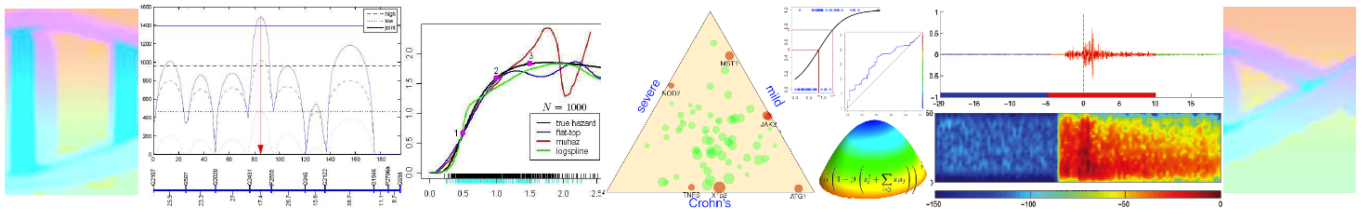


Arthur S. Berg, PhD

Curriculum Vitæ

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Research Interests

- Biomedical Informatics** clinical informatics, electronic health record research, patient-centered outcomes research, translational informatics.
- Bioinformatics** arrays (genotype, expression, methylation, exon), computational methods, metabolomics, next-generation sequencing (whole genome, exome, Chip-seq), proteomics.
- Biostatistics** adaptive designs, Bayesian methods, biomarkers, clinical trial design & simulation, drug interaction, predictive modeling, statistical genetics, survival analysis.
- Econometrics** ARCH/GARCH, nonlinearity, spectral density estimation, time series analysis, resampling methods for dependent data.
- Statistics** bootstrap, density estimation, functional smoothing, nonparametric statistics, subsampling.

Education

- 2002-2007 **Ph.D., Mathematics (Statistics Dissertation)**, *University of California, San Diego*, La Jolla, CA.
Dissertation: *Nonparametric Function Estimation with Applications*
Advisor: [Dimitris Politis](#)
- 2005 **M.S., Statistics**, *University of California, San Diego*, La Jolla, CA.
- 2002 **M.A., Mathematics**, *University of Southern California*, Los Angeles, CA.
- 1998-2002 **B.S., Mathematics**, *University of Southern California*, Los Angeles, CA.

Experience

Current

- 2013 – **Associate Professor (tenured)**, *Pennsylvania State University*, Department of Public Health Sciences, Division of Biostatistics and Bioinformatics.
Perform methodological and collaborative research in the College of Medicine.
- 2011 – **Director**, *Biostatistics PhD Program*, Penn State.
Direct the Biostatistics PhD Program and serve as chair of the Biostatistics PhD Program Committee.
- 2010 – **Adjunct Faculty**, *Department of Statistics*, Pennsylvania State University.
Perform collaborative and methodological research with faculty and students in the Department of Statistics.
- 2013 – **Adjunct Faculty**, *Department of Neurosurgery*, Pennsylvania State University.
Collaborate with faculty, residents, and students in the Department of Neurosurgery.

2013 – **Adjunct Faculty**, *Department of Surgery*, Pennsylvania State University.
Collaborate with faculty, residents, and students in the Department of Surgery.

Ad hoc

Expert Witness Services.

Service as an expert witness based on expertise.

Independent Data Monitoring Committees.

Service as an independent statistician in analyzing and evaluating pharmaceutical clinical trial data.

Previous

- 2011 – 2015 **Leader**, *Biomedical Informatics Program of the Clinical and Translational Science Institute*.
Provide leadership to meet the biomedical informatics goals of the CTSI.
- 2011 – 2015 **Director**, *Bioinformatics Core*, Penn State College of Medicine.
Facilitate bioinformatics analyses including analysis of expression/methylation/genotyping chips, proteomics data, and next-gen sequence data including whole genome, exome, and ChIP-seq data.
- 2009 – 2013 **Assistant Professor (tenure-track)**, *Pennsylvania State University*, Department of Public Health Sciences, Division of Biostatistics and Bioinformatics.
Perform methodological and collaborative research in the College of Medicine.
- Summer 2011 **Visiting Scholar**, *Center for Statistical Science*, Peking University, Beijing, China.
Collaborated with faculty and students at Peking University.
- 2007 – 2009 **Assistant Professor (tenure-track)**, *University of Florida*, Department of Statistics.
Performed methodological and collaborative research in the Department of Statistics and the Institute of Food and Agricultural Sciences with a 50/50 research/teaching appointment. Taught the undergraduate and graduate courses Time Series Analysis (STA 4853/STA 5856 and STA 6857) and Fundamentals of Probability (STA 4321/STA 5325).
- 2008 – 2009 **Faculty Member**, *Genetics Institute*, University of Florida.
Participated in collaborative genetics research and advised genetics students during their rotations.
- Winter 2007 **Associate-In Instructor**, *University of California, San Diego*, Department of Mathematics.
Taught a calculus course (MATH 10B) for one quarter as part of the UCSD's Associate-In Program.
- 2002 – 2007 **Teaching Assistant**, *University of California, San Diego*, Department of Mathematics.
Teaching Assistant for 15 quarters at the UCSD (while pursuing my PhD). Courses include statistics (graduate, upper and lower-division), time series, calculus, and others.
- 2005–2006 **Adjunct Instructor**, *Miramar Community College*, Department of Mathematics.
Taught three courses: Introductory Statistics, Calculus III, and Intermediate Algebra.
- 1999 – 2002 **Teaching Assistant**, *University of Southern California*, Department of Mathematics.
Teaching Assistant for three years in the Department of Mathematics at USC (as an undergraduate). Courses included engineering mathematics, mathematical analysis, calculus, et. al.
- Summers of **Counselor**, *Program in Mathematics for Young Scientists*, Boston University.
2001, 2002, Taught mathematics to exceptional high school students during a 6-week residential program at Boston
2003 University (<http://www.promys.org/>).

