This has been a challenging year due to budget cuts. Nevertheless, through careful planning and a strong commitment by our faculty, staff and students, we have maintained our normal enrollment at both the undergraduate and graduate levels.

We also welcome a new faculty member, Jarad Niemi, to the department. Dr. Niemi received his B.S. in Chemical Engineering and M.S. in Biostatistics from the University of Minnesota, and his Ph.D. in Statistics from the Department of Statistical Science at Duke University. Dr. Niemi’s research focuses on Bayesian inference with applications to systems biology and disease outbreak detection.

The department congratulates Dēnna Marie Zamarron as our new Business Officer. Her commitment with the department began in 2001 as the undergraduate advisor. While serving two years in that position, her motivation and interest proved to be worthy to advance to the financial coordinator. After effectively administering finances and managing the department’s budgets for six years, her ambition allowed her to successfully pursue the open recruitment for the Business Officer’s position.
Faculty
Guillaume Bonnet, PhD University of North Carolina, Chapel Hill 2002
Andrew V. Carter, PhD Yale University 2000
Raisa E. Feldman, DSc Technion-Israel Institute of Technology 1987
Jean-Pierre Fouque, PhD Universite de Paris VI 1979, Director of CRFMS & FMS Coordinator
David Hinkley, PhD London University 1969
Dawn Holmes, PhD University of Bradford 2000
& Senior Associate Dean, Division of Undergraduate Education
In the College of Letters and Science
John Hsu, PhD University of Wisconsin, Madison 1990
S.Rao Jammalamadaka, PhD Indian Statistical Institute, Calcutta 1969
Michael Ludkovski, PhD Princeton University 2005
Wendy Meiring, PhD University of Washington 1995
Jarad Niemi, PhD Duke University 2009
Yuedong Wang, PhD University of Wisconsin 1994

Visiting Faculty
Mack Galloway
Robert Gramacy
Michael Landrigan
Sudhir Ranjan Paul

Postdocs
Tomoyuki Ichiba
Adam Tashman

Emeritus Faculty
Joseph Gani, Professor Emeritus; PhD Australian National University
1955; DSc, University of London 1970
Svetlozar Rachev, PhD Lomonosov University, Moscow 1979; DSc Steklov Institute, Moscow 1986
James Robertson, PhD Indiana University 1964

Staff
Denna Marie Zamarron, Business Officer
Rachel Brown, Financial Coordinator
Angelica Arce, Undergraduate Program Assistant
Rickie Lazzerini, Graduate Program Assistant
Troy Small, Computer Systems Administrator
Patrick Windmiller, Computer Systems Administrator
Qua Nguyen, Student Assistant

Graduate Students
Nathan Bennett
Guofeng Cao
Chi-Yang Chiu
Yi-Tai Chiu
Michael Chou
Fang-I Chou
Robert Eisman
Chunkai Gao
Hamid Ghofrani
Stephen Gosnell
Xueying Shirley Han
Matthew Hancock
Morgan Hansen
Richard Harang
Igor Himelfarb
Mina Hosseini
Wei Hsiang
Susie Kang
Mee-Kyung Kim
Varvara Kulikova
Jeongjun Lee
Evelyna Leong
Junjing Lin
Ruby Loria
Matthew Lorig
Chunshiung Lu
Michael Nava
Munpyung O
Jose Ochoa
Tony Pourmohamad
Bin Ren
Hoon Rhew
Roberto Rivera
Raj Sau
Jacob Serup
Julianne Shan
Daniel Sheinson
Quenyung Shen
Xi Song
Winslow Strong
Li-Hsien Sun
Gaoyuan Tian
Tomohiro Tsuruga
Chunkai Wang
Yao Wang
Matthew Wheeler
Junqing Wu
Yan Xu
Yuli Yan
Li Yang
Fengling Yu
Anastasia Zavodny
Kathy Zha
Ting Zhe
Publications

Jean-Pierre Fouque

- Interacting Particle Systems for the Computation of Rare Credit Portfolio Losses (with R. Carmona and D. Vestal), Finance and Stochastics 13(4), 613-633.

