

OLAF SPORNS – CURRICULUM VITAE

BRIEF BIOGRAPHY



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. He is co-director of the Indiana University Network Science Institute and holds adjunct appointments in the School of Informatics and Computing and the School of Medicine. His main research area is theoretical and computational neuroscience, with a focus on complex brain networks. In addition to over 200 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 and was elected Fellow of the American Association for the Advancement of Science in 2013.

CONTACT

Olaf Sporns, PhD

Department of Psychological and Brain Sciences
1101 East 10th Street
Indiana University
Bloomington, IN 47405

812-855-2772 (office)
812-856-5986 (lab)
812-855-4691 (fax)
osporns@indiana.edu (email)

Office: PSY 360
Lab: PSY A308

Homepage: <http://www.indiana.edu/~cortex>

Twitter: @spornslab

RESEARCH INTERESTS

- | | |
|----------------------------|---|
| Connectomics | Analysis of neuroanatomical connection patterns, relation of brain structure to functional connectivity, complexity of neural dynamics, human neuroimaging and clinical disorders, network evolution and growth, network 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

- | | |
|-----------|---|
| 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

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

1986 Fellow, Studienstiftung des Deutschen Volkes.

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

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
2015/16	Thomson Reuters "Highly Cited Researcher" in Neuroscience/Behavior
2015/16	Thomson Reuters: Listed as one of "The World's Most Influential Scientific Minds" in Neuroscience/Behavior
2016	Distinguished Cognitive Scientist Award, UC Merced
2016	Grossman Award, Society of Neurological Surgeons

MAJOR GRANTS (FUNDED)

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)

Current

2012-2016	"Connectivity and Information Flow in a Complex Brain", National Science Foundation, Co-Investigator (PI: Ralph Greenspan)
2014-2018	"Testing network-based hubs through lesion analysis", James S. McDonnell Foundation, Co-Investigator (PI: Daniel Tranel)
2015-2018	"CRCNS: Linking Connectomics and Large-Scale Dynamics of the Human Brain", National Institutes of Health, NCCIH, PI.

TEACHING

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.
2000-2014	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)
2000-2014	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)

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

US patent #5283839 "Apparatus capable of figure-ground segregation"

US patent #5985822 "Inhibition of glial cell proliferation with N-CAM homophilic peptides"

PROFESSIONAL SOCIETIES

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

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

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-present 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
Associate, Brain and Behavioral Sciences
Member, Faculty of 1000 (Biology), <http://f1000biology.com/home/> , Theoretical Neuroscience
Big Think Delphi Fellow (<http://bigthink.com>)

AD HOC REVIEW

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

2011-present Scientific Advisory Council, Ontario Brain Institute, Toronto, Canada.
2012-present Advisory Board, Brain Preservation Foundation.
2012-present 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.
2015-present Institute for Scientific Interchange (ISI) Scientific Advisory Board, Torino, Italy.

PUBLICATIONS

Books

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

207. Sporns O (2017) The future of network neuroscience. *Network Neuroscience* 1, 1-2.
206. Bassett, DS, Sporns O (2017) Network neuroscience. *Nature Neuroscience* 20, 353-364.
205. Zuo XN, He Y, Betzel RF, Colcombe S, Sporns O, Milham MP (2017) Human connectomics across the life span. *Trends Cogn Sci* 21, 32-45.
204. Avena-Koenigsberger A, Misić B, Hawkins RXD, Griffa A, Hagmann P, Goni J, Sporns O (2017) Path ensembles and a tradeoff between communication efficiency and resilience in the human connectome. *Brain Struct Func* 222, 603-618.
203. Mohr H, Wolfensteller U, Betzel RF, Mišić B, Sporns O, Richiardi J, Ruge H (2016) Integration and segregation of large-scale brain networks during short-term task automatization. *Nature Communications* 7, 13217.
202. Rosenthal G, Sporns O, Avidan G (2016) Stimulus dependent dynamic reorganization of the human face processing network. *Cerebral Cortex* doi: 10.1093/cercor/bhw279.
201. Swanson LW, Sporns O, Hahn JD (2016) Network architecture of the cerebral nuclei (basal ganglia) association and commissural connectome. *Proc Natl Acad Sci USA* 113, E5972-E5981.
200. Cary RP, Ray S, Grayson DS, Painter J, Carpenter S, Maron L, Sporns O, Stevens AA, Nigg JT, Fair DA (2016) Network structure among brain systems in ADHD is uniquely modified by stimulant administration. *Cerebral Cortex* doi: 10.1093/cercor/bhw209.
199. Mišić B, Sporns O (2016) From regions to connections and networks: new bridges between brain and behavior. *Curr Opin Neurobiol* 40, 1-7.
198. Mišić B, Betzel RF, de Reus MA, van den Heuvel MP, Berman MG, McIntosh AR, Sporns O (2016) Network-level structure-function relationships in human neocortex. *Cerebral Cortex* 26, 3285-3296.
197. van den Heuvel MP, Bullmore ET, Sporns O (2016) Comparative connectomics. *Trends Cogn Sci* 20, 345-361.
196. Sporns O (2016) Connectome Networks: From Cells to Systems. In: *Micro-, Meso- and Macro-Connectomics of the Brain*, H. Kennedy et al. (eds), pg 107-127, Springer.
195. De Pasquale F, Della Penna S, Sporns O, Romani GL, Corbetta M (2015) A dynamic core network and global efficiency in the resting human brain. *Cerebral Cortex*, doi: 10.1093/cercor/bhv185.
194. Nigam S, Shimono M, Ito S, Yeh FC, Timme N, Myroshnychenko M, Lapish C, Tosi Z, Hottoway P, Smith WC, Masmanidis S, Litke A, Sporns O, Beggs J (2016) A small proportion of neurons dominates information transfer in local cortical networks. *J Neurosci* 36, 670-684.
193. Betzel RF, Fukushima M, He Y, Zuo XN, Sporns O (2016) Dynamic fluctuations coincide with periods of high and low modularity in resting-state functional brain networks. *Neuroimage* 127, 287-297.
192. Sporns O, Betzel RF (2016) Modular brain networks. *Annu Rev Psychol* 67, 613-640.
191. Kim DJ, Davis EP, Sandman CA, Sporns O, O'Donnell BF, Buss C, Hetrick WP (2016) Children's intellectual ability is associated with structural network integrity. *Neuroimage* 124, 550-556.

