

# BIOSTATISTICS PROGRAM NEWSLETTER- FALL 2012

# **Cupples Award Established**

In 2012, the Department of Biostatistics established the L. Adrienne Cupples Award for Excellence in Teaching, Research, and Service in Biostatistics. This annual award recognizes a biostatistician who exhibits these qualifies, exemplified by L. Adrienne Cupples.

The Department celebrated the 1st Annual L. Adrienne Cupples Award and recognized Adrienne Cupples for her outstanding contributions and achievements in biostatistics.

Dr. Cupples, Professor of Biostatistics, joined the BUSPH faculty in 1981. She has a long standing interest in statistical methods for epidemiologic studies, for survival data analysis and for genetic epidemiology. She has taught for more than thirty years at both the introductory and advanced levels. She developed several of the courses in the Biostatistics curriculum. includina Statistical Methods Epidemiology (BS852). Dr. Cupples previously received several awards, including the Norman A Scotch Award for Excellence in Teaching at the School of Public Health, the 9th Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences, and the first BUSPH Career Research Award.

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### **Department News**

Seven members of the faculty were awarded Excellence in Teaching awards for the 2011–2012 academic school year. Biostatistics faculty were supported by \$3.10 million in research funds with a mean of 70% research support per faculty member. Faculty members serve(d) as principal investigators (PIs) on four grants, and PIs of subcontracts on 28. Faculty submitted 83 new grants applications last year as PI/Co-PI and Co-investigators.

The Biostatistics faculty published 301 papers in high impact, peer-reviewed journals and delivered 40 *Continued on page 8* 

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# **Biostatistics Program Leadership**

As of the 2012-2013 academic school year, Anita DeStefano will be stepping down from her responsibilities as Co-Director of the Biostatistics MA/PhD Program. Gheorghe Doros will be joining the team of Co-Directors.

Dr. DeStefano has served as Co-Director of the Biostatistics Program since 2003. She has helped maintain the integrity and rigor of the Program through her responsibilities overseeing Program policies and guidelines. She also worked tirelessly to find funding opportunities to support our many

Continued on page 6

# Chen wins Paper Competition



Lu. PhD Chen student Biostatistics, was the recipient of the 2012 Biostatistics student paper competition. In her entry, "Networkguided Sparse Regression Modeling for Detection of Gene-Gene Interactions," she proposed an approach to detect gene-gene interactions that utilizes penalized regression and sparse estimation

sparse estimation principles, and incorporates outside biological knowledge through a network-based Continued on page 8

# Faculty Spotlight: L. Adrienne Cupples

#### What is your educational background and training?

Adrienne: I received a Bachelor of Arts from a 3 year school with a prescribed curriculum emphasizing liberal arts. Though most courses were required, we had an opportunity to concentrate for two semesters on one topic. I chose American Studies. graduating and attending a master's program in American Studies, I became a programmer trainee with the US Navy as a civilian employee. During this time, I started taking math courses at Boston University in the summer and evenings "for the heck of it" in 1968. Over time, I satisfied the calculus sequence, took a course in non-calculus probability (mostly combinatorics), and finally spent a year as a guest student at Boston University taking a sequence in real analysis and the MA581-582 sequence in probability and statistical inference. Through these experiences, I became interested in the statistics program at the Math and Statistics Department. I applied to the Master's Degree program, thinking that anyone who wants a PhD must be crazy! I certainly could not think about spending 5 or more years in a PhD effort. That was too far into the future. I entered the Master's program in 1972. When I was first admitted, I had no financial support, but the department came up with funds for a half-time teaching assistantship during the summer. So in the fall I began the program and was a teaching assistant to Ralph D'Agostino, Sr. in the introductory statistics course for non-math majors. I think there were at least 300 students in the class. There were 6 TAs. It was definitely a learning experience and was my first exposure to applied statistics. Ralph would like to joke periodically in class and kept threatening to sing opera, of which he is a great fan. He finally did at one point! This approach certainly kept the students interested. Ralph was also my professor for the MA781-782 sequence during that year. We had a small class of about 5-10 students. I realized during that year and the next that I would not be satisfied with only the Master's degree. I wanted to learn more. So I ended up enrolling in the PhD program around 1975 and I completed my thesis work under Thomas A. Louis in 1980. The support of Ralph and Tom were critical to my pursuit and completion of the doctoral program in mathematical statistics in 1980.



