

JOHN E. SPIRO, PhD

Deputy Scientific Director
Simons Foundation Autism Research Initiative (SFARI)
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EDUCATION

- 1995-1999 Postdoctoral fellow, Department of Neurobiology, Duke University Medical Center
1995 Ph.D., Department of Biology, University of California, San Diego
1988 B.A., Biology (with honors), Haverford College, Haverford, PA

PROFESSIONAL EXPERIENCE

- 2011-present Deputy Scientific Director, Simons Foundation Autism Research Initiative (SFARI)
- Responsible for working with the Founders and Director to determine the overall scientific strategy and oversee the budget (~\$85 million/year) of SFARI. The Simons Foundation is a private non-profit foundation dedicated to advancing the frontiers of research in the basic sciences and mathematics. The mission of SFARI is to improve the understanding, diagnosis and treatment of autism spectrum disorders by funding innovative research of the greatest quality and relevance.
 - Specific responsibilities include: hiring, training and managing a team of PhD-level scientists and administrative staff who manage SFARI's awards, projects and websites, including drafting RFAs, evaluating grants, organizing and leading review panels, monitoring award progress, leading site visits, organizing workshops and SFARI scientific meetings, interacting with the Scientific Advisory Board, attending scientific meetings, developing partnerships with other foundations and organizations, and giving talks at scientific meetings to promote SFARI's mission.
 - Launch and co-manage (with the external PI) the Simons Searchlight (formerly Simons VIP) project, a large collaborative project aimed at recruitment and deep phenotypic, neurological and neuroimaging characterization of cohorts of families who share the same recurrent genetic variations associated with increased risk of autism spectrum disorders; a long-term goal is to develop targeted interventions.
 - Spearhead SFARI's open science initiatives, including promoting the use of preprints in the life sciences.
- 2008-2011 Senior Associate Director for Research, Simons Foundation
2007-2008 Associate Director for Research, Simons Foundation
- 2005-2007 Senior Editor and Neuroscience Team Leader, *Nature*
- Management of the neuroscience editors in New York and London with responsibility for editorial decisions and peer review of manuscripts across all areas of neuroscience.
 - Extensive domestic and international travel to universities and scientific meetings, including delivering numerous presentations on trends in neuroscience and publishing.
 - Writing editorials, press releases, book reviews, as well as extensive commissioning and editing of News & Views, review articles, book reviews, commentaries, letters to the editor and news pieces.
 - Editorial lead on or major contribution to various special print and online projects (insights, special focus issues, podcasts, web focuses), including: Molecular Approaches to Neural Development, Beyond the Bench- the Practical Promise of Neuroscience, Music and the Brain, Sleep, Chemical Sensing, Brain-Machine Interfaces.
- 2004-2005 Senior Editor, *Nature*
2003 Senior Editor, *Nature Neuroscience*
2001-2003 Associate Editor, *Nature Neuroscience*
2000-2001 Assistant Editor, *Nature Neuroscience*
- 1995-1999 Postdoctoral Fellow, Laboratory of Dr. Richard Mooney
Duke University Medical Center
Project: The cellular and synaptic changes underlying avian song learning.
- 1989-1995 Graduate Student, Laboratory of the late Dr. Walter Heiligenberg
University of California, San Diego

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Thesis: The cellular basis of electromotor behaviors in electric fish.

ADDITIONAL PROFESSIONAL ACTIVITIES (selected)

- 2018 Keynote presentation at TED-style Autism Science Foundation Day of Learning “From genes to biology: what we’re learning and why it matters”
- 2018 Panelist on Society for Neuroscience webinar “Managing to Manage Science”
- 2016-present Advisory Board member, UNC Autism Research Center
- 2013 Co-organizer and moderator for “Autism Spectrum Disorder: From Genes to Circuits to Behavior” at the New York Academy of Sciences
- 2010-2013 Member of the Brain Dysfunction Committee, New York Academy of Sciences
- 2010 Guest lecturer, NYU undergraduate course in genetics
- 2010 Co-organizer and moderator for “Autism Spectrum Disorders: Early Behavioral Predictors and Biomarkers” at the New York Academy of Sciences
- 2008 Co-organizer of Salk/IPSEN/NPG “Symposium on Biological Complexity: Genes, Circuits and Behavior”, La Jolla, CA
- 2007-2008 Judge for the Blavatnik Awards for Young Scientists, The New York Academy of Sciences
- 2007-present Ad hoc referee for various neuroscience journals

