

# OLAF SPORNS – CURRICULUM VITAE

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## BRIEF BIOGRAPHY

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After receiving an undergraduate degree in biochemistry, Olaf Sporns earned a PhD in Neuroscience at Rockefeller University and then conducted postdoctoral work at The Neurosciences Institute in New York and San Diego. Currently he is the Robert H. Shaffer Chair, a Distinguished Professor, and a Provost Professor in the Department of Psychological and Brain Sciences at Indiana University in Bloomington. Sporns holds adjunct appointments in the School of Informatics, Computing and Engineering, and in the School of Medicine. His main research area is theoretical and computational neuroscience, with a focus on complex brain networks. In addition to over 240 peer-reviewed publications he is the author of two books, “Networks of the Brain” and “Discovering the Human Connectome”. He is the Founding Editor of “Network Neuroscience”, a journal published by MIT Press. Sporns was awarded a John Simon Guggenheim Memorial Fellowship in 2011, elected Fellow of the American Association for the Advancement of Science in 2013, and received the Patrick Suppes Prize in Psychology/Neuroscience, awarded by the American Philosophical Society in 2017.

## CONTACT

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## RESEARCH INTERESTS

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Network Neuroscience	Complex network approaches to brain structure and function
Connectomics	Analysis of neuroanatomical connection patterns, functional and effective connectivity, human neuroimaging and clinical disorders, network evolution, development, damage and repair.
Computational Neuroscience	Dynamic models of brain networks, neural synchrony and binding, information-theoretical measures of functional interactions, models of cognitive systems, neuroinformatics.
Cognition	Cognitive function in distributed networks, dynamics of functional connectivity in brain imaging, embodied cognition, consciousness.

## EDUCATION

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1983-1986	Undergraduate studies in Biochemistry at Eberhard-Karls-Universität Tübingen, Germany.
1984-1986	Research Assistant at the Max-Planck-Institute for Developmental Biology, Tübingen. Research on the role of cholinesterases in brain development in the laboratory of Dr. Paul G. Layer.
1986	B.S. Biochemistry, Eberhard-Karls-Universität Tübingen, Germany.

1986 Research Assistant, Shanghai Institute of Cell Biology, Chinese Academy of Sciences.  
1986-1990 Graduate studies at Rockefeller University, New York, NY.  
Research carried out in the Laboratory of Molecular and Developmental Biology and at The Neurosciences Institute.  
1990 Ph.D. Neuroscience, Rockefeller University, New York.  
Dissertation: "Synthetic neural modeling: computer simulations of perceptual and motor systems".  
Research Advisor: Prof. Gerald M. Edelman.

## PROFESSIONAL APPOINTMENTS

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1990-1994 Postdoctoral Position: Institute Fellow in Theoretical Neurobiology at The Neurosciences Institute, New York, New York.  
Research in theoretical and computational neuroscience.  
1993-1994 Guest Investigator, The Scripps Research Institute, Department of Neurobiology.  
1994-2000 Senior Fellow in Theoretical and Experimental Neurobiology at The Neurosciences Institute, La Jolla, California.  
2000-2004 Assistant Professor, Department of Psychology, Indiana University Bloomington.  
2004-2007 Associate Professor, Department of Psychological and Brain Sciences, Indiana University Bloomington.  
2007- Professor, Department of Psychological and Brain Sciences, Indiana University Bloomington.  
2011- Provost Professor, Indiana University Bloomington.  
2014- Distinguished Professor, Indiana University Bloomington  
2014- Class of 1967 Robert H. Shaffer Endowed Chair  
2005-2011 Associate Chair, Department of Psychological and Brain Sciences, Indiana University Bloomington.  
2008- Adjunct Professor, School of Informatics and Computing, Indiana University Bloomington.  
2014- Adjunct Professor of Radiology and Imaging Sciences, Department of Radiology and Imaging Sciences, Indiana University School of Medicine, Indianapolis, IN.  
2000- Core Faculty: Program in Neural Science, Program in Cognitive Science  
2001- Affiliated Faculty, Indiana University School of Informatics.  
2005- Affiliated Faculty, Indiana University Biocomplexity Institute  
2000- External Research Professor, Krasnow Institute for Advanced Study, George Mason University, Fairfax, Virginia.  
2004- Faculty, Parmenides Foundation, Munich, Germany.  
2005-2011 Director of Undergraduate Studies, Department of Psychological and Brain Sciences

## FELLOWSHIPS

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1986 Fellow, Studienstiftung des Deutschen Volkes (Mentor: Valentino Braitenberg)  
1986-1990 Graduate Fellowship, Rockefeller University, Lucille P. Markey Charitable Trust, Miami, FL.  
1990-1992 Charles and Mildred Schnurmacher Fellow in Theoretical Neuroscience.  
1992-1996 W.M. Keck Foundation Fellow in Theoretical Neuroscience.  
2011/2012 John Simon Guggenheim Memorial Fellowship

## HONORS AND AWARDS

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2001 Pew Scholars in Biomedical Sciences, Nominee for Indiana University.  
2002 Outstanding Paper Award, International Conference on Development and Learning ICDL 02, MIT.  
2002 Outstanding Junior Faculty Award, Indiana University Bloomington.  
2004 Trustees Teaching Award, Indiana University Bloomington.  
2008 Distinguished Faculty Award, College of Arts and Sciences, Indiana University Bloomington.  
2010 Honorable Mention for "Networks of the Brain" in the category "Biomedicine and Neuroscience", The 2010 American Publishers Awards for Professional and Scholarly Excellence (PROSE).  
2011 NeuroImage "Editor's Choice Award", Methods and Modeling Section, shared with M. Rubinov  
2011 Provost Professorship, Indiana University  
2011 John Simon Guggenheim Memorial Fellowship

2012	Honorable Mention for “Discovering the Human Connectome” in the category “Biomedicine and Neuroscience”, The 2012 American Publishers Awards for Professional and Scholarly Excellence (PROSE).
2013	Fellow of the American Association for the Advancement of Science (elected)
2014	Distinguished Professor, Indiana University
2014	Robert H. Shaffer Endowed Chair
2015	Trustees Teaching Award, Indiana University Bloomington
2015-present	Thomson Reuters/Clarivate “Highly Cited Researcher” in Neuroscience/Behavior
2016	Distinguished Cognitive Scientist Award, UC Merced
2016	Grossman Award, Society of Neurological Surgeons
2017	Patrick Suppes Prize in Psychology/Neuroscience, American Philosophical Society

## MAJOR GRANTS (FUNDED)

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### Completed

1998-2001	“Machine Psychology: Modeling the Brain and Behavior through Real World Devices”, W.M. Keck Foundation, Co-Investigator (PI: Gerald M. Edelman)
2001-2003	“Cortical Architectures for Pattern Recognition”, Department of Defense Contract NMA201-01-C-0034, PI
2002-2005	“Neuro-Robotic Models of Learning and Addiction”, NIH-NIDA R21 DA1564, PI
2005-2010	“Network Mechanisms Underlying Cognition and Recovery of Function in the Human Brain”, James S. McDonnell Foundation, Co-Investigator (PI: Randy McIntosh)
2009-2011	“An Information-Theoretical Approach to Coordinated Behavior”, Air Force Office of Scientific Research, Co-Investigator.
2011-2013	“Communities and Criticality in Brain Networks across Development and ADHD”, James S. McDonnell Foundation, Co-investigator (PI: Steve Petersen)
2011-2014	“Brain Network Recovery II”, James S. McDonnell Foundation, Co-Investigator (PI: Randy McIntosh)
2010-2015	IGERT Training Grant “The Dynamics of Brain-Body-Environment Systems in Behavior and Cognition”, National Science Foundation. Co-PI (PI: Randy Beer)
2010-2015	“Mapping the Human Connectome: Structure, Function, and Heritability”, NIH Blueprint Project, Co-Investigator (PIs: David Van Essen, Kamil Ugurbil)
2014-2017	“Testing network-based hubs through lesion analysis”, James S. McDonnell Foundation, Co-Investigator (PI: Daniel Tranel)

### Current

2015-2019	“CRCNS: Linking Connectomics and Large-Scale Dynamics of the Human Brain”, National Institutes of Health, NCCIH, PI.
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## TEACHING

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1993	Santa Fe Institute, Lectures in Complex Systems, “Neural Models of Perception and Behavior”.
1996	“Neuroscience Workshop”, DCI Advanced Research and Development Committee.
2007	Theoretical Neuroscience Summer School, FIAS, Frankfurt, Germany.
2008	Theoretical Neuroscience Summer School, FIAS, Frankfurt, Germany.
2009	Complex Systems Summer School, Santa Fe Institute, Santa Fe, NM.
2010	Brain, Cognition and Technology Summer School, Barcelona, Spain.
2013	Cognitive Neuroscience Summer School, Lake Tahoe, CA.
2018	Summer School in Computational Neuroscience, OIST, Okinawa, Japan.
2000-2018	Undergraduate: K300 “Introduction to Statistical Techniques” (2000-F, 2001-S, 2001-F, 2002-S, 2002-F, 2003-F, 2004-F, 2005-S, 2005-F) P326 “Behavioral Neuroscience” (2003-S, 2006-F) P346 “Neuroscience” (2008-S, 2009-S, 2010-S, 2011-S, 2012-F, 2013-S, 2014-S) P457 “The Connected Brain” (2013-F, 2015-S, 2017-S, 2019-S)
2000-2018	Graduate: Q551 “Brain and Cognition” (2000-F, 2001-F, 2002-F, 2003-F, 2004-F)

