Greetings from the Outgoing Chair

This has been a very successful year for UCLA Statistics. We have a truly excellent group of students, and our undergraduate and graduate programs are continuing to grow both in number and excellence. We have recently appointed our new and extremely able Chair, Mark Handcock, who will no doubt do a terrific job governing the Department. We have newly hired two very promising statisticians in Erin Hartman, who will bolster our rapidly growing Center of Social Statistics and further strengthen our ties with Political Science, and Alyson Fletcher, who will strengthen our research on machine learning and high-dimensional inference, and will increase our ties with Applied Math, Neuroscience, Computer Science, and Electrical Engineering. We have also hired an excellent Administrative Analyst in Nannette Callo, who joins us in the role vacated by Joana Valenzuela, who did an outstanding job and who is still very much a friend of the Department. Statistics in general continues to grow quickly as a discipline and is rapidly becoming one of the most useful and important areas of academia and industry. Virtually every major corporation is focusing heavily in its hiring and practice on statistics, often under the names "Data Science" or "Analytics." Machine learning techniques and other methods for analyzing Big Data are widely regarded as the most important breakthroughs to occur in science in general over the past few years.

As this was the last year of my 3 year role as chair, it is a good time for me to reflect on the past 3 years.

There are some things we have accomplished that I am very happy about. I should say at the onset that many of these were set in motion by my predecessor and our founding Chair, Jan de Leeuw. First and foremost, we have begun to address our department's tenure-track faculty

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Greetings from the Incoming Chair

As the incoming and third Chair of the department, I want to thank the outgoing Chair, Rick Paik-Schoenberg, for his steady hand over the last three years. During his term, the department has increased the number of undergraduate and graduate students as well as expanded the courses and training offered in Statistics. Rick has managed growth in the ladder faculty, with five faculty hired. These hires were in response to the retirement and loss of some exceptional faculty. New hires, Jingyi Jessica Li, Arash Ali Amini, and Chad Hazlett arrived during Rick's tenure. Alyson Fletcher and Erin Hartman will be joining us in 2016. These faculty bring new energy, talents and perspectives to the department and the field. They come from a diverse set of backgrounds and intellectual paths, enriching us all. I appreciate Rick's dedication to the students, faculty and staff, and look forward to his continued contributions to the department.

It is going on 17 years since the department was founded by Jan de Leeuw in 1998. Jan built up the small department from existing faculty at UCLA and a series of strong hires. The vision of the department was around a computational scientific model, engaged with other sciences and maintaining the mathematical core of the discipline. The department continues to benefit from this vision. It remains a unified and talented community. Our graduate and undergraduate programs are very strong, as are our research centers, journals, and outreach activities. The undergraduate teaching program continues to strengthen under the capable leadership of Rob Gould and the exceptional teaching faculty. The research centers, especially in computer vision, are engines of new ideas and methodology.

Our field is rapidly changing in response to the remarkable increase in demand for statistical thinking and methodology in research, industry and business. The emergence of data science and analytics and the development of statistical ideas outside of the discipline are challenges we must

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diversity issues. When I started in 2012, we had 10 tenure-track faculty, all of whom were male. We now have 3 female tenure-track faculty, Jessica Li, Erin Hartman, and Alyson Fletcher. In 2012, of our 10 tenure-track faculty, 0 were assistant professors, 1 was an associate professor, and all the other 9 were full professors. Now we have 5 assistant professors and 1 associate professor. These are very positive changes for our department. We have also grown, from 9.5 FTE in 2012 to the current 13.5, and we have hired excellent staff who are helping tremendously with the daily affairs of running the Department. I am extremely happy with our recent faculty hires in general: in addition to Li, Hartman, and Fletcher, we have hired Arash Amini and Chad Hazlett, and all 5 are incredible scholars. The future of our department is very bright.

We have accomplished several of the other goals I had for the Department when I started as Chair in 2012. We now engage in an annual Volunteering Event each Fall, where dozens of graduate students, faculty and staff from our department volunteer at the Los Angeles Food Bank. We pair our assistant professors with faculty mentors. We have revamped our core graduate courses, bringing them more up to date. We have restructured our space, including our Departmental lounge, in an effort to accommodate our growth and to make our Department a bit more social and to have spaces for faculty and graduate students to work together. We have strengthened our Consulting Center. We have begun forming useful Articulated Degree Programs with other Departments on campus. Perhaps most significantly, we have overseen the initiation of our proposed self-supporting Masters of Applied Statistics program, which has now been approved by UCLA and seems to be very near full UC approval, in which case it will be poised to start in Fall 2016, with admissions beginning this coming year.

There is still much to do, however, and several areas where I should have done a better job. We need to continue to grow. Our goal several years ago was to have 15 FTE by 2015, and we are still a bit short of this goal. We should build greater harmony and cooperative research among our faculty. Our Department should become more social, with more Departmental activities and more open doors in general, and I have helped little in this regard by having my own door closed far too often. We can be more clear and organized about how we apportion faculty teaching and service responsibilities. We should keep trying to increase our Departmental ranking to continue to attract top students from all over the world.

I thank my fellow faculty, especially my Vice Chairs Rob Gould, Hongquan Xu, and Qing Zhou, for helping me very much, as well as our excellent staff headed by Chie Ryu who has done an extraordinary job. I also had great help and support from our administration, especially Physical Sciences Dean Joe Rudnick, Assistant Dean Jeanne Ladner, Vice Chancellor Carol Goldberg, Executive Vice Chancellor and Provost Scott Waugh, and Vice Provost Chris Littleton. I am very confident that, under the helm of Mark Handcock, our Department will continue to grow and strengthen.

Rick Paik Schoenberg

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meet. It will require us to collaborate with other fields at levels much higher than before. As this process moves forward, we as a department must focus our research and teaching on the pressing intellectual challenges of the present, while retaining the rich intellectual heritage of our discipline. This delicate balance between constant innovation and curation is what we must seek as a community.
The coming years will bring new challenges to the department. We are just about to start our new self-supporting Masters in Applied Statistics program, which expands the range of teaching offerings. We will engage more closely the demands of Big Data and analytics. These challenges will provide us opportunities for continued growth. It is a wonderful time to be a statistician!

Mark Handcock

STUDENT NEWS

Vera Claire Danielson

Congratulations to the following award winners at Commencement 2015:
TA of the Year: Peng Jun Huang
Most Promising Theoretical Statistician: Bryon Aragam
Most Promising Applied Statistician: Dacheng Zhang
Most Promising Computational Statistician: Wei Li

Congratulations to Katie McLaughlin who is a finalist for the GSA Jeffrey L. Hanson Distinguished Service Award. This award acknowledges those individuals who have served the Graduate Students Association and represented the interests and concerns of graduate and professional students at UCLA during the academic year.

