

Ian Crandell

CONTACT INFORMATION	Center for Biostatistics and Health Data Sciences One Riverside Circle, Suite 104 Roanoke, VA 24016	<i>Cell: (760) 807-3757</i> <i>E-mail: ian85@vt.edu</i>
SUMMARY	Collaborative statistician, with expert level knowledge in modeling, computational statistics, and visualization.	
RESEARCH INTERESTS	Visual analytics, machine learning, networks and graphs, biostatistics, matching and weighting, stochastic processes.	
EDUCATION	Virginia Tech , Blacksburg, Virginia USA Ph.D., Statistics, August 2017 <ul style="list-style-type: none">• Dissertation Title: “Semi-Supervised Anomaly Detection and Heterogeneous Covariance Estimation for Gaussian Processes”• Advisor: Dr. Scotland Leman California State University, East Bay , Hayward, California USA M.S., Computational Statistics, June 2012 University of California, at San Diego , La Jolla, California USA B.A., Mathematics, May 2008	
CURRENT POSITION	Center for Biostatistics and Health Data Sciences , One Riverside Circle, Suite 104, Roanoke VA <i>Research Scientist</i>	2019-present
REFEREED PUBLICATIONS	King R, Entz M, Blair G, Crandell I, Hanlon A, Lin J; The Conduction Velocity-Potassium Relationship in the Heart is Modulated by Sodium and Calcium. <i>Pflügers Archive - European Journal of Physiology</i> (Feb 2021) McKee K, Crandell I, Hanlon A; County-Level Social Distancing and Policy Impact in the United States: Dynamical Systems Model. <i>JMIR Public Health Surveillance</i> (Dec 2020) Crandell I, Korkmaz G; Link Prediction in the Criminal Network of Albuquerque. <i>IEEE Conference on Advances in Social Networks Analysis and Mining</i> (2018) Pires B, Crandell I, Arnsbarger M, Lancaster V, Schroeder A, Shipp S, Kang W, Robinson P, Keller S; Predicting Postsecondary Trajectories in Virginia High Schools using Publicly Available Data. <i>Statistical Journal of the International Association for Official Statistics</i> (2018) J. Wenskovitch, I. Crandell, N. Ramakrishnan, L. House, S. Leman and C. North; Towards a Systematic Combination of Dimension Reduction and Clustering in Visual Analytics. <i>IEEE Transactions on Visualization and Computer Graphics</i> (Jan. 2018) Crandell I, Millican J, Leman S, Alexander N, Devenport W, Vasta R, Gramacy RB, Binois M; Anomaly Detection in Large-Scale Wind Tunnel Tests Using Gaussian Processes <i>AIAA Aviation 2017 Conference</i>	

Self JZ, Dowling M, Wenskovitch J, Crandell I, House L, Leman S, North C; Observation-Level and Parametric Interaction for High-Dimensional Data Analysis. *ACM Trans. Interact. Intell. Syst.* 9, 4, Article 39 (March 2016),

Hoegh A, Crandell I, Klopfer S, Fies M; Model selection with missing covariates for policy considerations in fox enclosures. *Journal of Applied Statistics* (2016), 1-14.

Awe OO, Crandell I, Adepoju AA, and Leman SC; A Time Varying Parameter State-Space Model for Analyzing Money Supply Economic Growth Nexus. *Journal of Statistical and Econometric Methods* (2015), 4(1), pp.73-95.

Hoegh A, Carzolio M, Crandell I, Hu X, Roberts L, Song Y, Leman SC; Nearest-neighbor matchup effects: accounting for team matchups for predicting March Madness. *Journal of Quantitative Analysis in Sports* (2015), 11(1), 29-37.

PUBLICATIONS IN PRESS Crandell I; Cultural Values, Statistical Displays. *Amstat News Master's Notebook*, May 2015.

CURRICULUM AND COURSE DEVELOPMENT **Laboratory for Interdisciplinary Analysis and Collaboration (LISAC)**
Cofounder and Curriculum Developer
LISAC was founded in 2015 at Obafemi Awolowo University (OAU) in Ife, Nigeria by Ian Crandell and Olawale Awe. It is the first statistical collaboration lab in the LISA 2020 network.

