Erik Erhardt

Curriculum Vitæ

Professor of Statistics
Department of Mathematics and Statistics
University of New Mexico

Educational History

2004 – 2009 **PhD Statistics, with distinction**, *University of New Mexico*, Albuquerque, NM, Aug 2009.
Dissertation Advisor: Edward J. Bedrick .
Computational Science and Engineering Certificate.

2002 – 2003 **MS Applied Statistics**, *Worcester Polytechnic Institute, Department of Mathematical Sciences*, Worcester, MA, Dec 2003.
Thesis Advisor: Balgobin Nandram

1993 – 1997 **BA Mathematics and Computer Science**, *Franklin Pierce College*, Rindge, NH, May 1997.
Thesis Advisor: Carl T. Brezovec .
(Both Majors G.P.A.: 4.00; *summa cum laude*)

Contents

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Employment History

Primary Appointment

2023 – **Professor**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Jul 2023 – .

2016 – 2023 **Associate Professor, with tenure**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Jul 2016 – Jun 2023.

2017 – 2018 **Leave**, *Sabbatical year (Fall 2017 – Spring 2018) and Paternity semester (Fall 2018).*

2011 – 2016 **Assistant Professor**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Aug 2011 – Jun 2016.

Concurrent Appointments, Temporary or Visiting Appointments

2015 – **Adjunct Research Scientist**, *Mind Research Network*, Albuquerque, NM 87106, Jun 2015 – .

2013 – **Director, Biostatistics and NeuroInformatics (BNI) Core**, *Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, Phases 1, 2, and 3, Mind Research Network*, Albuquerque, NM 87106, Jun 2013 – .
PI: Andrew R. Mayer, PhD

2011 – 2014 **Director, UNM Statistical Consulting Clinic**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Aug 2011 – Dec 2014.

2011 – 2015 **Mentor**, *Program in Interdisciplinary Biological and Biomedical Sciences (PIBBS)*, Albuquerque, NM 87131, Aug 2011 – May 2015.
PIs: Felisa A. Smith, PhD and James H. Brown, PhD

2009 – 2011 **Postdoctoral Fellow in Image Signal Processing**, *Mind Research Network, Medical Image Analysis Laboratory (MIALab), STATNI*, Albuquerque, NM 87106, Aug 2009 – Jun 2011.
PI: Vince Calhoun, PhD

2009 – 2009 **Research Assistant**, *Mind Research Network, Medical Image Analysis Laboratory (MIALab)*, Albuquerque, NM 87106, Spr 2009 – Sum 2009.
PI: Vince Calhoun, PhD

2008 – 2009 **UNM Statistical Consultant. Statistics Consulting Clinic**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Fall 2008.

2008 – 2008 **Graduate Assistant**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Spr 2008.

2005 – 2008 **Research Assistant**, *UNM Cancer Research and Treatment Center, University of New Mexico*, Albuquerque, NM 87131, Fall 2005 – Spr 2008.
PI: Seymour Grufferman, MD, Dr PH and Deirdre A Hill, PhD, MPH

2004 – 2006 **Teaching Assistant for Statistics**, *Department of Mathematics and Statistics, University of New Mexico*, Albuquerque, NM 87131, Fall 2004 – Sum 2006.

2004 – 2008 **Visiting Scholar**, *Worcester Polytechnic Institute*, Worcester, MA 01609, Spr 2004 – Spr 2008.
Advisor: Balgobin Nandram

2003 – 2003 **Statistical Assistant**, *National Center for Health Statistics (CDC/NCHS), Hyattsville, MD 20782*, Sum 2003.

2002 – 2004 **Teaching Assistant for Statistics and Probability**, *Worcester Polytechnic Institute*, Worcester, MA 01609, Jan 2002 – May 2004.

1997 – 2002 **Professional Services Engineer (1999–2002), Technical Support Specialist (1998–1999), Field Service Technician (1997)**, *EMF, Inc.*, Keene, NH 03431, Aug 1997 – Dec 2002.

Professional Recognition, Honors

Awards

2022 Nominated for Regents' Lecturer, UNM.

2019 – 2020 UNM Academic Affairs General Education (AAGE) Faculty Fellow for Undergraduate Research, 2019–20, Introduction to Statistics.

2018 – 2019 UNM Academic Affairs Core Curriculum Faculty Fellow, 2018–19, Innovation and Undergraduate research in Introduction to Statistics.

2017 Outstanding Professor, 2016–17, Department of Mathematics and Statistics, UNM.

2017 Nominated for Presidential Teaching Fellow Award, 2016–17, CTE, UNM.

2017 Nominated for Outstanding Teacher of the Year Award, 2016–17, CTE, UNM.

2016 – 2017 UNM Teaching Fellow, Active-learning redesign of Introduction to Statistics.

2016 Nominated for Outstanding New Faculty Teacher of the Year Award, 2015–16, CTE, UNM.

2015 Innovation grant for Stat 427/527 and 428/528 redesign, innovationAcademy, UNM.

2015 Nominated for Outstanding New Faculty Teacher of the Year Award, 2014–15, CTE, UNM.

2014 Nominated for Outstanding New Faculty Teacher of the Year Award, 2013–14, CASTL, UNM.

2013 Nominated for Outstanding New Faculty Teacher of the Year Award, 2012–13, CASTL, UNM.

2012 Nominated for Outstanding New Faculty Teacher of the Year Award, 2011–12, CASTL, UNM.

2012 Outstanding Undergraduate Instructor (tied as Outstanding Graduate instructor), 2011–12, Department of Mathematics and Statistics, UNM.

2009 PhD with distinction, 2009, Department of Mathematics and Statistics, UNM.

2007 First place, Graduate Poster for SISUS, UNM Biology 16th Annual Research Day, 2007.

2006 Excellence in Teaching Award, 2006, Department of Mathematics and Statistics, UNM.

2006 Outstanding Teaching Assistant of the Year Award 2005–6, CASTL, University of New Mexico.

1996 Mathematics Award, 1996, FPC.

1995 AIFS International Scholarship for Study Abroad, 1995.

1994 – 1995 President's Achievement Scholarship, 1994–95, FPC.

1994 – 1995 Valakis Scholarship, 1994–95, FPC.

1994 – 1995 Governor's Success Grant, 1994–95, NH.

1994 – 1996 Barry M Goldwater Scholarship, Mathematics, 1994–96, USA.

1993 – 1995 President's Scholarship, 1993–95, Franklin Pierce College.

Honor Societies

2006 HHMI Interfaces Scholar at the University of New Mexico (PIBBS), 2006.

2006 Kappa Mu Epsilon (KME), The National Mathematics Honor Society, 2006.

2006 Mu Sigma Rho ($\mu\sigma\rho$), The National Honorary Society for Statistics, 2006.

2004 Sigma Xi ($\Sigma\Xi$), The Scientific Research Society. Associate member 2004, promoted to full member 2012.

1996 Alpha Chi (AX) National College Honor Scholarship Society, 1996.

Professional Societies

2010 – 2013 Organization for Human Brain Mapping (OHBM), 2010.

2006 – 2011 American Society for Quality (ASQ), 2006.

2005 – International Society for Bayesian Analysis (ISBA), 2005.

2004 – The Western North American Region (WNAR) of The International Biometric Society (IBS), 2004.

2003 – American Statistical Association (ASA), 2003.

2003 – 2016 Institute of Mathematical Statistics (IMS), 2003.

Scholarly Achievements

- Google Scholar
- PubMed.gov NCBI MyBibliography
- ORCID Researcher ID
- Research Gate profile

This table reports my Google Scholar citations as of 9/18/2023. "Citations" is the number of citations to all publications. "h-index" is the largest number h such that h publications have at least h citations. "i10-index" is the number of publications with at least 10 citations.

	All	Since 2018
Citations	7486	4890
h-index	31	26
i10-index	51	42

Articles in Refereed Journals (p)

p67 Caprihan, A., L. Hillmer, E. B. **Erhardt**, J. Adair, J. Knoefel, J. Prestopnik, and G. Rosenberg (2023). "A Trichotomy Method for Defining Homogeneous Subgroups in a Dementia Population". *Annals of Clinical and Translational Neurology Editorial Office*. pdf, In Press. DOI: 10.1002/acn3.51869.

p66 **Erhardt**, E. B., A. Horner, N. Shaff, C. Wertz, S. Nitschke, A. Vakhtin, A. Mayer, J. Adair, J. Knoefel, G. Rosenberg, K. Poston, G. S. Cedeno, A. Deligtisch, S. P. Richardson, and S. Ryman (2023). "Longitudinal Hippocampal Subfields, CSF Biomarkers, and Cognition in Patients with Parkinson Disease". *Clinical Parkinsonism & Related Disorders*. pdf, In Press. DOI: 10.1016/j.prdoa.2023.100199.

p65 **Erhardt**, E. B., C. Murray-Krezan, L. Regino, D. Perez, E. L. Bearer, and J. Page-Reeves (2023). "Associations Between Depression and Diabetes Among Latinx Patients from Low-Income Households in New Mexico". *Social Science & Medicine* 320. pdf, p. 115713. ISSN: 0277-9536. DOI: 10.1016/j.socscimed.2023.115713. URL: https://www.sciencedirect.com/science/article/pii/S0277953623000692.

p64 Mayer, A., H. J. v. d. Horn, A. Dodd, T. Wick, C. R. Robertson-Benta, J. R. McQuaid, A. K. Hittson, J. Ling, V. Zotev, S. Ryman, E. B. **Erhardt**, J. Phillips, R. Campbell, and R. E. Sapien (2023). "Neural correlates of cognitive control deficits in pediatric mild traumatic brain injury". *Human Brain Mapping*.

p63 Mayer, A., T. Meier, A. Dodd, D. Stephenson, C. Robertson-Benta, J. Ling, S. P. Reddy, V. Zotev, K. Vakamudi, R. Campbell, R. Sapien, E. B. **Erhardt**, J. Phillips, and A. Vakhtin (2023). "Prospective study of grey matter atrophy following pediatric mild traumatic brain injury". *Neurology*.

p62 Miller, J. D., T. Jones, J. Upston, Z.-D. Deng, S. M. McClintock, E. B. **Erhardt**, D. Farrar, and C. C. Abbott (2023). "Electric Field, Ictal Theta Power, and Clinical Outcomes in Electroconvulsive Therapy". *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. pdf, In Press. DOI: 10.1016/j.bpsc.2023.03.001.

p61 Ryman, S. G., N. Shaff, A. Dodd, S. Nitschke, C. Wertz, K. Julio, G. S. Cedeno, A. Deligtisch, E. B. **Erhardt**, H. Lin, A. Vakhtin, R. Tarawneh, S. P. Richardson, and A. Mayer (2023). "Reduced and delayed cerebrovascular reactivity in Parkinson's disease". *Movement Disorders* 38 (7). pdf, pp. 1262–1272. DOI: 10.1002/mds.29429.

p60 Deng, Z.-D., M. Argyelan, J. Miller, D. Quinn, M. Lloyd, T. Jones, J. Upston, E. B. **Erhardt**, S. McClintock, and C. Abbott (2022). "Electroconvulsive Therapy, Electric Field, Neuroplasticty, and Clinical Outcomes". *Molecular Psychiatry*. pdf.

p59 **Erhardt**, E. B. and R. M. Wilson (2022). "Foodweb Trophic Level and Diet Inference Using an Extended Bayesian Stable Isotope Mixing Model". *Open Journal of Ecology* (12). pdf, pp. 333–359. DOI: 10.4236/oje.2022.126020.

p58 Hillmer, L., E. B. **Erhardt**, A. Caprihan, J. C. Adair, J. E. Knoefel, J. Prestopnik, J. Thompson, S. Hobson, and G. A. Rosenberg (2022). "Blood-brain barrier disruption measured by albumin index correlates with inflammatory fluid biomarkers". *Journal of Cerebral Blood Flow and Metabolism*. pdf, In press.

p57 Johnson, A., F. S. Mas, L. Nervi, E. B. **Erhardt**, and F. Qeadan (2022). "We need you here! Predictors of job placement and practice among New Mexico family medicine residents". *Southern Medical Journal*. pdf, pp. 734–739. DOI: 10.14423/smj.0000000000001451.

p56 Mayer, A., J. Ling, A. Dodd, D. Stephenson, S. P. Reddy, C. Robertson-Benta, E. B. **Erhardt**, R. Harms, A. Vakhtin, R. Campbell, R. Sapien, and J. Phillips (2022). "Multi-compartmental models and diffusion abnormalities in paediatric mild traumatic brain injury". *Brain* 0. pdf, pp. 1–14. DOI: 10.1093/brain/awac221.

p55 Abbott, C. C., D. Quinn, J. Miller, E. Ye, S. Iqbal, M. Lloyd, T. R. Jones, J. Upston, Z. D. Deng, E. B. **Erhardt**, and S. M. McClintock (2021). "Electroconvulsive Therapy Pulse Amplitude and Clinical Outcomes". *American Journal of Geriatric Psychiatry*. pdf, pp. 166–178. DOI: 10.1016/j.jagp.2020.06.008.

p54 Caprihan, A., R. Raja, L. J. Hillmer, E. B. **Erhardt**, J. Prestopnik, J. Thompson, J. C. Adair, J. E. Knoefel, and G. A. Rosenberg (2021). "A double-dichotomy clustering of dual pathology dementia patients". *Cerebral Circulation - Cognition and Behavior*. pdf. DOI: 10.1016/j.cccb.2021.100011.

p53 **Erhardt**, E. B., J. C. Adair, J. E. Knoefel, A. Caprihan, J. Thompson, J. Prestopnik, S. Hobson, D. Siegel, and G. A. Rosenberg (2021). "Inflammatory biomarkers aid in diagnosis of dementia". *Frontiers in Aging Neuroscience*. pdf. DOI: 10.3389/fnagi.2021.717344.

p52 Mayer, A., A. Dodd, J. Rannou-Latella, D. Stephenson, R. Dodd, J. Ling, C. Mehos, C. Robertson-Benta, S. P. Reddy, R. Kinsler, M. Vermillion, A. Gigliotti, V. Sicard, A. Lloyd, E. B. **Erhardt**, J. Gill, C. Lai, V. Guedes, and I. Chaudry (2021). "17α-Ethinyl Estradiol-3-Sulfate Increases Survival and Hemodynamic Functioning in a Large Animal Model of Combined Traumatic Brain Injury and Hemorrhagic Shock: A Randomized Control Trial". *Critical Care*.

p51 **Erhardt**, E. B. and W. Lim (2020). "Effects of a GAISE-based Teaching Method on Students' Learning in Introductory Statistics". *Communications for Statistical Applications and Methods* (27). pdf. DOI: 10.29220/CSAM.2020.27.3.269. URL: http://www.csam.or.kr/journal/view.html?uid=1897&&vmd=Full.

p50 Leyva, Y., K. Page, S. Shiboski, J. Hahn, J. Evans, and E. B. **Erhardt** (2020). "Per-contact infectivity of hepatitis C virus acquisition in association with receptive needle sharing exposures in a prospective cohort of young adults who inject drugs in San Francisco, California". *Open Forum Infectious Diseases*. pdf. DOI: 10.1093/ofid/ofaa092.

p49 Iraji, A., T. DeRamus, N. Lewis, M. Yaesoubi, J. Stephen, E. B. **Erhardt**, A. Belger, J. Ford, S. McEwen, D. Mathalon, B. Mueller, G. Pearlson, S. Potkin, A. Preda, J. Turner, J. Vaidya, T. van Erp, and V. Calhoun (2019). "The spatial chronnectome reveals a dynamic interplay between functional segregation and integration". *Human Brain Mapping* (40) (10). pdf, pp. 3058–3077. DOI: 10.1002/hbm.24580.

p48 **Erhardt**, E. B., J. C. Pesko, J. Prestopnik, J. Thompson, A. Caprihan, and G. A. Rosenberg (2018). "Biomarkers identify the Binswanger type of vascular cognitive impairment". *Journal of Cerebral Blood Flow & Metabolism*. pdf. DOI: 10.1177/0271678X18762655.

p47 Gunning, C. E., K. Okamoto, H. Astete, G. M. Vasquez, E. B. **Erhardt**, C. D. Aguila, R. Pinedo, R. Cardenas, C. Pacheco, E. Chalco, H. Rodriguez-Ferruci, T. W. Scott, A. L. Lloyd, F. Gould, and A. C. Morrison (2018). "Efficacy of *Aedes aegypti* control by indoor Ultra Low Volume (ULV) spraying in Iquitos, Peru". *PLOS Neglected Tropical Diseases*. pdf. DOI: 10.1371/journal.pntd.0006378.

p46 Rashid, B., L. M. E. Blanken, R. L. Muetzel, R. Miller, E. Damaraju, M. R. Arbabshirani, E. B. **Erhardt**, F. C. Verhulst, A. van der Lugt, V. Jaddoe, H. Tiemeier, T. White, and V. Calhoun (2018). "Connectivity Dynamics in Typical Development and its Relationship to Autistic Traits and Autism Spectrum Disorder". *Human Brain Mapping*. pdf, Online. DOI: 10.1002/hbm.24064.

p45 Weinstein, L. R., K. Bhaskar, J. Weaver, S. Marini, Q. Zhang, J. Thompson, C. Espinoza, S. Iqbal, N. Maphis, L. Weston, L. Sillerud, J. Pesko, E. B. **Erhardt**, and G. Rosenberg (2018). "Hypoxia Promotes Tau Hyperphosphorylation with associated Neuropathology in Vascular Dysfunction". *Neurobiology of Disease*.

p44 Caballero-Garrido, E., J. C. Pena-Philippides, Z. Galochkina, E. B. **Erhardt**, and T. Roitbak (2017). "Characterization of Long-term Gait Deficits in Mouse dMCAO, Using the CatWalk System". *Behavioural Brain Research*. pdf, Online. DOI: 10.1016/j.bbr.2017.05.042. URL: http://www.sciencedirect.com/science/article/pii/S0166432816311305.

p43 Gunning, C. E., M. J. Ferrari, E. B. **Erhardt**, and H. J. Wearing (2017). "Evidence of cryptic incidence in childhood diseases". *Proceedings of the Royal Society B*. pdf, In Print. DOI: 10.1101/079194. URL: http://rspb.royalsocietypublishing.org/cgi/content/abstract/rspb.2017.1268.

p42 Page-Reeves, J., L. Regino, C. Murray-Krezan, M. Bleecker, E. B. **Erhardt**, M. Burge, E. Bearer, and S. Mishra (2017). "A comparative effectiveness study of two culturally competent models of diabetes self-management programming for Latinos from low-income households". *BMC Endocrine Disorders* 17 (1). pdf, p. 46.

p41 Warnick, R., M. Guindani, E. B. **Erhardt**, E. Allen, V. Calhoun, and M. Vannucci (2017a). "A Bayesian Approach for Estimating Dynamic Functional Network Connectivity in fMRI Data". *Journal of the American Statistical Association* 113 (521). pdf, pp. 134–151. DOI: 10.1080/01621459.2017.1379404.

p40 Sankaran, H., H. E. Danysh, M. E. Scheurer, M. F. Okcu, S. X. Skapek, D. S. Hawkins, L. G. Spector, E. B. **Erhardt**, S. Grufferman, and P. J. Lupo (2016). "The Role of Childhood Infections and Immunizations on Childhood Rhabdomyosarcoma: A Report from the Children's Oncology Group". *Pediatric Blood & Cancer*. pdf. DOI: 10.1002/pbc.26065.

p39 Yu, Q., L. Wu, D. A. Bridwell, E. B. **Erhardt**, Y. Du, H. He, J. Chen, P. Liu, J. Sui, G. Pearlson, and V. D. Calhoun (2016). "Building an EEG-fMRI multi-modal brain graph: a concurrent EEG-fMRI study". *Frontiers in Human Neuroscience* 10. pdf, pp. 1–17. DOI: 10.3389/fnhum.2016.00476.