Joshua Embree started a job as data scientist in April 2015 at the Consumer Knowledge Group of Nike in Portland, Oregon.

Aaron Danielson (and his wife Cara Tambellini) had a daughter, Vera Claire Danielson, on November 1. 2014

This fall Amelia McNamara will begin a four year position as a visiting assistant professor in the Program for Statistical and Data Sciences at Smith College in Northampton, Massachusetts.

Kayla Frisoli will begin a Ph.D program in Statistics at Carnegie Mellon University this fall.

Melody Lim will begin a master's program in Biostatistics at Harvard University this fall.

Siena Duplan will start as a business analyst in August at Salesforce in San Francisco.

Tavia Sin will start as an advisory consultant in September for risk analytics at Deloitte in Los Angeles.

Jeremy Chan will start as an advisory consultant in July for risk analytics at Deloitte in Orange County.

Jungseock Joo accepted a tenure track offer from Dept. of Communications Studies, UCLA.

Katie McLaughlin will be presenting her paper entitled, "Estimating Personal Network Size for Respondent-Driven Sampling Data" at JSM 2015 in August 2015 in Seattle.

Congratulations to Dan Bestard and Sunjin Oh who earned an Honorable Mention for their project (Statistics 130), "Smoking and Health in Spain" in 2014. They were entered in the Undergraduate CLASS Project Competition (USCLAP) organized by CAUSE (Consortium for the Advancement of Undergraduate Statistics Education - www.causeweb.org). Details are available at this link: https://www.causeweb.org/2014%20Winning%20Projects

POST DOC NEWS

This fall Xiaobai Liu will start a tenure track position in the Computer Science department of San Diego State University.

STAFF NEWS

Jason is shown with Susan Olsen (aka Cindy Brady), the emcee of the event.

In October 11, 2014 Jason Mesa walked four miles and raised $1200 for the American Diabetes Association at the "Stepout / Walk to Stop Diabetes" Walk in Valencia, CA.

Nannette Callo, the newest member of our Statistics Finance and Administration staff started with us on March 23, 2015. Prior to joining us, she was one of the fund managers at the UCLA Center for Health Policy Research. However, she started at the Center for Health Policy Researcher as a work-study student and eventually advanced to become a fund manager. She holds a BA in Southeast Asian Studies from UCLA. Although, she enjoys learning about history, culture and the humanities, she also has a passion for math. In her spare time, she volunteers for the organization, School on Wheels, and tutors homeless children ranging from kindergarten through twelfth grade. Being able to influence and make even a small difference in their life is a rewarding and enjoyable experience for her and she is glad she gets to do that.

Congratulations to Glenda Jones who won the James Lu Valle Distinguished Service Award which was given by the UCLA Graduate Student Association. This recognition acknowledges faculty, staff, and administrators who have served the needs of graduate students above and beyond what is expected.

Eddie Navarro Writes About "Elisha C"., an Orphanage in Haiti

This past Spring Break, I had the great privilege of doing volunteer work abroad in a very rural village called Fond Doux in Haiti. It was truly an experience of a lifetime where I got to interact with the locals and learn about their daily struggles. My initial reactions were of shock and dismay knowing that these people lived like this daily and even more horrifying that such communities exist all over the world and nothing was being done to help them. What I saw showed me how blessed we as Americans can be and how we often turn the other way to ignore the problems that occur all around us. Often times we acknowledge their existence but seldom times act on them to try and make a difference. During my trip, we interacted with Haitian children in an orphanage founded by the Chi Alpha Christian Ministry. We held game nights, took them to the beach, and simply went on hikes just to spend time with them. For them, it was the one week of the year they had to forget about their financial struggles and enjoy our presence there. It was truly a self-rewarding experience that I will never forget!

Coming back from Haiti I knew I had to do more. I needed to get involved in helping change the lives of these kids with so much locked potential that they don't get to unleash because of the scarcity of resources. I got involved with Elisha C. as the Director of Education where I took it upon myself to fundraise money to provide these kids with a basic education. The organization stemmed from Chi Alpha, focusing on breaking the cycle of poverty and putting "Haiti in the Hands of Haitians." What this means is that the organization focuses on providing sustainable jobs for many locals as means to stabilize themselves and their family. Furthermore, at Elisha C. we want to build bridges from the producers directly to the consumer, creating opportunities for producers to elevate themselves into the global market. In truth we are redefining the way we do charity. We are also providing kids with an education because we believe the only way to empower them is through education itself.

This year we are taking up the task of fundraising $10,000 for the 2015-2016 academic school year to pay for the tuition of 35 kids - 8 of which will be at the university level! Breaking the cycle of poverty is no easy feat, but through Elisha C. we are making this a reality. Join a movement that mobilizes, empowers, and frees individuals from the bondage of poverty. Help us complete this goal and transform the lives of these amazing children. Education should not be a privilege but rather a fundamental right accessible to everyone. More information can be found on the Elisha C. website at elishac.org or by contacting me for further information; enavarro@stat.ucla.edu.

Mèsi anpil (thank you),
Eddy Navarro

Ashley Trang-Nhi Black (at 4 months)

Akram Almohalwas with new wife Waka Karshan

FACULTY NEWS

Congratulations to Akram Almohalwas who married to Wafa Karshan on August 17, 2014 in Jerusalem, Palestine.

Congratulations to Dai-Trang Li and Marc Black on the birth of their daughter, Ashley Trang-Nhi Black on November 24, 2014

In July 2014 Tianfu Wu was promoted to Research Assistant Professor (combination of adjunct assistant professor and research assistant).

Congratulations to Juana Sanchez who is a 2014 - 2015 recipient of a UCLA Non-Senate Faculty Professional Development Award. This award supports the professional growth and pedagogical initiatives of lecturers. It grants funds to proposals that explain the feasibility of teaching projects that improve pedagogy.

Congratulations to Judea Pearl who was awarded an honorary doctorate from Carnegie Mellon University in May. This is in recognition of both his "landmark achievements in the theory and practice of artificial intelligence" and the sweeping impact that he has had for statistics, philosophy, biomedicine and econometrics.

Since starting at UCLA Statistics in 2000, faculty member Nicolas Christou has attended every single seminar that the department has hosted. Statistical Moments newsletter salutes Nicolas on this remarkable achievement.

