, Ph.D.*
Postdoctoral Fellow
 University of Chicago
- 2011–2014 *Julia Poncela-Casasnovas*
Postdoctoral Fellow
 Northwestern University
- 2012–2013 *Andrea Lancichinetti, Ph.D.*
Data Scientist
 Infobaleen LLC
- 2011–2013 *David C. Mertens, Ph.D.*
Assistant Professor of Physics
 Eckerd College
- 2010–2012 *Jane Wang, Ph.D.*
Research Scientist
 Google DeepMind
- 2010–2011 *Filippo Radicchi, Ph.D.*
Associate Professor of Information Sciences
 Indiana University, Bloomington
 Honors: Ramon y Cajal Fellowship
- 2010–2011 *Daniel McClary, Ph.D.*
Product Manager
 Google

- 2009–2012 *Satyam Mukherjee, Ph.D.*
Assistant Professor
Indian Institute of Management, Udaipur
- 2007–2009 *Aleks Aris, Ph.D.*
Software Consultant and HCI Researcher
Mountain Wisdom
- 2007–2009 *Jordi Duch, Ph.D.*
Assistant Professor of Applied Math and Computer Science
Universitat Rovira i Virgili, Spain
- 2007–2008 *Saikat Ray Majumder, Ph.D.* [co-advised with D. Diermeier]
Scientist
GE Global Research
- 2002–2008 *Andre A. Moreira, Ph.D.*
Professor of Physics
Universidade Federal do Ceara, Brazil
- 2002–2008 *Roger Guimerà, Ph.D.*
Senior Research Professor
ICREA, Catalonia, Spain
Honors: Fulbright Scholar; Catalan Research Award; James S. McDonnell Foundation Career Award; Inaugural Erdos-Rényi Prize in Network Science; German Physical Society Young Scientist Award for Socio- and Econophysics
- 2002–2009 *Marta Sales-Pardo, Ph.D.*
Associate Professor of Chemical Engineering
Universitat Rovira i Virgili, Spain
Honors: Fulbright Scholar; Marie Curie Reintegration Award; James S. McDonnell Foundation Career Award

Junior Faculty

- 2017–present *Paul A. Reyfman, M.D.* [Instructor – F32 award]
Northwestern University
- 2015–present *Adam R. Pah, Ph.D.* [Clinical Assistant Professor]
- 2013–2017 *Curtis Weiss, M.D., M.Sc.* [Assistant Professor – K23 awardee]
ICU Director
Northshore Medicine
- 2012–present *Neda Bagheri, Ph.D.* [Assistant Professor]
- 2009–2015 *Michael Jewett, Ph.D.* [Assistant Professor – R00 awardee]
Associate Professor of Chemical and Biological Engineering
Northwestern University

Other Trainees

- 2017 *Lukas Gross* [Undergraduate Student at Northwestern University]
- 2017 *Guobiao Li* [Undergraduate Student at Northwestern University]
- 2017 *Mathias Newman* [Undergraduate Student at Northwestern University]
- 2017 *Oscar Michel* [Student at Evanston Township High School]
- 2017 *Simran Khunger* [Home-schooled Student]
- 2017 *Noah Guale* [Student at Evanston Township High School]
- 2017 *Isabel Diersen* [Student at Walter Payton College Prep (CPS)]
- 2017 *Akhil Shanishetti* [Undergraduate Student at Northwestern University]
- 2016 *Zhiheng Bai* [MS Student at Northwestern University]

