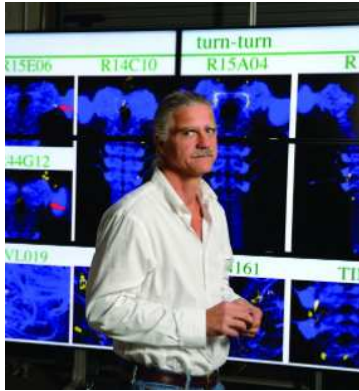




## CURRICULUM VITAE

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### EDUCATION

Ph.D., Information Technology (Computational Statistics), George Mason University, May 1993  
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### PROFESSIONAL EXPERIENCE

2001 – Present Professor, Department of Applied Mathematics & Statistics, Johns Hopkins University  
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Carey E. Priebe received the BS degree in mathematics from Purdue University in 1984, the MS degree in computer science from San Diego State University in 1988, and the PhD degree in information technology (computational statistics) from George Mason University in 1993. From 1985 to 1994 he worked as a mathematician and scientist in the US Navy research and development laboratory system. Since 1994 he has been a professor in the Department of Applied Mathematics and Statistics, Whiting School of Engineering, Johns Hopkins University, Baltimore, Maryland. At Johns Hopkins, he holds joint appointments in the Department of Computer Science, the Department of Electrical and Computer Engineering, the Center for Imaging Science, the Human Language Technology Center of Excellence, and the Whitaker Biomedical Engineering Institute. His research interests include computational statistics, kernel and mixture estimates, statistical pattern recognition, statistical image analysis, dimensionality reduction, model selection, and statistical inference for high-dimensional and graph data. He is a Senior Member of the IEEE, a Lifetime Member of the Institute of Mathematical Statistics, an Elected Member of the International Statistical Institute, and a Fellow of the American Statistical Association. He won an Office of Naval Research Young Investigator Award in 1995. He was recipient of the 2010 American Statistical Association Distinguished Achievement Award, the 2008 Pond Award for Excellence in Teaching, the 2011 McDonald Award for Excellence in Mentoring and Advising, and in 2008 was named one of six inaugural National Security Science and Engineering Faculty Fellows.

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G.W. Rogers, J.L. Solka, and C.E. Priebe, "A PDP Approach to Localized Fractal Dimension Computation with Segmentation Boundaries," *Simulation*, Vol. 65, pp. 26–36, 1995.

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### **1994**

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C.E. Priebe, J.L. Solka, R.A. Lorey, G.W. Rogers, W.L. Poston, M. Kallergi, W. Qian, L.P. Clarke, and R.A. Clark, "The Application of Fractal Analysis to Mammographic Tissue Classification," *Cancer Letters*, Vol. 77, pp. 183–189, 1994.

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### **1993**

C.E. Priebe and D.J. Marchette, "Adaptive Mixture Density Estimation," *Pattern Recognition*, Vol. 26, No. 5, pp. 771–785, 1993.

K.S. Woods, C.C. Doss, K.W. Bowyer, J.L. Solka, C.E. Priebe, and W.P. Kegelmeyer, "Comparative Evaluation of Pattern Recognition Techniques for Detection of Microcalcifications in Mammography," *International*



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G.W. Rogers, J.L. Solka, D.S. Malyevac, and C.E. Priebe, “A Self Organizing Network for Computing A Posteriori Conditional Class Probability,” *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 23, No. 6, pp. 1672–1682, 1993.

**1992**

J.L. Solka, C.E. Priebe, and G.W. Rogers, “An Initial Assessment of Discriminant Surface Complexity for Power Law Features,” *Simulation*, Vol. 58, pp. 311–318, 1992.

G.W. Rogers, J.L. Solka, C.E. Priebe, and H.H. Szu, “Optoelectronic Computation of Waveletlike-Based Features,” *Optical Engineering*, Vol. 31, No. 9, pp. 1886–1892, 1992.

**1991**

C.E. Priebe and D.J. Marchette, “Adaptive Mixtures: Recursive Nonparametric Pattern Recognition,” *Pattern Recognition*, Vol. 24, No. 12, pp. 1197–1209, 1991.