Adrienne receiving the 1st Cupples Award in April 2012.

How long have you been with the Department of Biostatistics at BU and what positions did you hold, if any prior to your BU appointment?

Adrienne: I joined the Department of Epidemiology and Biostatistics in August 1981 as Assistant Professor. Between graduation in May 1980 and Fall 1981, I took some time off to be with my newborn child (born in April, a few weeks after my thesis defense) and then I worked half-time for 6-8 months at the Joslin Diabetes Center as a data analyst. This job was my first experience in SAS, which I learned on the job. I had done all of my thesis work using Fortran.

Can you tell us more about how and when the department was been established? What was your role?

Adrienne: The Department of Epidemiology and Biostatistics was a joint department when I joined in 1981 and had only been a department for 2-3 years. Ted Colton, the founding chair, hired me. The Department has been established as part of the effort to develop the School of Public Health, initially as a sub-school of the School of Medicine. If I recall correctly, the School went through one of its first certifications around the time that I joined. Tim Heeren joined me as an Instructor about 1-2 weeks after I started and we shared an office. There were 4 members of the faculty at the *Continued on page7* 

# L. Adrienne Cupples Award continued from page 1

She has collaborated in the Framingham Heart Study for more than 25 years on a variety of topics from risk factors for sudden death. nutritional epidemiology, and most recently the genetic etiology of cardiovascular disease and its risk factors. She is a member of the Framingham Genetics Steering Committee and collaborates closely with the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium. She is actively involved in the study of genetic risk prediction and how people respond to such estimates, especially in the context of the gene APOE and Alzheimer's disease. Dr. Cupples also has a long history in Huntington disease research.

Dr. Cupples served as founding Chair of the Department of Biostatistics and Co-Executive Director of the Graduate Program in Biostatistics. During her tenure at BUSPH, she has advanced the field of biostatistics through extensive publications in major journals and book chapters on collaborative and methodological research, development and effective teaching of a wide range of biostatistics courses, and mentorship of numerous graduate students and faculty.

The First Annual Cupples Award Ceremony was celebrated on April 5, 2012, honoring Dr. Cupples work and continuing legacy. She presented on the topic of Data Overload with the following abstract: "Today more than ever, statisticians are increasingly confronted with mountains of data. The challenge is to organize and summarize these data to address scientific and clinical questions. In genetics research, we are now dealing with millions of genetic variants. How we use these data to examine 'genetic burden' is an increasingly important question. This presentation will discuss these issues in the context of genetic risk prediction."

The 2nd Annual L. Adrienne Cupples Award will be held on Thursday, April 4th, 2013.

Nominations for the Cupples Award will be accepted through November 15th, 2012.

For more information, visit: sph.bu.edu/CupplesAward.

# Student Highlights



The couple after their ceremony.

Kristen Javorski, an MA student, is excited to share that she recently got married! Kristen met her husband, Colin Kipping-Ruane at BU about 2 ½ years ago, and were married in July. Congratulations to the new, Mrs. Kipping-Ruane!

Alison Timm (MA '09), Carlee Moser, and Sarah Leatherman.

Current PhD students, competed in the Whaling City Triathlon on July 1st in New Bedford. Sarah and Carlee Were excited to complete their first triathlon and are looking forward to a couple more races this season as well as in years to come!



Triathletes: Carlee, Alison, and Sarah.

#### **Alumni News**

Michael Posner (PhD 2006) continues to be involved with the national statistics education community. He is currently on the Executive Board of the ASA's Section on Statistics Education, the MAA/ASA Joint Committee on Statistics Education, and serves the Consortium for the Advancement of Undergraduate **Statistics** Education (CAUSE) as the Associate Director for Professional Development and the Philadelphia Chapter of the ASA as the Educational Outreach Officer. In August 2011, Dr. Posner received his PStat© accreditation from the ASA, and was the 2012 winner of the ASA Waller Education Award and the Mathematical Association of America's Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member. Dr. Posner continues his research on public health, statistics education, and a \$2.4 million NSF-Funded RCT study evaluating a paradigm in local high schools.