190. Betzel RF, Avena-Koenigsberger A, Goni J, He Y, de Reus MA, Griffa A, Vertes PE, Misić B, Thiran JP, Hagmann P, van den Heuvel M, Zuo XN, Bullmore ET, Sporns O (2016) Generative models of the human connectome. *Neuroimage* 124, 1054-1064.
189. Li H, Fang S, Goni J, Contreras JA, Liang Y, Cai C, West JD, Risacher SL, Wang Y, Sporns O, Saykin AJ & Shen L (2015). Integrated Visualization of Human Brain Connectome Data. In: *Brain Informatics and Health, Lecture Notes in Computer Science* 9250, pp. 295-305, Springer.
188. Contreras JA, Goñi J, Risacher SI, Sporns O, Saykin AJ (2015) The structural and functional connectome and prediction of risk for cognitive impairment in older adults. *Curr Behav Neurosci Rep* 2, 234-245.
187. Petersen SE, Sporns O (2015) Brain networks and cognitive architectures. *Neuron* 88, 207-219.
186. Nussinov R, Bonhoeffer S, Papin JA, Sporns O (2015) From “What Is?” to “What Isn’t” Computational Biology. *PLoS Comput Biol* 11, e1004318.
185. Mišić B, Betzel RF, Nematzadeh A, Goñi J, Griffa A, Hagmann P, Flammini A, Ahn YY, Sporns O (2015) Cooperative and competitive spreading dynamics on the human connectome. *Neuron* 86, 1518-1529.
184. Shih CT, Sporns O, Yuan SL, Su TS, Lin YJ, Chuang CC, Wang TY, Lo CC, Greenspan RJ, Chiang AS (2015) Connectomics-based analysis of information flow in the *Drosophila* brain. *Current Biol* 25, 1249-1258.
183. Bota M, Sporns O, Swanson LW (2015) Architecture of the cerebral cortical association connectome underlying cognition. *Proc Natl Acad Sci USA* 112, E2093-E2101.
182. Sporns O (2015) Cerebral cartography and connectomics. *Trans Roy Soc B* 370, 20140173.
181. Sporns O (2015) Graph-Theoretical Analysis of Brain Networks. In: Arthur W. Toga, editor. *Brain Mapping: An Encyclopedic Reference*, vol. 1, pp. 629-633. Academic Press: Elsevier.
180. Sporns O (2015) Enabling discovery science in human connectomics. *Sci Bull* 60, 139-140.
179. Avena-Koenigsberger A, Goñi J, Solé R, Sporns O (2015) Network morphospace. *J R Soc Interface* 12, 20140881.
178. Mišić B, Goñi J, Betzel RF, Sporns O, McIntosh AR (2014) A network convergence zone in the hippocampus. *PLOS Comp Biol* 10, e1003982.
177. Sporns O (2014) Network neuroscience. In: *The Future of the Brain – Essays by the World’s Leading Neuroscientists*, Marcus G and Freeman J (eds.), pg. 90-99, Princeton University Press, Princeton, NJ.
176. Betzel RF, Byrge L, He Y, Goñi J, Zuo XN, Sporns O (2014) Changes in structural and functional connectivity among resting-state networks across the human lifespan. *Neuroimage* 102, 345-357.
175. Kolchinsky A, van den Heuvel MP, Griffa A, Hagmann P, Rocha LM, Sporns O, Goñi J (2014) Multi-scale integration and predictability in resting state brain activity. *Front Neuroinf* 8, 66.
174. Kim DJ, Davis EP, Sandman CA, Sporns O, O’Donnell B, Buss C, Hetrick WP (2014) Longer gestation is associated with more efficient brain networks in preadolescent children. *Neuroimage* 100, 619-627.
173. Avena-Koenigsberger A, Goñi J, Betzel RF, van den Heuvel MP, Griffa A, Hagmann P, Thiran J-P, Sporns O (2014) Using Pareto optimality to explore the topology and dynamics of the human connectome. *Phil Trans R Soc B* 369, 20130530.
172. Friston KJ, Kahan J, Razi A, Stephan KE, Sporns O (2014) On nodes and modes in resting state fMRI. *Neuroimage* 99, 533-547.

