The Y-Distribution

FROM THE CHAIR
DR. H. DENNIS TOLLEY

Welcome to another fantastic year with the Department of Statistics! I appreciate our alumni who have volunteered their skills and resources to the department. The efforts and support of the alumni are key to our success.

I also wish to express gratitude to our faculty, staff, and students for making this a successful year. Below are a few of the projects our faculty has been busy with this year.

Erika Ball continued as a full time visiting instructor during the 2014-2015 academic year, teaching our Analysis of Variance and Discrete Probability classes. She is working on a project with Natalie Blades and Shane Reese, in conjunction with BYU's Counseling and Psychology Services, to investigate patient mental health treatment trajectories over time. She will be starting a PhD program at Duke University this fall.

DEPARTMENT OF STATISTICS
FRIENDS AND ALUMNI
OPEN HOUSE BREAKFAST

If you are attending the JSM 2015 in Seattle, Washington please meet us at our annual Brigham Young University Friends and Alumni Open House Breakfast. We look forward to seeing you there!

Date: Tuesday, August 11, 2015
Time: 7:00 AM
Location: Sheraton Seattle-Metropolitan A

Dr. Candace Berrett continues to work on spatio-temporal statistics, including applications to infant RSV, sea level, temperature, land cover, and foreign aid. She was awarded an NIH R03 grant as co-PI, with Matt Heaton as PI and Chantel Sloan of the Health Science department as an additional co-PI. She is currently serving as the faculty mentor for the department's chapter of Mu Sigma Rho, the national statistics student honor society. She is looking for more alumni who would like to get involved in their activities. Please contact her if you're interested.

Dr. Natalie Blades was recently awarded the CPMS 2015 college recognition award for Outstanding Teaching by a faculty member with three to ten years of experience. The common phrase among student responses was that she is "the best teacher" they have had.

Dr. William Christensen continues to work in statistical issues in the environmental sciences. His work during the past year has included projects related to: quantifying uncertainties in ice core analysis, modeling sea level rise (with Dr. Berrett), quantifying Antarctic accumulation (with Dr. Reese), structural equation modeling for ecological systems, spatial hierarchical clustering (with Dr. Heaton), developing approaches for source apportionment and prediction in the analysis of water quality, and characterizing BYU's new/old-fashioned approach for a second course in statistics that will appear soon in The American Statistician (with Drs. Blades and Schaalje). Earlier this year, in BYU's interdisciplinary lecture series on climate change, he delivered a lecture about the statistical characterization of uncertainty in climate assessments.

Dr. David Dahl is researching flexible Bayesian models in which priors facilitate the sharing of information whose covariates are similar. He is also working on a few projects in statistical computing. He continues to apply his methodology research to protein structure prediction. Several students, in various stages, are working with Dr. Dahl on this research.

Dr. Eggett has been quite busy this year with the Consulting Center and projects involved therein. He's been working with the IACUC committee on campus. In addition, Dr. Eggett has increased his teaching load in SAS programming classes.

Dr. David Engler completed his NIH-funded research in multiple sclerosis and has begun collaborations in financial and actuarial applications. He is currently on sabbatical, working with Rob Erhardt at Wake Forest University on the modeling of financial derivatives based on weather extremes.

Dr. Gil Fellingham continues to work in sports analytics. This past year he worked closely with the BYU Men's Basketball team producing shot charts and scouting reports. A mid-season report on offensive rebounding led to a renewed emphasis on that skill and preceded an impressive late season win streak. This year, with the soccer team, he concentrated on various positions on the field and the relationship of field position with shot production. One of Gil's students developed a Shiny application that allows students to quickly enter key soccer data while viewing film. Gil continues to work in nonparametric Bayesian applications, and recently completed some work estimating health insurance claims.

