

Erik Barry Erhardt

Work

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Erik Barry Erhardt, PhD, develops statistical methods for stable isotope sourcing and brain imaging. Dr. Erhardt is a Howard Hughes Medical Institute Interfaces Scholar collaborating in interdisciplinary research and offering consulting services in statistics.

Research

Statement	I am driven by the challenge, discovery, and contribution of developing new statistical methods for biology, ecology, brain imaging, and public health. By forming multi/interdisciplinary teams, I leverage the great potential for developing new statistical tools. Current interdisciplinary work includes Bayesian models for stable isotope sourcing and a variety of other stable isotope collaborations, as well as models for fMRI for the brain.
Interests	Applications to biology and ecology, especially using stable isotopes. Hierarchical Bayesian methods, computational statistics. Biostatistics, statistical genetics, phylogenetics, clinical trials. Quality, experimental design, and process optimization. Group independent component analysis.

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Education

- PhD, Aug 2009 Statistics, with distinction, Univ. of New Mexico, Albuquerque, NM.
Dissertation Advisor: Edward J. Bedrick [s4].
HHMI Interfaces Scholar at the University of New Mexico (PIBBS).
Computational Science and Engineering Certificate.
- MS, Dec 2003 Applied Statistics, Worcester Polytechnic Institute, Worcester, MA.
Thesis Advisor: Balgobin Nandram [o3].
- BA, May 1997 Mathematics and Computer Science, Franklin Pierce College, Rindge, NH.
Thesis Advisor: Carl T. Brezovec [o4].
Richmond College, Kensington, London, England, Fall 1995.
(Both Majors G.P.A.: 4.00; *summa cum laude*).

Career

- Aug 2011 -- Assistant Professor.
Department of Mathematics and Statistics.
University of New Mexico.
Albuquerque, NM 87131.
- Aug 2011 -- Director.
UNM Statistical Consulting Clinic.
Department of Mathematics and Statistics.
University of New Mexico.
Albuquerque, NM 87131.
- Aug 2009 -- Jun 2011 Postdoctoral Fellow in Image Signal Processing.
PI: Vince Calhoun, PhD.
The Mind Research Network, Medical Image Analysis Laboratory (MIALab).
Albuquerque, NM 87106.
- Spr 2009 -- Sum 2009 Research Assistant.
PI: Vince Calhoun, PhD.
The Mind Research Network, Medical Image Analysis Laboratory (MIALab).
Albuquerque, NM 87106.
- Fall 2008 UNM Statistical Consultant. Statistics Clinic.
Department of Mathematics and Statistics, University of New Mexico.
Albuquerque, NM 87131.
Provide statistical expertise to the UNM academic community.
- Spr 2008 Graduate Assistant.
Department of Mathematics and Statistics, University of New Mexico.
Albuquerque, NM 87131.
Lecture for and set and grade homework/exams for two statistics graduate courses.
- Fall 2005 -- Spr 2008 Research Assistant.
PI: Seymour Grufferman, MD, Dr PH and Deirdre A Hill, PhD, MPH.
UNM Cancer Research and Treatment Center, University of New Mexico.
Albuquerque, NM 87131.
- Fall 2004 -- Sum 2006 Teaching Assistant for Statistics.
Department of Mathematics and Statistics, University of New Mexico.

- Albuquerque, NM 87131.
Teaching assistant for every TA-able statistics course, both undergraduate and graduate, and a graduate course outside statistics department.
Awarded UNM Outstanding Teaching Assistant Award by CASTL, (2005 -- 2006).
- Spr 2004 -- Spr 2008 Visiting Scholar.
Worcester Polytechnic Institute, Worcester, MA 01609.
Advisor: Balgobin Nandram.
- Sum 2003 Statistical Assistant.
National Center for Health Statistics, Hyattsville, MD 20782.
Internship in Office of Research and Methodology (ORM) group conducting research on presenting variation in maps, missing data, and imputation.
- Jan 2002 -- May 2004
Teaching Assistant for Statistics and Probability.
Worcester Polytechnic Institute, Worcester, MA 01609.
Teaching assistant for every TA-able statistics course.

Full Bibliography

Peer Reviewed Journal Articles

- [p1] EA Allen, **EB Erhardt**, and VD Calhoun. Data visualization in the neurosciences: overcoming the curse of dimensionality. *Neuron*, 74, 2012.
- [p2] JM Segall, EA Allen, RE Jung, **EB Erhardt**, SK Arja, KA Kiehl, and VD Calhoun. Correspondence between structure and function in the human brain at rest. *Frontiers in Neuroinformatics*, 6(10), 2012.
- [p3] BL Drake, WH Wills, and **EB Erhardt**. The 5.1 ka aridization event, expansion of piñon-juniper woodlands, and the introduction of maize (*zea mays*) in the american southwest. *The Holocene*, page in print, 2012.
- [p4] **EB Erhardt**, EA Allen, Y Wei, T Eichele, and VD Calhoun. Simtb, a simulation toolbox for fmri data under a model of spatiotemporal separability. *NeuroImage*, 59(4):4160--4167, 2012.
- [p5] EA Allen, **EB Erhardt**, Y Wei, T Eichele, and VD Calhoun. Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study. *NeuroImage*, 59(4):4141--4159, 2012.
- [p6] Z Gardner, L Lueck, **EB Erhardt**, and LE Craker. A morphometric analysis of *actaea racemosa* l. (ranunculaceae). *Journal of Medicinally Active Plants*, page In print, 2012.
- [p7] Q Yu, SM Plis, **EB Erhardt**, EA Allen, J Sui, KA Kiehl, G Pearlson, and VD Calhoun. Modular organization of functional network connectivity in healthy controls and patients with schizophrenia during the resting state. *Frontiers in systems neuroscience*, 5, 2011.
- [p8] EA Allen, **EB Erhardt**, E Damaraju, W Gruner, JM Segall, RF Silva, M Havlicek, S Rachakonda, J Fries, R Kalyanam, AM Michael, A Caprihan, JA Turner, T Eichele, S Adelsheim, A Bryan, J Bustillo, VP Clark, S Feldstein Ewing, F Filbey, C Ford, K Hutchison, RE Jung, KA Kiehl, P Kodituwakku, Y Komesu, AR Mayer, G Pearlson, J Phillips, J Sadek, M Stevens, U Teuscher, RJ Thoma, and VD Calhoun. A baseline for the multivariate comparison of resting state networks. *Frontiers in Systems Neuroscience*, 5:1--23, 2011. Developed statistical strategy, wrote methods, cowrote and edited manuscript.

