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APPOINTMENTS

2017–2022 *Eratus Otis Haven Professor*
Northwestern University

2015–present *Chair, Steering Committee*
Data Science Initiative
Northwestern University

2013–present *co-Director*
Northwestern Institute on Complex Systems (NICO)
Northwestern University

2013–present *Professor* (by courtesy)
Dept. of Physics and Astronomy
Northwestern University

2011–present *Professor* (by courtesy)
Dept. of Medicine
Northwestern University School of Medicine

2009–present *Professor*
Dept. of Chemical and Biological Engineering
Northwestern University

2009–2015 *Early Career Scientist*
Howard Hughes Medical Institute

2009–2011 *Associate Professor* (by courtesy)
Dept. of Medicine
Northwestern University School of Medicine

2002–2009 *Associate Professor*
Dept. of Chemical Engineering
Northwestern University

2000–2002 *Research Associate*
Depts. of Medicine and Physics
Harvard Medical School and Boston University

1999–2000 *Visiting Scholar*
Depts. of Medicine and Physics
Harvard Medical School and Boston University

1997–1998 *Postdoctoral Fellow* (Mentor: Mehran Kardar)
Condensed Matter Physics
MIT

1995–1996 *Postdoctoral Fellow* (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.) — Fisica*
Advisor: Benedito J. Costa Cabral
Universidade de Lisboa

1990–Sep *Licenciatura (B.Sc.) — Fisica*
Universidade de Lisboa

PROFESSIONAL AFFILIATIONS

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 Cientifica e Tecnologica

1990 *Pre-doctoral Fellowship*, 2 years
Junta Nacional de Investigação Cientifica e Tecnologica

1981 *Needs-based Merit Scholarship*, 10 years
Fundação Calouste Gulbenkian

PROFESSIONAL SERVICE

External Service

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

2017 *Program Committee*, 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*, 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*, Am. J. Respiratory and Critical Care Medicine
American Thoracic Society

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

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

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

2008–2009 *Spark Council*, Spark Awards
Chicago Biomedical Consortium

2008 *Program Committee*, Modeling and Simulation Workshop
Department of Homeland Security – Science and Technology

2006–2009 *Editor*, European Physical Journal B
European Physics Societies

2006 *Guest Editor*, PLoS Computational Biology
Public Library of Science

2006 *Guest Editor*, Management Science
Institute for Operations Research and Management Sciences (INFORMS)

2005 *Program Committee*, 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 *Editor*, Journal of Statistical Mechanics: Theory and Experiment
Institute of Physics (IOP) and SISSA

2004–2005 *Organizing Committee*, 11th Frontiers of Engineering Symposium
National Academy of Engineering

2004–present *Reviewer* Center for Scientific Review, National Science Foundation, U.S. Department of Energy, U.S. Department of Defense

2003–2005 *Organizer*, Invited Symposia at the APS March Meeting
American Physical Society

1995–present *Reviewer* Nature and Nature Journals, Science and Science Journals, JAMA, PNAS, Royal Society journals, AIChE Journal, Physical Review journals, PLOS journals, BMC journals, etc.

Northwestern University Service

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

RESEARCH SUPPORT

2014–2017 *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

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 Trainining 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 Trainining 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

2016–present *Yang Yang, Ph.D.*

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]

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-Rènyi 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

2015–present *Adam R. Pah, Ph.D.* [Clinical Assistant Professor]

2013–2017 *Curtis Weiss, M.D., M.Sc.* [Assistant Professor – K23 awardee]

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 *Beatrice Farb* [Student at Walter Payton College Prep (CPS)]
Undergraduate Student
Honors: Semifinalist, 2017 Regeneron Science Talent Search

2015–present *Aditya Jain* [Undergraduate Student at Northwestern University]

2015–2016 *Murielle Dunand* [Student at Evanston Township High School]
Undergraduate Student
MIT

2015–2016 *Luiz Gustavo de Andrade Alves* [Graduate Student at Universidade Estadual de Maringa]

2015–2016 *Leonardo Nascimento Ferreira* [Graduate Student at Universidade de São Paulo]

2015 *Jessica Martins* [Undergrad. Student at Universidade Federal de Campina Grande]

2015 *Samantha Crowe* [Undergraduate Student at Northwestern University]

2014 *Lewis Herman* [Student at Evanston Township High School]
Undergraduate Student
University of Illinois at Urbana-Champaign