Q610/P657 "Networks of the Brain" (2011-S, 2013-S, 2014-S, 2016-S, 2018-S)  
Q733 "Cognitive Science Colloquium Series" (2000-F, 2001-S, 2001-F, 2002-S, 2002-F, 2003-S, 2003-F, 2004-S)  
N501 "Introductory Neuroscience" (2001-S, 2002-S, 2003-S, 2005-S, 2006-S, 2007-S, 2008-S)  
N650 "Neuroscience Colloquium Series" (2005-F, 2006-S, 2006-F, 2007-S, 2007-F, 2008-S)

## PATENTS

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US patent #5283839 "Apparatus capable of figure-ground segregation"  
US patent #5985822 "Inhibition of glial cell proliferation with N-CAM homophilic peptides"

## PROFESSIONAL SOCIETIES

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1988-1989 International Neural Network Society.  
1987-1990 American Mathematical Society.  
1991-present Society for Neuroscience  
1996-present American Association for the Advancement of Science  
1998-2004 International Society for Adaptive Behavior  
2000-2005 Cognitive Neuroscience Society  
2002-present Sigma Xi

## PROFESSIONAL SERVICE

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1990-2000 Organizer, Summer Atelier in Theoretical Neuroscience, Neurosciences Institute, New York and San Diego.  
1993 Program committee member, ICANN 93, International Conference on Artificial Neural Networks, Amsterdam, Netherlands.  
1994 Program committee member, SAB 94, Conference on Simulation of Adaptive Behavior, Brighton, UK.  
1996 Program committee member, SAB 96, Cape Cod, MA.  
Program committee member, ICANN 96, Bochum, Germany.  
1998 Program committee member, SAB 98, Zurich, Switzerland.  
Organizer, Workshop on "Embodied Systems", SAB 98, Zurich, Switzerland.  
Program committee member, ICANN 98, Skovde, Sweden.  
1999 Program committee member, ICANN 99, Edinburgh, UK.  
Program committee member, IPCAT 99, Information Processing in Cells and Tissues, Indianapolis, IN.  
2000 Program committee member, SAB 2000, Paris, France.  
2001 Program committee member, IPCAT 2001, Leuven, Belgium.  
Program committee member, EWLR 2001, 8th European Workshop on Learning Robots, Prague.  
Program committee member, ICCS 2001, Third International Conference on Cognitive Science, Beijing, PR China.  
2002 Program committee member, ICDL '02 (International Conference on Development and Learning), MIT, Cambridge, MA.  
Member, scientific committee, SAB 2002 (Simulation of Adaptive Behavior), Edinburgh, UK.  
Grant Review Panel "Cognitive Neuroscience", National Science Foundation.  
2003 Member, Program Committee, IPCAT 2003, Lausanne, Switzerland.  
Organizer, Workshop on "The Brain as a Complex System" at Human Brain Mapping 2003, New York, NY.  
Review Committee and Special Session Organizer, IJCNN 2003, Portland, OR.  
Review Committee, RoboCup 2003, Padua, Italy.  
Grant Review Panel "Cognitive Neuroscience", National Science Foundation.  
2004 Program Committee, SAB2004, Los Angeles, CA.  
Workshop Organizer, SAB2004, Los Angeles, CA.  
Special Issue Editor, "Neuroinformatics".  
Scientific Committee, ICDL '04 (International Conference on Development and Learning), San Diego, CA.  
Grant Review Panel "Human Brain Mapping/Neuroinformatics", NIH.  
Chair, IEEE task force on "Adaptive Motivational Systems"  
2005 Scientific Committee, ICDL 2005, Osaka, Japan.  
Grant Review Panel "Collaborative Research in Computational Neuroscience", NIH/NSF.

Panel Member, "Beyond the Horizon", a future technologies advisory panel of the European Commission.  
 Program Committee, IPCAT 2005, York, UK.  
 Organizing Committee, "Developmental Robotics", AAAI Spring Symposium Series, Stanford University.  
 Grant Review Panel "Cognitive Neuroscience", NIH.

2006 Member, Emergent Technologies Technical Committee, IEEE-Computational Intelligence Society  
 Program and Organizing Committee, ICDL 2006, Bloomington, IN.  
 Review Committee, ALIFE X, 2006, Bloomington, IN.  
 Organizing Committee, AI50, Monte Verita, Switzerland.  
 Program Committee, SAB 2006, Rome, Italy.  
 Special Issue Editor, "Adaptive Behavior".  
 Program Committee, IJCAI 2007.

2007 Program Committee, ECAL, Lisbon, Portugal.

2008 Program Committee, SAB 2008, Osaka, Japan.  
 Governing Board, ICDL (elected)  
 Gill Center Advisory Board  
 Strategic Planning Committee, Physical and Life Sciences, College of Arts and Sciences

2009 Program Committee, ICDL 2009, Shanghai, China.

2010 Program Committee, SAB 2010, Paris, France.  
 Co-Organizer, Brain Connectivity Workshop 2010, Berlin, Germany.  
 Reader Advisory Panel, Nature, London.  
 Board of Scientific Governors (ad hoc member), NIMH, Bethesda, MD.  
 Organizer, Short Course on "Analysis and Function of Large-Scale Brain Networks", Society for  
 Neuroscience Annual Meeting, San Diego, CA.

2011 Scientific Advisory Council, Ontario Brain Institute.  
 Advisory Board, Brain Preservation Foundation.

2012 European Commission Review Panel

2013 European Commission Review Panel  
 Co-Organizer, Brain Connectivity Workshop 2013, Vancouver, Canada.  
 Special Symposium Organizer, Association for Psychological Science Annual Meeting, Washington, DC.

2014 European Commission Review Panel  
 NIMH Board of Scientific Governors (ad hoc)  
 Brain Initiative Special Emphasis Panel: Integrated Approaches to Understanding Circuit Function in the  
 Nervous System (U01)

2015 European Commission Review Panel

2016 Co-Organizer, J.S. McDonnell Foundation Workshop on "Network Science and Cognitive Neuroscience:  
 Explaining how the Brain Works", Sedona, AZ.

2017 Co-Organizer, Keystone Symposium on "Connectomics", Santa Fe, NM  
 Co-Chair, NetSci2017, Indianapolis, IN  
 Co-Director, Cajal Course on "Connectomics", Bordeaux, France.

## EDITORIAL BOARDS

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1992-2000 Member, Editorial Board of "Human Brain Mapping", a journal published by John Wiley, New York.

2001-2015 Associate Editor, "BioSystems", a journal published by Elsevier.

2002-present Member, Editorial Board of "Neuroinformatics", a journal published by Springer.

2003-2012 Member, Editorial Board, "International Journal of Humanoid Robotics", a journal published by World  
 Scientific.

2004-present Associate Editor, "Adaptive Behavior", a journal published by Sage Publications.

2005-2006 Member, Editorial Board of "Journal of Integrative Neuroscience", a journal published by World Scientific.

2006-present Member, Editorial Board of "Cognitive Neurodynamics", a journal published by Springer.

2006-2008 Academic Editor, "PLoS ONE"

2007-2010 Associate Editor, "PLoS Computational Biology"

2007-present Member, Editorial Board, "Frontiers in Neuroinformatics"

2008-2016 Section Editor, "PLoS ONE"

2008-2011 Action Editor, "Neural Networks"

2008-2015 Associate Editor, "IEEE Transactions on Autonomous Mental Development"

2010-2014 Deputy Editor, "PLoS Computational Biology"

2011-present Member, Editorial Board, "Brain Connectivity"

2012-2017 Member, Editorial Board, "NeuroImage"

2012-present Member, Editorial Board, "Network Science"

2014-2016 Deputy Editor-in-Chief, "PLoS Computational Biology"

2015-present Member, Editorial Board, "Cerebral Cortex"  
2015-present Member, Editorial Board, "Theory in Biosciences"  
  
2016-present Founding Editor, "Network Neuroscience"  
  
Guest Editor, Proceedings of the National Academy of Sciences USA  
  
Big Think Delphi Fellow (<http://bigthink.com>)

## AD HOC REVIEW

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**Journals** Adaptive Behavior, Behavioral and Cognitive Neuroscience Reviews, Biological Bulletin, BioSystems, Brain, Brain Connectivity, Brain Research, Brain and Behavioral Sciences, Brain Structure and Function, Consciousness and Cognition, Connection Science, Cerebral Cortex, Clinical Electrophysiology, Complexity, European Journal of Neuroscience, Human Nature, Human Brain Mapping, IEEE Transactions on Evolutionary Computation, IEEE Transactions on Neural Networks, IEEE Transactions on Medical Imaging, Journal of Cognitive Neuroscience, Journal of Cognitive Science, Journal of Integrative Neuroscience, Journal of Neurophysiology, Journal of Neuroscience, Journal of Neuroscience Methods, Nature Communications, Nature Neuroscience, Nature Physics, Nature Reviews Neuroscience, Neural Computation, Neural Networks, Neuron, New Journal of Physics, Neurocomputing, NeuroImage, Neuroinformatics, Physica A, Physica D, Physical Review E, PLoS Biology, PLoS Computational Biology, PLoS ONE, Proceedings of the National Academy of Sciences, Progress in Neurobiology, Psychological Methods, Science, Scientific Reports, Trends in Neurosciences, Trends in Cognitive Sciences, Vision Research.