**1990**

D.J. Marchette and C.E. Priebe, “Adaptive Kernel Neural Network,” *Mathematical and Computer Modelling*, Vol. 14, pp. 328–333, 1990.

## SUBMITTED FOR PUBLICATION IN REFEREED JOURNALS

Li Chen, Joshua Vogelstein, Vince Lyzinski, Carey E. Priebe, “A Joint Graph Inference Case Study: the *C.elegans* Chemical and Electrical Connectomes,” submitted for publication.

Vince Lyzinski, Minh Tang, Avanti Athreya, Youngser Park, Carey E. Priebe, “Community Detection and Classification in Hierarchical Stochastic Blockmodels,” submitted for publication. (<http://arxiv.org/abs/1503.02115>)

Vince Lyzinski, Youngser Park, Carey E. Priebe, Michael W. Trosset, “Fast Embedding for JOFC Using the Raw Stress Criterion,” submitted for publication. (<http://arxiv.org/abs/1502.03391>)

Cencheng Shen, Li Chen, Carey E. Priebe, “Sparse Representation Classification Beyond L1 Minimization and the Subspace Assumption,” submitted for publication. (<http://arxiv.org/abs/1502.01368>)

Jordan Yoder, Carey E. Priebe, “A Model-based Semi-Supervised Clustering Methodology,” submitted for publication. (<http://arxiv.org/abs/1412.4841>)

Yichen Qin, Carey E. Priebe, “Robust Hypothesis Testing via Lq-Likelihood,” submitted for publication. (<http://arxiv.org/abs/1310.7278> ; <http://homepages.uc.edu/~qinyin/LqLR/>)

Cencheng Shen, Carey E. Priebe, “Manifold Matching using Shortest-Path Distance and Joint Neighborhood Selection,” submitted for publication. (<http://arxiv.org/abs/1412.4098>)

Nam Lee, Carey E. Priebe, Youngser Park, I-Jeng Wang, Michael Rosen, “Techniques for clustering interaction data as a collection of graphs,” submitted for publication. (<http://arxiv.org/abs/1406.6319>)

Nam Lee, Carey E. Priebe, Runze Tang, Michael Rosen, “Using non-negative factorization of time series of graphs for learning from an event-actor network,” submitted for publication. (<http://arxiv.org/abs/1312.7559>)

Da Zheng, Disa Mhembere, Randal Burns, Joshua Vogelstein, Carey E. Priebe, Alexander S. Szalay, “Flash-Graph: Processing Billion-Node Graphs on an Array of Commodity SSDs,” submitted for publication. (<http://arxiv.org/abs/1408.0500>)

Minh Tang, Avanti Athreya, Daniel L. Sussman, Vince Lyzinski, Carey E. Priebe, “A Nonparametric Two-sample Hypothesis Testing Problem for Random Dot Product Graphs,” submitted for publication. (<http://arxiv.org/abs/1409.2344>)

Minh Tang, Avanti Athreya, Daniel L. Sussman, Vince Lyzinski, Carey E. Priebe, “A Semiparametric Two-sample Hypothesis Testing Problem for Random Dot Product Graphs,” submitted for publication. (<http://arxiv.org/abs/1403.7249>)

Shakira Suwan, Dominic S. Lee, Runze Tang, Daniel L. Sussman, Minh Tang, C.E. Priebe, “Empirical Bayes Estimation for the Stochastic Blockmodel,” submitted for publication. (<http://arxiv.org/abs/1405.6070>)

Vince Lyzinski, Sancar Adali, Joshua T. Vogelstein, Youngser Park, C.E. Priebe, “Seeded Graph Matching Via Joint Optimization of Fidelity and Commensurability,” submitted for publication. (<http://arxiv.org/abs/1401.3813>)

Sancar Adali and C.E. Priebe, “Fidelity-Commensurability Tradeoff in Joint Embedding of Disparate Dissimilarities,” submitted for publication. (<http://arxiv.org/abs/1306.1977>)

Damianos Karakos, Shuai Huang, Sanjeev Khudanpur, C.E. Priebe, “Information-Theoretic Aspects of Iterative Denoising,” submitted for publication.

