

Jared A. Nielsen PhD

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ACADEMIC AND RESEARCH POSITIONS

- 2014 to present **Postdoctoral Research Fellow, Departments of Psychiatry and Psychology**
Massachusetts General Hospital, Boston, MA (Advisor: Dr. Randy Buckner)
Harvard University, Cambridge, MA (Advisor: Dr. Randy Buckner)
- 2013 to 2014 **Postdoctoral Research Fellow, Department of Radiology**
University of Utah, Salt Lake City, UT (Advisor: Dr. Jeffrey Anderson)
- 2009 to 2013 **Graduate Student, Interdepartmental Program in Neuroscience**
University of Utah, Salt Lake City, UT (Advisor: Dr. Janet Lainhart)
- 2008 to 2009 **Research Assistant, Department of Psychiatry**
University of Utah, Salt Lake City, UT (Advisor: Dr. Janet Lainhart)
- 2009 **Teaching Assistant, Neuroscience Center**
Brigham Young University, Provo, UT (Lecturer: Dr. Michael Brown)
- 2007 to 2009 **Research and Teaching Assistant, Department of Molecular Biology**
Brigham Young University, Provo, UT (Advisor and Lecturer: Dr. Byron Adams)

EDUCATION

- 2013 **Ph.D., Neuroscience (finished Higher Education Teaching Specialist program)**
University of Utah, Salt Lake City, UT
- 2009 **B.S., Cum Laude, Neuroscience (Psychology minor)**
Brigham Young University, Provo, UT

REFEREED MANUSCRIPTS

- Lange, N., Travers, B. G., Bigler, E. D., Prigge, M. B., Froehlich, A. L., **Nielsen, J. A.**, Cariello, A. N., Zielinski, B. A., Anderson, J. S., Fletcher, P. T., Alexander, A. A., & Lainhart, J. E. (2014). Longitudinal Volumetric Brain Changes in Autism Spectrum Disorder Ages 6-35 Years. *Autism Res.* PMID: pending
- Zielinski, B. A., Prigge, M. B., **Nielsen, J. A.**, Froehlich, A. L., Abildskov, T. J., Anderson, J. S., Fletcher, P. T., Zygmunt, K. M., Travers, B. G., Lange, N., Alexander, A. L., Bigler, E. D., & Lainhart, J. E. (2014). Longitudinal changes in cortical thickness in autism and typical development. *Brain*, 137(Pt 6), 1799-1812. PMID: 4032101
- Travers, B. G., Bigler, E. D., Tromp do, P. M., Adluru, N., Froehlich, A. L., Ennis, C., Lange, N., **Nielsen, J. A.**, Prigge, M. B., Alexander, A. L., & Lainhart, J. E. (2014). Longitudinal processing speed impairments in males with autism and the effects of white matter microstructure. *Neuropsychologia*, 53, 137-145. PMID: 3946881