p38 Caballero-Garrido, E., J. C. Pena-Philippides, T. Lordkipanidze, D. Bragin, Y. Yang, E. B. **Erhardt**, and T. Roitbak (2015). "*In vivo* Inhibition of miR-155 promotes recovery following experimental mouse stroke". *The Journal of Neuroscience* 35 (36). pdf, pp. 12446–12464. DOI: 10.1523/JNEUROSCI.1641-15.2015.

p37 LaPatra, S., S. Kao, E. B. **Erhardt**, and I. Salinas (2015). "Evaluation of dual nasal delivery of infectious hematopoietic necrosis virus and enteric red mouth vaccines in rainbow trout (*Oncorhynchus mykiss*)". *Vaccine* 33 (6). pdf, pp. 771–776. DOI: 10.1016/j.vaccine.2014.12.055.

p36 Linabery, A., E. B. **Erhardt**, M. Richardson, R. Ambinder, D. Friedman, S. Glaser, A. Monnereau, L. Spector, J. Ross, and S. Grufferman (2015). "Family history of cancer and risk of pediatric and adolescent Hodgkin lymphoma: A Children's Oncology Group study". *International Journal of Cancer* 137 (9). pdf, pp. 2163–2174. DOI: 10.1002/ijc.29589.

p35 Lupo, P., H. Danysh, S. Plon, K. Curtin, D. Malkin, S. Hettmer, D. Hawkins, S. Skapek, L. Spector, K. Papworth, B. Melin, E. B. **Erhardt**, S. Grufferman, and J. Schiffman (2015). "Family History of Cancer and Childhood Rhabdomyosarcoma: A Report from the Children's Oncology Group and the Utah Population Database". *Cancer medicine* 4 (5). pdf, pp. 781–790. DOI: 10.1002/cam4.448.

p34 Miller, R., E. B. **Erhardt**, E. Allen, A. Michael, J. Turner, J. Bustillo, J. Ford, D. Mathalon, T. van Erp, S. Potkin, A. Preda, G. Pearlson, and V. Calhoun (2015). "Multidimensional frequency domain analysis of full-volume fMRI reveals significant effects of age, gender and mental illness on the spatiotemporal organization of resting-state brain activity". *Frontiers in Neuroscience* 9 (203). pdf, pp. 1–19. DOI: 10.3389/fnins.2015.00203.

p33 Rosenberg, G., J. Prestopnik, J. Adair, B. Huisa, J. Knoefel, A. Caprihan, C. Gasparovic, J. Thompson, E. B. **Erhardt**, and R. Schrader (2015). "Validation of biomarkers in subcortical ischaemic vascular disease of the Binswanger type: approach to targeted treatment trials". *Journal of Neurology, Neurosurgery, and Psychiatry*. pdf, Online. DOI: 10.1136/jnnp-2014-309421.

p32 Salinas, I., E. B. **Erhardt**, and S. LaPatra (Nov. 2015). "Nasal vaccination of young rainbow trout (*Oncorhynchus mykiss*) against infectious hematopoietic necrosis and enteric red mouth disease". *Developmental & Comparative Immunology* 53 (1). pdf, pp. 105–111. DOI: 10.1016/j.dci.2015.05.015.

p31 Yu, Q., E. B. **Erhardt**, J. Sui, Y. Du, H. He, D. Hjelm, M. Cetin, S. Rachakonda, R. Miller, G. Pearlson, and V. Calhoun (2015). "Assessing dynamic brain graphs of time-varying connectivity in fMRI data: application to healthy controls and patients with schizophrenia". *NeuroImage* 107. pdf supp, pp. 345–355. DOI: doi:10.1016/j.neuroimage.2014.12.020.

p30 Burnside, W., E. B. **Erhardt**, S. Hammond, and J. Brown (2014). "Rates of biotic interactions scale predictably with temperature despite variation". *Oikos* 123 (12). pdf, pp. 1449–1456. DOI: 10.1111/oik.01199.

p29 **Erhardt**, E. B. and E. Bedrick (2014). "Inference for stable isotope mixing models: a study of the diet of dunlin". *Journal of the Royal Statistical Society: Series C* 63 (4). pdf, pp. 579–593. DOI: 10.1111/rssc.12047.

p28 **Erhardt**, E. B., B. Wolf, M. Ben-David, and E. Bedrick (2014). "Stable Isotope Sourcing using Sampling". *Open Journal of Ecology* 4 (6). pdf, pp. 289–298. DOI: 10.4236/oje.2014.46027.

p27 Gardner, Z., E. B. **Erhardt**, E. Shaikouskaya, J. Baek, and L. Craker (2014). "Yield and Effects of Organic Nitrogen Fertilizer on Field-Grown Chinese Medicinal Plants in the United States". *Journal of Herbs, Spices & Medicinal Plants* 21 (1). pdf, pp. 9–22. DOI: 10.1080/10496475.2014.891092.

p26 Grufferman, S., P. Lupo, R. Vogel, A. Olshan, E. B. **Erhardt**, and S. Ognjanovic (2014). "Parental Military Service, Agent Orange Exposure, and the Risk of Rhabdomyosarcoma in Offspring". *Journal of Pediatrics* 165 (6). pdf, pp. 1216–1221. DOI: 10.1016/j.jpeds.2014.08.009.

p25 Gunning, C., E. B. **Erhardt**, and H. Wearing (2014a). "Reporting rate variation of childhood diseases in the pre-vaccine era". *Proceedings of the Royal Society B* 281 (1794). pdf supp, pp. 1–9. DOI: 10.1098/rspb.2014.0886.

p24 Linabery, A., E. B. **Erhardt**, R. Fonstad, S. Grufferman, R. Ambinder, G. Bunin, J. Ross, and L. Spector (2014). "Infectious, autoimmune, and allergic diseases and risk of Hodgkin lymphoma in children and adolescents: A Children's Oncology Group (COG) study". *International Journal of Cancer* 135 (6). pdf, pp. 1454–1469. DOI: 10.1002/ijc.28785.

p23 Lupo, P., H. Danysh, S. Skapek, D. Hawkins, L. G. Spector, R. Zhou, M. Okcu, K. Papworth, E. B. **Erhardt**, and S. Grufferman (2014). "Maternal and birth characteristics and childhood rhabdomyosarcoma: a report from the Children's Oncology Group". *Cancer Causes and Control* 25 (7). pdf, pp. 905–913. DOI: 10.1002/ijc.28363. URL: http://link.springer.com/article/10.1007/s10552-014-0390-6.

p22 Tacchi, L., R. Musharrafieh, E. Larragoite, K. Crossey, E. B. **Erhardt**, S. Martin, S. LaPatra, and I. Salinas (2014). "Nasal immunity is an ancient arm of the mucosal immune system of vertebrates". *Nature Communications* 5 (5205). pdf, pp. 1–11. DOI: 10.1038/ncomms6205.

p21 **Erhardt**, E. B. and E. Bedrick (2013). "A Bayesian framework for stable isotope mixing models". *Environmental and Ecological Statistics* 20 (3). pdf, pp. 377–397. ISSN: 1352-8505. DOI: 10.1007/s10651-012-0224-1.

p20 Koons, C., B. O'Rourke, B. Carter, and E. B. **Erhardt** (2013). "Negotiating for improved reimbursement for Dialectical Behavior Therapy: A successful project". *Cognitive and Behavioral Practice* 20 (3). pdf c1 c2, pp. 314–324. DOI: 10.1016/j.cbpra.2013.01.003.

p19 Lupo, P., R. Zhou, S. Skapek, D. Hawkins, L. Specor, M. Scheurer, B. Melin, K. Papworth, E. B. **Erhardt**, and S. Grufferman (2013). "Allergies, atopy, immune-related factors and childhood rhabdomyosarcoma: A report from the Children's Oncology Group". *International Journal of Cancer* 134 (2). pdf, pp. 431–436. DOI: 10.1002/ijc.28363.

p18 McCue, M., J. Amaya, A. Yang, E. B. **Erhardt**, B. Wolf, and D. Hanson (2013). "Targeted ^{13}C enrichment of lipid and protein pools in the body reveals circadian changes in oxidative fuel mixture during prolonged fasting: a case study using Japanese quail". *Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology* 166 (4). pdf, pp. 546–554. DOI: 10.1016/j.cbpa.2013.08.009.

p17 Allen, E., E. Damaraju, S. Plis, E. B. **Erhardt**, T. Eichele, and V. Calhoun (2012). "Tracking whole-brain connectivity dynamics in the resting-state". *Cerebral Cortex* 24 (3). pdf supp suppvid1 suppvid2 suppvid3, pp. 663–676. DOI: 10.1093/cercor/bhs352.

p16 Allen, E., E. B. **Erhardt**, and V. Calhoun (2012a). "Data visualization in the neurosciences: overcoming the curse of dimensionality". *Neuron* 74. pdf, pp. 603–608. DOI: 10.1016/j.neuron.2012.05.001.

p15 Allen, E., E. B. **Erhardt**, Y. Wei, T. Eichele, and V. Calhoun (2012). "Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study". *NeuroImage* 59 (4). pdf, pp. 4141–4159. DOI: 10.1016/j.neuroimage.2011.10.010.

p14 Drake, B., W. Wills, and E. B. **Erhardt** (2012). "The 5.1 ka Aridization Event, Expansion of Piñon-Juniper Woodlands, and the Introduction of Maize (Zea mays) in the American Southwest". *The Holocene* 22 (12). pdf, pp. 1351–1358. DOI: 10.1177/0959683612449758.

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2016 (15) "Dynamic functional connectivity networks in fMRI Data, a Bayesian approach", *9th International Conference of the ERCIM WG on Computational and Methodological Statistics, CMStatistics 2016 (ERCIM 2016)*, University of Seville, Spain, Dec 9–11, 2016.

2016 (14) "Dynamic functional connectivity networks in fMRI Data, a Bayesian approach", *Second Annual Conference, Statistical Methods in Imaging, Co-sponsored by Statistics in Imaging Section, ASA*, Department of Biostatistics and Informatics, Colorado School of Public Health, June 1–3, 2016.

2015 (13) "Tracking whole-brain connectivity dynamics in the resting-state", *WNAR, The Western North American Region of The International Biometric Society*, Boise State University, Boise, ID, Jun 14 – 16, 2015.

2014 (12) "Stable isotope sourcing with Bayesian covariate model selection", *WNAR, The Western North American Region of The International Biometric Society*, University of Hawai'i, Manoa, Oahu, HI, Jun 15 – 18, 2014.

2013 (11) "An extended Bayesian stable isotope mixing model for trophic level inference", *WNAR, The Western North American Region of The International Biometric Society*, Los Angeles, CA, Jun 16 – 19, 2013.

2012 (10) "An extended Bayesian stable isotope mixing model for trophic level inference", *WNAR, The Western North American Region of The International Biometric Society*, Fort Collins, CO, Jun 17 – 20, 2012.

2012 (9) "Data visualization in the neurosciences: overcoming the curse of dimensionality", *18th Annual Meeting of the Organization for Human Brain Mapping*, Beijing, China, Jun 10 – 14, 2012.

2011 (8) "A Bayesian framework for stable isotope mixing models: estimating source contributions to a mixture", *Joint Statistical Meeting*, Miami, FL, Aug 1, 2011.

2011 (7) "A Bayesian framework for stable isotope mixing models: estimating source contributions to a mixture", *Annual meeting of the Albuquerque Chapter of the ASA*, Santa Fe, NM, Apr 29, 2011.

2009 (6) "Stable Isotope Sourcing using Sampling", *2009 Joint Statistical Meetings*, Washington, DC, Aug 2, 2009.

2008 (5) "Stable Isotope Sourcing using Sampling", *UNM PNMGC New Visions Research Presentations*, Albuquerque, NM 87131, Nov 17, 2008.

2008 (4) "Stable Isotope Sourcing using Sampling", *HHMI-NIBIB Interfaces Initiative for Interdisciplinary Graduate Research Training Meeting*, Chevy Chase, MD, Sep 18 – 20, 2008.

2008 (3) "Stable Isotope Sourcing using Sampling", *SIRFER Stable Isotopes in Ecology Course, Jim Ehleringer's lab, Univ Utah*, Salt Lake City, UT, Jun 17, 2008.
The only student talk, at the request of the organizers.

2006 (2) "Bayesian simultaneous intervals for small areas: An application to mapping mortality rates in US health service areas", *2006 Joint Statistical Meetings*, Seattle, WA, Aug 9, 2006.

2004 (1) "Bayesian simultaneous intervals for small areas: An application to mapping mortality rates in US health service areas", *The 18th New England Statistics Symposium, Harvard University, Department of Statistics*, Cambridge, MA, Apr 24, 2004.

Posters

2011 (5) "SimTB, a simulation toolbox for fMRI data under a model of spatiotemporal separability", *17th Annual Meeting of the Organization for Human Brain Mapping*, Quebec City, Canada, Jun 26 – 30, 2011.

2011 (4) "Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study", *17th Annual Meeting of the Organization for Human Brain Mapping*, Quebec City, Canada, Jun 26 – 30, 2011.

2011 (3) "Bayesian inference for stable isotope mixing models", *Gordon Research Conference: CO2 Assimilation in Plants: Genome to Biome*, Les Diablerets, Switzerland, May 29 - Jun 3, 2011.

2010 (2) "Comparison of multi-subject ICA methods for analysis of fMRI data", *16th Annual Meeting of the Organization for Human Brain Mapping*, Barcelona, Spain, Jun 7 – 8, 2010.

2007 (1) "Stable Isotope Sourcing using Sampling", *UNM, Dept of Biology, 16th Annual Research Day*, Albuquerque, NM 87131, Apr 13, 2007.
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s7 **Erhardt**, E. B. (2018e). *R package: RmdNameChunk. Read an Rmd rmarkdown or Rnw file and apply enumerated code chunks*. Software. GitHub, Inc. URL: https://github.com/erikerhardt/RmdNameChunk.

s6 **Erhardt**, E. B. and A. Jain (2016). *R package: windturbfate. Implementation of three Wind Turbine Fatality estimates: Huso, Shoenfeld, and Smallwood*. Software.

s5 **Erhardt**, E. B. (2014). *R package: sisus. Stable Isotope Sourcing using Sampling*. Software. Software. CRAN R package "sisus". URL: http://cran.r-project.org/web/packages/sisus/index.html.

s4 Allen, E., E. B. **Erhardt**, Y. Wei, T. Eichele, and V. Calhoun (2011b). *MATLAB toolbox: simtb. simulation toolbox for fMRI*. Software. Software for on "Capturing inter-subject variability". pdf. Mind Research Network. Albuquerque NM 87111. URL: http://mialab.mrn.org/software/simtb/index.html.

s3 **Erhardt**, E. B. and D. Hanson (2011). *R package: tdllicor. Estimates discrimination and other parameters associated with leaf photosynthesis*. Software.

s2 **Erhardt**, E. B. and A. Jain (2011). *R package: mortest*. Software.

s1 **Erhardt**, E. B. (2003b). *MATLAB toolbox: Nonparametric Statistical Toolbox*. Software. MathWorks. Software. Mathworks File Exchange Matlab toolbox. URL: http://www.mathworks.com/matlabcentral/fileexchange/13714.

Other Scholarly Achievements (o)

o16 Page-Reeves, J., L. Regino, E. B. **Erhardt**, C. Murray-Krezan, B. Pedigo, M. Tellez, M. R. Burge, S. I. Mishra, E. Bearer, M. J. Bleecker, D. Guerrero, and D. P. Rodriguez (2023). *UNM-OCH Diabetes Project Data Set*. Tech. rep. DOI: 10.25827/MTPV-KG27.

o15 **Erhardt**, E. B., E. J. Bedrick, and R. M. Schrader (2022a). *Lecture notes for Advanced Data Analysis 1 (ADA1), Stat 427/527, University of New Mexico*. (2011 used Minitab, 2012+ using R with annual revisions). URL: https://statacumen.com/teaching/ada1.

o14 **Erhardt**, E. B., E. J. Bedrick, and R. M. Schrader (2022b). *Lecture notes for Advanced Data Analysis 2 (ADA2), Stat 428/528, University of New Mexico*. (2012 used SAS, 2013+ using R with annual revisions). URL: https://statacumen.com/teaching/ada2.

o13 Page-Reeves, J., E. B. **Erhardt**, R. Ehrenfeucht, A. Crisanti, F. S. Mas, B. Horn, M. Schwartz, K. Kasper, A. Gorvetzian, J. D. Candidate, A. Feiluola, C. Padilla, A. Lucero, and M. Perez (2022). *Findings from a Study Conducted by the UNM Homelessness Research Taskforce*. Tech. rep. pdf. University of New Mexico. Chap. 2. 81 pp.

o12 Page-Reeves, J., L. Regino, E. B. **Erhardt**, C. Murray-Krezan, B. Pedigo, M. Tellez, M. Burge, S. Mishra, M. Bearer Elaine Bleecker, D. Guerrero, and D. P. Rodriguez (2021). *A Patient-Centered Framework to Identify Culturally and Contextually Appropriate Options for Latinos with Diabetes from Low-Income Households*. Research rep. Version PCORI ID: CER-1511-32910, ClinicalTrials.gov ID: NCT03004664. pdf. Patient-Centered Outcomes Research Institute (PCORI).

o11 **Erhardt**, E. B., E. J. Bedrick, and R. M. Schrader (2020). *Lecture notes for Advanced Data Analysis 1 and 2 (ADA1 and ADA2), Stat 427/527 and 428/528, University of New Mexico*. UNM Open Educational Resources. URL: https://digitalrepository.unm.edu/unm_oer/2/.

o10 **Erhardt**, E. B., A. T. Arnholt, L. Dierker, et al. (2019). *Passion Driven Statistics [textbook for Statistics for Research (S4R), Stat 145, University of New Mexico]*. S4R course website, GitHub source. URL: https://statacumen.com/teach/S4R/PDS_book/.

o9 **Erhardt**, E. B. and Y. Leyva (Oct. 6, 2018). *Unidentifiable parameters in multiple sharing per-contact infectivity model*. URL: https://statacumen.com/pub/UNM/ErhardtLeyva_Whitepaper_PerContactModel/2018_ErhardtLeyva_Model_1-2-ParameterSimulations.html.

o8 **Erhardt**, E. B. (2017). *Effects of an Innovative Teaching Method on Students' Learning in Introductory Statistics. UNM 2016–17 Teaching Fellow*. Tech. rep. pdf. University of New Mexico. 214 pp.

o7 **Erhardt**, E. B., E. Bedrick, and C. Gunning (2013). *Lecture notes for Statistical Computing (SC1), Stat 590, University of New Mexico*. URL: http://statacumen.com/teach/SC1/SC1_notes.pdf.

o6 **Erhardt**, E. B. (2011). "Another look at New Mexico suicide statistics: conditional probability and data visualization". *UNM Daily Lobo*. url1 url2.

o5 **Erhardt**, E. B. (2009). "Stable Isotope Sourcing using Sampling". Dissertation. Albuquerque, New Mexico: University of New Mexico.

o4 **Erhardt**, E. B. (2008a). *Dirichlet distribution*. User: Erikerhardt, [Online; accessed 12-December-2008]. URL: https://en.wikipedia.org/wiki/Dirichlet_distribution#Marginal_beta_distributions.

o3 Paulsen, H., J. Sandoval, and E. B. **Erhardt** (2006). *Feasibility Study and Course Fee Policy Reform Recommendations to Provide Revenue for the Department of Biology's Teaching Operations*. Tech. rep. pdf. UNM Department of Biology.

o2 **Erhardt**, E. B. (2003a). "Bayesian Simultaneous Intervals for Small Areas: An Application to Mapping Mortality Rates in US Health Service Areas". Advisor: Balgobin Nandram, PhD. MS Thesis, Applied Statistics. Worcester, MA, USA: Worcester Polytechnic Institute.

o1 **Erhardt**, E. B. (1997). "The Borromean Rings". Advisor: CT Brezovec, PhD pdf. BA Thesis, Mathematics. Rindge, NH, USA: Franklin Pierce College.

Presentations, non-conference

Short Courses

2019 (3) Introduction to the R Tidyverse, *Department of Mathematics and Statistics*, University of New Mexico, SMLC 120, Albuquerque, NM, 3/22, 3/29, 4/5/2019.
10 participants.