Congratulations to Mitra Esfandiari (sister of Mahtash Esfandiari) who was promoted to Senior Principal at P+R Architects in Long Beach in January 2015.

Our faculty presence at JSM 2015 in August in Seattle:

Juana Sanchez will:

- present her paper, "Identification Strategies for Models of Innovation, R&D and Productivity"
- chair the session entitled, "Panel Data, Linear Models, and Testing - Contributed Papers" organized by the Business and Economic Statistics Section of the International Indian Statistical Association
- attend the business meeting of the Journal of Statistics Education as Associate Editor

Ivo Dinov has organized the session called "Big Data: Modeling, Tools, Analytics, and Training"

Yingnian Wu will be presenting his paper entitled, "Generative Modeling of Convolutional Neural Networks"

Jingyi (Jessica) Li will:

- present her paper "Bayesian Methods for Complex and High-Dimensional Data with Application to Analysis of RNA-Seq Data"
- chair the session entitled,"Advances in Statistical Genomics and Genetics — Contributed Papers" organized by the Biometrics Section of the Institute of Mathematical Statistics

Two New Assistant Professors Will Start in 2016

The department recently decided to hire two new assistant professors. They are Alyson Fletcher who will start in January 2016 and Erin Hartman who will start in July 2016.

Alyson ("Allie") Fletcher will be coming to UCLA from northern California where she is currently an Assistant Professor of Electrical Engineering at UC Santa Cruz and a Research Scientist in the Redwood Center for Neuroscience in the Helen Wills Neuroscience Institute at UC Berkeley. She received her Ph.D. in electrical engineering, and her master's degrees in mathematics and electrical engineering, all from the University of California, Berkeley. She obtained her undergraduate degrees in mathematics and physics from the University of Iowa. Her research interests include high dimensional inference, statistical signal processing, machine learning, and information theory with a particular interest in inference problems in neuroscience and computational models of the brain. Allie joined UC Santa Cruz as an Assistant Professor in Fall 2012. She was awarded the NSF CAREER award in January 2013 and was previously a UC President's Postdoctoral Fellow, a Henry Luce Foundation Claire Boothe Luce Fellow and a recipient of the UCB EECS Eugene Lawler award. Allie is a lover of California and enjoys the good food, art, theater and the sun.

Erin Hartman will be a Post-Doctoral Fellow for the Department of Politics at Princeton in July, 2015. She earned her Ph.D. in Political Science at U.C. Berkeley, where she also earned Master's degrees in Statistics and Political Science. She earned her undergraduate degrees at CalTech in Economics and Political Science. Her research focus is on creating new methods, both theoretical approaches and new estimation strategies, for identifying causal effects. Her focus has been on creating new survey sampling methods that reduce the reliance on post hoc weighting methods and reduce variance in estimates. Among her accomplishments in private industry include heading the Analytics Department's polling operation for Obama's 2012 reelection organization "Obama For America". Her work proved instrumental in accurately predicting election results in key battleground states. She is also co-founder of a successful analytics and technology start-up, BlueLabs, which focuses on providing analytics services to clients in politics, issue advocacy, healthcare, and education. Erin also has the honor of being named one of Pacific Standard's 2015 "Top 30 Thinkers Under 30" as well as being included in Campaigns & Elections 2015's "The Influencers 50".

DEPARTMENT NEWS

On November 5, 2014, Yingnian Wu, Nicolas Christou, Glenda Jones and several undergraduate Statistics students visited high school students of the Edward Roybal Learning Center in Downtown Los Angeles to speak about UCLA and the Department of Statistics. The main purpose of the outreach visit was to educate the students about the importance of statistics and its many applications in the real world.

High School Students from Roybal Learning Center learn statistics from UCLA Statistics Department Members

Followup on R User Conference

by Katharine Mullen

The R community descended on UCLA last summer over the course of four action-packed days for useR! 2014, the 10th annual R User Conference. R is a language and environment for statistical computing and graphics, available as Free Software under the terms of the Free Software Foundation's GNU General Public License. The annual useR! conference brings together users and developers to talk about applications, extensions and directions for future work.

June 30 was a day full of tutorials from experts on a wide variety of topics in computational statistics. Offerings included:

- Applied Predictive Modeling in R
- Interactive graphics with ggvis
- Dynamic Documents with R and knitr
- C++ and Rcpp11 for beginners
- Managing Data with R
- Introduction to data.table
- Applied Spatial Data Analysis with R
- Bioconductor
- Data manipulation with dplyr
- Interactive data display with Shiny and R
- Programming with Big Data in R
- Graphical Models and Bayesian Networks with R
- Nonlinear parameter optimization and modeling in R [slides]
- An Example-Driven Hands-on Introduction to Rcpp

- Interactive Documents with R
- Simulating differential equation models in R

The following three days, July 1 - July 3, featured contributed and invited talks on themes spanning the spectrum of computational statistics research with R. The invited talks included:

- Good Practices in R Programming, by Martin Mächler
- R, C++ and Rcpp, by Dirk Eddelbuettel
- Textbooks struggle where software succeeds, David Diez
- Solving differential equations in R, Karline Soetaert
- The Journal of Statistical Software: Past, Present, Future, Jan de Leeuw and Katharine Mullen

Two poster sessions provided time for further consideration of new research. An opening reception and conference dinner provided the gathered students, scientists and statisticians a forum to relax and talk about R past, present and future.

This summer's conference, useR! 2015, will take place in Aalborg, Denmark, from June 30 - July 3, hosted by Aalborg University.

VCLA has Retreat in December 2014

The VCLA research group had a holiday retreat at UCLA's Lake Arrowhead on December 20 and 21, 2014. On the 20th many members of the group went skiing at nearby Big Bear Resort early in the day. Later all got together for team building activities and unwrapping holiday presents. The 21st was all business as the members conferred to discuss their research with colleagues.

VCLA members take a break from skiing on the slopes of Big Bear

2014 Annual Meeting of ONR-MURI

More than 60 people attended the Annual Meeting of ONR-MURI (Office of Naval Research - Multidisciplinary University Research Initiative) on December 4 and 5 of 2014 in Royce Hall. The past year's progress in the research objectives of ONR sponsored grants was reviewed. This event gave our department members who work in the VCLA or CCVL research groups the opportunity to interact with their vision colleagues from other institutions.

UCLA Statistics Gives Back to the Community

On the morning of Saturday, October 4 about 30 of our undergrads, grads, postdocs, faculty and staff volunteered at the Los Angeles Regional Food Bank for our 2nd annual UCLA Statistics Volunteer Day. We teamed with several local high schools and colleges to move, sort, box, pack and count about 77,000 pounds of fruit. It was a fun and fulfilling event for all involved. It was a great way for our new graduate students to meet their new new colleagues.