Margaret Stedman (PhD 2009) living in Kensington, Maryland and just completed her first year at the National Cancer Institute as a program director and mathematical statistician. The past year was full of adjustment and about the grant process learning statistical methods Margaret's daughter, Eloise



for registry data. In May, Dr. Stedman gave an oral presentation on cure models for cancer survival and a poster presentation on updating the NCI comorbidity Index at the North American Association of Central Cancer Registries Annual Conference. She also has been busy writing funding justifications and preparing a cancer survival monograph. Her daughter, Eloise is now one year old and walking all over the place. Victor Johnson (MA 2010) continues to work at Boston Children's Hospital serving the Departments of Anesthesiology and General Surgery. Personally last Fall, he had the opportunity to attend Ocktoberfest and visit distant relatives in Nowy Targ, Krakow, and Warsaw, PL. He is training for a Fall marathon in Philadelphia, which would be his eighth overall. "Children suspected of Victor's paper, pulmonary embolism: multidetector CT pulmonary

angiography--thromboembolic risk factors and implications for appropriate use" won the 2012 Caffey Award for Best Clinical Science or Education paper (Society for Pediatric Radiology).

Matt Moon (MA 2010) completed his Biostatistics PhD coursework at SUNY Albany. Suporn Sukpraprut **Braaten** (PhD 2009) continues working at the Edward Via Virginia of College Osteopathic



lictor running a marathon.

(VCOM) affiliated with Virginia Tech in Blacksburg, VA In the past year, she was awarded two research grantsthe American Association of Colleges of Osteopathic Medicine to serve as the principal investigator to study about sleep deprivation quality of life among medical residents, and the Appalachian Research Initiative for Environmental Science (ARIES) under the direction of the Virginia Center for Coal and Energy Research at Virginia Tech to serve as the second investigator to study the status of populations in coal mining communities in the Appalachian Region. Sukpraprut Braaten is a committee member for the



Suporn & her husband, Conrad.

Promotion/ Disease Prevention Item Review Board for the National Board of Osteopathic Medicine **Examiners** (NBOME). Her husband, Conrad Braaten, also a BU alumnus, is now in his 4th year of medical school at VCOM. They are looking forward to exploring opportunities for his residency. Dr.

Sukpraprut Braaten is grateful and thankful for knowledge she learned from Boston University and for the support from her professors, friends, and family. Chaturia Rouse (MPH 2011) is still working at Northrop Grumman Contractor at the Centers for Disease Control and Prevention (CDC) in Atlanta, GA. She is currently working on Task Order 1 Continued on page 8

# **Recent Graduates**

January 2012
Audrey Hendricks, PhD
Sean Lacey, MA
Rong Li, PhD
Xiaopeng Miao, PhD
Joseph Palmisano, MA
Vanessa Xanthakis, PhD

# May 2012 Revathi Ananthakrishnan, MA Olga Demler, PhD Danielle Enserro, MA Hanna Gerlovin, MA Stephen Hartley, PhD William Reichmann, PhD Zheng Xiang, MA Ting Gee Raymond Yan, MA Wei Vivian Zhuang, PhD



## **New MA & PhD Students**

We welcome 12 new students to the Biostatistics Program this Fall. Seven students are entering the MA program, and five are entering the PhD program. Research assistantships were offered to two PhD students, and two PhD students will be on the Training Grant.

# Welcome to the Department!















MA: (L-R) Kristin Baltrusaitis, Ariel Mueller, Lisa Nussbaum, Michael Pepin, Daniel Posner, Rachel Quaden, and Jun Xu











PhD: (L-R) Virginia Fisher, Hanyue Li, Solaiappan Manimaran, Avery McIntosh, and Jeremiah Perez

# **Upcoming Conferences**

#### **GAW 18**

Genetic Analysis Workshop October 13–17, 2012 The Skamania Lodge in Stevenson, WA

#### 21st Annual IGES Conference

International Genetic Epidemiology Society October 18–20, 2012 Stevenson, WA

#### **BUMC GSI 4th Annual Research Symposium 2012**

Genome Science Institute Monday, October 22, 2012, 9-4pm Hiebert Lounge, Medical School Building Contact gsi@bu.edu

