The Department of Statistics and Data Sciences is an academic unit housed in the College of Natural Sciences that supports the statistical and data science needs of The University of Texas at Austin campus.

Our Mission

Our mission is to be a world-class center for statistical science that advances scholarship across The University of Texas at Austin and prepares graduates to flourish in an information-rich world.

Our Vision

The Department of Statistics and Data Sciences will become a vibrant community of scholars that has a strong intellectual identity and is widely recognized for excellence in interdisciplinary research and high impact educational programs.

Our Core Values

- Commitment to education
- Excellence in research
- Broad engagement with science and society
- Collegiality and integrity
From the Chair

As I began to compose this letter, I realized how quickly my first year has passed as the Chair of the Department of Statistics and Data Sciences (SDS). It has been a year with many rewarding moments, as well as with some challenges. Though a year of transition, we have made solid progress on many fronts, including laying the foundation for a strong department while continuing to strengthen our efforts in undergraduate and graduate education, consulting, and research. In this annual report, we are proud to highlight the achievements of our faculty, students, and staff during the past year. We are also pleased to share with you some of our new initiatives that will help catalyze changes to meet the demand for high impact educational programs and excellence in research.

We began the work of building the department by creating a governance document, reorganizing the administrative staff, and welcoming two new, 100% SDS recruits with expertise in machine learning and large-scale estimation, Lizhen Lin and Purnamrita Sarkar, to our cohort of 13 world-class faculty. To better accommodate our growth, we renovated a portion of the 7th floor of the Gates Dell Complex to create two new offices, a dedicated consulting space, and a shared lecturer area.

Highlights from our continuing efforts of offering high impact educational and research programs, include providing over 700 hours of free consulting to students, staff and faculty, and teaching over 5000 students essential courses in statistics ranging from introductory undergraduate to advanced Ph.D. courses. SDS software short courses and the Summer Statistics Institute provided specialized statistical training to a broad cross-section of participants from UT, and medical, high tech, government, and financial industries. New efforts this year included the first iteration of a MOOC, “Foundations of Data Analysis,” the roll-out of the OnRamps statistics course with 16 participating high schools, and the submission of an NIH T32 training grant.

The department continues to conduct cutting edge independent and collaborative research in Bayesian methodology and statistical machine learning. Our outstanding faculty have obtained over $6.3 million in federal funding as Primary Investigators and Co-Primary Investigators from NIH and NSF, as well as other federal and state agencies. SDS faculty also serve as editors and on editorial boards for the top journals in our field.

As a department we have committed our resources to grow the Ph.D. in Statistics program with the creation of the SDS Excellence Recruiting Fellowship—a generous four-year fellowship offered to the top tier applicants. New Ph.D. Graduate Advisor Dr. Stephen Walker is fostering stronger relationships among the faculty and students through the institution of a mentor program.

To enhance our department’s partnerships with industry and alumni, we have enlarged the corporate partnership program to include NetSpend, have distributed an annual newsletter, and have met with industry leaders to cultivate long-term, collaborative research projects.

I would like to thank the dedicated faculty and staff of the department for working closely with me during this inaugural year. I am also grateful for the support of Dean Linda Hicke and Provost Greg Fenves, who continue their unwavering support of our department.

As we move forward in 2015–2016 and beyond, I am proud of what we have accomplished this past year and am excited about the future. Our department is strong, vibrant and growing, and together we will continue our efforts to be a world-class center for statistical science that advances scholarship across The University of Texas at Austin and prepares graduates to flourish in an information-rich world.

Dr. Mike Daniels
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I. HIGHLIGHTS IN 2014–15

Becoming a Department

August 15, 2014, was a watershed moment with the Division of Statistics + Scientific Computation (SSC) officially becoming the Department of Statistics and Data Sciences (SDS) with Professor Mike Daniels as the inaugural chair.

Departmental status addresses three administrative hurdles that limited the College of Natural Sciences’ ability to grow its statistics program and advance statistics education and data-enabled research at the university. First, a department structure provides a supportive academic home for new, world-class statistics faculty who require an environment in which promotion, tenure, and merit decisions are made by faculty in their own discipline. Second, a Department of Statistics and Data Sciences allows The University of Texas at Austin to clearly identify and capitalize on one of its newest and most promising strengths and to be recognized in national comparisons of statistics departments. Finally, departmental status provides the administrative autonomy and cohesion among statistics-associated faculty, lecturers, staff and students needed to manage our growing portfolio of educational programs and efficiently design and implement new, high impact undergraduate and graduate courses.

As department chair, Dr. Daniels led the faculty in creating a governance document and oversaw the reorganization of the administrative arm of the department.

New Faculty

The Department of Statistics and Data Sciences welcomed two new faculty members this year, Drs. Lizhen Lin and Purnamrita Sarkar. Their arrival marks a milestone in the department’s growth as they are the first 100% faculty appointed in the department.

- **Lizhen Lin** comes to UT from the Department of Statistical Science at Duke University. Dr. Lin received her Ph.D. in Mathematics from the University of Arizona. She is appointed as an Assistant Professor in SDS. Her main research focus is on Gaussian process priors, an important class of models used in machine learning and flexible Bayesian inference, with important applications in uncertainty quantification.
- **Purnamrita Sarkar** comes to UT from the Department of Statistics and the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley. Dr. Sarkar earned her Ph.D. in Machine Learning from Carnegie Mellon University. She is appointed as an Assistant Professor in SDS. Her research is focused on large-scale statistical estimation problems with a focus on large networks.

Renovations: 7th floor GDC & FAC 101B

The department oversaw two renovations during fall 2014 to accommodate departmental growth and to update the computer lab in FAC 101B. Renovations to the 7th floor of Gates Dell Complex (GDC) included creating a dedicated consulting room, two additional faculty offices, and a shared lecturer space. Renovations to FAC 101B, the computer lab, included replacing the outdated computers, updating the projection system, moving the projection screens to the south wall, and installing convertible tables to accommodate 45 computers in a flexible configuration that maximizes the classroom space for teaching activities.

Faculty and Staff Awards

Two members of SDS were recognized on April 2, 2015 by the College of Natural Sciences for their outstanding efforts and pursuit of excellence:

- **Dr. Maggie Myers**: 2015 Teaching Excellence Award
Sheldon Ekland-Olson Faculty Research Fellowship

Dr. Igor Pruenster joined the Department of Statistics and Data Sciences in August 2014 as the Sheldon Ekland-Olson Faculty Research Fellow. Dr. Pruenster is carrying out research in the field of Bayesian nonparametrics. In particular, Dr. Pruenster has been working on dependent nonparametric priors within a partially exchangeable framework (which includes popular hierarchical and nested processes), studying theoretical properties and sampling schemes, and has also started a new project on the characterization of nonparametric priors in terms of the Wasserstein distance.