S. Rao Jammalamadaka

- Addendum to “An Asymptotically Distribution-free test of Symmetry, Jour of Statistical Planning and Inference (2007), 137, 799-810” (with M. Ekstrom), Jour. of Statistical Planning and Inference, 2009, 139, 1569-1571.
- A General Censoring Scheme for Circular Data (with M. Vasudevan), Statistical Methodology, 2009, 6, 280-289.

Mike Ludkovski


Yuedong Wang

- Frontiers of Biostatistics and Bioinformatics (with S Ma), edit volume, 2009.
Accepted for Publications

Jean-Pierre Fouque
- Calibration of Stock Betas from Skews of Implied Volatilities (with E. Kollman), To appear in Applied Mathematical Finance.
- Portfolio Optimization Under a Stressed-Beta Model (with A. Tashman), To appear in Wilmott Journal.

S. Rao Jammalamadaka

Yuedong Wang
- Tests for Variance Components in Varying Coefficient Mixed Models (with Z Li, P Wu, W Xu and L Zhu), Statistica Sinica.

Presentations

Jean-Pierre Fouque
- Pleenary speaker at the 6\textsuperscript{th} World Congress of the Bachelier Finance Society Bachelier Finance Toronto, June 22-26, 2010. \url{http://www.bfs2010.com}

S. Rao Jammalamadaka
- Tenth Islamic Countries Conference on Statistical Sciences, Cairo, Egypt, “Middle Censoring in Circular Data,” December 23, 2009.
• International Conference on Advances in Statistical Science, Indian Statistical Institute, Kolkata, India, “Middle Censoring and Circular Data,” January 10, 2010.
• Conference on Recent Advances and Applications in Mathematical Modeling, Sri Padmavathi Women’s University, Tirupati, India, “Mathematical Modeling–Some Perspectives,” February 1, 2010.
• Institute of Mathematical Sciences, University of Malaya, Kuala Lumpur, Malaysia, “Gaps between Observations—What can one Learn from Them?,” March 5, 2010.
• Institute for Stochastics, Karlsruhe Institute of Technology, Karlsruhe, Germany, “Gaps between Observations, What can one learn from them?,” May 4, 2010.
• Institute of Mathematics, Eötvös Loránd University, Budapest, Hungary, “Gaps between Observations, what can one learn from them?” June 4, 2010.
Mike Ludkovski
- WatRISQ Seminar, U of Waterloo, Waterloo, Canada, March 2010.
- TMU Young Researchers Workshop on Finance, Tokyo, Japan, March 2010.

Yuedong Wang
- Invited talk at the First Joint Biostatistics Symposium, Beijing, 2010.

Other Professional Activities

Jean-Pierre Fouque, Professor and Director of the CRFMS:

Mike Ludkovski
- Awarded: Regents Junior Faculty Fellowship, UCSB, Summer 2010.

Wendy Meiring
- Associate Editor, Environmetrics

Yuedong Wang
- Associate editor, Journal of Nonparametric Statistics.
- Member of Directors of International Chinese Statistical Association Board

S. Rao Jammalamadaka spent this academic year on a Sabbatical Leave, visiting Curtin University of Technology, Australia (July-Nov. 2009), the Advanced Institute in Mathematics, Statistics, and Computer Science, India (Nov. 2009-Jan. 2010), University of Malaya, Malaysia (Feb.-April, 2010), Karlsruhe Institute of Technology, Germany (April-June, 2010), and the University of Trento, Italy (June-July, 2010).

Research Interests

GUILLAUME BONNET
Research interests include: statistical analysis of high dimensional data and infinite dimensional probability models with applications in population genetics and Internet traffic.

ANDREW CARTER
Research interests include: asymptotic statistical inference, nonparametric function estimation, and mixture models in econometrics and finance.

RAYA FELDMAN
Research interests include: stochastic differential equations with non-Gaussian noises, time series, filtering problems.

JEAN-PIERRE FOUCHE

DAVID V. HINKLEY
Research interests include: resampling methods, model selection, nonparametric curve fitting (including wavelet methods), comparisons between objective Bayes and frequentist inference.

DAWN HOLMES
Main research interest is Bayesian Networks. Recent work in this area includes estimating priors using the maximum entropy formalism, quantum computing and maximum entropy in Gaussian networks. Other interests include: How humans process causal knowledge, foundations of Bayesianism, Brouwer’s programme and intuitionistic Markov chains. Issues in statistical education.