#### APHA 140th Annual Meeting & Exposition

American Public Health Association October 27–31, 2012 San Francisco, CA

#### **ENAR 2013 Spring Meeting**

Eastern North American Region/International Biometric Society March 10–13, 2013 Orlando World Center Marriott Resort, Orlando, FL

#### SCT 34th Annual Meeting 2013

Society for Clinical Trials May 19-22, 2013 Boston, MA

#### JSM 2013

Joint Statistical Meetings August 3 – 8, 2013 Montréal, Québec, Canada, Palais de congrès de Montréal

# **New Spring Course Offering**

#### SPH BS 856 - Adaptive Designs for Clinical Trials

An adaptive design is a clinical trial design that allows modification to aspects of the trial after its initiation without undermining the validity and integrity of the trial. Adaptive designs have become very popular in the pharmaceutical industry because they can increase the probability of success, considerably reduce the cost and time of the overall drug development process. With a recent rapid development in this area, there is a high demand for statisticians proficient in designing and conducting adaptive clinical trials. Students will learn different (both frequentist and Bayesian) adaptive designs and gain hands-on experiences on adaptive randomization, adaptive dose-finding, group sequential, and sample-size reestimation designs. [4cr.] Grad Prereq: SPH BS851

Please contact instructors, Dr. Sandeep Menon or Dr. Mark Chang for more information.

#### Program Leadership from page 1

students. Dr. DeStefano will continue working with our students and focusing on her research. The Department of Biostatistics would like to thank her for her dedication and commitment to the Program.

Dr. Doros is an expert in the design and analysis of clinical trials, he oversees the Biostatistics Consulting Group and the department's monthly Research In Progress (RIP) Seminars. He helped to develop the new Adaptive Design for Clinical Trials course that will start in Spring 2013. Last year, Dr. Doros participated in a leadership program hosted by the Medical School Dean's Office. He has also helped build relationships at companies like Pfizer, where one of our students did a summer internship and is continuing on through the school year.

Dr. Doros will join Howard Cabral and Serkalem Demissie as Co-Directors of the MA/PhD Biostatistics Program. Ralph D'Agostino and Adrienne Cupples will continue as the Co-Executive Directors of the Program.

#### Faculty Spotlight from page 2

time (Ted Colton, epidemiologist Arthur Schatzkin, Tim, and me). Ted always said that he was both an epidemiologist and a biostatistician. He was highly regarded and his book "Statistics in Medicine" was well-known. One of the reasons I was drawn to the position as Assistant Professor was that the department was new and I could be on the "ground" floor and help build the program in Biostatistics. We (especially Tim and I and later Alexa Beiser) developed several new courses for the SPH program over those first years. Early on I became involved in some research projects in the Framingham Heart Study and by the mid-1980s I also became involved in Huntington disease research, which ultimately led me into the arena of statistical genetics research. For many years I taught or co-taught with Tim or Alexa two to three courses per year and participated in research projects as a collaborating statistician.

# How do you see the evolution of the department from the beginning to now?

Adrienne: The Department has grown naturally with the increased interest in public health and in medical research. Research at the Schools of Medicine and Public Health has grown tremendously over the past 30 years. Critical to most research is a solid grounding in study design and statistical methods. Thus, there has always been a great demand for the biostatisticians in our Department. An important ingredient of this growth was the ability of the biostatisticians to work and communicate with researchers to establish rigorous studies with strong statistical procedures. As the Department grew on both the Epidemiology and Biostatistics side, it became apparent to all that we had a large department with two disciplines having somewhat different agendas. Thus, we worked together to develop two separate departments, which were established in late 2001, early 2002. I became the first chair of the new Department of Biostatistics.

You have been with the department for many years. What two or three accomplishments have given you the most satisfaction? Why?