Dr. Scott Grimshaw collaborated with the local FOX affiliate to choose which NFL game they should broadcast from the slate of FOX network games using the past 10 years of NFL games broadcast in Utah. The results, published in JQAS and presented at JSM, showed that Utahans are often fans of the Denver

Broncos and Dallas Cowboys but are quick to jump on the bandwagon of teams having successful seasons. Consistent with research on other sports, the biggest TV audiences are for games that are close and feature high scoring. Grimshaw also served on the ASA Presidential Initiative Committee to revise the guidelines to better prepare students to have the appropriate capacity to "think with data" and to pose and answer statistical questions.

Dr. Matthew Heaton was recently awarded the CPMS 2015 College Young Scholar Award. He continues to research applications in spatial modeling across a wide variety of fields. He currently serves as PI on grants from the National Science Foundation (with Drs. Berrett and Reese), National Institutes of Health (with Dr. Berrett) and the Federal Highway Administration.

Dr. John Lawson finished all copy-edit revisions last November to the book *Design and Analysis of Experiments with R* which was published by CRC press on Dec 29, 2014. He also worked on collaborative research with 4 PhD students in the chemistry department that all resulted in publications. He successfully taught courses relating to discrete probability, experimental design and introduction to reliability.

Lynne Nielsen continues to investigate the impact of different levels of instructional dialogue in large online classes, specifically Stat 121. She has also developed and validated scales that measure attitude towards Statistics, Learner Autonomy, Computer Proficiency, and Stat readiness. She is involved in BYU's WomanStats project whose aim is to make the linkage between status of women and fate of nations visible. Lynne is also working on a Minerva Grant. Her article, regarding state fragility and clan-based governance as defined by women's situation in marriage, was accepted for publication by political science's premier journal last March.

Dr. Shane Reese has been working on building resilient cities with Virginia Tech's Social and Decision Analytics Lab. They are building models for emergency services such as fire departments across the country to increase the quantitative assessments which improve firefighter safety. In collaboration with BYU Exercise Science, he is working on injury recovery strategy estimation through functional data analysis. Dr. Reese is also working on another research project on campus with BYU Geology. This project has produced 3 research proposals on Ice Sheet modeling.

Dr. Bruce Schaalje developed a regularized sandwich estimator. In evolution and ecology, he used multivariate mixed models. Another project he's worked on is finding stochastic differential equations for church membership data and textual data trends in General Conference talks.

Dr. Del Scott mentored two students on parallelizing MIPF for application to larger data. Their process was to create groups of marginal tables and then apply the algorithm simultaneously. The tables that result from each group were combined to create an estimate of the population. That estimate became the starting point for the next iteration of the procedure until the values converged. His students presented this research at the Student Research Conference at BYU.

Dr. Shannon Tass has been involved with an interdisciplinary Autism research group on campus this past year. The group is comprised of researchers participating in a variety of Autism related projects including brain imaging and early intervention. She also does research in spatial and environmental statistics focusing on climate model uncertainty. Her service to the department includes learning outcome assessment and the restructuring of our introductory statistics class for engineers and scientists.

As we begin the new academic year, we do so with a productive faculty and an enthusiastic student body. We currently have about 300 undergraduate majors. We also have 31 graduate students, 13 of whom are second-years, 10 of whom are first-years, and 8 who are in our integrated program.

In closing, we would like to thank all of you again for your support. We are proud of the work that you do and all the achievements you continually have. We are sincerely grateful for the association we share. ◆

New Faculty

Brian Hartman

Brian Hartman will be joining our faculty as an assistant professor. He holds a bachelor's degree in Actuarial Science from BYU (2006) and a PhD in Statistics from Texas A&M University (2010). He's also an associate of the Society of Actuaries (2008).

Before joining our faculty at BYU, he was a post-doctoral fellow at the University of Waterloo (2010-11) and an assistant professor at the University of Connecticut (2011-15).

His current research interests include Bayesian methods and their applications in actuarial science and risk. He has worked in various capacities with companies in property-casualty, health, and long-term care insurance. We are excited to have Brian join our faculty.

Robert Richardson

Robert Richardson will be joining our faculty as an assistant professor. Robert's undergraduate and graduate statistics research at BYU was so positive that he continued his education at a graduate level.