Published/Accepted Papers

All papers listed have been peer reviewed. Published articles are listed by year then alphabetically by first author.

Papers to Appear • 2015

- Coble J, Schilder RJ, **Berg A**, Drummond MJ, Rasmussen BB, Kimball SR. Influence of ageing and essential amino acids on quantitative patterns of troponin T alternative splicing in human skeletal muscle. *Appl Physiol Nutr Metab*. 2015 Aug; 40(8):788-96.
- Connelly TM, **Berg A**, Harris LR, Tappouni R, Brinton D, Deiling S, Koltun WA. Surgical diverticulitis is not associated with defects in the expression of wound healing genes. *Int J Colorectal Dis*. 2015 Sep;

30(9):1247-54.

- Connelly TM, **Berg A**, Harris L, Brinton D, Deiling S, Koltun WA. Genetic Determinants Associated With Early Age of Diagnosis of IBD. *Dis Colon Rectum*. 2015 Mar; 58(3):321-7.
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- Goodson WH, Lowe L, et al. Assessing the carcinogenic potential of low-dose exposures to chemical mixtures in the environment: the challenge ahead. *Carcinogenesis*. 2015 Jun; 36 Suppl 1:S254-96.
- Liao J, Liao D, **Berg A**. Calibrated Bayes factors in Assessing Genetic Association Models. *American Statistician* Revision Submitted.
- He F, Rodriguez-Colon S, Fernandez-Mendoza J, Vgontzas A, Bixler E, **Berg A**, Kawasaki YI, Sawyer M, Liao D. Abdominal obesity and metabolic syndrome burden in adolescents—Penn State Children Cohort study. *Journal of clinical densitometry* 2015 Jan; 18(1): 30-36. doi: [10.1016/j.jocd.2014.07.009](https://doi.org/10.1016/j.jocd.2014.07.009)
- He F, Bixler EO, **Berg A**, Imamura Kawasaki Y, Vgontzas AN, Fernandez-Mendoza J, Yanosky J, Liao D. Habitual sleep variability, not sleep duration, is associated with caloric intake in adolescents. *Sleep Med*. 2015 Jul; 16(7):856-61.
- Sangster W, Messaris E, **Berg A**, Stewart DB. Single-Site Laparoscopic Colorectal Surgery Provides Similar Clinical Outcomes Compared With Standard Laparoscopic Surgery: An Analysis of 626 Patients. *Dis Colon Rectum*. 2015 Sep; 58(9):862-9.
- Yee NS, Kazi AA, Li Q, Yang Z, **Berg A**, Yee RK. Aberrant over-expression of TRPM7 ion channels in pancreatic cancer: required for cancer cell invasion and implicated in tumor growth and metastasis. *Biol Open*. 2015; 4(4):507-14.

