



Erik Erhardt

Curriculum Vitæ

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

Prof. Erik Barry Erhardt, PhD, is an Associate Professor of Statistics in the Department of Mathematics and Statistics at the University of New Mexico where he has served as Director of the Statistics Consulting Clinic, and is currently Director of the Biostatistics and Neuroinformatics (BNI) Core for the second phase of the Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness at the Mind Research Network. His research interests include Bayesian and frequentist statistical methods for stable isotope sourcing in ecology and human brain imaging. He has strong interests in graduate and undergraduate education and data visualization. Erik is a Howard Hughes Medical Institute Interfaces Scholar collaborating in inter- and multi-disciplinary research and consulting.

Educational History

2009	PhD Statistics, with distinction , <i>University of New Mexico</i> , Albuquerque, NM, Aug 2009. Dissertation Advisor: Edward J. Bedrick [o4]. Computational Science and Engineering Certificate.
2003	MS Applied Statistics , <i>Worcester Polytechnic Institute</i> , Department of Mathematical Sciences, Worcester, MA, Dec 2003. Thesis Advisor: Balgobin Nandram [o2]
1997	BA Mathematics and Computer Science , <i>Franklin Pierce College</i> , Rindge, NH, May 1997. Thesis Advisor: Carl T. Brezovec [o1]. (Both Majors G.P.A.: 4.00; <i>summa cum laude</i>)

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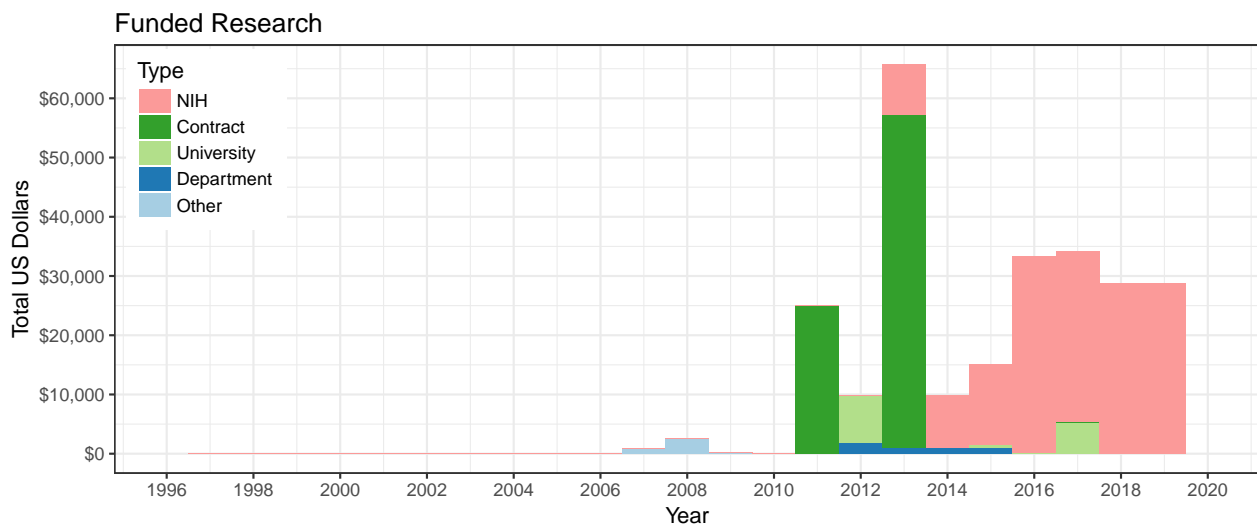
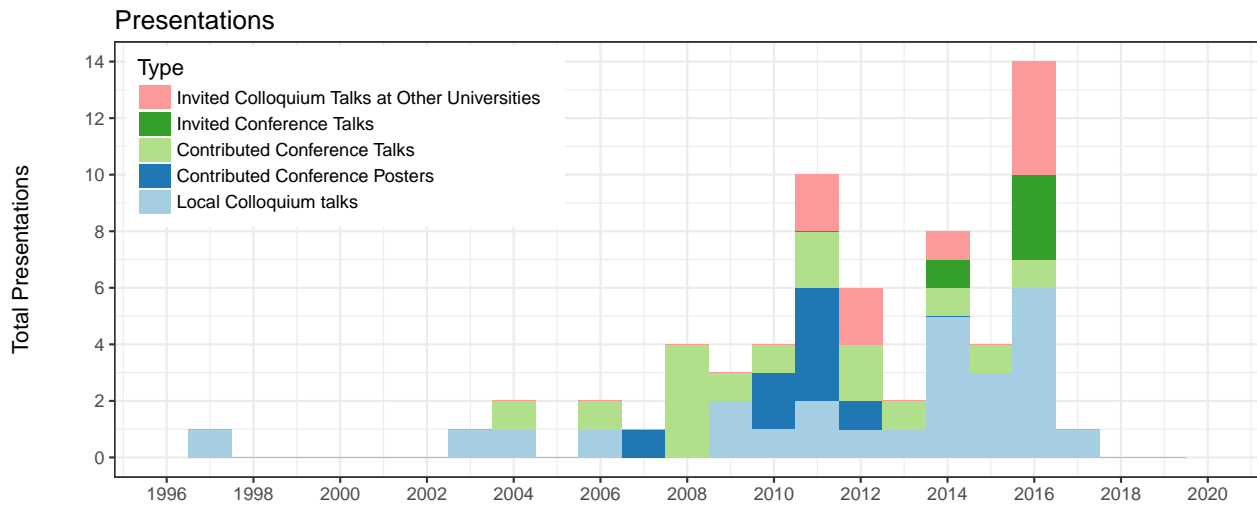
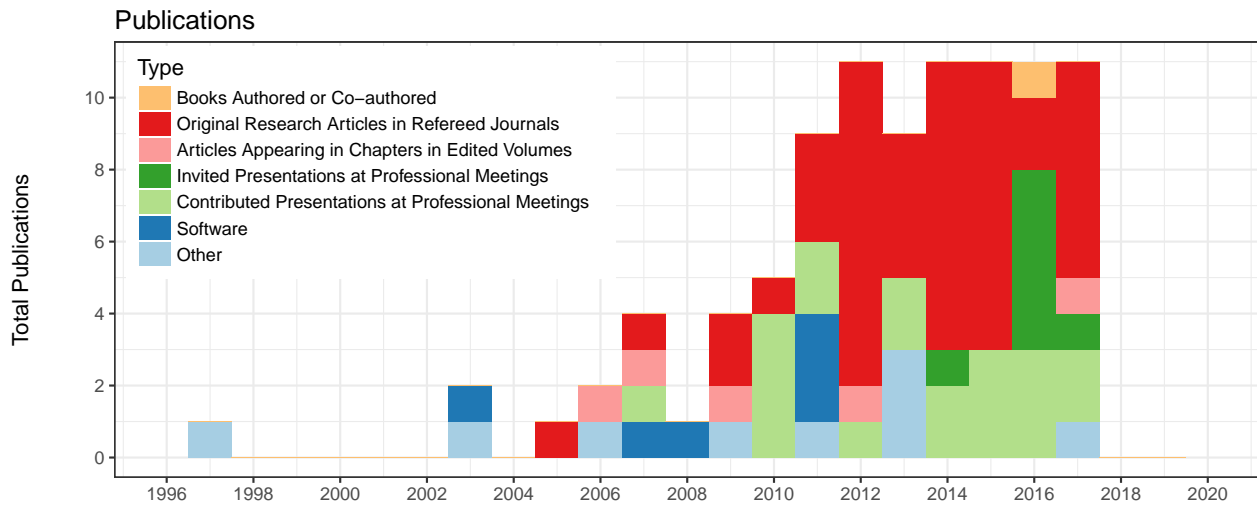
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Academic productivity, at a glance