Minh Tang, Youngser Park, C.E. Priebe, “Out-of-sample Extension for Latent Position Graphs,” submitted for publication. (<http://arxiv.org/abs/1305.4893>)

L. Chen, C.E. Priebe, D.L. Sussman, D.C. Comer, W.P. Megarry, J.C. Tilton, “Enhanced Archaeological Predictive Modelling in Space Archaeology,” submitted for publication. (<http://arxiv.org/abs/1301.2738>)

D.E. Fishkind, S. Adali, C.E. Priebe, “Seeded Graph Matching,” submitted for publication. (<http://arxiv.org/abs/1209.0367>)

Dominic S. Lee and C.E. Priebe, “Bayesian Vertex Nomination,” submitted for publication. (<http://arxiv.org/abs/1205.5082>)

Lucy F. Robinson and C.E. Priebe, “Detecting Time-dependent Structure in Network Data via a New Class of Latent Process Models,” submitted for publication. (<http://arxiv.org/abs/1212.3587>)

Glen A. Coppersmith and C.E. Priebe, “Vertex Nomination via Content and Context,” submitted for publication. (<http://arxiv.org/abs/1201.4118>)

Ming Sun, Youngser Park, Glen Coppersmith, and C.E. Priebe, “Inferential Variability in Latent Dirichlet Allocation,” submitted for publication.

Z. Ma and C.E. Priebe, “Out-of-sample Embedding Using Iterative Majorization,” submitted for publication.

## **PATENTS**

Invention Disclosure: University of Florida Invention Disclosure UF#10098, April 6, 1999, "Optimized Classification System and Method."

Patent Pending: Provisional Patent Application 07662/013001 C-1351 filed September 26, 1997, "ADC Clustering System and Method."

US Patent No. 5,671,294, Issued 23 SEP 1997, "A System and Method for Incorporating Segmentation Boundaries into the Calculation of Fractal Dimension Features for Texture Discrimination."

US Patent No. 5,517,531, Issued 14 MAY 1996, "Kernel Adaptive Interference Suppression System."

US Patent No. 5,499,399, Issued 12 MAR 1996, "Two-Dimensional Kernel Adaptive Interference Suppression System."

US Patent No. 5,384,895, Issued 24 JAN 1995, "Self Organizing Neural Network for Classifying Pattern Signatures Using A Posterior Conditional Class Probability."

US Patent No. 5,365,472, Issued 15 NOV 1994, "Non-Linear Resistive Grid Kernel Estimator Useful in Single Feature, Two-Class Pattern Classification."

US Patent No. 5,351,311, Issued 27 SEP 1994, "Neural Network for Detection and Correction of Local Boundary Misalignments Between Images."

## GRANTS AND CONTRACTS

Principal Investigator, National Science Foundation, “NSF BRAIN EAGER: Discovery and characterization of neural circuitry from behavior, connectivity patterns and activity patterns,” 09/01/14–08/31/16 (\$300,000).

Principal Investigator, Defense Advanced Research Project Agency, “DARPA SIMPLEX: From RAGs to Riches: Utilizing Richly Attributed Graphs to Reason from Heterogeneous Data,” 05/11/2015–05/31/2018 (\$779,596)

Principal Investigator, Defense Advanced Research Project Agency, “DARPA GRAPHS: Scalable Brain Graph Analyses using Big-Memory, High-IOPS Compute Architectures,” 05/14/2014–02/28/16 (\$39,882).

Principal Investigator, Defense Advanced Research Project Agency, “DARPA XDATA: Fusion and Inference from Multiple and Massive Disparate Distributed Dynamic Data Sets,” 09/10/12–03/09/17 (\$1,467,000).

Johns Hopkins University Human Language Technology Center of Excellence, “Streaming Content in Context,” 01/13/07–01/12/16 (\$1,948,268).

Principal Investigator, National Security Science and Engineering Faculty Fellowship Program, “NSSEFF: Fusion and Inference from Multiple and Massive Disparate Data Sources,” 02/09/09–02/08/14 (\$2,738,211).

Principal Investigator, BBN Technologies, “SWAT - Scalable Workflow Analytic Toolkit”, 11/8/2012–09/13/2014 (\$125,000).