2018 (2) UNM Stats R Package Development "R-Hack-A-Pack", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Aug 17, 2018.
11 student participants.

2018 (1) Introduction to the R Tidyverse, *Albuquerque Chapter of the American Statistical Association*, University of New Mexico, Student Union Building, Albuquerque, NM, Feb 16, 2018.
Sold out!, 38 NM participants.

Colloquium and seminar talks at other universities

Invited

2020 (12) "Visualizing Scientific Data", *San Diego State University, Department of Mathematics & Statistics*, Remotely via Zoom, Oct 14, 2020.

2018 (11) "Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study", *University of California, Irvine, Department of Statistics, Space Time Meeting*, Irvine, CA, Apr 3, 2018.

2018 (10) "Visualizing Scientific Data", *University of California, Irvine, Department of Statistics, Seminar (video)*, Irvine, CA, Feb 8, 2018.

2016 (9) "The Crisis of Replication in Biomedical and Behavioral Research", *San Juan College*, Farmington, NM, Nov 4, 2016.

2016 (8) "Visualizing Scientific Data", *San Juan College*, Farmington, NM, Nov 4, 2016.

2016 (7) "Dynamic functional connectivity networks in fMRI Data, a Bayesian approach", *University of Arizona, Department of Epidemiology and Biostatistics*, Tucson, AZ, Oct 19, 2016.

2016 (6) "Dynamic functional connectivity networks in fMRI Data, a Bayesian approach, *University of Iceland, Department of Physical Sciences*, Reykjavík, Ísland, Aug 15, 2016.

2016 (5) "Visualizing Scientific Data", *University of Iceland, Department of Physical Sciences*, Reykjavík, Ísland, Aug 15, 2016.

2014 (4) "Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study", *Department of Statistics, Rice University*, Houston, TX, Mar 24, 2014.

2012 (3) "An extended Bayesian stable isotope mixing model for trophic level inference", *Department of Mathematics and Statistics, Wright State University*, Dayton, OH, Nov 2, 2012.

2012 (2) "Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study", *Department of Biomedical, Industrial & Human Factors Engineering (BIE), Wright State University*, Dayton, OH, Nov 2, 2012.

2011 (1) "Brains, Biology, and Biostatistics: Some fun collaborations and a Bayesian framework for stable isotope mixing models", *St. Louis University*, St. Louis, MO, Apr 6, 2011.

Colloquium and seminar talks locally

2022 (41) "Visualizing Scientific Data", *UNM Art & Science of Data Event (UNM Data Day)*, Albuquerque, NM 87131, Jan 12, 2022.

2022 (40) "Generalized linear models and generalized estimating equations", *Mind Research Network, COBRE3*, Albuquerque, NM 87106, Jan 7, 2022.

2020 (39) "The Statistical Bootstrap, an Introduction with Examples", *Mind Research Network, COBRE3*, Albuquerque, NM 87106, Jul 31, 2020.

2020 (38) "Visualizing Scientific Data", *UNM Clinical and Translational Investigator Program (CTIP)*, Albuquerque, NM 87106, Jul 30, 2020.

2019 (37) "Visualizing Scientific Data", *UNM Clinical and Translational Investigator Program (CTIP)*, Albuquerque, NM 87106, Sep 17, 2019.

2019 (36) "Biomarkers identify the Binswanger type of vascular cognitive impairment", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Sep 13, 2019.

2018 (35) "Reproducibility in Imaging", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Sep 31, 2018.

2017 (34) "Effects of an Innovative Teaching Method on Students' Learning in Introductory Statistics: Executive summary and recommendations" (UNM Teaching Fellow Presentation), *University of New Mexico, Center for Teaching and Learning*, Albuquerque, NM, Sep 20, 2016, video without slides.

2017 (33) "What do Future Senators, Scientists, Social Workers, and Sales Clerks *Need to Learn* from Your Statistics Class?", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Apr 26, 2017.

2017 (32) "Productivity and Time Management Workshop", GTD, *University of New Mexico, Advance at UNM*, Albuquerque, NM, Sep 8, 2017.

2017 (31) "QuantBrains: Visualizing scientific data", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Apr 7, 2017.

2016 (30) "Introductory Statistics Flipping ON the active learning switch", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Nov 30, 2016.

2016 (29) "QuantBrains: Dynamic brain network connectivity", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Oct 21, 2016.
Jointly: Robyn Miller, Erik Erhardt

2016 (28) "QuantBrains: Group independent component analysis", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Oct 7, 2016.
Jointly: Eswar Damaraju, Erik Erhardt

2016 (27) "QuantBrains: Introduction to Human Brain Imaging", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Aug 26, 2016.
Jointly: Robyn Miller, Flor Espinoza, Erik Erhardt

2016 (26) "The Crisis of Replication in Biomedical and Behavioral Research", *University of New Mexico, Cristina Murray-Krezan, BIOM 559: Biostatistics for Clinical and Translational Research*, Albuquerque, NM, Sep 21, 2016.

2016 (25) "Visualizing Scientific Data", *UNM Clinical and Translational Investigator Program (CTIP)*, Albuquerque, NM 87106, Sep 20, 2016.

2016 (24) "Psychology's Crisis of Replication", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, May 6, 2016 and May 13, 2016.

2016 (23) "The Crisis of Replication in Biomedical and Behavioral Research", *University of New Mexico, CTIP Didactic Presentation, Clinical and Translational Investigator Program*, Albuquerque, NM, April 19, 2016.

2016 (22) "Reproducible research with R and knitr", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, April 8, 2016.

2016 (21) "LaTeX, its capabilities and why you should be using it", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, April 1, 2016.

2016 (20) "Psychology's Crisis of Replication", *University of New Mexico, Department of Psychology, Psy 492 Honors Seminar (Prof. Eric Ruthruff)*, Albuquerque, NM, Mar 28, 2016.

2015 (19) "Psychology's Crisis of Replication", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Sep 18, 2015.

2015 (18) "Psychology's Crisis of Replication", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Sep 11, 2015 and Oct 16, 2015.

2015 (17) "Visualizing Scientific Data", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Jul 10, 2015.

2014 (16) "The Statistical Bootstrap, an Introduction with Examples", *IEEE Engineering in Medicine & Biology Society Technical Meeting / Educational Speaker Series, Mind Research Network*, Albuquerque, NM 87106, Dec 16, 2014.

2014 (15) "From Repeated Measures ANOVA to Mixed Models", *Andrew Mayer's lab, Mind Research Network*, Albuquerque, NM 87106, Apr 25, 2014.

2014 (14) "Estimating Brain Connectivity using fMRI and ICA: An Introduction to Independent Component Analysis (ICA) in Studies of Resting-State Functional Network Connectivity (FNC)", *Division of Epidemiology, Biostatistics, and Preventive Medicine, Department of Internal Medicine, University of New Mexico*, Albuquerque, NM, Apr 14, 2014.

2014 (13) "From Repeated Measures ANOVA to Mixed Models", *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Mar 28, 2014.

2013 (12) "An extended Bayesian stable isotope mixing model for trophic level inference", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM, Oct 31, 2013.

2012 (11) "Bayesian modeling in animal ecology", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Feb 9, 2012.

2011 (10) "Statistical consulting and collaboration, how to get started", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Nov 18, 2011.

2011 (9) "On network derivation, classification, and visualization: a response to Habeck and Moeller", *Mind Research Network, Medical Image Analysis Laboratory (MIALab)*, Albuquerque, NM 87106, Jun 22, 2011.

2011 (8) "A Bayesian (and frequentist) framework for stable isotope mixing models: estimating source contributions to a mixture", *University of New Mexico*, Albuquerque, NM 87131, Apr 12, 2011.

2010 (7) "Discussion of Bacchetti's 'Current Sample Size Conventions: Flaws, Harms, and Alternatives' ", *Mind Research Network, Medical Image Analysis Laboratory (MIALab)*, Albuquerque, NM 87106, Dec 17, 2010.

2009 (6) "Stable Isotope Sourcing using Sampling", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Aug 12, 2009.

2009 (5) "Stable Isotope Sourcing using Sampling", *Mind Research Network, Medical Image Analysis Laboratory (MIALab)*, Albuquerque, NM 87106, Apr 8, 2009.

2006 (4) "Designing a better paper helicopter using response surface methodology", *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Nov 7, 2006.

2004 (3) "Bayesian simultaneous intervals for small areas: An application to mapping mortality rates in US health service areas", *Worcester Polytechnic Institute, Department of Mathematical Sciences*, Worcester, MA, Nov 24, 2004.

2003 (2) "Bayesian simultaneous intervals for small areas: An application to mapping mortality rates in US health service areas", *National Center for Health Statistics*, Hyattsville, MD 20782, Aug 15, 2003.

1997 (1) "The Borromean rings", *Northeastern Section of the Mathematical Association of America*, Merrimack College, MA, Jun 6 – 7, 1997.

Funded Research

Active Funding

2023 – 2028 (8) R01 NS129407-01A1 (Vakhtin) Feb 2023 – Jan 2028 5% = 0.6 cal. x3, 1.2, 1.8
NIH/NINDS, NIMH, NIDDK **$4,455,114**
"Cognitive sequelae of cerebrovascular and gut dysfunction in post-acute COVID-19 syndrome"
PI: Andrei Vakhtin, PhD, Mind Research Network
Co-Is: **Erik Erhardt**, PhD (UNM), et al.
Role: Co-I, Statistician
Goals: Longitudinally evaluate the impact of COVID-19 on cerebral vasculature and gut function in adults ages 18-55.

2021 – 2026 (7) 2UF1NS100598-06 (Rosenberg) Sep 2021 – Aug 2026 10% = 1.2 cal.
NIH/NINDS **$2,441,705**
Renewed: "Validation of Biomarkers of Small Vessel Injury in VCID"
co-PI: Gary Rosenberg, MD, UNM, Department of Neurology; Arvind Caprihan, PhD, MRN, Translational Neuroscience
Co-Is: **Erik Erhardt**, PhD (UNM), et al.
Role: Co-I, Statistician
Goals: The overall goal of the project is to study the impact of vascular disease on Alzheimer's disease (AD). Small vessel disease is the major vascular disease associated with dementia. The UNM Specific aims are: 1) to continue to lead to development of the FW biomarker kit in collaboration with UCD to make this trial ready and to add imaging data to the other MRI biomarkers kits; 2) to continue to collect CSF and blood samples to contribute to the validation of all the CSF and blood biomarker kits; and 3) to recruit 200 new underrepresented patients over two years to add to legacy subjects.

2020 – 2025 (6) 1R61MH125126-01, R61/R33 (Abbott) Sep 2020 – Aug 2025 10% = 1.2 cal., 2.4 year 5
NIH/NIMH **$1,443,769 + $2,378,058**
"ECT amplitude titration to improve clinical outcomes" (Years 1–2); "Deciphering Mechanisms of ECT Outcomes and Adverse Effects (DECODE)" (Years 3–5)
Dr. Abbott Department of Psychiatry and Behavioral Sciences, Dr. Ryman Co-PI MRN, Dr. Argyelan Feinstein Co-PI, Dr. Quinn Co-PI, Dr. Miller Co-PI, Dr. McClintock UT Southwestern, Dr. Deng NIMH
Co-Is: **Erik Erhardt** PhD (UNM, MRN), et al.
Role: Co-I, Statistician
Goals: During the initial phase (R61) of this investigation will establish the relationship between amplitude titration and changes in hippocampal volumes with traditional ECT (800ma) amplitude. The second phase (R33) will compare hippocampal neuroplasticity, antidepressant, and cognitive outcomes between amplitude titration with neuroplasticity multiplier and traditional fixed amplitude ECT in older depressed subjects.

2020 – 2023 (5) P20-AG068077-01 (Rosenberg) Aug 2020 – Jul 2023 10% = 1.2 cal.
NIH/NIA **$3,000,000**
"New Mexico Alzheimer's Disease Research Center" (ADRC)
Co-PI: Gary Rosenberg, MD, UNM, Department of Neurology
Co-Is: **Erik Erhardt** (co-PI, senior statistician)
Role: Co-I, Senior Statistician
Goals: This proposal is to establish in New Mexico an exploratory Alzheimer's Disease Research Center (NM eADRC). The Center goals are: 1) to build infrastructure and hire faculty to enhance Alzheimer's disease (AD) research; 2) to meet the needs of rural communities with health disparities, and 3) to use multimodal biomarkers, including CSF and MRI, to incorporate vascular disease into the new NIA-AA Alzheimer's disease (AD) biological definition, improving patient stratefication. This P20 NM eADRC will build toward the P30 ADRC.

2020 – 2025 (4) 1953349 (Henning/Holloway) Apr 2020 – Apr 15 2025 10% = 1.2 cal.
NSF **$2,194,211**
IUSE: HSI Track 1, Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program): Building Capacity: Leveraging Course-Based Undergraduate Research Experiences to Strengthen Transitions for STEM.
PIs: Patricia A Henning (PI as of 8/10/20 James P Holloway), Co-PIs: Hua Guo, **Erik B Erhardt** (Statistician), Pamela Cheek, and Tim E Gutierrez (no longer PI 7/13/2023)
Role: Co-PI, Statistician
Goals: With support from the Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI) Program, this Track 1 project aims to build capacity for and broaden early participation in undergraduate research. It will do so by implementing and testing a sequence of course-based undergraduate research experiences designed to enable more undergraduates to participate in STEM research. This project will address deficiencies in the state of knowledge about undergraduate student education by comparing outcomes of complete undergraduate research experiences to incremental undergraduate research experiences embedded in general education and portal STEM courses. The project team will use demographic and student educational records to measure the impact of multiple levels of research engagement on different student populations. In addition, the research team will develop and refine a new metric to measure student transitions from lower to upper division courses. Key research questions that will be addressed include: How do additional levels of undergraduate research engagement impact learning, self-perceptions, and behavior, in comparison to full research engagement? To what extent can these introductory levels be leveraged to expand the number of undergraduate research experiences, and to create more inclusive pathways to full research? Which student populations are most likely to benefit from the different levels of research engagement, and from each of the instructional mechanisms and activities? How can Hispanic-Serving Institutions more accurately measure lower division to upper division transition in order to identify students in most need of intervention? The HSI Program aims to enhance undergraduate STEM education and build capacity at HSIs. Projects supported by the HSI Program will also generate new knowledge on how to achieve these aims.

2018 – 2023 (3) 1820766 (Dierker) Oct 2018 – Sep 2023 0% = 0 cal.
NSF **$1,128,096**

"A Data-Driven, Multidisciplinary Curriculum Providing Access to the Data Analytics Economy through Project-based Learning"
PIs: Lisa Dierker, PhD; Jennifer Rose, PhD.
Role: Implementation Partner: Key personnel, Training faculty, Wesleyan University
Goals: Most of the highest paying, in-demand jobs now require skills in data analysis, making data analysis and interpretation skills arguably as important as reading or writing. This project aims to equip the future STEM workforce with the data analysis skills needed to advance innovation across industries. To this end, this project will disseminate a project-based data analysis curriculum that enables students to use leading analytic platforms (e.g., SAS; R; Python; Stata) to explore and interpret big data, in the context of students' own research projects. This curriculum is designed to help students experience the power and excitement of data-driven inquiry, regardless of their preparation or initial interest. The project aims to implement this curriculum in varied educational settings and to train educators so that the curriculum can reach large numbers of learners. The program is designed to leverage existing infrastructure at new implementation sites and integrate a coordinated set of evidence-based practices to support students' and instructors' learning and engagement in research projects with large data sets. Key characteristics of the project include: 1) project-based learning tied to learner interest and intrinsic motivation; 2) opportunities for multidisciplinary inquiry; 3) analysis of large data sets in real world contexts; 4) programming as a window into data-driven reasoning and communication; and 5) intensive, student-centered one-on-one support that capitalizes on evidence-based strategies to promote success for underrepresented youth. The project will use a pre/post survey, quasi-experimental design, employing state-of-the-art causal inference techniques, together with institutional data, to answer five research questions: Does the curriculum result in positive student outcomes? Does the curriculum increase exposure to data analysis skills for women, under-represented students, and students with learning disabilities? Is the model of educator training and professional development effective in fostering knowledge and confidence in its delivery? To what extent do participating educators apply and sustain the project-based model within their programs and classrooms? At the institutional level, what format and fiscal model of support provides greatest sustainability for the data-driven curriculum? By conducting evaluative research that includes the areas of educator training, program sustainability, and student outcomes, the project will contribute new knowledge about teaching and learning data analytics.

2018 – 2023 (2) 1P30GM122734-01 (Calhoun/Mayer) May 2018 – Apr 2023 5% = 0.6 cal.
NIH/NIGMS **$6,962,122**

Phase III COBRE: Multimodal Imaging of Neuropsychiatric Disorders (MIND)
PI: Andrew Mayer, PhD.
Role: Director, Biostatistics and NeuroInformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, third phase, Mind Research Network
Goals: This Phase III (P-III) COBRE project will extend the cores that have been successfully leveraged in our Phase I (P-I) and Phase II (P-II) COBRE projects and sustain these unique resources in New Mexico through the implementation of a business plan. Over the past eight years we have built up infrastructure and created a cutting edge brain imaging center, our P-II project is just over half-way through and is even more successful than our P-I was at this point in time. This P-III COBRE center will continue our momentum and move the cores we have developed into a position of long term sustainability. We will continue with the technical cores established during the P-II project including multimodal data acquisition (MDA), algorithm and data analysis (ADA), and biostatistics and neuro-informatics (BNI). These cores have begun to serve MRN and the greater community, as well as other institutions including extensive collaborations with IDeA funded projects in New Mexico and other states. We believe this P-III COBRE is extremely well-positioned to establish and sustain New Mexico as one of the premier brain imaging sites. We include an extensive pilot project program (PPP) that is built on the successful pilot programs implemented as part of the earlier COBRE phases. This includes an extensive educational, mentoring, and faculty development program to carefully mentor and position faculty who use the cores to maximize their potential to successfully compete for external funding, thus fulfilling the ultimate goals of the COBRE program.

2016 – 2023 (1) 5R01NS098494-05 (Mayer) Jul 2016 – Mar 2023 (me 2023) 5% = 0.6 cal.
NIH/NINDS **$1,296,723**

The Impact of Diffuse Mild Brain Injury on Clinical Outcomes in Children
PI: Dr. Andrew Mayer, MRN
Role: Co-I, Statistician
Goals: There is no question that the vulnerabilities of the developing brain and the potential for recovery are unique, or that pediatric mild traumatic brain injury (pmTBI) represents a major public health concern with 400,000 new cases annually. Although the neurobehavioral symptoms of pmTBI are well-documented in the first days to weeks post-injury, few well-designed studies have examined the long-term consequences of injury. Even less is known about the neuropathology underlying the expression of post-concussive symptoms (PCS) and the impact on clinical outcomes. Thus, clinicians currently do not understand how children typically recover in the first year of injury from either a clinical or neurophysiologic perspective. The current application addresses this critical knowledge gap by collecting longitudinal (1 week, 4 months and 1 year post-injury) neuroimaging and clinical data on a large cohort of pmTBI patients (N = 150) and healthy controls (N = 125). Our preliminary data suggests diffuse white matter injuries, hemodynamic abnormalities in deep gray matter, and signs of cortical atrophy at 4 months post-injury in a relatively small sample. Consistent with animal models, these data indicate that multiple imaging measures at multiple time-points are needed to understand the dynamic effects of pmTBI on neurophysiology and underlying contributory factors (e.g., cerebral blood flow, cerebral vascular reactivity). The current study will extend these findings to the early chronic and chronic injury stages, determine how these diffuse injuries relate to clinical outcomes, and determine the individual "recovery time-courses" of selected biomarkers.