2016	<i>Beatrice Farb</i> [Student at Walter Payton College Prep (CPS)] <i>Undergraduate Student</i> Honors: Semifinalist, 2017 Regeneron Science Talent Search
2015–present	<i>Aditya Jain</i> [Undergraduate Student at Northwestern University]
2015–2016	<i>Murielle Dunand</i> [Student at Evanston Township High School] <i>Undergraduate Student</i> MIT
2015–2016	<i>Luiz Gustavo de Andrade Alves</i> [Graduate Student at Universidade Estadual de Maringa]
2015–2016	<i>Leonardo Nascimento Ferreira</i> [Graduate Student at Universidade de São Paulo]
2015	<i>Jessica Martins</i> [Undergrad. Student at Universidade Federal de Campina Grande]
2015	<i>Samantha Crowe</i> [Undergraduate Student at Northwestern University]
2014	<i>Lewis Herman</i> [Student at Evanston Township High School] <i>Undergraduate Student</i> University of Illinois at Urbana-Champaign
2014	<i>Sarah Otis</i> [Student at Ida Crown Jewish Academy] <i>Undergraduate Student</i> University of Maryland at College Park
2014–2016	<i>Andrew Jennings</i> [Undergraduate Student at Northwestern University] <i>Catastrophe Modeling Analyst</i> TigerRisk Partners
2014–2015	<i>Aaron Stern</i> [Undergraduate Student at Northwestern University] <i>Graduate Student</i> University of California at Berkeley
2014	<i>Matt Hyun-Young</i> [Undergraduate Student at Northwestern University] <i>Web/Data Visualization Developer</i> My.Suit
2013–2016	<i>Chuyue Yang</i> [Undergraduate Student at Northwestern University] <i>Medical Student</i>
2013–2016	<i>Heliodoro Tejedor, M.S.</i> [Graduate Student at Universitat Rovira i Virgili] <i>Software Engineer</i> Northwestern University
2013–2016	<i>Nicholas Timkovich</i> [Graduate Student at Northwestern University] <i>Cloud Computing Software Developer</i> Argonne National Laboratory
2013–2014	<i>Arnau Gavalda, Ph.D.</i> [Graduate Student at Universitat Rovira i Virgili] <i>CEO and co-founder</i> Skyelement
2013–2014	<i>Benjamin Reisman</i> [Undergraduate Student at Northwestern University] <i>Medical Scientist Student</i> Vanderbilt University School of Medicine
2013	<i>Kyle Walcott</i> [Undergraduate Student at Northwestern University]
2011–2012	<i>Hannah Otis</i> [Student at Ida Crown Jewish Academy] <i>Visiting Scientist</i> Weizmann Institute of Science Honors: Semifinalist, 2012 Intel Science Talent Search
2011–2012	<i>Konner Scott</i> [Student at Niles West High School]
2011–2012	<i>Fiona Odu</i> [Undergraduate Student at University of Missouri-Columbia]
2011–2012	<i>Haroldo V. Ribeiro, Ph.D.</i> [Graduate Student at Universidade Estadual de Maringa] <i>Assistant Professor of Physics</i> Universidade Estadual de Maringa
2010	<i>Shayna Otis</i> [Undergraduate Student at Yale University]

2009 *Zabin Patel* [Student at Chicago Public School]

2009–2010 *Andriana S. L. O. Campanharo, Ph.D.* [Graduate Student at Instituto Nacional de Pesquisas Espaciais]
Assistant Professor of Biostatistics
 Universidade Estadual Paulista de Botucatu

2008–2009 *Shayna Otis* [Student at Ida Crown Jewish Academy]

2007 *Andrew J. Scheff* [Student at Evanston Township High School]
Product Manager
 Dropbox

2007–2009 *Anthony Mustoe, Ph.D.* [Undergraduate Student at Washington University of St. Louis]
Arnold O. Beckman Postdoctoral Fellow
 University of North Carolina
 Honors: NSF Graduate Research Fellowship

2007–2009 *Audrey Salazar, Ph.D.* [Graduate Student at Northwestern University]
Licensing Associate
 University of Wisconsin at Milwaukee Foundation

2006 *Nicholas Salter* [Student at Evanston Township High School]

2006 *Nesha Joshi* [Undergraduate Student at IIT Delhi]

2006 *Alexander M. Franks, Ph.D.* [Undergraduate Student at Brown University]
Postdoctoral Fellow
 University of Washington

2006 *Joana Miguens, M.Sc.* [Gaduate Student at Universidade de Aveiro]
System Architect
 EUMETSAT

2005 *Meir Hasbani* [Undergraduate Student at Princeton University]
PSM Specialist and Hydrocracking Process Engineer
 Chevron