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




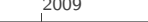







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Employment History

Concurrent Appointments, Temporary or Visiting Appointments

	Associate Professor, with tenure , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Jul 2016 – .
	Assistant Professor , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Aug 2011 – Jun 2016.
	Adjunct Research Scientist , <i>Mind Research Network</i> , Albuquerque, NM 87106, Jun 2015 – .
	Director, Biostatistics and NeuroInformatics (BNI) Core , <i>Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, second phase, Mind Research Network</i> , Albuquerque, NM 87106, Jun 2013 – . PI: Vince Calhoun, PhD
	Director, UNM Statistical Consulting Clinic , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Aug 2011 – Dec 2014.
	Mentor , <i>Program in Interdisciplinary Biological and Biomedical Sciences (PIBBS)</i> , Albuquerque, NM 87131, Aug 2011 – May 2015. PIs: Felisa A. Smith, PhD and James H. Brown, PhD
	Postdoctoral Fellow in Image Signal Processing , <i>Mind Research Network, Medical Image Analysis Laboratory (MIALab)</i> , Albuquerque, NM 87106, Aug 2009 – Jun 2011. PI: Vince Calhoun, PhD
	Research Assistant , <i>Mind Research Network, Medical Image Analysis Laboratory (MIALab)</i> , Albuquerque, NM 87106, Spr 2009 – Sum 2009. PI: Vince Calhoun, PhD
	UNM Statistical Consultant. Statistics Consulting Clinic , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Fall 2008.
	Graduate Assistant , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Spr 2008.
	Research Assistant , <i>UNM Cancer Research and Treatment Center, University of New Mexico</i> , Albuquerque, NM 87131, Fall 2005 – Spr 2008. PI: Seymour Grufferman, MD, Dr PH and Deirdre A Hill, PhD, MPH
	Teaching Assistant for Statistics , <i>Department of Mathematics and Statistics, University of New Mexico</i> , Albuquerque, NM 87131, Fall 2004 – Sum 2006.
	Visiting Scholar , <i>Worcester Polytechnic Institute</i> , Worcester, MA 01609, Spr 2004 – Spr 2008. Advisor: Balgobin Nandram
	Statistical Assistant , <i>National Center for Health Statistics</i> , Hyattsville, MD 20782, Sum 2003.
	Teaching Assistant for Statistics and Probability , <i>Worcester Polytechnic Institute</i> , Worcester, MA 01609, Jan 2002 – May 2004.
	Professional Services Engineer (1999–2002), Technical Support Specialist (1998–1999), Field Service Technician (1997) , <i>EMF, Inc.</i> , Keene, NH 03431, Aug 1997 – Dec 2002.

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Professional Recognition, Honors

Awards

- 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 UNM [Teaching Fellow](#), Active-learning redesign of Stat 145. [o9]
- 2017 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. ([cert](#))
- 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. (1)
- 2006 Excellence in Teaching Award, 2006, Department of Mathematics and Statistics, UNM. ([cert](#))
- 2006 [Outstanding Teaching Assistant of the Year Award 2005–6](#), CASTL, University of New Mexico. ([plaque](#),[news](#))
- 1996 Mathematics Award, 1996, FPC. (1,2)
- 1995 [AIFS International Scholarship for Study Abroad](#), 1995. (1)
- 1994 President's Achievement Scholarship, 1994–95, FPC. (1)
- 1994 Valakis Scholarship, 1994–95, FPC. (1)
- 1994 Governor's Success Grant, 1994–95, NH.
- 1994 [Barry M Goldwater Scholarship](#), Mathematics, 1994–96, USA. (1,2)
- 1993 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](#), The National Mathematics Honor Society, 2006. (1)
- 2006 [Mu Sigma Rho](#), The National Honorary Society for Statistics, 2006. (1)
- 2004 [Sigma Xi \(\$\Sigma\Xi\$ \)](#), The Scientific Research Society. Associate member 2004, promoted to full member 2012. (1,2)
- 1996 [Alpha Chi National College Honor Scholarship Society](#), 1996. (1)

Professional Societies

- 2003 American Statistical Association ([ASA](#)), 2003.

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2004	The Western North American Region (WNAR) of The International Biometric Society (IBS), 2004.
2005	International Society for Bayesian Analysis (ISBA), 2005.
2010 2013	Organization for Human Brain Mapping (OHBM), 2010.
2006 2011	American Society for Quality (ASQ), 2006.
2003 2016	Institute of Mathematical Statistics (IMS), 2003.

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Description of Research, Teaching, and Service Interests

Research

I am driven by the challenge of developing new statistical methods for biology, ecology, brain imaging, and public health. I focus on working in interdisciplinary teams that leverage great potential for developing new statistical tools to address problems of high current research interest. More detail is available in my [research statement](#).