Dr. Pruenster received his Ph.D. in Mathematical Statistics from the University of Pavia, Italy, in 2003. He is currently Professor of Statistics at the University of Torino, Italy, and Fellow of the Collegio Carlo Alberto, Italy. Dr. Pruenster holds a European Research Council grant (2012–2017) on “New directions in Bayesian Nonparametrics.” During his visit, he has collaborated with several SDS faculty members and students, in particular Drs. Stephen Walker, Peter Mueller and Mingyuan Zhou.

Several researchers visited Dr. Pruenster during his stay in Austin, funded by his European Research Council (ERC) Grant:

- Julyan Arbel—Collegio Carlo Alberto, Italy
- Antonio Canale—University of Torino & Collegio Carlo Alberto, Italy
- Pierpaolo De Blasi—University of Torino & Collegio Carlo Alberto, Italy
- Antonio Lijoi—University of Pavia, Italy
- Ramses Mena—IIMAS, UNAM, Mexico
- Matteo Ruggiero—University of Torino & Collegio Carlo Alberto, Italy
- Dario Spano—University of Warwick, United Kingdom

During spring 2015, Dr. Pruenster hosted a monthly workshop on current developments in Bayesian nonparametrics, featuring three visiting speakers. The workshop was open to all. (Workshop – Appendix C)

Development Efforts

As a new department in the College of Natural Sciences (CNS), SDS has partnered with the CNS External Relations team to create both short- and long-term plans for building philanthropic and community partnerships with alumni, friends, corporations and foundations. The first annual SDS newsletter was distributed to over 2500 recipients in October 2014, and department chair Mike Daniels met with industry representatives from companies such as AT&T, Shell, and Wargaming to discuss partnering opportunities. SDS is actively pursuing opportunities for support of programs and conferences through NIH, NSF, and the Institute of Mathematical Statistics Meeting sponsorship.

MOOC

In November 2014, Dr. Michael J. Mahometa released the department’s first Massively Open Online Course (MOOC), Foundations of Data Analysis, through the edX platform. The course is part of the partnership between The University of Texas at Austin and edX. Based on the department’s successful introductory course SDS 302, Foundations of Data Analysis is an introductory statistics course that exposes students to real-world data sets and lab-based analysis using the R software platform. Foundations includes 11 weeks of instruction, with over...
30 instructional content videos, over 20 R tutorial videos, and a scaffolded learning structure that reliably guides students through the analysis process, while increasing independence. Foundations used Google+ Hangouts OnAir for weekly real-time office hours.

The first run of the course was a remarkable success. Over 34,000 students enrolled in the course, representing 192 countries. Almost 10,000 students participated in some part of the MOOC. Foundations also saw almost 27% retention at week 11 among students who completed the first week’s lab: a notable achievement given that the typical completion rate of a MOOC is around 7%.

Dr. Mahometa plans to re-release Foundations of Data Analysis in fall 2015 and spring 2016 to continue to educate students from all walks and regions on the basic skills of statistical inquiry.

**SOS Curriculum Innovation Grant**

Following the success of the SDS 328M Course Transformation in 2014, Dr. Kristin Harvey and Sally Amen applied for and have been awarded a second Curriculum Innovation Grant from the Center for Teaching and Learning. The grant funds the creation of the Statistics Online Support (SOS) resource platform. Designed for student researchers who have collected data but need guidance selecting and performing statistical analyses, SOS will provide on-demand content and tutorials that guide users to independently select the data analysis method appropriate for answering their research questions.

For many students, taking a course, getting a consulting appointment, or arranging for one-on-one tutoring are the usual options to pursue when they need statistical help but those options are often inefficient in terms of time and availability of content experts. Dr. Harvey and Ms. Amen’s goal is to provide students a structured decision tree based platform where users will follow embedded links that will guide them to the types of statistical methods appropriate for their situation and tutorial videos on how to carry out those analyses.

SOS will be a great resource for undergraduates in Freshman Research Initiatives (FRI) and Scientific Inquiry Across the Disciplines (SIAD) signature courses, as well as for graduate students working on quantitative research related to journal article submissions or their dissertations. In addition, students enrolled in introductory statistics courses will be able to use SOS as an additional study tool as much of the content on the site will be aligned with current undergraduate courses offered by SDS.

Dr. Harvey, who initially proposed the idea of SOS, said, “We’ve found no existing resource out there that is both self-paced and helps guide users to independently select the correct type of analysis method for their data. SOS will empower students to conduct their own analyses and hopefully instill a hunger for furthering their own research.”

Work on SOS will begin in summer 2015, with an anticipated roll-out during spring 2016.
II. UNIT REPORTS

A. INSTRUCTION

The demand for statistics and scientific computation courses continues to grow at a fast rate. SDS has responded by creating new courses to meet the needs of the diverse UT student population. SDS now offers more than 70 undergraduate and graduate courses each year, ranging from introductory data analysis and undergraduate honors statistics, to advanced graduate topics in Bayesian modeling and computational statistics.

Enrollment Trends

SDS faculty taught 56 undergraduate courses and 23 graduate courses to a total 5283 students in 2014–15—a 21.87% increase over last year.
**Campus Usage**
SDS courses serve a broad cross-section of students across campus. Enrollment in undergraduate SDS courses during 2014–15 is shown by college:

![ Enrollment in Undergraduate SDS Courses by College ]

Enrollment in graduate SDS courses during 2014–15 is shown by college:

![ Enrollment in Graduate SDS Courses by College ]
SSC 302 Data Analysis for the Health Sciences Sustainability Award
In spring 2013, SSC was awarded a CTP Sustainability Award to support the continuing work building on the successful course transformation of SSC 302 (now SDS): Data Analysis for the Health Sciences. Dr. Kristin Harvey has served as the course coordinator since August 2013 and leads the efforts in maintaining the integrity of the course, assignments, and assessments, updating quizzes, training new instructors and TAs, and continuing efforts to strengthen the alignment with introductory biology and chemistry courses.