JOHN HSU
Dr. Hsu continues to work on Bayesian estimation of covariance matrices. The Bayesian estimation for the linear mixed effects models, with a very flexible prior structure, has been fully developed. He is also working on a project of Bayesian methods in estimating ordered mortality rates. The project is interesting, however, the computation is challenging due to the constraints of the parameters.

S. RAO JAMMALAMADAKA
Dr. Jammalamadaka continues to be interested on topics related to directional data, spacings and nonparametric goodness-of-fit. As part of the ITR project on biomolecular images, techniques of clustering and pattern recognition for high-dimensional data were investigated.

MICHAEL LUDKOVSKI
Research interests are applied probability and stochastic control, especially with applications to financial mathematics and insurance.

WENDY MEIRING
Research interests include: spatial/temporal data analysis, geophysical model evaluation, and functional data analysis in the environmental sciences.

JARAD NIEMI
Bayesian Inference, Computational Statistics, Time Series, Systems Biology, Ecology

YUEDONG WANG
Research interests include: smoothing spline, smoothing spline ANOVA, generalized linear model, mixed-effects models, model selection, survival data, longitudinal data, spatial-temporal data, computational statistics, statistical software, microarray data analysis and biostatistical modeling (circadian rhythm, hormone pulses).
Computing Facilities

Departmental servers and server room temperature are monitored both in network and out of network. Notifications of critical issues are texted to support staff. Lab computer hardware has been updated. Additional storage capacity for staff, student and faculty shares has been added. Documentation on web for new equipment and finer detail of setups and solutions has been updated. Helpdesk software for greater staff, faculty and student support has also been added.

Statlab Report

The Statlab assisted many clients during the past year, both from on and off campus. On campus clients came from many departments/schools, including Geography, Anthropology, Bren School for Environmental Science and Management, Sociology, EEMB, Physics, Communication, ISBER, and Psychology. Statistical methods discussed during consultations included principal component analysis, analysis of variance, space-time correlation models, state-space models, bootstrap, factor analysis, analysis of contingency tables, and sample size calculations/power analyses. Software used by clients included Excel, R and SAS. Dr. Wendy Meiring served as Statlab Director. Graduate student consultants included Junqing Wu and Yan Xu. There is clear evidence of continued demand for Statlab services from UCSB researchers, as well as some off-campus clients.
Degrees Awarded 2009-10

Masters of Arts

Summer 2009:
Jaspreet Singh
Winslow Strong

Fall 2009:
Guofeng Cao
Chunhsiung Lu
Munpyung O
Jose Ochoa
Chunkai Wang

Winter 2010:
Susie Kang
Jacob Serup
Li-Hsien Sun
Tomohiro Tsuruga

Spring 2010:
Chi-Yang Chiu
Robert Eisman
Xueying Shirley Han
Tony Pourmohamad
Yao Wang
Matthew Wheeler
Li Yang
Fengling Yu
Kathy Zha

PhD Degrees Awarded

“Constrained Functional Data Models with Environmental Applications”
Advisor: Wendy Meiring

“Markov Chain Monte Carlo Stochastic Approximation Algorithms, Smoothing Spline ANOVA Frailty Models and Applications”
Advisor: Yuedong Wang

Wald Prize

Li-Hsien Sun

Awarded for excellence in graduate studies as selected by the faculty for the best grade on the Qualifying Exams. Awarded in memory of Dr. Abraham Wald, eminent American Statistician.

Ruth and Joe Gani Prize

Brian Wignall

Awarded to a graduate student for excellence in research as selected by the faculty.
**Bachelor of Arts/Science**

**Statistical Science, B.S.**
- Do, Phuong
- Feinberg, Joseph Paul
- Figg, Jeannette Ashley
- Griffin, Lisa Renee
- Hu, Yu Yan
- James, Dewey Mario
- Marks, Cassandra Shea
- Martinez, Cherrylee
- Montero, Matthew Louis
- Steinhart, Thomas Jordan
- Wong, Vincent
- Zhang, Wenyi