Stable isotope sourcing in foodwebs

Isotopically, “you are what you eat” and *where you eat* in the trophic foodweb. By constructing a graph of who consumes whom in the environment, then taking tissue samples to measure stable isotopes of carbon, nitrogen, sulfur, and other elements from those sources and consumers, I develop statistical mixing models to estimate proportions of sources contributing to a consumer’s diet (average for population proportions or individual-specific proportions). Furthermore, using my models one can learn the position in the foodweb (trophic level) of each consumer, whether those consumers switched their diet and when, and relate what we observe to covariates such as age, sex, time, species, climate, and more. My ongoing research aims to continue model development and refinement from a statistically sound framework, and provide software for the analysis needs of the stable isotope sourcing community. I am writing an NSF grant proposal to help support this work.

fMRI

As Co-director of the Biostatistics and Neuroinformatics (BNI) Core for the second phase of the Center for Biomedical Research Excellence COBRE in Brain Function and Mental Illness at the [Mind Research Network](#), I continue my postdoctoral work in brain imaging by providing statistical support for COBRE projects as well as being the statistician on R01 grant proposals. Other work includes method development and evaluation using group independent component analysis. I have recently completed an invited book chapter on visualization for the 4th edition of the Handbook of Psychophysiology (Cambridge University Press).

Photosynthesis and (photo)respiration in plants

I have developed a statistical framework for measuring uncertainty in stable isotope analyses of photosynthesis and photorespiration in plants, with application to *Arabidopsis thaliana*, a model organism in plant biology. My R software package [s3] for automating computations from a combined tunable diode laser absorbance spectroscopy - infrared gas analyzer (TDL-IRGA) system in David Hanson’s Biology Lab here at UNM has been adopted by many group leaders from labs around the world (Nate McDowell, Los Alamos National Lab; Marshall McCue, St. Mary’s University, Texas; Blair Wolf, UNM; Jerilyn Timlin, Sandia National Lab; Todd Rosensteil, Portland State University; Ralf Kaldenhoff, University of Darmstadt, Germany; and Jaume Flexas, University de les Illes de Balears, Spain).

Public health and other areas of interest

As a graduate student I was the primary statistician on the largest case-control study of childhood Hodgkins lymphoma (CHL) and I continue to collaborate with epidemiologists to produce research on CHL and rhabdomyosarcoma. I have recently also contributed to papers on fish vaccination, field experiments for medicinal herbs, dialectical behavior therapy outcomes, and using packrat middens and ¹⁴C-dating to understand how droughts caused a shift from ponderosa to piñon pine trees in the Southwest 5000 years ago. However, I am now focussing on the three areas above.

Teaching

I believe as a statistician and an educator it is my responsibility to challenge and support my students in pursuit of four general learning goals: (1) to understand the appropriate application and limitations of a range of statistical methods and gain experience using software tools, (2) to apply the complete cycle of statistical analysis to evaluate data and models to make evidence-based decisions or inferences, (3) to evaluate the statistical work of others and provide criticism in a positive and constructive manner, and (4) to communicate statistical results and ideas clearly to a variety of audiences, including collaborators and non-statisticians. The degree of emphasis of these objectives in each of my courses depend on the level of the course. More detail is available in my [Teaching Dossier](#).

Service

More detail is available in my [Service Statement](#).

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Service to the Program, Department, College, and University

My UNM service supports the ongoing and emerging needs of the Statistics students, the Department of Mathematics & Statistics, and the University. In the Statistics graduate program I have written qualifying exams, advised students, served on thesis and dissertation committees in and out of my department, and created a [Statistics Education Practicum \(SEP\)](#) for students interested in active teaching methodology. In the Department of Mathematics & Statistics I've been the Director of the UNM **Statistical Consulting Clinic (SCC)**, served on the Graduate, Undergraduate, Hiring, and IRB committees. With Johannes van Reenen in the OVPR we are working to include the SCC in more university grant proposals to fund more student consultants and increase our impact. In the College of Arts & Sciences I've been the faculty mentor to graduate students who co-designed and taught a Biol/Stat course, and been the department representative for the **STEM Gateway Redesign Council**. In the University of New Mexico I've given a dozen colloquia, served on committees for students from other departments, and am the faculty sponsor for two student clubs: The **Juggling Club** and The **Folk Music and Dance Society (FolkMADS) UNM Student Chapter**, an extension of the community group of which I'm the current president.




Service to the Profession



I contribute to the ongoing and emerging needs of two professional organizations for statisticians. Locally, I've held **every office** of the Albuquerque Chapter of the American Statistical Association (ACASA). I'm now in a mentorship role for the current student officers. I started and continue to be the chair of the Mu Sigma Rho subcommittee, which gives awards for the national honorary society for statistics. Nationally, I have served on the **regional advisory board** (2012-15), organized sessions, receptions, a dance, and redesigned the website for WNAR, the Western North American Region of The International Biometric Society. I was nominated (Oct 2015) to run for **President**, which I intend to do. Whether elected or not, I'm serving on the conference committee and will be bringing the 2017 conferences to NM, possibly to UNM.

Service to Society

In the greater Albuquerque community, I've been interviewed for TV on hot topics where probability or statistics are core ideas. I've been a judge for science fairs from middle schools, high schools, and at the university. I also consult for legal, medical, and other issues involving statistics in New Mexico, using my powers for good.

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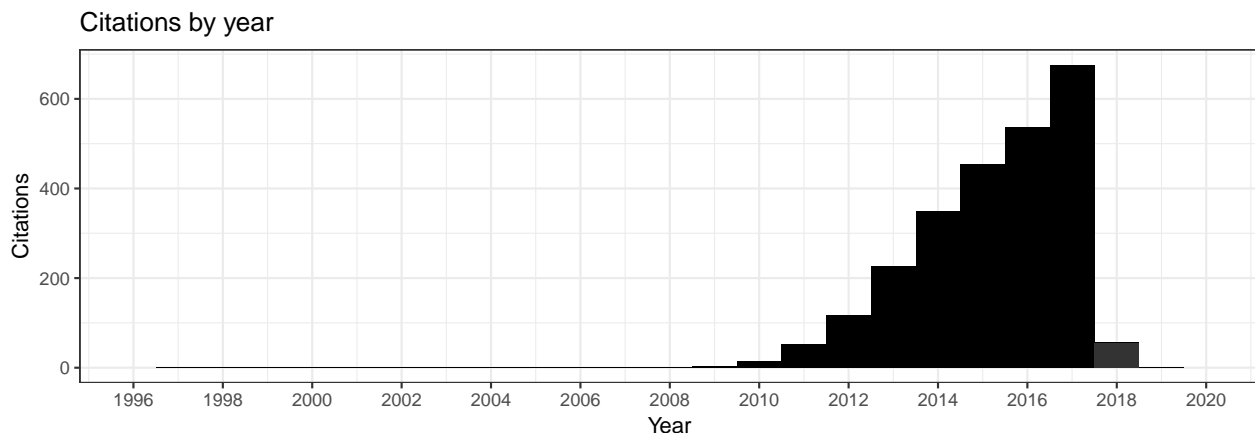
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Scholarly Achievements

