Updated 2/18/2020

Christopher W. Bartlett Ph.D.
Associate Professor of Pediatrics (with tenure)
College of Medicine
The Ohio State University
Principle Investigator, Battelle Center for Mathematical Medicine
The Research Institute at Nationwide Children's Hospital

Positions:

- 2014-present Associate Professor of Pediatrics, College of Medicine, The Ohio State University, Columbus, OH
- 2014-present Associate Professor, Battelle Center for Mathematical Medicine (formerly known as the Center for Quantitative and Computational Biology), The Research Institute at Nationwide Children's Hospital, Columbus, OH
- 2006-2014 Assistant Professor of Pediatrics, College of Medicine, The Ohio State University, Columbus, OH
- 2006-2014 Assistant Professor, Battelle Center for Mathematical Medicine (formerly known as the Center for Quantitative and Computational Biology), The Research Institute at Nationwide Children's Hospital, Columbus, OH
- 2003 – 2006 Postdoctoral Research Scholar, Center for Statistical Genetics Research, College of Public Health & Carver College of Medicine, University of Iowa, Iowa City, IA

Education:

- Postdoc., Statistical Genetics, University of Iowa
- Ph.D., Behavioral and Neural Sciences, Rutgers University
- M.H.A., Health Administration, University of Cincinnati
- B.S., Psychology, Wright State University

Professional Certification:

- PMP, Project Management Professional (License #2158653)

Professional Memberships:

- American Society of Human Genetics; American Speech and Hearing Association; International Genetic Epidemiology Society; Cognitive Neuroscience Society (past); Society for Neuroscience (past)

Recent Service Activities:

Ongoing:

- 2018 – present. Member, IEEE-Standards Association Quantum Computing Nomenclature Working Group
- 2017 – present. Executive Advisory Panel, University of Cincinnati College of Allied Health Sciences Program
- 2015 – present. Advisory Board, *Journal of Child Psychology and Psychiatry*
- 2015 – present. Editorial Board, *Frontiers in Psychology*, Language Section
- 2014 – present. Associate Editor, *BMC Bioinformatics*

- Book Editor (with Stephen A. Petrill), "Frontiers in Genetics and Epigenetics in Development across the lifespan" in Frontiers in Developmental Science book series (Ed. Kirby Deater-Deckard), Taylor & Francis Group, London, UK
- 2010 – present. Molecular Cellular and Developmental Biology Graduate Studies Committee, The Ohio State University. Member. Notes: The MCDB Graduate Studies Committee is responsible for admissions and curriculum development and advises the MCDB Chair as necessary.

Past service:

- 2017 – 2018. Examiner, The Partnership for Excellence Baldrige Award (Healthcare)
- 2017. International Expert for University of Helsinki, Finland, Department of Psychology hiring Committee.
- 2013 – 2015. Chair, Organizing Committee for a series of joint human genetics symposia for Nationwide Children's Hospital and The Ohio State University (~150 attendees)
- 2013 – 2014. BioVis Conference, Publication Committee (Co-Chair)
- 2011 – 2014. BioVis Conference, Contest Committee (Co-Chair); 3 year appointment
- 2010 – 2013. Ohio Supercomputer Center, Hardware Committee, Member

Completed Study Section Service:

- NIH LCOM Special Emphasis Panel, Study Section Peer Reviewer (2018)
- NIH NICHD SEP Learning Disabilities Research Centers (P50) RFA (2017)
- NIH GGG Special Emphasis Panel (ZRG1 GGG-S 60) C Mental Illness Clinical Studies, Study Section Peer Reviewer (2015)
- NIH GHD Overflow Special Emphasis Panel (ZRG1 GHD C 08), Study Section Peer Reviewer (2014)
- NIH NIDCD Special Emphasis Panel for Clinical Research Center Grant (P50) Application (ZDC1 SRB R 31), Study Section Peer Reviewer, (2014)
- NIH LCOM Special Emphasis Panel (ZRG1 BBBP J 03), Study Section Peer Reviewer (2013)
- Ohio Supercomputer Center Allocations Proposal ad hoc review (2012, 2013,2014,2015)
- Department of Defense CDMRP Autism Research Program, Study Section Peer Reviewer (2007, 2009, 2010, 2012)
- UK Medical Research Council (MRC) Neurosciences and Mental Health Board, Study Section Peer Reviewer (2007, 2009, 2011)
- Wellcome Trust Neuroscience and Mental Health Section (UK), Study Section Peer Reviewer (2009, 2010)
- CCTS Study Section for Novel Clinical and Translational Methodologies Program (NCTMP): Application of Computer, Mathematical, Biostatistical, or Computational Methods in Clinical and Translational Medicine, Study Section Peer Reviewer (2010)
- NIH GHD/GCAT Special Emphasis Panel (ZRG1 GGG F 02), Study Section Peer Reviewer (2010)
- NIH ARRA challenge grant applications Biobehavioral & Behavioral Processes L(58)R & J(58)R, Study Section Peer Reviewer (2009)