PROFESSIONAL SOCIETIES

- 2007-present International Society for Autism Research
- 1990-present Society for Neuroscience

HONORS AND SUPPORT

- 1997-1999 Individual National Research Service Award (postdoctoral)
- 1995-1996 National Research Service Award (postdoctoral), Duke University
- 1995 Young Investigator Prize, International Society for Neuroethology
- 1991-1994 National Research Service Award (predoctoral), UCSD
- 1990 Fellowship for Woods Hole Neural Systems and Behavior summer course
- 1989 NSF Graduate Fellowship, honorable mention

TEACHING EXPERIENCE

- 1990-1994 Department of Biology, UCSD: Developmental Neurobiology; Cellular Neuroscience; Neurophysiology Laboratory; Embryology Laboratory

PUBLICATIONS (ORCID ID: 0003-2820-5844)

Autism-related (selected):

- Sanders SJ, Campbell AJ, Cottrell JR, Moller RS, Wagner FF, Auldrige AL, Bernier RA, Catterall WA, Chung WK, Empfield JR, George AL Jr, Hipp JF, Khwaja O, Kiskinis E, Lal D, Malhotra D, Millichap JJ, Otis TS, Petrou S, Pitt G, Schust LF, Taylor CM, Tjernagel J, **Spiro JE**, Bender KJ (2018) Progress in Understanding and Treating SCN2A-Mediated Disorders. *Trends Neurosci.* Jul; 41(7) 442-456.
- Martin-Brevet S, Rodríguez-Herreros B, Nielsen JA, Moreau C, Modenato C, Maillard AM, Pain A, Richetin S, Jönch AE, Qureshi AY, Zürcher NR, Conus P; 16p11.2 European Consortium; Simons Variation in Individuals Project (VIP) Consortium, Chung WK, Sherr EH, **Spiro JE**, Kherif F, Beckmann JS, Hadjikhani N, Reymond A, Buckner RL, Draganski B, Jacquemont S (2018) Quantifying the Effects of 16p11.2 Copy Number Variants on Brain Structure: A Multisite Genetic-First Study. *Biol. Psychiatry.* Aug 15;84(4):253-264.
- D'Angelo D, Lebon S, Chen Q, Martin-Brevet S, Snyder LG, Hippolyte L, Hanson E, Maillard AM, Faucett WA, Macé A, Pain A, Bernier R, Chawner SJ, David A, Andrieux J, Aylward E, Baujat G, Caldeira I, Conus P, Ferrari C, Forzano F, Gérard M, Goin-Kochel RP, Grant E, Hunter JV, Isidor B, Jacqueline A, Jönch AE, Keren B, Lacombe D, Le Caignec C, Martin CL, Männik K, Metspalu A, Mignot C, Mukherjee P, Owen MJ, Passeggeri M, Rooryck-Thambo C, Rosenfeld JA, Spence SJ, Steinman KJ, Tjernagel J, Van Haelst M, Shen

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Y, Draganski B, Sherr EH, Ledbetter DH, van den Bree MB, Beckmann JS, **Spiro JE**, Reymond A, Jacquemont S, Chung WK; Cardiff University Experiences of Children With Copy Number Variants (ECHO) Study; 16p11.2 European Consortium; Simons Variation in Individuals Project (VIP) Consortium. (2016) Defining the Effect of the 16p11.2 Duplication on Cognition, Behavior, and Medical Comorbidities JAMA Psychiatry. Jan;73(1):20-30.

Hanson E, Bernier R, Porche K, Jackson FI, Goin-Kochel RP, Snyder LG, Snow AV, Wallace AS, Campe KL, Zhang Y, Chen Q, D'Angelo D, Moreno-De-Luca A, Orr PT, Boomer KB, Evans DW, Kanne S, Berry L, Miller FK, Olson J, Sherr E, Martin CL, Ledbetter DH, **Spiro JE**, Chung WK; Simons Variation in Individuals Project Consortium. (2015) The cognitive and behavioral phenotype of the 16p11.2 deletion in a clinically ascertained population. Biol. Psychiatry. May 1;77(9):785-93.