Google Scholar
PubMed.gov NCBI MyBibliography
ORCID Researcher ID

This table reports my [Google Scholar citations](#) as of 1/20/2018. “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 2013	
Citations	2508	2300
h-index	17	16
i10-index	23	21



Books Authored or Co-authored (ba)

- ba1 Wilson, R., E. B. **Erhardt**, and L. Lamont (Oct. 5, 2016). *All Join Hands: Dances and Stories*. Erik Erhardt, publisher. 150 pp. ISBN: 978-0998251301. URL: <http://StatAcumen.com/dance/rw/>.

Articles in Refereed Journals (p)

- p46 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](https://doi.org/10.1016/j.bbr.2017.05.042). URL: <http://www.sciencedirect.com/science/article/pii/S0166432816311305>.
- p45 Gunning, C. E., M. J. Ferrari, E. B. **Erhardt**, and H. J. Wearing (July 19, 2017). “Evidence of cryptic incidence in childhood diseases”. *Proceedings of the Royal Society B*. pdf, In Print. DOI: [10.1101/079194](https://doi.org/10.1101/079194). URL: <http://rspb.royalsocietypublishing.org/cgi/content/abstract/rspb.2017.1268>.
- p44 Page-Reeves, J., L. Regino, C. Murray-Krezan, M. Bleecker, E. B. **Erhardt**, M. Burge, E. Bearer, and S. Mishra (2017a). “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.
- p43 Page-Reeves, J., L. Regino, C. Murray-Krezan, M. Bleecker, E. B. **Erhardt**, M. Burge, E. Bearer, and S. Mishra (2017b). “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), p. 46.

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- p42 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 (2017). "From Chronnectivity To Chronnectopathy: A Pediatric Population-Based Resting State Study On Connectivity Dynamics of Typical Development And Autistic Traits". *Nature Neuroscience*. pdf, Online.
- p41 Warnick, R., M. Vannucci, M. Guindani, E. B. **Erhardt**, E. Allen, and V. Calhoun (2017). "A Bayesian Approach for Estimating Dynamic Functional Network Connectivity in fMRI Data". *Journal of the American Statistical Association*, In Print.
- 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](https://doi.org/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](https://doi.org/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 (Sept. 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](https://doi.org/10.1523/JNEUROSCI.1641-15.2015).
- p37 LaPatra, S., S. Kao, E. B. **Erhardt**, and I. Salinas (Feb. 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](https://doi.org/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](https://doi.org/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 (May 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](https://doi.org/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 (June 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](https://doi.org/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 (Jan. 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](https://doi.org/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](https://doi.org/10.1016/j.dci.2015.05.015).

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 (8) [p21] “A Bayesian framework for stable isotope mixing models: estimating source contributions to a mixture”, *Joint Statistical Meeting*, Miami, FL, Aug 1, 2011.
- 2011
 (7) [p21] “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.

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- 2009 (6) [o4] “Stable Isotope Sourcing using Sampling”, *2009 Joint Statistical Meetings*, Washington, DC, Aug 2, 2009.
- 2008 (5) [s5] “Stable Isotope Sourcing using Sampling”, *UNM PNMGC New Visions Research Presentations*, Albuquerque, NM 87131, Nov 17, 2008.
- 2008 (4) [s5] “Stable Isotope Sourcing using Sampling”, *HHMI-NIBIB Interfaces Initiative for Interdisciplinary Graduate Research Training Meeting*, Chevy Chase, MD, Sep 18 – 20, 2008.
- 2008 (3) [s5] “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) [o2] “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) [o2] “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) [cp6] “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 – Jun 30, 2011.
- 2011 (4) [cp7] “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 – Jun 30, 2011.
- 2011 (3) [p21] “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) [cp4] “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) [s5] “Stable Isotope Sourcing using Sampling”, *UNM, Dept of Biology, 16th Annual Research Day*, Albuquerque, NM 87131, Apr 13, 2007.

First place in graduate student poster competition

Software (s)

- s5 **Erhardt**, E. B. (2014). *Stable Isotope Sourcing using Sampling*. 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). *simtb: simulation toolbox for fMRI*. Software for [cp7] 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). *tdllicor: estimates discrimination and other parameters associated with leaf photosynthesis*.
- s2 **Erhardt**, E. B. and A. Jain (2011). *mortest: estimates the total number of carcasses at a windfarm*.
- s1 **Erhardt**, E. B. (2003b). *Nonparametric Statistical Toolbox*. MathWorks. Software. Mathworks File Exchange Matlab toolbox. URL: <http://www.mathworks.com/matlabcentral/fileexchange/13714>.

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Other Scholarly Achievements (o)

- o9 **Erhardt**, E. B. (Sept. 3, 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.
- o8 **Erhardt**, E. B., E. J. Bedrick, and R. M. Schrader (2013a). *Lecture notes for Advanced Data Analysis 1 (ADA1)*, Stat 427/527, University of New Mexico. URL: http://statacumen.com/teach/ADA2/ADA2_notes.pdf.
- o7 **Erhardt**, E. B., E. J. Bedrick, and R. M. Schrader (2013b). *Lecture notes for Advanced Data Analysis 2 (ADA2)*, Stat 428/528, University of New Mexico. URL: http://statacumen.com/teach/ADA1/ADA1_notes.pdf.
- o6 **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.
- o5 **Erhardt**, E. B. (2011). "Another look at New Mexico suicide statistics: conditional probability and data visualization". *UNM Daily Lobo*. [url1](#) [url2](#).
- o4 **Erhardt**, E. B. (2009). "Stable Isotope Sourcing using Sampling". Dissertation. Albuquerque, New Mexico: University of New Mexico.
- 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.