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- Connelly TM, **Berg A**, Hegarty, JP, Deiling S, Brinton D, Poritz LS, Koltun WA. The TNFSF15 Gene Single Nucleotide Polymorphism rs7848647 Is Associated With Surgical Diverticuli. *Annals of Surgery* 2014 Jun; 259(6): 1132-1137. doi: [10.1097/SLA.0000000000000232](https://doi.org/10.1097/SLA.0000000000000232)
- Connelly TM, **Berg A**, Harris LR, Hegarty JP, Ruggiero FM, Deiling SM, Brinton DL, Koltun WA. T-cell activation Rho GTPase-activating protein expression varies with inflammation location and severity in Crohn's disease. *J Surg Res*. 2014 Aug; 190(2): 457-464. doi: [10.1016/j.jss.2014.01.019](https://doi.org/10.1016/j.jss.2014.01.019)
- Connelly TM, **Berg A**, Harris L, Brinton D, Hegarty JP, Deiling S, Stewart DB, Koltun WA. Ulcerative Colitis Neoplasia Is Not Associated with Common IBD SNPs. *Surgery* 2014 Aug; 156(2): 253-62.
- Connelly TM, Koltun WA, Sangster W, **Berg A**, Hegarty J, Harris L, Deiling S, Stewart DB. An interleukin-4 polymorphism is associated with susceptibility to Clostridium difficile infection in patients with inflammatory bowel disease: Results of a retrospective cohort study. *Surgery* 2014 Oct; 156(4): 769-775. doi: [10.1016/j.surg.2014.06.067](https://doi.org/10.1016/j.surg.2014.06.067)
- Dennis MD, Coleman CS, **Berg A**, Jefferson LS, Kimball SR. REDD1 enhances protein phosphatase 2A-mediated dephosphorylation of Akt to repress mTORC1 signaling. *Sci Signal*. 2014; 7(335):ra68. doi: [10.1126/scisignal.2005103](https://doi.org/10.1126/scisignal.2005103)
- Liao J, McMurry T, **Berg A**. Prior robust empirical Bayes inference for large scale data by conditioning on rank with application to microarray data. *Biostatistics* 2014 Jan;15(1):60-73. doi: [10.1093/biostatistics/kxt026](https://doi.org/10.1093/biostatistics/kxt026)
- Mitchell C, Hobcraft J, McLanahan S, Siegel SR, **Berg A**, Brooks-Gunn J, Garfinkel I, Notterman D. Social disadvantage, genetic sensitivity, and children's telomere length. *Proceedings of the National Academy of Sciences* 2014; 111(16): 5944-5949. doi: [10.1073/pnas.1404293111](https://doi.org/10.1073/pnas.1404293111)
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- Sathyendra V, Donahue HJ, Vrana KE, **Berg A**, Fryzel D, Gandhi J, Reid JS. Single Nucleotide

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 - Wilson RT, Bortner JD Jr., Roff AN, Das A, Battaglioli EJ, Richie JP Jr., Barnholtz-Sloan J, Chinchilli VM, Berg A, Liu G, Salzberg AC and El-Bayoumy K. Genetic and Environmental Influences on Plasma Vitamin D Binding Protein Concentrations. *Translational Research* (in press).
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- Stewart, DB, **Berg A**, Hegarty J. Predicting Recurrence of *C. difficile* Colitis Using Bacterial Virulence Factors: Binary Toxin Is the Key. *J Gastrointest Surg.* 2013; 17(1):118-125. doi: [10.1007/s11605-012-](https://doi.org/10.1007/s11605-012-)

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- Ang KC, Ngu MS, Reid K, Teh MS, Zamzuraida AS, Danny XR, **Berg A**, Oppenheimer S, Hood S, Mahani MC, Badrul MZ, Canfield V, Cheng K. Skin Color Variation in the Orang Asli Tribes of Peninsular Malaysia. *PLoS ONE* 2012 7(8): e42752. doi:[10.1371/journal.pone.0042752](https://doi.org/10.1371/journal.pone.0042752).
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- **Berg A**, McMurry T, and Politis D. Testing time series linearity: traditional and bootstrap methods. *Handbook of Statistics: Time Series Analysis: Methods and Applications.* In Series: Volume 30 of Handbook of Statistics. Editors: C.R. Rao and Tata Subba Rao. 2012; 27-42. Available [here](#) and [here](#).
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- Connelly T, Sehgal R, **Berg A**, Hegarty JP, Deiling S, Poritz L, Koltun WA. Mutation in TAGAP is protective of anal sepsis in ileocolic Chron's disease. *Dis Colon Rectum* Nov 2012; 55(11).
- Connelly TM, **Berg A**, Harris L, Ruggiero F, Deiling S, Brinton D, Koltun WA. T-cell activation Rho GTPase-activating protein expression varies with inflammation location and severity in Crohn's disease. *J Surg Res* doi: [10.1016/j.jss.2014.01.019](https://doi.org/10.1016/j.jss.2014.01.019)
- Foulds J, Veldheer S, **Berg A** Electronic Cigarettes: A response to Leelavathi and Das. *International Journal of Clinical Practice.* 2012 Apr; 66(4):417-8. doi: [10.1111/j.1742-1241.2011.02889.x](https://doi.org/10.1111/j.1742-1241.2011.02889.x)
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- Popova E, Xu X, DeWan A, Salzberg A, **Berg A**, Hoh J, Zhang SS, Barnstable C. Gene specific signatures by H3K4me2 and H3K27me3 modifications during retina. *PLoS One* 2012; 7(10): e46867. doi: [10.1371/journal.pone.0046867](https://doi.org/10.1371/journal.pone.0046867)
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- **Berg A** and Politis D. CDF and Survival Function Estimation with Infinite-Order Kernels. *Electronic Journal of Statistics*. 2009; 4: 1436-1454. doi: 10.1214/09-EJS396
- **Berg A**, Politis D. Higher-Order Accurate Polyspectral Estimation with Flat-top Lag-Windows. *Ann. Inst. Statist. Math*. 2009; 61(2): 477-498. doi: 10.1007/s10463-007-0154-0
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- Brumback, B. and **Berg A**. On Effect-Measure Modification: Relations Among Changes in the Rel-