He studied Bayesian non-parametrics and spatial and spatio-temporal modeling at the University of California -Santa Cruz. At UCSC, he received an NSF Graduate Fellowship award and was appointed as an instructor for several sections of introductory statistics courses. He has completed nearly all the requirements for an associate actuary license. We are thrilled to have Robert join our faculty.

Garritt Page

Garritt Page will be joining our faculty as an assistant professor. He earned a bachelor's degree in Mathematics from Southern Utah University (2002), master's degree in Statistics from BYU (2005) and a PhD from Iowa State University (2009). His research interests include: Bayesian methods, hierarchical modeling,

nonparametric Bayes, mixtures, spatial science and statistics in sports. We are delighted to have Garritt join our faculty. ◆

L.A. Marathon U.S. Champ

Jared Ward, one of our recent master's graduates, was recognized for his outstanding performance in the L.A. Marathon. He competed in the L.A. Marathon in March 2015 with a time of 2 hours, 12 minutes and 55 seconds. This time not only won him the U.S. Marathon champion title, but also qualified him for the 2016 Olympic trials.

Jared will be returning to BYU Fall 2015 as an adjunct professor teaching Methods of Survey Sampling and Discrete Probability. To read more about his L.A. Marathon experience, visit *news.byu.edu*. We wish him luck with his running and statistics careers. ◆

2015 3MT Competition

Jessica Alvey, another of our recent master's graduates, participated in the Graduate Student Society's 2nd annual 3MT competition at BYU. This competition provides master's students to condense and present their theses in just three minutes. Students participating have three minutes to give an effective presentation on their thesis with prizes for 1st, 2nd, and 3rd place winners, including another prize of People's Choice.

Jessica won 3rd place at this year's 3MT competition, successfully presenting "Mind the Gap: Predicting Missing Temperature Values." We are proud of her success in this competition and in our master's program. ◆

Department of Statistics Website:

statistics.byu.edu

Prestigious Faculty Awards

Dr. Natalie Blades received the CPMS 2015 college recognition award for Outstanding Teaching by a faculty member with three to ten years of experience. She is prepared, current, and accessible to the students and students laud her for the detailed and timely feedback they get in her class. "The best teacher I have had…" is a common sentiment in the written responses by the students.

In addition to being an outstanding teacher, Natalie has taken the lead in restructuring the department's undergraduate curriculum to match the model undergraduate teaching curriculum proposed by the American Statistical Association and moving the department forward in balancing current and forecasted needs.

Natalie exemplifies a faculty member who is engaged in the process of educating BYU students with tools and experiences that will prove useful in the emerging technical, data centric world.

Dr. Matthew Heaton received the CPMS 2015 College Young Scholar Award. Matt is a productive and creative faculty member who has made seminal contributions to the department in the areas of scholarship, teaching, and citizenship.

His research productivity is remarkable for a young statistician, having already published 21 refereed papers in top-level journals in the last four years. He has also served as PI or Co-PI on multiple grants since joining the BYU faculty, and currently has three papers and additional grants under review. It is often difficult for a new faculty member to demonstrate significant citizenship activity in the first few years of employment. However, Matt has been very active on the department's curriculum committee. He also serves on the alumni fellowship committee at the department level and the Student Research Conference committee at the college level.

Matt is an outstanding teacher, as indicated by the ability he has demonstrated to help the non-major students though the department's introductory statistics course. Comments from the students repeatedly indicate that "Dr. Heaton helped me." Matt has also shown an exceptional ability to teach graduate courses and to present difficult material in our seminars.