During the 2014–2015 school year she worked with a local textbook company to create a new course reading packet based on the best topical readings across multiple statistics books that offered students updated readings at a considerable savings. Dr. Harvey also updated existing reading quizzes and pre-lab/lab assignments for better alignment with the new reading material and to align with the resequencing of topics that was done in the spring. Students have continued to show high completion rates for in- and out-of-class assignments, low QDF rates, and learning gains on critical topics taught in the course.

SDS 328M Curriculum Innovation Grant Update
Starting in summer 2014, SDS’s Dr. Kristin Harvey and Sally Amen began improvements to SDS 328M Biostatistics through a Curriculum Innovation Grant of $50,000 awarded by the Center for Teaching and Learning. This course now includes structured pre-lab and lab assignments, integrated tutorial video content, organized lecture and assessment material, and consistent course guidelines and training documents for instructors. During the fall 2014 and spring 2015 semesters, instructors benefited from pre-built assessments, many of which are auto-graded in Canvas. In a survey collected from 234 students, over 96% reported that the new tutorial videos helped them learn R, the statistical software used in lab assignments.

Instructional Videos Made Available
In summer 2014, Dr. Kristin Harvey led the effort to share information and materials developed during past Course Transformation Projects to impact a broader audience beyond the students enrolled in the transformed courses. A new website now offers open-access to several video tutorials, providing a web resource that can be utilized by other undergraduate courses within the university and anyone outside the university. Previously, the course content designed for specific courses during the transformation was only accessible to students currently enrolled in the courses. New videos are added to the website as new software and hand calculation instructional content has been created. The website can be viewed at stat.utexas.edu/videos.

Since the videos went live, the top video has had 498 views, while 22 of the videos have had over 100 views to date. The 88 posted videos have been viewed a combined total of 6119 times. These high numbers of views suggest we are reaching viewers beyond the students enrolled in SDS courses.

OnRamps
Since fall 2013, Dr. Michael Mahometa and Sally Amen have worked alongside Senior Assistant Dean Cathy Stacy and with the Center for Teaching and Learning to transform SDS 302 Data Analysis for the Health Sciences into a course for The University of Texas’ OnRamps initiative. The new dual enrollment course completed its pilot year in 2014–2015 with 16 different Texas high schools participating and over 150 high school students earning college credit for SDS 302 on their transcript.
Noteworthy:

- SDS 302 experienced a large drop in QDF rates to 5.61% from 12.3% in fall 2013—the lowest rate since the course’s creation.

- Last year included an offering of SDS 302 as part of the Summer Bridge Program. Of the 180 students enrolled in SDS 302 over the summer, 150 students were part of this special program. Summer Bridge is an invitation-only scholarship program at UT run by the Division of Diversity and Community Engagement that provides incoming freshmen with tools and resources to jumpstart their first year in college. SDS 302 instructors and Summer Bridge staff, mentors, and cohort leaders worked together to ensure the success of this select group of students. Feedback from Summer Bridge students and staff was extremely positive, and SDS 302 was invited again to participate in this program for the summer of 2015.
B. CONSULTING

SDS provides free statistical consulting services to students, faculty, and staff. Clients receive assistance in planning and interpreting analyses, working with statistical software, planning research study designs, and learning how to better organize and manipulate their data. Faculty may also request contract consulting services for more in-depth analyses. In addition, SDS offers a collection of highly-subscribed instructional short courses in various programming languages and statistical software packages for a nominal fee.

Free Consulting
Free consulting services continued to operate at full capacity in 2014–15. SDS consultants provided 725 hours of free consulting to UT faculty, staff, and students, for an average of 15.1 hours per week. Student clients used 86% of these hours, and faculty or staff used the remaining 14%. Ninety-seven percent of consulting clients reported that their most recent consult was either “very good” or “excellent.” Nearly all 2014–2015 consulting clients (98%) reported that they felt that their research results will be of higher quality because of the consulting service.

Contract Consulting
SDS provided 62 hours of contract consulting to UT faculty and organizational units and the Texas State Board of Podiatric Medical Examiners in 2014–2015. Contract consulting clients generally have more complex data analysis needs and pay a fee for these services. SDS consultants typically provide a detailed reporting of results suitable for publication. The primary clients seeking contract consulting in 2014–2015 included faculty from the College of Liberal Arts (50%), Health Informatics and Health IT (26%), state agencies (16%), and the College of Education (8%).

Short Courses
In 2014–15, SDS taught a total of 20 short courses, covering various software packages such as R, Stata, Python, and Matlab, to 523 registrants. SDS offered a new course, Intermediate
Python, in fall 2014 that has seen high enrollment and positive student feedback. Eighty-nine percent of all short course students said they would recommend the course they took to others.

**Noteworthy:**
- SDS Consulting services continue to be in high demand across the University, with over 96% of all 2014–2015 available appointments filled.
- Graduate student Rebecca Steingut joined the consulting team in spring 2015 as a student consultant. Rebecca was a Graduate Fellow during fall 2014.
C. SDS GRADUATE DEGREE PROGRAMS

Ph.D. in Statistics
The Ph.D. in Statistics program welcomed its second cohort of six students in August 2014 and opened its application window for fall 2015 in September 2014. The program received 130 completed applications for fall 2015 admission. Fifteen offers of admission were made, resulting in a yield of eight students.

Admissions Data: PhD Statistics

<table>
<thead>
<tr>
<th></th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied</td>
<td>79</td>
<td>104</td>
<td>130</td>
</tr>
<tr>
<td>Admitted</td>
<td>13</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Selectivity (%)</td>
<td>16.46</td>
<td>12.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Enrolled</td>
<td>5</td>
<td>6</td>
<td>8*</td>
</tr>
<tr>
<td>Yield (%)</td>
<td>38.46</td>
<td>46.15</td>
<td>53.33</td>
</tr>
</tbody>
</table>

* Expected

Master's of Science in Statistics
The M.S. in Statistics program did not accept applications from terminal students this year as a faculty committee was tasked with reviewing and revising the program to address feedback provided by the external review committee.

The program continues to attract an increasing number of applicants for its concurrent cohort. Concurrent students are those who are admitted to the M.S. in Statistics program internally while pursuing a Ph.D. in another field such as Biological Sciences, Educational Psychology, Mathematics Education, and Sociology.