171. Sporns, O (2014) Towards network substrates of brain disorders. *Brain* 137, 2117-2118.
170. Sporns O, Bullmore ET (2014) From connections to function: The mouse brain connectome atlas. *Cell* 157, 773-775.
169. Byrge L, Sporns O, Smith LB (2014) Developmental process emerges from extended brain-body-behavior networks. *Trends Cogn Sci* 18, 395-403.
168. Kim DJ, Kent JS, Bolbecker AR, Sporns O, Cheng H, Newman SD, Puce A, O'Donnell BF, Hetrick WP (2014) Disrupted modular architecture of cerebellum in schizophrenia: A graph theoretic analysis. *Schizophrenia Bull* 40, 1216-1226.
167. Gollo LL, Mirasso C, Sporns O, Breakspear M (2014) Mechanisms of zero-lag synchronization in cortical motifs. *PLoS Comp Biol* 10, e1003548.
166. Sporns O (2014) Contributions and challenges for network models in cognitive neuroscience. *Nature Neurosci* 17, 652-660.
165. Mišić B, Sporns O, McIntosh AR (2014) Communication efficiency and congestion of signal traffic in large-scale brain networks. *PLOS Comput Biol* 10, e1003427.
164. Goñi J, van den Heuvel MP, Avena-Koenigsberger A, Velez de Mendizabal N, Betzel RF, Griffa A, Hagmann P, Corominas-Murtra B, Thiran JP, Sporns O (2014) Resting-brain functional connectivity predicted by analytic measures of network communication. *Proc Natl Acad Sci USA* 111, 833-838.
163. Im K, Paldino MJ, Poduri A, Sporns O, Grant PE (2014) Altered white matter connectivity and network organization in polymicrogyria revealed by individual gyral topology-based analysis. *Neuroimage* 86, 182-193.
162. Sporns O (2014) The Human Connectome: Linking Structure and Function in the Human Brain. In: Johansen-Berg, H., Behrens, T.E.J. (Eds.), *Diffusion MRI: From Quantitative Measurement to In-vivo Neuroanatomy*, pp. 401–428.
161. Collin G, Sporns O, Mandl RCW, van den Heuvel MP (2014) Structural and functional aspects relating to cost and benefit of rich club organization in the human cerebral cortex. *Cereb Cortex* 24, 2258-2267.
160. Betzel RF, Griffa A, Avena-Koenigsberger A, Goni J, Thiran JP, Hagmann P, Sporns O (2013) Multi-scale community organization of the human structural connectome and its relationship with resting-state functional connectivity. *Netw Sci* 1, 353-373.
159. Van den Heuvel MP, Sporns O (2013) Network hubs in the human brain. *Trends Cogn. Sci.* 17, 683-696.
158. Sporns O (2013) Structure and function of complex brain networks. *Dialogues Clin. Neurosci.* 15, 247-262.
157. Sporns O, van den Heuvel MP (2013) Network maps of the human brain's rich club. *Netw Sci* 1, 248-250.
156. van den Heuvel MP, Sporns O (2013) An anatomical substrate for integration among functional networks in human cortex. *J. Neurosci.* 33, 14489-14500.
155. Sporns O, Honey CJ (2013) Topographic dynamics in the resting brain. *Neuron* 78, 955-956.
154. Goñi J, Sporns O, Cheng H, Aznárez-Sanado M, Wang Y, Josa S, Arrondo G, Mathews VP, Hummer TA, Kronenberger WG, Avena-Koenigsberger A, Saykin AJ, Pastor MA (2013). Robust estimation of fractal measures for characterizing the structural complexity of the human brain: Optimization and reproducibility. *NeuroImage* 83, 646-657.
153. Hutchison RM, Womelsdorf T, Allen EA, Bandettini PA, Calhoun VD, Corbetta, M, Della Penna S, Dyun J, Glover G, Gonzalez-Castillo J, Handwerker DA, Keilholz S, Kiviniemi V, Leopold DA, de

- Pasquale F, Sporns O, Walter M, Chang C (2013) Dynamic functional connectivity: Promises, issues, and interpretations. *NeuroImage* 80, 360-378.
152. Ding JR, An D, Liao W, Li J, Wu GR, Xu Q, Long Z, Gong Q, Zhou D, Sporns O, Chen H (2013) Altered functional and structural connectivity networks in psychogenic non-epileptic seizures. *PLOS ONE* 8, e63850.
151. Burkhalter A, Sporns O, Gao E, Wang Q (2013) Network of mouse visual cortex. In: *The New Visual Neurosciences*, ed. Werner JS, Chalupa LM, pp. 243-256, MIT Press: Cambridge.
150. Sporns O (2013) Making sense of brain network data. *Nature Methods* 10, 491-493.
149. Sporns O (2013) The human connectome: Origins and challenges. *Neuroimage* 80, 53-61.
148. Kim DJ, Bolbecker AR, Howell J, Rass O, Sporns O, Hetrick WP, Breier A, O'Donnell BF (2013) Disturbed resting state EEG synchronization in bipolar disorder: A graph-theoretic analysis. *Neuroimage Clin* 2, 414-423. [P147]
147. Sporns O (2013) Network attributes for segregation and integration in the human brain. *Curr Opin Neurobiol* 23, 162-171.
146. Van den Heuvel MP, Sporns O, Collin G, Scheewe T, Mandl RCW, Cahn W, Goni J, Hulshoff Pol HE, Kahn RS (2013) Abnormal rich club organization and functional brain dynamics in schizophrenia. *JAMA Psychiatry* 70, 783-792.
145. Goñi J, Avena-Koenigsberger A, Velez de Mendizabal N, van den Heuvel MP, Betzel RF, Sporns O (2013) Exploring the morphospace of communication efficiency in complex networks. *PLoS ONE* 8, e58070.
144. Betzel RF, Erickson MA, Abell M, O'Donnell BF, Hetrick WP, Sporns O (2012) Synchronization dynamics and evidence for a repertoire of network states in resting EEG. *Front Comput Neurosci* 6, 74.
143. Davis FC, Knodt AR, Sporns O, Lahey BB, Zald DH, Brigidi BD, Hariri AR (2013) Impulsivity and the modular organization of resting-state neural networks. *Cereb Cortex* 23, 1444-1452.
142. Harriger L, van den Heuvel M, Sporns O (2012) Rich club organization of macaque cerebral cortex and its role in network communication. *PLoS ONE* 7, e46497.
141. Van den Heuvel MP, Kahn R, Goni J, Sporns O (2012) A high-cost, high-efficiency backbone for global brain communication. *Proc Natl Acad Sci USA* 109, 11372-11377.
140. Leergard TB, Hilgetag CC, Sporns O (2012) Mapping the connectome: Multi-level analysis of brain connectivity. *Front Neuroinf* 6, 14.
139. Bullmore ET, Sporns O (2012) The economy of brain network organization. *Nature Rev Neurosci* 13, 336-349.
138. Zuo XN, Ehmke R, Mennes M, Imperati D, Castellanos FX, Sporns O, Milham MP (2012) Network centrality in the human functional connectome. *Cereb Cortex* 22, 1862-1875.
137. Adachi Y, Osada T, Sporns O, Watanabe T, Matsui T, Miyamoto K, Miyashita Y (2012) Functional connectivity between anatomically unconnected areas is shaped by collective network-level effects in the macaque cortex. *Cereb Cortex* 22, 1586-1592.
136. Bota M, Sporns O, Swanson LW (2012) Neuroinformatics analysis of molecular expression patterns and neuron populations in gray matter regions: The rat BST as a rich exemplar. *Brain Research* 1450, 174-193.
135. Kim DJ, Skosnik PD, Cheng H, Puce BJ, Brumbaugh MS, Vollmer JM, Hetrick WP, O'Donnell BF, Sporns O, Puce A, Newman SD (2012) Structural network topology revealed by white matter tractography in cannabis users: A graph theoretical analysis. *Brain Connectivity* 1, 473-483.