2005 *William Padula III, Ph.D.* [Undergraduate Student at Northwestern University]
Assistant Professor of Health Policy and Management
 Johns Hopkins University

2004–2005 *Alexander M. Franks, Ph.D.* [Student at Evanston Township High School]
Postdoctoral Fellow
 University of Washington
 Honors: Semifinalist, 2004–05 Siemens Westinghouse Competition in Math, Science, and Engineering, and 2005 Intel Science Talent Search

2004–2005 *On Bon (Albert) Chan* [Undergraduate Student at Northwestern University]

2003 *Di Wu* [Undergraduate Student at Northwestern University]

2003–2005 *Carla A. Ng, Ph.D.* [Graduate Student at Northwestern University]
Assistant Professor of Civil and Environmental Engineering
 University of Pittsburgh

1999–2002 *Kaushik Matia, Ph.D.* [Graduate Student at Boston University]

1997–2000 *Vasiliki Plerou, Ph.D.* [Graduate Student at Boston College]

1997–2000 *Gopikrishnan Parameswaran, Ph.D.* [Graduate Student at Boston University]
Managing Director
 Goldman Sachs

1997–1999 *Plamen Ch. Ivanov, Ph.D.* [Graduate Student at Boston University]
Research Professor of Physics
 Boston University

- [12] The Intersection of Aging Biology and the Pathobiology of Lung Diseases: A Joint NHLBI/NIA Workshop
 Budinger GRS, Kohanski RA, Gan W, Kobor MS, **Amaral LAN**, Armanios M, Kelsey KT, Pardo A, Tudor R, Macian F, Chandel N, Vaughan D, Rojas M, Mora AL, Kovacs E, Duncan SR, Finkel T, Choi A, Eickelberg O, Chen D, Agusti A, Selman M, Balch WE, Busse P, Lin A, Morimoto R, Sznajder JI, Thannickal VJ
Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences 72: 1492–1500 (2017).
 [Citations: 4 (GS), 2 (WoS), 2 (Scopus) *Altmetric score*: 1.5 (above 49%)]
- [11] Measuring Impact
Amaral LAN
The Scientist 39186 (2014).
- [10] Envisioning sophisticated electronic health records through the lens of health care reform
 Weiss CH, **Amaral LAN**
Am. J. of Respirat. and Crit. Care Med. 188: 636–638 (2013).
 [Citations: 4 (GS), 1 (WoS), 1 (Scopus)]
- [9] Moving the science of quality improvement in critical care medicine forward
 Weiss CH, **Amaral LAN**
Am. J. of Respirat. and Crit. Care Med. 182: 1461–1462 (2010).
 [Citations: 8 (GS), 1 (WoS), 5 (Scopus)]
- [8] Complex systems view of educational policy research
 Maroulis S, Guimerà R, Petry H, Stringer MJ, Gomez LM, **Amaral LAN**, Wilensky U
Science 330: 38–39 (2010).
 [Citations: 70 (GS), 35 (WoS), 42 (Scopus) *Altmetric score*: 0.25 (above 1%)]
- [7] Ecological Engineering and Sustainability: A New Opportunity for Chemical Engineering
 Stouffer DB, Ng CA, **Amaral LAN**
AIChE Journal 54: 3040–3047 (2008). [Featured on cover]
 [Citations: 8 (GS), 4 (WoS), 5 (Scopus)]
- [6] A truer measure of our ignorance
Amaral LAN
Proc. Natl. Acad. Sci. U. S. A. 105: 6795–6796 (2008).
 [Citations: 46 (GS), 23 (WoS), 32 (Scopus) *Altmetric score*: 3 (above 66%)]
- [5] Complex systems - A new paradigm for the integrative study of management, physical, and technological systems
Amaral LAN, Uzzi B
Management Science 53: 1033–1035 (2007).
 [Citations: 181 (GS), 48 (WoS), 69 (Scopus) *Altmetric score*: 1 (above 28%)]
- [4] Complex networks: Lies, damned lies and statistics
Amaral LAN, Guimerà R
Nature Physics 2: 75–76 (2006).
 [Citations: 38 (GS), 20 (WoS), 26 (Scopus)]
- [3] Novel collaborations within experienced teams lead to best research outcomes
Amaral LAN
Annals of Vascular Surgery 19: 753-754 (2005). [Featured on cover]
 [Citations: 7 (GS), 1 (WoS), 1 (Scopus)]
- [2] Virtual Round Table on ten leading questions for network research
Amaral LAN, Barrat A, Barabasi AL, Caldarelli G, De los Rios P, Erzan A, Kahng B, Mantegna R, Mendes JFF, Pastor-Satorras R, Vespignani A
European Physical Journal B 38: 143–145 (2004).
 [Citations: 57 (GS), 34 (WoS) *Altmetric score*: 3 (above 68%)]