- ative Risk, Odds Ratio, and Risk Difference. *Statistics in Medicine* 2008; 27(18): 3453-3465. doi: 10.1002/sim.3246
- Kane DL, Kilb D, **Berg A**, and Martynov VG. Quantifying the remote triggering capabilities of large earthquakes using data from the ANZA Seismic Network catalog (southern California). *J. Geophys. Res.* 2007; 112(B11302): 1-14. doi: 10.1029/2006JB004714
 - Kim BR, Zhang L, **Berg A**, Fan J, Wu R. A Computational Approach to the Functional Clustering of Periodic Gene Expression Profiles. *Genetics* 2008; 180: 821-834. doi: 10.1534/genetics.108.093690
 - Ma, CX, Yu Q, **Berg A**, Fu G, Yap JS, Tan A, Kirst M, Cui YH, Wu RL. A Statistical Model for Testing the Pleiotropic Control of Phenotypic Plasticity for a Count Trait. *Genetics* 2008; 179: 627-636. doi: 10.1534/genetics.107.081794

Grants

Ongoing Grant Support

- Co-PI, **Penn State Clinical and Translational Science Institute** (NIH; Mar 2012 – Feb 2013). Support: 30% FTE.
- Co-Investigator, **The Genetic and Metabolic Characterization of Inflammatory Bowel Disease** (Philadelphia Health Care Trust; Jan 2012 – Dec 2012). Support: 20% FTE.
- Co-Investigator, **Biophysical Signals, Biomaterial Surface Characteristics and HMSC Differentiation** (NIAMS; Apr 2009 – Mar 2014). Support: 5% FTE.
- Co-Investigator, **Diagnosis and Treatment of Preclinical Systemic Lupus Erythematosus** (TSF; Sep 2012 – Dec 2013).
- Co-Investigator, **Oncogenic Mutations/Rearrangements in Patients with Advanced Adenocarcinoma Lung** (TSF; Jul 2012 – Dec 2013).
- Co-Investigator, **Modifiable Risk Factors and Cardiovascular Health- Penn State Hershey Cohort Study** (CTSI; Mar 2013 – Feb 2015).
- Co-Investigator, **UGT Genetic Variation and Colorectal Cancer Risk** (TSF; Jul 2012 – Dec 2013).
- Co-Investigator, **Development of a Novel Agent for Lung Cancer Prevention** (NIH; Jul 2012 – Jun 2014).
- Co-Investigator, **Macronutrient Regulation of Alternative Pre-mRNA Splicing** (NIH; Jul 2013 – Jun 2018).
- Huck Institute Support (Oct 2009 – Jun 2015). Support: 45% FTE.

Completed Research Support

- PI, **Development of Bioinformatics Methods for Medical Research** (PA Tobacco Settlement Fund; Jan 2012–June 2013).
- PI, **Discovery of gene functions and their application using a novel statistical approach for integrating functional mapping and crop modeling** (2008 IFAS Innovation Fund; Aug 2008 – Aug 2009)
- Co-PI, **Expression of Single Nucleotide Polymorphisms in Delayed Fracture Healing** (Orthopaedic Trauma Association; Jan 2012 – Jun 2013).
- Co-PI, **Using High Dimensional Models to Predict 30-day Readmission after Heart Failure** (HMC Clinical Research Incentive Grant; Jan 2012–Dec 2012).
- Co-PI, **Statistical Designs for Studying Genetic Mutations and Interactions in Breast Cancer**. (Population Sciences Program Internal Grant; Nov 2009 – Oct 2010)
- Co-Investigator, **Correlation of Gene Haplotype with Complications after IPAA**. (ASCRS Research Foundation; Sep 2010 – Aug 2011)
- Co-Investigator, **Functional Vitamin D Receptor Gene Variants and Racial/Ethnic Cancer Disparities**. (NIH; Sep 2010 – Aug 2011).
- Co-Investigator, **Establishing Bioactive Serum and Toxicity Levels for Nanolipolee 007**. (NIH SBIR; Sep 2012 – Sep 2013).
- Co-Investigator, **Pilot Randomized Trial of Brief Automated Smoking Cessation Intervention and Evaluation for Smokers**. (CIHDS-CTSI Seed Funding; Apr 2012 – Mar 2013).
- Co-Investigator, **Correlation of Gene Haplotype with Complications after IPAA**. (ASCRS Re-

search Foundation; Sep 2010 – Aug 2011).