- [p9] **EB Erhardt**, EA Allen, E Damaraju, and VD Calhoun. On network derivation, classification, and visualization: a response to Habeck and Moeller. *Brain connectivity*, 1(2):105--110, 2011.
- [p10] **EB Erhardt**, S Rachakonda, EJ Bedrick, EA Allen, T Adali, and VD Calhoun. Comparison of multi-subject ICA methods for analysis of fMRI data. *Human Brain Mapping*, 32(12):2075--2095, Dec 2011.
- [p11] L Goode, **EB Erhardt**, L Santiago, and M Allen. $\delta^{13}C$ of soluble sugars in Tillandsia epiphytes vary in response to shifts in habitat. *Oecologia*, 163(3):583--590, Jul 2010. Statistical modeling, methods, writing results, edited manuscript.
- [p12] S Grufferman, F Ruymann, S Ognjanovic, **EB Erhardt**, and HM Maurer. Prenatal X-ray exposure and rhabdomyosarcoma in children: A report from the childrens oncology group. *Cancer Epidemiology Biomarkers & Prevention*, 18(4):OF1--6, 2009. Analysis, writing methods and results. *Elevated risk of rhabdomyosarcoma when mothers have X-ray in first trimester*.
- [p13] CP Bickford, NG McDowell, **EB Erhardt**, HH Powers, and DT Hanson. High frequency field measurements of diurnal carbon isotope discrimination and internal conductance in a semi-arid species, *juniperus monosperma*. *Plant, Cell & Environment*, 32(7):796--810, 2009. Statistical modeling of uncertainty with bootstrap, writing methods, editing manuscript.
- [p14] B Nandram and **EB Erhardt**. Fitting Bayesian two-stage generalized linear models using random samples via the SIR algorithm. *Sankhya*, 66(4):733--755, May 2005. Modeling, computing, writing.

Other Journal Articles

- [j1] **EB Erhardt**. Designing a better paper helicopter using response surface methodology. *STATS*, 48:14--21, 2007. Wrote cover feature & recorded webinar.

Book Chapters/Reviews

- [b1] JA Railey and **EB Erhardt**. *Lithic Studies*, volume 11, chapter Analysis of Projectile Points, pages 145--188. SWCA Environmental Consultants, animas-la plata project edition, 2009. Statistical analysis, results.
- [b2] JA Railey, L Lundquist, L Jia, and **EB Erhardt**. *Data Recovery at Five Archaeological Sites Along US 491, North of Sheep Springs, San Juan County, New Mexico*, chapter 8, Lithic Artifacts. SWCA, 2007. Statistical analysis, results.
- [b3] E Nonaka and **EB Erhardt**. *Biology Lab Manual*, chapter Basic statistical methods for biology, page Appendix. UNM Department of Biology, 2006. Cowrote.

Conference Publications

- [c1] **EB Erhardt**, EA Allen, Y Wei, T Eichele, and VD Calhoun. Simtb, a simulation toolbox for fmri data under a model of spatiotemporal separability. Organization for Human Brain Mapping, 2011.
- [c2] EA Allen, **EB Erhardt**, Y Wei, T Eichele, and VD Calhoun. Capturing inter-subject variability with group independent component analysis of fMRI data: a simulation study. Organization for Human Brain Mapping, 2011.

- [c3] DT Pater, **EB Erhardt**, and DT Hanson. Photorespiratory and respiratory carbon isotope fractionation in leaves. In *Proceedings of the Biophysical Society 55th Annual Meeting*, Baltimore, MD, Mar 2010. Biophysical Society. Wrote R package software to calculate data summaries.
- [c4] DT Pater, **EB Erhardt**, and DT Hanson. Isotopic signature of photorespiration. In *Joint Annual Meetings of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists*, Montréal, CA, August 2010. Wrote R package software to calculate data summaries.
- [c5] **EB Erhardt**, S Rachakonda, EJ Bedrick, EA Allen, T Adali, and VD Calhoun. Comparison of multi-subject ICA methods for analysis of fMRI data. Organization for Human Brain Mapping, 2010. Wrote poster and presented.
- [c6] EA Allen, **EB Erhardt**, S Rachakonda, T Eichele, AR Mayer, and VD Calhoun. Comparison of pre-normalization methods on the accuracy and reliability of group ICA results. Organization for Human Brain Mapping, 2010. Contributed to methods, presentation, and writing.
- [c7] MM Pleše and **EB Erhardt**. Patient knowledge of the link between diabetes and periodontal diseases. New Orleans, LA, June 2007. American Dental Hygienists Association 84th Annual Session & Exhibits XXVI.