- [1] Complex systems and networks: challenges and opportunities for chemical and biological engineers
Amaral LAN, Ottino JM
Chemical Engineering and Science 59: 1653–1666 (2004).
 [Citations: 93 (GS), 38 (WoS), 39 (Scopus)]

Review Articles

- [6] Complex networks - Augmenting the framework for the study of complex systems
Amaral LAN, Ottino JM
European Physical Journal B 38: 147–162 (2004).
 [Citations: 537 (GS), 220 (WoS), 255 (Scopus)]
- [5] Sexual networks: implications for the transmission of sexually transmitted infections
 Liljeros F, Edling CR, **Amaral LAN**
Microbes and Infections 5: 189–196 (2003).
 [Citations: 288 (GS), 141 (WoS), 163 (Scopus) *Altmetric score: 8 (above 85%)*]
- [4] Self-organized complexity in economics and finance
 Stanley HE, **Amaral LAN**, Buldyrev SV, Gopikrishnan P, Plerou V, Salinger MA
Proc. Natl. Acad. Sci. U. S. A. 99: 2561–2565 (2002).
 [Citations: 78 (GS), 43 (WoS), 47 (Scopus)]
- [3] Fractal dynamics in physiology: Alterations with disease and aging
 Goldberger AL, **Amaral LAN**, Hausdorff JM, Ivanov PC, Peng CK, Stanley HE
Proc. Natl. Acad. Sci. U. S. A. 99: 2466–2472 (2002). [Featured on cover]
 [Citations: 1713 (GS), 987 (WoS), 1073 (Scopus) *Altmetric score: 24.05 (above 95%)*]
- [2] From 1/f noise to multifractal cascades in heartbeat dynamics
 Ivanov PC, **Amaral LAN**, Goldberger AL, Havlin S, Rosenblum MG, Stanley HE, Struzik ZR
Chaos 11: 641–652 (2001).
 [Citations: 335 (GS), 247 (WoS), 233 (Scopus) *Altmetric score: 1 (above 27%)*]
- [1] Multifractalidade do ritmo cardiaco
Amaral LAN, Ivanov PC, Goldberger AL, Havlin S, Stanley HE
Gazeta de Fisica 22: 4–8 (1999). [Featured on cover]

Research Articles

- [124] Diversity of translation initiation mechanisms across bacterial species is driven by environmental conditions and growth demands
 Hockenberry AJ, Stern AJ, **Amaral LAN**, Jewett MC
Molecular Biology and Evolution 35: 582–592 (2018).
 [Citations: 1 (GS) *Altmetric score: 14.3 (above 87%)*]
- [123] A novel framework for evaluating the performance of codon usage bias metrics
 Liu SS, Hockenberry HJ, Jewett MC, **Amaral LAN**
Journal of the Royal Society Interface 15: 170667 (2018).
- [122] Long-range correlations and fractal dynamics in *C. elegans*: Changes with aging and stress
 Alves LGA, Winter PB, Ferreira LN, Briemann RM, Morimoto RI, **Amaral LAN**
Physical Review E 96: 22417 (2017).
- [121] Leveraging genome-wide datasets to quantify the functional role of the anti-Shine-Dalgarno sequence in regulating translation efficiency
 Hockenberry AJ, Pah AR, Jewett MC, **Amaral LAN**
Open Biology 7: 160239 (2017).
 [Citations: 7 (GS), 4 (WoS), 3 (Scopus) *Altmetric score: 6.45 (above 76%)*]