Some Hard Working UCLA Statistics Students Take a Break at the LA Regional Food Bank

A Picture is Worth a Thousand "thanks"...

In early May Glenda Jones, our SAO, took over 200 pounds of school supplies to the Little Wonder School in Nairobi, Kenya. The school is located in the slums of Nairobi. The children are from very low income families and the local orphanage. Glenda has been going to Nairobi to deliver books, school supplies and work in these slum schools since 2001. This year was no different from the times she has gone before except that she found her name on the second floor of the renovated building at the "Glenda Jones Library". "It is such an honor", Glenda said, "when your work is appreciated and you know that you are making a difference in someone's life". Glenda also wanted to thank members of the Department of Statistics for their generosity with school supplies and funding. She was able to purchase LeapFrog toys, jump ropes, soccer balls, hula-hoops, backpacks and other school supplies. Glenda was also able to pay school fees for several of the students, who could not afford to pay and purchase their school uniforms. The work is not over, the resources in Africa are not like in the U.S. There is still so much to be done. If you would like to donate to the Little Wonder School please contact Glenda about it at glenda.jones@stat.ucla.edu.

Glenda Catches Up on Some Light Reading While in Nairobi in May

ASA DataFest 2015
By Rob Gould

This year's DataFest, held April 24-26, was history-making for several reasons. First, we had more students participate than ever before: 240 compared to last year's 150. Second, it was held at a beautiful new venue: DeNeve Commons on The Hill. Finally, it was the first year of DataFest as an official event of the American Statistical Association, and so appeared under a slightly new name: ASA DataFest@UCLA.

The data this year came from Edmunds.com, a car-buying website that assists customers in outfitting and pricing new and used cars. Edmunds challenged DataFesters to examine several million visitor paths through their website and make recommendations that will improve the customer experience. Edmunds provided the most generous assistance we've had yet from a data-donor, in large part thanks to UCLA Statistics alumna and Edmunds.com employee Courtney (Engel) Raskob. Courtney worked tirelessly to get us a beautiful dataset, to arrange for publicity, to get experts to visit and present the data, and to recruit a panel of Edmunds judges who could carefully evaluated the participants' presentations.

After working for almost 48 hours, student teams had just 5 minutes and two slides to impress our judges. In addition to the Edmunds.com experts Tony Le, Qing Shen and Roland Quitalig, our judges included UCLA Statistics alumni Amy Braverman, Eric Daly, Matt Kugisaki and Eric Daley. Statistics faculty Mark Handcock and Don Ylvisaker completed the judging panel.

The very high quality of presentations made for some tough decisions for the judges. In the end, they chose a winner and honorable mention in each of three categories: Best Visualization, Best Recommendation and Best Use of External Data. The winners were:

Best Visualization
Rosa Garcia-Rivas, Joshua Derenski, Rita Hsu and Meredith Valenzuela ("The A Team"). Honorable Mention: Alexander Chan, Sophie Lellis-Petrie, Harsh Patel, Kevin Li, and Anni Wang ("Give us a job").

Best Recommendation
Shuyang Dai, Hangjian Li, Xindi Zaho, Zhihao Zhao, and Mengyi Zhou ("Arctic Circle"). Honorable Mention: Christian Gao, Benjamin Hong, Xin Zhang and Feiran Zhu ("Team_1").

Best Use of External Data
Yuting An, Xin Jin, Xin Lai, Yanying Qiu, and Yating Xiao ("Fat Kids"). Honorable Mention: Tianyang Chen, Gabriel Ruiz, Derrick Tein, Kang Wang ("Chubby Chefs").
In addition to a large UCLA student contingent, participants included students from Cal Poly San Luis Obispo, Pomona College, UC Riverside, and USC. Sister events were held throughout the U.S., including Duke University, Purdue University, Five Colleges in Western Massachusetts, Penn State University, Emory University, and in Washington, D.C. hosted by Summit, LLC.

DataFest is truly a community gathering. In addition to the students and judges and people from Edmunds, we had help from many UCLA faculty and graduate students, and visits from 69 data professionals from 48 off-campus institutions. In particular, we thank UCLA statisticians Josh Gordon, Medha Uppala, James Molyneux, Katie McLaughlin, Saffa Dabagh, Brian Kim, Miles Chen, Tristan Wagner, Amelia McNamara, Alex Whitworth, Jane Carlen, Aaron Danielson, Juana Sanchez, Mahtash Esfandiari, Nicholas Christou and Yingnian Wu (who, with Nicholas Christou, did a very late-night-shift).

DataFest would have been a greatly diminished event had it not been for the tireless efforts of graduate student Linda Zanontian. She worked closely with DataFest founder and director Rob Gould and Statistics Student Affairs Officer Glenda Jones to divert crises, solve problems, soothe participants, organize purchases and manage one of our department's largest events.

You can follow DataFest news and announcements on twitter: @UCLADataFest. We're gradually updating our webpage (thanks to alumnus Emmanuel Ruggerio) at datafest.stat.ucla.edu, and you can also keep track at amstat.org/education/datafest.

Summary of SCC Activities in 2015

by Mahtash Esfandiari

I Pro Bono Analysis of Data for UCLA Community and Community at Large

The students enrolled in the undergraduate statistics course (140/141SL) are put in contact with clients from the UCLA community. They meet with the client to: 1) find out what questions the client wants answered, 2) clean up the data, 3) analyze the data, and 4) write a final report to answer the client's questions within context and using non-statistical terms.

Examples of projects completed this year are: 1) Analysis of the lecturer union survey data for UC campuses. This report was used in the last UC-AFT meeting that was held in Sacramento. 2) Analysis of private investment funds for the law school. The findings were used for a presentation to the Lowell Milken Institute. 3) Predicting the factors that affect type 2 diabetes. This data was provided by Dr. Ariana Anderson, who graduated from our own department and is presently a research statistician at David Geffen Medical School.4) Analysis of diversity data for multiple UC campuses, and 5) Analysis of faculty diversity data for different departments and professional schools in UCLA, as well as different medical specialties in the David Geffen Medical School.

Students enrolled in the undergraduate statistics course also work on community projects. Examples are: 1) College Bound data for a non-profit organization that intends to help students from lower SES apply to college, stay in college, and succeed in college. 2) Data from Los Angeles Mayor's office, 3) Data from Los Angeles Clippers, and 4) Mr. Jonathan Dotan's Twitter project.