Software

- [s1] **EB Erhardt** and DT Hanson. *tdlicor: estimates discrimination and other parameters associated with leaf photosynthesis*, 0.1-02 edition, 5 2011.
- [s2] **EB Erhardt** and A Jain. *mortest: estimates the total number of carcasses at a windfarm*, 0.01-003 edition, 3 2011.
- [s3] EA Allen, **EB Erhardt**, Y Wei, T Eichele, and VD Calhoun. *simtb: simulation toolbox for fMRI*. Mind Research Network, Albuquerque NM 87111, 5 2011. Software for Allen (2011) on “Capturing inter-subject variability”.
- [s4] **EB Erhardt**. *Stable Isotope Sourcing using Sampling*. Dissertation, University of New Mexico, Albuquerque, New Mexico, May 2009.
- [s5] **EB Erhardt**. *SISUS: Stable Isotope Sourcing using Sampling, Getting Started*, 2008.
- [s6] **EB Erhardt**. *Stable Isotope Sourcing using Sampling*. Software, CRAN R package “sisus”, 2007. Wrote to accompany paper.
- [s7] **EB Erhardt**. *NonParametric Statistical Toolbox*. Software, Mathworks File Exchange Matlab toolbox, 2003. Wrote toolbox while I took the course.

Other

- [o1] **EB Erhardt**. Another look at new mexico suicide statistics: conditional probability and data visualization. *UNM Daily Lobo*, Nov 10 2011.
- [o2] HL Paulsen, JA Sandoval, and **EB Erhardt**. Feasibility study and course fee policy reform recommendations to provide revenue for the department of biology’s teaching operations. Technical report, UNM Department of Biology, 2006. Statistical summaries and strategy for writing.

- [o3] **EB Erhardt**. Bayesian simultaneous intervals for small areas: An application to mapping mortality rates in US health service areas. MS thesis, applied statistics, Worcester Polytechnic Institute, Worcester, MA, USA, Dec 2003. Advisor: Balgobin Nandram, PhD.
- [o4] **EB Erhardt**. The Borromean rings. BA thesis, mathematics, Franklin Pierce College, Rindge, NH, USA, May 1997. Advisor: CT Brezovec, PhD.

Submitted or In Progress

- [i1] **EB Erhardt**, RM Wilson, J Nelson, and JP Chanton. An extended bayesian stable isotope mixing model for trophic level inference. 2012.
- [i2] EA Allen, E Damaraju, S Plis, **EB Erhardt**, T Eichele, and VD Calhoun. Tracking whole-brain connectivity dynamics in the resting-state. *NeuroImage*, In Preparation, 2012.
- [i3] **EB Erhardt** and EJ Bedrick. Bayesian inference for stable isotope mixing models. (*journal*), In review, 2010. Modeling, computation, writing.
- [i4] **EB Erhardt**, BO Wolf, and EJ Bedrick. Stable Isotope Sourcing using Sampling. (*journal*), In review, 2010. Modeling, computation, writing.
- [i5] EA Allen, **EB Erhardt**, S Rachakonda, T Eichele, AR Mayer, and VD Calhoun. Comparison of pre-normalization methods on the accuracy and reliability of group ICA results. (*journal*), In review, 2012. Contributed to methods, presentation, and writing.
- [i6] **EB Erhardt** and EJ Bedrick. Frequentist inference for stable isotope mixing models. (*journal*), To submit, 2010.
- [i7] **EB Erhardt**, RM Wilson, and EJ Bedrick. Estimating an animal's trophic level in the food chain. (*journal*), In progress, 2011.
- [i8] **EB Erhardt**, L Schwendenmann, S Reinsch, and EJ Bedrick. Estimating relationships among sources. (*journal*), In future, 2011.
- [i9] **EB Erhardt**, BO Wolf, and EJ Bedrick. Estimating when animals have changed diet. (*journal*), In future, 2011.
- [i10] DT Hanson and **EB Erhardt**. Accounting for sources of uncertainty in biological measurements using a TDL. (*journal*), In progress, 2011.
- [i11] **EB Erhardt**, K Hobson, and EJ Bedrick. Estimating migratory patterns using stable isotopes. (*journal*), In future, 2012.

Presentations

Talks

- Jun 17 -- 20, 2012 [i1] "An extended Bayesian stable isotope mixing model for trophic level inference". WNAR, The Western North American Region of The International Biometric Society. Fort Collins, CO.
- Jun 10 -- 14, 2012 [i2] "Data visualization in the neurosciences: overcoming the curse of dimensionality". 18th Annual Meeting of the Organization for Human Brain Mapping. Beijing, China.
Oral session presentation 7555, 6/11/2012.