**Grants** National Institutes of Health, National Science Foundation, W.M. Keck Foundation, Volkswagenstiftung, Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Swiss National Science Foundation, Department of Energy, Royal Society, Wellcome Trust, Swiss Transmed, Minerva Foundation, Max Planck Society, Thiel Foundation, Vanderbilt University, Ontario Brain Institute, FONDECYT-Chile.

**Books** Allyn and Bacon, Wiley, Houghton & Mifflin, MIT Press, Cambridge University Press, Oxford University Press, Elsevier.

## ADVISORY BOARDS

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2011-2016 Scientific Advisory Council, Ontario Brain Institute, Toronto, Canada.  
2012-present Advisory Board, Brain Preservation Foundation.  
2012-2016 Advisory Board, Brainnetome Center, Institute of Automation, Chinese Academy of Sciences, Beijing, China.  
2014-present Associate Investigator, Australian Research Council, Centre of Excellence for Integrative Brain Function, Melbourne, Australia.  
2016-present Institute for Scientific Interchange (ISI) Scientific Advisory Board, Torino, Italy.

## PUBLICATIONS

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### Books

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6. Leergaard TB, Sporns O, Hilgetag C (2013) Mapping the Connectome: Multi-Level Analysis of Brain Connectivity. Frontiers Research Topics, Lausanne, Switzerland.
5. Sporns O (2012) Discovering the Human Connectome. MIT Press, Cambridge.
4. Sporns O (2011) Networks of the Brain. MIT Press, Cambridge.
3. Sendhoff B, Körner E, Sporns O, Ritter H, Doya K, eds. (2009) Creating Brain-Like Intelligence. Springer: Berlin.

2. Reeke, G.N., Poznanski, R.R., Lindsay, K.A., Rosenberg, J.R. and Sporns, O. (2005) Modeling in the Neurosciences. From Biological Systems to Neuromimetic Robotics, 2nd edition, CRC Press, London.

1. Sporns, O., and Tononi, G., Eds. (1994) Selectionism and the Brain. Academic Press: San Diego.

## Papers

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249. Hilger K, Fukushima M, Sporns O, Fiebach CJ (2019) Temporal stability of functional brain modules associated with human intelligence. *Human Brain Mapping*
248. Swanson LW, Sporns O, Hahn JD (2019) The network organization of rat intrathalamic macroconnections and a comparison with other forebrain divisions. *Proc. Natl. Acad. Sci. USA* 116, 13661-13669.
247. Van den Heuvel M, Sporns O (2019) A cross-disorder connectome landscape of brain dysconnectivity. *Nature Reviews Neuroscience* 20, 435-446.
246. Avesani P, McPherson B, Hayashi S, Caiafa CF, Henschel R, Garyfallidis E, Kitchell L, Bullock D, Patterson A, Olivetti E, Sporns O, Saykin AJ, Wang L, Dinov I, Hancock D, Caron B, Qian Y, Pestilli F (2019) The open diffusion data derivatives, brain data upcycling via integrated publishing of derivatives and reproducible open cloud services. *Scientific Data* 6, 69.
245. Geniesse C, Sporns O, Petri G, Saggat M (2019) Generating dynamical neuroimaging spatiotemporal representations (DyNeuSR) using topological data analysis. *Network Neuroscience* 3, 763-778.
244. Chumin EJ, Grecco GG, Dziedzic M, Cheng H, Finn P, Sporns O, Newman SD, Yoder KK (2019) Alterations in white matter microstructure and connectivity in young adults with alcohol use disorder. *Alcohol. Clin. Exp. Res.*
243. Hahn J, Sporns O, Watts AG, Swanson LW (2019) Macroscale intrinsic network architecture of the hypothalamus. *Proc. Natl. Acad. Sci. USA* 116, 8018-8027.
242. Avena-Koenigsberger A, Yan X, Kolchinsky A, van den Heuvel M, Hagmann P, Sporns O (2019) A spectrum of routing strategies for brain networks. *PLOS Computational Biology* 15, e1006833.
241. Lim S, Radicchi F, van den Heuvel MP, Sporns O (2019) Discordant attributes of structural and functional brain connectivity in a two-layer multiplex network. *Scientific Reports* 9, 2885.
240. Hughes C, Cassidy BS, Faskowitz J, Avena-Koenigsberger A, Sporns O, Krendl AC (2019) Age differences in specific neural connections within the Default Mode Network underlie theory of mind. *Neuroimage* 191, 269-277.
239. Contreras JA, Avena-Koenigsberger A, Risacher SL, West JD, Tallman E, McDonald BC, Farlow MR, Apostolova LG, Goni J, Dziedzic M, Wu YC, Kessler D, Jeub L, Fortunato S, Saykin AJ, Sporns O (2019) Resting state network modularity along the prodromal late onset Alzheimer's disease continuum. *NeuroImage: Clinical*, 101687.
238. Shine JM, Breakspear M, Bell PT, Martens KE, Shine R, Koyejo O, Sporns O, Poldrack RA (2019) Human cognition involves the dynamic integration of neural activity and neuromodulatory systems. *Nature Neuroscience* 22, 289-296.
237. Kim DJ, Davis EP, Sandman CA, Glynn L, Sporns O, O'Donnell BF, Hettrick WP (2019) Childhood poverty and the organization of the structural brain connectome. *Neuroimage* 184, 409-416.
236. Kim DJ, Schnakenberg AM, Shin YW, Jo HJ, Cheng H, Newman SD, Sporns O, Hettrick WP, Calkins E, O'Donnell BF (2019) Aberrant structural-functional coupling in adult cannabis users. *Human Brain Mapping* 40, 252-261.
235. Fukushima M, Sporns O (2018) Comparison of fluctuations in global network topology of modeled and empirical brain functional connectivity. *PLOS Comput Biol.* 14, e1006497.

234. Xie L, Amico E, Salama P, Wu Y, Fang S, Sporns O, Saykin AJ, Goni J, Yan J, Shen L (2018) Heritability estimation of reliable connectomic features. *International Workshop on Connectomics in Neuroimaging, Lecture Notes in Computer Science, Vol 11083*, pg. 58-66.
233. Faskowitz J, Yan X, Zuo XN, Sporns O (2018) Weighted stochastic block models of the human connectome across the life span. *Sci. Rep.* 8, 12997.
232. Swanson LW, Hahn JD, Jeub L, Fortunato S, Sporns O (2018) Subsystem organization of axonal connections within and between the right and left cerebral cortex and cerebral nuclei (endbrain). *Proc. Natl. Acad. Sci. USA* 115, E6910-E6919.
231. Sporns O (2018) Graph theory methods: Applications in brain networks. *Dialogues in Clinical Neuroscience* 20, 111-121.
230. Sporns O, Bassett DS (2018) New trends in connectomics. *Network Neuroscience* 2, 125-127.
229. Yan J, Raja V, Huang Z, Amico E, Nho K, Fang S, Sporns O, Wu Y, Saykin A, Goni A, Shen L (2018) Brain-wide structural connectivity alterations under the control of Alzheimer risk genes. *International Journal of Computational Biology and Drug Design*.
228. Yan J, Liu K, Amico E, Risacher SL, Wu Y, Fang S, Sporns O, Saykin AJ, Goni J, Shen L (2018) Joint exploration and mining of memory-relevant brain anatomic and connectomic patterns via a three-way association model. *Biomedical Imaging (ISBI 2018)*, pg. 6-9.
227. Misić B, Betzel RF, Griffa A, de Reus MA, He Y, Zuo XN, van den Heuvel MP, Hagmann P, Sporns O, Zatorre RJ (2018) Network-based asymmetry of the human auditory system. *Cerebral Cortex* 28, 2655-2664.
226. Rosenthal G, Vasa F, Griffa A, Hagmann P, Amico E, Goni J, Avidan G, Sporns O (2018) Mapping higher-order relations between brain structure and function with embedded vector representations of connectomes. *Nature Communications* 9, 2178.
225. He Y, Lim S, Fortunato S, Sporns O, Zhang L, Qiu J, Xie P, Zuo XN (2018) Reconfiguration of cortical networks in MDD uncovered by multiscale community detection with fMRI. *Cerebral Cortex* 28, 1383-1395.
224. Saggat M, Sporns O, Gonzalez-Castillo J, Bandettini PA, Carlsson G, Glover G, Reiss AL (2018) Towards a new approach to reveal dynamical organization of the brain using topological data analysis. *Nature Communications* 9, 1399.
223. Hampel H, Toschi N, Babiloni C, Baldacci F, Black KL, Bokde ALW, Bun RS, Cacciola F, Cavado E, Chiesa PA, Colliot O, Coman CM, Dubois B, Duggento A, Durrleman S, Ferretti MT, George N, Genthon R, Habert MO, Herholz K, Koronyo Y, Koronyo-Hamaoui M, Lamari F, Langevin T, Lehericy S, Lorenceau J, Neri C, Nisticò R, Nyasse-Messene F, Ritchie C, Rossi S, Santarnecchi E, Sporns O, Verdooner SR, Vergallo A, Villain N, Younesi E, Garaci F, Lista S (2018) Revolution of Alzheimer Precision Neurology - Passageway of Systems Biology and Neurophysiology. *Journal of Alzheimer's Disease* 64, S47-S105.
222. Fukushima M, Betzel RF, He Y, van den Heuvel MP, Zuo XN, Sporns O (2018) Structure-function relationships during segregated and integrated network states of human brain functional connectivity. *Brain Struct Funct* 223, 1091-1106.
221. Jeub LG, Sporns O, Fortunato S (2018) Multiresolution consensus clustering in networks. *Sci. Rep.* 8, 3259.
220. Costa AA, Amon MJ, Sporns O, Favela LH (2018) Fractal analyses of networks of integrate-and-fire stochastic spiking neurons. In: Cornelius S., Coronges K., Gonçalves B., Sinatra R., Vespignani A. (eds) *Complex Networks IX. CompleNet 2018. Springer Proceedings in Complexity*, pp. 161-171, Springer.
219. Avena-Koenigsberger A, Misić B, Sporns O (2018) Communication dynamics in complex brain networks. *Nature Reviews Neuroscience* 19, 17-33.