134. Lahey BB, McNealy K, Knodt A, Zald DH, Sporns O, Manuck SB, Flory JD, Applegate B, Rathouz PJ, Hariri, AR (2012) Using confirmatory factor analysis to measure contemporaneous activation of defined neuronal networks in functional magnetic resonance imaging. *NeuroImage* 60, 1982-1991.
133. Sporns O (2012) From simple graphs to the connectome: Networks in neuroimaging. *NeuroImage* 62, 881-886.
132. Wang Q, Sporns O, Burkhalter A (2012) Network analysis of corticocortical connections reveals ventral and dorsal processing streams in mouse visual cortex. *J Neurosci* 32, 4386-4399.
131. Behrens TEJ, Sporns O (2012) Human connectomics. *Curr Opin Neurobiol* 22, 144-153.
130. Cammoun L, Gigandet X, Meskaldji D, Thiran JP, Sporns O, Do KQ, Maeder P, Meuli R, Hagmann P (2012) Mapping the human connectome at multiple scales with diffusion spectrum MRI. *J. Neurosci Methods* 203, 386-397.
129. Cheng H, Wang Y, Sheng J, Sporns O, Kronenberger WG, Mathews VP, Hummer TA, Saykin AJ (2012) Optimization of seed density in DTI tractography for structural networks. *J Neurosci Methods* 203, 264-272.
128. Van den Heuvel MP, Sporns O (2011) Rich-club organization of the human connectome. *J Neurosci* 31, 15775-15786.
127. Rubinov M, Sporns O, Thivierge JP, Breakspear M (2011) Neurobiologically realistic determinants of self-organized criticality in networks of spiking neurons. *PLoS Comput Biol* 7, e1002038.
126. Cabral J, Hugues E, Sporns O, Deco G (2011) Role of local network oscillations in resting-state functional connectivity. *NeuroImage* 57, 130-139.
125. Rubinov M, Sporns O (2011) Weight-conserving characterization of complex functional brain networks. *NeuroImage* 56, 2068-2079.
124. Sporns O (2011) The human connectome: A complex network. *Ann N Y Acad Sci* 1224, 109-125.
123. Sporns O (2011) The non-random brain: Efficiency, economy, and complex dynamics. *Front Comput Neurosci* 5, 5.
122. Hess A, Axmann R, Rech J, Finzel S, Heindl C, Kreitz S, Sergeeva M, Saake M, Garcia M, Kollias G, Straub RH, Sporns O, Doerfler A, Brune K, Schett G (2011) Blockade of TNF- α rapidly inhibits pain responses in the central nervous system. *Proc Natl Acad Sci USA* 108, 3731-3736.
121. Cahalene DJ, Clancy B, Kingsbury MA, Graf E, Sporns O, Finlay BL (2011) Network structure implied by initial axon outgrowth in rodent cortex: Empirical measurement and models. *PLoS ONE* 6, e16113.
120. Yaeger L, Sporns O, Williams S, Shuai X, Dougherty S (2010) Evolutionary selection of network structure and function. In: *Proc A Life XII*, pp. 313-320, MIT Press, Cambridge.
119. Jirsa VK, Sporns O, Breakspear M, Deco G, McIntosh AR (2010) Towards the virtual brain: Network modeling of the intact and the damaged brain. *Arch. Ital. Biol.* 148, 189-205.
118. Hagmann P, Sporns O, Madan N, Cammoun L, Pienaar R, Wedeen VJ, Meuli R, Thiran J-P, Grant PE (2010) White matter maturation reshapes structural connectivity in the late developing human brain. *Proc. Natl. Acad. Sci. USA* 107, 19067-19072.
117. Sporns O, Körner, E (2010) Value and self-referential control: Necessary ingredients for the autonomous development of flexible intelligence. In: *Towards a Theory of Thinking*, Glatzeder, BM, et al. (eds.), pp. 323-335, Heidelberg: Springer.
116. Sporns O (2010) Brain networks and embodiment. In: *Mind in Context*, Mesquita B, Feldman Barrett L, Smith ER, eds., pp. 42-64, New York: Guilford Press.