Adrienne: I have been with the Department more than 31 years. It has grown from a small group of 4

faculty members to now with more than 20 members. I am delighted that it has accomplished so much and has become a strong contributor to the teaching and research agenda of the Schools of Public Health and Medicine. The Department faculty have won many awards for teaching and that is a great achievement. I was honored to receive the Scotch Award in 1995. I feel that I have also made a contribution to research within the Framingham Heart Study and to Huntington and Alzheimer's diseases. I started early in my career collaborating on these projects. These collaborations have been very fruitful and fulfilling and I have been honored to work with the investigators of these projects. One of my greatest delights has been interacting with doctoral students on their thesis projects. I have easily learned as much from the students as they have from me. It is always with great pride that I see them graduate and move on into their own careers.

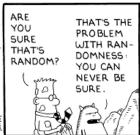
Where do you see the department in 10 years? Adrienne: I see the Department continuing its growth. Most of our research has been supported by NIH funding. With the downsizing of the federal budget for NIH, I expect that researchers at Boston University will pursue other sources of funding for research and that the Department's portfolio may extend beyond those projects funded by NIH. And there may become a greater emphasis on teaching, as there continues to be a great interest in solid study design and appropriate statistical methods. I would expect to see clinical trials and clinical effectiveness studies grow in our department with the growing number of medical drugs and devices on the market.

Last year, the department established the L. Adrienne Cupples Award to honor your contribution to the department. You are also the first recipient of the award. Please tell us what does award mean to you? Adrienne: I was greatly surprised by this award. I was most touched by the honor of receiving it and by the presence of many family, friends, colleagues and students. Beginning as I did without a degree in Mathematics or Statistics and winding my way slowly to Biostatistics, I was deeply humbled. It showed me that I truly found my calling in Biostatistics.

#### Comics

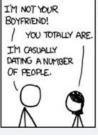


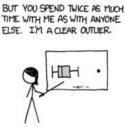


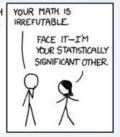


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#### Department News from page 1

presentations at various national and international meetings and conferences. In 2012, Associate Professor Laura White was awarded the Boston Emergency Medical Services Council EMS Research Award.

The Department co-sponsored the New England Statistics Symposium (NESS) which met at BUMC in mid-April and was co-organized by Josée Dupuis and Eric Kolaczyk. Over 190 participants from throughout New England and beyond attended. Jenny (Xiuzhen) Sun joined the faculty as Research Assistant Professor of Biostatistics. Three faculty members were promoted: Howard Cabral and Janice Weinberg to Professor and Laura White to Associate Professor of Biostatistics. Former Department member Nick Horton was named a Fellow of the ASA this summer.

#### Student Paper Competition from page 1

penalty. Chen is first author on the paper with coauthors Josee Dupuis and Eric D. Kolaczyk. The paper has been submitted to Bioinformatics and is currently under review. Chen will also present it as a poster at the IGES meeting in October.

#### Alumni News from page 3

(Prospective Comparison of the Tuberculin Skin Test and Interferon-Gamma Release Assays in Diagnosing Infection with Mycobacterium tuberculosis and in Predicting Progression to Tuberculosis) in the division of TB elimination. At the start the protocol, Chaturia has been conducting site visits in Baltimore, MD, Montgomery County in Nashville, TN, and Honolulu, HI. She is also working on the coding, cleaning, and preliminary data analysis for two other task orders: Task Order 25 (Tuberculosis Mortality in the United States: Epidemiology and Prevention Opportunities) and Task Order 23 (National Study of Determinants of Early Diagnosis, Prevention, and Treatment of TB in the African American Community). Chaturia is learning a lot and really enjoying herself. She believes having a strong background in SAS has really helped. Chaturia also has a published abstract under review, "Global Health Service Partnership: A Federal Program for Health System Strengthening in Partner Countries" and has submitted "Quality of Diabetes Care in Central and South America: A systematic review".

#### Announcement

# **Call for Nominations**: L. Adrienne Cupples Award for Excellence in Teaching, Research, and Service in Biostatistics

#### Purpose of the Award

This annual award recognizes a biostatistician whose academic achievements reflect the contributions to teaching, research, and service exemplified by Professor L. Adrienne Cupples. Dr. Cupples joined the faculty at the Boston University School of Public Health (BUSPH) in 1981 and later served as founding Chair of the Department of Biostatistics and Co–Executive Director of the Graduate Program in Biostatistics. During her tenure at BUSPH, she has advanced the field of biostatistics through extensive publications in major journals and book chapters on collaborative and methodological research, development and effective teaching of a wide range of biostatistics courses, and mentorship of numerous graduate students and faculty.