Completed Journal Service:

- Co-Editor, *Journal of Child Psychology and Psychiatry*, Special Issue: *Gene-environment interplay in child psychology and psychiatry: challenges and ways forward* (October 2013)
- Scientific Associate Editor. Genetic Analysis Workshop 15 Conference Papers. *BMC Proceedings* (2006)
- Peer Reviewer for: American Journal of Medical Genetics Part A; American Journal of Medical Genetics Part B: Neuropsychiatric Genetics; American Journal of Psychiatry; Annals of Human Genetics; Archives of General Psychiatry; Autism Research; Behavior Genetics; Biological Psychiatry; Biometrical Journal; BMC Bioinformatics, BMC Pediatrics, BMC Proceedings, Brain: A Journal of Neurology; Frontiers in Psychology, Frontiers in Genetics, Genes, Brain and Behavior; Genetic Epidemiology; Genome Research; Human Genomics; Human Heredity; IEEE Biological Data Visualization, IEEE/ACM Transactions on Computational Biology and Bioinformatics, JAMA Psychiatry, Journal of Applied Oral Science; Journal of Child Psychology and Psychiatry; Journal of Speech, Language and Hearing Research; Life Sciences; Molecular Autism; Nature Methods; Neural Computation, Neuropsychobiology; Neuroscience, PLoS Genetics; PLoS ONE; Progress in Neuro-Psychopharmacology & Biological Psychiatry; Psychiatric Genetics

Teaching Experience

Courses

Full courses taught:

- Fall 2011. CIHD035: How to Find Genes for Language, Reading and Related Cognition. A psychology course jointly listed by the University of Jyväskylä and the University of Turku, Finland. Psychology Department. Advanced Seminar Course in Contemporary Issues in Human Development, Topic: Genetics of Language. 18 hours of lecture time.
- Winter 2010. The Ohio State University College of Medicine, Pediatrics. Undergraduate Research in Pediatrics 699. 15 credit hours
- Spring 2010. Nationwide Children's Hospital, Pediatrics. Undergraduate Research in Pediatrics 699. 15 credit hours
- Fall 2008. The Ohio State University, Molecular Cellular and Developmental Biology 890, Graduate Student Seminar Course, Lead Organizer and Evaluator

Guest Lectures:

- Spring 2018. The Ohio State University, Biological Sciences, BS 668 – Grant Writing and Presenting Data
- Spring 2018. The Ohio State University, Biomedical Informatics, BMI 7830 - Advanced Bioinformatics for Human Diseases, Guest Lecturer
- Spring 2017. The Ohio State University, Biomedical Informatics, BMI 7830 - Advanced Bioinformatics for Human Diseases, Guest Lecturer
- Spring 2015. The Ohio State University, Biomedical Informatics, BMI 6702 – Grant writing, Guest Lecturer
- Spring 2015. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 4 x 3 hour sessions
- Fall 2014. The Ohio State University, Biomedical Informatics, BMI 7830 - Advanced Bioinformatics for Human Diseases, Guest Lecturer

- Spring 2014. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 4 x 3 hour sessions
- Spring 2013. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 4 x 3 hour sessions
- Spring 2012. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 6 x 3 hour sessions
- Winter 2012. The Ohio State University, Human Development and Family Science, HDFS 862 - Seminar in Human Development and Family Science, Guest Lecturer
- Winter 2012. The Ohio State University, Biophysics, Biophysics 702 - Advanced Experimental Methods, Guest Lecturer.
- Winter 2011. The Ohio State University, Biophysics, Biophysics 702 - Advanced Experimental Methods, Guest Lecturer.
- Spring 2011. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 3 x 3 hour sessions
- Winter 2010. The Ohio State University, Biophysics, Biophysics 702 - Advanced Experimental Methods, Guest Lecturer.
- Spring 2010. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 5 x 3 hour sessions
- Spring 2009. The Ohio State University College of Medicine, Med I Neuroscience Lab, Small Group Prosector, 5 x 3 hour sessions

Other Teaching

Workshops:

- 6/13/2011 - 6/15/2011 Workshop on Genetic Methodology and Language Related Disorders. University of Nebraska (Lincoln, NE) Enrollment: 10. Lecture hours: 8.