Enrollment Trends

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Enrollment Count</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M.S. Only</td>
<td>M.S./Ph.D.</td>
</tr>
<tr>
<td>2014–2015*</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>2013-2014</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>2012-2013</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>2011-2012</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>2010-2011</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Enrollment and graduation numbers current through Spring 2015

Noteworthy:
- Dr. Stephen Walker, Professor in the Department of Mathematics and Department of Statistics and Data Sciences, took on the role of the Ph.D. in Statistics Graduate Advisor and Graduate Studies Committee chair starting fall 2014.
- SDS Brown Bag Lunch Series continued for its fourth year, giving Ph.D., M.S., and graduate portfolio students the opportunity to learn about current research efforts of core and associated faculty. The 2014–15 series featured four UT faculty:
  - Professor Lizhen Lin, Department of Statistics and Data Sciences, College of Natural Sciences
• Master’s Report Writing Workshop: Graduate Coordinator Vicki Keller hosted a writing workshop for students completing their master’s reports. The workshop covered creating a research question, finding an advisor, organizing the paper, revising the paper, and getting feedback.
D. GRADUATE FELLOWS PROGRAM

The Graduate Fellows program is a selective semester-long mentorship for UT graduate students that provides considerable training and experience in statistical analysis and consulting on applied problems in a variety of disciplines. Students learn new statistical methods and gain the confidence to teach themselves additional methods in the future. The students also build the interpersonal and presentation skills required of a professional consultant.

The Graduate Fellows take the SDS 388 Consulting Seminar taught by Dr. Michael Mahometa. The course focuses on teaching the skills of statistical consulting, data analysis, and statistical methods. Additionally, the Graduate Fellows gain hands-on experience applying statistical methods using data from faculty and researchers across campus.

Fall 2014 Graduate Fellows
Selection for the program is a highly competitive process. For the Fall 2014 program, several graduate students from departments all over campus applied for five positions. To be eligible, students must have 30 hours of graduate study or a master’s degree and have a strong applied statistical background, including use of statistical software. The students selected were

- Chad Brock (PhD student in Integrative Biology)
- Maliki Ghossainy (PhD student in Psychology)
- JiYoon Kim (PhD student in Educational Psychology)
- Daniel Mitchell (MS student in Statistics)
- Rebecca Steingut (PhD student in Educational Psychology)

Data Analysis Clients in Fall 2014
Data analysis is a fundamental component of the program. Fellows work with faculty members to provide assistance with the statistical or mathematical analysis of their research data. This allows students to gain hands-on experience applying statistical methods to real data while providing faculty and researchers across campus a valuable service. The Graduate Fellows worked with faculty members and NetSpend, one of our Corporate Partners.

Noteworthy:
- During SDS 388, each student was placed on a team that worked on a single project. This allowed students to dig deeper and get more involved with their projects in contrast to past years when students worked on multiple projects for the semester.
- At the end of the semester, the team working on NetSpend’s project gave a superb presentation of their results to an audience that included the president of the company. This was a tremendous learning experience for them.
- Rebecca Steingut, one of the Graduate Fellows, was selected to work as a consultant for the department’s consulting services during spring 2015.
E. PORTFOLIO AND CERTIFICATE PROGRAMS

SDS provides four unique opportunities for students seeking to develop competencies in statistic modeling or scientific computation. The Portfolio in Applied Statistical Modeling and the Portfolio in Scientific Computation are 12-credit programs available to graduate students interested in strengthening and applying these skills to their research area. The Certificate in Scientific Computation and the Certificate in Applied Statistical Modeling are similar 18-hour programs available to undergraduate students.

Enrollment Trends

Portfolio in Applied Statistical Modeling
Since its inception in fall 2009, 140 students have been admitted into the program and 65 students have completed the portfolio requirements.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Enrollment Count</th>
<th>Completion Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014–2015*</td>
<td>39</td>
<td>11</td>
</tr>
<tr>
<td>2013–2014</td>
<td>47</td>
<td>16</td>
</tr>
<tr>
<td>2012-2013</td>
<td>54</td>
<td>15</td>
</tr>
<tr>
<td>2011-2012</td>
<td>43</td>
<td>11</td>
</tr>
<tr>
<td>2010-2011</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>2009-2010</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>65</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Enrollment and graduation numbers current through spring 2015

Participating students come from 10 colleges and schools across campus.

Student Participation Snapshot

<table>
<thead>
<tr>
<th>College/School</th>
<th># students currently enrolled</th>
<th># students completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cockrell School of Engineering</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>College of Communication</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>College of Education</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>College of Natural Sciences</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Jackson School of Geosciences</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>LBJ School of Public Affairs</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>McCombs School of Business</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>School of Social Work</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>39</strong></td>
<td><strong>65</strong></td>
</tr>
</tbody>
</table>
Portfolio in Scientific Computation
Since its inception in fall 2010, 23 students have been admitted to the program and six students have completed the portfolio requirements.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Enrollment Count</th>
<th>Completion Count</th>
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</thead>
<tbody>
<tr>
<td>2014–2015*</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>2013–2014</td>
<td>12</td>
<td>1</td>
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<tr>
<td>2012-2013</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>2011-2012</td>
<td>7</td>
<td>0</td>
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<tr>
<td>2010-2011</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Enrollment and graduation numbers current through spring 2015

Participating students come from five colleges and schools across campus.

Student Participation Snapshot

<table>
<thead>
<tr>
<th>College/School</th>
<th># students currently enrolled</th>
<th># students completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cockrell School of Engineering</td>
<td>6</td>
<td>4</td>
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<tr>
<td>College of Education</td>
<td>1</td>
<td>-</td>
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<tr>
<td>College of Liberal Arts</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>College of Natural Sciences</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Jackson School of Geosciences</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>

Certificate in Scientific Computation
Since its inception in fall 2009, 171 students have been admitted into the program, and 26 students have completed the program.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Enrollment Count</th>
<th>Completion Count</th>
</tr>
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<tbody>
<tr>
<td>2014–2015*</td>
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<td>4</td>
</tr>
<tr>
<td>2013-2014</td>
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<tr>
<td>2012-2013</td>
<td>71</td>
<td>6</td>
</tr>
<tr>
<td>2011-2012</td>
<td>51</td>
<td>6</td>
</tr>
<tr>
<td>2010-2011</td>
<td>27</td>
<td>5</td>
</tr>
<tr>
<td>2009-2010</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>26</td>
<td></td>
</tr>
</tbody>
</table>

* Enrollment and graduation numbers current through spring 2015

Participating students come from four colleges and schools across campus.