- [120] Economic insecurity and the rise in gun violence at US schools
Pah AR, Hagan J, Jennings AL, Jain A, Albrecht K, Hockenberry AJ, **Amaral LAN**
Nature Human Behavior 1: 40 (2017).
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- [119] NullSeq: A tool for generating random coding sequences with desired amino acid and GC contents
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- [19] Scaling the volatility of GDP growth rates
Canning D, **Amaral LAN**, Lee Y, Meyer M, Stanley HE
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[Citations: 185 (GS), 90 (WoS), 92 (Scopus) *Altmetric score: 6 (above 78%)*]
- [18] Scale-independent measures and pathologic cardiac dynamics
Amaral LAN, Goldberger AL, Ivanov PC, Stanley HE
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[Citations: 172 (GS), 113 (WoS), 110 (Scopus)]
- [17] Power law scaling for a system of interacting units with complex internal structure
Amaral LAN, Buldyrev SV, Havlin S, Salinger MA, Stanley HE
Physical Review Letters 80: 1385–1388 (1998).
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- [16] Inverse cubic law for the distribution of stock price variations
Gopikrishnan P, Meyer M, **Amaral LAN**, Stanley HE
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- [15] Comment on Kinetic roughening in slow combustion of paper
Amaral LAN, Makse HA
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- [14] Universality classes for rice-pile models
Amaral LAN, Lauritsen KB
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- [13] Scaling behavior in economics: II. Modeling of company growth
Buldyrev SV, **Amaral LAN**, Havlin S, Leschhorn H, Maass P, Salinger MA, Stanley HE, Stanley MHR
Journal de Physique I 7: 635–650 (1997).
[Citations: 116 (GS), 68 (WoS), 67 (Scopus) *Altmetric score: 3 (above 69%)*]
- [12] Scaling behavior in economics: I Empirical results for company growth
Amaral LAN, Buldyrev SV, Havlin S, Leschhorn H, Maass P, Salinger MA, Stanley HE, Stanley MHR
Journal de Physique I 7: 621–633 (1997).
[Citations: 286 (GS), 153 (WoS), 147 (Scopus) *Altmetric score: 6 (above 78%)*]
- [11] Impurity-induced diffusion bias in epitaxial growth
Amaral LAN, Krug J
Physical Review E 55: 7785–7788 (1997).
[Citations: 11 (GS), 9 (WoS), 10 (Scopus)]
- [10] Self-organized criticality in a rice-pile model
Amaral LAN, Lauritsen KB
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[Citations: 46 (GS), 32 (WoS), 34 (Scopus)]
- [9] Scaling behaviour in the growth of companies
Stanley MHR, **Amaral LAN**, Buldyrev SV, Havlin S, Leschhorn H, Maass P, Salinger MA, Stanley HE
Nature 379: 804–806 (1996). [Featured on cover]
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- [8] Energy avalanches in a rice-pile model
Amaral LAN, Lauritsen KB
Physica A 231: 608–614 (1996).
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- [7] Scaling properties of driven interfaces in disordered media
Amaral LAN, Barabasi AL, Makse HA, Stanley HE
Physical Review E 52: 4087–4104 (1995).
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- [6] Scaling behavior of driven interfaces above the depinning transition
Makse HA, **Amaral LAN**
Europhysics Letters 31: 379–384 (1995).
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- [5] Dynamics of surface roughening with quenched disorder
Havlin S, **Amaral LAN**, Buldyrev SV, Harrington ST, Stanley HE
Physical Review Letters 74: 4205–4208 (1995).
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- [4] Avalanches and the directed percolation depinning model - Experiments, simulations, and theory
Amaral LAN, Barabasi AL, Buldyrev SV, Harrington ST, Havlin S, Sadr-Lahijany R, Stanley HE
Physical Review E 51: 4655–4673 (1995).
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Amaral LAN, Barabasi AL, Stanley HE
Physical Review Letters 73: 62–65 (1994).
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- [2] New exponent characterizing the effect of evaporation on imbibition experiments
Amaral LAN, Barabasi AL, Buldyrev SV, Havlin S, Stanley HE
Physical Review Letters 72: 641–644 (1994).
[Citations: 50 (GS), 36 (WoS), 34 (Scopus)]
- [1] Monte Carlo simulation of the methylchloride liquid-vapour interface
Amaral LAN, Cabral BJC
Journal of Physics - Condensed Matter 5: 1919–1934 (1993).
[Citations: 3 (GS), 7 (WoS), 5 (Scopus)]

Other Publications

- [1] Driving on cellular pathway #66
Amaral LAN
AIP Conf. Proc. 922: 641–646 (2007).