115. Hagmann P, Cammoun L, Gigandet X, Gerhard S, Grant PE, Wedeen V, Meuli R, Thiran JP, Honey CJ, Sporns O (2010) MR connectomics: Principles and challenges. *J. Neurosci. Methods* 194, 34-45.
114. Sporns O (2010) Connectome. *Scholarpedia* 5, 5584.
113. Honey CJ, Thivierge JP, Sporns O (2010) Can structure predict function in the human brain? *Neuroimage* 52, 766-776.
112. Rubinov M, Sporns O (2010) Complex network measures of brain connectivity: Uses and interpretations. *Neuroimage* 52, 1059-1069.
111. Knock SA, McIntosh AR, Sporns O, Kötter R, Hagmann P, Jirsa VK (2009) The effects of physiologically plausible connectivity structure on local and global dynamics in large scale brain models. *J. Neurosci. Methods* 183, 86-94.
110. Alstott, J, Breakspear, M, Hagmann, P, Cammoun, L, Sporns, O (2009) Modeling the impact of lesions in the human brain. *PLoS Comput Biol* 5, 1000408.
109. Rubinov, M, Sporns, O, van Leeuwen, C, Breakspear, M (2009) Symbiotic relationship between brain dynamics and architectures. *BMC Neuroscience* 10, 55.
108. Deco, G, Jirsa, V, McIntosh, AR, Sporns, O, Kötter, R (2009) Key role of coupling, delay, and noise in resting brain fluctuations. *Proc. Natl. Acad. Sci. USA* 106, 10302-10307.
107. Sporns O (2009) The human connectome: Linking structure and function in the human brain. In: *Diffusion MRI: From quantitative measurement to in vivo neuroanatomy*. Johansen-Berg, H., Behrens, TEJ (eds), pp. 309-332, Academic Press, Amsterdam.
106. Sporns O (2009) From complex networks to intelligent systems. In: *Creating Brain-Like Intelligence*, Sendhoff, B et al. (eds.), *Lecture Notes in Artificial Intelligence*, pp 15-30, Springer, Berlin.
105. Honey CJ, Sporns O, Cammoun L, Gigandet X, Thiran JP, Meuli R, Hagmann P (2009) Predicting human resting-state functional connectivity from structural connectivity. *Proc. Natl. Acad. Sci. USA* 106, 2035-2040.
104. Bullmore, E.T, Sporns, O. (2009) Complex brain networks: Graph-theoretical analysis of structural and functional systems. *Nature Reviews Neuroscience* 10, 186-198.
103. Pfeifer, R, Lungarella, M, Sporns O (2008) The synthetic approach to embodied cognition: A primer. *Handbook of Cognitive Science: An Embodied Approach*, Calvo, O and Gomila, A, (eds), pp. 121-137, Elsevier, Amsterdam.
102. Yaeger, L, Griffith, V, Sporns O (2008) Passive and driven trends in the evolution of complexity. *Artificial Life XI. Proceedings of the Eleventh International Conference on the Simulation and Synthesis of Living Systems*, Cambridge, MA: MIT Press.
101. Hagmann, P., Cammoun, L., Gigandet, X., Meuli, R., Honey, C.J., Wedeen, V.J., Sporns, O. (2008) Mapping the structural core of human cerebral cortex. *PLoS Biology* 6, e159.
100. Honey, CJ, Sporns, O (2008) Dynamical consequences of lesions in cortical networks. *Human Brain Mapping* 29, 802-809.
99. Pfeifer, R., Lungarella, M., Sporns, O., Kuniyoshi, Y. (2007) On the information theoretic implications of embodiment – principles and methods. In: Lungarella, M, Iida, F, Bongard, J., Pfeifer, R, (eds), *50 Years of AI, Lecture Notes in Artificial Intelligence* 4850, pp 76-86, Springer Verlag, Berlin.
98. Polani, D., Sporns, O., Lungarella, M. (2007) How information and embodiment shape intelligent information processing. In: Lungarella, M, Iida, F, Bongard, J., Pfeifer, R, (eds), *50 Years of AI, Lecture Notes in Artificial Intelligence* 4850, pp 99-111, Springer Verlag, Berlin.
97. Kötter, R, Reid, A.T., Krumnack, A., Wanke, E., Sporns, O. (2007) Shapley ratings in brain networks. *Frontiers in Neuroinformatics* 1:2 doi: 10.3398/neuro.11/002.2007.

96. Sporns, O. (2007) Complexity. *Scholarpedia* 2, 1623.
95. Sporns, O. (2007) Brain Connectivity. *Scholarpedia* 2, 4695.
94. Sporns, O., Honey, C.J., and Kötter, R. (2007) Identification and Classification of Hubs in Brain Networks. *PLoS ONE* 2, e1049.
93. Sporns, O., and Tononi, G. (2007) Structural determinants of functional brain dynamics. In: Jirsa, V., and McIntosh, A.R. (eds.) *Handbook of Brain Connectivity*, Springer-Verlag, Berlin etc., pp. 117-148.
92. Da Costa, L., and Sporns, O. (2007) Diversity of cortical states at non-equilibrium simulated by the ferromagnetic Ising model under Metropolis dynamics. *J. Bifurc. Chaos* 17, 2387-2398.
91. Da Costa, L., Sporns, O., Antigueira, L., das Gracas Volpe Nunes, M., and Oliveira, O.N. (2007) Correlations between structure and random walk dynamics in directed complex networks. *Appl. Phys. Lett.* 91, 054107.
90. Honey, C.J., Kötter, R., Breakspear, M., Sporns, O. (2007) Network structure of cerebral cortex shapes functional connectivity on multiple time scales. *Proc. Natl. Acad. Sci. USA* 104, 10240-10245.
89. Sporns, O. (2007) What neuro-robotic models can tell us about neural and cognitive development. In: "Neuroconstructivism: Perspectives and Prospects", pp. 179-204, Mareschal, D., Sirois, S., Westermann, G. & Johnson, M.H., eds., Oxford University Press, Oxford, UK.
88. Sporns, O., and Honey, C.J. (2006) Small worlds inside big brains. *Proc. Natl. Acad. Sci. USA* 103, 19219-19220.
87. Lungarella, M., and Sporns, O. (2006) Mapping information flow in sensorimotor networks. *PLoS Comp. Biol.* 2, 1301-1312.
86. Da Costa, L., and Sporns, O. (2006) Correlating thalamocortical connectivity and activity. *Appl. Phys. Lett.* 89, 013903.
85. Sporns, O., Karnowski, J., and Lungarella, M. (2006) Mapping causal relations in sensorimotor networks. *Proc. ICDL 2006*.
84. Alexander, W., and Sporns, O. (2006) Temporal difference learning with learned attention shifts. *Proc. ICDL 2006*.
83. Sporns, O. and Lungarella, M. 2006. Evolving coordinated behavior by maximizing information structure. In Rocha, L.M., Yager, L.S., Bedeau, M.A., Floreano, D., Goldstone, R.L., and Vespigniani, A. (eds.) *Artificial Life X. Proceedings of the Tenth International Conference on the Simulation and Synthesis of Living Systems*, pp. 323-329, Cambridge, MA: MIT Press.
82. Yaeger, L., and Sporns, O. (2006) Evolution of neural structure and complexity in a computational ecology. In Rocha, L.M., Yager, L.S., Bedeau, M.A., Floreano, D., Goldstone, R.L., and Vespigniani, A. (eds.) *Artificial Life X. Proceedings of the Tenth International Conference on the Simulation and Synthesis of Living Systems*, pp. 330-336, Cambridge, MA: MIT Press.
81. Sporns, O. (2006) Small-world connectivity, motif composition, and complexity of fractal neuronal connections. *BioSystems* 85, 55-64.
80. Chadderdon, G., Sporns, O. (2006) A Large-Scale Neurocomputational Model of Task-Oriented Behavior Selection and Working Memory in Prefrontal Cortex. *J. Cogn. Neurosci.* 18, 242-257.
79. Da Costa, L., and Sporns, O. (2005) Hierarchical features of large-scale cortical connectivity. *Eur. Phys. J. B* 48, 567-573.
78. Sporns, O., Tononi, G., and Kötter, R. (2005) The human connectome: A structural description of the human brain. *PLoS Computational Biology* 1, 245-251.