218. Fukushima M, Betzel RF, He Y, de Reus MA, van den Heuvel MP, Zuo XN, Sporns O (2018) Fluctuations between high- and low-modularity topology in time-resolved functional connectivity. *Neuroimage* 180B, 406-416.
217. Pena-Gomez C, Avena-Koenigsberger A, Sepulcre J, Sporns O (2018) Spatiotemporal network markers of individual variability in the human functional connectome. *Cerebr Cortex* 28, 2922-2934.
216. Váša F, Seidlitz J, Romero-Garcia R, Whitaker KJ, Rosenthal G, Vertes P, Shinn M, Alexander-Bloch A, Fonagy P, Dolan RJ, Jones PB, Goodyer IM, Sporns O, Bullmore ET (2018) Adolescent tuning of association cortex in human structural brain networks. *Cerebral Cortex* 28, 281-294.
215. Caiafa CF, Sporns O, Saykin AJ, Pestilli F (2017) Unified representation of tractography and diffusion-weighted MRI data using sparse multidimensional arrays. In: 31st Conference on Neural Information Processing Systems (NIPS 2017), Long Beach, CA, USA.
214. Vázquez-Rodríguez B, Avena-Koenigsberger A, Sporns O, Griffa A, Hagmann P, Larralde H (2017) Stochastic resonance at criticality in a network model of the human cortex. *Sci Rep* 7, 13020.
213. Swanson LW, Hahn JD, Sporns O (2017) Organizing principles for the cerebral cortex network of commissural and association connections. *Proc Natl Acad Sci USA* 114, E9692-9701.
212. Li H, Fang S, Contreras JA, West JD, Risacher SL, Wang Y, Sporns O, Saykin AJ, Goni J, Shen L (2017) Brain Explorer for connectomics analysis. *Brain Informatics* doi: 10.1007/s40708-017-0071-9
211. Worrell JC, Rumschlag J, Betzel RF, Sporns O, Misić B (2017) Optimized connectome architecture for sensory-motor integration. *Network Neuroscience* 1, 415-430.
210. Diaz-Parra A, Osborn Z, Canals S, Moratal D, Sporns O (2017) Structural and functional, empirical and modeled connectivity in the cerebral cortex of the rat. *Neuroimage* 159, 170-184.
209. Razi A, Seghier ML, Zhou Y, McColgan P, Zeidman P, Park HJ, Sporns O, Rees G, Friston KJ (2017) Large-scale DCMs for resting-state fMRI. *Network Neuroscience* 1, 222-241.
208. Sporns O (2017) The future of network neuroscience. *Network Neuroscience* 1, 1-2.
207. Bassett DS, Sporns O (2017) Network neuroscience. *Nature Neuroscience* 20, 353-364.
206. Contreras JA, Goñi J, Risacher SL, Amico E, Yoder K, Dziedzic M, West JD, McDonald BC, Farlow MR, Sporns O, Saykin AJ (2017) Cognitive complaints in older adults at risk for Alzheimer's disease are associated with altered resting-state networks. *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring* 6, 40-49.
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## Book Reviews

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6. Sporns, O. (2007) *The Complementary Nature*. Review of "The Complementary Nature", by J. A. Scott Kelso and David A. Engstrom, *Quarterly Review of Biology* 82, 37-38.
5. Sporns, O. (2004) *Modeling Neural Development*. Review of "Modeling Neural Development", by Arjen van Oojen, *BioSystems* 74, 79-81.
4. Sporns, O. (1997) *Weird Science*. Review of "The Cerebral Code", by William H. Calvin, *Int. J. Neural Networks*.
3. Sporns, O. (1995) *A House of Cards*. Review of "The Astonishing Hypothesis", by Francis H.C. Crick, *Protein Science* 4, 552-554.
2. Sporns, O. (1993) Review of "Applications of Neural Networks", ed. by H.G. Schuster. *Advanced Materials* 5, 488.
1. Sporns, O. (1991) Review of "Neurobiology of Cognition", ed. by P.D. Eimas and A.M. Galaburda. *The Physiologist* 34, 326.

## PRESENTATIONS

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- 03-15-88 "Synthetic neural modeling", Stated Meeting of the NRP, New York, NY.
- 01-29-90 "Synthetic neural modeling: Computer simulations of perceptual and motor systems", Rockefeller University Thesis Presentation, New York, NY.
- 05-01-90 "Synthetic neural modeling", Friedrichsdorf, Germany.
- 05-01-90 "Synthetic neural modeling", Zentrum für Interdisziplinäre Forschung, Bielefeld, Germany.
- 10-11-90 "Modeling perceptual grouping and figure-ground segregation", California Institute of Technology, Pasadena, California.
- 10-12-90 "Modeling perceptual grouping and figure-ground segregation", The Salk Institute, La Jolla, California.
- 11-01-90 "Coherent oscillations in a population-based model: Their role in visual perception", Annual Meeting of the Society for Neuroscience, St. Louis, Missouri.
- 04-12-91 "Modeling perceptual grouping and figure-ground segregation: A possible neural basis for some Gestalt laws", Workshop on Oscillations in the Visual Cortex, Tucson, Arizona.
- 10-15-91 "Visual cortical integration: A possible neural basis for some Gestalt laws", Weizmann-Rockefeller Symposium on Neuronal Organization and Plasticity, Rehovot, Israel.
- 01-22-92 "The neural basis of Gestalt", Winterseminar, organized by Manfred Eigen, Klosters, Switzerland.
- 04-15-92 "Neural models of cortical integration", Massachusetts Institute of Technology, Boston, MA.
- 05-03-92 "Instructional and selectional ideas in brain theory", Neurosciences Institute, New York.
- 07-01-92 "Models of visual cortical integration", ETH Zürich, Switzerland.
- 07-02-92 "Synthetic neural modeling: From simulation to real-world devices", Institut für Informatik, University of Zürich, Switzerland.
- 09-02-92 "Correlated neural activity and the problem of cortical integration", NIH, Bethesda, MD.
- 10-13-92 "Putting together the world inside the head: computer simulations of cortical integration", New York Academy of Sciences, NY.
- 10-28-92 "Constructive and correlative reentry in the visual system: computer simulations and psychophysics", Society for Neuroscience Annual Meeting, Anaheim, CA.
- 12-02-92 "Neural models of cortical integration", Symposium on Theoretical Biology, Max-Planck-Gesellschaft, Heidelberg, Germany.
- 01-27-93 "Neural models of cortical integration", Klosters, Switzerland.
- 05/06-93 Lecture Series "Neural models of the visual cortex", Santa Fe Institute, Santa Fe, New Mexico.
- 06-28-93 "Synthetic Neural Modeling in Real-World Devices", Gesellschaft für Mathematische Datenverarbeitung, Workshop, Bonn, Germany.
- 09-15-93 "Correlated neural activity and behavior", ICANN 93, Amsterdam, Netherlands.
- 11-17-94 "Neural complexity and the relationship between functional segregation and integration in the nervous system", Society for Neuroscience, Annual Meeting, Miami, FL.
- 06-03-95 "Cortical integration and a measure for neural complexity", Workshop on "Dynamics of Neuronal Ensembles", Woods Hole, MA.
- 06-29-95 "Cortical integration, the 'binding problem' and neural complexity", Ernst Weber Symposium, Universität Leipzig, Germany.
- 09-07-95 "Neural Darwinism", Science and Human Dimension Symposium, Jesus College, Cambridge, UK.
- 10-16-95 "Synthetic Neural Modeling", Inaugural Symposium, The Neurosciences Institute, San Diego, CA.
- 11-29-95 "Dynamics of neural networks: Cortical integration and neural complexity", USC Neuroscience Seminar, Los Angeles, CA.
- 02-22-97 "Variation and selection in brain function: From computational models to machine psychology", Symposium on "The development of multisensory perception", Indiana University, Bloomington, IN.
- 10-20-97 Participant, Highlands Forum on "The Mind, the Brain and Computing", Krasnow Institute, Fairfax, VA.
- 03-08-98 "From cortical integration to neural complexity", International Titisee Conference, Titisee, Germany.
- 04-17-98 Tutorial on Neuroscience, Krasnow Institute, Fairfax, VA.
- 08-19-98 Organizer, Workshop at SAB98, Title: "Embodied Models in Neurobiology", Zurich, Switzerland.
- 10-23-98 Participant, Workshop "Robots and Biology: Developing Connections", American Association for Artificial Intelligence, Orlando, FL.
- 02-08-99 "Synthetic neural modeling: An approach to study the interaction of neural dynamics and behavior", EDEC99, Tsukuba, Japan.
- 03-04-99 "Steps towards machine psychology", California Institute of Technology, Pasadena, CA.
- 03-10-99 "Darwin V: Developing the neural bases for perceptual invariants" NRP Meeting, San Diego, CA.
- 05-24-99 "Analyzing anatomical and functional connectivity in the cerebral cortex", UCSF Keck Center Seminar, San Francisco, CA.
- 07-07-99 "Selective constraints and complexity in neuroanatomical networks" CEC99, Washington, DC.