PRESENTATIONS Invited Presentations

- 2017–Jul Advances in complex systems
Lake Como School of Advanced Studies
Como, Italy
- 2017–Jun Celebrating 20 years of JSMF's support for Complex Systems Science
J. S. McDonnell Foundation
Cambridge, England
- 2017–Apr *Biological Physics*, Physics
University of Illinois
Urbana, IL
- 2016–Oct *C.C. Mei Distinguished Speaker Series*, Civil and Environmental Engineering
MIT
Cambridge, MA
- 2016–Jun Computation Institute
University of Chicago
Chicago, IL
- 2016–Jun *Flexner Dean Lecture Series*, School of Medicine
Vanderbilt University
Nashville, TN
- 2016–Apr *Eugene H. Fram Chair in Applied Critical Thinking Spring Lecture*, False
Rochester Institute of Technology
Rochester, NY
- 2016–Apr Chemical and Biomolecular Engineering
Lehigh University
Bethlehem, PA
- 2016–Apr Symposium on Biological Information Processing
Max Planck Institute
Tuebingen, German
- 2016–Mar International Symposium on Science of Science
Library of Congress
Washington, DC
- 2015–Dec Chemical Engineering
University of Wisconsin
Madison, WI
- 2015–Oct CCS 2015 Satellite – Quantifying Science Symposium
Complex Systems Society
Tempe, AZ
- 2015–Sep Workshop on The Intersection of Aging Biology and Pathobiology of Lung Diseases
National Institute of Aging
Bethesda, MD
- 2015–Jun *Keynote Speaker*, Physics Meets the Social Sciences
Granada Seminar
La Herradura, Spain
- 2014–Feb John von Neumann Public Lecture Series in Complexity and Computation
Wisconsin Institute for Discovery
Madison, WI
- 2013–Dec Army Science Planning and Strategy Meeting on Information at the Tactical Edge
Army Research Office
Potomac, MD
- 2013–Sep ECCS 2013 Satellite – Big Data in Complex Systems
European Complex Systems Society
Barcelona, Spain

2013–Sep *Plenary Speaker*, ECCS 2013
European Complex Systems Society
Barcelona, Spain

2013–Jun *Invited Panelist*, SciTS 2013 Conference
Science of Team Science
Evanston, IL

2012–Sep *Plenary Speaker*, 2012 LTER All Scientists Meeting
Long Term Ecological Research Network
Estes Park, CO

2012–Jun Biologie
Ecole Normale Supérieure
Paris, France

2012–Jun *Opening Keynote Speaker*, NetSci 2012
Network Science Society
Evanston, IL

2011–Apr Distinguished Young Scholars Symposium
William M. Keck Foundation
Irvine, CA

2011–Mar 2011 Complexity Conference
NICO/SONIC
Evanston, IL

2011–Mar Web Science Meets Network Science
NICO/SONIC
Evanston, IL

2011–Jan Genetics, Genomics, and Systems Biology
University of Chicago
Chicago, IL

2010–Dec Computation Institute
University of Chicago
Chicago, IL

2010–May Workshop on Shared Organizational Principles in the Computing and Biological
Sciences
National Science Foundation
Arlington, VA

2010–May SciTS 2010 Conference
Science of Team Science
Chicago, IL

2010–May *Keynote Speaker*, Dow Corning Technical Conference
Dow Corning
Saginaw, MI

2010–Apr SFI Science Board Meeting
Santa Fe Institute
Santa Fe, NM

2009–Sep Symposium on Frontiers of Network Science
Max Planck Institute
Berlin, Germany