#### **Eligibility and Nominations**

To be eligible, the nominee must be an internationally recognized statistician/biostatistician who have made significant contributions to the statistical sciences through teaching, research, and service, and who will be willing to deliver a lecture at the award ceremony held in the Department of Biostatistics at Boston University on April 4<sup>th</sup>, 2013.

Nominations should include the nominee's name and contact information, rationale for the nomination not exceeding 2 pages in length, and the nominee's *curriculum vitae*. Nominations may be made by faculty, collaborators, students, or staff working with or familiar with the work of the nominee. Nominations will be accepted through November 15, 2012 and the winner will be notified by December 1, 2012.

Please send nominations via e-mail to:

Lisa M. Sullivan, PhD
Associate Dean for Education
Professor and Chair, Department of Biostatistics
Isull@bu.edu

#### Selection Criteria

Criteria for the award include, but are not limited to, excellence in the following areas:

- Biostatistics education (teaching, curriculum design, course development)
- Collaborative or methodological biostatistical research
- Service to the profession
- · Student and faculty mentoring

#### **Award Selection Committee**

The Award Selection Committee will be comprised of eight members, six members of the faculty of the Boston University Department of Biostatistics representing varying areas of expertise and faculty rank and two student members currently enrolled in the graduate program in Biostatistics at Boston University.

#### Winners

Winners of the award will receive a \$1000 honorarium, and all expenses to attend and present at the Boston University Department of Biostatistics at an Annual Award Day, generally held on the first Thursday in April. Faculty, staff and students interested in biostatistics from the Boston area will be invited to the presentation given by the Cupples' Award recipient. www.sph.bu.edu/CupplesAward

#### Announcement

#### Call for Submissions: Biostatistics Student Paper Competition

The Department of Biostatistics at BUSPH is soliciting applications for the 2013 student paper competition. The competition is open to all students enrolled in the Biostatistics Program at Boston University in the spring term of 2013. The winner of the competition will receive \$750 as a travel award to attend the summer Joint Statistical Meetings. Travel to other conferences (i.e. ENAR, Society for Clinical Trials, American Society of Human Genetics, International Genetic Epidemiology Society) is possible in negotiation with the award committee.

All students are strongly encouraged to submit the abstracts from their papers to the Joint Statistical Meetings, which has a deadline of February 4th. Students would also be encouraged to consider entering the competitions sponsored by sections of the Joint Statistical Meetings (e.g. The Biometrics section Byar Young Investigator award, for details see <a href="http://www.bio.ri.ccf.org/Biometrics/winner.html">http://www.bio.ri.ccf.org/Biometrics/winner.html</a>).

TIMETABLE: January 11th, 2013 at noon: Deadline for students to submit pdf of manuscript

January 25th, 2013: Announcement of awards

#### **REQUIREMENTS:**

The paper should be prepared double spaced, in manuscript format, using guidelines for authors typical of a biostatistical journal (e.g. Biometrics, Statistics in Medicine, or Biostatistics). A pdf copy of the manuscript should be submitted to the chair of the award committee, Ching-Ti Liu (ctliu@bu.edu).

The reported work should be relevant to biostatistics and must be the work of the student, although the manuscript can be co-authored with a faculty advisor or a small number of collaborators. The student must be the first author of the manuscript. Papers which have been accepted by a journal are not eligible for the competition. The student must be a degree candidate in the Biostatistics program at Boston University during the spring term of 2013.

#### **REVIEW CRITERIA:**

The awards committee encourages papers that develop new statistical methodology clearly motivated by a substantive problem in health or biomedical sciences or that feature innovative application of statistical methodology to address a substantive problem in health or biomedical sciences. The committee will base its selection of award winner on several factors:

- (1) Quality of methodological development or innovative application
- (2) Relevance of the motivating application to biostatistics research
- (3) Applicability of the methodology developed or investigated to the motivating problem
- (4) Clarity and style of presentation

More information is available from the chair of the Award committee: Ching-Ti Liu (ctliu@bu.edu, 617-638-7752).