- Anderson, J. S., Zielinski, B. A., **Nielsen, J. A.**, & Ferguson, M. A. (2014). Complexity of low-frequency blood oxygen level-dependent fluctuations covaries with local connectivity. *Hum Brain Mapp*, 35(4), 1273-1283. PMID: 4075281
- Ferguson, M. A., **Nielsen, J. A.**, & Anderson, J. S. (2014). Altered resting functional connectivity of expressive language regions after speed reading training. *J Clin Exp Neuropsychol*, 36(5), 482-493. PMID: 4039565
- Nielsen, J. A.**, Zielinski, B. A., Fletcher, P. T., Alexander, A. L., Lange, N., Bigler, E. D., Lainhart, J. E., & Anderson, J. S. (2014). Abnormal lateralization of functional connectivity between language and default mode regions in autism. *Mol Autism*, 5(1), 8. PMID: 3922424
- Zuo, X.-N., Anderson, J. S., Bellec, P., Birn, R. M., Biswal, B. B., Blautzik, J., Breitner, J. C. S., Buckner, R. L., Calhoun, V. D., Castellanos, F. X., Chen, A., Chen, B., Chen, J., Chen, X., Colcombe, S. J., Courtney, W., Craddock, R. C., Di Martino, A., Dong, H.-M., Fu, X., Gong, Q., Gorgolewski, K. J., Han, Y., He, Y., He, Y., Ho, E., Holmes, A., Hou, X.-H., Huckins, J., Jiang, T., Jiang, Y., Kelley, W., Kelly, C., King, M., LaConte, S. M., Lainhart, J. E., Lei, X., Li, H.-J., Li, K., Li, K., Lin, Q., Liu, D., Liu, J., Liu, X., Liu, Y., Lu, G., Lu, J., Luna, B., Luo, J., Lurie, D., Mao, Y., Margulies, D. S., Mayer, A. R., Meindl, T., Meyerand, M. E., Nan, W., **Nielsen, J. A.**, O'Connor, D., Paulsen, D., Prabhakaran, V., Qi, Z., Qiu, J., Shao, C., Shehzad, Z., Tang, W., Villringer, A., Wang, H., Wang, K., Wei, D., Wei, G.-X., Weng, X.-C., Wu, X., Xu, T., Yang, N., Yang, Z., Zang, Y.-F., Zhang, L., Zhang, Q., Zhang, Z., Zhang, Z., Zhao, K., Zhen, Z., Zhou, Y., Zhu, X.-T., & Milham, M. P. (2014). An open science resource for establishing reliability and reproducibility in functional connectomics. *Scientific Data*, 1. PMID: pending
- Prigge, M. D., Bigler, E. D., Fletcher, P. T., Zielinski, B. A., Ravichandran, C., Anderson, J., Froehlich, A., Abildskov, T., Papadopolous, E., Maasberg, K., **Nielsen, J. A.**, Alexander, A. L., Lange, N., & Lainhart, J. (2013). Longitudinal Heschl's gyrus growth during childhood and adolescence in typical development and autism. *Autism Res*, 6(2), 78-90. PMID: 3669648
- Duffield, T. C., Trontel, H. G., Bigler, E. D., Froehlich, A., Prigge, M. B., Travers, B., Green, R. R., Cariello, A. N., Cooperrider, J., **Nielsen, J.**, Alexander, A., Anderson, J., Fletcher, P. T., Lange, N., Zielinski, B., & Lainhart, J. (2013). Neuropsychological investigation of motor impairments in autism. *J Clin Exp Neuropsychol*, 35(8), 867-881. PMID: 3907511
- Nielsen, J. A.**, Zielinski, B. A., Fletcher, P. T., Alexander, A. L., Lange, N., Bigler, E. D., Lainhart, J. E., & Anderson, J. S. (2013). Multisite functional connectivity MRI classification of autism: ABIDE results. *Front Hum Neurosci*, 7, 599. PMID: 3782703
- Webb, J. T., Ferguson, M. A., **Nielsen, J. A.**, & Anderson, J. S. (2013). BOLD Granger causality reflects vascular anatomy. *PLoS ONE*, 8(12), e84279. PMID: 3862772
- Trontel, H. G., Duffield, T. C., Bigler, E. D., Froehlich, A., Prigge, M. B., **Nielsen, J. A.**, Cooperrider, J. R., Cariello, A. N., Travers, B. G., Anderson, J. S., Zielinski, B. A., Alexander, A., Lange, N., & Lainhart, J. E. (2013). Fusiform correlates of facial memory in autism. *Behav Sci (Basel)*, 3(3), 348-371. PMID: 3992819
- Prigge, M. B., Lange, N., Bigler, E. D., Merkle, T. L., Neeley, E. S., Abildskov, T. J., Froehlich, A. L., **Nielsen, J. A.**, Cooperrider, J. R., Cariello, A. N., Ravichandran, C., Alexander, A. L., & Lainhart, J. E. (2013). Corpus Callosum Area in Children and Adults with Autism. *Res Autism Spectr Disord*, 7(2), 221-234. PMID: 3487714
- Nielsen, J. A.**, Zielinski, B. A., Ferguson, M. A., Lainhart, J. E., & Anderson, J. S. (2013). An evaluation of the left-brain vs. right-brain hypothesis with resting state functional connectivity magnetic resonance imaging. *PLoS ONE*, 8(8), e71275. PMID: 3743825