77. Seth, A., Sporns, O. and Krichmar, J. (2005) Neurorobotic models in neuroscience and neuroinformatics. *Neuroinformatics* 3, 167-170.
76. Lungarella, M., Pegors, T., Bulwinkle, D., and Sporns, O. (2005) Methods for quantifying the informational structure of sensory and motor data. *Neuroinformatics* 3, 243-262.
75. Lungarella, M., Sporns, O. (2005) Information self-structuring: key principle for learning and development. *Proceedings 2005 IEEE Intern. Conf. Development and Learning*, pp. 25-30.
74. Sporns, O. (2005) Complex neural networks as future tools in imagery analysis. In: *Emerging Technologies and Applications for Imagery Pattern Recognition*, Mericsko, R., ed., pp. 67-72, IEEE Computer Society, Los Alamitos, CA.
73. Sporns, O. (2005) Principles and methods in the analysis of brain networks. In: Reeke, G.N., Poznanski, R.R., Lindsay, K.A., Rosenberg, J.R. and Sporns, O. (eds.) *Modeling in the Neurosciences. From Biological Systems to Neuromimetic Robotics*, 2nd edition, pp. 599-612, CRC Press, Boca Raton.
72. Sporns, O. (2005) Toward neural robotics: From synthetic models to neuromimetic implementations. In: Reeke, G.N., Poznanski, R.R., Lindsay, K.A., Rosenberg, J.R. and Sporns, O. (eds.) *Modeling in the Neurosciences. From Biological Systems to Neuromimetic Robotics*, 2nd edition, pp. 639-646, CRC Press, Boca Raton.
71. Sporns, O., and Kötter, R. (2004) Motifs in brain networks. *PLoS Biology* 2, 1910-1918.
70. Sporns, O., Chialvo, D., Kaiser, M., and Hilgetag, C.C. (2004) Organization, development and function of complex brain networks. *Trends in Cognitive Sciences* 8, 418-425.
69. Sporns, O., and Zwi, J. (2004) The small world of the cerebral cortex. *Neuroinformatics* 2, 145-162.
68. Alexander, W.H., and Sporns, O. (2004) Interactions of environment, behavior, and synaptic patterns in a neuro-robotic model. In: *From Animals to Animats 8, Proceedings SAB 2004*, Schaal, S., Ijspeert, A., Billard, A., Vijayakumar, S., Hallam, J., and Meyer, J.-A. (eds.), pp.13-22, MIT Press, Cambridge, MA.
67. Sporns, O., and Pegors, T.K. (2004) Information-theoretical aspects of embodied artificial intelligence. In: *Embodied Artificial Intelligence*, Iida, F., Pfeifer, R., Steels, L., and Kuniyoshi, Y. (eds.), pp. 74-85, Springer-Verlag, Berlin.
66. Sporns, O. (2004) Complex neural dynamics. In: *Coordination Dynamics: Issues and Trends*, Jirsa, V.K. and Kelso, J.A.S., (eds.), pp. 197-215, Springer-Verlag, Berlin.
65. Brenner, C.A., Sporns, O., Lysaker, P.H., and O'Donnell, B.F. (2003) EEG synchronization to modulated auditory tones in schizophrenia, schizoaffective disorder and schizotypal personality disorder. *American Journal of Psychiatry* 160, 2238-2240.
64. Tononi, G., and Sporns, O. (2003) Measuring information integration. *BMC Neuroscience* 4, 31.
63. Sporns, O., and Alexander, W.H. (2003) Neuromodulation in a learning robot: interactions between neural plasticity and behavior. *Proceedings IJCNN 2003*, 2789-2794.
62. Alexander, W.H., and Sporns, O. (2003) An embodied model of learning, plasticity and reward. *Adaptive Behavior* 10, 141-159.
61. Sporns, O. (2002) Network analysis, complexity and brain function. *Complexity* 8, 56-60.
60. Sporns, O. (2002) Embodied Cognition. In: *MIT Handbook of Brain Theory and Neural Networks*, M. Arbib, Ed., pp. 395-398, MIT Press, Cambridge, MA.
59. Sporns, O. (2002) Graph theory methods for the analysis of neural connectivity patterns. Kötter, R. (ed.) *Neuroscience Databases. A Practical Guide*, pp. 171-186, Klüwer, Boston, MA.
58. Sporns, O., Tononi, G., and Edelman, G.M. (2002) Theoretical neuroanatomy and the connectivity of the cerebral cortex. *Behav Brain Res* 135, 69-74.