Undergraduate Research Preceptorships:

- Winter 2009 Biomedical Science Research Experience. Research Institute at Nationwide Children's Hospital & The Ohio State University (Columbus, OH)
- Spring 2009 Biomedical Science Research Experience. Research Institute at Nationwide Children's Hospital & The Ohio State University (Columbus, OH)
- Fall 2009 Microbiology Independent Study. Research Institute at Nationwide Children's Hospital & The Ohio State University (Columbus, OH)
- Winter 2009 Microbiology Independent Study. Research Institute at Nationwide Children's Hospital & The Ohio State University (Columbus, OH)

Teaching Assistant:

- 2002 Statistical Methods in Cognitive and Behavioral Research. Rutgers University (Newark, NJ) Teaching Assistant
- 2001 Statistical Methods in Cognitive and Behavioral Research. Rutgers University (Newark, NJ) Teaching Assistant
- 2000 Statistics in Neuroscience I. Rutgers University (Newark, NJ) Teaching Assistant
- 1999 Foundations of Neuroscience. Rutgers University (Newark, NJ) Teaching Assistant

Trainees

High School

Neel Koyawala, Summer 2011, Current: University of Pennsylvania, Business/Biology major
Cameron Houk, Summer 2011, Current: University of Notre Dame, Biology major
Annalisa Hartlaub, Summer 2015, Current: The Ohio State University, Neuroscience major

Undergraduate students

Jamie Brossenbroek, 2019-, Current: BS in Biomedical/Medical Engineering, The Ohio State University
Alexander Lacey, 2015-2017, Current: BS in Biomedical Sciences, The Ohio State University
Annalisa Hartlaub, 2015-2017, Current: BS in Neuroscience, The Ohio State University
Matt Bruni, 2013-2018, Current: BS in Biology, The Ohio State University
Laruen Bruss, 2012-2013, Current: BS in Biomedical/Medical Engineering, The Ohio State University
Emily Ginier, 2008-2010, Current: MS, Reference Librarian, U Michigan Health Science Library
Jenna Purdy, 2009-2010, Current: MD, Pathology Resident, University of Toledo
Jennifer Ali, 2009-2010, Current: BS, Pharmaceutical Chemist, Boehringer Ingelheim
Neil Trivedi, Summer 2007, Current: PharmD, Pharamcist

Graduate student

Laura Mason, Dissertation Committee, 2017-
Travis Johnson, Dissertation Committee, 2016-
Gillian Davis (Rutgers Univeristy), Dissertation Committee Outside Member, 2014-2017
Fangyuan Zhang, Dissertation Committee, 2013-2015
Shuang Xia, Dissertation Committee, 2013-2015
Meng Wang, Dissertation Committee, 2012-2014
Pam Weaver, MCDB Lab Rotation, Fall 2009
Tabatha Simmons, Master's Advisor 2008-2010, Current: PhD Grad Student, The Ohio State University
Thomas Cremer, MCDB Lab Rotation, Fall 2007

Postdoctoral Researcher

Susan Gross, 2018-2019,
Ning Li, 2011-2015, Current: Lead Importer/Exporter in a Columbus, OH firm
Soo Yeon Cheong, 2011-2012, Current: Senior Biostatistician, Samsung Bioepis Pharmaceutical, South Korea
Liping Hou, 2010-2011, Current: Postdoctoral Researcher, NIH

Publications:

Peer Reviewed Articles

Bartlett CW, Klamer BG, Buyske S, Petrill SA, Ray WC (2019) "Forming big datasets through latent class concatenation of imperfectly matched database features." *Genes* 10:727.