Completed Funding

2022 – 2023 (25) C-4194 (Myaskovsky) Mar 2022 – Feb 2023 5% = 0.6 cal.
Dialysis Clinic, Inc. **$72,789**
Endo ECHO Secondary Analysis for Kidney ECHO Proposal
Dr. Larissa Myaskovsky, UNM EndoECHO
Role: Co-I, Statistician

2021 – 2023 (24) (Page-Reeves) Feb 2021 – Jan 2023 5% = 0.6 cal.
UNM **$57,079**
Albuquerque Homeless Coordinating Council UNM Homelessness Research Committee, Research and Assessment Working Group
Dr. Janet Page-Reeves Co-PI UNM, et al.
Co-Is: **Erik Erhardt** PhD (UNM, MRN)
Role: Co-I, Statistician
Goals: A. Review existing data to quantify permanent housing needs (e.g., group homes, scattered-site and single site) for different populations. B. Evaluate impacts and benefits: People served, neighborhoods, community.

2016 – 2021 (23) CER-1511-32910 (Page-Reeves) Jul 2016 – Jun 2020 10% = 1.2 cal.
PCORI **$2,596,496 (no-cost ext. to 2022)**
"A Patient-Centered Framework to Test the Comparative Effectiveness of Culturally and Contextually Appropriate Program Options for Latinos with Diabetes from Low-Income Households"
PI: Janet Page-Reeves, PhD (Family & Community Medicine), and Lidia Regino (community member)
Co-Is: Esperanza Perez (patient consultant), Virginia Sandoval (patient researcher), Mark Burge, MD (mentor to PI), **Erik Erhardt** (co-PI, senior statistician), Cristina Murray-Krezan (biostatistican)
Role: co-PI, Senior statistician
Status: Funded (HRPO Study ID: 16-303) (PCORI, NIH, ClinicalTrails)

2016 – 2021 (22) 1-UH2-NS100598-01 (Rosenberg) Sep 2016 – Aug 2021 10% = 1.2 cal.
NIH **$1,065,299**
"MRI and CSF Biomarkers of White Matter Injury in VCID"
co-PI: Gary Rosenberg, MD, UNM, Department of Neurology; Arvind Caprihan, PhD, MRN, Translational Neuroscience
Co-Is: **Erik Erhardt**, PhD (UNM), et al.
Role: Co-I, Statistician

2016 – 2020 (21) 5U01MH111826-02 (Abbott) Sep 2016 – Jul 2020 10% = 1.2 cal.
NIH **$512,052**
"ECT current amplitude and medial temporal lobe engagement"
PI: Chris Abbott, MD, MS, Department of Psychiatry and Behavioral Sciences
Co-Is: Vince Calhoun PhD (UNM, MRN), Zhi-De Deng PhD (Duke), **Erik Erhardt** PhD (UNM, MRN), Shawn M. McClintock PhD MSCS (UT Southwestern Medical Center), Davin Quinn MD (UNM), Jing Sui PhD (MRN)
Role: co-I, Statistician

2015 – 2019 (20) 1539067 (Calhoun) Aug 2015 – Jul 2019 0% = 0.0 cal.
NSF **$5,858,210**
RII Track-2 FEC: "Developmental Chronnecto-Genomics (Dev-CoG): A Next Generation Framework for Quantifying Brain Dynamics and Related Genetic Factors in Childhood"
PI: Vince Calhoun, PhD.
Role: Statistician, consulted as needed, Mind Research Network

2019 (19) **$1,000**, *UNM Math & Stat travel award*, Oct 2019.
National Numeracy Network (NNN) 2019 Annual Meeting, Austin, TX

2018 (18) **$500**, *UNM Math & Stat travel award*, Aug 2018.
Joint Statistical Meetings (JSM) Aug 2, 2018 at Vancouver, British Columbia, Canada

2017 (17) **$1,000**, *UNM Math & Stat travel award*, May 2017.
US Conference On Teaching Statistics (USCOTS17) May 15-21, 2017 at State College, PA

2013 – 2018 (16) 2P20GM103472-06 (Calhoun) Sep 2008 – Apr 2018 10% = 1.2 cal.
NIH **$2,473,512**
"Multimodal Imaging of Neuropsychiatric Disorders (MIND): Mechanisms &"
PI: Vince Calhoun, PhD.
Role: Director, Biostatistics and NeuroInformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, second phase, Mind Research Network

2015 – 2017 (15) 5R01NS052305-07 (Rosenberg) May 2015 – May 2017 5% = 0.6 cal.
NIH **$471,531**
"Biomarkers for white matter injury in mixed and vascular cognitive impairment"
PI: Gary Rosenberg, MD.
Role: co-I, Statistician

2016 (14) **$800**, *UNM Math & Stat travel award*, Jul 2016.
WNAR – Annual Meeting June 10-15, 2016 at Victoria Convention Centre, Victoria, Canada

2015 (13) **$500**, *UNM innovationAcademy, Stat 427/527 and 428/528 redesign*, May 2015.

2015 (12) **$1,000**, *UNM Math & Stat travel award*, Aug 2015.
WNAR – Annual Meeting June 14-17, 2015 at Boise State University, Boise, ID

2014 (11) **$1,000**, *UNM Math & Stat travel award*, Aug 2014.
WNAR – Annual Meeting June 15-18, 2014 at University of Hawaii, Honolulu, HI

2008 – 2013 (10) 5P20RR021938-04 (Calhoun) Sep 2008 – Jun 2013 10% = 1.2 cal.
NIH **$2,300,475**
"Neural Mechanism of Schizophrenia: Use of Multiple Neuroimaging Tools to Examine..."
PI: Vince Calhoun, PhD.
Role: Director, Biostatistics and NeuroInformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, first phase, Mind Research Network

2012 – 2013 (9) UNM ID 38166 (**Erhardt**) Oct 2012 – May 2013 0% = 0.0 cal.
SNL **$56,151.37**
"Future Looking Studies 2"
PI: Erik Erhardt
Funded by Michael Itamura and Daniel Briand, Sandia National Labs
Use: Leading a research team of 4 statistics graduate students to research and develop models continuing one of the projects from the previous contract. (1) Study the influence of future population growth on the projected increase in need for radioactive materials in medicine.
Outcomes: The projects give the students experience working in a team on real-world problems performing research, modeling, report writing, collaborating together in a team, and producing a report on time to a client. This is valuable to the students's professional development as statisticians. I supervised the project. ($2,151.37 supported by UNM A&S Associate Dean for Research.)

2013 (8) **$1,000**, *UNM Math & Stat travel award*, Aug 2013.
WNAR – Annual Meeting June 16-19, 2013 at UCLA, Los Angeles, CA

2012 (7) **1 month summer salary**, Jun 2012.
Dave T. Hanson, biology, for work on and related projects

2012 (6) **$800**, *UNM Math & Stat travel award*, Mar 2012.
WNAR – Graybill June 17-20, 2012 at Colorado State University, Fort Collins, Colorado

2012 – 2012 (5) RAC 12-04 (**Erhardt**) Jan 2012 – May 2012 0% = 0.0 cal.
UNM Research Allocation Committee (RAC) Grant **$4,000**
"Frequentist (bootstrap) and Bayesian modeling of (photo)respiration in plants"
PIs: Erik Erhardt and David Hanson
Use: Funding a statistics graduate researcher, Mohammad Hattab.

2011 – 2012 (4) UNM ID 37352 (**Erhardt**) Dec 2011 – May 2012 0% = 0.0 cal.
SNL **$25,000**
"Future Looking Studies"
PI: Erik Erhardt
Funded by David Ek and Daniel Briand, Sandia National Labs
Use: Leading two research teams of 10 statistics graduate students to research and develop models for two projects. (1) Study the influence of future population growth on the projected increase in need for radioactive materials in medicine. (2) Overlay of public insurance models on intentional, malicious events to understand how the insurance industry would model the risk, and therefore the premiums for a terrorist event.
Outcomes: The projects give the students experience working in teams on real-world problems performing research, modeling, report writing, collaborating together in teams, and producing a report on time to a client. This is valuable to the students's professional development as statisticians. I supervised the two projects.

2009 (3) **$250**, *UNM, PIBBS Student Enrichment Opportunity*, Mar 2009.
Eastern North American Region (ENAR) of the International Biometric Society (IBS) short course in Hierarchical Modeling and Analysis of Spatial-Temporal Data.

2008 (2) **$2,500**, *UNM, PIBBS Student Enrichment Opportunity*, Jan 2008.
Dissertation (SISUS), to attend Stable Isotopes in Ecology, Lecture and Laboratory Short Course (SIRFER), University of Utah, June 9 – 20, 2008.

2007 (1) **$860**, *UNM, PIBBS Student Enrichment Opportunity*, Apr 2007.
Dissertation (SISUS) software startup

Funding Applications

2024 – 2029 (6) P30 AG (P30 AG086404) (Rosenberg) Apr 2024 – Mar 2029 20% = 2.4 cal.
NIH/NIA **$22,528,375**
"New Mexico Alzheimer's Disease Research Center" (ADRC)
Co-PI: Gary Rosenberg, MD, UNM, Department of Neurology
Co-Is: **Erik Erhardt** (Core co-director of Data Management and Statistics Core (DMSC))
Role: Co-I, Senior Statistician
Goals: The major goals of this project are to expand our established partnerships with underrepresented communities, better understand their dementia risk, and be an integral part of national efforts in preventing AD/ADRD.

2023 – 2028 (5) R21 (Ryman) 2/01/2023 – 1/31/2028 10% = 1.2 cal.
NIH/NIMH/NIA **$?**
Cognitive sequelae of cerebrovascular and gut dysfunction following COVID-19
PI: Andrei Vakhtin
Narrative: We will recruit 80 former COVID-19 adult patients who fully recovered (PACS-), 80 who report persistent cognitive complaints (PACS+), and 40 healthy controls with no histories of COVID-19 (HC). Cerebrovascular and gut data will be collected longitudinally from PACS+ and PACS- participants (baseline, 4 mo, 8 mo), and at baseline from HC individuals . Cerebrovascular function will be quantified by functional magnetic resonance imaging of cerebrovascular reactivity (CVR) to breathing a carbon dioxide (CO2) gas mixture. Primary gut function outcomes will be blood plasma concentrations of endotoxins, reflective of intestinal microbial translocation (MT). Cross-sectional effects of COVID-19 on CVR and gut function at baseline will inform the specific brain regions and gut-based metrics in which PACS+ and PACS- cohorts will be contrasted longitudinally. The resulting PACS-specific impairments in these systems will be assessed in terms of their contributions to cognitive symptoms across time.
Role: co-I, Senior statistician
Status: Submitted 5/19/2022

2023 – 2028 (4) Katz R01 (Ryman) 2/01/2023 – 1/31/2028 10% = 1.2 cal.
NIH/NIMH/NIA **$3,901,085**
Neuromodulation-based dissociation of cognitive networks in Parkinson's disease
PI: Sephira Ryman
Narrative: The current project lays the foundation for our long-term goal to develop personalized medicine approaches to non-invasive neuromodulation interventions for cognitive impairment in PD. The current study will evaluate whether domain specific cognitive impairment and biomarkers predict iTBS network modulation and clinical outcomes (Aim 1). We will also evaluate which cognitive abilities and biomarkers are associated with network dysfunction informing our understanding of the mechanisms of cognitive decline as well as which should be used for personalized treatment approaches (Aim 2). We will recruit 100 PD-MCI patients and randomize participants to undergo iTBS or sham (independent variable) to understand the fundamental aspects of network dysfunction in PD-MCI. At the baseline visit, participants will undergo detailed clinical and neuropsychological assessment, multimodal magnetic resonance imaging (MRI), and a blood draw. Participants will complete task functional MRI to identify patient specific dorsolateral prefrontal cortex (DLFPC) activation for stimulation. Biomarkers of interest include: plasma biomarkers (a-Synuclein, p-Tau181/ABeta42) and MRI measures of cerebrovascular function [posterior perfusion, posterior cerebrovascular reactivity (CVR)]. Participants will then undergo iTBS or sham. Participants will complete a post-iTBS follow up to identify baseline and post-iTBS network modulation. Participants will also undergo a 1-year follow-up visit to evaluate whether cognition or biomarkers best predict network dysfunction and cognitive/functional decline over time.
Role: co-I, Senior statistician
Status: Submitted 5/19/2022

2022 – 2027 (3) PAR-21-260, R43/R44 (Abbott) 2022 – 2027 10% = 1.2 cal., Year 5
NIH/NIMH **$?**
"Development of a next-generation ECT system: High-Definition ECT."
PI: Chris Abbott (UNM), Abhishek Datta (Soterix)
Co-Is: **Erik Erhardt** PhD (UNM, MRN) (Lead statistician), et al.
Role: Co-I, Lead statistician

2022 – 2027 (2) PAR-19-297, R01 (Abbott) 2022 – 2027 10% = 1.2 cal.
NIH/NIMH **$2,700,674** **20% year 5**
"Deciphering Mechanisms of ECT Outcomes and Adverse Effects (DECODE)."
PI: Katherine Narr (UCLA), Randall Espinoza (UCLA), Chris Abbott (UNM), Yvette Sheline (U Penn), Shawn McClintock (UT SW Med Center)
Co-Is: **Erik Erhardt** PhD (UNM, MRN) (Lead statistician), et al.
Role: Co-I, Lead statistician
Goals: Electroconvulsive therapy (ECT) is the most effective therapy for adults with major depression; however, some patients fail to respond despite an adequate trial and ECT can produce negative cognitive effects. In this four-site, prospective study we propose the first investigation of ECT outcome integrating multiple types of data including clinical and cognitive measures, whole-brain neuroimaging, EEG, and E-field modeling to establish the mechanisms underlying ECT-induced antidepressant response (response biomarkers) and negative cognitive effects (safety biomarkers). Using this approach in patients with a major depressive episode (n = 230), we will find the "sweet spot" of ECT dosing in order to maximize antidepressant benefit and cognitive safety.

2022 – 2027 (1) R21 (Ryman) 12/01/2022 – 11/30/2027 10% = 1.2
cal.

NIH/NIMH/NIA **$2M+**

Clinical, neuropsychological, and neuroimaging disparities in Parkinson's disease
PI: Sephira Ryman

Narrative: Cognitive decline in Parkinson's disease (PD) dementia (PDD), an Alzheimer's disease related dementia (ADRD), causes significant functional impairment and does not respond well to existing treatments. The current study lays the foundation for our long-term goal to reduce health disparities in PDD. We focus on an immediate gap by increasing representation of clinical, neuropsychological, and neuroimaging data in the NINDS Parkinson's Disease Biomarker Program (PDBP), which houses publicly-available PD and PDD data. Our overarching hypothesis is that PD patients belonging to racial/ethnic minorities experience greater degrees of cognitive decline and co-pathology. We hypothesize that these disparities are driven by sociocultural factors such as education quality, socioeconomic status, and access to healthcare. To evaluate this, we will leverage NIA's Health Disparities Framework and include detailed assessment of sociocultural, environmental, and behavioral factors known to impact health disparities. We will recruit 200 PD patients with subjective cognitive concerns, with equal representation of Hispanics/Latinos, AI/AN, Black/AA, and non-Hispanic white patients matched on age and sex. As cross-sectional assessment of cognition in minority groups is challenging due to linguistic and cultural influences, we will conduct longitudinal assessments to quantify cognitive decline over time. Participants will undergo longitudinal MRI imaging, including a PD biomarker (neuromelanin sensitive imaging), objective measurement of cerebrovascular reactivity (CVR) and white matter integrity (peak width of skeletonized mean diffusivity; PSMD). In addition, we will evaluate p-Tau181/Aβ42 and α-synuclein plasma biomarkers.

Role: co-I, Senior statistician
Status: Submitted 3/12/2022

Not funded

2022 – 2027 (23) R01 Katz (Ryman) 07/01/2022 – 06/30/2027 10% = 1.2 cal.
NIH **$3,901,085**
Neuromodulation-based dissociation of cognitive networks in Parkinson's disease
PI: Sephira Ryman
Narrative: The current study will address this scientific gap in the literature and evaluate intermittent theta burst stimulation (iTBS) modulation of cognitive networks in PD patients with Mild Cognitive Impairment (Aim 1). We will also evaluate the association between biomarkers of neuropathological processes and network dysfunction and decline (Aim 2). We will use highly innovative methods to manipulate distributed brain networks via iTBS8, integrating plasma biomarkers and multimodal imaging to achieve these aims. The results from this project can directly inform our understanding of the brain networks associated with cognitive impairments in PD and how they relate to neuropathological processes. This work can directly inform the development of personalized interventions based on individual cognitive, network, and biomarker characteristics. In line with PAR-21-039, this project is a new direction for the study PI, for which preliminary data do not exist (see New Research Direction). This project addresses an area of high priority based on two NINDS Conferences: Parkinson's Disease 2014 and Alzheimer's Disease-Related Dementias (ADRD) Summit 2019, which included PD Dementia. Specifically, we will answer key questions that will ultimately lead to the development of effective treatments and companion biomarkers for dopa-resistant features (cognitive impairment) of PD (Recommendation 2 from the NINDS PD2014 Final Research Recommendations).
Role: co-I, Senior statistician
Status: Submitted 8/15/2021, PAR-21-039

2021 – 2023 (22) R21 (Ryman) 09/01/2021 – 08/31/2023 5% = 0.6 cal.
NIH/NIMH/NIA **$509,121**
Mechanisms of hallucinations in Parkinson's disease
PI: Sephira Ryman
Narrative: The development of hallucinations in Parkinson's disease can be debilitating and a significant predictor of dementia and nursing home placement. To improve quality of life in these patients, there is an urgent need to develop treatments for these debilitating symptoms; however, the underlying reasons (e.g., abnormalities in brain structure and function) why patients develop hallucinations have yet to be elucidated. The current project will use novel analytic methods and neuroimaging techniques to identify specific mechanisms and potential magnetic resonance imaging (MRI) biomarkers that will facilitate the development of novel treatments.
Role: co-I, Senior statistician
Status: Submitted 3/16/2021, PAR-20-159

2020 – 2021 (21) **NIH, $?; 10% commitment**, *Research Project Grant (Parent R01 Clinical Trial Not Allowed) PA-19-056, Examine the network underlying psychotic symptoms in first episode psychosis with a novel multimodal approach*, (NIH), Jul 2021 – Jun 2024.
PI: Juan R Bustillo, Department of Psychiatry and Behavioral Sciences
Co-Is: Erik Erhardt (co-PI, senior statistician)
Title: Examine the network underlying psychotic symptoms in first episode psychosis with a novel multimodal approach
Status: submitted (6/1/20)

2020 – 2025 (20) **NIH, $?; 5% commitment**, *NIH R01 RFA-NS-19-026, "Multimodal neuroimaging prediction of the necessity of antidepressant or mood stabilizer treatment for depressed, emerging adults"*, Sep 2020 – Aug 2025.
PI: Vince Calhoun, Georgia State University
Status: submitted (10/31/2019).

2020 – 2025 (19) **NIH, $4,802,435; 10% commitment**, *NIH R61/R33 RFA-NS-19-026, "A longitudinal study of traumatic brain injury and neurodegenerative pathology in a high risk population"*, Sep 2020 – Aug 2025.
PI: Kent Kiehl, Mind Research Network
Status: submitted (4/15/2019).

2020 – 2023 (18) **NIH, $3,577,355; 10% commitment**, *NIH R61/R33 , "Electroconvulsive therapy amplitude titration for improved clinical outcomes in late-life depression"*, Sep 2020 – Aug 2023.
PI: Chris Abbott, MD, MS, Department of Psychiatry and Behavioral Sciences
Co-Is: Miklos Argyelan MD (Zucker Hillside Hospital), Zhi-De Deng PhD (NIMH), Erik Erhardt PhD (University of New Mexico, Department of Mathematics and Statistics), Shawn M McClintock PhD MSCS (UT Southwestern Medical Center), Davin Quinn MD (University of New Mexico)
Status: submitted (2/12/2020).