II Aligning the Activities of SCC with Improvement of the Statistics Department's Capstone Courses

The capstone course or, undergraduate statistics series (140/141SL) in statistical consulting, has been revised. In the first course students are trained to undertake data management and the steps necessary to make data analyzable. In the second part they do an exhaustive review of applied statistical methods (such as ANOVA, ANCOVA, MANOVA, MACOVA, repeated measures, mixed designs, and logistic regression) to enable them to choose the correct statistical method for answering questions asked by the client. Whenever possible, the clients are invited to be guest speakers, meet with the students, and have the results reported to them. Students work on take-home assignments and a take-home final that requires them to address the theoretical underpinnings, data analysis strategies, and interpretation of the findings. Finally through doing a group project, presenting the findings to the class, and writing a final report, they learn the nuts and bolts of doing consulting in the real world.

III Roles of GSRs in the Statistical Consulting Center

The GSRs have started to play a much more active role in the statistical consulting courses. Each GSR is assigned as a team leader to multiple consulting projects done by the students enrolled in the undergraduate course. GSRs attend the weekly meetings that the instructor holds with the students and play a mentoring role. Additionally they participate in the formative and summative assessment of students' performance in the consulting course.

IV Workshops

Workshops continue to be taught in sample size determination and power analysis for the medical community including the Western University of Medicine.

DATAKIND

by Miriam Young, Communications Specialist at DataKind

The algorithms and statistical techniques that help companies boost their profits can also be applied to help non-profits increase their impact. Now that most everything is done online or on our phones, there's more data than ever with the potential to help address challenging social issues like education inequality, access to healthcare, and poverty. However, most social change organizations don't have the budget or staff to take advantage of all this data and most statisticians don't know how they can give back.

This opportunity was what inspired UCLA Statistics 2010 Ph.D graduate, Jake Porway, to found DataKind (http://www.datakind.org), a nonprofit that harnesses the power of data science in the service of humanity. DataKind brings together statisticians and social change organizations on projects designed to use statistics to move the needle on humanitarian challenges.

DataKind has helped the World Bank (http://bit.ly/1JzxHQ0) estimate poverty from satellite imagery, teamed with the Grameen Foundation (http://datakind.org/2011/12/grameen-foundation/) to improve their programs in Uganda, and joined the Red Cross (http://bit.ly/1gRQXeb) in using fire data and open city data to understand where fires are most likely to occur. More examples of DataKind's work can be found at this link: http://www.datakind.org/projects/

DataKind has a number of programs ranging from evening events to year-long projects. DataCorps is DataKind's signature program that brings together teams of volunteers with social change organizations on long-term projects to transform their work and their sector. DataKind also regularly hosts weekend DataDives around the world. These marathon-style events help organizations do initial data analysis, exploration, and prototyping. (A DataDive will be coming to the LA-area in October!)

Finally, its newest program was announced at the Clinton Global Initiative in 2014. The In-House Team works with collective networks of nonprofit, foundation, corporate and government partners on year-long projects to develop cutting-edge solutions for society's most pressing challenges. They are now looking for partners (http://bit.ly/1Hdr1qw) in the issue areas of public health, the environment or cities.

Headquartered in New York, DataKind launched five new Chapters worldwide in August 2014 in the Bay Area, Washington DC, Dublin, Singapore and Bangalore to join DataKind UK, its first Chapter.

Want to get involved? DataKind is always looking for volunteers and partner organizations and is currently hiring (http://www.datakind.org/careers/). Sign up (http://www.datakind.org/getinvolved/) to be on their mailing list, join a Meetup (http://www.datakind.org/howitworks/dataevents/) near you or donate (http://www.datakind.org/donate/) to support their work!

MARCH MADNESS: FROM MUNGE TO MODEL

by James Molyneux

March is a special, perhaps even holy month for many sports fans. Spring training for Major League Baseball gets underway in earnest, college basketball prepares for the March Madness tournament and fans everywhere start to get tinglings of belief: perhaps this year will be their team's year. For myself, March is strikingly different. I've never cared enough to watch college basketball, nor an entire baseball game. No, instead of feeling tingly-sensations of belief I can usually be found wrought with despair as I watch Arsenal begin their annual stagnation in the English Premier league soccer standings. But seemingly, everywhere I go, March Madness seems to be the talk of the town. And being someone whom studies statistics, everyone seems to think I've got some magic cocktail that I shake and have accurate March Madness predictions pour out. Not so, but for a few kicks (I says to myself) why not put together some naive prediction model and give it a whirl. Surely, I'll be more popular at parties then, right?

Find data, munge data

I might mention before I get too far along that, of all the friends I know who have made brackets before, the method that seems to work best was former UCLA stats grad student Neal Fultz' *Just pick Kansas* method. Though I'm not sure how often that's the case.

Prior to searching for my data, I'd established the following goals/constraints for my prediction model:

1. I wanted my work to be reproducible.
2. My knowledge of college basketball, and even the tournament itself, is very limited.
3. I'm perfectly happy to build something simple.

With a bit of searching then I was able to find, what looked like, a promising data set by using a web-app hosted by *The Washington Post* (Found here: http://apps.washingtonpost.com/sports/apps/live-updating-mens-ncaa-basketball-bracket/search/).

The only problem at this point was that there was no link to download the data directly. Luckily **R**, and in particular the **XML** package, could help. Inside the **XML** package is a very useful function that easily scrapes HTML based tables from websites. Loading the **XML** package and then using the web-app to pull data for every year between 1984 and 2015 gives us the following (Using a shortened URL):

```
library(XML)
table_url <- "http://wapo.st/1SPGaTs"
```

We can then use the readHTMLTable function and the URL to scrape the data off **The Washington Post** website

```
tables <- readHTMLTable(table_url)
```

By default, the readHTMLTable function scrapes every table from a website. Since our website has just one table, we run:

```
ncaa <- tables[[1]]
```

and with that, we have our ncaa data

```
head(ncaa)
```

```
##   Year             Round  Seed
## 1  2015       Play-InPlay-In    16
## 2  2015       Play-InPlay-In    11
## 3  2015       Play-InPlay-In    16
## 4  2015       Play-InPlay-In    11
## 5  2015 First RoundFirst Round     8
## 6  2015 First RoundFirst Round    12
##                              Team  Score  Seed
## 1        Manhattan\n            Manhattan     64    16
## 2     Mississippi\n           Mississippi     94    11
## 3 Robert Morris\n            Robert Morris     81    16
## 4            Dayton\n             Dayton     56    11
## 5      Cincinnati\n           Cincinnati     66     9
## 6          Buffalo\n             Buffalo     62     5
```

```
##                          Team  Score
## 1          Hampton\n          Hampton     74
## 2 Brigham Young\n    Brigham Young     90
## 3 North Florida\n    North Florida     77
## 4     Boise State\n    Boise State     55
## 5           Purdue\n          Purdue     65
## 6 West Virginia\n    West Virginia     68
```

Looking at the first 6 rows of data, it's obvious that our data suffers from some ill-formatting, which is fairly common when scrapping data from the web. Some obvious problems would be

1. Some column names are duplicated (Seed, Team and Score, specifically).
2. The Round and Team variables have values that look weird.