Research, miscellaneous

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Presentations, non-conference

Colloquium and seminar talks at other universities

Invited

- 2016 (9) “The Crisis of Replication in Biomedical and Behavioral Research”, *San Juan College*, organized by [David Wesch](#), Farmington, NM, Nov 4, 2016.
- 2016 (8) “Visualizing Scientific Data” [c5], *San Juan College*, organized by [David Wesch](#), Farmington, NM, Nov 4, 2016.
- 2016 (7) Dynamic functional connectivity networks in fMRI Data, a Bayesian approach [p41], *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 [p41], *University of Iceland, Department of Physical Sciences*, Reykjavík, Ísland, Aug 15, 2016.
- 2016 (5) “Visualizing Scientific Data” [c5], *University of Iceland, Department of Physical Sciences*, Reykjavík, Ísland, Aug 15, 2016.
- 2014 (4) [p16, p15, p13] “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) [wp1] “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) [p16, p15, p13] “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) [p21] “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

- 2017 (27) “Productivity and Time Management Workshop”, GTD, *University of New Mexico, Advance at UNM*, Albuquerque, NM, Sep 8, 2017.
- 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” [c5], *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.

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

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

(17) “Visualizing Scientific Data” [c5], *Mind Research Network, COBRE2*, Albuquerque, NM 87106, Jul 10, 2015.

(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.

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

(14) [p16, p15, p13, p6] “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.

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

(12) [wp1] “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.

(11) [p21] “Bayesian modeling in animal ecology”, *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Feb 9, 2012.

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

(9) [p7] “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.

(8) [p29, p21] “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.

(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.

(6) [o4] “Stable Isotope Sourcing using Sampling”, *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Aug 12, 2009.

(5) [s5] “Stable Isotope Sourcing using Sampling”, *Mind Research Network, Medical Image Analysis Laboratory (MIALab)*, Albuquerque, NM 87106, Apr 8, 2009.

(4) [p2] “Designing a better paper helicopter using response surface methodology”, *University of New Mexico, Department of Mathematics and Statistics*, Albuquerque, NM 87131, Nov 7, 2006.

(3) [o2] “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.

(2) [o2] “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.

(1) [o1] “The Borromean rings”, *Northeastern Section of the Mathematical Association of America*, Merrimack College, MA, Jun 6 – 7, 1997.

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Funded Research

Active

2016
2021

NIH, \$1,065,299; 10% commitment., *NIH 1-UH2-NS100598-01*, "MRI and CSF Biomarkers of White Matter Injury in VCID", Sep 2016 – Aug 2021.

co-PI: Gary Rosenberg, MD, UNM, Department of Neurology; Arvind Caprihan, PhD, MRN, Translational Neuroscience

Co-Is: Erik Erhardt, PhD (UNM), et al

2016
2020

PCORI, \$2,596,496; 10% commitment., *Patient Centered Outcomes Research Institute (PCORI), 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, NIH, ClinicalTrials), Jul 2016 – Jun 2020.

PI: Janet Page-Reeves, PhD, 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 (biostatistician)

Title: 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: Funded [web](#) (HRPO Study ID: 16-303)

2013
2018

NIH, \$2,473,512, 10% commitment., *NIH 2P20GM103472-06/P20GM103472, Multimodal Imaging of Neuropsychiatric Disorders (MIND): Mechanisms &*, Director, Biostatistics and Neuroinformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, [second phase](#), [Mind Research Network](#), Sep 2008 – Apr 2018.

PI: Vince Calhoun, PhD.

Completed

2015
2017

NIH 5R01NS052305-07, \$4,532; 5% commitment., *Co-Investigator, Biomarkers for white matter injury in mixed and vascular cognitive impairment*, Albuquerque, NM 87106, May 2015 – May 2017.

PI: Gary Rosenberg, MD.

2015

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

2015

\$1,000, *UNM Math & Stat travel award*, Aug 2015.

WNAR – Annual Meeting June 14-17, 2015 at Boise State University, Boise, ID

2014

\$1,000, *UNM Math & Stat travel award*, Aug 2014.

WNAR – Annual Meeting June 15-18, 2014 at University of Hawaii, Honolulu, HI

2008
2013

NIH \$2,300,475, 10% commitment., *NIH 5P20RR021938-04/P20GM103472, Neural Mechanism of Schizophrenia: Use of Multiple Neuroimaging Tools to Examine*, Director, Biostatistics and Neuroinformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, first phase, [Mind Research Network](#), Sep 2008 – Jun 2013.