Backes CH, Söderström F, Ågren J, Sindelar R, **Bartlett CW**, Rivera BK, Mitchell CC, Frey HA, Shepherd EG, Nelin LD, Normann E (2019) "Outcomes following a comprehensive

versus a selective approach for infants born at 22 weeks of gestation." *Journal of Perinatology* 39 (1): 39-47

Laasonen M, Smolander S, Lahti-Nuuttila P, Leminen M, Lajunen H-R, Heinonen K, Pesonen A-K, Bailey TM, PothosEM, KujalaT, Leppänen PHT, **Bartlett CW**, Geneid A, Lauronen L, Kunnari S, Arkkila E. (2018) "Understanding developmental language disorder-the Helsinki longitudinal SLI study (HelSLI): a study protocol." *BMC Psychology* 6 (1): 24

Sheppard KW, Boone KM, Gracious B, Klebanoff MA, Rogers LK, Rausch J, **Bartlett CW**, Coury DL, Keim SA (2017) "Effect of omega-3 and-6 supplementation on language in preterm toddlers exhibiting autism spectrum disorder symptoms." *Journal of Autism and Developmental Disorders* 47 (11): 3358-3369.

Swaminathan R, Huang Y, Astbury C, Fitzgerald-Butt S, Miller K, Cole J, **Bartlett CW**, Lin S (2017) "Clinical Exome Sequencing Reports: Current Informatics Practice and Future Opportunities." *Journal of the American Medical Informatics Association* 24 (6): 1184-1191.

Bruni M, Flax JF, Buyske S, Brzustowicz LM, **Bartlett CW** (2017) "Behavioral and molecular genetics of reading-related AM and FM detection thresholds." *Behavior Genetics* 47(2): 193-201.

Bartlett CW, Klamer B, Hartlaub A, Ray WC (2017) "Culturally Meaningful Glyphs Contain Information About Data as Elucidated Through a Stroop Task." *Proceedings of the IEEE Conference on Visualization 2017*

Stewart WCL, **Bartlett CW** (2016) "Using High-Throughput Genotyping and Large Families to Reduce Sequencing Costs." *Internal Medicine Review*

Swaminathan R, Huang Y, Moosavinasab S, Buckley R, **Bartlett CW**, Lin SM (2016) "A Review on Genomics APIs." *Computational and Structural Biotechnology Journal.* 14:8-15.

Centanni TM, Sanmann JN, Green JR, Iuzzini-Seigel J, Sanger WG, **Bartlett CW**, Hogan TP. (2015) "Evidence for the multiple hits genetic theory for inherited language impairment: a case study." *Frontiers in Genetics.* 6:272.

Centanni TM, Sanmann JN, Green JR, Iuzzini-Seigel J, **Bartlett CW**, Sanger WG, Hogan TP (2015) "The role of candidate-gene *CNTNAP2* in childhood apraxia of speech and specific language impairment." *American Journal of Medical Genetics Part A*. 168:536-543.

Blair C, Sulik M, Willoughby M, Mills-Koonce R, Petrill S, **Bartlett CW**, Greenberg M and the Family Life Project Investigators. (2015) "Catechol-O-methyltransferase Val158met Polymorphism Interacts with Early Experience to Predict Executive Functions in Early Childhood." *Developmental Psychobiology*. 57:833-841

Justice LM, Logan J, Kaderavek J, Schmidt MB, Tompkins V, **Bartlett CW**. (2015) "Empirically Based Profiles of the Early Literacy Skills of Children with Language Impairment in Early Childhood Special Education." *Language Speech and Hearing Services in the Schools*. 48:482-94

Ruthsatz J, Petrill SA, Li N, Wolock SL, **Bartlett CW**. (2015) "Molecular Genetic Evidence for Shared Etiology of Autism and Prodigy." *Human Heredity*. 79:53-59.

Myers EM, **Bartlett CW**, Machiraju R, Bohland JW. (2015) An integrative analysis of regional gene expression profiles in the human brain. *Methods*. 73:54-70.

Schmidt MB, Justice LM, Logan JAR, Schatschneider C, **Bartlett CW** (2014) "Do the

Symptoms of Language Disorders Align with Treatment Goals? An Exploratory Study of Primary-Grade Students' IEPs." *Journal of Communication Disorders.* 52:99-110

Wang Z, Hart SA, Kovas Y, Lukowski S, Soden B, Thompson LA, Plomin R, McLoughlin G, **Bartlett CW**, Lyons IM, Petrill SA (2014) Who's Afraid of Math? Two Sources of Genetic Variance for Mathematical Anxiety. *Journal of Child Psychology and Psychiatry.* 55(9):1056-64.