- 10-04-99 "Relating anatomical and functional connectivity in the cerebral cortex", Neurology Department, University of Düsseldorf, Germany.
- 10-05-99 "Relating anatomical and functional connectivity in the cerebral cortex", Max-Planck-Institute for Cognitive Neuroscience, Leipzig, Germany.
- 10-06-99 "Relating anatomical and functional connectivity in the cerebral cortex", Charité, Department of Neurophysiology, Berlin, Germany.
- 10-08-99 "Computational models of value systems and their role in adaptive behavior", Neurobiology Department, Free University, Berlin, Germany.
- 10-12-99 "Theoretical neuroanatomy: Relating anatomical and functional connectivity in graphs and cortical connection matrices", International Symposium on Brain Mechanisms of Tactile Perception, Stockholm, Sweden.
- 01-18-00 "Computational models of visual perception and behavior", Department of Psychology and Program in Cognitive Science, Indiana University, Bloomington, IN.
- 03-08-00 "Theoretical neuroanatomy: Relating anatomical and functional connectivity of the cerebral cortex", NRP Stated Meeting, San Diego, CA.
- 04-06-00 "The role of value and functional connectivity", NSF-DARPA Workshop on Development and Learning, Michigan State University, East Lansing, MI.
- 04-07-00 "Understanding by building – computational approaches in development and learning", NSF-DARPA Workshop on Development and Learning, Michigan State University, East Lansing, MI.
- 06-06-00 "Computational models of neural dynamics and behavior", 20th Annual International Conference, Center for Nonlinear Studies, Los Alamos, NM.
- 08-12-00 "Networks in the Cerebral Cortex", Santa Fe Institute, Santa Fe, NM.
- 11-01-00 "Computational studies of functional segregation and integration in the cerebral cortex", Cognitive Science Lunch Seminar Series, IU, Bloomington, IN.
- 02-15-01 "Networks in the Cortex and Cognition", Center for Study of Complex Systems, University of Michigan, Ann Arbor, MI.
- 03-12-01 "Anatomical and functional connectivity of large-scale brain networks", Krasnow Institute for Advanced Study, Fairfax, VA.
- 03-23-01 Invited Discussant, "What Does the Brain Think of the Mind?", James S. McDonnell Foundation Workshop, University of Toronto, Toronto, Canada.
- 05-31-01 "Dynamical and Neurocomputational Approaches to Development: A Perspective", Keynote, Motor Development and Learning in Infancy – Behavioral, Neurological and Modeling Issues, Amsterdam, The Netherlands.
- 06-09-01 "Dynamical and Neurocomputational Approaches to Development: A Perspective", Keynote, NASPSPA 2001, St. Louis, MO.
- 06-17-01 "Steps Towards a Synthetic Psychology: Neural Modeling and the Emergence of Behavior", Speaker, Invited Symposium "Beyond Nativism", Society for Philosophy and Psychology, 27th Annual Meeting, University of Cincinnati, Cincinnati, OH.
- 10-06-01 "Learning and Plasticity in Robots", Invited Symposium on "Complexity", Motor Development Research Consortium, University of Michigan, Ann Arbor, MI.
- 04-06-02 "From Neuroanatomy to Functional Brain Connectivity – and Back?", Invited speaker, workshop on "Functional Brain Connectivity", Duesseldorf, Germany.
- 05-10-02 "Robot Models of Embodied Cognition", Invited Talk, Coordination Dynamics 2002, Center for Complex Systems, FAU, Delray Beach, FL.
- 06-15-02 "Dopamine, Reward Conditioning and Robot Behavior", ICDL02, MIT, Cambridge, MA.
- 08-20-02 "Cortical Architecture for Pattern Recognition", Workshop on "Neuroscience-Enabled Computer Vision", Department of Defense, MITRE Corporation, McLean, VA.
- 11-01-02 "The Brain as a Complex System", Invited Talk, Symposium "Dynamical Neuroscience X", organized by NIMH, Orlando, FL.
- 04-16-03 "Biorobotics and Synthetic Psychology: Exploring the Link between Brain and Body", Northern Kentucky University, Highland Heights, KY.
- 05-02-03 "The Small World of the Cerebral Cortex", Computational Neuroscience and Neuroinformatics Workshop, MRC Cognition and Brain Sciences Unit, Cambridge, UK.
- 05-12-03 "Connectivity and Complexity in Small World Networks of the Brain", Complexity in Biology Seminar Series, California Institute of Technology, Pasadena, CA.
- 05-12-03 "Learning, Plasticity and Neuromodulation in an Autonomous Robot", Computation and Neural Systems Colloquium Series, California Institute of Technology, Pasadena, CA.
- 06-22-03 "The Brain as a Complex System", Human Brain Mapping 2003, New York, NY.
- 07-08-03 "Information-theoretical Aspects of Embodied Artificial Intelligence", Seminar on Embodied AI at Schloss Dagstuhl International Computer Science Center, Saarland, Germany.
- 07-11-03 "Designing Intelligence by Modeling Brains and Building Robots", Honda Research Institute Europe, Frankfurt, Germany.

07-23-03 "Neuromodulation in a Learning Robot: Interactions between Neural Plasticity and Behavior", IJCNN 2003, Portland, OR.

07-23-03 "Generating Structure in Sensory Data through Coordinated Motor Activity", IJCNN 2003, Portland, OR.

10-30-03 "Information integration in the brain", workshop on Neuroscience-Enabled Computer Vision 2003, MITRE Corporation, McLean, VA.

04-20-04 "A Design for an Integrated Neural Architecture: Value and Working Memory in Vision and Attention", Honda Research Institute Europe, Frankfurt, Germany.

04-26-04 "Networks, Robots and Thinking", Parmenides Foundation, Elba, Italy.

07-17-04 "Measuring the Structure of Sensory and Motor Data in Neurorobotic Systems", Simulation of Adaptive Behavior, Los Angeles, CA.

08-12-04 "Information, the Brain and the Body: A New Rationale for Neurorobotics", University of Tokyo, Tokyo, Japan.

10-13-04 "Complex Neural Networks as Future Tools in Imagery Analysis", AIPR 2004, Washington, DC.

10-25-04 "Organization, Development, and Function of Complex Brain Networks", IU Colloquium, SLIS.

03-07-05 "Organization, Development, and Function of Complex Brain Networks", Invited Colloquium, Krasnow Institute for Advanced Study, George Mason University, Fairfax, VA.

03-09-05 "The Structure of Brain Networks", Cognitive Lunch Colloquium Series, IU Bloomington.

04-15-05 "Motifs in Brain Networks: Building Blocks for a Cognitive Architecture", Brain Connectivity Workshop, Florida Atlantic University, Boca Raton, FL.

06-12-05 "Neurorobotics: Brain and Behavior in Natural and Artificial Creatures", European Community Panel Workshop FP7, Zurich, Switzerland.

08-17-05 "Brain Design", Honda Research Institute Europe, Frankfurt, Germany.

09-12-05 "Embodied Cognition and Robotics", 2005 Plexus Annual Summit "On the verge: changing lives, organizations and minds. Complexity science in a changing world", Delray Beach, FL.

02-27-06 "Evolution of Neural Complexity", Networks and Complex Systems Seminars, IUB (with Larry Yaeger).

03-08-06 "Brain Networks as Complex Systems", DePauw University, Department of Psychology Colloquium, Greencastle, IN.

04-02-06 "Embodiment and Information", Hoosier Mental Life 2006, Invited Tutorial, Bloomington, IN.

05-19-06 "Graph Evolution: A Computational Approach", Brain Connectivity Workshop (invited), Sendai, Japan.

06-02-06 "Mapping causal relations in sensorimotor networks", ICDL 2006, Bloomington, IN.

06-03-06 "Evolution for Complexity", ALife Workshop, ALife X, Bloomington, IN.

06-06-06 "Evolving coordinated behavior by maximizing information structure", ALife X, Bloomington, IN.

07-21-06 "The Search for Principles of Autonomous Development", WCCI 2006, invited plenary talk, Vancouver, Canada.

08-17-06 "Information and Embodiment", invited plenary talk, Cognitive Robotics, Intelligence and Control (CogRIC), Windsor, UK.

10-20-06 "Information and Embodiment", Pisonifest, Bloomington, IN.

10-27-06 "Information and Embodiment", The Rotman Research Institute, University of Toronto, Canada.

12-01-06 "Information and Embodiment", Honda Research Institute Europe, Frankfurt, Germany.

01-26-07 "Brain Network Modeling: Connectivity, Dynamics, and Embodiment", Keynote (invited), Conference on Brain Network Dynamics, UC Berkeley, Berkeley, CA.

02-02-07 "Creating Brain-Like Intelligence: Past, Present ... and Future?", Invited Talk, International Symposium on Creating Brain-Like Intelligence", Georgenthal, Germany.

02-09-07 "A Role for Embodiment in Information Processing", McGill University, Montreal, Canada.

02-09-07 "Computational Approaches to Brain Connectivity, Dynamics and Embodiment", D.O. Hebb Lecture (invited), McGill University, Montreal, Canada.