- Feb 9, 2012 [i3] “Bayesian modeling in animal ecology”.
University of New Mexico, Graduate Colloquium.
- Nov 18, 2011 “Statistical consulting and collaboration, how to get started”.
University of New Mexico, Statistics Seminar.
- Aug 1, 2011 [i3] “A Bayesian framework for stable isotope mixing models: estimating source contributions to a mixture”.
Joint Statistical Meeting, Miami, FL.
- Jun 22, 2011 [p9] “On network derivation, classification, and visualization: a response to Habeck and Moeller”.
MRN MIALab lab meeting.
- Apr 29, 2011 [i3] “A Bayesian framework for stable isotope mixing models: estimating source contributions to a mixture”.
Albuquerque Chapter of the ASA, Annual meeting.
- Apr 12, 2011 [i3, i6] “A Bayesian (and frequentist) framework for stable isotope mixing models: estimating source contributions to a mixture”.
Job talk: University of New Mexico.
- Apr 6, 2011 [i3] “Brains, Biology, and Biostatistics: Some fun collaborations and a Bayesian framework for stable isotope mixing models”.
Job talk: St. Louis University.
- Dec 17, 2010 “Discussion of Bacchetti’s ‘Current Sample Size Conventions: Flaws, Harms, and Alternatives’ ”.
Mind Research Network, MIALab Journal club.
- Jul 31 -- Aug 4, 2010 [c4] “Isotopic Signature of Photorespiration”.
Joint Annual Meetings of the American Society of Plant Biologists and the Canadian Society of Plant Physiologists, Montréal, CA.
Contributed talk: P15036, by Dianne T. Pater.
- Aug 12, 2009 [s4] “Stable Isotope Sourcing using Sampling”.
UNM Mathematics and Statistics Department.
Dissertation Defense.
- Aug 2, 2009 [s4] “Stable Isotope Sourcing using Sampling”.
2009 Joint Statistical Meetings.
Contributed paper.
- Apr 8, 2009 [s6] “Stable Isotope Sourcing using Sampling”.
MIALab lab meeting, MIND institute, Albuquerque, NM.
- Dec 15 -- 19, 2008 [p13] “High frequency field measurements of diurnal carbon isotope discrimination and internal conductance in a semi-arid species, *Juniperus monosperma*”.
AGU Fall Meeting in San Francisco, California.
Contributed Paper: B21E-03, by Christopher Bickford.
- Nov 17, 2008 [s6] “Stable Isotope Sourcing using Sampling”.
UNM PNMGC New Visions Research Presentations.
Contributed Graduate Talk.
- Sep 18 -- 20, 2008 [s6] “Stable Isotope Sourcing using Sampling”.
HHMI-NIBIB Interfaces Initiative for Interdisciplinary Graduate Research Training Meeting, Chevy Chase, MD.

- Jun 17, 2008 [s6] “Stable Isotope Sourcing using Sampling”.
SIRFER Stable Isotopes in Ecology Course, Jim Ehleringer’s lab at Univ Utah.
The only student talk.
- Nov 7, 2006 [j1] “Designing a better paper helicopter using response surface methodology”.
UNM, Dept of Math and Stat, Graduate Colloquium.
Contributed Paper.
- Aug 9, 2006 [o3] “Bayesian simultaneous intervals . . . ”.
2006 Joint Statistical Meetings.
Contributed paper in Section on Health Policy Statistics.
- Apr 24, 2004 [o3] “Bayesian simultaneous intervals . . . ”.
The Eighteenth New England Statistics Symposium.
Contributed paper at Harvard University, Department of Statistics.
- Nov 24, 2004 [o3] “Bayesian simultaneous intervals . . . ”.
WPI Mathematics Department Colloquia.
- Aug 15, 2003 [o3] “Bayesian simultaneous intervals for small areas: An application to mapping
mortality rates in US health service areas”.
National Center for Health Statistics.
- Jun 6 -- 7, 1997 [o4] “The borromean rings”.
Northeastern Section of the Mathematical Association of America.
Student Paper Session, Presenting BA Thesis, Merrimack College, MA.

Posters

- Jun 10 -- Jun 14, 2012
[p1] “Data visualization in the neurosciences: overcoming the curse of dimensionality”.
18th Annual Meeting of the Organization for Human Brain Mapping. Beijing, China.
Contributed poster.
- Jun 26 -- Jun 30, 2011
[c1] “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.
Contributed poster.
- Jun 26 -- Jun 30, 2011
[c2] “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.
Contributed poster.
- May 29 - Jun 3, 2011 [i3] “Bayesian inference for stable isotope mixing models”.
Gordon Research Conference: CO2 Assimilation in Plants: Genome to Biome. Les Diablerets, Switzerland.
Contributed poster.
- Mar 5 -- Mar 9, 2011 [c3] “Photorespiratory and respiratory carbon isotope fractionation in leaves”.
Biophysical Society 55th Annual Meeting, Baltimore, MD, Mar 2011.
Contributed poster: 11-A-3727-BPS, by Dianne T. Pater.

- Jul 31 -- Aug 4, 2010 [c4] “Isotopic Signature of Photorespiration”.
Joint Annual Meetings of the American Society of Plant Biologists and the
Canadian Society of Plant Physiologists, Montréal, CA.
Contributed poster: P15036, by Dianne T. Pater.
- Jun 7--8, 2010 [c5] “Comparison of multi-subject ICA methods for analysis of fMRI data”.
16th Annual Meeting of the Organization for Human Brain Mapping. Barcelona,
Spain.
Contributed poster.
- Apr 13, 2007 [s6] “Stable Isotope Sourcing using Sampling”.
UNM, Dept of Biology, 16th Annual Research Day.
Contributed Graduate Poster. **First place.**

Funded Research

Active

- Jun 2012 One month summer salary from Dave T. Hanson, biology, for work on [s1] and
related projects.