Principal Investigator, Cultural Site Research and Management, “Institutionalizing Protocols for Wide-Area Inventory of Archaeological Sites (Z. Lubberts)”, 06/01/2013–08/31/2013 (\$11,340).

Principal Investigator, Cultural Site Research and Management, “Institutionalizing Protocols for Wide-Area Inventory of Archaeological Sites (L. Chen)”, 06/01/2012–12/31/2012 (\$10,854).

Principal Investigator, Cultural Site Research and Management, “Institutionalizing Protocols for Wide-Area Inventory of Archaeological Sites (D. Sussman)”, 06/01/2011–09/30/2011 (\$10,860).

Principal Investigator, Air Force Office of Scientific Research, “Information Fusion: Inference from Graphs and Feature Matrices,” 06/01/09–11/30/11 (\$375,000).

Principal Investigator, Office of Naval Research, “Disparate Information Fusion: Embedding & Exploitation of Disparate Measurements,” N00014-07-1-0328, 11/29/06–12/31/09 (\$239,999).

National Science Foundation, “Novel Approaches to Unsupervised Classification via Integrated Sensing and Processing Decision Trees,” (Damianos Karakos, PI) 09/01/07–08/31/10 (\$299,996).

Raytheon, “Analysis of Fast Algorithms,” 02/01/2008–09/30/2009 (\$71,000).

Principal Investigator, Office of Naval Research, “Random Disambiguation Paths for Adaptive Navigation through Mine and Obstacle Fields: Basic Research,” N00014-06-1-0013 10/1/05–12/31/08 (\$300,001).

Principal Investigator, DARPA MTO, “A Compressed Sensing Approach to SIGINT Processing,” N66001-06-1-2009, 02/02/06–12/31/08 (\$415,928).

Co-Principal Investigator (with Michael I. Miller), NIH, “Conte Center,” P20-MH071616 E31-2044, project ends 08/31/09.

Co-Principal Investigator (with Tilak Ratnanather), NIH, “Temporal Gyrus,” R01-MH064838 E31-2038, project ends 12/31/07.

Principal Investigator, DARPA/AlgoTek, “Visual Brain,” 06/29/05–06/28/06 (\$27,000).

Principal Investigator, DARPA/AlgoTek, “BICA,” 04/10/06-1/30/07 (\$30,559).

DSTO, “Analysis Of Time Series Of Graphs,” –6/30/07 (\$50,000).

ORMS, “Analysis Of Time Series Of Graphs,” –9/22/05

Principal Investigator, DARPA Applied and Computational Mathematics Program, “The Adaptive Data Cube for Integrated Sensing and Processing,” DOD F49620-01-1-0395, 07/01/2001–06/30/2005 (\$1,365,210)

Principal Investigator, Office of Naval Research, “Random Disambiguation for Adaptive Mine Countermeasures Path Planning,” N00014-04-1-0483, 04/19/2004–07/31/2005 (\$100,000)

DARPA Applied and Computational Mathematics Program, (subcontract from Lockheed Martin) “ISP Phase II,” 09/01/2004–09/30/2006 (\$150,030).

Raytheon, “Transitioning Automatic Target Recognition/Classification Algorithms to Signals and Image Domains,” 8/15/2005–12/31/2005 (\$33240).

DARPA, (subcontract from AlgoTek’s Contract MDA972-03-C0014) “Novel Mathematical and Computational Approaches to Exploitation of Massive, Non-physical Data,” 06/01/03–09/30/04 (\$192,090)

Principal Investigator, Office of Naval Research, “Methodological Research in Statistical Pattern Recognition,” N00014-01-1-0011, 10/01/00–12/31/03 (\$346,524)

ASEE/ONR Sabbatical Leave Fellow 2000–2001, N00014-97-C-0171 and N00014-97-1-1055, 09/01/00–05/31/01 (\$43,352)

Office of Naval Research (subcontract from Johns Hopkins University Applied Physics Laboratory) “Probabilistic Classification and Planning for Mine Countermeasures Command and Control,” N00024-98-D-8124, 05/01/00–09/30/02 (\$79,901)