Ray WC, Wolock SL, Callahan NW, Dong M, LI QQ, Liang C, Magliery T, **Bartlett CW** (2014) "Addressing the unmet need for visualizing Conditional Random Fields in Biological Data." *BMC Bioinformatics.*15:202.

Goode MR, Cheong SY, Li N, Ray WC, **Bartlett CW**. (2014) "Collection and Extraction of Saliva DNA for Next Generation Sequencing." *Journal of Visualized Experiments*. e51697.

Ray WC, Rumpf RW, Sullivan B, Callahan N, Magliery T, Machiraju R, Wong B, Krzywinski M, **Bartlett CW** (2014) "Understanding the Sequence Requirements of Protein Families: Insights from the BioVis 2013 Contests." *BMC Proceedings* 8(S2):1.

Bartlett CW, Hou L, Flax JF, Hare A, Cheong SY, Fermano Z, Zimmerman-Bier B, Cartwright C, Azaro MA, Buyske S, Brzustowicz LM (2014) "A Genome-scan for Loci Shared by Autism Spectrum Disorder and Specific Language Impairment." *American Journal of Psychiatry*. 171(1): 72-81.

Wolock SL, Yates A, Petrill SA, Bohland JW, Blair C, Li N, Machiraju R, Huang K, **Bartlett** CW (2013) "Gene x Smoking Interactions on Human Brain Gene Expression: Finding Common Mechanisms in Adolescents and Adults." *Journal of Child Psychology and Psychiatry*. 54(10): 1109-1119.

Ray WC, **Bartlett CW**. (2013) "StickWRLD : Interactive Visualization of massive parallel contingency data for Personalized Analysis to facilitate Precision Medicine." *IEEE Proceedings on Visual Analytics in Healthcare*. 3: 68-71.

Petrill, SA, **Bartlett, CW**, Blair, C. (2013) "Editorial: gene-environment interplay in child psychology and psychiatry - challenges and ways forward." *Journal of Child Psychology and Psychiatry*. 54(10): 1029.

Sakai R, **Bartlett CW**, Popovic D, Ray WC, Aerts J (2013) "Aracari – exploration of eQTL data through visualization" *IEEE Transaction on Biological Data Visualization*.

Chalkidis G., Tremmel G., Ray W., **Bartlett C.W.**, Miyano S., Nagasaki M. (2013) "Reverse Engineering Complex Disease Networks by Information Flow Analysis in eQTL Datasets." *Transactions on Biomedical Engineering: IEEE*.

Hou L, Wang K, **Bartlett CW**. (2012) "Evaluation of a Bayesian Model-Integration-Based Method for Censored Data" *Human Heredity*, 74:1-11.

Bartlett CW, Flax JF, Fermano Z, Hare A, Hou L, Petrill SA, Buyske S, Brzustowicz LM. (2012) "Gene x Gene Interaction in Shared Etiology of Autism and Specific Language Impairment." *Biological Psychiatry*, 72:692-9.

Bartlett C.W., Cheong SY., Hou L., Paquette J., Lum P., Jager G., Battke F., Vehlow C., Heinrich J., Nieselt K., Sakai R., Aerts J., Ray W.C. (2012) "An eQTL Biological Data Visualization Challenge and Approaches from the Visualization Community." *BMC Bioinformatics.* 13(8):S8

Logan, J.A.R., Petrill, S.A., Hart, S.A., Thompson, L.A., Deater-Deckard, K., DeThorne, L.S., Schatschneider, C., **Bartlett, C.W.** (2012). Heritability across the distribution: An application of quantile regression. *Behavior Genetics*. 42(2):256-76.

Li N., **Bartlett C.W.** "Defining the Genetic Architecture of Human Developmental Language Impairment." (2012) *Life Sciences.* 90(13-14):469-475.

Worbis E.Y., Machiraju R., **Bartlett C.W.**, Ray W. (2011) "Visual Interactive Quality Assurance of Personalized Medicine Data and Treatment Subtype Assignment." *Proceedings on the Workshop on Visual Analytics in Healthcare: Understanding the Physician Perspective: IEEE.*

Hou L., Phillips C., Azaro M., Brzustowicz L.M., **Bartlett C.W.** (2011). Validation of a Cost-Efficient Multi-Purpose SNP Panel for Disease Based Research. *PLoS ONE, 5,* e19699.