Completed

- Mar 2012 UNM Math & Stat travel award. \$800
WNAR -- Graybill June 17-20, 2012 at Colorado State University -- Fort Collins,
Colorado
- Jan 2012 -- May 2012 UNM Research Allocation Committee (RAC) Grant. \$3,982.63
PIs: Erik Erhardt and David Hanson
Title: Frequentist (bootstrap) and Bayesian modeling of (photo)respiration in
plants
Ref: RAC 12-04
Use: To hire statistics graduate student, Mohammad Hattab, to implement and
develop modeling that I did last summer in Switzerland.
- Dec 2011 -- May 2012 Sandia National Labs, David Ek and Daniel Briand. \$25,000
PI: Erik Erhardt
Title: Future Looking Studies
Ref: UNM ID 37352
Use: Hire 10 statistics graduate students to research and develop models for two
projects. (1) Study the influence of future population growth on the projected
increase in need for radioactive materials in medicine. (2) Overlay of public
insurance models on intentional, malicious events to understand how the insurance
industry would model the risk, and therefore the premiums for a terrorist event.
Outcomes: The projects give the students experience working in teams on real-
world problems performing research, modeling, report writing, collaborating to-
gether in teams, and producing a report on time to a client. This is valuable to the
students’s professional development as statisticians. I supervised the two projects.
- Mar 2009 UNM, PIBBS Student Enrichment Opportunity. \$250
Eastern North American Region (ENAR) of the International Biometric Society
(IBS) short course in Hierarchical Modeling and Analysis of Spatial-Temporal
Data.

Jan 2008	UNM, PIBBS Student Enrichment Opportunity. Dissertation (SISUS), to attend Stable Isotopes in Ecology, Lecture and Laboratory Short Course, University of Utah, June 9 -- 20, 2008.	\$2,500
Apr 2007	UNM, PIBBS Student Enrichment Opportunity. Dissertation (SISUS) software startup.	\$860

Service

UNM Dept of Math & Stat

STATISTICS CLINIC

Dec 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	Negotiated 1 line of TA funding starting Spring 2012 (John Pesko) from the Robert Wood Johnson Foundation (RWJF) Center for Health Policy, UNM. Funding is expected to continue.
Dec 4, 2011	Forward consulting job to student, Rebecca Lilley.
Nov 18, 2011	Talk: "Statistical consulting and collaboration, how to get started". University of New Mexico, Statistics Seminar.

GRADUATE COMMITTEE

Apr 2012	Recommendations for "Excellence Fellowship" Teaching or Graduate Assistantships.
Jan 2012	Recommend for outstanding TA award.
Jan 2012	Review and provide recommendations for MS and PhD pass for exams.
Jan 2012	Review and provide nominations for Popejoy prize (academic excellence).
Dec 2011	Review graduate applications, provide ranking for offering TAs.

STATISTICS COMMITTEE

Jan -- Apr 2012	Statistics job search: reviewed candidate materials, hosted candidates, provided recommendations.
Jan 2012	Grade Statistics Qualifying Exam takehome portion, meet to make recommendations.

ORGANIZING SEMINARS

May 4, 2012	Lenth Series: Yushi Liu
Apr 27, 2012	Lenth Series: Li Luo
Apr 20, 2012	Lenth Series: Bert Davis
Apr 13, 2012	Lenth Series: Huining Kang

ORGANIZING STUDENT TALKS

Apr 27, 2012	Yong Lin
Apr 20, 2012	Glenn Stark
Dec 2, 2011	W. Duncan Wadsworth

RECOMMENDATION LETTERS

Grad App	2012 (2), 2011 (2)
Special	2012 (2)

REVIEWER

2010 (2)	Human Brain Mapping (Brain imaging) (2).
2009 (2)	Oecologia (Ecology) (1), MAGMA (Brain imaging) (1).
2008 (1)	Book: "Isoscapes: Understanding movement, pattern, and process on Earth through isotope mapping".

OTHER

Feb 2012	Organized HSC and Math & Stat collaboration opportunity meeting with Richard Larson, Vice Chancellor for Research.
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Professional

Sep 2007 -- Sep 2008	President. Albuquerque Chapter of the American Statistical Association, Albuquerque, NM.
Jan 2006 -- current	Chair of ACASA Mu Sigma Rho subcommittee. Recruit students, give awards. The national honorary society for statistics. <i>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.</i>
Sep 2005 -- Sep 2007	Chapter Representative. Albuquerque Chapter of the American Statistical Association, Albuquerque, NM.

UNM Service

Apr 2008	Judge, UNM Undergraduate Research and Creativity Symposium. Explore.
Apr 2008	Judge, UNM Undergraduate Research Symposium. 5th Annual, PROFOUND.
Apr 2007	Judge, UNM Outstanding Teaching Assistant Award by CASTL.
Apr 2007	Judge, UNM Undergraduate Research and Creativity Symposium. Explore.
Apr 2007	Judge, UNM Undergraduate Research Symposium. 4th Annual, PROFOUND.
Apr 2006	Judge, UNM Undergraduate Research Symposium. 3rd Annual, PROFOUND.
Apr 2005	Judge, UNM Undergraduate Research Symposium. 2nd Annual, PROFOUND.
Nov 2005	Judge, UNM Undergraduate Research and Creativity Symposium. Explore.

Community Service

- Apr 2008 ACASA “Best Use of Statistics” 56th Annual NM Science & Engineering Fair.
- May 2007 Special Awards Judge for ASA “Special Award from the American Statistical Association” 58th Annual Intel International Science and Engineering Fair, Albuquerque, NM.
- Apr 2007 ACASA “Best Use of Statistics” 55th Annual NM Science & Engineering Fair.
- Apr 2006 ACASA “Best Use of Statistics” 54th Annual NM Science & Engineering Fair.
- Jan 2006 Judge for Jefferson Middle School Science Fair, Albuquerque, NM.
- Apr 2005 Special Judge for Albuquerque Chapter of the American Statistical Association awarding “Best Use of Statistics” in High School Senior class. 53rd Annual New Mexico Science & Engineering Fair, New Mexico Tech, Socorro, NM.