Ruth Dauwalder received a University Exceptional Performance Award in January 2015. This award is given to a small number of employees who have made extraordinary contributions. Ruth has consistently shown great skill in her role as Administrative Manager/Controller in our department. It goes without saying that Ruth has kept the department running in all facets of her assignments. In all of Ruth's tasks, as well as any new tasks given to her, she has performed them with great success. She completes them all while maintaining the department with regard to budgeting and scheduling to a smooth launch each semester. Her extraordinary work has a significant positive influence on our department, our faculty, and our students. ◆

2014 - 2015 Seminar Speakers

During Fall semester of 2014 and Winter semester of 2015, we were pleased to have many wonderful presenters at our Thursday Seminar series. Those that presented include Brian Hartman, Brian Reich, David Banks, Shane Reese, Doug VanDerwerken, Gilbert Fellingham, Robert Richardson, Roger Peng, Won Chul Song, Tom Stewart, Candace Berrett, Scott Goddard, Bruce Schaalje, Evan Thacker, Steven MacEachern, Neil Hansen, Shannon Tass, Mahlet Tadesse, Sahar Qumsiyeh, James Scott, Scott Grimshaw, and Chantel Sloan.

Some topics from our Thursday Seminars presentations include "Using Model Selection and Prior Specification to Improve Regime-switching Asset Simulations," "Mining Text Networks," "Kernel in an Integro-difference

Equation Used for Spatio-temporal Modeling," "Parallel MCMC," "Predicting Home Run Production in Major League Baseball Using a Bayesian Semiparametric Model," "Bayesian Spatial Classification," "Nonparametric Independence Screening via the Variance of the Regression Function," and "Support Vector Machines for Missing Covariates."

It is always a joy to have experts come and share their knowledge and experiences with our faculty and students each Thursday during Fall and Winter semester. It is something that our students appreciate and look forward to. We would like to thank all of those who participated in our Thursday Seminars. ◆

40TH ANNUAL SUMMER INSTITUTE OF APPLIED STATISTICS

This year we were honored to have **Dr. Sudipto Banerjee** present at our 40th Annual SIAS. Dr. Banerjee's course provided an introduction to hierarchical modeling and related statistical methods for analyzing spatially correlated data.

He outlined and provided illustrative examples of the three types of spatial data: point-level (geostatistical), areal (lattice), and spatial point patterns. He described exploratory data analysis tools followed by traditional modeling approaches for point-referenced data. Subsequently, he introduced fully model-based approaches emphasizing upon Bayesian inference and computing.

He included hierarchical modeling for both univariate and multivariate spatial response data, a discussion of spatial point process models, and spatial modeling for large data sets (the so-called "big N problem"). Examples from environmental sciences and public health were illustrated using R packages such as spBayes and also the OpenBUGS software.

We would like to thank Dr. Banerjee and all those who attended. Next year's Summer Institute will be held June 15-17, 2016. We look forward to seeing you next summer! ◆

MS Statistics Graduates

April 2015

Prakash Adhikari- Risk Factors for Number of Fatalities in Automobile Accidents

Jessica Seeger Alvey- Missing Data: Methods of Spatiotemporal Data Imputation for Utah Maximum Temperature

Keturah Small Bartlett- Estimating Tolerance Thresholds to Characterize Urban Vulnerability to Heat

David Coats- Analyzing Sea Level Change on the East Coast with Spatiotemporally Correlated Data

Alexis Cottam- Understanding Storm-Related Trouble Spot Counts Using Spatially-Dependent Negative Binomial Models

Sorah Kang- Spatio-Temporal Smoothing of Seasonal Bronchiolitis Patterns in the Contiguous United States

Ryan Roundy- Functional Ankle Instability Classification via Dirichlet Processes

Jared Ward- Marathon Pace Strategy Analyzing Splits from the St. George Marathon

Mickey Warner- Gaussian Process Modeling of Modern Mass Spectrometry Computer Experimental Data

Bryan Whiting- Modeling Banking Overdraft Behavior Using Less Models and Generalized Linear Models

Devyn Woodfield- Quantifying the Probability of a Shot in Womens' Collegiate Soccer Through Absorbing Markov Chains

June 2015

Philip White- Bayesian Gaussian Process Model for Antarctic Surface Mass Balance and Proposing New Field Measurements

August 2015

Arthur Lui- Extending the Indian Buffet Process to Incorporate Pairwise Distance Information