- Anderson, J. S., **Nielsen, J. A.**, Ferguson, M. A., Burbach, M. C., Cox, E. T., Dai, L., Gerig, G., Edgin, J. O., & Korenberg, J. R. (2013). Abnormal brain synchrony in Down Syndrome. *Neuroimage Clin*, 2, 703-715. PMID: 3778249
- Froehlich, A. L., Anderson, J. S., Bigler, E. D., Miller, J. S., Lange, N. T., Dubray, M. B., Cooperrider, J. R., Cariello, A., **Nielsen, J. A.**, & Lainhart, J. E. (2012). Intact Prototype Formation but Impaired Generalization in Autism. *Res Autism Spectr Disord*, 6(2), 921-930. PMID: 3267426
- Zielinski, B. A., Anderson, J. S., Froehlich, A. L., Prigge, M. B., **Nielsen, J. A.**, Cooperrider, J. R., Cariello, A. N., Fletcher, P. T., Alexander, A. L., Lange, N., Bigler, E. D., & Lainhart, J. E. (2012). scMRI reveals large-scale brain network abnormalities in autism. *PLoS ONE*, 7(11), e49172. PMID: 3504046
- Anderson, J. S., Druzgal, T. J., Froehlich, A., DuBray, M. B., Lange, N., Alexander, A. L., Abildskov, T., **Nielsen, J. A.**, Cariello, A. N., Cooperrider, J. R., Bigler, E. D., & Lainhart, J. E. (2011). Decreased interhemispheric functional connectivity in autism. *Cereb Cortex*, 21(5), 1134-1146. PMID: 3077433
- Anderson, J. S., **Nielsen, J. A.**, Froehlich, A. L., DuBray, M. B., Druzgal, T. J., Cariello, A. N., Cooperrider, J. R., Zielinski, B. A., Ravichandran, C., Fletcher, P. T., Alexander, A. L., Bigler, E. D., Lange, N., & Lainhart, J. E. (2011). Functional connectivity magnetic resonance imaging classification of autism. *Brain*, 134(Pt 12), 3742-3754. PMID: 3235557

MANUSCRIPTS SUBMITTED FOR REVIEW OR IN PREPARATION

- Nielsen, J. A.**, Qureshi, A. Y., Mukherjee, P., Berman, J. I., Roberts, T. P. L., Nagarajan, S. S., Spiro, J. E., Chung, W. K., Sherr, E. H., & Buckner, R. L. Functional Lateralization of the Cerebral Cortex in 16p11.2 Deletion and Duplication Carriers. *Manuscript in preparation.*
- Travers, B. G., Tromp, D. P. M., Adluru, N., Lange, N., Destiche, D., Ennis, C., **Nielsen, J. A.**, Froehlich, A. L., Prigge, M. B. D., Fletcher, P. T., Anderson, J. S., Zielinski, B. A., Bigler, E. D., Lainhart, J. E., & Alexander, A. L. Atypical Development of White Matter Microstructure of the Corpus Callosum in Males with Autism: A Longitudinal Investigation. *Manuscript in revision.*
- Wright, B. W., Zielinski, B. A., Savica, R., Gurgel, R. K., **Nielsen, J. A.**, Smiley, S. C., Braden, S., Wang, A. Y., Auduong, P., Hoffman, J. M., Foster, N. L., Giraud-Carrier, C., & Anderson, J. S. Quantitative Regional Atrophy Mapping for Dementia. *Manuscript submitted.*

BOOKS AND BOOK CHAPTERS

- Anderson, J. S., Shah, L. M., & **Nielsen, J. A.** (2013). *Specialty Imaging: Functional MRI*. Altona, Canada: Amirsys Publishing, Inc.
- Anderson, J. S., Ferguson, M. A., & **Nielsen, J. A.** (2013). Functional MRI in Autism. In M. F. Casanova, A. S. El-Baz & J. S. Suri (Eds.), *Imaging the brain in autism* (pp. 289-323). New York: Springer.
- Zielinski, B. A., Prigge, M. D., **Nielsen, J. A.**, & Lainhart, J. E. (2013). Structural Imaging in Autism. In M. F. Casanova, A. S. El-Baz & J. S. Suri (Eds.), *Imaging the brain in autism* (pp. 135-177). New York: Springer.