02-21-07 Discussant, Darpa HAND meeting, Arlington, VA.

02-22-07 "Information: A New (or Old?) Link between Brain and Body", Behavioral and Brain Sciences Seminar, Cornell University, Ithaca, NY.

02-23-07 "The Brain as a Complex System: Connectivity, Dynamics, and Embodiment", Invited Colloquium, Department of Psychology, Cornell University, Ithaca, NY.

02-26-07 "Computational Approaches to Connectivity, Dynamics and Embodiment", CSCI H498 Honors Seminar, Indiana University, Bloomington, IN.

03-05-07 Discussant, "Brain Science at the Interface of Biological, Physical and Mathematical Sciences, Computer Science, and Engineering: Analysis of New Opportunities", NSF, Arlington, VA.

03-16-07 "A Network Model of the Cortical Resting State", Seminar (invited), Washington University Medical School, St. Louis, MO.

06-11-07 "Modeling Spontaneous Cortical Dynamics", JS McDonnell Foundation PI seminar, Lake Geneva, WI.

08-20-07 "The Brain as a Complex System", 3 lectures, Summer School on "Theoretical Neuroscience and Complex Systems", Frankfurt Institute for Advanced Study, Frankfurt, Germany.

08-22-07 "A Network Model of Spontaneous Activity in the Cerebral Cortex", Max-Planck-Institute for Brain Research, Frankfurt, Germany.

10-05-07 "Computational Analysis and Modeling of Brain Connectivity", invited colloquium, Northwestern University, Evanston, IL.

10-12-07 "Modeling Thinking", Parmenides Foundation, Munich, Germany.

10-24-07 "The Structure and Dynamics of Complex Brain Networks", invited colloquium, Penn State, State College, PA.

12-06-07 "Network Approaches to Brain Function", invited colloquium, Institute of Neuroscience, Psychology Department, University of Oregon, Eugene, OR.

01-23-08 "Complex Networks – A Key to Understanding Brain Function", invited seminar, Fermi National Accelerator Laboratory, Batavia, IL.

03-19-08 "The Human Connectome: Structural and Functional Networks of the Human Brain", invited seminar, National Institutes of Health, Bethesda, MA.

04-04-08 "Complex Brain Networks", Condensed Matter Seminar, Physics Department, University of Notre Dame, South Bend, IN.

04-07-08 "The Brain as a Complex System", Neuromorphic Computing Workshop, MITRE, McLean, VA.

05-20-08 "Brain Connectivity and Connectomics", Honda Research Institute Europe, Frankfurt, Germany.

05-23-08 "From Brain Structure to Brain Dynamics", Parmenides Workshop on Attractor Dynamics, Isola d'Elba, Italy.

06-12-08 "Network science and the brain: From structural connections to brain dynamics", Brain Connectivity Workshop 2008 (invited), Sydney, Australia.

08-22-08 "Complex Brain Networks: Structure and Function" (2 lectures), FIAS Summer School, Frankfurt, Germany.

10-02-08 "Mapping and Network Analysis of the Human Cerebral Cortex", Brain and Creativity Institute, University of Southern California, Los Angeles, CA.

10-12-08 "Brain Networks for Efficient Computation", Kavli Symposium on Computing Challenges, Cornell University, Ithaca, NY.

10-25-08 "Brain Networks: A Key to Consciousness", Brain, Agency, Self, Intersubjectivity and Consciousness (BASIC) Initiative Workshop, Washington University Medical School, St. Louis, MO.

11-03-08 "Structural and Functional Networks of the Human Brain", IU School of Medicine, Indianapolis, IN.

03-17-09 "My Personal Journey to the Posteromedial Cortex", Helmholtz Club, UC Irvine.

05-12-09 "Network Approaches to Cognitive Neuroscience", Graduate Program in Neuroscience, University of Iowa, Iowa City, IA.

05-13-09 "Lesions and the Robustness of Brain Networks", University of Iowa Medical School, Iowa City, IA.

06-11-09 Lecturer, Complex Systems Summer School, Santa Fe Institute, Santa Fe, NM.

06-15-09 "Network Neuroscience – A New Perspective on Brain Function", Douglas C. Engelbart Keynote Address, 2009 North American Conference on Computing and Philosophy, Bloomington, IN.

06-21-09 "Small-World Networks: Bridging Structure and Function", Annual Meeting of the Organization for Human Brain Mapping, San Francisco, CA.

10-21-09 "Complex Brain Networks: From Structural Connectivity to Functional Dynamics", Special Lecture, Annual Meeting of the Society for Neuroscience, Chicago, IL.

01-30-10 "Modeling the Network Architecture of the Human Brain", NCNC 2010, Florida Atlantic University, Boca Raton, FL.

03-04-10 "Structure and Function of Complex Brain Networks", Invited Colloquium, Yale University School of Medicine, New Haven, CT.

03-29-10 "The Human Connectome – Linking Brain Structure, Dynamics and Function", NIMS Hot Topics Workshop, "The Human Connectome: Views from MRI and Microscopy", Seoul, Korea.

04-19-10 "Towards the Human Connectome – Mapping and Modeling Connectivity in the Cerebral Cortex", Invited Colloquium, University of Kentucky College of Medicine, Lexington, KY.

05-14-10 "Networks of the Brain – Structure, Dynamics, Function", NetSci 2010, Invited Keynote, MIT Media Lab, Boston, MA.

05-17-10 "Network Neuroscience – Connectivity and Dynamics of the Human Brain", NIH Neuroscience Lecture Series (invited), National Institutes of Health, Bethesda, MD.

05-25-10 "Networks and Communication", NSF Workshop on Shared Organizing Principles in the Computing and Biological Sciences (invited), National Science Foundation, Arlington, VA.

06-01-10 "Analysis of Complex Brain Networks: Measures and their Interpretation", Brain Connectivity Workshop 2010, Berlin, Germany (invited).

09-01-10 "Complex Brain Networks – Bridging Structure and Function", Brain, Cognition and Technology Summer School, Barcelona, Spain.

09-17-10 "Network Analysis and Modeling of Resting-State Functional Connectivity", 2<sup>nd</sup> Biennial International Conference on Resting-State Functional Brain Connectivity, Milwaukee, WI (invited)

09-24-10 "Networks of the Brain", Washington University Neuroscience Retreat, Grafton, IL (invited)

09-29-10 "The Human Brain – A Complex Network", Annual Symposium: Open Questions in Neuroscience, Allen Institute for Brain Sciences, Seattle, WA (invited).



10-15-10 "The Human Connectome – A Complex Systems Perspective", University of Vermont (invited).

10-20-10 "Networks of the Brain: From Structural Connectivity to Functional Dynamics", Rutgers University (invited).

11-12-10 "Analysis and Function of Large-Scale Brain Networks", Society for Neuroscience Short Course (invited).

04-18-11 "The human connectome: A complex network", British Neuroscience Association Meeting, Harrogate, UK (invited).

05-27-11 "Networks of the Brain", Association for Psychological Science, Theme Program (invited speaker), Washington, DC.

06-02-11 "Exploring the Networks of the Brain", Brain and Behavior Day (invited speaker), Hospital for Sick Children, Toronto, ON.

06-26-11 "Complex Network Approaches to the Human Connectome", HBM Annual Meeting Education Program (invited), Quebec City, QB.

06-26-11 "Complex Brain Networks: Dynamics and Structure", HBM Annual Meeting Education Program (invited), Quebec City, QB.

07-15-11 "Analysis and Modeling of Connectivity in the Resting Brain", Multimodal Neuroimaging Training Program (invited), Mellon Institute, University of Pittsburgh, Pittsburgh, PA.

10-28-11 "Network Models of the Human Brain", 5<sup>th</sup> Annual Swartz Symposium on "The Organization and Function of Large-Scale Brain Circuits" (invited), Yale University, New Haven, CT.

11-03-11 "A Network Perspective on Brain Function", invited colloquium, UC Davis, Davis, CA.

02-06-12 "Connectomics – The Complex Brain", LASCON 2012, USP, Ribeirao Preto, Brazil.

03-01-12 "Your Brain – The Final Frontier", Hutton Honors College, Indiana University.

03-26-12 "Discovering the Human Connectome", invited colloquium, Krasnow Institute for Advanced Study, George Mason University, Fairfax, VA.

03-29-12 "Discovering the Human Connectome", invited colloquium, St. Jude Children's Research Hospital, Memphis, TN.

03-30-12 "Discovering the Human Connectome", Vanderbilt University Institute for Imaging Sciences (invited lecture), Vanderbilt University, Nashville, TN.

04-05-12 "Discovering the Human Connectome", Brain Mapping Center Seminar (invited), UCLA, Los Angeles, CA.

04-16-12 "The Human Connectome – A Complex Network", Invited talk, symposium on "Neural Network Changes in Schizophrenia: Evidence for Dysconnectivity in the Brain", Schizophrenia International Research Society Conference, Florence, Italy.

04-23-12 "Discovering the Human Connectome", Franklin Foundation Distinguished Lecture (invited), University of Georgia, Athens, GA.

05-24-12 "The Brain – A Complex Network", One Mind for Research Annual Meeting (invited), UCLA, Los Angeles, CA.

06-07-12 "Hubs, Cores and Rich Clubs – Centrality and Influence in the Human Brain", Brain Connectivity Workshop 2012 (invited), Chengdu, China.

06-21-12 "Your Brain – The Final Frontier", Indiana University Mini University, Bloomington, IN.