2009–Jun Institute Colloquium
Instituto Gulbenkian de Ciencia
Oeiras, Portugal

2009–Jun *Keynote Speaker*, Second International Engineering Systems Symposium
MIT
Cambridge, MA

2009–Apr Microarray Group
National Institute of Environmental Health Sciences
Research Triangle Park, NC

2009–Apr Distinguished Young Scholars Symposium
William M. Keck Foundation
Los Angeles, CA

2008–Dec VI Encontro
Forum Internacional de Investigadores Portugueses
Oeiras, Portugal

2008–Oct *Keynote Speaker*, Networks and Neuroscience Symposium
Kaetsu Centre, New Hall College
Cambridge, England

2008–Oct *Keynote Speaker*, The Cognitive Basis of Safe Practice: Rethinking Error in Critical Care Medicine
J. S. McDonnell Foundation
Phoenix, AZ

2008–Aug *Keynote Speaker*, International Workshop on Challenges and Visions in the Social Sciences
ETH Zurich
Zurich, Switzerland

2008–Jul Institute Colloquium
Santa Fe Institute
Santa Fe, NM

2008–Jun Systems Biology Symposium
National Institutes of Health
Bethesda, MD

2008–May NIH Roadmap – Interdisciplinary Research Centers Workshop
Northwestern University
Evanston, IL

2007–Jun 21st Century Science Initiative Meeting
J. S. McDonnell Foundation
Wellesley, MA

2007–May Institute Colloquium
Stowers Institute for Medical Research
Kansas City, MO

2007–Feb Chemical and Biological Engineering
Rensselaer Polytechnic Institute
Troy, NY

2007–Jan Pharmacology
University of Illinois College of Medicine
Chicago, IL

2006–Dec *Keynote Presenter*, Conference on Empowering Environmental Health Sciences Research with New Technologies
National Institute of Environmental Health Sciences
Chapel Hill, NC

2006–Nov *Featured Speaker*, 4th Symposium on Functional Genomics of Critical Illness and Injury
National Institutes of Health
Bethesda, MD

2006–Oct Northwestern Institute on Complex Systems
Northwestern University
Evanston, IL

- 2006–Oct Chemical and Biological Engineering
Northwestern University
Evanston, IL
- 2006–Oct *Opening Keynote Speaker*, 15th Annual Meeting
International Society for Anaesthetic Pharmacologists
Chicago, IL
- 2006–Jun *Plenary Speaker*, 6th International Conference on Complex Systems
New England Complex Systems Institute
Boston, MA
- 2006–Feb *Keynote Speaker*, NIH Roadmap – Workshop on Interdisciplinary Research Centers
National Institutes of Health
Bethesda, MD
- 2005–Mar Workshop on Network Robustness
Santa Fe Institute
Santa Fe, NM
- 2005–Mar Annual Meeting
Deutsche Physikalische Gesellschaft
Berlin, Germany
- 2005–Mar Workshop on Regime Changes
Environmental Protection Agency
Cincinnati, OH
- 2005–Mar *Opening Keynote Speaker*, Final Conference
Complexity in Networks (COSIN) Project
Salou, Spain
- 2005–Feb Chemical Engineering
Purdue University
West Lafayette, IN
- 2004–Nov Chemical and Environmental Engineering
Illinois Institute of Technology
Chicago, IL
- 2004–Jul IV Encontro
Forum Internacional de Investigadores Portugueses
Coimbra, Portugal
- 2004–May *Invited Symposium Speaker*, April Meeting
American Physical Society
Denver, CO
- 2003–Nov Chemical Engineering
University of Michigan
Ann Arbor, MI
- 2003–Nov Joint SFI-University of Michigan Workshop
University of Michigan
Ann Arbor, MI
- 2003–Sep Midterm Conference
Complexity in Networks (COSIN) Project
Roma, Italy
- 2003–Sep Frontiers of Science 2003
Universita degli Studi
Pavia, Italy
- 2003–Aug BioComplexity V: Multiscale Modeling in Biology
University of Notre Dame
South Bend, IN