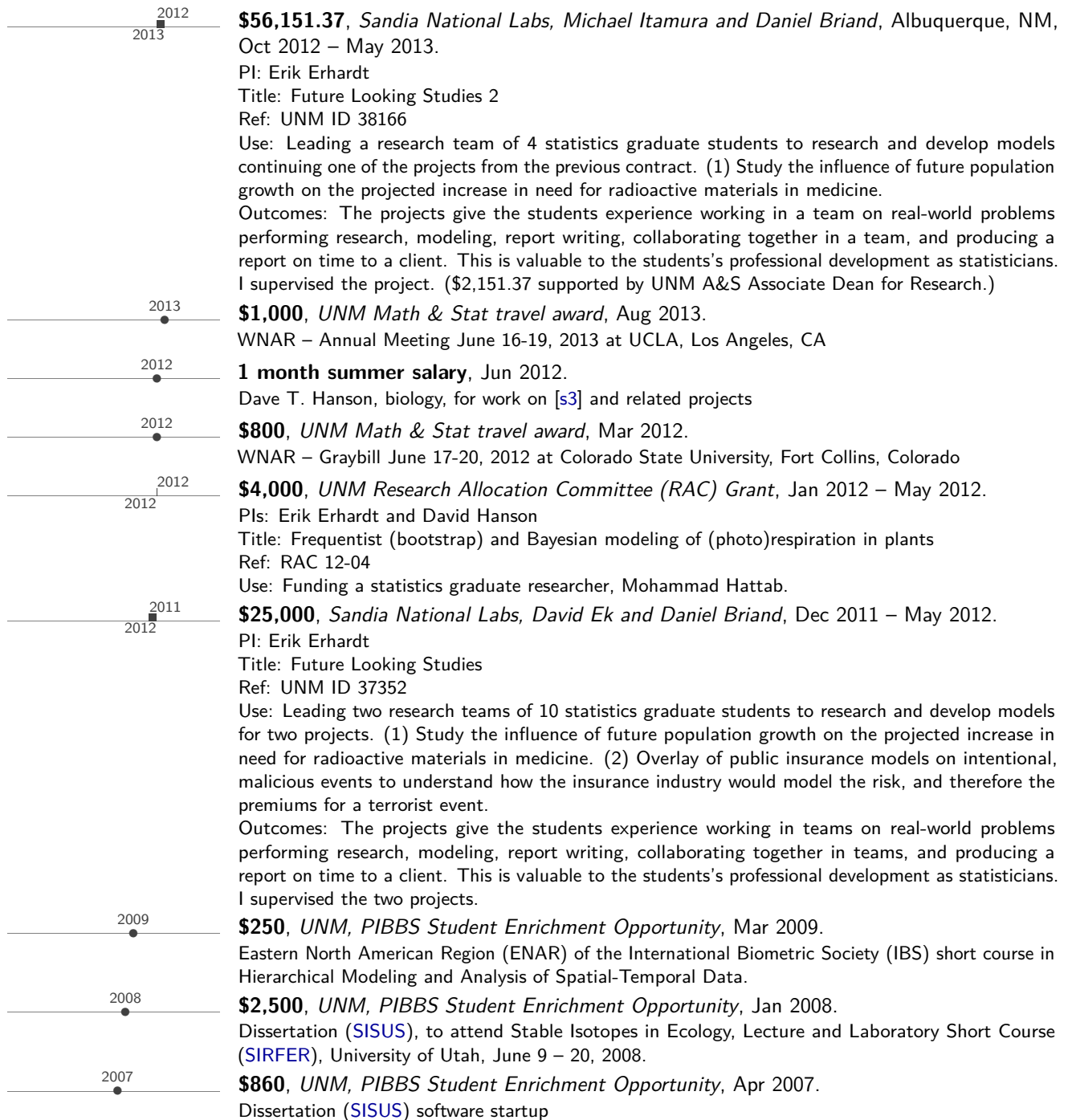
PI: Vince Calhoun, PhD.

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Pending Funding

Funding Applications

2018
2023
NIH continuation of COBRE 5P20RR021938/P20GM103472, \$-, Director, Biostatistics and Neuroinformatics (BNI) Core, Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness, second phase, Mind Research Network, Albuquerque, NM 87106, Jun 2018 – May 2023.
PI: Vince Calhoun, PhD
Status: submitted (7/2016).

2016
2020
\$2,260,010; 10% commitment., NIH 1 R01 MH11826-01, National Institutes of Health (USA), Sep 2016 – Aug 2020.
PI: Chris Abbott, MD, MS
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)
Title: ECT current amplitude and medial temporal lobe engagement

Not funded

2016
\$-, 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
\$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
\$375,000, USA NSF 14-611, 1533665, 1/26/2015.
PI: Vince Calhoun (MRN)
Co-Is: Erik Erhardt, PhD (UNM)
Title: NCS-FO: Approaches for Capturing Heterogeneous Spatial and Temporal Brain Activity
Status: declined (6/19/2015).

2015
\$-, 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
\$-, 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
\$-, 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.

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2013

\$-, 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

\$-, 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

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Teaching

Post-Doctoral Advisement

Doctoral Advisement

Masters Advisement

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: TBD

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 Graduate 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

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.

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- 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 Rechar
- Graduate Students outside of Statistics**
- 2016
2018 (18) Alvaro Emilio Ulloa, May 2018
“TBD”.
Degree: PhD Electrical Engineering, UNM, 2017.
Committee for PhD dissertation.
- 2016 (17) Barnaly Rashid, Oct 2016
“TBD”.
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
[p25] “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.

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- 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 comparison 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 Federation 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. [[p11](#)].

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Bachelor's Honors Advisement

Undergraduate Student Mentoring

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Classroom Teaching

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

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

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

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

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

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

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

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

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- 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
- 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
- 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

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- 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

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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. <i>Gave a selection of lectures.</i> 20 students
2008	(18) Stat 590. Statistical Computing. Graduate Assistant, Spr 2008. <i>Gave a selection of lectures.</i> 10 students
2006	(17) Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor , Sum 2006. <i>Designed my own course materials. Wrote lecture notes, assigned homework, designed hand-outs, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.</i> 24 students
2006	(16) BMS 516. Molecular Genetics and Genomics. Teaching Assistant , Spr 2006. <i>Maintained course website, pretested computer labs.</i> 8 students
2006	(15) Stat 539. Biostatistical Methods II for Public Health & Medical Science. Teaching Assistant, Spr 2006. <i>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.</i> 9 students
2005	(14) Stat 538. Biostatistical Methods I for Public Health & Medical Science. Teaching Assistant, Fall 2005. <i>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.</i> 21 students card <i>My labs also used by Woncheol Jang at the Department of Epidemiology and Biostatistics, College of Public Health, University of Georgia. (Spr 2008)</i>
2005	(13) Stat 345 . Elements of Mathematical Statistics & Probability Theory. Instructor , Sum 2005. <i>Designed my own course materials. Wrote lecture notes, assigned homework, designed hand-outs, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.</i> 29 students
2005	(12) Stat 145. Introduction to Statistics. Instructor , Spr 2005. <i>Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.</i> 48 students
2004	(11) Stat 145 . Introduction to Statistics. Instructor , Fall 2004. <i>Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.</i> 53 students

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

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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.
≈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.
≈120 students
- 2002
● (4) MA 2611. Applied Statistics I. Teaching Assistant, Spr 2002 B.
≈120 students
- 2002
● (3) MA 2611. Applied Statistics I. Teaching Assistant, Spr 2002 A.
≈120 students
- 2002
● (2) MA 2611. Applied Statistics I. Teaching Assistant, Fall 2002 D.
≈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

- 2016
2017
2015
● 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).

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Teaching Administrative Positions

2015
2016

UNM [STEM Gateway](#) Redesign Council. Department representative. Aug 2015 – Jul 2016

Funding for Teaching

Active

2017

\$1340, UNM [Teaching Allocation Grant](#), Active-learning redesign of Stat 145 Peer Learning Facilitator.

2017

\$2000, UNM [Teaching Fellow](#), Active-learning redesign of Stat 145.

2016

\$200, UNM [Teaching Fellow](#), Active-learning redesign of Stat 145.