**Statistical Science, B.A.**
- Glance, Allison Michelle

**Financial Mathematics & Statistics, B.S.**
- Buron, Eric Barry
- Chang, Ian James
- Cortes, Matthew Adam
- Dror, Adi
- Graham, Alexandra Marie
- Hsin, Wendy Pei-Chin
- Luc, Kelly Korklong
- Miller, Jason Todd
- O’Brien, Marc Charles
- Pase, Dylan Alexander
- Quinn, Devin Samuel
- Ritchie, Ashley Nicole
- Saadatmand Sara
- Shepardson, Stephen Michael
- Smith Christopher Alan
- Stahl, Roman
- Sterling, Brandon Thomas
- Taing, Christina
- Terzic, Justin Michael
- Vasquez, Ryan Therese
- Wang, Yifan
- Yaari, Noa
- Yip, Eric Andrew
- Zeqollari, Adita
- Zhang, Yi
- Zhang, Yuan

**Minors**
- Arlotti, Ashley
- Eccleshall Sebastian
- Zhu, Sasha

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**Rama Thogarati Prize**

Awarded to

Wenyi Zhang

The Rama Thogarati Prize is awarded annually to a senior undergraduate student for high academic achievement. The prize is in memory of Rama Thogarati, a graduate student.

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**Lowes Scholarship**

Awarded for Support in 2009-2010

Eric Buron and Adi Dror

The Robert and Barbara Lowes Scholarships in Financial Mathematics and Statistics are awarded each year to talented undergraduate students enrolled in the major. The Lowes scholarship is funded by Robert and Barbara Lowes.
Department Seminars

October 7, 2009, Dr. Robert B. Gramacy, Cambridge University, Particle Learning for Sequential Design and Optimization

October 14, 2009, Dr. Rohini Kumar, UCSB, Current Fluctuations for Independent Random Walks

October 21, 2009, Dr. Jarad Niemi, UCSB, A sequential Monte Carlo Primer

November 18, 2009, Dr. Bruce Kendall, Bren School of Environmental Science and Management UCSB, Population Consequences of Individual heterogeneity in Demography and Growth

December 2, 2009, Dr. Chetan Pahlajani, UCSB Math, Averaging for a Multiscale Stochastic Model of Gene Expression


January 20, 2010, Dr. Linda Petzold, UCSB Comp. Sci., Discrete Stochastic Simulation of Spatially Inhomogeneous Biochemical Systems

February 3, 2010, Dr. Thomas Richthammer, UCLA Math, A Proof of Aldous' Spectral Gap Conjecture

February 10, 2010, Dr. Sudhir Paul, UCSB PSTAT, Testing Homogeneity in Clustered (Longitudinal) Count Data Regression Model with Over-Dispersion

February 17, 2010, Dr. Joao Hespanha, UCSB Electrical and Comp. Engineering, Stochastic Hybrid Systems: Application and Mathematical Tools

February 24, 2010, Dr. Joseph Stover, UCSB Bren School, Exact Sampling for Interacting Particle Systems

March 3, 2010, Dr. Nizar Touzi, Ecole Polytechnique, France, Wellposedness of Second Order Backwards SDEs

March 10, 2010, Dr. Riccardo Gatos, University of Bern, The Distribution of the inhomogeneous Discounted Compound Poisson Process

March 17, 2010, Dr. Penghu Sun, USC Computational Biology, Power of Pattern Counting in Molecular Sequence Analysis

April 14, Dr. Matzner-Lober, University Rennes, Iterative Bias Correction for Multivariate Smoothers

May 5, 2010, Dr. Cherie Briggs (Professor of Ecology, Evolution and Marine Biology, UCSB) and Dr. Leah Johnson (Postdoc, UCSB), Likelihood-Based Inference for an Individual based Model of Chytridiomycosis in Frogs

May 12, 2010, Dr. Christopher Costello, Bren School of Environmental Science and Management UCSB, Estimation the value of Spatial Information: An Application to Fisheries

May 19, 2010, Dr. Marc Fisher, Federal Reserve Bank of Atlanta, PPP and unit Roots: Learning Across Regimes

June 2, 2010, Eric Hillebrand, Dept. of Economics, Louisiana State University, Temporal Correlation of Defaults in Subprime Securitization
CRFMS (Center for Research in Financial Mathematics and Statistics)

The CRFMS provides a new environment that brings together the academic and financial communities. The combination of the two communities will increase the diversity of research and teaching at UCSB.