Meetings

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- Jun 2012 Western North American Region of The International Biometric Society, Fort Collins, CO, contributed paper [i1].
- Aug 2011 Joint Statistical Meeting, Miami, FL. Contributed paper, [i3].
- Jun 2011 Organization for Human Brain Mapping, Quebec City, Canada [c1, c2].
- May 29 - Jun 3, 2011 Gordon Research Conference: CO2 Assimilation in Plants: Genome to Biome. Les Diablerets, Switzerland. Contributed poster [i3].
- Apr 29, 2011 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, contributed talk [i3].
- Jun 2010 Organization for Human Brain Mapping, Barcelona, Spain [c5].
- Apr 23, 2010 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM.
- Aug 2009 Joint Statistical Meeting, Washington, DC. Contributed paper, [s4].
- Jun 2009 Western North American Region of The International Biometric Society, Portland, OR.
- Mar 2009 Eastern North American Region of The International Biometric Society, Spring Meetings, San Antonio, TX.
- Nov 20, 2008 Albuquerque Software Process Improvement Network.
- Nov 7, 2008 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer.
- Aug 2008 Joint Statistical Meeting, Denver, Colorado.
- Jun 9 -- 20, 2008 Stable Isotopes in Ecology, Lecture and Laboratory Short Course, University of Utah. Student. Lectured on “stable isotope sourcing methods” [s6].
- Apr 19, 2008 UNM Sigma Xi, Annual meeting.
- Oct 12, 2007 Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer.
- Aug 15, 2007 Albuquerque Software Process Improvement Network.

May 16, 2007	Albuquerque Software Process Improvement Network.
Apr 30, 2007	UNM Sigma Xi, Annual meeting.
Apr 18, 2007	Albuquerque Software Process Improvement Network.
Mar 22, 2007	Albuquerque Quality Network.
Mar 19, 2007	American Society for Quality, Albuquerque Chapter.
Nov 20, 2006	American Society for Quality, Albuquerque Chapter.
Sep 29, 2006	Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM, organizer.
Aug 2006	Joint Statistical Meeting, Seattle, Washington. Contributed paper, [o3].
Sep 16, 2005	Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM.
Sep 23, 2004	Albuquerque Chapter of the American Statistical Association (ASA) Annual meeting. Santa Fe, NM.
Apr 24, 2004	The 18th New England Statistics Symposium. Harvard University, Cambridge, MA.
Dec 4, 2003	Boston Area SAS Users Group Quarterly Meeting. Newton, MA.
Jun 6 -- 7, 1997	Spring Meeting of the Northeastern Section of the Mathematical Association of America. Merrimack College, North Andover, MA. Contributed paper, [o4].

Professional Development

Training

Aug 2012	UNM LSE 122 Foundations of Project Management
Apr 2012	UNM Cayuse 424 training.
Apr 2012	NSF Science--Becoming the Messenger Workshop.
Mar 2012	UNM EOD 353 Grants Management Program: General Workshop.
Feb 2012	UNM LSC 108 Getting Started as a New Leader.
Feb 2012	UNM LSC 100 Essentials of Leadership.
Jan 2012	UNM LSE 127 Discover Your DISC Behavioral Style.
Jan 2012	UNM LSE 121 Leading Productive Teams.
Aug 2011	UNM Grant proposals workshop.
Oct 2009	MRN Management training.

Statistics Training

Mar 2009	“Spatial Data Analysis” ENAR short course.
Aug 2009	“fMRI data analysis” short course, MRN.
Sep 2005	“Bootstrap Methods and Permutation Tests” Tim Hesterberg, Insightful Corporation, at UNM organized by ACASA.
Aug 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	“Longitudinal Data Analysis/Linear Mixed Models” at National Center for Health Statistics, Hyattsville, MD.

Educational Activities _____**Thoughts**

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 (3/9/12, 69 pages).
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Training

May 2012	UNM OSET Designing Courses for Effective Student Learning, Faculty and Instructors Institute
Feb 2007	UNM Success in the Classroom: Sharing Practices That Work, CASTL.
Feb 2006	UNM Success in the Classroom: Sharing Practices That Work, CASTL.
Fall 2004	UNM Teaching Assistant Resource Center (TARC) certificate of completion for Interest and Concern for Teaching Excellence.
Spr 2004	WPI Graduate Student TA Training Seminar Certificate.
Sum 2002	WPI Seminar in College Teaching.

Teaching

FACULTY: UNIVERSITY OF NEW MEXICO, FALL 2011 -- CURRENT

Note: –499 are undergraduate, 500+ are graduate.