This ill-formatting as well as other identified ill-formatting was fixed. Complete details of this are shown at: http://bit.ly/1Khg5sM.

Make me a model

There's an old Irish singer named Joe Dolan, who had a couple hit songs in the 70's or 80's. One of those songs was titled "Make me an island", which is easily worth a listen on Youtube. Any who, *Make me a model* reminds me of that song (And if you think "Make me an island" is a musical gem, I really recommend checking out "Westmeath bachelor"!).So now that we've got a data set that we can use, it's time to put it to work. But first, recall that I don't know very much about college basketball. To make my life a bit easier, I'm going to drop the *Play-in* round of games (because I really don't have any idea what they are).

```
ncaa <- subset(ncaa, round != "Play-In")
row.names(ncaa) <- NULL
```

With the *Play-in* rounds removed, the next thing to do is to decide what we'd like to model and how. Deciding on a model to use took quite a bit of thinking. Using a logistic regression model seems less than ideal because we'd lose the extra information contained in how close (or far) a game was won in terms of points. So modeling the difference in points scored seemed like the logical response variable. The next problem is that we'd ideally like to use the seed of the two teams playing as predictors, but these variables are ordinal and it wasn't immediately obvious what a good model would be for a "continuous" response variable and two ordinal predictors.

Wanting to at least try something, I opted to create a score_diff variable by subtracting the 2nd team's score from the first to use as a response

```
ncaa$score_diff <- ncaa$score1 - ncaa$score2
```

Then I decided I would try changing the seed variable for each team from a factor into a number and then create a seed_diff in a similar manner as the score_diff variable from above. Is this an appropriate thing to do? Probably not, but I'm willing to bend some rules.

```
ncaa$seed1 <- as.numeric(as.character(ncaa$seed1))
ncaa$seed2 <- as.numeric(as.character(ncaa$seed2))
ncaa$seed_diff <- ncaa$seed1 - ncaa$seed2
ncaa <- na.omit(ncaa)
```

In doing this, I figured that I would try to calculate a probability of the first team winning based on how much higher or lower the second team was seeded. So for example, a 3rd seeded first team playing a 7th seeded second team is -4 seeds different in rankings.

I thought this might just be achievable when I looked at the histogram of the outcomes for each difference in rankings and noticed that, by and large, they looked fairly bell-shaped and symmetric.

```
library(ggplot2)
ggplot(data = ncaa, aes(x = score_diff)) +
  geom_bar(colour = "white", fill = round) +
  facet_wrap(~seed_diff)
```

The details of this graph are shown at this link: http://bit.ly/1Khg5sM.

My idea then was to use a Student-t distribution to compute the the probability, for each difference in seed, that the score_diff would be larger than 0 (which would indicate that team 1 beat team 2). To do this calculation, I found it easiest to use Hadley Wickham's **dplyr** package to create a new data frame of model parameters and t-statistics. We'll also do this with every season (except for this season) so that we can use the 2015 tournament to test my model.

```
library(dplyr)
ncaa_seed_params <- ncaa %>%
  filter(year < 2015) %>%
  group_by(seed_diff) %>%
  summarize(count = n(),
            score_diff_mean = mean(score_diff),
            score_diff_sd = sd(score_diff),
            t_stat = mean(score_diff)/sd(score_diff))
```

The computed probabilities of winning for each difference in seed were then computed by

```
ncaa_seed_params$win_probs <- pt(ncaa_seed_params$t_stat, df=ncaa_seed_params$count)
```

which gave the following results

```
library(xtable)
cbind(ncaa_seed_params[1:5, c("seed_diff", "win_probs")],
      ncaa_seed_params[6:10, c("seed_diff", "win_probs")],
      ncaa_seed_params[11:15, c("seed_diff", "win_probs")],
      ncaa_seed_params[16:20, c("seed_diff", "win_probs")]) %>%
    knitr::kable()
```

seed_diff	win_probs	seed_diff	win_probs	seed_diff	win_probs	seed_diff	win_probs
-15	0.974	-9	0.785	-4	0.710	1	0.432
-13	0.931	-8	0.843	-3	0.637	2	0.411
-12	0.961	-7	0.701	-2	0.556	3	0.426
-11	0.876	-6	0.626	-1	0.526	4	0.365
-10	0.646	-5	0.647	0	0.491	5	0.289

The only problem then left at this point is that not all possible combinations are represented in out data. For example, a seed difference of -14, 10, 11, …, 15, while possible, aren't actually present in the data. Looking at the scatter-plot give an idea of a possible solution

```
ggplot(data = ncaa_seed_params, aes(x = seed_diff, y = win_probs)) +
  geom_point()
```

The details of this graph are shown at this link: http://bit.ly/1Khg5sM.

We notice that the probabilities seem to look fairly linear in nature. So for the final step in our analysis, we use a method directly out of an intro-stats course's textbook, the simple linear regression. We then compute the coefficients of our linear model

```
m1 <- lm(win_probs ~ seed_diff, data = ncaa_seed_params)
coef(m1)
## (Intercept)   seed_diff
##  0.50918916 -0.03073604
```

and then use the coefficients with all possible seed differences to compute our final probabilities:

```
prediction_probs <- data.frame(seed_diff = -15:15,
                               win_prob= coef(m1)[1]+coef(m1)[2]*15:15)
# prediction_probs[32, ] <-
cbind(prediction_probs[1:8,], prediction_probs[9:16,],
      prediction_probs[17:24,], prediction_probs[25:32,]) %>% knitr::kable()
```

seed_diff	win_prob	seed_diff	win_prob	seed_diff	win_prob	seed_diff	win_prob
-15	0.970	-7	0.724	1	0.478	9	0.232
-14	0.939	-6	0.693	2	0.447	10	0.201
-13	0.908	-5	0.662	3	0.416	11	0.171
-12	0.878	-4	0.632	4	0.386	12	0.140
-11	0.847	-3	0.601	5	0.355	13	0.109
-10	0.816	-2	0.570	6	0.324	14	0.078
-9	0.785	-1	0.539	7	0.294	15	0.048
-8	0.755	0	0.509	8	0.263	NA	NA