Logan, J., Petrill, S.A., Flax, J.F., Justice, L.M., Hou, L., Tallal, P., Brzustowicz, L.M., **Bartlett C.W.** (2011). Genetic Covariation Underlying Reading, Language and Related Measures in a Sample Selected for Specific Language Impairment. *Behavior Genetics, 23,* 651-659.

Simmons, T.R., Flax, J.F., Azaro, M.A., Hayter, J.E., Justice, L.M., Petrill, S.A., Bassett, A.S., Tallal, P., Brzustowicz, L.M., **Bartlett C.W.** (2010) Increasing Genotype-Phenotype Model Determinism: Application to Bivariate Reading/Language Traits and Epistatic Interactions in Language Impaired Families. *Human Heredity, 70,* 232-244.

Vieland, V.J., Huang, Y., **Bartlett, C.**, Davies, T.F., Tomer, Y. (2008). A multilocus model of the genetic architecture of autoimmune thyroid disorder, with clinical implications. *Am J Hum Genet*, *82,* 1349-1356.

Wassink, T.H., Vieland, V.J., Sheffield, V.C., **Bartlett C.W.**, Goedken, R., Childress, D., Piven, J. (2008). Posterior probability of linkage analysis of autism dataset identifies linkage to chromosome 16. *Psychiatr Genet, 18,* 85-91.

Liu, X.Q., Paterson, A.D., Szatmari, P., The Autism Genome Project (including **Bartlett C.W.**). (2008). Genome-wide linkage analyses of quantitative and categorical autism subphenotypes. *Bio Psychiatry, 64,* 561-570.

Cordell, H.J., de Andrade, M., Babron, M.C., **Bartlett, C.W.**, BEyene, J., Bickebeller, H., Culverhouse, R., Cupples, L.A., Daw, E.W., Dupuis, J., Galk, C.T., Ghosh, S., Goddard, K.A., Goode, E.L., Hauser, E.R., Martin, L.J., Martinez, M., North, K.E., Saccone, N.L., Schmidt, S., Tapper, W., et. al. (2007). Genetic Analysis Workshop 15: gene expression analysis and approaches to detecting multiple functional loci. *BMC Proceedings, Proceedings from Genetic Analysis Workshop 15 ed., 1,* S1.

Huang, Y., **Bartlett, C.W.**, Segre, A.M., O'Connell, J.R., Mangin, L.V., Vieland, V.J. (2007) Exploiting gene x gene interaction in linkage analysis. *BMC Proceedings, Proceedings from Genetic Analysis Workshop 15 ed., 1,* S64.

Bartlett, C.W., Vieland, V.J. (2007). Accumulating quantitative trait linkage evidence across multiple datasets using the posterior probability of linkage. *Genetic Epidemiology, 31,* 91-102.

Bartlett, C.W., Vieland, V.J., on behalf of Group 7. (2007). Discussing Gene-gene interaction: Warning- Translating equations to English may result in jabberwocky. *Genetic Epidemiology, 31,* S61-S67.

The Autism Genome Project (including **Bartlett, C.W.**). (2007). Mapping autism risk loci using genetic linkage and chromosomal rearrangements. *Nature Genetics, 39,* 319-328.

Bartlett, C.W., Gharani, N., Millonig, J.H., Brzustowicz, L.M. (2005). Three Autism Candidate Genes: Synthesis of Human Genetic Analysis with Other Disciplines. *International Journal of Developmental Neuroscience, 23,* 221-235.

Bartlett, C.W., Goedken, R., Vieland, V.J. (2005). Effects of Updating Linkage Evidence across subsets of Data: Reanalysis of Autism Genetic Resource Exchange Dataset. *American Journal of Human Genetics, 76,* 688-695.

Bartlett, C.W., Vieland, V.J. (2005). Two Novel Quantitative Trait Linkage Analysis Statistics Based the Posterior Probability of Linkage: Application to the COGA Families. *BMC Genetics, 6,* S121

George, A.W., Mangin, L.A., **Bartlett, C.W.**, Logue, M.W., Segre, A.M., Vieland, V.J. (2005). Calculation of multipoint likelihoods using flanking marker data: A simulation study. *BMC Genetics, 6,* S44.