Spr 2013 (26)	Stat 428/528. Advanced Data Analysis II. Instructor. <i>Co-wrote lecture notes, maintained course website, set homework, held office hours.</i> -- students
Spr 2013 (25)	Stat ---. Statistical Programming in R. Instructor. <i>Wrote lecture notes, maintained course website, held office hours, set and graded homework.</i> -- students

- Fall 2012 (24) Stat 427/527. Advanced Data Analysis I. Instructor.
Co-wrote lecture notes, maintained course website, set homework, held office hours.
-- students
- Spr 2012 (23) Stat 428/528. Advanced Data Analysis II. Instructor.
Co-wrote lecture notes, maintained course website, set homework, held office hours.
50 students
- Spr 2012 (23.1) Psy 650. Clinical Cognitive Neuroscience. Guest lecturer.
Prepared and gave lecture "Alternative models for fMRI analysis: seed-based correlation, independent component analysis".
6 students
- Fall 2011 (22) Stat 579. Response Surface Methodology. Instructor.
Wrote lecture notes, maintained course website, held office hours, set and graded homework.
8 students
- Fall 2011 (21) Stat 427/527. Advanced Data Analysis I. Instructor.
Co-wrote lecture notes, maintained course website, set homework, held office hours.
60 students

POSTDOC: UNIVERSITY OF NEW MEXICO, FALL 2010

Note: -499 are undergraduate, 500+ are graduate.

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

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 on a number of thesis committees in departments other than statistics (Section).

Note: -499 are undergraduate, 500+ are graduate.

- Spr 2008 (19) Stat 553. Statistical Inference. Graduate Assistant.
Gave a selection of lectures.
20 students
- Spr 2008 (18) Stat 590. Statistical Computing. Graduate Assistant.
Gave a selection of lectures.
10 students
- Sum 2006 (17) Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor.
Designed my own course materials. Wrote lecture notes, assigned homework, designed handouts, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.
24 students
- Spr 2005 (16) BMS 516. Molecular Genetics and Genomics. Teaching Assistant.
Maintained course website, pretested computer labs.
8 students

- Spr 2006 (15) Stat 539. Biostatistical Methods II for Public Health & Medical Science. Teaching Assistant.
Designed my own course materials. Wrote lab notes for teaching computer package Stata in the context of the statistical theory, maintained course website, held office hours.
9 students
- Fall 2005 (14) Stat 538. Biostatistical Methods I for Public Health & Medical Science. Teaching Assistant.
Designed my own course materials. Wrote lab notes for teaching computer package Minitab in the context of the statistical theory, maintained course website, held office hours.
21 students
My labs also used by Woncheol Jang at the Department of Epidemiology and Biostatistics, College of Public Health, University of Georgia. (Spr 2008)
- Sum 2005 (13) Stat 345. Elements of Mathematical Statistics & Probability Theory. Instructor.
Designed my own course materials. Wrote lecture notes, assigned homework, designed handouts, quizzes, and exams, maintained course website, held office hours, graded quizzes and exams.
29 students
- Spr 2005 (12) Stat 145. Introduction to Statistics. Instructor.
Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.
48 students
- Fall 2004 (11) Stat 145. Introduction to Statistics. Instructor.
Wrote lecture notes, critiqued exams, maintained course website, held office hours, graded exams.
53 students

TA: WORCESTER POLYTECHNIC INSTITUTE, FALL 2002 -- SPR 2004

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

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

- Fall 2004 A (10) MA 2621. Probability for Applications. Teaching Assistant.
61 students
- Spr 2004 C (9) MA 2621. Probability for Applications. Teaching Assistant.
61 students
- Spr 2003 B (8) MA 2612. Applied Statistics II. Teaching Assistant.
45 students
- Spr 2003 A (7) MA 2611. Applied Statistics I. Teaching Assistant.
≈120 students
- Fall 2003 D (6) MA 2612. Applied Statistics II. Teaching Assistant.
46 students
- Fall 2003 C (5) MA 2611. Applied Statistics I. Teaching Assistant.
≈120 students
- Spr 2002 B (4) MA 2611. Applied Statistics I. Teaching Assistant.
≈120 students

Spr 2002 A (3)	MA 2611. Applied Statistics I. Teaching Assistant. ≈120 students
Fall 2002 D (2)	MA 2611. Applied Statistics I. Teaching Assistant. ≈120 students
Fall 2002 C (1)	MA 2611. Applied Statistics I. Teaching Assistant. ≈120 students

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, 4 term system (Spr A B, Fall C D).

- 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.

Mentoring

GRAD STUDENTS

Jan 2012 -- May 2013

Mohammad Hattab

“Frequentist (bootstrap) and Bayesian modeling of (photo)respiration in plants”.

“Bayesian estimation of diet shifts in animals using stable isotopes”.

Degree: PhD Statistics 2014.

Coadvising.

Dec 2011 -- May 2012

Sandia National Labs “Future Looking Studies” (see Funded Research)

Team 1: Gregory Lambert, Lang Zhou, Xueqin Wang, Yonghua Wei, Fares Qeadan

Team 2: Yong Lin, Mohammad Hattab, Rebecca Lilley, John Pesko, Kyle Rechard

2009

Melissa Van Witzenburg

“Comparison of dental practitioners’ knowledge of adverse oral effects of pharmaceuticals”.

Degree: MS Dental Hygiene UNM 2009.

Advised and performed statistical analysis for MS thesis.

- 2008 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.
- 2007 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 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 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 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 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 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.
- 2006 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 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 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.

UNDERGRAD STUDENTS

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

Honors

Awards

- 2012 Nominated for Outstanding New Faculty Teacher of the Year Award, CASTL, UNM.
- 2009 PhD with distinction.
- 2007 First place, Graduate Poster for SISUS, UNM Biology 16th Annual Research Day.
- 2006 Excellence in Teaching Award, Department of Mathematics and Statistics, UNM.
- 2005 -- 2006 Outstanding Teaching Assistant of the Year Award, CASTL, UNM.
- 1996 Mathematics Award, FPC.
- 1995 AIFS International Scholarship for Study Abroad.
- 1994 -- 1995 President's Achievement Scholarship, FPC.
- 1994 -- 1995 Valakis Scholarship, FPC.
- 1994 -- 1995 Governor's Success Grant, NH.
- 1994 -- 1996 Barry M Goldwater Scholarship, USA.
- 1993 -- 1995 President's Scholarship, FPC.