2014 *Sarah Otis* [Student at Ida Crown Jewish Academy]
Undergraduate Student
University of Maryland at College Park

2014–2016 *Andrew Jennings* [Undergraduate Student at Northwestern University]
Catastrophe Modeling Analyst
TigerRisk Partners

2014–2015 *Aaron Stern* [Undergraduate Student at Northwestern University]
Graduate Student
University of California at Berkeley

2014 *Matt Hyun-Young* [Undergraduate Student at Northwestern University]
Web/Data Visualization Developer
My.Suit

2013–2016 *Chuyue Yang* [Undergraduate Student at Northwestern University]
Medical Student

2013–2016 *Heliodoro Tejedor, M.S.* [Graduate Student at Universitat Rovira i Virgili]
Software Engineer
Northwestern University

2013–2016 *Nicholas Timkovich* [Graduate Student at Northwestern University]
Cloud Computing Software Developer
Argonne National Laboratory

2013–2014 *Arnau Gavalda, Ph.D.* [Graduate Student at Universitat Rovira i Virgili]
CEO and co-founder
Skyelement

2013–2014 *Benjamin Reisman* [Undergraduate Student at Northwestern University]
Medical Scientist Student
Vanderbilt University School of Medicine

2013 *Kyle Walcott* [Undergraduate Student at Northwestern University]

2011–2012 *Konner Scott* [Student at Niles West High School]

2011–2012 *Hannah Otis* [Student at Ida Crown Jewish Academy]
Visiting Scientist
Weizmann Institute of Science
Honors: Semifinalist, 2012 Intel Science Talent Search

2011–2012 *Fiona Odu* [Undergraduate Student at University of Missouri-Columbia]

2011–2012 *Haroldo V. Ribeiro, Ph.D.* [Graduate Student at Universidade Estadual de Maringa]
Assistant Professor of Physics
Universidade Estadual de Maringa

2010 *Shayna Otis* [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

[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:* 2 (Google), 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 (Google), 1 (WoS)]

[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:* 54 (Google), 29 (WoS), 25 (Scopus)]

[7] A truer measure of our ignorance
Amaral LAN
Proc. Natl. Acad. Sci. U. S. A. 105: 6795–6796 (2008). [*Citations:* 35 (Google), 18 (WoS), 15 (Scopus)]

[6] Ecological Engineering and Sustainabitity: A New Opportunity for Chemical Engineering
Stouffer DB, Ng CA, **Amaral LAN**
AICHE Journal 54: 3040–3047 (2008). [Featured on cover] [*Citations:* 7 (Google), 4 (WoS), 5 (Scopus)]

[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:* 146 (Google), 36 (WoS), 46 (Scopus)]

[4] Lies, damned lies and statistics
Amaral LAN, Guimerà R
Nature Physics 2: 75–76 (2006). [*Citations:* 33 (Google), 16 (WoS), 14 (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 (Google), 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:* 55 (Google), 30 (WoS)]

[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:* 84 (Google), 30 (WoS), 33 (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:* 479 (Google), 190 (WoS), 205 (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:* 261 (Google), 124 (WoS), 133 (Scopus)]

[4] 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:* 1482 (Google), 831 (WoS), 824 (Scopus)]

[3] 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:* 69 (Google), 42 (WoS), 39 (Scopus)]

[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:* 307 (Google), 213 (WoS), 190 (Scopus)]

[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

[121] 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).

[120] Leveraging genome-wide datasets to quantify the functional role of the anti-ShineDalgarno sequence in regulating translation efficiency
Hockenberry AJ, Pah AR, Jewett MC, **Amaral LAN**
Open Biology 7: 160239 (2017).

[119] Depletion of Shine-Dalgarno sequences within bacterial coding regions is expression dependent
Yang C, Hockenberry AJ, Jewett MC, **Amaral LAN**
G3 : Genes | Genomes | Genetics 6: 3467–3474 (2016).

[118] A network approach to discerning the identities of C. elegans in a free moving population
Winter PB, Brielmann RB, Timkovich NP, Navarro HT, Teixeira-Castro A, Morimoto RI, **Amaral LAN**
Scientific Reports 6: 34859 (2016).

[117] Differences in collaboration patterns across discipline, career stage, and gender
Zeng XHT, Duch J, Sales-Pardo M, Moreira JAG, Radicchi F, Ribeiro HV, Woodruff TK, **Amaral LAN**
PLOS Biology 14: 1002573 (2016).