2020 – 2021 (17) **PCORI, $500,000; 6% commitment**, *COVID-19 Enhancement: Patient Centered Outcomes Research Institute (PCORI) CER-1511-32910, A Patient-Centered Framework to Test the Comparative Effectiveness of Culturally and Contextually Appropriate Program Options for Latinos with Diabetes from Low-Income Households*, (PCORI), Jul 2020 – Jun 2021.
PI: Janet Page-Reeves, PhD (Family & Community Medicine), and Lidia Regino (community member)
Co-Is: Mark Burge, MD (mentor to PI), Erik Erhardt (co-PI, senior statistician)
Title: COVID-19 Enhancement: A Patient-Centered Framework to Test the Comparative Effectiveness of Culturally and Contextually Appropriate Program Options for Latinos with Diabetes from Low-Income Households
Status: submitted (4/15/20)

2020 – 2021 (16) **NIH, $150,000; 6% commitment**, *COVID-19 Supplement: R01 PA-18-284, Addressing Health Disparities through Effective Interventions Among Immigrant Populations*, (NIH), Jul 2020 – Jun 2021.
PI: Janet Page-Reeves, PhD (Family & Community Medicine)
Co-Is: Erik Erhardt (co-PI, senior statistician)
Title: COVID-19 Supplement: Addressing Social Isolation to Reduce Depression Among Female Mexican Immigrants
Status: submitted (4/15/20)

2019 – 2024 (15) **USA NIH NIDA, The Application of Big Data Analytics to Drug Abuse Research, $-, 5% commitment**, *Statistician, Mind Research Network*, Albuquerque, NM 87131, Jul 2019 – Jun 2024.
PI: Vince Calhoun, PhD
Title: Data-driven approaches to identify biomarkers from multimodal imaging big data
Proposal number: .
Status: submitted (9/2018).

2019 (14) **USA NIH RFA-NS-19-012, Post-Stroke Vascular Contributions to Cognitive Impairment and Dementia (VCID) in the United States Including in Health Disparities Populations, $56M over 6 years, 20% commitment**, *Project Lead, Statistics Core*, Albuquerque, NM 87131, Sep 2019 – Aug 2025.
PI: Gary A. Rosenberg and Michel T. Torbey
Title: Post-Stroke Vascular Contributions to Cognitive Impairment and Dementia
Proposal number: 522589.
Status: submitted (4/2019).

2019 (13) **USA NSF IUSE: HSI Track 1, Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program), $2,411,604, 10% commitment**, *Statistician*, Albuquerque, NM 87131, Apr 2020 – Mar 2025.
PI: Patricia Henning
Title: Building Capacity: Leveraging Course-Based Undergraduate Research Experiences to Strengthen Transitions for STEM.
Proposal number: 19-0730.
Status: submitted (2/2019).

2019 – 2024 (12) **USA NIH NIH Research Project Grant (Parent R01 Clinical Trial Not Allowed), $-, 5% commitment**, *Statistician, Mind Research Network*, Albuquerque, NM 87131, Jul 2019 – Jun 2024.
PI: Jing Sui, PhD
Title: A decentralized macro and micro gene-by-environment interaction analysis of substance use behavior and its brain biomarkers
Proposal number: .
Status: submitted (10/2018).

2018 (11) **USA NIH RFA-AG-20-023, Exploratory Alzheimer's Disease Research Centers (ADRC, P20 Clinical Trial Not Allowed), $2,250,000 over 3 years, 10% commitment**, *Project Lead, Statistics Core*, Albuquerque, NM 87131, Jul 2020 – Jun 2023.
PI: Gary A. Rosenberg
Title: New Mexico Alzheimer's Disease Research Center
Status: submitted (10/7/2019).

2018 (10) **USA NSF IUSE: HSI Track 1, Improving Undergraduate STEM Education: Hispanic-Serving Institutions (HSI Program), $-**, *Statistician*, Albuquerque, NM 87131, Jun 2018 – May 2023.
PI: Patricia Henning
Title: Building Capacity: Leveraging Course-Based Undergraduate Research Experiences to Strengthen Transitions for STEM.
Proposal number: 18-0762.
Status: submitted (2/2018).

2016 (9) **$-**, *USA Small Business Innovation Research (SBIR) PA-14-058*, Spr 2016.
PI: Ries Robinson, Medici Technologies LLC
Co-Is: Erik Erhardt, PhD (UNM), et al
Title: Improved diabetes staging through vascular compliance and autonomic function characterization
Status: submitted (4/4/2016).

2016 (8) **$433,926**, *USA NSF PD 15-1699, 1633897*, 2/10/2016.
PI: Vince Calhoun (MRN)
Co-Is: Andrew Mayer (MRN), Erik Erhardt, PhD (UNM)
Title: Collaborative Research: Approaches for Capturing Heterogenous Spatial and Temporal Brain Activity
Status: declined (5/16/2016).

2015 (7) **$2,043,303**, *USA NIH 1 R01 MH107469-01*, 7/15/2015.
PI: Michele Guindani (MD Anderson)
Co-Is: Vince Calhoun (MRN), Erik Erhardt, PhD (UNM)
Title: Bayesian Methods for fMRI: modeling heterogeneity in Brain dysfunctions
Status: declined (3/10/2015).

2015 (6) **$375,000**, *USA NSF 14-611, 1533665*, 1/26/2015.
PI: Vince Calhoun (MRN)
Co-Is: Erik Erhardt, PhD (UNM), Michele Guindani, PhD (MD Anderson)
Title: NCS-FO: Approaches for Capturing Heterogeneous Spatial and Temporal Brain Activity
Status: declined (6/19/2015).

2015 (5) **$**-, *USA NIH Summer Institute for Research Education in Biostatistics (R25)*, Spr 2015.
PI: Orrin B. Myers
Co-Is: Erik Erhardt, PhD (University of New Mexico, Department of Mathematics), et al
Title: Biostatistics Summer Institute
Status: Not discussed by review committee (10/22/15).

2014 (4) **$**-, *USA NIH R01 Research Project Grant*, Oct 2014.
PI: Michele Guindani
Co-Is: Marina Vannucci, Francesco Versace, Erik Erhardt, Vince Calhoun
Title: Bayesian Methods for fMRI: modeling heterogeneity in Brain dysfunctions
Status: 3/15. scored, addressing reviewer comments.

2014 (3) **$**-, *USA NIH R01*, Oct 2014.
PI: Chris Abbott, MD, MS
Co-Is: Nora Bizzozero, PhD (University of New Mexico, Department of Neuroscience), Erik Erhardt, PhD (University of New Mexico, Department of Mathematics)
Title: Repairing aberrant hippocampal circuitry with ECT-mediated neural plasticity
Status: 3/15, unfunded.

2013 (2) **$**-, *USA NIH*, Oct 2013.
Co-PIs: Julia Stephen, Cheryl J Aine, Erik Erhardt, Arvind Caprihan
Title: Mapping top-down and bottom-up multisensory integration in schizophrenia
Status: unfunded.

2013 (1) **$**-, *USA NSF 13-508, 1328232*, 1/23/2013.
PI:Jeffrey Chanton
Co-Is: Thomas Martin, Rachel Wilson, Erik Erhardt, Karen Kandl
Title: Preliminary Proposal: The role of terrestrial detritus in reciprocal subsidies linking headwater streams and terrestrial ecosystems
NSF Division: Division of Environmental Biology
NSF Program: Population and Community Ecology Program
Objectives: (1) Describe the role of terrestrial detritus in terrestrial-aquatic linkages to better predict how landuse changes are likely to propagate between these systems, (2) Constrain variability in δD isotope values to improve the use of this tracer for distinguishing and quantifying aquatic and terrestrial contributions to secondary production, and (3) Develop and apply a Bayesian isotope model to track temporal isotope variation in both consumers and primary producers to identify the nature of aquatic-terrestrial linkages.
Status of review: Not invited to submit a full proposal, May 2013.
Unassigned 5/29/2013

Teaching

Recent recognition

2019 – 2020 UNM Academic Affairs General Education (AAGE) Faculty Fellow for Undergraduate Research, 2019–20, Introduction to Statistics.

2018 – 2019 UNM Academic Affairs Core Curriculum Faculty Fellow, 2018–19, Innovation and Undergraduate research in Introduction to Statistics.

2016 – 2017 UNM Teaching Fellow, 2016–17

Post-Doctoral Advisement

Doctoral Advisement

Masters Advisement

2019 – 2021 (7) Jessica R Reno, Fall 2021
"A multiple-baseline interrupted time-series analysis with New Mexico Medicaid data from clients enrolled in a special behavioral health program".
Degree: MS Statistics 2020, Math & Stat.
Major advisor. Committee: Yiliang Zhu (UNM HSC)

2019 – 2021 (6) Christina M Deffenbaugh, Spring 2021
"A multiple-baseline interrupted time-series analysis with New Mexico Medicaid data from clients enrolled in a special behavioral health program".
Degree: MS Statistics 2021, Math & Stat.
Major advisor. Committee: Fletcher Christensen, Li Li

2020 – 2020 (5) Leah Hollis Puglisi, Oct 2020
"An analysis of growth of the community integration psychological score in an ethnically diverse population experiencing homelessness in a permanent supportive housing program using hierarchical mixed modeling".
Degree: MS Statistics 2020, Math & Stat.
Major advisor. Committee: Fletcher Christensen (Stat), Ronald Christensen (Stat)

2018 – 2020 (4) Elizabeth Grace Mayer, Aug 2020
"An Improved Method for Spectroscopic Quality Classification".
Degree: MS Statistics 2020, Math & Stat.
Major advisor. Committee: Fletcher Christensen (Stat), Rhoshel Lenroot (Psychiatry)

2016 – 2017 (3) Linh Thuy Ward, May 2017
"Factors influencing intermediate mathematics success: Math 120, ALEKS, and math placement".
Degree: MS Mathematics Education 2017, Math & Stat.
Major advisor. Committee: Terry Loring (Math), Cristina Pereyra (Math)

2015 – 2016 (2) Alvaro Emilio Ulloa, May 2016
"Data Driven Sample Generator Model with Application to Data Classification".
Degree: MS Statistics 2016, Math & Stat. Outstanding Statistics Graudate Student award 2016, Dept Math & Stat.
Major advisor. Committee: Marios S. Pattichis (ECE), Li Li (Stat)

2014 – 2015 (1) Yuridia L. Leyva, May 2015
"Per-contact infectivity of HCV associated with injection exposures in a prospective cohort of young injection drug users in San Francisco, CA (UFO Study)".
Degree: MS Statistics 2015, Math & Stat.
Major advisor. Committee: Kim Page (Epi & Biostat), Gabriel Huerta (Stat)

Other Advisement

Graduate Students in Statistics

2021 (12) Cristina M Murray-Krezan, Mar 2021
"Extension of the Two-Step Approach for Informative Dropout in Survival Analysis".
Degree: PhD Statistics 2021.
Thesis committee, James Degnan.

2020 (11) Kelli N Kasper, Aug 2020
"Assessing the Validity of Sentiment Analysis Measures through the Use of Polychoric Correlation".
Degree: MS Statistics 2020.
Thesis committee, Fletcher Christensen.

2020 (10) Anastasiia Kim, May 2020
"Maximum likelihood estimation of species trees and anomaly zone detection using ranked gene trees".
Degree: PhD Statistics 2020.
Dissertation committee, James Degnan.

2020 (9) Clarissa Sorensen-Unruh, May 2020
"A Statistical Analysis of the UNM FACETS Design Identity & Beliefs Survey Data".
Degree: MS Statistics 2020.
Thesis committee, James Degnan.

2015 (8) Yonghua Wei, May 2015
"Dynamic Generalized Extreme Value via Particle Filters".
Degree: PhD Statistics 2015.
Dissertation committee, Gabriel Huerta.

2015 (7) Maozhen Gong, Apr 2015
"Order-Constrained Reference Priors with Implications for Bayesian Isotonic Regression, Analysis of Covariance and Spatial Models".
Degree: PhD Statistics 2015.
Dissertation committee, Gabriel Huerta (Michael Sonksen).

2015 (6) Yan Dong, Mar 2015
"Nonparametric Bayes Approach for a Semi-Mechanistic Pharmacokinetic and Pharmacodynamic Model".
Degree: PhD Statistics 2015.
Dissertation committee, Michele Guindani.

2014 (5) Xueqin Wang, Mar 2014
"Bayesian Partially Ordered Probit and Logit Models with an Application to Course Redesign".
Degree: PhD Statistics 2014.
Dissertation committee, Michael Sonksen.
Evaluated and provided suggestions for proposal.

2014 (4) Mohammad Hattab, Jan 2014
"Lack-of-fit tests in Linear Models".
Degree: PhD Statistics 2014.
Dissertation committee, Ron Christensen.

2012 – 2013 (3) Sandia National Labs "Future Looking Studies 2" (see Funded Research), Jan 2013 – May 2013
Team: Fares Qeadan, Yonghua Wei, Lang Zhou, Huan Jiang

2012 (2) Yong Lin, May 2012
"Contributions to linear models".
Degree: PhD Statistics 2012.
Dissertation committee.

2011 – 2012 (1) Sandia National Labs "Future Looking Studies" (see Funded Research), Dec 2011 – May 2012
Team 1: Gregory Lambert, Lang Zhou, Xueqin Wang, Yonghua Wei, Fares Qeadan
Team 2: Yong Lin, Mohammad Hattab, Rebecca Lilley, John Pesko, Kyle Rechard

Graduate Students outside of Statistics

2020 – 2022 (20) Taylor W. Uselman, Summer 2023
"Brain-wide neural signatures of stress".
Degree: PhD Biomedical Sciences, UNM, 2022.
Committee for PhD dissertation.

2016 – 2018 (19) Alvaro Emilio Ulloa, May 2018
"Improving classification rate of schizophrenia using a multimodal multi-layer perceptron model with structural and functional MR".
Degree: PhD Electrical Engineering, UNM, 2018.
Committee for PhD dissertation.

2017 – 2017 (18) Jocelyn Noelle Gonzales, Apr 2017
"The Effects of Different Teaching Methods on Student Attitude and Achievement in Calculus Recitations and Related Strategies for TA Training".
Degree: MS Pure Mathematics, UNM, 2017.
Committee for MS thesis.

2016 (17) Barnaly Rashid, Oct 2016
"Approaches For Capturing Time-Varying Functional Network Connectivity With Application to Normative Development and Mental Illness".
Degree: MS Electrical Engineering, UNM, 2016.
Committee for PhD dissertation.

2016 (16) Maziar Yaesoubi, July 2016
"Dynamic models of fMRI data in resting state".
Degree: PhD Electrical Engineering, UNM, 2016.
Committee for PhD dissertation.

2015 (15) Oktay Agcaoglu, May 2015
"New Approaches to Brain Lateralization".
Degree: PhD Electrical Engineering, UNM, 2017.
Committee for PhD dissertation.

2015 (14) Barnaly Rashid, Mar 2015
"Dynamic Connectivity States Estimated from Rest fMRI Capture Differences in Schizophrenia, Bipolar Disorder, and Healthy Controls".
Degree: MS Electrical Engineering, UNM, 2015.
Committee for MS thesis.

2014 (13) Mohammad Reza Arbabshirani, July 2014
"Functional network connectivity in human brain and its applications in automatic diagnosis of brain disorders".
Degree: PhD Electrical Engineering, UNM, 2014.
Committee for PhD dissertation.

2014 (12) Christian Gunning, May 2014
"Pre-vaccine era reporting rates of childhood diseases: a case study of observation process variability".
Degree: PhD Biology, UNM, 2014.
Committee for PhD dissertation.

2009 (11) Melissa Van Witzenburg
"Comparison of dental practitioners' knowledge of adverse oral effects of pharmaceuticals".
Degree: MS Dental Hygiene, UNM, 2009.
Advised and performed statistical analysis for MS thesis.

2008 (10) Stephanie Baca
"Dental Hygiene / Nursing Student Interdisciplinary and Collaboration Rotation Project: A Pilot Study".
Degree: MS Dental Hygiene, UNM, 2008.
Advised and performed statistical analysis for MS thesis. (cert)

2007 (9) Anne Scott
"Evaluation of an Undergraduate Dental Hygiene Communication Skills Workshop".
Degree: MS Dental Hygiene, UNM, 2007.
Advised and performed statistical analysis for MS thesis.

2006 (8) Pamela Marlene Lujan
"Are Workers with Traumatic Brain Injury Being Adequately Accommodated In the Workforce?".
Degree: MS Public Administration, UNM, 2006.
Advised and performed statistical analysis for MS thesis.

2006 (7) Tamara L Donald
"Results of a National Survey: Pediatric Content in Dental Hygiene Program Curricula".
Degree: MS Dental Hygiene, UNM, 2006.
Advised and performed statistical analysis for MS thesis.

2006 (6) Lisa M Esparza
"Comparison of Geriatric Education in Dental Hygiene Curricula: A National Study".
Degree: MS Dental Hygiene, UNM, 2006.
Advised and performed statistical analysis for MS thesis.

2006 (5) Ani M Humberson (Dorgan)
"A Comparative Analysis of Motivational Learning Strategies among Associate Degree Dental Hygiene Students and Bachelor Degree Dental Hygiene Students".
Degree: MS Dental Hygiene, UNM, 2006.
Advised and performed statistical analysis for MS thesis.
Submitted to the "Journal of Dental Hygiene", in revision.

2006 (4) Melissa M Plese (Mcdougal)
"A comparsion of patient knowledge on the association of oral health and diabetes between three different health care settings".
Degree: MS Dental Hygiene, UNM, 2006.
Advised and performed statistical analysis for MS thesis.
Poster at American Dental Hygienists' Association (ADHA) 84th Annual Session & Exhibits XXVI, New Orleans, LA. June 20 – 27, 2007. (poster, photo)

2006 (3) Tammy L Whitney
"An evaluation of dental hygiene education throughout member countries of the International Federaltion of Dental Hygienists".
Degree: MS Dental Hygiene, UNM, 2006.
Advised and performed statistical analysis for MS thesis.

2005 (2) Jennifer Glee Buntz
"Effects of the Pesticide Lindane on Heat Shock Protein Production, Survivorship, and Reproductive Success in Female Western Mosquitofish, *Gambusia affinis*".
Degree: MS Biology, Eastern New Mexico University, 2005.
Advised and performed statistical analysis for MS thesis.

2005 (1) Zoë Gardner
"A Morphometric Analysis of *Cimicifuga racemosa (L.) Nutt.*" [Syn. *Actaea racemosa L.*] (Black Cohosh).
Degree: MS Biology, UMass, 2005.
Advised and performed statistical analysis for MS thesis. .

Bachelor's Honors Advisement

Undergraduate Student Mentoring

Alumni

- Jessica Reno (MS 2021), Sr. Statistician The University of New Mexico School of Medicine, Albuquerque, NM (4/2022)
- Christina M Deffenbaugh (MS 2021), HR Data Analyst, Human Resources: People Analytics, Sandia National Laboratories, Albuquerque, NM (4/2022)
- Leah Puglisi (MS 2020), Clinical Research Statistician, Scripps Health, San Diego, CA (4/2022)
- Elizabeth Grace Mayer (MS 2020), Statistician, Boart Longyear (Well Water Drilling Service), Valley City, UT (4/2022)
- Linh Thuy Ward (MS 2017), moved to Vietnam (4/2022)
- Alvaro Emilio Ulloa (MS 2016), PhD, Senior Data Scientist, Geisinger (Hospitals and Health Care), Danville, PA (4/2022)
- Yuridia Leyva (MS 2015), HS Sr Research Specialist, Center for Healthcare Equity in Kidney Disease, The University of New Mexico Health Sciences Center, Albuquerque, NM (4/2022)

Classroom Teaching

Teaching Evaluations Summary

Questions for evaluations

- Q1: Please rate the instructor's overall teaching effectiveness.
- Q2: How comfortable do you feel approaching the instructor with questions or comments?

Comments

- 2017 Spring Stat 145: Taught as an unpaid overload as part of a teaching fellowship intervention.