07-09-12 "Network Architecture of Large-Scale Brain Connectivity", Gordon Research Conference "Neurobiology of Cognition", Barga, Italy.

09-28-12 "The Human Connectome – A Complex Network", Indianapolis Society for Neuroscience, Plenary Talk, Indianapolis, IN.

11-02-12 "Discovering the Human Connectome", invited colloquium, University of Maryland, Program in Neuroscience and Cognitive Science, College Park, MD.

11-05-12 "Discovering the Human Connectome", Networks and Complex Systems Seminar, School of Library and Information Sciences, Indiana University, Bloomington, IN.

11-07-12 "Discovering the Human Connectome", Human Biology Program, Indiana University, Bloomington, IN.

11-30-12 "An Introduction to Human Connectomics", Clinical Science Colloquium, Department of Psychological and Brain Sciences, Indiana University, Bloomington, IN.

12-11-12 "Discovering the Human Connectome", Neuroscience Graduate Program Distinguished Speakers Lecture Series, University of Southern California, Los Angeles, CA.

03-18-13 "The Connectome: Network Topology and Dynamics of the Human Brain", Center for Cancer Systems Biology, Dana Farber Cancer Institute, Harvard University, Boston, MA.

04-12-13 "Understanding the Human Brain: Complex Networks and Dynamics", Center for Cognition, Action and Perception Lecture, University of Cincinnati, Cincinnati, OH.

04-15-13 "New Frontiers in Human Connectomics", 12<sup>th</sup> Annual Symposium on "Systems Biology and the Brain", Institute for Systems Biology, Seattle, WA.

06-03-13 "Economy and Efficiency in Brain Connectivity", CORTEX International Meeting 2013, Lyon, France.

06-13-13 "Making Sense of the Connectome: From Network Motifs to Network Morphospace", Rolf Kötter Lecture, Brain Connectivity Workshop, UBC, Vancouver, Canada.

06-16-13 "The Future of Connectomics", Educational Course "The Connectome", Organization for Human Brain Mapping, Seattle, WA.

- 06-17-13 "Structure and Dynamics of the Human Connectome", Keynote, Organization for Human Brain Mapping, Seattle, WA.
- 06-19-13 "Defining Networks", Symposium "The Challenge of Imaging Brain Connections in Animal and Man", Organization for Human Brain Mapping, Seattle, WA.
- 06-26-13 "Cost, Efficiency and Economy of Brain Networks", Summer Institute in Cognitive Neuroscience, Lake Tahoe, CA.
- 07-15-13 "Brain Mapping: The Network Approach", Mapping the Brain: European and U.S. Perspectives, University of California San Diego, San Diego, CA.
- 07-20-13 "Connectomics: Network Topology and Dynamics", Cold Spring Harbor Laboratory meeting "Wiring the Brain", Cold Spring Harbor, NY.
- 08-06-13 "Network Models of the Human Brain", Keynote (invited), International Conference of Neural Networks, Dallas, TX.
- 08-13-13 "Network Analysis and Modeling of Brain Data", National Science Foundation Workshop on Engineering Challenges in Brain Science, Arlington, VA.
- 09-27-13 "Integrating Network Structure and Function in the Human Brain", A.O. Župančič Memorial Lecture, SiNAPSA 2013, Ljubljana, Slovenia.
- 10-18-13 "Mapping and Modeling the Complex Networks of the Human Brain", World Congress on Psychiatric Genetics, invited workshop talk, Boston, MA.
- 10-23-13 "Mapping the Complex Networks of the Human Connectome", Psychological Sciences, MCCA Colloquium, Purdue University, West Lafayette, IN.
- 10-25-13 "Network Architecture and Dynamics in the Human Brain", Indiana Neuroimaging Symposium, Indiana University Bloomington, IN.
- 11-07-13 "Network Neuroscience: Linking Connectivity and Brain Dynamics", Cell Symposium, The Networked Brain, San Diego, CA.
- 02-21-14 "Network Neuroscience: From the Connectome to Brain Dynamics and Function", Center of Excellence for Learning in Education, Science, and Technology; Boston University, Boston, MA.
- 02-24-14 "Network Architecture of the Human Connectome: Mapping Structural and Functional Connectivity", Center for Mind, Brain, and Culture; Emory University, Atlanta, GA.
- 03-24-14 "Computational Connectomics: Mapping and Modeling of Complex Brain Networks", Computational Neural Systems Seminar, California Institute of Technology, Pasadena, CA.
- 03-29-14 "Networks of the Brain", STARS Symposium, Indiana University Bloomington.
- 03-31-14 "Network Neuroscience: Linking Structure and Function in the Human Brain", Cognitive Science Program Colloquium, Michigan State University, East Lansing, MI.
- 04-12-14 "Mapping and Modeling Complex Brain Networks", keynote, Midwest Undergraduate Cognitive Science Conference, Indiana University Bloomington, IN.
- 04-21-14 "Computational Connectomics: Mapping and Modeling Human Brain Networks", Beckman Institute, University of Illinois, Champaign-Urbana, IL.
- 05-05-14 "Connectome Networks: From Cells to Systems", Invited lecture, "Micro-, meso- and macro-connectomics of the brain", Fondation Ipsen, Paris, France.
- 05-12-14 "Mapping and Modeling the Complex Networks of the Human Brain", Johns Hopkins University, Departments of Bioengineering and Psychological and Brain Sciences, Baltimore, MD.
- 05-14-14 "Mapping and Modeling Human Brain Networks", Toronto Western Research Institute Research Day, invited keynote, Toronto, Canada.
- 05-23-14 "Connectomics: Building a Map of the Human Brain", Spoleto Lecture, Medical University of South Carolina, Charleston, SC.
- 05-26-14 "Tracing Patterns of Communication in the Human Connectome", SFB "Multi-site communication in the brain" Lecture Series, Universitätsklinikum Hamburg Eppendorf, Hamburg, Germany.
- 06-23-14 "Brain Dynamics and Communication in the Human Connectome", Workshop on Massive Data Flow, Keynote, WebSci 2014, Bloomington, IN.
- 06-25-14 "Computational Connectomics: Mapping and Modeling Complex Brain Networks", Allen Institute for Brain Science, Seattle, WA.
- 07-21-14 "Connectome Networks Across Scales and Species", Gordon Research Conference "Neurobiology of Cognition", Newry, ME.
- 07-29-14 "Hubs in Brain Structure and Function", Invited Keynote, 12<sup>th</sup> International Conference on Cognitive Neuroscience (ICON 2014), Brisbane, Australia.
- 07-31-14 "How Brain Structure Constrains Brain Function", Symposium on "Cognition and Connectomics", ICON 2014, Brisbane, Australia.
- 08-10-14 "Mapping the Complex Networks of the Human Brain", Symposium on "Brainnetome", 18<sup>th</sup> Congress of the International Federation of Associations of Anatomists, Beijing, China.
- 08-12-14 "The Connectome in Time: From Fast Dynamics to Changes across Development", 1<sup>st</sup> International Conference on Human Brain Development: Imaging the Growing Human Brain, Beijing, China.

08-13-14 "Future Frontiers for Connectomics", Brainnetome Center, Institute of Automation, Chinese Academy of Sciences, Beijing, China.

09-22-14 "Connectome, Connectomics: Origins", Invited keynote, Connectomics 2014, Bordeaux, France.

10-03-14 "Human Connectomics: Linking Structural Connectivity to Brain Function", Princeton University, Department of Psychology, Princeton, NJ.

03-06-15 "Brain Networks: The Human Connectome", Keynote, Indiana Alzheimer's Disease Consortium, Indianapolis, IN.

03-27-15 "Modules, Hubs and Communication Dynamics in Brain Networks", invited "Big Data" talk, Brain and Creativity Institute, University of Southern California, Los Angeles, CA.

04-30-15 "The Roles of Modules and Hubs in Brain Network Dynamics", invited seminar, Mind Research Network, University of New Mexico, Albuquerque, NM.

05-01-15 "Complex Systems and the Brain – From Networks to Dynamics and Function", Annual Science Board Symposium "New Science, New Horizons", Santa Fe Institute, Santa Fe, NM.

08-15-15 "Mapping Structural and Functional Brain Connectivity across the Human Lifespan", International Conference on Human Brain Development, Chinese Academy of Sciences, Beijing, China.

09-10-15 "Connectomics: Transcending Levels", Imaging the Brain, University of Cambridge, Cambridge, UK.

09-11-15 "The Search for Design Principles Shaping the Structure and Function of Brain Networks", Connectome Workbench, University of Cambridge, Cambridge, UK.

09-28-15 "Discovering the Human Connectome", Van Praag Lecture, University Medical Center Utrecht, Utrecht, Netherlands.

10-23-15 "Network Models of the Human Connectome: Linking Structural Connectivity to Brain Dynamics and Function", Chicago Neuroimaging Workshop 2015 "The Dynamic Social Brain", University of Chicago, Chicago, IL.

11-09-15 "Human Connectomics: The Structure and Function of Complex Brain Networks", Year of Cognition Lecture Series, Mahoney Institute of Neurosciences, Center for Cognitive Neuroscience, University of Pennsylvania, Philadelphia, PA.

11-10-15 "Mapping and Modeling the Connections of the Human Brain", University of Alabama, Birmingham, AL.

11-16-15 "Human Brain Networks in Time: From Fast Dynamics to Changes across the Lifespan", University of Oslo, Oslo, Norway.