Wassink, T.H., Piven, J., Vieland, V.J., Jenkins, L., Frantz, R., **Bartlett, C.W.**, Goedken, R., Childress, D., Spence, A.M., Smith, M., Sheffield, V.C. (2005). Evaluation of the chromosome 2q37.3 gene CENTG2 as an autism susceptibility gene. *American Journal of Medical Genetics Part B:Neuropsychiatric Genetics, 136,* 36-44.

Bartlett, C.W., Flax, J.F., Logue, M.W., Smith, B.J., Vieland, V.J., Tallal, P., Brzustowicz, L.M. (2004). Examination of Potential Overlap in Autism and Language Loci on Chromosomes 2, 7, and 13 in Two Independent Samples Ascertained for Specific Language Impairment. *Human Heredity, 57,* 10-20

Wassink, T.H., Brzustowicz, L.M., **Bartlett, C.W.**, Szatmari, P. (2004). The Search for Autism Disease Genes. *Mental Retardation and Developmental Disabilities Research Reviews, 10,* 272-283.

Flax, J., Realpe-Bonilla, T., Hirsch, L.S., Brzustowicz, L.M., **Bartlett, C.W.**, Tallal, P. (2003). Specific language impairment in families: Evidence for co-occurrence with reading impairments. *Journal of Speech, Language and Hearing Research, 46,* 530-543.

Bartlett, C.W., Flax, J.F., Logue, M.W., Vieland, V.J., Bassett, A.S., Tallal, P., Brzustowicz, L.M. (2002). A major susceptibility locus for specific language impairment is located on 13q21. *American Journal of Human Genetics, 71,* 45-55.

Tallal, P., Hirsch, L.S., Realpe-Bonilla, T., Miller, S., Brzustowicz, L.M., **Bartlett, C.W.**, Flax, J.F. (2001). Familial aggregation in specific language impairment. *Journal of Speech, Language, and Hearing Research, 44,* 1172-1182.

Book Chapter (reviewed)

Bartlett CW, Yates A, Flax JF, Brzustowicz LM. "Innovative Data Summary Measures Provide Novel Insights on Reading Performance." (2015) In Reading Intervention: Research to Practice to Research. Conner CM & McCardle P (Eds) Brooke's Publishing, Baltimore, MD.

Other Scholarly Output:

Bartlett CW. "BioVis 2011 eQTL Contest Dataset." Version 1.1. May 2011. Last Updated May 2011. http://www.biovis.net/2011/contest.html.

Explanation: I was asked to generate a realistic human genetics dataset. I therefore used data from real human brain eQTL datasets and through a novel data shuffling technique that I developed, created a dataset that preserved real biological truth while injecting a simulated gene network that would provide a known standard for contestant entries to be judged

Bartlett CW. "BioVis 2012 eQTL Contest Dataset Phase II." Version 1.0. March 2012. http://www.biovis.net/contest/.
Explanation: This is a larger and complex simulation that extends the concepts from the 2011 datasets. There are roughly 100 times more datapoints in this simulation that includes gene expression values form two tissues and information on all genetic variants within 30 genes. The 2012 data was generated using a slightly improved data shuffling technique that I initially developed in 2011.

Past, Pending, and Current Research Experience and Support:

Current

HR001119S0075-15-Plex3-FP-004 – *Developing a Framework to Test If Quantum Processes Define Evolutionary and Genomic Sequence Space*
(2020-2021; DARPA) (PI: Bartlett NCH)
A project to assess is a mathematical inequality can be derived to test if quantum mechanical processes are important in transcription factor binding specificity.
Role: Principle Investigator

R01DC017711 - *Laying the groundwork for personalized medicine in aphasia therapy: genetic and cognitive predictors of restorative treatment responses*
(2019-2024; NIH/NIDCD) (PI: Harnish, OSU)
A clinical trial to assess genetic biomarkers of treatment efficacy in chronic aphasia.
Role: Co-Investigator

R21EB026518 - *Novel Non-Invasive Coronary Flow Patterning to Predict Early Coronary Microvascular Disease*
(2018-2021; NIH/NIBIB) (PI: Trask, NCH)
A Trailblazer R21 to use machine learning to assess if non-invasive imaging is a practical tool for early diagnosis of microvascular disease.
Role: Co-Investigator