Putting our model to the test.
With our prediction model built, it's time to put it to the test. To test our prediction model, I'll take this year's data (2015) then use the probabilities I computed to flip a "weighted-coin" for each of this years match ups from the first round.
To simulate these coin flips, I'll write a function that takes the two teams playing and their seed difference and the output the predicted winner:

```
coin_flip <- function(team_1, team_2, s_diff) {
  seed_prob <- prediction_probs %>%
    filter(seed_diff == s_diff) %>%
    select(win_prob) %>% as.numeric()
  winner <- sample(c(team_1, team_2),
                   size = 1, prob = c(seed_prob, 1 - seed_prob))
  return(winner)
}
```

And then use dplyr to (1) subset just the data from 2015's first round and (2) add the actual and predicted winners as columns to the data.

```
ncaa15 <- ncaa %>%
  filter(year == 2015, round == "First Round") %>%
  mutate(team1 = as.character(team1),
         team2 = as.character(team2),
         actual_winner = ifelse(score1 > score2, team1, team2)) %>%
  rowwise() %>%
  mutate(predicted_winner = coin_flip(team_1 = team1,
                                      team_2 = team2,
                                      s_diff = seed_diff))
```

So how did we do? Here's a table of our actual vs. predicted winners:

```
ncaa15_winners <- ncaa15 %>% select(actual_winner, predicted_winner)
cbind(ncaa15_winners[1:16, ], ncaa15_winners[17:32, ]) %>% knitr::kable()
```

actual_winner	predicted_winner	actual_winner	predicted_winner
Cincinnati	Purdue	North Carolina	North Carolina
West Virginia	Buffalo	Georgia State	Georgia State
Maryland	Maryland	Ohio State	Virginia Commonwealth
Butler	Butler	Arizona	Arizona
Notre Dame	Notre Dame	San Diego State	San Diego State
Wichita State	Wichita State	Utah	Utah
Kansas	Kansas	Georgetown	Georgetown
Villanova	Villanova	UCLA	Southern Methodist
North Carolina State	North Carolina State	Alabama-Birmingham	Alabama-Birmingham
Northern Iowa	Northern Iowa	Iowa	Iowa
Louisville	Louisville	Gonzaga	Gonzaga
Oklahoma	Oklahoma	Kentucky	Kentucky
Michigan State	Michigan State	Xavier	Mississippi
Virginia	Virginia	Dayton	Providence
Wisconsin	Wisconsin	Duke	Duke
Oregon	Oregon	NA	NA

which can be summarized as follows: Using this (rather naive) prediction method, we were able to correctly predict 0.8064516 of the games that took place in the first round.
Impressive, eh?

Conclusion

My method of prediction seems naive and simple, but for someone who otherwise has very little knowledge of college basketball, the results don't seem so bad. And while I'm sure that someone out there has a far more sophisticated model that makes much more accurate predictions, this method seems to solve my problem of not having a March Madness bracket to talk about at parties.

INTERVIEW WITH ARASH AMINI

conducted by Rick Paik Schoenberg

Q. Where were you born?
A. Binghamton, New York.

Q. But you grew up in Iran, right?
A. Yes, I grew up in Tehran. My family went back when I was 1 year old. I returned to the U.S. when I was 24.

Q. Are your parents still in Tehran?
A. Yes.

Q. Do you go back to Tehran sometimes?
A. Yes, I go to Tehran about once a year.

Q. How did you get interested in Statistics?
A. That's a long story. When I was getting my MS in Communications Systems at Sharif University, a lot of it was about signal processing and information theory, and situations where you want to remove noise from some signal. What many people did was very statistical, hypothesis testing, signal denoising, and things like that. It was really statistics under a different name. At Berkeley, my supervisor was Martin Wainwright, who did mostly statistics, so I gradually drifted that way.

Q. But at Berkeley you were not formally in Statistics, right?
A. No, I was in the Electrical Engineering Department, formally. I was technically studying signal processing but was affiliated with wireless foundation which houses people interested in information theory, theoretical aspects of wireless communication and signal processing. Martin was joint with Statistics and EE. In EE you could choose a designated emphasis, and mine was Communication, Computation and Statistics. Mike Jordan's group and ours interacted a lot.

Q. What years were you at Berkeley?
A. 2006 to 2011.

Q. Then you did a postdoc.
A. Yes, from 2011 to 2014 I did a postdoc at the University of Michigan. My wife got admitted there, which was a big reason we decided to go there. I worked with Lisa Levina and Xuanlong Nguyen there on network problems and Bayesian nonparametrics, two very different things.

Q. How did you and your wife meet? Is she also from Tehran?
A. Yes, and she lived there. We were introduced by a family member, and then we chatted online for a while, until we decided to get married.

Q. What about your time at UCLA? Are you happy with your decision to come here?
A. Yes, I'm happy with it. I like LA, and I like the Department. I like the people. I don't like the traffic though.

Q. What part of LA do you live in?
A. Actually we just moved last week, to Century City. I like it there a lot, but we are right near Olympic Blvd. and it is a little noisy.

Q. What are some of your interests outside of Statistics?
A. I like outdoors things. I like hiking, kayaking, watersports, and running. Anything outdoors.

INTERVIEW WITH CHAD HAZLETT
conducted by Rick Paik Schoenberg

Q. Where were you born?
A. I was born near Pittsburgh, Pennsylvania.

Q. What got you interested in statistics?
A. I've always been interested in understanding the causes of things and their effects, and that naturally got me interested in statistics, but then usually I was interested in the effects of particular policies, so I decided to either pursue that through statistics, or political science, or economics. I ended up going the political science route for my graduate degree while still reaching out to other departments to get the methods training I wanted to get.

Q. For undergrad your major was something totally different, right?
A. Yeah, for undergrad I did neuroscience.

Q. Where was that?
A. Duke. I went into neuroscience because I was fascinated by it and I was learning a lot, and started learning programming, statistics, and experimental design, so it was very productive. Then by the end of my time in college I began feeling I wasn't having the impact I wanted to have, as a naive college senior, and I started getting into economic development work. That took me to India for a year.

Q. Where in India?
A. I spent a year in Rajasthan, in Udaipur. It was beautiful. That was 2003-ish. And there I encountered all these problems again like NGOs and nonprofits doing projects with little evidence to support the claims that they worked.