57. Sporns O, Alexander WH (2002) Neuromodulation and plasticity in an autonomous robot. *Neural Networks* 15, 761-774.
56. Sporns O, Alexander WH (2002) Dopamine, reward conditioning, and robot behavior. In: *Proceedings of the 2nd International Conference on Development and Learning*, pp. 265-270, IEEE Computer Society, Los Alamitos, CA.
55. Alexander, W.H., and Sporns, O. (2002) Timed delivery of reward signals in an autonomous robot. In: *Animals to Animats 7: Proceedings of the Seventh International Conference on the Simulation of Adaptive Behavior*, pp. 195-204, Hallam, B., Floreano, D., Hallam, J., Hayes, G. and Meyer, J.-A. (Editors), MIT Press: Cambridge, MA.
54. Hilgetag, C.C., Kötter, R., Stephan, K.E. and Sporns, O. (2002) Computational methods for the analysis of brain connectivity. In: Giorgio Ascoli (ed.) *Computational Neuroanatomy: Principles and Methods*, pp. 295-335, Humana Press, Totowa, NJ.
53. Sporns, O., and Tononi, G. (2002) Classes of network connectivity and dynamics. *Complexity* 7, 28-38.
52. Sporns, O. (2001) Neural dynamics and cognitive synthesis. *Theoria et Historia Scientiarum* 7:293-305.
51. Almassy, N., and Sporns, O. (2001) Perceptual invariance and categorization in an embodied model of the visual system. In *Biorobotics. Methods and Applications*, Webb, B., and Consi, T.R., eds., pp.123-143, AAAI Press/MIT Press, Menlo Park, CA.
50. Weng, J., McClelland, J., Pentland, A., Sporns, O., Stockman, I., Sur, M., Thelen, E. (2001) Autonomous mental development by robots and animals. *Science* 291, 599-600.
49. Sporns, O., Almassy, N., and Edelman, G.M. (2000) Plasticity in value systems and its role in adaptive behavior. *Adaptive Behavior* 8, 129-148.
48. Krichmar, J.L.; Snook, J.A.; Edelman, G.M.; Sporns, O. (2000) Experience-dependent perceptual categorization in a behaving real-world device. In: *Animals to Animats 6: Proceedings of the Sixth International Conference on the Simulation of Adaptive Behavior*, Meyer, J.A.; Berthoz, A.; Floreano, D.; Roitblat, H.; Wilson, S.W., (Editors), MIT Press: Cambridge, MA. p. 41-50.
47. Sporns, O., Tononi, G., and Edelman, G. (2000) Connectivity and complexity: the relationship between neuroanatomy and brain dynamics. *Neural Networks* 13, 909-922.
46. Sporns, O. (2000) Synthetic approaches to cognitive neuroscience. *Brain and Behavioral Sciences* 23, 548-549.
45. Sporns, O., Tononi, G., and Edelman, G.M. (2000) Theoretical neuroanatomy: Relating anatomical and functional connectivity in graphs and cortical connection matrices. *Cerebral Cortex* 10, 127-141. [P45]
44. Tononi, G., Sporns, O., and Edelman, G.M. (1999) Measures of degeneracy and redundancy in biological networks. *Proc. Natl. Acad. Sci. USA* 96, 3257-3262.
43. Bradley, J., and Sporns, O. (1999) BDNF-dependent enhancement of exocytosis in cultured cortical neurons requires translation but not transcription. *Brain Research* 815, 140-149.
42. Tononi, G., Edelman, G.M., and Sporns, O. (1998) Complexity and coherency: Integrating information in the brain. *Trends in Cognitive Sciences* 2, 474-484.
41. Sporns, O., and Edelman, G.M. (1998) Bernstein's dynamic view of the brain: The current problems of modern neurophysiology (1945) *Motor Control* 2, 283-305.
40. Edelman, G.M., Sporns, O., and Tononi, G. (1998) Reductionism and selection. In: Mazur, G.O. (Ed.) *Twenty Year Commemoration to the Life of A.R. Luria*, Semenenko Foundation, Paris.

39. Almassy, N., and Sporns, O. (1998) Role of behavior in the development of complex neuronal properties. *Proceedings SAB98*, pp. 312-320, MIT Press, Cambridge, MA.
38. Almassy, N., Edelman, G.M., and Sporns, O. (1998) Behavioral constraints in the development of neuronal properties: A cortical model embedded in a real world device. *Cereb Cortex* 8, 346-361.
37. Sporns, O. (1998) Biological variability and brain function. In: *Consciousness and Human Identity*, pp. 38-56, ed. J. Cornwell, Oxford University Press.
36. Sporns, O. (1997) Deconstructing neural constructivism. *Brain Behav. Sci.* 20, 576-577.
35. Sporns, O., and Jenkinson, S. (1997) Potassium ion- and nitric oxide-induced exocytosis from populations of hippocampal synapses during synaptic maturation in vitro. *Neuroscience* 80, 1057-1073.
34. Sporns, O. (1997) Variation and selection in neural function. *Trends Neurosci.* 20, 291.
33. Tononi, G., Sporns, O., and Edelman, G.M. (1996) A complexity measure for selective matching of signals by the brain. *Proc. Natl. Acad. Sci. USA* 93, 3422-3427.
32. Verschure, P.F.M.J., Wray, J., Sporns, O., Tononi, G., and Edelman, G.M. (1995) Multilevel analysis of a behaving real world artifact: An illustration of synthetic neural modeling. *Robotics and Autonomous Systems* 16, 247-265.
31. Friston, K.J., Tononi, G., Sporns, O., and Edelman, G.M. (1995) Characterizing the complexity of neuronal interactions. *Human Brain Mapping* 3, 302-314.
30. Krushel, L.A., Sporns, O., Cunningham, B.A., Crossin, K.L., and Edelman, G.M. (1995) The neural cell adhesion molecule (N-CAM) inhibits astrocyte proliferation after injury to different regions of the adult rat brain. *Proc. Natl. Acad. Sci. USA* 92, 4323-4327.
29. Sporns, O., G.M. Edelman and K.L. Crossin (1995) The neural cell adhesion molecule (N-CAM) inhibits proliferation in primary cultures of rat astrocytes. *Proc. Natl. Acad. Sci. USA* 92, 542-546.
28. Sporns, O. (1995) *Neural Models of Perception and Behavior*. 1993 Lectures in Complex Systems, SFI Studies in the Sciences of Complexity, Lect. Vol X, Eds. D. Stein and L. Nadel, pp. 1-56, Addison-Wesley.
27. Sporns, O., G. Tononi, and G.M. Edelman (1994) Reentry and dynamical interactions of cortical networks. In *Models of Neural Networks II* eds. E. Domany, J.L. van Hemmen, and K. Schulten, pp. 315-341, Springer-Verlag, New York etc.
26. Sporns, O. (1994) Selectional and instructional ideas in neuroscience. *Int. Rev. Neurosci.* 37:3-26.
25. Alber, R., Sporns, O., Weikert, T., Willbold, E., and Layer, P.G. (1994) Cholinesterases and peanut agglutinin binding related to cell proliferation and axonal growth in embryonic chick limbs. *Anat. Embryol.* 190, 429-438.
24. Horwitz, B., and Sporns, O. (1994) Neural Modeling and Functional Neuroimaging. *Hum Brain Mapp* 1, 269-283.
23. Sporns, O., Tononi, G., and Edelman, G.M. (1994) Neural models of cortical integration. In *Functional Neuroimaging: Technical Foundations*, R.W. Thatcher, M. Hallett, T. Zeffiro, E.R. John, and M. Huerta (Eds.), pp. 1-7, Academic Press, San Diego.
22. Tononi, G., Sporns, O., and Edelman, G.M. (1994) A measure for brain complexity: Relating functional segregation and integration in the nervous system. *Proc. Natl. Acad. Sci. USA* 91, 5033-5037.
21. Friston, K.J., Tononi, G., Reeke, G.N., Jr., Sporns, O., and Edelman, G.M. (1994) Value-dependent selection in the brain: Simulation in a synthetic neural model. *Neuroscience*, 59, 229-243.