Year	Semester	Dept	Course	Name	rsps/stds	Q1 Mean	Q1 Med	Q2 Mean	Q2 Med
				Weighted average		4.43	4.64	4.48	4.88
2022	Spring	Stat	428	Advanced Data Analysis 2		4.75	5.00	4.75	5.00
2022	Spring	Stat	528	Advanced Data Analysis 2		4.59	5.00	4.41	5.00
2021	Fall	Stat	427	Advanced Data Analysis 1	25/38	4.56	5.00	4.54	5.00
2021	Fall	Stat	527	Advanced Data Analysis 1	31/35	4.48	5.00	4.32	5.00
2021	Fall			Release/Buyout					
2021	Spring	Stat	428	Advanced Data Analysis 2	30/32	4.73	5.00	4.53	5.00
2021	Spring	Stat	528	Advanced Data Analysis 2	38/38	4.68	5.00	4.53	5.00
2020	Fall	Stat	427	Advanced Data Analysis 1	32/48	4.56	5.00	4.22	4.50
2020	Fall	Stat	527	Advanced Data Analysis 1	31/43	4.35	4.00	3.97	4.00
2020	Fall			Release/Buyout					
2020	Spring	Stat	428-528	Advanced Data Analysis 2	64/77	4.81	5.00	4.70	5.00
2019	Fall	Stat	427	Advanced Data Analysis 1	41/55	4.55	5.00	4.59	5.00
2019	Fall	Stat	527	Advanced Data Analysis 1	41/47	4.15	4.00	4.18	5.00
2019	Fall			Release/Buyout					
2019	Spring	Stat	145	Intro To Statistics	24/31	4.33	4.50	4.83	5.00
2018	Fall			Paternity Leave					
2018	Spring			Sabbatical					
2017	Fall			Sabbatical					
2017	Spring	Stat	145	Intro To Statistics	20/51	4.15	4.00	4.42	5.00
2017	Spring	Stat	428-528	Advanced Data Analysis 2	59/64	4.60	5.00	4.68	5.00
2016	Fall	Stat	427	Advanced Data Analysis 1	43/51	4.37	5.00	4.65	5.00
2016	Fall	Stat	527	Advanced Data Analysis 1	41/42	4.07	4.00	4.27	5.00
2016	Fall			Release/Buyout					
2016	Spring	Stat	428-528	Advanced Data Analysis 2	37/48	4.68	5.00	4.59	5.00
2015	Fall	Stat	427	Advanced Data Analysis 1	30/45	4.23	4.00	4.45	5.00
2015	Fall	Stat	527	Advanced Data Analysis 1	28/30	3.70	4.00	4.52	5.00
2015	Fall	Stat	590	Statistical Computing	6/10	4.33	5.00	4.83	5.00
2015	Spring	Stat	428	Advanced Data Analysis 2	14/30	4.00	4.00	4.21	4.00
2015	Spring	Stat	528	Advanced Data Analysis 2	15/29	4.00	4.00	4.13	4.00
2015	Spring			Release/Buyout					

Teaching Overload Summary

Comments

- 2016 Spring Stat 595: Statistics Education Practicum (SEP), Peer Mentors in ADA
- 2015 Fall Stat 595: Statistics Education Practicum (SEP), Peer Mentors in ADA

Year	Semester	Dept	Course	Name	Students
2022	Spring	Stat	599	Master's Thesis	1
2022	Spring	Stat	699	Dissertation	1
2021	Fall	Stat	599	Master's Thesis	0
2021	Fall	Stat	699	Dissertation	1
2021	Fall	Stat	495	Individual Study	1
2021	Spring	Stat	599	Master's Thesis	2
2021	Spring	Stat	699	Dissertation	1
2020	Fall	Stat	599	Master's Thesis	2
2020	Fall	Stat	699	Dissertation	1
2020	Summer	Stat	599	Master's Thesis	3
2020	Spring	Stat	495	Individual Study	1
2020	Spring	Stat	599	Master's Thesis	2
2020	Spring	Stat	699	Dissertation	1
2019	Fall	Stat	599	Master's Thesis	2
2019	Fall	Stat	699	Dissertation	1
2019	Spring	Stat	699	Dissertation	1
2017	Fall	Stat	599	Master's Thesis	1
2016	Spring	Stat	595	Problems	3
2015	Fall	Stat	595	Problems	7

As Faculty: University of New Mexico, Fall 2011 – current

Note: Semester Year (number of courses taught), $500+$ *are graduate courses.*

† = overload.

Lecture notes are published and freely available .

As Full Professor: University of New Mexico, Fall 2023 – current

Note: Semester Year (number of courses I've taught), $500+$ *are graduate courses.*

2024 (48) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2024.
Online/new book revision, 2 TAs.
TA: TBD, TBD
Peer Mentors:
PLFs:
= + students, EvalKit: Effective .

2023 (47) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2023.
Online/new book revision, 2 TAs.
TAs: TBD, TBD
PLFs:
= + . students, EvalKit: Effective .

As Associate Professor: University of New Mexico, Fall 2016 – Spring 2023

2023 (46) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2023.
Quarto revision, 2 TAs.
TA: Behzad FallahiFard, Mingyue Liu
Peer Mentors:
PLFs: 2
= + students, EvalKit: Effective .

2022 (45) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2022.
Quarto revision, 2 TAs.
TAs: Behzad FallahiFard, Mingyue Liu
PLFs: 2
83 = 36 + 47. students, EvalKit: Effective .

2022 (44.2) Stat 650. Reading and Research, Sum 2022.
1 student (3 credits total)

2022 (44.1) Stat 699. Dissertation, Spr 2022.
1 student (6 credits total)

2022 (44) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2022.
COVID-19 revision, 2 TAs.
TA: Davis Dodson, Shuang Yang
Peer Mentors:
PLFs: 2
50 = 27 + 23 students, EvalKit: Effective 4.67.

2021 (43.1) Stat 699. Dissertation, Fall 2021.
1 student (6 credits total)

2021 (43) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2021.
COVID-19 revision, 2 TAs.
TAs: Davis Dodson, Shuang Yang
PLFs: 1
73=38+35. students, EvalKit: Effective 4.52

2021 (42.1) Stat 699. Dissertation, Spr 2021.
1 student (6 credits total)

2021 (42.1) Stat 599. Master's Thesis, Spr 2021.
3 students (5 credits total)

2021 (42) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2021.
COVID-19 revision, 2 TAs.
TA: Ola Anifowoshe, Mohammad Ahmadi
Peer Mentors:
PLFs: 1
74=34+40 students, EvalKit: Effective 4.71

2020 (41.2) Stat 699. Dissertation, Fall 2020.
1 student (6 credits total)

2020 (41.1) Stat 599. Master's Thesis, Fall 2020.
3 students (5 credits total)

2020 (41) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2020.
COVID-19 revision, 2.5 TAs.
TAs: Ola Anifowoshe, Jonathan Emery, Mohammad Ahmadi
PLFs: 4
96=53+43. students, EvalKit: Effective 4.46

2020 †(40.5) BIOM 564: Biomedical Informatics in Clinical and Translational Research. Jonathan Eldredge. Guest lecturer, Sum 2020.
Prepared and gave one lectures "Visualizing Scientific Data".
10 students

2020 (40.4) Stat 599. Master's Thesis, Summer 2020.
3 students (3 credits total)

2020 (40.3) Stat 699. Dissertation, Spring 2020.
1 student (6 credits total)

2020 (40.2) Stat 599. Master's Thesis, Spring 2020.
2 students (5 credits total)
Also, took 2 additional MS students from faculty leaving on parental leave.

2020 †(40.1) Stat 495. Individual Study, Spring 2020.
1 student (3 credits)

2020 (40) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2020.
Revised "tidyverse" class, 2.5 TAs.
TA: Leah Puglisi, Ola Anifowoshe, Mohammad Ahmadi
Peer Mentors:
78=42+36 students, EvalKit: Effective 4.81

2019 (39.2) Stat 699. Dissertation, Fall 2019.
1 student (6 credits total)

2019 (39.1) Stat 599. Master's Thesis, Fall 2019.
2 students (5 credits total)

2019 (39) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2019.
Revised "tidyverse" class, 2 TAs.
TAs: Kelli Kasper, Leah Puglisi, Ola Anifowoshe
110=62+48 students, EvalKit: Effective 4.55.

2019 †(38.2) BIOM 564: Biomedical Informatics in Clinical and Translational Research. Jonathan Eldredge. Guest lecturer, Sum 2019.
Prepared and gave one lectures "Visualizing Scientific Data".
10 students

2019 (38.1) Stat 699. Dissertation, Spring 2019.
1 student (6 credits total)

2019 (38) Stat 145. Introduction to Statistics. Instructor, Spr 2019.
Redesigned "Statistics for Research (S4R)" version, 1 TA.
TA: Kelli Kasper
PLF: Leah Puglisi
31 students, EvalKit: Effective 4.33

2017 – 2018 **Leave**, *Sabbatical year (Fall 2017 – Spring 2018) and Paternity semester (Fall 2018).*

2017 (37.3) Stat 599. Master's Thesis, Fall 2017.
1 students (1 credit total)

2017 (37.2) Stat 599. Master's Thesis, Spring 2017.
1 student (3 credits total)

2017 †(37.1) Coordinating 6 sections of Stat 145. Introduction to Statistics. Instructor, Spr 2017.
4 Redesigned "hybrid/flipped" classes and 2 Traditional Lecture classes: 5 TAs and 4 PLFs.
TAs: Billy Brown, Lindsey Pittington, Kellin Rumsey, Igor Litvinovich, Xin Gao
PLFs: Marissa Berlanga, Catlin Herrera, Sarah Scott, Jeanette Varela

2017 (37) Stat 145. Introduction to Statistics. Instructor, Spr 2017.
Redesigned "flipped" class, 1 TA.
PLF: Marissa Berlanga
51 students, EvalKit: Effective 4.15

2017 (36) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2017.
Redesigned "flipped" class, 1 TA.
TA: Yiming Yang, Geoffrey Dylan Schultz, Lindsey Pittington, with 2 Peer Mentors from Stat 495/595
Peer Mentors: Alicia Dominguez, Grace Mayer
64=37+27 students, EvalKit: Effective 4.6

2017 †(36.1) Stat 495/595. Statistics Education Practicum (SEP). Instructor, Spr 2017.
A peer mentor experience for students developing teaching skills.
Peer Mentors: Alicia Dominguez, Grace Mayer
2 students, EvalKit: Effective 5

2016 (35.1) Stat 599. Master's Thesis, Fall 2016.
1 student (3 credits total)

2016 (35) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2016.
Revised "flipped" class, 2 TAs.
TAs: Lindsey Pittington, Ernest Atta-Asiamah
88=47+41 students, EvalKit: Effective 4.07

As Assistant Professor: University of New Mexico, Fall 2011 – Spring 2016

Note: Semester Year (number of courses I've taught), $500+$ *are graduate courses.*

2016 †(34.2) Stat 595. Individual Study, Summer 2016.
1 student

2016 †(34.1) Stat 495/595. Statistics Education Practicum (SEP). Instructor, Fall 2016.
A peer mentor experience for students developing teaching skills.
Peer Mentors: Alicia Dominguez, Andrew Nathan Hollis, Ayed Alanzi, Igor Litvinovich
4 students, EvalKit: Effective 5.00

2016 (34) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2016.
Redesigned "flipped" class, 1 TA.
TA: Chauntal Andrews, with 4 Peer Mentors from Stat 495/595
47=28+19 students, EvalKit: Effective 4.68

2015 (33) Stat 590. Statistical Computing. Instructor, Fall 2015.
Wrote lecture notes, maintained course website, held office hours, set and graded homework, 1 TA.
TA: none
10 students, EvalKit: Effective 4.33

2016 †(32.1) Stat 495/595. Statistics Education Practicum (SEP). Instructor, Fall 2015.
A peer mentor experience for students developing teaching skills.
Peer Mentors: Carrie Booth, Armida Carbajal, Andisheh Dadashi, Angela Gregory, Jerry Hatch, John Pesko, Ana Oaxaca, Juan Pablo Madrigal Cianci, Erin Ochoa
9 students, EvalKit: Effective 5.00

2015 (32) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2015.
Redesigned "flipped" class, 2 TAs.
TAs: Chauntal Andrews and Huan Yu, with 9 Peer Mentors from Stat 495/595
80=48+32 students, EvalKit: Effective 4.23; 3.70

2015 †(31.1) Stat 599. Master's Thesis. Advisor, Spring 2015.
Student: Yuridia L. Leyva (3 credits)

2015 (31) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2015.
Revised lecture notes, updated R programming, maintained course website, set homework, held office hours, 1 TA.
TA: Andisheh Dadashi, Xichen Li
62=30+32 students, EvalKit: Effective 4.0; 4.0

2014 †(30.1) Stat 599. Master's Thesis. Advisor, Fall 2014.
Student: Yuridia L. Leyva (3 credits)

2014 (30) Stat 579. Response Surface Methodology. Instructor, Fall 2014.
Revised lecture notes, adopted R programming, maintained course website, held office hours, set and graded homework.
9 students, IDEA: raw 4.6 / adj 4.5

2014 (29) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2014.
Revised lecture notes, updated R programming, outcomes-based learning, and clicker questions, maintained course website, set homework, held office hours, 2 TAs.
TAs: Zhanna Galochkina and Miao (Maggie) Yu
110=56+54 students, IDEA: raw 4.5 / adj 4.3; raw 4.4 / adj 4.1

2014 †(24.2) Biol 503. Seminar in Interdisciplinary Biological and Biomedical Sciences (SIBBS). Invited seminar, Fall 2014.
Prepared and gave lecture "An extended Bayesian stable isotope mixing model for simultaneous diet and trophic level inference".
15 students

2014 †(29.1) BIOM 410: Research in Medical Science. Silas Bussmann. Guest lecturer, Fall 2014.
Prepared and gave two lectures "Statistics and survey design".
20 students

2014 (28) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2014.
Revised lecture notes, updated R programming, maintained course website, set homework, held office hours, 1 TA.
TA: Ilona Klosterman
55=29+26 students, IDEA: 428 raw 4.5 / adj 4.2 ; 528 raw 4.5 / adj 4.3

2013 †(27.2) Biol 524. Collaborative Interdisciplinary Teaching, Fall 2013.
Advised three student instructors for their development and instruction of Biol 409/509, Stat 479.
3 students

2013 †(27.1) Biol 409/509, Stat 479. Probability for Scientists. Instructor of record (R code), Fall 2013.
Advised three student instructors.
TAs: Christian Gunning (Bio), Ara Kooser (Bio), and Drew Levin (CS)
17 students

2013 (27) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2013.
Revised lecture notes, updated R programming, outcomes-based learning, and clicker questions, maintained course website, set homework, held office hours, 2 TAs.
TAs: Mohammad Arbabshirani and Zaidoon Najah Al-Jarry
75=40+35 students, IDEA: 427 raw 4.5 / adj 4.2 ; 527 raw 4.9 / adj 4.7

2013 (26) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2013.
Wrote lecture notes, adopted R programming, maintained course website, set homework, held office hours, 1 TA.
TA: Maozhen Gong
56=20+36 students, IDEA: 428 raw 4.8 / adj 4.5; 528 raw 4.3 / adj 4.1

2013 (25) Stat 590. Statistical Computing. Instructor, Spr 2013.
Wrote lecture notes, maintained course website, held office hours, set and graded homework, 1 TA.
TA: Christian Gunning
21 students, IDEA: raw 4.5 / adj 4.3

2012 †(24.2) Stat 495. Individual Study, Fall 2012.
1 student

2012 †(24.1) Biol 520. Topics in Interdisciplinary Biological and Biomedical Sciences (TIBBS). Melanie Moses. Guest lecturer, Fall 2012.
Prepared and gave lecture "Models for fMRI analysis: GLM, seed-based correlation, independent component analysis".
15 students

2012 (24) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2012.
Wrote lecture notes, adopted R programming, outcomes-based learning, and clicker questions, maintained course website, set homework, held office hours, 2 TAs.
TAs: Claire Longo and Mohammad Arbabshirani
97=46+51 students, IDEA: 427 raw 4.3 / adj 4.0; 527 raw 4.3 / adj 4.0

2012 (23) Stat 428/528. Advanced Data Analysis II. Instructor, Spr 2012.
Wrote lecture notes, maintained course website, set homework, held office hours, 1 TA.
TA: Huan Jiang
57=29+28 students, IDEA: 428 raw 4.2 / adj 3.9; 528 raw 4.1 / adj 3.9

2012 †(23.1) Psy 650. Clinical Cognitive Neuroscience. Kent Kiehl. Guest lecturer, Spr 2012.
Prepared and gave lecture "Alternative models for fMRI analysis: seed-based correlation, independent component analysis".
6 students

2011 (22) Stat 579. Response Surface Methodology. Instructor, Fall 2011.
Wrote lecture notes, maintained course website, held office hours, set and graded homework.
8 students, IDEA: raw 5.0 / adj 4.8

2011 (21) Stat 427/527. Advanced Data Analysis I. Instructor, Fall 2011.
Wrote lecture notes, maintained course website, set homework, held office hours, 1 TA.
TA: Xueqin (Shelley) Wang
63=33+30 students, IDEA: 427 raw 4.7 / adj 4.4; 527 raw 3.8 / adj 3.5

As Postdoc: University of New Mexico, Fall 2010

Note: $500+$ *are graduate courses.*

2010 (20) Stat 520. Topics in Interdisciplinary Biology and Biomedical Sciences (TIBBS). Instructor, Fall 2010.
Co-organized and taught unit: "Imaging as a means for understanding the brain."
Gave two lectures, wrote assignments, graded homework.
20 students

As TA: University of New Mexico, Fall 2004 – Spr 2008

As a graduate teaching assistant at UNM, I was responsible for teaching a course each semester. I have also served unofficially on a number of thesis committees in departments other than statistics (Section).

Note: Semester Year (number of courses I've taught), $500+$ *are graduate courses.*

2008 (19) Stat 553. Statistical Inference. Graduate Assistant, Spr 2008.
Gave a selection of lectures.
20 students

2008 (18) Stat 590. Statistical Computing. Graduate Assistant, Spr 2008.
Gave a selection of lectures.
10 students

2006 (17) Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor, Sum 2006.
Designed my own course materials. Wrote lecture notes, assigned homework, designed handouts, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.
24 students

2006 (16) BMS 516. Molecular Genetics and Genomics. Teaching Assistant, Spr 2006.
Maintained course website, pretested computer labs.
8 students

2006 (15) Stat 539. Biostatistical Methods II for Public Health & Medical Science. Teaching Assistant, Spr 2006.
Designed my own course materials. Wrote lab notes for teaching computer package Stata in the context of the statistical theory, maintained course website, held office hours.
9 students

2005 (14) Stat 538. Biostatistical Methods I for Public Health & Medical Science. Teaching Assistant, Fall 2005.
Designed my own course materials. Wrote lab notes for teaching computer package Minitab in the context of the statistical theory, maintained course website, held office hours.
21 students card
My labs also used by Woncheol Jang at the Department of Epidemiology and Biostatistics, College of Public Health, University of Georgia. (Spr 2008)

2005 (13) Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor, Sum 2005.
Designed my own course materials. Wrote lecture notes, assigned homework, designed handouts, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.
29 students

2005 (12) Stat 145. Introduction to Statistics. Instructor, Spr 2005.
Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.
48 students

2004 (11) Stat 145. Introduction to Statistics. Instructor, Fall 2004.
Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.
53 students

As TA: Worcester Polytechnic Institute, Fall 2002 – Spr 2004

As a graduate teaching assistant at WPI, I conducted computer labs for MA2611 and MA2612 Applied Statistics I and II, and conferences for MA 2621 Probability for Applications. For each, I held office hours and was responsible for grading the labs, homeworks, and quizzes.

Note: all undergraduate, 4 term system (Spr A B, Fall C D).