Q. What kinds of things? What do you mean?
A. So there are all kinds of projects going on. A lot of them have to do with helping people to improve their ability to, say, do agriculture. Most of my work was on access to healthcare. What makes people willing and able to receive healthcare? So for example, health insurance seems like a good idea. Do people use it or not? Are people willing to pay money on a service they may not use? These kinds of questions. But more broadly, between the projects NGOs are doing and the policies of the government, not really knowing what works or doesn't work frustrated me. So that's when I went and actually thought the way of continuing that would be to get a Masters of Public Policy at the Harvard Kennedy School.

Q. Then you went on to get your PhD?
A. There were some other steps in between.

Q. You went to Africa, right?
A. I then got distracted again, by the genocide in Darfur, and got into working with an organization that did advocacy and policy work around that in D.C.

Q. Advocating genocide?
A. Advocating for policies we thought would be useful to curtail genocide. Once again after 3 years in D.C., I got fed up with people not knowing what worked and what doesn't work. That's when I decided to go back to do a PhD in political science.

Q. And then you did a Statistics minor while getting your PhD?
A. No I just took courses all over. I was at MIT, and we didn't have a stats dept, but we had great methodologists in political sciences, and they have a fantastic economics program, and then I also took courses in cognitive brain sciences, artificial intelligence, machine learning, and statistical learning courses.

Q. Let's talk about your coming to UCLA. How have you found it here?
Are you happy with your choice to come here?

A. Yes, I'm very happy about it, and very happy with the joint appointment. Actually it keeps me on my toes and gives me two very different audiences.

Q. How about outside interests? What do you like to do when you're not doing statistics or political science?
A. I suppose cooking is the main thing that takes up my time, and hiking, though I don't do it as often as I'd like.

Q. What kind of cooking? Like American food?
A. Sometimes American, sometimes Asian too. My wife is of Chinese descent, she's Singaporean, so we try to go in search of SouthEast Asian food or we try to make it.

Q. You travel a lot too.

A. Yeah, mostly quasi-work related like last Fall I was in Tunisia and China, both trying to start projects, and then this summer I'll be in China again and in Turkey.

THIS YEAR'S RESEARCH GRANTS

Alan Yuille

Project Title: Hierarchical Models for Image Labeling
Project Period: 08/23/12 – 11/22/15
Sponsor: U.S. Army Research Office
Award Amount to Date: $420,000

Project Title: Bottom-Up and Top-Down Processing in Human and Computer Vision
Project Period: 08/01/12 – 07/31/15
Sponsor: U.S. Navy/Office of Naval Research
Award Amount to Date: $540,001

Project Title: Hierarchical Visual Concepts in Computer and Biological Vision
Project Period: 09/01/11 – 08/03/15
Sponsor: Carnegie Mellon University/National Institute of Health
Award Amount to Date: $ 652,039

Project Title: Collaborative Research: Visual Cortex on Silicon
Project Period: 10/01/13 – 09/30/18
Sponsor: National Science Foundation
Award Amount to Date: $449,820

Project Title: A Center for Brains, Minds, and Machines: The Science and the Technology of Intelligence
Project Period: 09/01/13 – 08/31/18
Sponsor: MIT/National Science Foundation
Award Amount to Date: $190,000

Hongquan Xu

Project Title: Studies in Factorial and Composite Designs with Applications to Drug Combination Experiments
Project Period: 08/01/14 – 07/31/17
Sponsor: National Science Foundation
Award Amount to Date: $41,132

Qing Zhou

Project Title: Career: Sparse Modeling Driven by Large-Scale Genomic Data
Project Period: 06/01/14 – 05/31/16
Sponsor: National Science Foundation
Award Amount to Date: $306,515

Project Title: Monte Carlo Methods for Complex Multimodal Distributions with Applications in Bayesian Inference
Project Period: 08/15/13 – 07/31/16
Sponsor: National Science Foundation
Award Amount to Date: $120,000

Robert Gould

Project Title: Mobilize: Mobilizing for Innovative Computer Science Teaching and Learning
Project Period: 10/01/10 - 09/30/16
Sponsor: National Science Foundation
Award Amount to Date: $9,861,690

Song-Chun Zhu

Project Title: RI: Small: Learning and Inference in and-or Graphs for Image Understanding
Project Period: 08/01/10-06/30/15
Sponsor: National Science Foundation
Award Amount to Date: $459.674

Project Title: CDI- Type II: Collaborative Research: Joint Image-Text Parsing and Reasoning for Analyzing Social and Political News Events
Project Period: 10/01/10 – 09/30/15
Sponsor: National Science Foundation
Award Amount to Date: $1,299,998

Project Title: Knowledge Representation, Reasoning and Learning for Understanding Scenes and Events
Project Period: 08/01/10 – 07/31/15
Statistics Co-PI: Alan Yuille, Judea Pearl, Yingnian Wu
Sponsor: U.S. Navy/Office of Naval Research
Award Amount to Date: $7,500,001

Project Title: See on a Unified Foundation for Representation, Inference, and Learning
Project Period: 09/26/11 – 11/15/15
Statistics Co-PI: Alan Yuille, Yingnian Wu
Sponsor: USAF/Research Laboratory
Award Amount to Date: $6,218,614

Project Title: RI: Small: Inferring the "Dark Matter: and "Dark Energy" from Image and Video
Project Period: 07/15/14 – 06/30/17
Sponsor: National Science Foundation
Award Amount to Date: $454,400

Yingnian Wu

Project Title: Learning Compositional Sparse Coding Models for Natural Images
Project Period: 08/15/13 – 07/31/16
Sponsor: National Science Foundation
Award Amount to Date: $100,036

JUST FOR FUN: There are three changes in each of the following photos. Can you find them? The answers are at the bottom of the next page.

This Page:
1. Josh Gordon's shirt
2. Hongquan Xu's shoes
3. The trees behind Josh
4. Li Wei's fingers (to the right of Hongquan)

Previous Page:
1. Joyce's scarf color
2. The EXIT sign on the wall
3. James's shirt
4. The yellow folder on the table

GIVING

The UCLA Department of Statistics is growing rapidly, and our sources of public funding are not keeping up with our increasing demands. Funding from donors like you will help us maintain equipment and finance our grad students' research and teaching. You can make donations securely at http://giving.ucla.edu/statistics. For more information please visit http://giving.stat.ucla.edu or email giving@stat.ucla.edu.

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We would like to thank all of those who contributed to this newsletter. Without you it would not have been possible.

UCLA Department of Statistics

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