Neo-PRISM-C - *NEurodevelopmental Optimal-Predictors, Risk factors, and Intervention from a Systems approach to Maladjustment in Children*
(2018-2023) European Commission. (PI: Popadopoulos, U Cyprus)
This a consortium to train early stage investigators in neuroscience as it applied to childhood behavioral development.
Role: Trainer/Lecturer

UG3OD023332 - *Early Life Stress and the Environmental Origins of Disease: a Population-based Prospective Longitudinal Study of Children in Rural Poverty*
(2016-2023; NIH/NICHD) (PI: Blair, NYU)
A special project to understand the behavioral, neural and genetic interactions with poverty across the human lifespan.
Role: Co-Investigator (Subcontract PI)

P01HD080679 - *The Development of Episodic Memory*
(2016-2021; NIH/NICHD) (PI: Sloutsky, OSU)
A program project to understand the behavioral, neural and genetic mechanisms of episodic memory across the human lifespan and in an adult rat model.
Role: Co-Investigator (Subcontract PI)

Past

Precision Medicine for Autism Spectrum Disorder: The Role of Fatty Acids in Improving Cognitive Outcomes
(2017-2019; March of Dimes) (PI: Keim)
A project to understand the behavioral, neural and genetic mechanisms of fatty acids in longitudinal development of preterm babies.
Role: Co-Investigator

Identifying Sequence Variants Related to the Core Behavioral Domains of Autism
(2015-2017; New Jersey Governor's Council on Autism)
Disease gene discovery for genes associated with prosocial behavior through analysis of genetic data from a set of families with at least one individual with autism and additional family members who exhibit components of the broad autism phenotype, specifically, language impairment.
Role: Co-Investigator (Subcontract PI)

Behavioral and Genetic Biomarker Development for Autism and Related Disorders
(2012-2017; New Jersey Governor's Council for Medical Research and Treatment of Autism)
A continuation of *Behavioral and Genetic Biomarker Development for Autism and Related Disorders* (below). Disease gene discovery for language-associated genes through analysis of phenotypic and genetic data from a set of families with at least one individual with autism and additional family members who exhibit components of the broad autism phenotype, specifically, language impairment.
Role: Co-Investigator (Subcontract PI)

Molecular Genetics of Language Related Cognition in Families
(2010-2015, 2016 NCE; NIH/NIDCD)
SLI susceptibility allele discovery by applying a combination of multi-level approaches including ascertainment of new families and extensive molecular work on families from previous funding periods.
Role: Principle Investigator

Finding genetic variants that predict and influence epilepsy treatments and surgical outcomes
(2012-2014; NCH Translational Research Pilot Grant)
An eQTL study performed on epilepsy tissue resections to discover biomarkers for treatment.
Role: Principle Investigator (dual-PI grant with Dr. Hamiwka)

Child prodigies may provide a genetic clue for autism. (2012-2014; Ingram Autism Fund)

Collecting DNA from pedigrees that have both autism and prodigy for linkage analysis with prodigy/autism as well as several related endophenotypes.
Role: Co-Investigator (Subcontract PI)

Behavioral and Genetic Biomarker Development for Autism and Related Disorders (2009-2012; NIH/NIMH)
A continuation of *Genetic Components of Autism Spectrum Disorders* (below). Disease gene discovery through analysis of phenotypic and genetic data from a set of families with at least one individual with autism and additional family members who exhibit components of the broad autism phenotype, specifically, language impairment.
Role: Co-Investigator (Subcontract PI)

Elucidating the Neurogenetic Architecture of Language Impairments with/without Autistic Symptoms Using Vieland's PPL Framework (2009-2011; Ohio Supercomputer Center)
2,500,000 hour allocation
Allocation of 2 million CPU hours of access to the largest academic supercomputer in Ohio for the computation of genetic models in all of lab's ongoing disease gene discovery projects.
Role: Principle Investigator

Genetic Components of Autism Spectrum Disorders (2003-2009; NIH/NIMH)
Disease gene discovery through new family ascertainment with at least one individual with autism and additional family members who exhibit components of the broad autism phenotype, specifically, language impairment.
Role: Co-Investigator (Subcontract PI)

Localization of Genes Negatively Influencing Language Acquisition (2001-2003; National Alliance for Autism Research).
A study of genetic markers in autism regions using language impaired samples to assess possible genetic overlap.
Role: Principle Investigator