Completed

2015

\$500, Innovation grant for Stat 427/527 and 428/528 redesign, [innovationAcademy](#), UNM.

Teaching, miscellaneous

Training

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_TeachingDossier.pdf.

Recommendation Letters

(this section is often out of date)

Type	Year (how many)
Grant App	2015 (1), 2014 (1)
Faculty App	2015 (1), 2014 (1), 2013 (1)

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PostDoc App 2015 (1), 2014 (1), 2012 (1)
 Grad App 2015 (3), 2014 (2), 2013 (4), 2012 (2), 2011 (1)
 Job 2015 (1), 2014 (1)
 Special 2014 (4), 2013 (3), 2012 (2), 2011 (1)

Graduate academic advising

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

2016 Oct 2016, (2) 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

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Service

UNM Department of Mathematics and Statistics Annual Evaluations

Years	Research	Teaching	Service	Overall
2014–16	5.0	4.5	5.0	4.8 / 5
2013–15	5.0	5.0	4.5	4.9 / 5
2012–14	5.0	4.5	4.5	4.7 / 5
2011–13	5.0	4.0	4.0	4.4 / 5
2010–12	4.0	4.5	3.5	4.1 / 5
2009–11	E	M	E	8.2 / 10

Notes:

2011: 0-10 scale; E=Excellent (9), M=Meets expectations (5), B=Below (1).


2012-current: 1-5 scale; Exceeds (5), Meets (3), Below (1).

Overall weighted: Research (40%), Teaching (40%), Service (20%).

Editorships

 Associate Editor, [The American Statistician](#), Jan 2018 – Dec 2020.


Refereeing for journals and other publications


 (12) [NeuroImage](#) (Brain imaging).

 (11) [NeuroImage](#) (Brain imaging).


 (10) [Methods in Ecology and Evolution](#) (Ecology).


 (9) [Marine Ecology Progress Series](#) (Ecology).

 (8) [NeuroImage](#) (Brain imaging).

 (7) [Frontiers in Evolutionary Psychology and Neuroscience](#) (Psychology).

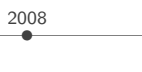
 (6) [Journal of Environmental Quality](#) (Ecology).

 (5) [Human Brain Mapping](#) (Brain imaging).

 (4) [Human Brain Mapping](#) (Brain imaging).

 (3) [Oecologia](#) (Ecology).

 (2) [MAGMA](#) (Brain imaging)

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




Reviews (of books, stat reviews, etc.)



Reviews for national funding organizations

Administrative work with professional societies, elected offices held

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

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2013
2015

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

American Statistical Association (ASA), National and Albuquerque 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

Executive Committee

2015
2016

Jul 2015 – Jun 2016

Statistics Committee

2011

Aug 2011 –

2016

Minor revisions to the Statistics Graduate Handbook, Aug 2016.

2016

Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Aug 2016.

2015

Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Jan 2015.

2014

Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Aug 2014.

2014

Help revise Statistics Graduate Handbook, Feb 2014.

2014

Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Jan 2014.

2013

Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Aug 2013.

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- 2013 Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Jan 2013.
 - 2012 Write and evaluate Statistics Qualifying Exam takehome portion, meet to make recommendations, Aug 2012.
- Graduate Committee**
- 2012 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 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 Jul 2016 – Jun 2017
- 2015 Jan 2015 – Jun 2016
- 2015 Honors Thesis review and presentations, Apr 2015.
- 2015 Crosslisted courses report, Jan 2015.

Computer Use Committee

- 2016 UNM IT Consolidation, Aug 2016 – Jul 2017.
- 2015 Aug 2015 – Jul 2016.
- 2014 Aug 2014 – Jul 2015.

Hiring Committee

- 2016 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2016 – Jan 2017.
- 2015 Part-time instructor job search
- 2013 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2013 – Jul 2014.
- 2012 Statistics job search: reviewed candidate materials, interviewed and hosted candidates, provided recommendations, Aug 2012 – Jul 2013.
- 2011 Statistics job search: reviewed candidate materials, hosted candidates, provided recommendations, Aug 2011 – Jul 2012.

Statistical Consulting Clinic

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- 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.
- 2014 Forward consulting job to student, Cristina Murray-Krezan, Jan 17, 2014.
- 2012 Forward consulting job to student, John Pesko, Mar 20, 2012.
- 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 Forward consulting job to student, Rebecca Lilley, Dec 4, 2011.
- 2011 Talk: “Statistical consulting and collaboration, how to get started”. University of New Mexico, Statistics Seminar, Nov 18, 2011.

Institutional Review Board (IRB) Committee

- 2015
2016 Aug 2015 – Jul 2016.
- 2014
2015 Aug 2014 – Jul 2015.
- 2013
2014 Aug 2013 – Jul 2014.

Teaching

- 2015
2016 UNM [STEM Gateway](#) Redesign Council. Department representative. Aug 2015 – Jul 2016

Organizing Seminars

- 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 Miscellaneous Service









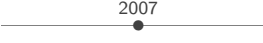

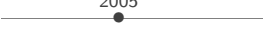

- 2016 Chi Omega Apple Polishers formal academic recognition ceremony, Oct 10, 2016.
- 2016 Focus group, APS and Mission Graduate, Sep 9, 2016.

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	<p>Faculty sponsor, FolkMADS-UNM student chapter, Fall 2015 – Summer 2016.</p> <p>Campus Security Authority for UNM Police Department.</p>
	<p>UNM Math & Stat Hiring plan plots of courses taught by whom within department.</p>
	<p>UNM Biology dept, created visualizations for David Hanson of their 2013 graduate admission scores, Feb 2013.</p>
	<p>Faculty sponsor, UNM Juggling club, Fall 2012 – .</p>
	<p>Judge, UNM Undergraduate Research and Creativity Symposium. Explore. (cert, Apr 2008)</p>
	<p>Judge, UNM Undergraduate Research Symposium. 5th Annual, PROFOUND, Apr 2008.</p>
	<p>Judge, UNM Outstanding Teaching Assistant Award by CASTL, Apr 2007.</p>
	<p>Judge, UNM Undergraduate Research and Creativity Symposium. Explore. (cert, Apr 2007)</p>
	<p>Judge, UNM Undergraduate Research Symposium. 4th Annual, PROFOUND, Apr 2007.</p>
	<p>Judge, UNM Undergraduate Research Symposium. 3rd Annual, PROFOUND, Apr 2006.</p>
	<p>Judge, UNM Undergraduate Research Symposium. 2nd Annual, PROFOUND, Apr 2005.</p>
	<p>Judge, UNM Undergraduate Research and Creativity Symposium. Explore, Nov 2005.</p>

Community service, etc.