Moreno-De-Luca A, Evans DW, Boomer KB, Hanson E, Bernier R, Goin-Kochel RP, Myers SM, Challman TD, Moreno-De-Luca D, Slane MM, Hare AE, Chung WK, **Spiro JE**, Faucett WA, Martin CL, Ledbetter DH. (2015) The role of parental cognitive, behavioral, and motor profiles in clinical variability in individuals with chromosome 16p11.2 deletions. JAMA Psychiatry. Feb;72(2):119-26.

Qureshi A, Mueller S, Snyder AZ, Mukherjee P, Berman JI, Roberts TPL, Srikantan S, Nagarajan SS, **Spiro JE**, Chung WK, Sherr EH, Buckner RL on behalf of the Simons VIP Consortium (2014) Opposing Brain Differences in 16p11.2 Deletion and Duplication Carriers. J. Neurosci. Aug 20;34(34):11199-211.

Owen JP, Chang YS, Pojman NJ, Bukshpun P, Wakahiro ML, Marco EJ, Berman JI, **Spiro JE**, Chung WK, Buckner RL, Roberts TP, Nagarajan SS, Sherr EH, Mukherjee P; for the Simons VIP Consortium. (2014) Aberrant White Matter Microstructure in Children with 16p11.2 Deletions. J. Neurosci. Apr 30;34(18):6214-6223.

Zufferey F, Sherr EH, Beckmann ND, Hanson E, Maillard AM, Hippolyte L, Macé A, Ferrari C, Kutalik Z, Andrieux J, Aylward E, Barker M, Bernier R, Bouquillon S, Conus P, Delobel B, Faucett WA, Goin-Kochel RP, Grant E, Harewood L, Hunter JV, Lebon S, Ledbetter DH, Martin CL, Männik K, Martinet D, Mukherjee P, Ramocki MB, Spence SJ, Steinman KJ, Tjernagel J, **Spiro JE**, Reymond A, Beckmann JS, Chung WK, Jacquemont S; on behalf of the Simons VIP Consortium, on behalf of the 16p11.2 European Consortium. (2012) A 600 kb deletion syndrome at 16p11.2 leads to energy imbalance and neuropsychiatric disorders. J. Med. Genet. Oct;49(10):660-668.

Simons VIP Consortium. (**Spiro JE** primary and corresponding author) (2012) Simons Variation in Individuals Project (Simons VIP): a genetics-first approach to studying autism spectrum and related neurodevelopmental disorders. Neuron. Mar 22;73(6):1063-7.

Open science/career related:

Spiro JE (2017) Leaving the Bench and Finding Your Foundation. Cold Spring Harb Perspect Biol. Dec 1;9(12).

Berg JM, Bhalla N, Bourne PE, Chalfie M, Drubin DG, Fraser JS, Greider CW, Hendricks M, Jones C, Kiley R, King S, Kirschner MW, Krumholz HM, Lehmann R, Leptin M, Pulverer B, Rosenzweig B, **Spiro JE**, Stebbins M, Strasser C, Swaminathan S, Turner P, Vale RD, VijayRaghavan K, Wolberger C. (2016) Preprints for the life sciences. Science. May 20;352(6288):899-901.

Spiro JE (2010) What to expect when you are expecting (a PhD). Book review of “So you want to be a scientist?” for Nat. Neurosci. 13, 269.

Graduate school and postdoctoral research:

Spiro JE, Dalva MB, Mooney R (1999) Long-range inhibition within the zebra finch song nucleus RA can coordinate the firing of multiple projection neurons. J. Neurophysiol. 81: 3007-3020.

Spiro JE, White, SA (1998) Neuroethology: a meeting of brain and behavior. Neuron. 21: 981-989.

Mooney R, **Spiro JE** (1997) Bird song: Of tone and tempo in the telencephalon. Current Biology. 7: 289-291.

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Spiro JE (1997) Differential activation of glutamate receptor subtypes on a single class of cells enables a neural oscillator to produce distinct behaviors. *J. Neurophysiol.* 78: 835-847.

Spiro JE (1995) The role of glutamate receptors in the control of a neuronal oscillator: studies of the pacemaker system of the electric fish *Hypopomus*. Ph.D. thesis, University of California, San Diego.

Spiro JE, Brose N, Heinemann SF, Heiligenberg W (1994) Immunolocalization of NMDA receptors in the central nervous system of weakly electric fish: functional implications for the modulation of a neuronal oscillator. *J. Neurosci.* 14: 6289-6299.