11-17-15 "Computational Connectomics: Models of Structural and Functional Brain Networks", Keynote, NevroNor National Meeting, Oslo, Norway.

12-02-15 "Computational Connectomics: Brain Networks and Communication Dynamics", Science and Technology Innovators Lecture Series, Digital Technology Center, University of Minnesota, Minneapolis, MN.

12-07-15 "The Concepts of Networks", Merritt-Putnam Symposium, American Epilepsy Society Annual Meeting, Philadelphia, PA.

12-08-15 "Network Neuroscience", Warren Center Distinguished Lecture, University of Pennsylvania, Warren Center for Network and Data Sciences, Philadelphia, PA.

03-03-16 "A Decade of Connectomics Research – Themes and Directions", Colloque du Service de Radiodiagnostic et Radiologie Interventionnelle, Centre Hospitalier Universitaire Vaudois Lausanne, Switzerland.

03-04-16 "Modules and Hubs in Brain Structure and Network Dynamics", EPFL Life Science Seminar Series, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland.

03-31-16 "Network Organization of the Human Connectome", University of Cincinnati Neuroscience Seminar Series, Cincinnati, OH.

04-05-16 "Modeling Communication Dynamics in the Human Connectome", MNI/Killam Seminar Series, Montreal Neurological Institute, Montreal, QC, Canada.

04-06-16 "Connectomics – From Anatomy to Brain Dynamics", Neurology Grand Rounds, Montreal Neurological Institute, Montreal, QC, Canada.

05-05-16 "Computational Connectomics: From Maps of Networks to Models of Brain Dynamics", Stanford Neurosciences Institute, Stanford University, Palo Alto, CA.

05-09-16 "Modules, Hubs and Communication Dynamics in Brain Networks", Department of Cognitive and Information Sciences, UC Merced, Merced, CA.

05-09-16 "Networks of the Brain: New Perspectives on the Structure and Function of Nervous Systems", Distinguished Cognitive Scientist Award Lecture, UC Merced, Merced, CA.

05-24-16 "Network Science and Cognitive Neuroscience", JS McDonnell Foundation Workshop, Sedona, AZ.

05-31-16 "Introduction to Brain Networks", School in Network Science, NetSci 2016, Seoul, Korea.

06-01-16 "Brain Networks: From Cortex to Cognition", Distinguished Lecturer Colloquium, Culture-Brain Dynamics Transdisciplinary Center, Seoul National University, Seoul, Korea.

06-02-16 "Network Neuroscience", Keynote, NetSci 2016, Seoul, Korea.

06-06-16 "Human Connectomics: New Tools and Approaches for Mapping the Brain", Grossman Award Lecture, Annual Meeting of the Society of Neurological Surgeons, Indianapolis, IN.

06-23-16 "Modeling Communication Dynamics in the Brain", invited talk, Brain Connectivity Workshop, Marseille, France.

06-27-16 "Comparative Connectomics: Mapping Brain Networks across Scales and Species", invited talk, Frontiers in Network Science, Academy of Sciences and the Humanities in Hamburg, Hamburg, Germany.

07-22-16 "Network Neuroscience: Maps and Models of Brain Connectivity", Brain Seminar, Wellcome Trust Centre for Neuroimaging, University College London, London, UK.

09-14-16 "Dynamics in the Connectome: Neuronal Communication and Functional Connectivity", Aalto University, Helsinki, Finland.

09-15-16 "Computational Connectomics: Modeling the Structure and Function of Brain Networks", Brain and Mind Symposium, Helsinki, Finland.

09-29-16 "Biological and Brain Systems", Future Directions in Network Science, Arlington, VA.

10-05-16 "Connectomics: Mapping and Modeling the Networks of the Brain", Science Crossroads - Fellows Symposium, Institute for Scientific Interchange, Torino, Italy.

11-01-16 "Computational Connectomics: From Networks to Brain Dynamics", Conte Center, University of California at Irvine, CA.

11-15-16 "Modularity and Communication Dynamics in Brain Networks", Minisymposium "Multiscale Connectomics: Maps, Models, and Mechanisms", Society for Neuroscience Annual Meeting, San Diego, CA.

12-02-16 "From Spatial Components to Temporal Flows and Dynamics", Invited Talk, BrainModes: Coordinated Brain Activity – Foundations and Applications, Brussels, Belgium.

03-03-17 "Computational Challenges and Opportunities in Network Neuroscience", BrainHack Bloomington, Indiana University Bloomington, IN.

03-08-17 "From Connectomics to Network Neuroscience", Plenary Talk, Keystone Symposium "Connectomics", Santa Fe, NM.

03-20-17 "Network Neuroscience: New Approaches to Mapping and Modeling Complex Brain Networks", Opening Keynote, 27<sup>th</sup> Annual Rotman Research Institute Conference, Toronto, ON.

04-10-17 "Human Connectomics: Mapping and Modeling the Networks of the Brain", 2017 Science Luncheon Series, Center for Vital Longevity, University of Texas, Dallas, TX.

04-22-17 "Brain Networks", Invited Talk "Beyond Specialization and Integration: The Future of fMRI Research in Neuroscience", Sage Junior Fellow Workshop, UCSB, Santa Barbara, CA.

05-01-17 "Network Neuroscience: Understanding the Brain from a Complex Systems Perspective", Keynote, NSF Workshop on Complex Multidisciplinary Systems Research, National Science Foundation, Arlington, VA.

06-03-17 "Exploring the Structure and Dynamics of Brain Networks", Summer Seminar in Neuroscience and Philosophy, Duke University, Raleigh-Durham, NC.

07-20-17 "Network Neuroscience: Structure and Dynamics of Brain Networks", Dartmouth College, Hanover, NH.

07-23-17 "Comparative Connectomics: Principles of Network Structure and Function across Species", Invited talk, EsiSync, Ernst Struengmann Institute, Frankfurt, Germany.

09-08-17 "Networks of the Brain: Connectivity and Connectomics in Human Neuroimaging", Invited Talk, National Institutes of Health, Bethesda MD.

09-09-17 "Network Neuroscience: Mapping and Modeling Complex Brain Networks", Big Data Neuroscience Workshop 2017, Advanced Computational Neuroscience Network, Bloomington IN.

09-14-17 "Connectomics: Structure and Function of Brain Networks", Volker Henn Lecture, Annual Symposium of the Neuroscience Center Zurich, University of Zurich, Switzerland.

09-15-17 "Applications of Computational Connectomics across Scales and Species", Invited Talk, Second International Conference on Neuronal Ensembles, Universität Heidelberg, Germany.

09-18-17 "From Connectomics to Network Neuroscience: New Approaches for Mapping and Modeling Brain Networks", Seminar, INM-6, Forschungszentrum Jülich, Germany.

10-20-17 "Connectomics – An Overview", Cajal Course "Connectomics: From Micro- to Meso- and Macro-Scales", Bordeaux Neurocampus, Bordeaux, France.

10-23-17 "Computational Connectomics: Mapping and Modeling Complex Brain Networks", Les Conférences de L'ICM, Institute for Brain and Spine, Paris, France.

12-06-17 "Computational Connectomics: Mapping and Modeling Complex Brain Networks", Industrial Engineering Distinguished Seminar Series, Purdue University, West Lafayette IN.

03-05-18 "Network Neuroscience: Understanding the Structure and Function of the Brain", Keynote, CompleNet 2018, Boston MA.

04-06-18 "Computational Approaches to Mapping and Modeling Brain Networks", Keynote, Brain Day, University of Waterloo, Waterloo, Canada.

04-20-18 "Network Neuroscience: Mapping and Modeling Complex Brain Networks", Biomedical Engineering Seminar, Department of Biomedical Engineering, University of Virginia, Charlottesville VA.

04-27-18 "Network Neuroscience", Keynote, Computational & Systems Neuroscience Symposium, IUPUI, Indianapolis IN.

05-17-18 "Network Neuroscience: Mapping and Modeling Complex Brain Networks", Keynote, COMBINE/CHIB Symposium on Network Medicine, University of Maryland, College Park MD.

- 06-03-18 "Human Connectomics: Mapping and Modeling Brain Networks", Invited Keynote, Symposium "What Makes us Human", Inauguration of the Edmond and Lily Safra Center for Brain Sciences, Hebrew University Jerusalem, Israel.
- 06-05-18 "Network Neuroscience: Mapping and Modeling Complex Brain Networks", Invited Talk, Ben-Gurion University, Beersheva, Israel
- 07-22-18 "Network Neuroscience: Mapping and Modeling Complex Brain Networks", Keynote, International Conference on Complex Systems, Boston, MA.
- 09-07-18 "Network Neuroscience of the Human Brain", Invited Talk, Brenda Milner Centennial Symposium, Montreal, Canada.
- 09-14-18 "The Human Connectome across the Lifespan", Retinal Stem Cell Symposium, Darmstadt, Germany.
- 10-15-18 "Mapping Structure and Function in the Human Connectome", University of Illinois, Champaign-Urbana, IL.
- 10-23-18 "Mapping Structure and Function in the Human Connectome", University of Chicago, Chicago, IL.
- 11-28-18 "Computational Connectomics: Mapping and Modeling Complex Brain Networks", Invited Lecture Series, Workshop on Topology and Neuroscience, EPFL, Lausanne, Switzerland.
- 04-04-19 "Human Connectomics: New Frontiers in Mapping and Modeling Brain Networks", Patterson Lecture on Neuroscience and Society, Wellesley College, Wellesley, MA.