INVITED TALKS

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| 2014 | Lateralization of intrinsic functional connectivity in autism and typical development. MRI Research Seminar, Brigham Young University. |
| 2014 | Lateralization of intrinsic functional connectivity in autism and typical development. Department of Psychology, Harvard University. |

CONFERENCE PRESENTATIONS: POSTERS

Nielsen, J. A., Qureshi, A. Y., Mukherjee, P., Berman, J. I., Roberts, T. P. L., Nagarajan, S. S., Spiro, J. E., Chung, W. K., Sherr, E. H., & Buckner, R. L. (2015, May). *Functional Lateralization of the Cerebral Cortex in 16p11.2 Deletion and Duplication Carriers*. Poster presented at the International Meeting for Autism Research, Salt Lake City, UT.

Nielsen, J. A., Travers, B. G., Tromp, D. P. M., Adluru, N., Ennis, C., Lange, N., Froehlich, A. L., Prigge, M. B. D., Fletcher, P. T., Zielinski, B. A., Anderson, J. S., Bigler, E. D., Lainhart, J. E., & Alexander, A. L. (2013, November). *Longitudinal microstructure of the internal capsule and corona radiata in autism*. Poster presented at the Society for Neuroscience's Annual Meeting, San Diego, CA.

Nielsen, J. A., Anderson, J. S., Ferguson, M. A., Froehlich, A. L., Cooperrider, J. R., Cariello, A., Fletcher, P. T., Zielinski, B. A., Bigler, E. D., Alexander, A. L., & Lainhart, J. E. (2013, May). *Functional connectivity MRI lateralization in autism spectrum disorder*. Poster presented at the International Meeting for Autism Research, San Sebastian, Spain.

Nielsen, J. A., Zielinski, B. A., Fletcher, P. T., Alexander, A. L., Lange, N., Bigler, E. D., Lainhart, J. E., & Anderson, J. S. (2013, June). *Multisite functional connectivity MRI classification of autism: ABIDE results*. Poster presented at the Organization for Human Brain Mapping's 19th Annual Meeting, Seattle, WA.

Webb, J. T., **Nielsen, J. A.**, Ferguson, M. A., & Anderson, J. S. (2013, June). *Reproducible Phase Delays in BOLD Time Series Reflect Vascular Anatomy*. Poster presented at the Organization for Human Brain Mapping's 18th Annual Meeting, Beijing, China.

Cooperrider, J. R., **Nielsen, J. A.**, Anderson, J. S., Froehlich, A. L., DuBray, M. B., Cariello, A. N., Alexander, A. L., Bigler, E. D., Lange, N., & Lainhart, J. E. (2012, May). *Increased attentional activation during reading in ASC: an fMRI study of visual language*. Poster presented at the International Meeting for Autism Research, Toronto, Canada.

Ferguson, M. A., Anderson, J. S., **Nielsen, J. A.**, Burbach, M. C., Froehlich, A. L., DuBray, M. B., Cariello, A. N., Cooperrider, J. R., Alexander, A. L., Bigler, E. D., Lange, N., Gerig, G., Lainhart, J. E., & Korenberg, J. R. (2012, June). *Abnormal functional network connectivity in Down syndrome*. Poster presented at the Organization for Human Brain Mapping's 18th Annual Meeting, Beijing, China.

Nielsen, J. A., Ferguson, M. A., & Anderson, J. S. (2012, June). *Left and right dominant functional connectivity networks*. Poster presented at the Organization for Human Brain Mapping's 18th Annual Meeting, Beijing, China.

Nielsen, J. A., Anderson, J. S., & Ferguson, M. A. (2011, November). *Whole brain functional connectivity lateralization*. Poster presented at the Society for Neuroscience's Annual Meeting, Washington, D.C.

Froehlich, A. L., Anderson, J. S., Lange, N., Zielinski, B. A., DuBray, M. B., **Nielsen, J. A.**, Cariello, A., Cooperrider, J. R., Bigler, E. D., Alexander, A. L., & Lainhart, J. E. (2011, May). *Relationship between handedness and language lateralization in autism*. Poster presented at the International Meeting for Autism Research, San Diego, CA.

Nielsen, J. A., Anderson, J. S., Ferguson, M. A., Druzgal, T. J., Froehlich, A., DuBray, M. B., Cooperrider, J. R., Cariello, A. N., Lange, N., Alexander, A. L., Bigler, E. D., & Lainhart, J. E. (2011, June). *Whole brain functional connectivity classification of autism*. Poster presented at the Organization for Human Brain Mapping's 17th Annual Meeting, Quebec City, Canada.