Presentations

► Slides can be accessed from the directory:

<http://www.personal.psu.edu/asb17/presentations/>

International

- “Design and Analysis of High-Throughput Genomic Data with Emphasis on DNA Methylation”. Presented at the School of Public Health in Shanghai Jiaotong University, Shanghai, China.
- “New Functional Clustering Methodology and Applications”. Invited talk presented in the Statistics Department at Peking University, Beijing, China, July, 2010. [slides: PKU.pdf](#)
- “Multiple Estimation Bias Adjustment with Application to GWAS”. Invited presenter at the Symposium of the Center for Computational Biology, Beijing Forestry University, Beijing, China, July, 19, 2010. [slides: BFU.pdf](#)
- “The First Summer International Workshop on Statistical & Computational Genetics”. Invited short course instructor of this workshop at Beijing Forestry University, Beijing, China, August 2009. <http://statgen.ufl.edu/worksh>
- “Linkage Disequilibria Analysis of Multilocus Multiallelic Markers in Outcrossing Populations”. Invited presenter at the World Congress of Gene, Guangzhou, China, December 2008. [slides: WorldCongress-Gene.pdf](#)
- “Resampling the Bispectrum”. Invited talk presented at the workshop on “Bootstrap and Time Series” in Kaiserslautern, Germany, June 2008. [slides: BootTime.pdf](#)

National

- “A Bootstrap Test for Time Series Linearity”. Invited talk at Conference on Resampling Methods and High Dimensional Data in College Station, TX March 24 – March 25, 2010. [slides: AM.pdf](#)
- “Improving the Kaplan-Meier Estimator”. Invited talk at the 2009 AMS Sectional Meeting on “Recent Advances in Probability and Statistics” at Florida Atlantic University in Boca Raton, FL October 30 – November 1, 2009. [slides: AMS-FAU.pdf](#)
- “A New Use of Group Representation Theory in Statistics”. Contributed presenter at the 2009 AMS Sectional Meeting at Penn State University in University Park, PA October 24 – 25, 2009. [slides: AMS-PSU.pdf](#)
- “Nonparametric Function Estimation with Infinite-Order Kernels”. Invited talk presented at SIAM-SEAS Special Session on “Recent Developments on Empirical Likelihood and Nonparametric Statistics” at the University of Central Florida, March 2008. [slides: SIAM-UCF.pdf](#)
- “Nonparametric Estimation at a Semiparametric Rate”. Invited presenter at the SRCOS conference on “Modern Semiparametric Methods in Action” in Charleston, SC, June 2008. [slides: SRCOS.pdf](#)
- “An Epistatic Model for Mapping Phenotypic Plasticity of a Count Trait”. Talk presented at ENAR, in Arlington, VA, March 2008. [slides: ENAR08.pdf](#)

Regional – off campus

- “Empirical Bayes Inference Made Robust: picking up where James-Stein left off”. Invited talk presented at Temple University, September 7, 2012. [slides: Temple.pdf](#)
- “Standing Between a Bayesian and a Frequentist: An Empirical Bayes Exploration of Movies, Baseball, and Long Beach Basketball”. Invited talk presented at California State University, Long Beach (Long Beach, CA), March 2011. [slides: beach.arthurberg.com](#)
- “Standing Between a Bayesian and a Frequentist: An Empirical Bayes Exploration of Movies, Baseball, and Williams College”. Invited talk presented at Williams College (Williamstown, MA), January 2011. [slides: williams.arthurberg.com](#)
- “Multiple Estimation Bias Adjustment with Application to GWAS”. Invited talk presented at the University of Arizona (Tucson, AZ), October 2010. [slides: UA.pdf](#)
- “Variety’s the very spice of life, That gives it all its flavor.” Invited talk presented at Student Colloquium Series in the Mathematics Department at Bucknell University, Lewisburg, PA, March 2010. [slides: Bucknell.pdf](#)
- “Constructing Gene Expression Networks”. Invited talk given at Penn State University, Department of

- Public Health Sciences, Hershey, PA, April 2009. [slides: PSU-Biostat.pdf](#)
- “Nonparametric Estimation at a Nearly Parametric Rate”. Invited talk presented at the UF/FSU Joint Colloquium in Tallahassee, FL, April 2008. [slides: FSU.pdf](#)
 - “Density Estimation of IID, Dependent, and Censored Data”. Presentations at Cal Poly Pomona (Pomona, CA) and Cal Poly (San Luis Obispo, CA) March 2007.
 - “Nonparametric Function Estimation with Infinite-Order Kernels and Applications”. Presentations at UF (Gainesville, FL), Tulane (New Orleans, LA), UNL (Lincoln, NE), UNLV (Las Vegas, NV), February 2007.
 - “A Statistical Journey through Historic Haverford”. Presentation at Haverford College, Haverford, PA, January 2007. [slides: Haverford.pdf](#)
 - “Density Estimation of IID, Dependent, and Censored Data via Flat-Top Kernels”. Talk presented at the Conference on Current Research and Applications of Statistical Methodology – San Deigo Chapter of the ASA, Second Annual One-Day Conference, November 17, 2006.