	<p>KOB-TV4 (Albuquerque, NM) NM Law Enforcement Academy Police cadet test scores under investigation statistics expert, Jan 2013.</p>
	<p>ACASA “Best Use of Statistics” 56th Annual NM Science & Engineering Fair, Apr 2008.</p>
	<p>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.</p>
	<p>ACASA “Best Use of Statistics” 55th Annual NM Science & Engineering Fair, Apr 2007.</p>
	<p>ACASA “Best Use of Statistics” 54th Annual NM Science & Engineering Fair, Apr 2006.</p>
	<p>Judge for Jefferson Middle School Science Fair, Albuquerque, NM, Jan 2006.</p>
	<p>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.</p>

Consulting

	<p>Erik B. Erhardt, LLC at StatAcumen.com/consulting</p> <p><i>Law</i></p>
	<p>(28) Expert witness (to be named after resolution)</p>
	<p>(27) Expert witness preparing analysis for Patrick Rogers, Attorney, Sep 2013 – Feb 2014. <i>Fleming v. Gutierrez (Statistical Analysis of Rio Rancho Voting, 2012)</i>.</p>
	<p>(26) Expert witness preparing analysis and giving deposition for Megan T. Muirhead, Attorney, Nov 2012 – Jan 2013. <i>Result: winning for Defendants, court granted our motion for summary judgment and disposed of all of Plaintiffs' claims in Andrea Felts-Pargas, Nicolette Dennis, and Blanca Lopez, v. Albuquerque Public Schools.</i></p>
	<p>(25) Survey brainstorming for Ron Morgan, Attorney, Aug 2012.</p>

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2012 (24) Expert witness preparing analysis for [Patrick Rogers](#), Attorney, Apr 2012 – May 2012. Result: winning for Defendant, survey analysis and report which excluded plaintiff's expert in *Mendoza v. Zollinger*.

2011 (23) Expert witness preparing analysis for Ron Morgan, Attorney, Nov 2011 – Dec 2011. Result: winning for Plaintiffs via survey analysis in *Truong v. Allstate Insurance Co.*
Medicine

2014 (22) [Medici Technologies](#), Oct 2014 – .
Variety of statistical and scientific investigations.

2012 (21) Dr. Jean Remillard, MD, Chief Medical Officer, [Lovelace Medical Center](#), Apr 2012.

2011 (20) [Santa Fe DBT](#) and [Albuquerque Collaborative Therapeutics](#), Jun 2011 – Aug 2012. Evidence-based assessment and manuscript preparation. [p20]

2010 (19) [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 (18) Dayle Hosek, RN, MEd, Director of Quality Management, Lovelace Medical Center, Albuquerque, NM. Analysis of provider risk of complications, Jul 2010.

2010 (17) Jackie Reeve, Albuquerque, NM. Analysis of survey of nurse practitioner opinion on BRCA testing, Mar 2010.

2009 (16) [Albuquerque Collaborative Therapeutics](#). Evidence-based assessment of the full Dialectical Behavior Therapy program, Mar 2009.
Others

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

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) [c3] 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 (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.

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- 2007
- (5) [c2] 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) [c1] 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) [o3] 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

Conference Organizing

Conference Funding obtained

Conference Funding, pending

Service, miscellaneous

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Miscellaneous

Meetings

- 2017
Western North American Region of The International Biometric Society, Santa Fe, NM, USA, invited paper [p41], Jun 25 – 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 [p41] Dec 9–11, 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 [p41], 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 [p17], 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 [p17] 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 [wp9], 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 [wp1], Jun 2013.
- 2012
Western North American Region of The International Biometric Society, Fort Collins, CO, contributed paper [wp1], 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, [p21], Aug 2011.
- 2011
Organization for Human Brain Mapping, Quebec City, Canada [cp7, cp6], Jun 2011.
- 2011
Gordon Research Conference: CO₂ Assimilation in Plants: Genome to Biome. Les Diablerets, Switzerland. Contributed poster [p21], May 29 – Jun 3, 2011.
- 2011
Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, contributed talk [p21], Apr 29, 2011.
- 2010
Organization for Human Brain Mapping, Barcelona, Spain [cp4], 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, [o4], Aug 2009.

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- 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” [s5], 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, [o2], 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, [o1], 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.

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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.
- o R + knitr + \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.
 - o [Postgresql](#) is my open source "Big Data" database engine.
- Programming** R (package developer), 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. Private pilot certification single engine land (FAA part 141). Experience in Cessna R172K and Piper Cherokee planes. Over 120 hours including a New Hampshire/Florida roundtrip filing flight plans, passing through Class B and C airspaces and using supplemental oxygen.

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Academic biographical sketch

Dr. Erik Barry Erhardt is Associate Professor and Director of the Statistical Consulting Clinic in the Department of Mathematics and Statistics at the University of New Mexico, and Director of the Biostatistics and Neuroinformatics (BNI) Core for the second phase of the Center for Biomedical Research Excellence (COBRE) in Brain Function and Mental Illness at the Mind Research Network. He develops statistical methods for stable isotope sourcing in biology and ecology, consults for design and analysis of brain imaging studies, and is the sole proprietor of a statistical consulting business, StatAcumen.com. 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*, 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 (and still is) 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 folk dance leader, teacher, and caller, a private pilot, and a skilled mountain unicyclist. He is generous with his time and attention for his family, friends, students, and colleagues.

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



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References

- Mind Research Network **Vince Calhoun, PhD** (Postdoc supervisor), (505) 272-1817, vcalhoun@mrn.org
Elena Allen, PhD (collaborator), (505) 400-5241, eallen@mrn.org
- University of New Mexico **Edward J. Bedrick, PhD** (PhD Advisor), U of Arizona, edwardjbedrick@email.arizona.edu
Gabriel Huerta, PhD (Prof), Math & Stats, (505) 277-2564, ghuerta@stat.unm.edu
Ronald Christensen, PhD (Prof), Math & Stats, (505) 277-4619, fletcher@stat.unm.edu

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