2004 (10) MA 2621. Probability for Applications. Teaching Assistant, Fall 2004 A.
61 students

2004 (9) MA 2621. Probability for Applications. Teaching Assistant, Spr 2004 C.
61 students

2003 (8) MA 2612. Applied Statistics II. Teaching Assistant, Spr 2003 B.
45 students

2003 (7) MA 2611. Applied Statistics I. Teaching Assistant, Spr 2003 A.
$\doteq$120 students

2003 (6) MA 2612. Applied Statistics II. Teaching Assistant, Fall 2003 D.
46 students

2003 (5) MA 2611. Applied Statistics I. Teaching Assistant, Fall 2003 C.
$\doteq$120 students

2002 (4) MA 2611. Applied Statistics I. Teaching Assistant, Spr 2002 B.
$\doteq$120 students

2002 (3) MA 2611. Applied Statistics I. Teaching Assistant, Spr 2002 A.
$\doteq$120 students

2002 (2) MA 2611. Applied Statistics I. Teaching Assistant, Fall 2002 D.
$\doteq$120 students

2002 (1) MA 2611. Applied Statistics I. Teaching Assistant, Fall 2002 C.
≐120 students

As Tutor: Franklin Pierce College

As an undergraduate at FPC, I worked as a tutor in many subjects. I helped students prepare homeworks, prepare for quizzes, tests, and exams, and understand the material closer to their own experience and learning styles. The subjects included Calculus, Statistics, Algebra, Chaos Theory, Physics, and programming languages `BASIC` and `C`.

Note: all undergraduate.

1993 – 1997 Fall 1993 – Spr 1997

- Lectured on fractals, chaos, paradoxes, and other mathematical subjects at college colloquia and local middle school.
- Mathematics Tutor:
  - Calculus, Statistics, Algebra, Chaos, and Physics.
- Computer Science Tutor:
  - `BASIC` and `C`.
- First Franklin Pierce Web Master during the time I was Novell Network Supervisor assistant.
- Worked at the College Library all four years, one year in each department: Front desk, Serials, Technical Services, and Reference.

Curriculum Development

2019 – 2020 UNM Math 1330. Statistical Literacy. New course with Milo Schield, PhD.

2019 UNM CSE Data Science: With Profs. Jacob Schroder, Patrick Bridges, Deborah Sulsky, and Monika Nitsche, discussed adding a data science specialization to the Computational Science and Engineering (CSE) certificate at UNM.

2016 – 2017 UNM Teaching Fellow, Active-learning redesign of Stat 145.

2015 UNM Stat 495/595: Statistics Education Practicum (SEP).

2011 UNM Stat 579: Response Surface Methodology (RSM).

Teaching Administrative Positions

2017 UNM STEM Gateway and STEM UP Advancement Summit: Building upon lessons learned to improve STEM education, Apr 11, 2017.

2015 – 2016 UNM STEM Gateway Redesign Council. Department representative. Aug 2015 – Jul 2016

Funding for Teaching

Funded

2019 $11,016, UNM Office of Academic Affairs, Proposal for two years of pedagogy training (2019-2021) for TAs for Gen Ed Stats.

2019 $3000, UNM Academic Affairs General Education (AAGE) Faculty Fellow for Undergraduate Research, Introduction to Statistics.

2018 $3000, UNM Academic Affairs Core Curriculum Faculty Fellow, Innovation and Undergraduate research in Introduction to Statistics.

2017 $1340, UNM Teaching Allocation Grant, Active-learning redesign of Stat 145 Peer Learning Facilitator.

2017 $2000, UNM Teaching Fellow, Active-learning redesign of Introduction to Statistics.

2016 $200, UNM Teaching Fellow, Active-learning redesign of Introduction to Statistics.

2015 $500, Innovation grant for Stat 427/527 and 428/528 redesign, innovationAcademy, UNM.

Teaching, miscellaneous

Teacher Mentorship

2023 ADA2 Peer Mentors, Spring 2023
Alexis P Amodio-Cardwell, ADA course alumna

2022 ADA1 Peer Mentors, Fall 2022
Arwyn Lewis, ADA course alumna
Alexis P Amodio-Cardwell, ADA course alumna

2022 ADA2 Peer Mentors, Spring 2022
Valerie Fong, ADA course alumna
Ola Anifowoshe, former ADA course TA

2021 ADA1 Peer Mentors, Fall 2021
Valerie Fong, ADA course alumna

2021 ADA2 Peer Mentors, Spring 2021
Pratap Khattri, ADA course alumnus

2020 ADA1 Peer Mentors, Fall 2020
John Romero, ADA course alumnus
Pratap Khattri, ADA course alumnus
Coby Segay, ADA course alumnus
Jacob Matthew Moy1, ADA course alumnus

2020 ADA2 Peer Mentors, Spring 2020
Kelli Kasper, ADA course alumna
Grace Mayer, ADA course alumna

2019 ADA1 Peer Mentors, Fall 2019
Grace Mayer, ADA course alumna

2017 Intro Stat Active-learning TAs, Spring 2017
Billy Brown
Lindsey Pittington
Kellin Rumsey

2017 Intro Stat Undergraduate Peer Learning Facilitators, Spring 2017
Marissa Berlanga
Catlin Herrera
Sarah Scott
Jeanette Varela

2017 ADA2 Peer Mentors, Spring 2017
Alicia Dominguez, ADA course alumna
Grace Mayer, ADA course alumna

2016 ADA1 Peer Mentors, Fall 2016
Alicia Dominguez, former student
Andrew Nathan Hollis, former student
Ayed Alanzi, stat graduate student

2016 ADA2 Peer Mentors, Spring 2016
Carrie Booth, Education grad student, ADA course alumna
John Pesko, Stat PhD candidate
Igor Litvinovich, Stat graduate student
Adam Barkalow, ADA course alumnus

2015 ADA1 Peer Mentors, Fall 2015
Carrie Booth, Education grad student, ADA course alumna
Armida Carbajal, Stat grad student
Andisheh Dadashi, Stat grad student
Jerry Hatch, ADA course alumnus, Stat MS student
John Pesko, Stat PhD student
Ana Oaxaca, ADA course alumna
Juan Pablo Madrigal Cianci, Applied Math grad student, ADA course alumnus
Angela Gregory, ADA course alumna, MS
Erin Ochoa, ADA course alumna

Training

2016 Mentee to Beth Chance, ASA Section on Statistical Education Mentoring Program

2016 eCOTS Electronic Conference On Teaching Statistics, May 16–20, 2016; panel discussant.

2016 Wesleyan University, Passion Driven Statistics, Jan 13-16, 2016.

2015 UNM CTE GetSet and Reset, Workshop series, Aug 2015.

2015 USCOTS United States Conference On Teaching Statistics, State College, PA, May 26–30, 2015.

2015 UNM CTE Center for Teaching Excellence, Effective Communication and Decision Making in a "Diverse" Environment, Apr 2015.

2015 UNM CTE Center for Teaching Excellence, A Hands-On Introduction to Screencasting, Feb 2015.

2015 UNM CTE Center for Teaching Excellence, Course Design Institute, Jan 2015.

2012 UNM OSET Designing Courses for Effective Student Learning, Faculty and Instructors Institute, May 2012.

2007 UNM Success in the Classroom: Sharing Practices That Work, CASTL, Feb 2007.

2006 UNM Success in the Classroom: Sharing Practices That Work, CASTL, Feb 2006.

2004 UNM Teaching Assistant Resource Center (TARC) certificate of completion for Interest and Concern for Teaching Excellence, Fall 2004. cert

2004 WPI Graduate Student TA Training Seminar Certificate, Spr 2004.

2002 WPI Seminar in College Teaching, Sum 2002.

Teaching Dossier: The goal of this portfolio is to be reflective about teaching, for the recording of teaching accomplishments, as the foundation for further reflection, and for recording teaching experience. At statacumen.com/pub/ErikBarryErhardt_Teaching-Dossier.pdf.

Recommendation Letters

Year (how many)

All Total (147),
2022 (3), 2021 (8),
2020 (10), 2019 (13), 2018 (11), 2017 (23), 2016 (20),
2015 (12), 2014 (13), 2013 (11), 2012 (6), 2011 (2),
2010 (2), 2009 (1), 2008 (1), 2007 (2), 2006 (7),
2005 (2)

Graduate academic advising

2022 Oct 2022, (7) Devin Deleon-Dowd, Samuel Ewusi Dadzie, Cheryl Fry, Corbin Gustafson, Fred Kaul, Kevin Kloeppel, Carlos Torres Inga

2021 Aug 2021, (7) Olaitan Anifowoshe, Samuel Ewusi Dadzie, Timothy Farkas, Fred Kaul, Tabytha Perez, Abdel Aziz Ousmane Soumahoro, Tanushri Srinath

2020 Aug 2020, (1) Jonathan Emery

2019 Aug 2019, (8) Olaitan Anifowoshe, Tanushri Srinath, Timothy Farkas, Corbin Gustafson, Daniel Jimenez Jaurrieta, Elizabeth Mayer, Tabytha Perez, Abdel Aziz Ousmane Soumahoro

2018 Aug 2018, On Leave

2017 Aug 2017, (6) Kellin Rumsey, Linh Ward, Mason Parsons, Ernest Atta-Asiamah, Yvann Djamen Tchana, Lindsey Pittington

2016 Aug 2016, (7) Jason Owen Archer, Ernest Atta-Asiamah, Yvann Paulin Djamen Tchana, Mason Parsons, Lindsey Rayne Pittington, Kellin Rumsey, Linh Thuy Ward

2016 Jan 2016, (1) Doherty Patrick

Undergraduate academic advising

2022 Oct 2022, (5) Spencer McBee, Vineet Narayanan, Gabrielle Garcia, Tristen Orndorff, Taylor Squillaci

2022 Sep 2022, (6) Valerie Fong, Eric Howe, Spencer McBee, Vineet Narayanan, Gabrielle Garcia, Tristen Orndorff

2021 Sep 2021, (4) Valerie Fong, Eric Howe, Spencer McBee, Vineet Narayanan

2020 Oct 2020, (4) Oluoma Edeh, Eric Howe, Spencer McBee, Vineet Narayanan

2019 Oct 2019, (3) Andrew Baxter, Lotty Del Barga, Eric Howe

2018 Oct 2018, On Leave

2017 Oct 2017, (2) Andrew Hollis, Haleigh Wall, Mariana Bustillos

2016 Oct 2016, (4) Andrew Hollis, Haleigh Wall, Anand Macherla, Shiro Ishizu

2015 Nov 2015, (2) Andrew Hollis, Haleigh Wall

2014 Apr 2014, (1) Michelle Haack, Steven Ulibarri

2013 Nov 2013, (5) Cody Knackstedt, Marissa Knox, Dustin Martin, Louisa Otero, Gerald Smith

2013 Apr 2013, (5) Cody Knackstedt, Marissa Knox, Dustin Martin, Louisa Otero, Gerald Smith

2012 Nov 2012, (5) Sonja Griffin, Marissa Knox, Jacob Rendon, Gerald Smith, Megan Townsley

2012 Apr 2012, (5) Sonja Griffin, Marissa Knox, Jacob Rendon, Gerald Smith, Megan Townsley

Service

Conference Organizing

2022 National Numeracy Network (NNN) Conference at UNM, Oct 21–23, 2022
National conference
Funding: $275 from UNM Department of Mathematics and Statistics

2019 ASA DataFest at UNM, April 19–21, 2019
Local conference

2017 ASA DataFest at UNM, April 21–23, 2017
Local conference
Funding: $200 from Google

Editorships

The American Statistician

2021 – 2023 Associate Editor, The American Statistician, Jan 2021 – Dec 2023.

2022 Handled 1 manuscripts.

2021 Handled 2 manuscripts.

2018 – 2020 Associate Editor, The American Statistician, Jan 2018 – Dec 2020.

2020 Handled 2 manuscripts.

2019 Handled 2 manuscripts.

2018 Handled 4 manuscripts.

Journal of Statistics and Data Science Education

2022 – 2024 Associate Editor, Journal of Statistics and Data Science Education, Jan 2022 – Dec 2024.

2022 Handled 2 manuscripts.

2019 – 2021 Associate Editor, Journal of Statistics and Data Science Education, Jan 2019 – Dec 2021.

2021 Handled 1 manuscripts.

2020 Handled 3 manuscripts.

2019 Handled 3 manuscripts.

Refereeing for journals and other publications

2018 (14) Neurocomputing (Brain imaging).

2018 (13) Technometrics (Statistics).

2017 (12) NeuroImage (Brain imaging).

2016 (11) NeuroImage (Brain imaging).

2015 (10) Methods in Ecology and Evolution (Ecology).

2014 (9) Marine Ecology Progress Series (Ecology).

2014 (8) NeuroImage (Brain imaging).

2013 (7) Frontiers in Evolutionary Psychology and Neuroscience (Psychology).

2013 (6) Journal of Environmental Quality (Ecology).

2010 (5) Human Brain Mapping (Brain imaging).

2010 (4) Human Brain Mapping (Brain imaging).

2009 (3) Oecologia (Ecology).

2009 (2) MAGMA (Brain imaging)

2008 (1) Book: "Isoscapes: Understanding movement, pattern, and process on Earth through isotope mapping".

Reviews (of books, stat reviews, etc.)

Reviews for national funding organizations

2021 (3) NSF III-MEDIUM-BIO+HEALTH-IX Panel P211526, Mar 08–09, 2021

2019 (2) NSF Math Biology 2020 CAREER Panel P200071, Oct 17–18, 2019

2017 (1) NSF DMS/NIGMS Panel B, Dec 6–8, 2017

Reviews for tenure and promotion at other schools

2021 1 case reviewed.

Administrative work with professional societies, elected offices held

International Biometric Society (IBS), Western North American Region (WNAR)

2013 – 2015 WNAR Regional Advisory Board, Jan 2013 – Dec 2015, Chair 2015 (RAB, Article VIII).
Nov 2016 Nominated for WNAR President.
Oct 2015 Nominated for WNAR President.
Jun 2015 Organized New Investigator's Luncheon.
Jun 2014 Webmaster.
Jun 2013 Judge for student paper competition.

American Statistical Association (ASA), National and Abq Chapter (ACASA)

2014 – 2015 President. Albuquerque Chapter of the American Statistical Association (ACASA), Albuquerque, NM, Sep 2014 – Apr 2015.

2013 – 2014 Vice President. Albuquerque Chapter of the American Statistical Association (ACASA), Albuquerque, NM, Sep 2013 – Sep 2014.

2007 – 2008 President. Albuquerque Chapter of the American Statistical Association (ACASA), Albuquerque, NM, Sep 2007 – Sep 2008.

2006 – Chair and founder of ACASA Mu Sigma Rho subcommittee, Jan 2006 – .
Recruit students, give awards. The national honorary society for statistics. *As a founding member of the Albuquerque Chapter of the American Statistical Association Mu Sigma Rho Committee, the national honorary society for statistics, I held monthly meetings of the members to encourage the cross-pollination of ideas and experience in the practice of statistics.*

2005 – 2007 Council of Chapter Representative. Albuquerque Chapter of the American Statistical Association, Albuquerque, NM, Sep 2005 – Sep 2007.

2005 – 2008 Webmaster. Albuquerque Chapter of the American Statistical Association (ACASA), Albuquerque, NM, Sep 2005 – Sep 2008.

Consortium for the Advancement of Undergraduate Statistics Education (CAUSE)

2017 – 2021 UNM Math & Stat founding member and Representative. CAUSE Institutional Member, Jan 2017 – Dec 2021.

Administrative work on Department, College, University committees

Mentor for Asst. Profs., Postdoc Fellows, and recently promoted Assoc. Profs.

2023 – 2024 Jul 2023 – Jun 2024, Fletcher Chrstensen.

2022 – 2023 Jul 2022 – Jun 2023, Fletcher Chrstensen.

2021 – 2022 Jul 2021 – Jun 2022, Fletcher Chrstensen.

2020 – 2024 Jul 2020 – Jun 2021, Fletcher Chrstensen.

Executive Committee

2021 – 2022 Jul 2021 – Jun 2022

2015 – 2016 Jul 2015 – Jun 2016

Retention, Promotion and Tenure Committee

2023 – 2024 Jul 2023 – Jun 2024, Co-Chair.

Statistics Committee

2012 – Write and evaluate Statistics Qualifying Exam takehome portion, make recommendations Aug 2023, Jan 2023, Aug 2022, Jan 2022, Aug 2021, Jan 2021, Aug 2020, Jan 2020, Aug 2019, Jan 2019,
Jan 2016, Aug 2016, Jan 2015, Aug 2014, Jan 2014, Aug 2013, Jan 2013, Aug 2012.

2016 Minor revisions to the Statistics Graduate Handbook, Aug 2016.

2014 Revise Statistics Graduate Handbook, Feb 2014.

Graduate Committee

2012 – 2013 Aug 2012 – Jul 2013

2013 Recommendations for "Excellence Fellowship" Teaching or Graduate Assistantships, Apr 2013.

2013 Recommend for outstanding TA award, Jan 2013.

2013 Review and provide recommendations for MS and PhD pass for exams, Jan 2013.

2013 Review and provide nominations for Popejoy prize (academic excellence), Jan 2013.

2012 Review and provide recommendations for MS and PhD pass for exams, Aug 2012.

2011 – 2012 Aug 2011 – Jul 2012

2012 Recommendations for "Excellence Fellowship" Teaching or Graduate Assistantships, Apr 2012.

2012 Recommend for outstanding TA award, Jan 2012.

2012 Review and provide recommendations for MS and PhD pass for exams, Jan 2012.

2012 Review and provide nominations for Popejoy prize (academic excellence), Jan 2012.

2011 Review graduate applications, provide ranking for offering TAs, Dec 2011.

Undergraduate Committee

2016 – 2017 Jul 2016 – Jun 2017, developed automated online procedure for course evaluation

2015 – 2016 Jan 2015 – Jun 2016

2015 Honors Thesis review and presentations, Apr 2015.

2015 Crosslisted courses report, Jan 2015.

Scheduling Committee

2023 – 2024 Jul 2023 – Jun 2024.

2020 – 2021 Jul 2020 – Jun 2021.

Website Committee

2023 – 2024 Jul 2023 – Jun 2024, Chair.

2022 – 2023 Jul 2022 – Jun 2023, Chair.

2021 – 2022 Jul 2021 – Jun 2022, Chair.

2020 – 2021 Jul 2020 – Jun 2021, Chair.

2019 – 2020 Jul 2019 – Jun 2020, Chair.

Computer Use Committee

2016 – 2017 UNM IT Consolidation, Aug 2016 – Jul 2017.

2015 – 2016 Aug 2015 – Jul 2016.

2014 – 2015 Aug 2014 – Jul 2015.

Hiring Committee

2018 – 2019 Statistics lecturer job search, chair: wrote advertisement, reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Nov 2018 – Jun 2019.

2016 – 2017 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2016 – Jan 2017.

2015 – 2016 Part-time instructor job search

2013 – 2014 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2013 – Jul 2014.

2012 – 2013 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2012 – Jul 2013.

2011 – 2012 Statistics job search: reviewed candidate materials, hosted candidates, provided recommendations, Aug 2011 – Jul 2012.

Statistical Consulting Clinic

2011 – 2014 Director. Developed online request and feedback forms, project tracking spreadsheet (to track free funded research support), schedule calendar, advertising materials, and website details of consulting services provided. Aug 2011 – Dec 2014.

2011 Helped Russell V. Lenth donate $500 to the UNM Statistics program (into clinic fund) by working with Jeffrey MacNutt in the UNM development office, Dec 2011.

2011 Negotiated 1 line of TA funding starting Spring 2012 (John Pesko) from the Robert Wood Johnson Foundation (RWJF) Center for Health Policy, UNM, Dec 2011. Funding is expected to continue.

2011 Talk: "Statistical consulting and collaboration, how to get started". University of New Mexico, Statistics Seminar, Nov 18, 2011.

Institutional Review Board (IRB) Committee

2013 – 2016 Aug 2013 – Jul 2016.

Teaching

2015 – 2016 UNM STEM Gateway Redesign Council. Department representative. Aug 2015 – Jul 2016.

Course Coordination

2023 – 2023 UNM Statistical Literacy (MATH 1300), Coordinator. Jan 2023 – May 2023.