- 2003–May MedMath 2003 Symposium
University of Manitoba
Winnipeg, Canada
- 2002–Dec Symposium on Complex Networks
Center for Biodynamics, Boston University
Boston, MA
- 2002–May Institute of Theoretical Dynamics
University of California
Davis, CA
- 2002–Apr Mechanical and Industrial Engineering
University of Illinois
Urbana, IL
- 2002–Apr Biomedical Engineering
State University of New York
Stony Brook, NY
- 2002–Mar Chemical Engineering
Northwestern University
Evanston, IL
- 2002–Mar *Invited Symposium Speaker*, March Meeting
American Physical Society
Indianapolis, IN
- 2001–Nov Fisica
Universidade Federal do Rio Grande do Norte
Natal, Brazil
- 2001–Aug 11th International Summer School
University of Jyväskylä
Jyväskylä, Finland
- 2001–Feb NATO Advanced Research Workshop on Application of Physics in Economic
Modeling
Czech Academy of Sciences
Prague, Czech Republic
- 2000–Nov International Symposium on Empirical Science of Financial Fluctuations
Nihon Keizai Shimbun
Tokyo, Japan
- 2000–May 6th International Conference on Science and Technology Indicators
University of Leiden
Leiden, Netherlands
- 2000–Mar *Invited Symposium Speaker*, March Meeting
American Physical Society
Minneapolis, MN
- 2000–Jan Physics
University of Michigan
Ann Arbor, MI
- 2000–Jan Program for the Study of Complex Systems
University of Michigan
Ann Arbor, MI
- 2000–Jan Physics and James Franck Institute
University of Chicago
Chicago, IL
- 1999–Jun International Workshop on Non-Equilibrium Dynamical Systems
Universidade do Porto
Porto, Portugal

1999–Mar Physics
California State University
Northridge, CA

1997–Oct Physics and Astronomy
Lehman College of City University of New York
Bronx, NY

1996–Oct Fisica
Universidade de Lisboa
Lisboa, Portugal

1996–Aug International Workshop on Dynamics of Non-Equilibrium Systems
International Centre for Theoretical Physics
Trieste, Italy

1996–Jun Physik
Universitaet-GH Essen
Essen, Germany

1996–May Centre for Chaos and Turbulence Studies
Niels Bohr Institute
Copenhagen, Denmark

1996–Apr von Neumann Institute for Computing
Forschungszentrum Juelich
Juelich, Germany

1995–Oct Fisica
Universidade do Porto
Porto, Portugal

1995–Jun Condensed Matter Theory Group
University of Chicago
Chicago, IL

Contributed Presentations

2014–Sep HHMI Science Meeting
Janelia Farm
Ashburn, VA

2011–Jun HHMI Science Meeting
Janelia Farm
Ashburn, VA

2011–Apr William M. Keck Foundation – Distinguished Young Scholar Symposium
Los Angeles, CA

2010–Apr William M. Keck Foundation – Distinguished Young Scholar Symposium
Los Angeles, CA

2009–Nov HHMI Science Meeting
Janelia Farm
Ashburn, VA

2008–Apr William M. Keck Foundation – Distinguished Young Scholar Symposium
Los Angeles, CA

2007–Apr William M. Keck Foundation – Distinguished Young Scholar Symposium
Los Angeles, CA

2004–Nov AIChE Annual Meeting
Austin, TX

2003–Nov AIChE Annual Meeting
San Francisco, CA

2002–Nov AIChE Annual Meeting
Indianapolis, IN

2001–Jul StatPhys 21
Cancun, Mexico

1999–Jun International Workshop on Applications of Physics to Financial Analysis
University of Dublin
Dublin, Ireland

1998–Sep Granada Seminar – Computational Physics
Granada, Spain

1998–Mar ISTAS School on The Physics of Biosystems, Self-Assembly, and Evolution
Instituto de Fisica Matematica
Lisboa, Portugal

1997–Jul International Workshop on Econophysics
Budapest, Hungary

1996–Dec Material Research Society Fall Meeting
Boston, MA

1996–Mar American Physical Society March Meeting
Kansas City, MO

[Curriculum Vitae compiled on 2018-04-26]