Dean's List 2014
Winter
David Arthur
Breanna Barton
Nathan Bean
Lee Campbell
Ryan Covington
Devin Eddington
Kaitlin Gibson
Tyler Hawkins
Bradley Hill
Kevin Hilton
Nathan Howell
Kevin Johnson
Anthony Mickelson
Derek Montgomery
Mikayla Prince
Michael Teh
Jacob Van Leeuwen
John Yoo
Spring and Summer
Michael Francis
Nate Garrett
Kaitlin Gibson
Jessica Jensen
Angela Teuscher
Fall
David Arthur
Rylan Bateman
Nathan Bean
Tiana Bettinson
Madison Callaway
Amber Chase
Kevin Cottrell
Kaylea Drake
Michael Francis
Robert Gardner
Kaitlin Gibson
Cameron Holdaway
Cameron Johnson
Ryan Kurth
Lour Kuttab
David Lowe
Mathew Madsen
James Marriott
Cassidy Misbach
David Muir
Kendall Naatjes
Alexander Neilson
Steven Orgill
Brian Parkinson
Jessica Peterson
Sierra Pugh
Bryan Schreiner
Kendra Shakespear
Astrinia Subiantoro
Brittney Warner

UNDERGRADUATE MENTORING

This year we had 47 students mentored by our faculty. Below is a selection of some of the projects the students worked on this year.

Alyssa Allsop (Dr. Scott Grimshaw, mentor): Dr. Grimshaw and I worked with NCAA TV audience data to predict TV audience sizes for the final four games. We gathered data on coaches, alumni size, enrollment size, and others. We combined the new data with data that had previously been collected and then we created a linear regression model. After the model was created, we discussed different techniques to perfect it, including: the Lasso; backward selection; and forward selection. After we selected the correct techniques, we had our final model and continued updating it as more teams exited the tournament. We presented our research at the Student Research Conference.

Daniel Croshaw (Dr. Gilbert Fellingham, Mentor):
My mentoring project involved a detailed analysis of the 3 captains of the BYU Basketball 2013-2014 team. I attempted to show the impact each had on wins and losses throughout the season. The main part of the report involved heavy use of Synergy Sports' shot tracking data. Dr. Fellingham provided me access to the database, and I accumulated data to produce shot charts. Dr. Fellingham helped familiarize me with SQL data storage and querying. I was able to store my findings in the BYU Sports Stats database. These reports were combined with those of other students in a presentation that was made by graduate student Nick Martineau to BYU assistant coach Mark Pope.

Devin Eddington (Dr. Dennis Tolley, Mentor)
I helped with the continuation of the Pioneer research study. When I began working for Dr. Tolley most of the overland analysis had been completed so we began talking about expanding our research to those who traveled by ship to the Americas and then onward to Utah. My role was to help sort through the ship data to determine what information was relevant and where there were discrepancies in the data. I helped figure out how many church members came across the ocean on each ship and comparing the records of the saints to the ships records. Dr. Tolley was

excellent at directing my thoughts, expanding my understanding of statistical and practical topics, and allowing me to grow through personal trial and error.

Michael Francis (Dr. Shane Reese, mentor): Working with Dr. Reese was greatly beneficial to me during my time at BYU. My first project involved working with conjugate distributions in Bayesian statistics. At the time, I had not yet taken a class on Bayesian methods and was able to learn from Dr. Reese the steps in a Bayesian analysis. My next project involved working with candidate distributions of MCMC's. We looked at how changing the candidate distribution affected the marginal distributions of the parameters. In the time that I worked with Dr. Reese, my programming abilities increased and I have learned much.

Jordan Gressel (Dr. Gilbert Fellingham, mentor):
In 2014, I participated in the Sports Analytics class with Dr. Fellingham. In this class, we were asked to research a sport that interests us and then present our findings in the Spring Student Research Conference. I decided to research BYU football's third down conversion percentage. Dr. Fellingham taught us many technical skills, such as how to connect and use the BYU Sports database. He also brought in guests such as the general manager of the Jazz to help show us the world of sports analytics. Dr. Fellingham helped me develop the ability to communicate results to an audience. While doing my research, I discovered that BYU struggled more than most teams on third downs, especially running the ball. I was hesitant at first to present my research, but was confident in my methods and preparation. I did extremely well and won my session. I am so grateful for the experience I gained through the class and Dr. Fellingham.