Colloquium Committee

2019 – 2019 Jan 2019 – Jun 2019

Organizing Seminars

2016 – 2017 QuantBrains, UNM/MRN Research Seminar Series.
14 biweekly seminars, Fall 2016 – Spring 2017

2014 Christine Anderson-Cook, LANL, Sep 19, 2014

2013 Harry Khamis, Wright State University, OH, Apr 30 – May 1, 2013

2012 Lenth Series: Yushi Liu, May 4, 2012

2012 Lenth Series: Li Luo, Apr 27, 2012

2012 Michael Sonksen, Apr 26, 2012

2012 Lenth Series: Bert Davis, Apr 20, 2012

2012 Lenth Series: Huining Kang, Apr 13, 2012

Chairing Seminar Sessions

2017 Contrib 3: Bayesian Methods; Contrib 6: Ecological Statistics. Western North American Region of The International Biometric Society, Santa Fe, NM, USA, Jun 25 – 28, 2017.

Organizing Student talks

2012 Yong Lin, Apr 27, 2012

2012 Glenn Stark, Apr 20, 2012

2011 W. Duncan Wadsworth, Dec 2, 2011

UNM Committees

2022 – 2024 UNM Executive Council for Public Health, Mar 2022 – Mar 2024. *To create a world-class vision for a 21st Century School of Public Health at UNM by building on the core of the COPH faculty and bridging across the campus to provide a blueprint for UNM leadership to enhance our education, research, public service, and community impact missions.*

2021 – 2022 UNM College of Population Health (COPH) Executive council, Dec 2021 – Dec 2022.

2019 – 2020 UNM Research Allocations Committee (RAC), Jan 2019 – Dec 2020.

UNM Miscellaneous Service

2009 – UNM Police Clery Act Compliance Officer.

2016 Chi Omega Apple Polishers formal academic recognition ceremony, Oct 10, 2016.

2016 Focus group, APS and Mission Graduate, Sep 9, 2016.

2015 – 2016 Faculty sponsor, FolkMADS-UNM student chapter, Fall 2015 – Summer 2016.

2015 – Campus Security Authority for UNM Police Department.

2013 UNM Math & Stat Hiring plan plots of courses taught by whom within department.

2013 UNM Biology dept, created visualizations for David Hanson of their 2013 graduate admission scores, Feb 2013.

2012 – Faculty sponsor, UNM Juggling club, Fall 2012 – .

2008 Judge, UNM Undergraduate Research and Creativity Symposium. Explore. (cert, Apr 2008)

2008 Judge, UNM Undergraduate Research Symposium. 5th Annual, PROFOUND, Apr 2008.

2007 Judge, UNM Outstanding Teaching Assistant Award by CASTL, Apr 2007.

2007 Judge, UNM Undergraduate Research and Creativity Symposium. Explore. (cert, Apr 2007)

2007 Judge, UNM Undergraduate Research Symposium. 4th Annual, PROFOUND, Apr 2007.

2006 Judge, UNM Undergraduate Research Symposium. 3rd Annual, PROFOUND, Apr 2006.

2005 Judge, UNM Undergraduate Research Symposium. 2nd Annual, PROFOUND, Apr 2005.

2005 Judge, UNM Undergraduate Research and Creativity Symposium. Explore, Nov 2005.

Community service, etc.

2013 KOB-TV4 (Albuquerque, NM) NM Law Enforcement Academy Police cadet test scores under investigation statistics expert, Jan 2013.

2008 ACASA "Best Use of Statistics" 56th Annual NM Science & Engineering Fair, Apr 2008.

2007 Special Awards Judge for ASA "Special Award from the American Statistical Association" 58th Annual Intel International Science and Engineering Fair, Albuquerque, NM. (cert) Presented awards, May 2007.

2007 ACASA "Best Use of Statistics" 55th Annual NM Science & Engineering Fair, Apr 2007.

2006 ACASA "Best Use of Statistics" 54th Annual NM Science & Engineering Fair, Apr 2006.

2006 Judge for Jefferson Middle School Science Fair, Albuquerque, NM, Jan 2006.

2005 Special Judge for Albuquerque Chapter of the American Statistical Association awarding "Best Use of Statistics" in High School Senior class. 53rd Annual New Mexico Science & Engineering Fair, New Mexico Tech, Socorro, NM, Apr 2005.

Service, miscellaneous

Miscellaneous

Meetings

2020 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Apr 17, 2020.

2019 National Numeracy Network (NNN) 2019 Annual Meeting, Austin, TX. Talk . Oct 11–13, 2019.

2019 USCOTS United States Conference On Teaching Statistics, State College, PA. Short course instructor. May 15–19, 2019.

2019 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Apr 12, 2019.

2018 Joint Statistical Meeting, Vancouver, BC, Canada. Invited paper, , Jul 2018.

2018 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Apr 13, 2018.

2017 Western North American Region of The International Biometric Society, Santa Fe, NM, USA, invited paper , Jun 25 – 28, 2017.

2017 USCOTS United States Conference On Teaching Statistics, State College, PA, May 18–21, 2017.

2017 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Apr 28, 2017.

2016 European Research Consortium for Informatics and Mathematics (ERCIM) Working Group (WG) on Computational and Methodological Statistics (ERCIM 2016, 9th International Conference), University of Seville, Spain, **invited** paper Dec 9–11, 2016.

2016 ASA Statistics and Biostatistics Chairs Workshop, Jul 11–13, 2016.

2016 Mountain West Clinical Translational Research - Infrastructure Network (CTR-IN, 3rd Annual), UNLV, Las Vegas, NV, **invited** plenary speaker , Jun 6–8, 2016.

2016 Statistical Methods in Imaging (2nd Annual) ASA, UC Denver, Aurora, CO, **invited** speaker , Jun 1–3, 2016.

2016 eCOTS Electronic Conference On Teaching Statistics, webinar series, panel discussant, May 16–20, 2016

2015 Western North American Region of The International Biometric Society, Boise State University, Boise, ID, contributed paper , Jun 14 – 16, 2015.

2015 USCOTS United States Conference On Teaching Statistics, State College, PA, May 26–30, 2015.

2015 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting, President. Santa Fe, NM, Apr 17, 2015.

2014 European Research Consortium for Informatics and Mathematics (ERCIM) Working Group (WG) on Computational and Methodological Statistics (ERCIM 2014, 7th International Conference), University of Pisa, Italy, **invited** paper Dec 6–8, 2014.

2014 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting, Vice President. Santa Fe, NM, Oct 14, 2014.

2014 Western North American Region of The International Biometric Society, University of Hawai'i, Manoa, Oahu, HI, contributed paper, Jun 15–18, 2014.

2013 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Sep 20, 2013.

2013 Western North American Region of The International Biometric Society, Los Angeles, CA, contributed paper , Jun 2013.

2012 Western North American Region of The International Biometric Society, Fort Collins, CO, contributed paper , Jun 2012.

2012 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Jun 15, 2012.

2011 Joint Statistical Meeting, Miami, FL. Contributed paper, , Aug 2011.

2011 Organization for Human Brain Mapping, Quebec City, Canada , Jun 2011.

2011 Gordon Research Conference: CO2 Assimilation in Plants: Genome to Biome. Les Diablerets, Switzerland. Contributed poster , May 29 – Jun 3, 2011.

2011 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, contributed talk , Apr 29, 2011.

2010 Organization for Human Brain Mapping, Barcelona, Spain , Jun 2010.

2010 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Apr 23, 2010.

2009 Joint Statistical Meeting, Washington, DC. Contributed paper, , Aug 2009.

2009 Western North American Region of The International Biometric Society, Portland, OR, Jun 2009.

2009 Eastern North American Region of The International Biometric Society, Spring Meetings, San Antonio, TX, Mar 2009.

2008 Albuquerque Software Process Improvement Network, Nov 20, 2008.

2008 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer, Nov 7, 2008.

2008 Joint Statistical Meeting, Denver, Colorado, Aug 2008.

2008 Stable Isotopes in Ecology, Lecture and Laboratory Short Course, University of Utah. Student. Lectured on "stable isotope sourcing methods" , Jun 9 – 20, 2008.

2008 UNM Sigma Xi, Annual meeting, Apr 19, 2008.

2007 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer, Oct 12, 2007.

2007 Albuquerque Software Process Improvement Network, Aug 15, 2007.

2007 Albuquerque Software Process Improvement Network, May 16, 2007.

2007 UNM Sigma Xi, Annual meeting, Apr 30, 2007.

2007 Albuquerque Software Process Improvement Network, Apr 18, 2007.

2007 Albuquerque Quality Network, Mar 22, 2007.

2007 American Society for Quality, Albuquerque Chapter, Mar 19, 2007.

2006 American Society for Quality, Albuquerque Chapter, Nov 20, 2006.

2006 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer, Sep 29, 2006.

2006 Joint Statistical Meeting, Seattle, Washington. Contributed paper, , Aug 2006.

2005 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Sep 16, 2005.

2004 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, Sep 23, 2004.

2004 The 18th New England Statistics Symposium. Harvard University, Cambridge, MA, Apr 24, 2004.

2003 Boston Area SAS Users Group Quarterly Meeting. Newton, MA, Dec 4, 2003.

1997 Spring Meeting of the Northeastern Section of the Mathematical Association of America. Merrimack College, North Andover, MA. Contributed paper, , Jun 6 – 7, 1997.

Professional Development

Training for student/employee mentorship and grant/project management.

2013 Grant Training Center, Professional Grant Development Workshop, Jul 2013. (cert)

2012 UNM LSE 122 Foundations of Project Management, Aug 2012.

2012 UNM Cayuse 424 training, Apr 2012.

2012 NSF Science–Becoming the Messenger Workshop. (cert, Apr 2012)

2012 UNM EOD 353 Grants Management Program: General Workshop, Mar 2012.

2012 UNM LSC 108 Getting Started as a New Leader, Feb 2012.

2012 UNM LSC 100 Essentials of Leadership, Feb 2012.

2012 UNM LSE 127 Discover Your DISC Behavioral Style, Jan 2012.

2012 UNM LSE 121 Leading Productive Teams, Jan 2012.

2011 UNM Grant proposals workshop, Aug 2011.

2009 MRN Management training, Oct 2009.

Statistics Training

2013 UMN SPH Bradley Carlin's Topics in Hierarchical Bayesian Data Analysis (1.5 CEUs), Jun 2013. (cert)

2009 "Spatial Data Analysis" ENAR short course, Mar 2009.

2008 "fMRI data analysis" short course, MRN, Aug 2008.

2005 "Bootstrap Methods and Permutation Tests" Tim Hesterberg, Insightful Corporation, at UNM organized by ACASA, Sep 2005.

2003 "SAS/JMP Software: Statistical Exploration, ANOVA and Regression, and Statistical Quality Control" at SAS Institute, SAS Institute/Rockville Training Center, Rockville, MD, Aug 2003. (1,2,3)

2003 "Longitudinal Data Analysis/Linear Mixed Models" at National Center for Health Statistics, Hyattsville, MD, Aug 2003.

Skills

Research Tools High quality open source tools and reproducible research methods allow quick and easy collaboration, making the easy things easy and the hard things possible.

- R + knitr + markdown/LaTeX is my primary programming language and document preparation framework, allowing rapid code development, statistical analysis, and visualization in a reproducible research framework for dynamic embedding of code and results in reports.

Programming R (github), Matlab (toolbox developer), SAS (including GRAPH, IML, INSIGHT, MACRO, QC, and STAT), C (including parallel), Stata, Minitab, SPSS, S-plus, JMP, LaTeX, Maple, Fortran 77, Pascal, COBOL, BASIC, unix shell scripting, VAX/VMS Command files, MS-DOS Batch files, and always willing to learn others. Programming practices include reproducibility (knitr), design, functionality, peer review (when possible), and maintainability.

Licences Valid motor vehicle operator and motorcycle licences with a good driving record.
Commercial pilot certification with instrument rating for high-performance single engine land planes (FAA part 91) and shareowner of Cessna 172 XP and Piper Lance airplanes.

Consulting

2006 – Erik B. Erhardt, LLC

Law

2021 – 2022 (40) Expert witness

2020 – 2020 (39) Expert witness

2018 – 2018 (38) Expert witness

2015 – 2015 (37) Expert witness

2013 – 2014 (36) Expert witness

2012 – 2013 (35) Expert witness

2012 (34) Survey brainstorming

2012 (33) Expert witness

2011 (32) Expert witness

Medicine

2022 – (31) Graphite Health, 2022 – .
Survey design and analyses.

2018 – 2020 (30) Rodin Scientific, 2018 – 2020.
Variety of statistical and scientific investigations.

2014 – 2018 (29) Medici Technologies, Oct 2014 – 2018.
Variety of statistical and scientific investigations.

2012 (28) Dr. Jean Remillard, MD, Chief Medical Officer, Lovelace Medical Center, Apr 2012.

2011 – 2012 (27) Santa Fe DBT and Albuquerque Collaborative Therapeutics, Jun 2011 – Aug 2012. Evidence-based assessment and manuscript preparation.

2010 – 2010 (26) VeraLight, Inc., Albuquerque, NM, Apr 2010 – Dec 2010. Demographic subgroup analysis of pre-clinical trial data, analysis plan for FDA clinical trial. 4/26/2011 received Health Canada license approval. 7/28/2011 received CE mark approval.
"As I went through the analysis plan and the justification documents, I was reminded how much you've helped us over the past several months: your contributions are evident in multiple places. Your work has been very valuable to us, and I'm grateful that you've continued to find time to work with us." — Edward Hull, PhD, 13 Jan 2011

2010 (25) Dayle Hosek, RN, MEd, Director of Quality Management, Lovelace Medical Center, Albuquerque, NM. Analysis of provider risk of complications, Jul 2010.

2010 (24) Jackie Reeve, Albuquerque, NM. Analysis of survey of nurse practitioner opinion on BRCA testing, Mar 2010.

2009 (23) Albuquerque Collaborative Therapeutics. Evidence-based assessment of the full Dialectical Behavior Therapy program, Mar 2009.

Others

2023 – 2023 (22) New Mexico Department of Health, Albuquerque, NM. Abuse, Neglect, and Exploitation predictive model, 2023.

2022 – 2022 (21) Graphite Health Inc., Albuquerque, NM. Statistical study design and analysis, 2022.

2020 – 2020 (20) Backcountry.com, LLC, Park City, UT. Statistical model assessment for GeoX advertising experiments, 2020.

2019 – 2019 (19) Edge Focus High Yield Fund, LP, Chicago, IL. Investment prediction model assessment and validation, 2019.

2017 – 2019 (18) Ameritest, Inc., Albuquerque, NM. Development of machine-learning classifier implemented in R software package, 2017.

2017 – 2017 (17) TRC Companies, Inc., Albuquerque, NM. Statistical consulting for improved inference of windfarm mortality with R software package, 2017.

2017 – 2017 (16) TRC Companies, Inc., Albuquerque, NM. Acoustic Bat Survey analysis report, 2017.

2014 – 2018 (15) Datalytic Solutions, Dec 2014 – Dec 2018.
Variety of statistical and scientific investigations.

2010 – 2010 (14) Aaftab Jain, Albuquerque, NM. Statistical consulting for improved inference of windfarm mortality with R software package, Nov – Dec 2010.

2010 (13) Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys, Apr 2010.

2009 (12) Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys, Apr 2009.

2008 (11) Hari Nam Simran K Khalsa, UNM Graduate student. Statistical modeling: El Nino effect on California breeding bird population, Apr 2008.

2008 (10) Elaine Dils, UNM Dental Hygiene. Raising Oral Health Awareness among Nephrology Nurses, Apr 2008.

2008 (9) Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys, Apr 2008.

2007 (8) Jim A Railey, SWCA Environmental Consultants. For analysis assistance of projectile point data. Coauthor in Animas-La Plata Project: Volume XI - Lithic Studies, by Jim A. Railey and Alexander L. Wesson, pp. 145–188. SWCA Anthropological Research Paper Number 10, Phoenix, Sep 2007.

2007 – 2007 (7) UniRac, Inc. For process development, improvement, and control of PV's Universal Flat Roof Solution, Feb – Aug 2007. RapidRac G10 PV Mounting System, introduced Sep 2007.

2007 (6) Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys, Mar 2007.

2007 (5) Jim A Railey, SWCA Environmental Consultants. For analysis assistance of lithic artifacts data. Coauthor in Chapter 8, "Lithic Artifacts" in *Data Recovery at Five Archaeological Sites Along US 491, North of Sheep Springs, San Juan County, New Mexico*, edited by Jim A. Railey. NMDOT Project No. FLH-666-1(49)17. SWCA Project No. 10775. SWCA Report No. 2007-93, Feb 2007.

2006 (4) Digipress, Inc., d/b/a Spire. Predictive models for responses to repeated mailings, Oct 2006.

2006 (3) Etsuko Nonaka, UNM Biology Department. Biology Lab Manual Appendix coauthor, "Basic statistical methods for biology", May 2006.

2006 (2) Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys, Mar 2006.
"Erik had the acumen, the patience and the savvy to guide me through a vital section of one of my consulting projects last year. Statistics is its own language, and Erik is an outstanding translator. . . . I hired Erik, and I could not have been more pleased. He was a sounding board. He was a check. And he was a superb technician and interpreter. As a result, the work I did for my clients was better. I was freed up to do what I excel at; and the work was girded by expert statistical analysis." — Ted Fish, Ed.D, President, Philos Institute, 18 Jan 2007

2006 (1) Heather Paulsen, Accountant, UNM Biology Department. Department of Biology Course Fees Feasibility Study, Feb 2006.
"...this has allowed us to net an additional $55,000 this semester in funding for student classes and labs." — Heather Paulsen, 17 Jan 2007

Academic biographical sketch

Dr. Erik Barry Erhardt is an Full Professor and Core Curriculum Teaching Fellow in the Department of Mathematics and Statistics at the University of New Mexico, and Director of the Biostatistics and NeuroInformatics (BNI) Core for the first, second, and third phases of the Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness at the Mind Research Network. He develops statistical methods for the design and analysis of brain imaging studies, researches and implements evidence-based best practices for statistics education, and is the sole proprietor of a statistical consulting business, StatAcumen.com. As an Associate Professor he published 35 papers, substantially revised two large data analysis courses, and was a co-PI or co-I on several large grants. As an Assistant Professor he published 30 papers, developed course materials for three courses, substantially revised two large data analysis courses, and came up for tenure one year early. As a postdoctoral fellow of image signal processing at the Medical Image Analysis Laboratory of the Mind Research Network, he developed models for functional connectivity of the human brain using fMRI. Dr. Erhardt's dissertation, *Stable Isotope Sourcing using Sampling*, on stable isotope sourcing in biology and ecology, was completed under the direction of Dr. Edward Bedrick and accepted with distinction in 2009. While completing coursework and research for his MS and PhD, Erik has been a teaching assistant, a research and graduate assistant, a statistical assistant at the National Center for Health Statistics, and the UNM statistical consultant. As a teaching and graduate assistant Erik is the first TA to have taught every undergraduate and graduate-level course available for a teaching assistant of statistics at each WPI and UNM. Erik has also TA-ed outside the Math & Stat department for Molecular Genetics and Genomics on the medical campus. He records his thoughts and accomplishments in his teaching dossier. As a research assistant with Dr. Seymour Grufferman at the UNM cancer research and treatment center, Erik was the statistician for the largest case-control study of childhood Hodgkin's lymphoma. Erik is also a Howard Hughes Medical Institute Interfaces Scholar and collaborates with biologists (on plant carbon and water use) and ecologists (on animal diets). Before arriving in Albuquerque in 2004, Erik attended Worcester Polytechnic Institute, in Massachusetts, where he completed his MS degree in applied statistics (2003), and Franklin Pierce College, in New Hampshire, for his BA double major in Mathematics and Computer Science (1997). Before graduate school he spent 4-1/2 years as a computer programmer for a medium-sized retail bookseller chain point-of-sale software, surviving Y2K and implementing electronic ordering. Erik is a statistical consultant (StatAcumen.com), a mountain unicyclist, a folk dance leader, teacher, and caller a solver of Rubik's cube puzzles, and a high-performance instrument-rated commerical airplane and glider pilot with a rating for a powered paraglider. He is generous with his time and attention for his family, friends, students, and colleagues.