Anderson, J. S., **Nielsen, J. A.**, Ferguson, M. A., Druzgal, T. J., Lange, N., Froehlich, A. L., DuBray, M. B., Bigler, E. D., & Lainhart, J. E. (2010, May). *Delayed brain activation in autism by intersubject phase correlation*. Poster presented at the International Meeting for Autism Research, Philadelphia, PA.

Ferguson, M. A., Anderson, J. S., Froehlich, A. L., DuBray, M. B., Lange, N., **Nielsen, J. A.**, Druzgal, T. J., Bigler, E. D., & Lainhart, J. E. (2010, May). *Reduced anterior cingulate activity during novelty detection in autism*. Poster presented at the International Meeting for Autism Research, Philadelphia, PA.

Nielsen, J. A., Lange, N., Alexander, A. L., Lee, J. E., Dubray, M. B., Froehlich, A. L., Bigler, E. D., & Lainhart, J. E. (2009, February). *Subtypes of autism based on corpus callosum microstructure: a diffusion tensor imaging and neuropsychological study*. Poster presented at the International Neuropsychological Society's 37th Annual Meeting, Atlanta, GA.

COURSES DESIGNED AND TAUGHT

Spring 2013 PSYCH 6951/BIOEN 6900: Introduction to fMRI (University of Utah)

COURSES ASSISTED AS TEACHING ASSISTANT

Fall 2010 NEUSC 6060: Neuroanatomy (University of Utah)
 Spring 2009 NEURO 480: Advanced Neuroscience (Brigham Young University)
 2007 to 2009 MMBIO 240: Molecular Biology (Brigham Young University)

PROFESSIONAL AFFILIATIONS

2010 to present Society for Neuroscience (SfN)
 2011 to present International Society for Autism Research (INSAR)
 2011 to present Organization for Human Brain Mapping (OHBM)

DEPARTMENT AND COMMUNITY SERVICE

2011 to 2012 **Seminar Series Co-chair**
 University of Utah, Salt Lake City, UT
 2011 to 2012 **Curriculum Committee Student Representative**
 University of Utah, Salt Lake City, UT
 2011 **Volunteer Judge for Intermountain Junior Science & Humanities Symposium**
 Salt Lake City, UT
 2010 to 2011 **Recruitment Committee Co-chair**
 University of Utah, Salt Lake City, UT
 2009 to 2011 **Recruitment Committee Member**
 University of Utah, Salt Lake City, UT
 2009 to 2013 **Seminar Series Committee Member**
 University of Utah, Salt Lake City, UT
 2008 to 2014 **Brain Awareness Week Volunteer**
 Brigham Young University & University of Utah, Provo & Salt Lake City, UT
 2008 **Young Men's Unit Volunteer**
 Utah State Mental Hospital, Provo, UT
 2007 to 2009 **Neuroscience Student Association Treasurer and Member**
 Brigham Young University, Provo, UT
 2006 to 2008 **Child Mentor**
 Utah County Children's Justice Center, Provo, UT

HONORS AND AWARDS

2010 to 2013 **Grad School Travel Assistance** (4 awards)
 \$400 award for travel to a professional conference
 University of Utah, Salt Lake City, UT

 2010 to 2013 **Interdepartmental Program in Neuroscience Travel Assistance** (4 awards)
 \$500 award for travel to a professional conference

- University of Utah, Salt Lake City, UT
- 2009 to 2011 **NIH T32 Training Grant Fellowship**
Two-time recipient of fellowship that covers stipend, tuition, insurance, research travel, and research materials
University of Utah, Salt Lake City, UT
- 2009 **Merit poster**
Conference presentation at the Annual Meeting of the International Neuropsychological Society
Atlanta, GA
- 2009 **Neuroscience Department Undergraduate Research Award**
\$600 award for conference expenses to present research
Brigham Young University, Provo, UT
- 2008 **Utah Summer Undergraduate Research Program Award**
\$3,000 award to conduct research
University of Utah, Salt Lake City, UT
- 2008 **ORCA Undergraduate Research Award**
\$1,500 award to conduct research conduct
Brigham Young University, Provo, UT
- 2005 to 2008 **BYU Half-tuition Scholarship**
Brigham Young University, Provo, UT

AD HOC REVIEWER

Frontiers in Human Neuroscience
Frontiers in Systems Neuroscience
Human Brain Mapping
Neurobiology of Aging
PLOS ONE