Regional – on campus

- "The Brainchild of Bayes and Fisher: Empirical Bayes Methodology". Penn State Biostatistics & Bioinformatics Divisional Seminar, to be presented in November 20, 2013.
- "Medical Genetics". Introduction to Patient Oriented Research class presentation. September 13, 2013.
- Presentations for the MD/PhD students. January 17, 2013.
- "Medical Genetics". Introduction to Patient Oriented Research class presentation. September 14, 2012. [Prezi \(interactive\) slides: http://bit.ly/UkpBOX](#)
- "Biostatistics & Bioinformatics at PSU College of Medicine" Public Health Sciences graduate student presentation. August 23, 2012. [slides: PHSgrads2012.pdf](#)
- "Biomedical Informatics Program Update". Presentation to the CTSI External Advisory Board. April 17, 2012.
- "Reproducible Research for Biostatisticians". Public Health Sciences Seminar – Biostatistics & Bioinformatics Division. January 19, 2012. [slides: ReproducibleResearch.pdf](#)
- "Medical Genetics". Introduction to Patient Oriented Research class presentation. December 9, 2011. [slides: IPOR2011.pdf](#)
- “The Design and Analysis of Laboratory-Based Investigations”. Neurosurgery Journal Club presentation. March 25, 2011. [slides: StatDesign.pdf](#)
- “The Art and Craft of Biostatistics in the Berg Lab”. Invited presenter at the Penn State Cancer Institute Molecular Epidemiology Working Group Meeting, November 15, 2010. [slides: CI.pdf](#)
- “My biostatistical collaborations with COM researchers”. Short presentation for College of Medicine incoming graduate students, August 16, 2010. [slides: PSUCOM-grad.pdf](#)
- “Statistical and Computational Pharmacogenomics”. Short presentation at the Center for Pharmacogenetics Workshop, Pennsylvania State University, University Park, PA, March 2010. [slides: PSU-genet.pdf](#)
- “Gene Expression Functional Clustering and Expression QTLs”. Invited talk presented at the Statistics Department Seminar Series at Pennsylvania State University, University Park, PA, February 2010. [slides: PSU-Stat.pdf](#)
- “Clustering Gene Expressions”. Invited talk presented at the Population Sciences Program Quarterly Meeting, Penn State University, Hershey, PA, December 2009. [slides: PSU-CI.pdf](#)
- “A Bootstrapped Linearity Test”. Invited talk presented at UF’s Food and Resource Economics Seminar, Gainesville, FL, March 2009. [slides: UF-Econ.pdf](#)
- “Recent Math Problems Arising in Statistics involving Generalized Functions, Group Representations, Inequalities, and the Riemann Zeta Function”. Invited talk at the Applied Math Seminar in the Department of Mathematics at the University of Florida, April 2008. [slides: UF-Math.pdf](#)
- “Resources for Statisticians”. Invited speaker at the Statistics Student Seminar at UF, Gainesville, FL, November 2008. [slides: UF-Stat-Student.pdf](#)
- “Linear Models with R: A demonstration”. Talk presented for a linear models course at UCSD (La Jolla, CA), April 2007. [slides: Regression.pdf](#)

Other Conferences Attended

- Leadership Academy, Hershey, PA (November 2013)
- ENAR 2012 Spring Meeting, Washington DC (April, 2012)
- "Bayesian Adaptive Methods for Clinical Trials" (full-day ENAR workshop), Washington DC (April, 2012)
- Translational Bioinformatics and Clinical Research Informatics Joint Summits, San Francisco, CA (March, 2012)
- "First Short Course on Next-Gen Sequencing: Technology and Statistical Methods", Birmingham, AL (December, 2011)
- Symposium on Large-Scale Inference, Silver Spring, MD (October, 2011)
- First Joint Biostatistics Symposium, Beijing Renmin University, Beijing, China (July, 2010)
- An International Conference in Honor of P.L. Hsu's 100th Birthday, Beijing China (July, 2010)
- Frontiers in Mathematical Biology: NSF-NIH PIs Meeting 2010, Washington, DC (April, 2010)
- American Association for Cancer Research 101st Annual Meeting, Washington, DC (April, 2010)
- Penn State Cancer Institute Mini-Symposium, "Frontiers in the Interface between Statistics and Genetics", Hershey, PA (Co-organizer, Session Chair) (February, 2010)
- Winter Workshop on "Semiparametric Methodology", Gainesville, FL (January, 2009)
- Princeton Day of Statistics, Princeton, NJ (April, 2008)
- K-State Applied Statistics Conference, Manhattan, KS (April, 2008)
- Florida Chapter Meeting of the American Statistical Association, Gainesville, FL (2008)
- Winter Workshop on "Bayesian Model Selection and Objective Methods", Gainesville, FL (Session Chair) (January, 2008)
- University of Florida College of Agricultural and Life Sciences Teaching Symposium (August, 2007)
- AAP Workshop on Parallel Programming at the San Diego Supercomputer Center, San Diego, CA (February, 2006)
- UCSD All-Grad Research Symposium (February, 2005, 2006, 2007)
- Lenstra Treurfeest, MSRI, Berkeley, CA (March, 2003)
- Southern California Probability Symposium Annual Conferences (December, 2002, 2003, 2004)