Student Participation Snapshot

<table>
<thead>
<tr>
<th>College/School</th>
<th># students currently enrolled</th>
<th># students completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cockrell School of Engineering</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>College of Natural Sciences</td>
<td>46</td>
<td>14</td>
</tr>
<tr>
<td>McCombs School of Business</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>69</td>
<td>26</td>
</tr>
</tbody>
</table>
Certificate in Applied Statistical Modeling
Since its inception in fall 2013, 29 students have enrolled and two students have completed the program.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Enrollment Count</th>
<th>Completion Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014–2015*</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>2013–2014</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>27</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

* Enrollment and graduation numbers current through spring 2015

Participating students come from four colleges and schools across campus.

<table>
<thead>
<tr>
<th>College/School</th>
<th># students currently enrolled</th>
<th># students completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cockrell School of Engineering</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>College of Natural Sciences</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>McCombs School of Business</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>27</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

**Noteworthy:**
- Dr. Robin Gutell, Professor of Integrative Biology, took on the role of Program Director for the Certificate in Scientific Computation starting Spring 2015. He is working closely with the research advisor, Dr. Mia Markey, Professor of Biomedical Engineering, to update the research component of the program.
- Graduates of the certificate, portfolio, and MS in Statistics programs were recognized during the 3rd annual SDS Spring Student Celebration.
F. SDS SEMINAR SERIES & STATISTICS IN ACTION

SDS Seminar Series
Since fall 2011, the SDS Seminar Series has made a vital contribution to the intellectual, cultural, and scholarly environment at The University of Texas at Austin for students, faculty, and the wider community. The lecture series provides participants with the opportunity to hear from leading scholars and experts who work in different applied areas, including business, biology, text mining, computer vision, and economics. Each talk is free of charge and open to the public. The fall 2014 SDS Seminar Series featured five speakers with an average attendance of 42 people. The spring 2015 SDS Seminar Series featured 12 speakers with an average attendance of 26 people. (Please see Appendix D for program details.)

Statistics in Action
Since fall 2009, the Statistics in Action series has drawn the interest of undergraduate students enrolled in the introductory statistics courses offered by SDS. The series provides an opportunity to expose undergraduate students to how professionals in various fields use data. During the fall 2014 and spring 2015 semesters, the Statistics in Action series included eight participating organizations:

- Austin Energy
- Freescale Semiconductor
- Furiex Pharmaceuticals
- Mass Relevance
- Office of the State Demographer
- Pharmaceutical Product Development (PPD)
- Unique Influence
- The Think Tank (T3)

Overall, student participation was consistently high throughout the 2014–2015 school year. In fall 2014, the overall attendance was 1,124 students with a weekly average of about 161 students. The spring 2015 series brought in 1,070 students with a weekly average of approximately 153 students. Instructors of introductory courses continue to offer incentives for students attending these talks, which keeps attendance consistent. Several of the instructors require students to submit a one-page write-up explaining what they learned from the talk. This has helped students make connections between the talks and their own learning. After several of the talks students spoke with the presenters about opportunities for internships, furthering the extracurricular benefit of the sessions to the students. Students are primarily from the College of Natural Sciences, the College of Communication, the School of Nursing, and the College of Liberal Arts with a total of eleven colleges and schools across the university represented. (Please see Appendix E for attendance details.)
G. SUMMER STATISTICS INSTITUTE

The 8th Annual UT Summer Statistics Institute (SSI) was held May 26–29, 2015, in collaboration with the College of Liberal Arts in the College of Liberal Arts building. SSI provides a unique hands-on opportunity for participants to acquire valuable skills directly from experts in the field. Participants joined the Institute from across the country, coming from as far away as Washington and Massachusetts, illustrating the growing popularity of the UT Summer Statistics Institute nationwide. SSI featured 25 twelve-hour courses designed to appeal to a broad range of students, faculty, staff, and the public. New courses this year included Introduction to Mixed Models with Applications (Dr. Lizhen Lin) and Introduction to MATLAB (Michael Mack).

The 2015 SSI saw a total student enrollment of 581 people, with 25 instructors from 13 departments. This year’s attendance breakdown was: 31% UT students, 21% UT faculty-staff, 14% non-UT students, and 34% other non-UT.

The 2015 SSI brought in a gross income of $182,290.00 with a projected total net profit of $74,494.00.

Noteworthy:
• 48% of SSI enrollees (280 of the 581 participants) came from outside The University of Texas at Austin. This 10% increase in outside enrollment over the 2014 SSI is due to a concentrated effort to market and target government and industry sectors that are data intensive through new online advertising venues like the *Austin Business Journal*.
• 87% of SSI participants who completed the course evaluations said that they would recommend SSI to others.
H. CORPORATE PARTNERSHIPS

SDS initiated the Corporate Partnership Program in spring 2013. Through this program, local corporations work together with the department to enrich the educational experience of our students. As part of the program, the corporate sponsors provide actual datasets and problems for the students.

Students gain practical experience while working with professionals to apply statistical methods they have learned in class to real-world data. Students are involved in all aspects of the data analysis to give them a real-world consulting experience: from discussing the goals and details of the experiments, to analyzing the data, and preparing and presenting the results.

This past fall, we had a very successful collaboration with NetSpend. The data analysis was run in conjunction with the consulting seminar and the Graduate Fellows program. A team of five students was assigned to work on the project but many more students provided input and support. The project culminated in a presentation in the offices of NetSpend by eight students from the consulting seminar.

Noteworthy:

- NetSpend was very pleased with the results and intend to be long-term partners. They have already agreed to be a Corporate Partner in fall 2015.
- The students made great strides in resolving a real-word problem facing a major local corporation and did a tremendous job presenting their results.
I. GRANTS

During 2014-15, SDS assisted faculty with the submission of more than 17 individual faculty-driven research proposals to such agencies as:

- National Institutes of Health (NIH)
- National Science Foundation (NSF)
- United States Department of Agriculture (USDA)
- Department of Defense (DOD)/Defense Threat Reduction Agency (DTRA)
  
  and in collaboration with:

- NorthShore University Health System
- University of Pennsylvania
- University of Maryland
- Harvard University
- University of Florida
- Brown University
- Boston University
- Carnegie Mellon University
- University of Tennessee Health Science Center
- University of Minnesota

SDS had eleven active grants and contracts this fiscal year:

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Active Grants &amp; Contracts</th>
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</thead>
<tbody>
<tr>
<td>Michael Daniels, Professor</td>
<td>• PI: Bayesian Approaches for Missingness and Causality in Cancer and Behavior Studies, NIH R01, ($1,718,419)</td>
</tr>
<tr>
<td></td>
<td>• Sub-award PI: Rural Lifestyle Eating and Activity Program (Rural LEAP), NIH/National Heart, Lung, and Blood Institute, ($18,228)</td>
</tr>
<tr>
<td></td>
<td>• Sub-award PI: Non-Parametric Bayesian Methods for Causal Inference, NIH/National Institute of General Medical Sciences ($223,221)</td>
</tr>
<tr>
<td></td>
<td>• Sub-award PI: Optimizing HIV Treatment Monitoring under Resource Constraints, NIH, ($200,117)</td>
</tr>
<tr>
<td>Lizhen Lin, Assistant Professor</td>
<td>• Co-PI: BIGDATA:F:DKA: Statistical Foundations for Analyzing Large Collections of Network Data Objects, ARO ($170,034)</td>
</tr>
<tr>
<td>Lauren Ancel Meyers, Professor</td>
<td>• PI: Arbovirus Surveillance and Control: Optimizing the Detection and Mitigation of West Nile Virus, Dengue Fever, and Chikungunya Outbreaks, DSHS/PHEP Discretionary Project ($194,111)</td>
</tr>
<tr>
<td>Name</td>
<td>Projects</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Peter Müller, Professor     | • Co-PI: Surety BioEvent App: BioEvent Surveillance, Detection and Prediction Leveraging Trusted NextGen Data Sources, Department of Defense (DOD)/ Defense Threat Reduction Agency (DTRA), ($2,449,063)  
• PI: Right Size Virologic Surveillance Project, Association of Public Health Laboratories, ($110,000)  |
| James Scott, Assistant Professor | • Co-Investigator: Bayesian Approaches for Missingness and Causality in Cancer and Behavior Studies, NIH R01, ($1,718,419)  
• Sub-award PI: Bayesian Inference for Tumor Heterogeneity with Next-Generation Sequencing Data, NIH R01, ($671,650)  |
| Sinead Williamson, Assistant Professor | • Co-PI: BIGDATA:F:DKA: Collaborative Research: Theory and Algorithms for Parallel Probabilistic Inference with Big Data, via Big Model, in Realistic Distributed Computing, NSF ($300,000)  |

**Noteworthy:**
- Two of our Assistant Professors, Lizhen Lin and Sinead Williamson, both received first time federal funding for research from the ARO and the NSF.
Appendix A: Organizational Chart

Dean
College of Natural Sciences
Linda Hicke, Ph.D.

Chair
Mike Daniels, Sc.D.

SDS Core Faculty
(50% Time)
Michael Daniels, Sc.D.
Integrative Biology
Peter Müller, Ph.D.
Mathematics
Pradeep Ravikumar,
Ph.D. Computer Science
Stephen Walker, Ph.D.
Mathematics
Carlos Carvalho, Ph.D.
IROM
James Scott, Ph.D.
IROM
Sinead Williamson,
Ph.D. IROM

SDS Core Faculty
(0% Courtesy Appt)
Paul Damien, Ph.D.
IROM
Lauren Meyers, Ph.D.
Integrative Biology
Tom Sager, Ph.D.
IROM
Tom Shively, Ph.D.
IROM
Mingyuan Zhou, Ph.D.
IROM

SDS Full Faculty
(100% Time)
Lizhen Lin, Ph.D.
Purnamitra Sarkar,
Ph.D.

Assistant Director for Administration
Vicki L. Keller, MA
Coordinates daily SDS operations and student programs
Supervise departmental staff
Graduate Coordinator
Budgets & EOM
Communications Reporting
FAR

Consulting Manager
Michael J. Mahometa, Ph.D.
Manages all consulting operations
Oversees FAC 101B & Stat App
Server
On-ramps & MOOC development

Specialist
Matt Hersh, Ph.D.
Course Scheduling
Hires and manages lecturers, TAs
Manages the Graduate Student Fellows Program & Corporate Partnership Program
Teaches graduate-level statistics courses

Specialist
Kristin Harvey, Ph.D.
Coordinates SDS 302 & Statistics in Action
Teaches undergraduate courses

Staff Consultant
Sally Amen, M.S.
Coordinates SDS 328
Manages short courses
On-ramps development

Staff Consultant (p/t)
Erika Hale, M.S.

Administrative Manager
Sasha Schellenberg, B.A.
Supervise classified staff
Course scheduling & catalog management
CIS, ALEKS, FASET, Final Exam scheduling, HB 2504 admin
Coordinates SDS Seminar Series & Summer Statistics Institute
Event planning

Administrative Associate
Margaret Bonine
Grants: pre- and post-award processing
Development

Administrative Associate
Jayne Medina
HR processing
Purchasing
Payroll
Accounting
Inventory
Records Maintenance
Billing
DEFINE Vouchers

Student Assistant
Alexandra Fisk

Senior

Graduate Fellows
Five PhD-level students each academic year

Lecturers
Appendix B: SDS Core Faculty

Carlos Carvalho, Assistant Professor, IROM

Dr. Carvalho’s interest is in the development of methodological aspects of structured probability models for large-scale multivariate problems, with applications ranging from financial time series to high-throughput cancer genomics. His work pays special attention to the development and improvement of associated computational tools for model selection and inference, with current projects in financial econometrics and empirical asset pricing problems.

Dr. Carvalho did his undergraduate studies in Brazil. He received his Ph.D. in Statistics from Duke University in 2006. Before moving to The University of Texas, he was an Assistant Professor at The University of Chicago Booth School of Business.

Honors:
- Donald D. Harrington Faculty Fellow – The University of Texas, Austin, 2009–10
- IBM Corporation Scholar – The University of Chicago, 2008–09
- Dennis V. Lindley Prize for innovative research in Bayesian Statistics. Honorable Mention for "Dynamic Matrix-Variate Graphical Models," 2007
- Leonard J. Savage Award for outstanding doctoral dissertation in Bayesian econometrics and statistics – Honorable Mention, 2006

Michael Daniels, Professor, Integrative Biology

Dr. Daniels’ research program revolves Bayesian methods for biostatistics with special attention to incomplete data, estimation of the dependence structures, and methods for causal inference. His current collaborations include clinical trials in weight management (which motivates development of causal methods for mediation) and muscular dystrophy (which motivates development of complex latent variable methods), and questions involving the impact of recent Medicare legislation on ‘preventable’ hospital outcomes.