[116] NullSeq: A tool for generating random coding sequences with desired amino acid and GC contents
Liu SS, Hockenberry AJ, Lancichinetti A, Jewett MC, **Amaral LAN**
PLOS Computational Biology 12: 1005184 (2016).

[115] Cross-evaluation of metrics to estimate the significance of creative works
Wasserman M, Zeng XHT, **Amaral LAN**
Proc. Natl. Acad. Sci. U. S. A. 112: 1281–1286 (2015).

[114] Social embeddedness in an online weight management programme is linked to greater weight loss
Poncela-Casasnovas J, Spring B, McClary D, Moller AC, Mukogo R, Pellegrini CA, Coons MJ, Davidson M, Mukherjee S, **Amaral LAN**
Journal of the Royal Society Interface 12: 20140686 (2015).

[113] High-reproducibility and high-accuracy method for automated topic classification
Lancichinetti A, Sirer MI, Wang JX, Acuna D, Kording K, **Amaral LAN**
Physical Review X 5: 011007 (2015).

[112] The currents beneath the rising tide of school choice: An analysis of student enrollment flows in the Chicago Public Schools
Sirer MI, Maroulis S, Guimerà R, Wilensky U, **Amaral LAN**
Journal of Policy Analysis and Management, 34: 358–377 (2015).

[111] Correlations between user voting data, budget, and box office for films in the Internet Movie Database
Wasserman M, Mukherjee S, Scott K, Zeng XHT, Radicchi F, **Amaral LAN**
Journal of the Association for Information Science and Technology 66: 858–868 (2015). [*Citations:* 4 (Google), 2 (WoS)]

[110] Scaling and optimal synergy: Two principles determining microbial growth in complex media
Massucci FA, Guimerà R, **Amaral LAN**, Sales-Pardo M
Physical Review E 91: 062703 (2015).

[109] The distribution of the asymptotic number of citations to sets of publications by a researcher or from an academic department are consistent with a discrete lognormal model
Moreira JAG, Zeng XHT, **Amaral LAN**
PLoS ONE 10: e0143108 (2015).

[108] Dynamics and heterogeneity of a fate determinant during transition towards cell differentiation
Pelaez N, Gavalda-Miralles A, Wang B, Tejedor Navarro H, Gudjonson H, Rebay I, Dinner AR, Katsaggelos AK, **Amaral LAN**, Carthew RW
eLife 4: e08924 (2015). [*Citations: 5* (Google), 1 (WoS)]

[107] Impact of heterogeneity and socioeconomic factors on individual behavior in decentralized sharing ecosystems
Gavaldà-Miralles A, Choffnes DR, Otto JS, Sanchez MA, Bustamante FE, **Amaral LAN**, Duch J, Guimerà R
Proc. Natl. Acad. Sci. U. S. A. 111: 15322–15327 (2014). [*Citations:* 3 (Google), 1 (WoS)]

[106] User Behavior and Change: File-sharers and Copyright Laws
Gavaldà-Miralles A, Otto JS, Bustamante FE, **Amaral LAN**, Duch J, Guimerà R
Proceedings of the 10th ACM CoNEXT 2014 319–324 (2014). [*Citations:* 1 (Google)]

[105] Quantifying position-dependent codon usage bias
Hockenberry AJ, Sirer MI, **Amaral LAN**, Jewett MC
Molecular Biology and Evolution 31: 1880–1893 (2014). [*Citations:* 10 (Google), 7 (WoS), 2 (Scopus)]

[104] Adoption of a high-impact innovation in a homogeneous population
Weiss CH, Poncela-Casasnovas J, Glaser JI, Pah AR, Persell SD, Baker DW, Wunderink RG, **Amaral LAN**
Physical Review X 4: 041008 (2014). [*Citations:* 17 (Google), 10 (WoS), 2 (Scopus)]

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PRESENTATIONS Invited Presentations

2017–Jul Advances in complex systems
Lake Como School of Advanced Studies
Como, Italy

2017–Jun Celebrating 20 years of JSMFs 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
Tuebigen, 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 Superieure
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 Protectiion 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 Jyvaskyla
Jyvaskyla, 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
Triestre, 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 Biosytesm, 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	Americal Physical Society March Meeting Kansas City, MO

[*Curriculum Vitae compiled on 2017-08-23*]