- Hiring and training of over 20 Nigerian statistics students
- Teaching of collaborative, statistical, and software skills
- Weeklong intensive R seminar
- Campus outreach

RECENT PRESENTATIONS **Title:** *Stumbling Across the Urban-Rural Divide*,
Location: Blacksburg, VA
Venue: Disrupting the Urban-Rural Divide: Higher Education's Response, April 2019.
Title: *Potts Models for Record Linkage in Arlington Human Services Data*,
Location: Vancouver, BC
Venue: Joint Statistical Meetings, Aug. 2018.
Title: *LISA 2020: Developing Statistical Collaboration Capacity in Nigeria*,
Location: Seattle, WA,
Venue: Joint Statistical Meetings, Aug. 2015.
Title: *Statistical Collaboration Through LISAC*,
Location: Obafemi Awolowo University, Ile-Ife, Nigeria
Venues: Dept. Of Medical Science, Dept. of Agriculture, Dept. of Technology and Science, Dept. of Accounting, Dept. of Urban Development, The Cooperative Information Network, The Center for Energy Research and Development.
Title: *Statistical Collaboration Through LISAC*,
Location: University of Ibadan, Ibadan, Nigeria
Venues: Dept. of Statistics, Dept. of Science, The postgraduate school

PREVIOUS PROFESSIONAL POSITIONS **Delta Dental**, San Francisco, California USA
Underwriter & Actuary **May 2011 - May 2012**
Analyzed policy renewal contracts, developed workflow software, performed reserving.

PREVIOUS TEACHING EXPERIENCE **Laney College**, Oakland, CA
Instructor **January, 2011 - May, 2011**
Taught an introduction to statistics course covering basic inference through t-tests and ANOVA modeling.

- Class size of 30 students.
- Utilized a mixture of theory, application, and software (R).

High Bluff Academy, San Diego, CA

Instructor

August, 2008 - May, 2009

Taught small classes (5 or so students) covering algebra and geometry

Private Tutor, southern CA region

2008 - 2011

Primarily tutored in middle and high school level math and science, including algebra, geometry, calculus, probability, statistics, chemistry, and physics. Also tutored english, writing, reading comprehension, and SAT prep.

HONOR SOCIETIES
AND ACADEMIC
AWARDS

- StatCom President, Virginia Tech chapter, 2015
- Mu Sigma Rho National Honor Society, Vice President, Virginia Tech chapter, 2014
- Mu Sigma Rho National Honor Society, inductee, 2013

PROFESSIONAL
AFFILIATIONS

- The American Statistical Association (ASA).

AWARDS AND
ACCOLADES

- The Laboratory for Statistical Analysis (LISA) Outstanding Collaborator of the Year Award, 2014
- The John Bartko Aware for outstanding collaboration, communication, and consulting by a graduate student, 2015

GRANTS RECIEVED

- Mitre Corporation, 2017-2018, Local Data Sources to Build a Comprehensive Community- Based Understanding of Complex National Health Problems, \$93,938, PI - David Higdon, Postdoctoral Researcher, Project to continue in 2018-2019, PI - Sallie Keller
- U.S. Department of Agriculture (USDA), Economic Research, 2016-2021, Impacts of Infrastructure Development on Rural Property Values, \$400,000 (approved for funding), PI- Sallie Keller, Postdoctoral Researcher
- Army Research Institute (ARI), 2018-2019, Towards an Integrated Data Framework for Understanding the Context of Military Environments - 1 Year Extension, \$286,826 (approved for funding), PI - Sallie Keller, Postdoctoral Researcher
- U.S. Army Research Institute (ARI), 2017-2022, The Social Component of The Human Dimension: Leveraging Existing DoD Data Towards Optimized Individual And Team Performance in the Army, \$3,027,401, PI - Sallie Keller, Postdoctoral Researcher

TECHNICAL SKILLS

- Software: R, Matlab, SAS, JMP, SPSS, Stata, Office, Git
- Languages: R, SQL, C++, Unix shell scripts, Excel macro language, SAS.
- Technical Skills: Probability and statistics, machine learning, markup
- Operating Systems: Mac OS, Ubuntu, Windows.