Troy Judd (Dr. Del T. Scott, mentor):
I worked on the project for the Iterative Proportional Fitting Algorithm (IPF) to create a synthetic population. In my research, I learned about the usefulness of the IPF algorithm in providing information about populations that is otherwise unobtainable. I also learned to script in the UNIX shell, use GitHub to collaborate as a team on projects, and use UNIX to parallelize the functions of the algorithm to possibly reduce run time. Dr. Scott helped me learn more about the world of

analytics through experience with professional data analysts from Goldman Sachs. I have learned a great deal from my undergraduate research with Dr. Scott.

Stephen Merrill (Dr. Dennis Tolley, mentor):
I participated in an extension of Dr. Tolley's research into costs of pharmaceutical drugs in the Medicaid database. Using methods that produced telling results for the drug Vioxx, I investigated Neurontin and Celebrex. The project helped me develop database management skills and improved my practical use of SQL queries. I worked on building data files from a large health care data base. These files will be used for further analyses in health care received and cost of such care. Of particular interest are patients who have received a drug or therapy that has been shown to increase risk factors associated with bad events such as: CVD event; onset of diabetes; etc. Although relative risks may be increased for specific events, the actual increase in health care cost as a consequence of these medications or treatment is not clear. My data files are set up to examine these problems.

Tony Mickelson (Dr. Fellingham, mentor):
In 2014, I continued my research with the BYU tennis teams, under the direction of Dr. Fellingham. I began a master's level project, investigating the relationship between forehand biomechanics and on-the-court performance of BYU players. This involved tracking the racquet trajectories and impact location of forehand swings using infrared cameras in the BYU biomechanics lab. I am no longer working on that project, but my other team members are on track to complete it. I also continued my work collecting match data during live BYU tennis matches. This year I recruited and trained 6 on-campus interns to act as data collectors. From these experiences I learned a great deal about planning higher-level projects. I also learned about research collaboration with backgrounds in other academic disciplines.

Ben Nealy (Dr. Shannon Tass, mentor):
I had the privilege of working with Dr. Tass for a little over a year on a variety of research projects. I've gained practical experience in research techniques and methodology. These projects include analysis of spatial point-process data for one of Jupiter's moons, comparisons between MRI automated

volumetry interpretation software, and model building to develop prediction methods for aggression levels in autism spectrum patients. Experiencing the research process firsthand and participating in both initial analysis and the presentation of results has given me a greater appreciation for the research process. I have gained valuable computing, communicating, and critical thinking skills. I have also learned a variety of statistical methods beyond those taught in core statistics classes. Dr. Tass has been instrumental in teaching me new techniques, new approaches to problems, and providing an example of the positive impact research can have. She has instilled in me a love of research and learning through her excellent mentoring.

Angela Teuscher (Dr. William Christensen, mentor):

I am working on a project with Dr. Christensen where we are attempting to come up with a way to quantify how bad extrapolation is when predicting using regression. To do this, we are currently exploring ways to identify clusters of outliers, rather than single outliers. I have gained a lot of coding experience from this research. I have also learned a significant amount about multivariate regression. Regression diagnostics for outliers have been used for decades to evaluate the extremity of individual observations found within the space spanned by predictor variables. In many applications, the multi-dimensional region formed by the ranges of the predictor variables includes sub-regions where combinations of the predictors are unlikely or even physically impossible to observe. Prediction in these areas can be extremely inaccurate and traditional regression tools generally do not quantify the risks of extrapolation properly. To address this issue, we use interpoint distances to develop methods for identifying prediction locations where extrapolation may be a concern. We use similar methods to identify clusters of outliers within a multivariate data set. We propose graphical tools and discuss possible test statistics based on the ECDFs of interpoint distances.