Thanks to donors of CRFMS
Skyler Technology
Santa Barbara Asset Management
Robert and Barbara Lowes

Seminars

September 21, 2009, Dr. Tomoyuki Ichiba, UCSB Pstat, Hybrid Atlas Models Part 1

September 28, 2009, Dr. Tomoyuki Ichiba, UCSB Pstat, Hybrid Atlas Models Part 2

October 12, 2009, Adam Tahman, UCSB Pstat, Option Pricing Under a Stressed-Beta Model


October 26, 2009, Peter Van De Zilver, PIMCO Newport Beach CA, Tracking Error Models and Implementation

November 16, 2009, Hao Xing, Boston University, Strict Local Martingale Deflators and Pricing American Call-Type Options

January 25, 2010, David German, Claremont McKenna College, Pricing and Hedging in an Equilibrium-Based Model for a Large Investor

February 22, 2010, Erhan Bayraktar, University of Michigan, Optimal Stopping for Dynamic Convex Risk Measures

March 3, 2010, Dr. Nizar Touzi, Ecole Polytech, France, wellposedness of Second Order Backward SDEs

April 26, 2010, Kostas Kardaras, Boston University, Numeraire-Invariant Choices in Financial Modeling


June 2, 2010, Eric Hillebrand, Dept. of Economics, Louisiana State University, Temporal Correlation of Defaults in Subprime Securitization
Committees and Service

Department Chair
Yuedong Wang

Department Vice Chair
John Hsu

Academic Advising Committees
Undergraduate Programs
Raya Feldman, Director of Undergraduate Studies and Undergraduate Advisor

Graduate Programs
Andrew Carter, Graduate Director and Advisor
John Hsu, Recruiting and Admissions
Wendy Meiring, Recruiting and Admissions

Director(s) of Actuarial Studies
Raya Feldman
Michael Ludkovski

Seminars
Guillaume Bonnet
David Hinkley
Wendy Meiring

Faculty Computer Liaison
Guillaume Bonnet, Jarad Niemi

Concurrent Enrollment Liaison
Raya Feldman

TA Training
Dawn Holmes, Coordinator
Nate Bennett, Lead TA

PSTAT 5A/5E Coordinator
John Hsu
Yuedong Wang

Qualifying Exam Committees
Applied Statistics
Yuedong Wang, Chair
David Hinkley
Wendy Meiring

Mathematical Statistics
Andrew Carter, Chair
David Hinkley
John Hsu

Probability
Raya Feldman, Chair
Jean-Pierre Fouque
Michael Ludkovski

Statistical Laboratory
Wendy Meiring, Director

Student Representative
Richard Harang

Gani Dissertation Prize Committee
Drew Carter
Jarad Niemi
John Hsu

Lowes Scholarship
Raya Feldman, Administrator

Library Representative
Jarad Niemi
University Committees

Academic Senate Council on Research and Instructional Resources
Andrew Carter
Jean-Pierre Fouque
S. Rao Jammalamadaka

Applied Statistics Qualifying Exam Committee
Yuedong Wang

Central Fellowships
Wendy Meiring

Chancellor’s Outreach Advisory Board (COAB)
Wendy Meiring

Computing and Communications Campus Representative
S. Rao Jammalamadaka

Coordinating Committee
Yuedong Wang

Earth Research Institute (ERI) Advisory Committee

Graduate Division’s Continuing Student Fellowship Review Committee
Andrew Carter

Hellman Awards Committee
Jean-Pierre Fouque

Institute for Computational and Earth System Sciences (ICESS)/Earth Research Institute (ERI) Advisory Committee
Wendy Meiring

Quantitative Methods in the Social Sciences
Yuedong Wang, Chair

Subcommittee on Faculty Grants
Jean-Pierre Fouque
Raya Feldman
Contact Information

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zamarron@pstat.ucsb.edu

Financial Coordinator: Rachel Brown
brown@pstat.ucsb.edu

Undergraduate Program: Angelica Arce
arce@pstat.ucsb.edu

Graduate Program: Rickie Lazzerini
lazzerini@pstat.ucsb.edu