20. Reeke, G.N., Jr., Sporns, O., Gall, W.E., Tononi, G. and Edelman, G.M. (1994) A biologically based synthetic nervous system for a real-world device. In *Neural Networks for Speech and Vision*, R.J. Mannone (Ed.), pp. 457-473, Chapman & Hall, London etc.
19. Sporns, O., and G.M. Edelman (1993) Solving Bernstein's problem: A proposal for the development of coordinated movement by selection. *Child Development* 64, 960-981.
18. Sporns, O., G. Tononi, and G.M. Edelman (1993) Correlated neuronal activity and behavior. In *ICANN'93 Proceedings of the International Conference on Artificial Neural Networks*, Stan Gielen and Bert Kappen (Eds.), pp. 125-130, Springer-Verlag, London etc.
17. Reeke, G.N., Jr., and Sporns, O. (1993) Behaviorally based modeling and computational approaches to neuroscience. *Ann. Rev. Neuroscience* 16, 597-623.
16. Tononi, G, Sporns, O., and Edelman, G.M. (1992) Reentry and the problem of integrating multiple cortical areas: Simulation of dynamic integration in the visual system. *Cerebral Cortex* 2, 310-335.
15. Edelman, G.M., Reeke, G.N. Jr., Gall, W.E., Tononi, G., Williams, D., and Sporns, O. (1992) Synthetic neural modeling applied to a real-world artifact. *Proc. Natl. Acad. Sci. USA* 89, 7267-7271.
14. Tononi, G., Sporns, O., and Edelman, G.M. (1992) The problem of neural integration: Induced rhythms and short-term correlations. In *Induced Rhythms in the Brain* eds. E. Basar and T.H. Bullock, pp. 367-395, Boston: Birkhäuser.
13. Sporns, O., Tononi, G., and Edelman, G.M. (1991) Modeling perceptual grouping and figure-ground segregation by means of active reentrant circuits. *Proc. Natl. Acad. Sci. USA* 88, 129-133.
12. Reeke, G.N., Jr., and Sporns, O. (1991) Neural Darwinism and selective recognition automata: How selection shapes perceptual categories. In *Self-Organization, Emerging Properties, and Learning* ed. A. Babloyantz (Plenum Press, New York), pp. 199-218.
11. Sporns, O., G. Tononi, and G.M. Edelman (1991) Dynamic interactions of neuronal groups and the problem of cortical integration. In *Nonlinear Dynamics and Neuronal Networks* ed. H.G. Schuster (VCH, Weinheim), pp. 205-240.
10. Reeke, G.N., Jr., Sporns, O., and Edelman, G.M. (1990) Synthetic neural modeling: The "Darwin" series of recognition automata. *Proc. IEEE* 78, 1498-1530.
9. Reeke, G.N., Jr., Finkel, L.H., Sporns, O. and Edelman, G.M. (1990) Synthetic neural modeling: A multilevel approach to the analysis of brain complexity. In *Signal and Sense: Local and Global Order in Perceptual Maps* eds. Edelman, G.M., Gall, W.E. & Cowan, W.M. (Wiley, New York), pp. 607-707.
8. Reeke, G.N., Jr., and Sporns, O. (1990) Selectionist models of perceptual and motor systems and implications for functionalist theories of brain function. *Physica D* 42, 347-364.
7. Sporns, O., J.A. Gally, G.N. Reeke, Jr., and G.M. Edelman (1989) Reentrant signaling among simulated neuronal groups leads to coherency in their oscillatory activity. *Proc. Natl. Acad. Sci. USA* 86, 7265-7269.
6. Reeke, G.N., Jr., Sporns, O., and Edelman, G.M. (1989) Synthetic neural modelling: Comparisons of population and connectionist approaches. In *Connectionism in Perspective*, R. Pfeiffer, Z. Schreter, F. Fogelman-Soulié, L. Steels (eds.), pp. 113-139, Elsevier, Amsterdam.
5. Layer, P.G., and Sporns, O. (1987) Spatiotemporal relationship of embryonic cholinesterases with cell proliferation in chicken brain and eye. *Proc. Natl. Acad. Sci. USA* 84, 284-288.
4. Layer, P.G., Alber, R. and Sporns, O. (1987) Quantitative development and molecular forms of Acetyl- and Butyrylcholinesterase during morphogenesis and synaptogenesis of chick brain and retina. *J. Neurochem.* 49, 175-182.
3. Sporns, O., S. Roth, and F. F. Seelig (1987) Chaotic dynamics of two coupled biochemical oscillators. *Physica D* 26, 215-224.

2. Sporns, O., and F.F. Seelig (1986) Turing structures in an enzyme-induction system with gap junction-mediated non-linear diffusion. *BioSystems* 19, 237-245.
1. Sporns, O., and F.F. Seelig (1986) Oscillations in theoretical models of induction. *BioSystems* 19, 83-89.

Book Reviews

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

- | | |
|----------|--|
| 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 Neurobotic 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", 2nd 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", 5th 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", 12th 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, MCCS 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, 12th 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", 18th 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", 1st 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 Interventionelle, 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, 27th Annual Rotman Research Institute Conference, Toronto, ON.