Dr. Daniels did his undergraduate studies at Brown University and received his doctoral training in biostatistics at Harvard University in the early 1990’s. Most recently, he was Professor and Chair in the Department of Statistics at the University of Florida. Before that, Dr. Daniels spent five years on the faculty at Iowa State University and two years at Carnegie Mellon University.

Honors:
- Incoming Editor of Biometrics, 2015–2017
- The Lagakos Distinguished Alumni Award, Department of Biostatistics, Harvard University, 2014
- Fellow of the American Statistical Association, 2007
- Howard Hughes Medical Institute Predoctoral Fellowship in Biological Sciences, 1992–1995
Lizhen Lin, Assistant Professor

Dr. Lin’s general areas of research include Bayesian nonparametric theory and asymptotics, statistical inference on manifolds and general spaces, shape constrained inference, big data analysis, and large sample theory for networks. Some of her ongoing theoretical work focuses on (1) building theory and methodologies for inference on manifold valued data such as density estimation and regression on manifolds; (2) developing both Bayesian and frequentist methods for shape constrained estimation and hypothesis testing; (3) developing scalable and robust procedures for Bayesian inference; and (4) establishing a large sample theory (such as deriving central limit theorems) for network valued data.

Dr. Lin received a Ph.D in Mathematics in 2012 from the University of Arizona under the guidance of Rabi Bhattacharya. Prior to that, she studied Mathematics and Statistics at Sichuan University from 2002–2006. Dr. Lin spent two years as a postdoctoral scholar from 2012 to 2014 at Duke University, mainly working with David Dunson. She has also been a member of the Laboratory for Psychiatric Neuroengineering in Duke University medical center since early 2013 working on neuro-psychiatric research.

Honors:
- Big Data Information Initiative at Duke (iiD) Research Incubator Award Grant, 2013
- Galileo Circle Scholar, 2011

Peter Müller, Professor, Mathematics

Dr. Müller’s interest is in methods and applications of Bayesian inference. More specifically, he is working on nonparametric Bayesian inference, decision problems, and applications to biomedical research problems. Nonparametric Bayesian inference refers to prior models for infinite dimensional random quantities, typically random probability measures. Decision problems include particular clinical trial design and multiple comparison procedures. Other applications that interest Dr. Müller include inference related to dependence structure, specifically graphical models to formalize inference about dependence for high throughput genomic data. Another large area of application is population pharmacokinetic and pharmacodynamic models, which give rise to many good applications that exploit many of his methodological interests.

Dr. Müller’s undergraduate education is from Universität Wien and Technische Universität Wien, Austria. He received his Ph.D. from Purdue University where he worked under Jim Berger on MCMC for constrained parameter problems. He spent several years at the Institute of Statistics and Decision Sciences (ISDS), Duke University, and at M.D. Anderson Biostatistics.

Honors:
- Fellow of the American Statistical Association
- President of the International Society for Bayesian Analysis, 2010
Pradeep Ravikumar, Assistant Professor, Computer Science

Dr. Ravikumar’s main area of research is in statistical machine learning. The core problem here combines the statistical imperative of inferring reliable conclusions from limited observations or data with the computational imperative of doing so with limited computation. Of particular interest are modern settings where the dimensionality of data is high, and simultaneously achieving these twin objectives is difficult. His recent research has been on the foundations of such statistical machine learning, with particular emphasis on graphical models, high-dimensional statistical inference, and optimization.

Dr. Ravikumar received his BTech in Computer Science and Engineering from the Indian Institute of Technology, Bombay in India. He received his Ph.D. in Machine Learning from the School of Computer Science at Carnegie Mellon University, where he worked with John Lafferty. He was a postdoctoral scholar at the Department of Statistics, University of California, Berkeley from 2007–2009, where he worked with Martin Wainwright and Bin Yu.

Honors:
- NSF CAREER Grant, 2012
- Honorable Mention, ACM SIGKDD Dissertation Award, 2008
- Honorable Mention, CMU School of Computer Science Distinguished Dissertation Award, 2007/08
- Siebel Scholar, 2007
- Indian National Talent Search Scholar

Purnamrita Sarkar, Assistant Professor

Dr. Sarkar works on large scale statistical machine learning problems with a focus on statistical models, asymptotic theory and scalable inference algorithms for large networks.

Dr. Sarkar graduated from the School of Computer Science at Carnegie Mellon University in 2010. After earning her doctorate she was a postdoctoral scholar at U. C. Berkeley jointly in the Department of Electrical Engineering and Computer Sciences and the Department of Statistics. She received her Bachelor’s degree in Computer Science from the Indian Institute of Technology, Kharagpur in 2004.

Honors:
- Best paper award, 29th International Conference on Data Engineering (ICDE), 2013
- Best paper award, International Conference on Social Networks Analysis and Mining (ASONAM), 2009
James G. Scott, Assistant Professor, IROM

Dr. Scott’s research focuses on statistical methodology for high-dimensional data sets, with applications in a diverse set of areas spanning the social, physical, and biomedical sciences. Three areas of methodological focus include (1) large-scale multiple testing, anomaly-detection and screening problems, where the rate of false discoveries must be controlled in order to yield viable inferences; (2) inference in sparse models; and (3) the application of data-augmentation theory and algorithms to improve the efficiency of Bayesian inference in large-scale models for discrete data sets. His recent applied work has included collaborations in health care, demography, linguistics, biology, and neuroscience.

Dr. Scott received his Ph.D. is from Duke University, where he studied Bayesian model selection under Jim Berger. Before that he studied at Trinity College, Cambridge for two years. He was an undergraduate from 2000 to 2004 at UT-Austin in the Dean’s Scholars and Plan II honors programs.

Honors:
- Regents’ Outstanding Teaching Award, 2014
- NSF CAREER Grant, 2013
- Savage Award, 2010 (awarded by the International Society of Bayesian Statistics for best thesis in Bayesian statistical theory)
- National Science Foundation Graduate Research Fellowship, 2006–2009

Stephen G. Walker, Professor, Mathematics

Dr. Walker’s main research focus is on Bayesian parametric and nonparametric methods. He has worked on applications, methodology, theory, implementation via MCMC, and foundational issues. Dr. Walker’s main areas of applications include medical statistics and financial data. Recent work on Bayesian nonparametrics includes constructing time series and regression models. Recent work also includes working with Bayesian models under misspecification and using loss functions as an alternative to probability models within a learning process akin to Bayesian updating.