Bryan Whiting (Dr. Dennis Eggett, mentor):
Dr. Eggett and I have been working for a local bank trying to assess whether low-income individuals behave differently than middle or upper-income individuals. Specifically, we want to see if low-income clients use the overdraft service more frequently than higher-income clients. It's been the focus of my master's project. Dr. Eggett has been a wonderful mentor. By collaborating with him, I've been fortunate to have a challenging environment where I can bring my ideas about the research and be challenged by his insights. I've improved in my ability to truly nail down the question of interest and find a worthwhile solution. It's been interesting to investigate the different possible solutions and ultimately decide which one fits best. ◆

ALUMNI UPDATES

Robert M. Egan (BS '71, MS '73) left BYU to pursue a marketing and management career with the IBM Corporation in 1973, and retired from IBM at age 54 after 30 years' service. He worked for LDS Business College teaching math and statistics courses as chair of the Math Department for two years (2003-05), while also serving as Director of Institutional Research. In the Church, he served as bishop, stake president and mission president in Cape Town, South Africa (2005-08) and is currently serving a second mission in South Africa as In-field Representative for the continent of Africa, assisting 30 mission presidents in dealing with the issues of over 4,000 missionaries in Africa.

Brent Pulsipher (BS '80, MS '81) recently semi-retired after 31 years at Pacific Northwest National Lab. He currently conducts training on Visual Sample Plan (VSP), a free environmental sampling design and analysis software tool developed at PNNL.

Janine Witt Perry (BS '85) is the Project Manager (MPM) in Research & Development at SAS (Cary, NC). She has worked at SAS for 28 years. She is married with 3 children and serves as her ward Young Women's President.

Allen Buxton (BS '86) is a Statistician (MS) with the Children's Oncology Group, Statistics and Data Center, in Monrovia CA. This is a consortium of institutions that treat childhood cancer. The data case report forms are filled out for clinical trial participants at these institutions. His work is programming SAS and Stata to obtain and analyze this data for internal study progress reports, mandatory government data reports, and manuscript preparation. Recently he worked on simulations on finding an estimate of power.

Melinda Trego (BS '86) and her brother, Robert Chappell (MS EE) have been running a small global business for the past 20 years, developing and selling eye trackers. Their company, EyeTech Digital Systems, Inc. has produced many firsts in eye tracking. Melinda manages the operations and finance of the business.

Stirling Adams (BS '89) obtained a law degree from Boston University in 1992. After working in Washington D.C. for 3 years as a trial attorney, he joined Novell, Inc. in Provo as in-house counsel. He currently is Novell's general counsel. Stirling and his wife (a law professor at BYU) have three children. During the last several years they've lived in Shenzhen, China and Beijing, China.

Don Wakefield (BS '92) joined Aon Hewitt's Medicaid actuarial team in March 2015 as an assistant vice-president, working out of Aon Hewitt's Atlanta office.

Kelton Andersen (BS '93) has been working as the Director of Power Metrics / Power Analyst for UAMPS (Utah Associated Municipal Power Systems) for 21 years, essentially since graduating from BYU (Statistics/Business). While at BYU, Kelton was an Academic All-American on the intercollegiate wrestling team. He has also been a Stake Clerk for the Church of Jesus Christ of Latter-day Saints for the past 10 years.

Jackie Robertson (MS '96) is currently working for Brigham Young University as the Director of the Mathematics Lab and has been at BYU for 13 years.

Ryan Cromar (MS '94) currently works at BYU-Idaho as a faculty member in the mathematics department. His primary role is teaching statistics classes that include: introductory statistics, intermediate statistics, experimental design and first semester mathematical statistics. He is currently the course lead for the introductory statistics class and is part of the statistics minor committee. In June 2015 he received a college-wide Exemplary Faculty Award for outstanding teaching.

Dan Welker (BS '94) retired this year from teaching Statistics at the College of Western

Idaho after five years. He now works full time at his tax advisory firm and develops intellectual property.

Carrie (Johanson) Butikofer (BS '96) has been with the Census Bureau for 17 years. She recently received her certification as a Project Management Professional (PMP) and leads the team planning Geographic Programs for the 2020 Census. She lives in Alexandria, Virginia with her husband James and enjoys spending time with her five step-children. She serves in the Young Women's organization and enjoys traveling and visiting lighthouses around the United States.