Graduate Committees/Directed Studies

PSU=Penn State; UF=University of Florida

Ph.D. Committees

- Diana Tacelosky (MD/PHD Program), "Applying a Candidate Gene Approach to Investigate the Molecular Changes that Accompany the Development of Addiction-Like Behaviors to Opioids in Rats". Defended September 16, 2013.
- Joe Ashmore (PSU Nutritional Sciences), Dietary, Lifestyle, and Genetic Factors Influencing Colorectal Cancer Risk. Defended January 28, 2013.
- Joel Cobel (PSU Biomedical Sciences), Distal arthrogyriposis type 1 and MyBPC1, presentation/exam on June 14, 2012, June 28, 2012, and January 24, 2013.
- Wei Sun (PSU Statistics), Feature Screening and Variable Selection in Ultra-High Dimensional Survival Data Analysis, advanced December 7, 2011.
- Xiaobo Li (UF Forestry and Statistics Co-PhD), Association Mapping for Wood Property Traits of Loblolly Pine using SNP Markers, defended May 18, 2009.
- Qin Li (UF Statistics), Statistical Models for Haplotyping Complex Inherited Diseases in Humans, defended July 2, 2009.
- Yao Li (UF Statistics), Statistical Designs and Algorithms for Modeling the Genetic Architecture of Cancer Susceptibility, defended July 1, 2009.
- Xinxin Zhang (UF Economics), Modeling Yield Loss and Catastrophic Risk in Florida Citrus Industry, advanced June 12, 2009.

Master's Committees

- Hong Li, (UF Statistics) **Committee Chair**, Sequencing Tumor Growth with HapMap, defended 12/25/08.

- Guifang Fu, (UF Statistics) **Committee Chair**, QTL Mapping on Shape, defended 11/24/08.
- Nasha Wang, (UF Statistics) **Committee Chair**, Functional Interval Mapping of Quantitative Trait Loci (QTL) in Tumor Cell Growth, defended 12/16/08.
- Shuguang Tan (UF Statistics) On L_1 Regularization Path Algorithm for GLMs, defended 6/11/09.
- Jiahua Li, (UF Statistics) A Statistical Model for Mapping Quantitative Trait Loci in Autotetraploids, defended 10/20/08.
- Liming Qu, (UF Statistics) Tolerance Interval and its application, defended 8/19/08.
- Sharon Wen, (UF Statistics) Detection of genetic imprinting effect expressed by multilocus haplotypes, defended 7/28/08.
- Hao Zheng, (UF Statistics) Treatments of Ties in the Sign Test, defended 7/22/08.
- Jiang Liu, (UF Statistics), Functional Mapping of Quantitative Trait Loci Regulating Pharmacokinetics and Pharmacodynamics by Using Fentanyl Addiction as an Example, defended 7/10/08.
- Anhui Huang (UF Soil & Water) Characterization of Arsenic Resistant Bacterial Communities in the Rhizosphere of an Arsenic Hyperaccumulator *Pteris Vittata* L., defended 10/31/08.

Directed Independent Studies/Internships

- Cong Xu (Penn State), Biostatistical Applications (Fall 2013)
- Mandi Feinberg (VCU senior), Bioinformatics Applications (Summer 2013)
- Allshine Chen (Penn State), Summer Internship (Summer 2012)
- Heather Connelly (Ursinus College senior), Earthquake Statistics (Summer 2010)
- Che-Shun Chang (UF Statistics Graduate Student), Regression and Multilevel/Hierarchical Models (Summer 2009)
- Steve Chung (UF Statistics Graduate Student), Applied Time Series Methods (Spring 2009)
- Alex Savenkov (UF Statistics Graduate Student), Time Series Analysis and Applications (Fall 2008)
- Yanqing Yan (UF Genetics Graduate Student), Functional Mapping of Quantitative Trait Loci (Fall 2008)
- Guifang Fu (UF Mathematics Graduate Student), Statistical Genetics of Quantitative Traits (Spring 2008)
- Yingxia Wan (UF Statistics Graduate Student), Subsampling the Bispectrum (Fall 2007)

Courses Taught

Penn State

- PHS 528: Bayesian Methods (Spring 2013, Spring 2014, Spring 2015)
- PHS 525: Biostatistics for Lab Scientists (Spring 2011, Spring 2012, Spring 2013, Spring 2014)
- PHS 516/STA 597E: Statistical Genetics (Spring 2010)