Dr. Walker received his BA (Hons.) in Mathematics at the Oriel College of Oxford University, being awarded Open Exhibition on entry to the college. He received his Ph.D. in Statistics from the Imperial College of London in 1995, supervised by Jon Wakefield. Dr. Walker has taught at various institutions: Imperial College at London, the University of Bath, and most recently at the University of Kent.

Honors:
- Chair of Bayesian Nonparametric Section of ISBA, 2010–2012
- EPSRC Advances Research Fellow, 2001–2006
Sinead Williamson, Assistant Professor, IROM

Dr. Williamson’s main research focus is the development of nonparametric Bayesian methods for machine learning applications. In particular, she is interested in constructing distributions over correlated measures and structures, in order to model correlated data sets or data with spatio-temporal dependence. Examples include models for documents whose topical composition varies through time, and models for temporally evolving social networks. A key research goal is the development of efficient inference algorithms for such models, and she is currently investigating methods that allow us to apply Bayesian nonparametric techniques to large datasets.

Dr. Williamson received her MEng from the University of Oxford, MSc from University College London, and PhD from the University of Cambridge. Before joining the faculty at UT Austin, Sinead was a postdoctoral scholar at Carnegie Mellon University.
## Appendix C. Sheldon Ekland-Olson Faculty Research Fellowship: Igor Pruenster – Spring 2015

### Bayesian Nonparametric Workshop

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker Name</th>
<th>Institution</th>
<th>Title of Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 26, 2015</td>
<td>Igor Pruenster</td>
<td>University of Torino</td>
<td>“Are Gibbs-Type Priors the Most Natural Generalization of the Dirichlet Process”</td>
</tr>
<tr>
<td>April 28, 2015</td>
<td>Julyan Arbel</td>
<td>Collegio Carlo Alberto Turin</td>
<td>“Moment-Based Strategies for Bayesian Nonparametrics”</td>
</tr>
<tr>
<td>May 21, 2015</td>
<td>Antonio Lijoi</td>
<td>University of Pavia</td>
<td>“Bayesian Nonparametrics with Heterogeneous Data”</td>
</tr>
</tbody>
</table>
## Appendix D: SDS Seminar Series Speakers

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker Name</th>
<th>Institution</th>
<th>Title of Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep. 12, 2014</td>
<td>Ryan Adams</td>
<td>Harvard University</td>
<td>Accelerating Exact MCMC with Subsets of Data</td>
</tr>
<tr>
<td>Sep. 19, 2014</td>
<td>Alekh Agarwal</td>
<td>Microsoft</td>
<td>Taming The Monster: A Fast and Simple Algorithm for Contextual Bandits</td>
</tr>
<tr>
<td>Oct. 17, 2014</td>
<td>Deepayan Chakrabarti</td>
<td>The University of Texas at Austin</td>
<td>Nonparametric Link Prediction in Large Scale Dynamic Networks</td>
</tr>
<tr>
<td>Nov. 14, 2014</td>
<td>Ming Yuan</td>
<td>University of Wisconsin - Madison</td>
<td>Rate-Optimal Detection of Very Short Signal Segments</td>
</tr>
<tr>
<td>Nov. 21, 2014</td>
<td>Mladen Kolar</td>
<td>University of Chicago</td>
<td>Inference in High-Dimensional Varying Coefficient Models</td>
</tr>
<tr>
<td>Jan. 30, 2015</td>
<td>Unmil Karadkar</td>
<td>The University of Texas at Austin</td>
<td>Computational Collection Descriptions</td>
</tr>
<tr>
<td>Feb. 06, 2015</td>
<td>Saunak Sen</td>
<td>University of California, San Francisco</td>
<td>Enhancing Genetic Case-Control Studies Using Sample Surveys</td>
</tr>
<tr>
<td>Feb. 13, 2015</td>
<td>Arash Amini</td>
<td>University of California, Los Angeles</td>
<td>Semidefinite Relaxations of the Block Model</td>
</tr>
<tr>
<td>Feb. 20, 2015</td>
<td>Armin Schwartzman</td>
<td>North Carolina State University</td>
<td>Multiple Testing of Local Maxima for Detection of Peaks in Random Fields</td>
</tr>
<tr>
<td>Feb. 27, 2015</td>
<td>Kamalika Chaudhuri</td>
<td>University of California, San Diego</td>
<td>Beyond Disagreement Based Agnostic Active Learning</td>
</tr>
<tr>
<td>Mar. 06, 2015</td>
<td>Jing Lei</td>
<td>Carnegie Mellon University</td>
<td>Stochastic Block Models: Model Selection and Goodness-of-Fit</td>
</tr>
<tr>
<td>Mar. 27, 2015</td>
<td>Sayan Mukherjee</td>
<td>Duke University</td>
<td>Statistical Inference and Topology</td>
</tr>
<tr>
<td>Apr. 03, 2015</td>
<td>Sungkyu Jung</td>
<td>University of Pittsburgh</td>
<td>Applications of High Dimension, Low Sample Size Asymptotics</td>
</tr>
<tr>
<td>Apr. 10, 2015</td>
<td>Prithwish Bhaumik</td>
<td>North Carolina State University</td>
<td>Bayesian Estimation and Uncertainty Quantification in Differential Equation Models</td>
</tr>
<tr>
<td>Apr. 17, 2015</td>
<td>Todd Kuffner</td>
<td>Washington University</td>
<td>Quantifying Nuisance Parameter Effects in Likelihood-Based Inference</td>
</tr>
<tr>
<td>Apr. 24, 2015</td>
<td>Vinayak Rao</td>
<td>Purdue University</td>
<td>Bayesian Modeling and Computation for Repulsive Point Processes</td>
</tr>
<tr>
<td>May 01, 2015</td>
<td>Sham Kakade</td>
<td>Microsoft</td>
<td>Tradeoffs in Large Scale Learning: Statistical Accuracy vs. Numerical Precision</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Attendance</th>
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<tbody>
<tr>
<td>Spring 2015</td>
<td>128</td>
<td>Freescale</td>
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<tr>
<td>Spring 2015</td>
<td>168</td>
<td>Austin Energy</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>155</td>
<td>Office of State Demographer</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>160</td>
<td>Spredfast</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>158</td>
<td>Furiex Pharmaceuticals</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>163</td>
<td>PPD (Pharmaceutical Product Development)</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>138</td>
<td>T3 (The Think Tank)</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>170</td>
<td>Furiex Pharmaceuticals</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>171</td>
<td>Spredfast</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>145</td>
<td>Office of the State Demographer</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>197</td>
<td>Unique Influence, Inc</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>138</td>
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