Lara Jackson (BS '96) is currently working full-time for United Healthcare doing data analysis as a Healthcare Economics senior consultant. She's a telecommuter, so she gets to work from home, which allows her to also keep an eye on her growing boys.

Matt Madden (BS '02) works at The Modellers and is happily living in the Salt Lake area. The once small market research agency has grown tenfold and is now a division of London-based Hall & Partners, where Matt is Global Head of Marketing Sciences. In the fall he'll watch the oldest of his five kids (four girls, one boy) start high school.

Matt Poulton (BS '05) is the Chief Information Officer for ENDEVR located in St. George, Utah.

Aaron Henrichsen (BS '05) served in the US Navy for 7 years as an officer on submarines attaining the rank of Lieutenant (O-3) and receiving various awards including two Navy and Marine Corps. Achievement Medals and a Navy Commendation Medal. From 2010 to 2012 he was a Naval ROTC instructor at Arizona State University and completed a master's degree in Statistics in May 2012. Since 2012 Aaron has gotten out of the Navy and has completed all the coursework necessary for a PhD in Business Administration (Finance) at Penn State University. He anticipates completing his dissertation and becoming a professor of finance in the summer of 2017. Aaron is married to Christine Henrichsen (née Baker) who graduated from BYU with a BS in Microbiology in 2004 and a MS in Biochemistry in 2006. They have two daughters and two sons between the ages of two months and eight years old.

Ben Neibaur DMD (BS '02) is an orthodontist in Utah with multiple offices. He is married to Holly Neibaur and they are expecting boy #6.

Kevin Crookston (BS '07) and his wife Becky will be celebrating their tenth wedding anniversary this August. They live with their three children in Yuma, AZ. Kevin works as a data analyst at the Army Yuma Proving Grounds, and Becky is a homemaker. Both serve as scout leaders in their ward.

Nelson Pace (BS '11) is beginning his 3rd year of the Epidemiology PhD program at UNC-Chapel Hill. His research focuses on the prevention of adverse birth outcome by studying the influence of nutritional and environmental exposures on pregnancy. He aspires to protect and promote the health of mothers, fathers, and children by improving their health through research, research synthesis, and research translation with particular focus on the perinatal window. Nelson and his wife have a 3 year old son and a 2 month old daughter, who are their world and their happiness.

Douglas VanDerwerken (BS '11) recently graduated with his PhD from Duke University and starts this summer as an Assistant Professor at the United States Naval Academy.

Tami Stevens Hall (BS '93) is married to Ralph Hall and has nine children. Her accomplishments include 4 Eagle Scout sons, one daughter with her YW Recognition, 3 sons on missions, one married in the temple, and many years of parenting to go. Tami has served in church callings, including Young Women's Presidency, Relief Society Presidency, and Boy Scouts. This past year Tami started working part-time for public schools as a substitute para-educator. Her hobbies include running, sewing, quilting, scrapbooking, and reading.

Kimberlee Everson (PhD '12) received a PhD in Educational Inquiry, Measurement, and Evaluation from BYU in 2012. Currently she has a faculty position at Western Kentucky University where she serves as a quantitative methodologist in the Educational Leadership department. Her research focuses on statistical methodologies used to link student achievement to teacher quality as well as quasi-experimental methods.

Justin Olsen (BS '12) finished his Master's Degree in Financial Engineering in December of 2014. He is currently employed as a Quantitative Investment Analyst at an Investment Management firm called T. Rowe Price in Baltimore, MD. He is in their Fellowship Program that rotates through several investment departments such as Quantitative Fixed Income, Equity Quant Research, and Asset Allocation. As a quant analyst, he works on projects geared towards analyzing investment strategies and developing quantitative investment trading models and strategies. ◆

Make a Gift

Exciting things are happening in the Department of Statistics. As we strive to achieve the department's goal to help students develop their intellect and faith, our faculty teach the latest new concepts and skills, and administration and staff encourage and serve students. All help strengthen testimonies of Jesus Christ.

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