Honor Societies

- 2006 HHMI Interfaces Scholar at the University of New Mexico (PIBBS).
- 2006 Kappa Mu Epsilon, The National Mathematics Honor Society.
- 2006 Mu Sigma Rho, The National Honorary Society for Statistics.
- 2004 Sigma Xi ($\Sigma\Xi$), The Scientific Research Society. Promoted to full member 2012.
- 1996 Alpha Chi National College Honor Scholarship Society.

Professional Societies

- 2003 -- American Statistical Association (ASA).
 Sep 2005 -- Sep 2007. Albuquerque Chapter Representative and webmaster.
 Jan 2006 -- current. ACASA Mu Sigma Rho subcommittee, chair and founder.
 Sep 2007 -- Sep 2008. Albuquerque Chapter President and webmaster.
- 2003 -- Institute of Mathematical Statistics (IMS).
- 2004 -- The Western North American Region (WNAR) of The International Biometric Society.
- 2005 -- International Society for Bayesian Analysis (ISBA).
- 2006 -- American Society for Quality (ASQ).
- 2010 -- Organization for Human Brain Mapping (OHBM).

Skills

-
- Programming R (package developer), C (including parallel), Matlab (toolbox developer), SAS (including GRAPH, IML, INSIGHT, MACRO, QC, and STAT), Stata, Minitab, SPSS, S-plus, JMP, L^AT_EX, 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 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.

Collaborators

(many more to come...)

Elena Allen

Consulting

-
- Jun 2011 -- Aug 2012 Santa Fe DBT and Albuquerque Collaborative Therapeutics. Evidence-based assessment and manuscript preparation.
- Apr 2010 -- Dec 2010 VeraLight, Inc., Albuquerque, NM. Demographic subgroup analysis of pre-clinical trial data, analysis plan for FDA clinical trial.
“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
- Nov -- Dec 2010 Aaftab Jain, Albuquerque, NM. Statistical consulting for improved inference of windfarm mortality with R software package.

- Jul 2010 Dayle Hosek, RN, MEd, Director of Quality Management, Lovelace Medical Center, Albuquerque, NM. Analysis of provider risk of complications.
- Apr 2010 Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys.
- Mar 2010 Jackie Reeve, Albuquerque, NM. Analysis of survey of nurse practitioner opinion on BRCA testing.
- Apr 2009 Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys.
- Mar 2009 Albuquerque Collaborative Therapeutics. Evidence-based assessment of the full Dialectical Behavior Therapy program.
- Apr 2008 Hari Nam Simran K Khalsa, UNM Graduate student. Statistical modeling: El Nino effect on California breeding bird population.
- Apr 2008 Elaine Dils, UNM Dental Hygiene. Raising Oral Health Awareness among Nephrology Nurses.
- Apr 2008 Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys.
- Sep 2007 [b1] 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.
- Feb -- Aug 2007 UniRac, Inc. For process development, improvement, and control of PV's Universal Flat Roof Solution. RapidRac G10 PV Mounting System, introduced Sep 2007.
- Mar 2007 Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys.
- Feb 2007 [b2] 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.
- Oct 2006 Digipress, Inc., d/b/a Spire. Predictive models for responses to repeated mailings.
- May 2006 [b3] Etsuko Nonaka, UNM Biology Department. Biology Lab Manual Appendix coauthor, "Basic statistical methods for biology".
- Mar 2006 Ted Fish, EdD, President, Philos Institute, Santa Fe, NM. Analysis of longitudinal surveys.
"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
- Feb 2006 [o2] Heather Paulsen, Accountant, UNM Biology Department. Department of Biology Course Fees Feasibility Study.
"... this has allowed us to net an additional \$55,000 this semester in funding for student classes and labs." --- Heather Paulsen, 17 Jan 2007

Biographical sketch

Dr. Erik Barry Erhardt is Assistant Professor and Director of the Statistical Consulting Clinic in the Department of Mathematics and Statistics at the University of New Mexico. He develops statistical methods for stable isotope sourcing in biology and ecology. 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.

References

Mind Research Network (postdoc)

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 (PhD)

Edward J. Bedrick, PhD (PhD Advisor), Math & Stats Internal Medicine, (505) 277-2911, bedrick@stat.unm.edu
Gabriel Huerta, PhD, Math & Stats, (505) 277-2564, ghuerta@stat.unm.edu
Ronald Christensen, PhD, Math & Stats, (505) 277-4619, fletcher@stat.unm.edu
David T. Hanson, PhD, Biology, 505-277-6681, dthanson@unm.edu
Blair Wolf, PhD, Biology, (505) 277-4122, wolf@unm.edu

Worcester Polytechnic Institute (MS)

Balgobin Nandram, PhD (MS Advisor), Math Sciences, (706) 721-3785, balnan@wpi.edu
Joseph D. Petrucci, PhD, Math Sciences, (508) 831-5362, jdp@wpi.edu

Franklin Pierce College (BA)

Carl T. Brezovec, PhD (BA Advisor), Natural Sciences, (603) 899-4256, brezovct@fpc.edu