University of Florida

- STA 5325/STA 4321: Introduction to Probability (Fall 2008, Spring 2009)
- STA 5856/STA 4853: Introduction to Time Series and Forecasting (Spring 2008)
- STA 6857: Applied Time Series Analysis (Fall 2007)

University of California, San Diego

- MATH 10B: Second Semester Calculus (Winter 2007)

Miramar College

- MATH 119: Elementary Statistics: Elementary Statistics (Fall 2005)
- MATH 96: Intermediate Algebra and Geometry (Spring 2006)
- MATH 252: Calculus with Analytic Geometry III (Summer 2006)

Teaching Assistant

- Three years (6 semesters) as a Teaching Assistant in the Department of Mathematics at USC.
- Five years (14 quarters) as a Teaching Assistant in the Department of Mathematics at UCSD.

Awards

- 2014 Dean's Award for Excellence in Teaching
- Innovation in Team Science Award from the 2014 Penn State Faculty Research Recognition Awards

- Society of Distinguished Educators 2013 Junior Faculty Teaching Award: Finalist
- 2008 University of Florida Institute of Food and Agricultural Sciences Research Innovation Award
- UCSD Math department's 2005-2006 Outstanding TA award for "exceptional contributions to the department's instructional efforts"

Service

Present

- Member, Penn State Faculty Senate, September, 2015–present
- Member, Institutional Review Board (Board A), January, 2010–present
- Member, Penn State Cancer Institute Scientific Review Committee, June, 2010–present
- Member, College of Medicine Scientific Review Committee, July, 2010–present
- Member, Curriculum Education Committee (medical education), September 2013 – present
- Member, IT Research Computing & Informatics Advisory Council, January 2013 – present
- Member, Public Health Sciences Program Directors & Executive Committee, September 2012 – present
- Member, Research Team, Penn State College of Medicine, August 2012 – present
- Member, Penn State's Global Engagement Network Committee to Partnership with Peking University, June, 2012 – present
- Member, Biomedical Science PhD Program Core Curriculum Review and Revision Working Group, January 2013 – present
- Review Editor, Frontiers in Statistical Genetics and Methodology, September, 2011–present

Previous

- Member, Data Management Symposium Planning Committee, September 2012 – March 2013
- Bioinformatics Search Committee at Penn State, 2012-2013
- Bioinformatics Search Committee at Penn State, 2011-2012
- IT Manager III Search Committee, 2012
- Guest Editor, Computational and Mathematical Methods in Medicine, 2012-2013
- Member, Research Computing Advisory Committee, September, 2009–2012
- Member, Research Use of Clinical Data Committee, September, 2011–2012
- Biostatistics Search Committee at Penn State, 2010-2011
- Member, Research Informatics Advisory Group, January, 2010–June, 2010
- Member, Penn State College of Medicine Research Informatics Advisory Group, January, 2010–June, 2010
- Organizer of the "Nonparametric Statistical Genetics" section of the First conference of the International Society for NonParametric Statistics (ISNPS), June 15-19, 2012.
- Co-Organizer of the mini-symposium on "Frontiers in the Interface between Statistics and Genetics" at Penn State University, February 25, 2010.
- Seminar Chair, Department of Statistics, University of Florida, 2007-2009
- Search Committee for Statistical Consultant at the University of Florida, 2008
- Graduate Student Representative for UCSD Math Department, 2006-2007

Reviewing Services

- Computational Statistics & Data Analysis (January 2013)
- PLoS ONE (June 2012)
- PLoS Genetics (May, 2012)
- Electronic Journal of Statistics (June 2011, May 2012)
- BMC Bioinformatics (September 2011)
- PLoS ONE (June 2009, September 2010, August 2011)
- Bioinformatics (September 2010, March 2011)
- Entropy Journal (June 2010)
- Statistical Applications in Genetics and Molecular Biology (April 2010, August 2010)
- BMC Proceedings (August, 2010)
- Journal of Probability and Statistics (June 2010, August 2010)
- Dutch Digestive Foundation (August, 2010)

- Diseases of the Colon & Rectum (May, 2010)
- Statistics in Medicine (March 2010)
- Communications in Statistics–Simulation and Computation (January 2010)
- Journal of the American College of Surgeons (January, 2010)
- American Society of Colon & Rectal Surgeons: Limited Project Grant (January, 2010)
- Journal of the American Statistical Association (December 2009)
- International Journal of Plant Genomics (September 2009)
- Theoretical and Applied Genetics (August 2009)
- Journal of Biopharmaceutical Statistics (July 2009)
- Annals of Applied Statistics (November 2008)
- Communications in Statistics–Theory and Methods (September 2008)
- Journal of Applied Probability and Statistics (August 2007)

Miscellaneous

- Proficient in Mandarin Chinese
- Avid piano player — volunteer Center Stage performer (main entrance of the hospital)
- Community-engaged athletics — Penn State Hershey Badminton Club, Middletown Table Tennis Club