Principal Investigator, Air Force Office of Scientific Research / DARPA Applied and Computational Mathematics Program, “Advanced Data Analysis Methods for Analyte Recognition from Optical Sensor Arrays,” DOD F49620-99-1-0213, 04/01/99–03/31/01 (\$398,965)

Principal Investigator, Office of Naval Research, “Semiparametric Nonhomogeneity Analysis (renewal),” N00014-95-1-0777, 11/16/97–11/14/00 (\$264,686)

Principal Investigator, Office of Naval Research Young Investigator Program Award, “Semiparametric Nonhomogeneity Analysis,” N00014-95-1-0777, 05/01/95–04/98 (\$225,000)

Principal Investigator, National Science Foundation, “Detection of Land Mines via Spatial Statistics and Robust Detection,” 07/97–06/99 (\$71,000)

Principal Investigator, Power Spectra, “Detection of Land Mines via Spatial Statistics and Robust Detection,” 07/97–06/99 (\$40,000)

Office of Naval Research (subcontract from Dartmouth College), “Real Time Statistical Retargeting,” 12/95–11/97 (\$165,000)

Naval Surface Warfare Center, “IPA Agreement,” 10/94–09/96 (\$16,604)

1999 New Researchers Conference:

- National Science Foundation (\$12000)
- National Security Agency: (\$10000)
- Office of Naval Research (\$6300)
- Acheson J. Duncan Fund for the Advancement of Research in Statistics (\$9000)

Consultant: RedOwl, Campbell, AlgoTek, Animetrics, Centice, Cephos, Advanced Computation Technology Division, NSWC, Center for Computing Sciences, National Security Agency

## COURSES TAUGHT

@ Johns Hopkins University:

Statistical Theory II	550.631, Spring 2015	(12)
Probability & Statistics	550.810, Spring 2015	(3)
Dissertation Research	550.800, Spring 2015	(6)
Statistical Theory I	550.630, Fall 2014	(27)
Dissertation Research	550.800, Fall 2014	(5)
Engineering Research Practicum	500.851, Summer 2014	(2)
Topics in Statistics: Pattern Recognition	550.735, Spring 2014	(16)
Dissertation Research	550.800, Spring 2014	(5)
Statistical Theory I	550.630, Fall 2013	(22)
Dissertation Research	550.800, Fall 2013	(8)
Undergraduate Research	550.500, Fall 2013	(1)
Engineering Research Practicum	500.851, Summer 2013	(1)
Statistical Theory II	550.631, Spring 2013	(15)
Dissertation Research	550.800, Spring 2013	(9)
Statistical Theory I	550.630, Fall 2012	(24)
Dissertation Research	550.800, Fall 2012	(8)
Engineering Research Practicum	500.851, Summer 2012	(1)
Topics in Statistics: Pattern Recognition	550.735, Spring 2012	(23)
Dissertation Research	550.800, Spring 2012	(8)
Probability & Statistics	550.810, Fall 2011	(5)
Dissertation Research	550.800, Fall 2011	(6)
Statistical Theory I	550.630, Fall 2011	(23)
Eng Res Practicum-Phd	500.851, Summer 2011	(1)
Dissertation Research	550.800, Spring 2011	(5)
Statistical Theory II	550.631, Spring 2011	(16)
Dissertation Research	550.800, Fall 2010	(5)
Statistical Theory I	550.630, Fall 2010	(16)
Eng Res Practicum-Phd	500.851, Summer 2010	(1)
Dissertation Research	550.800, Spring 2010	(2)
Independent Study	635.800, Spring 2010	(1)
Dissertation Research	550.800, Fall 2009	(2)
Topics in Statistics: Pattern Recognition	550.735, Spring 2009	(11)
Dissertation Research	550.800, Spring 2009	(4)
Master's Research	550.700, Spring 2009	(1)
Statistical Theory I	550.630, Fall 2008	(27)
Dissertation Research	550.800, Fall 2008	(4)
Statistical Theory II	550.631, Spring 2008	(8)
Topics in Statistics: Pattern Recognition	550.735, Spring 2008	(12)
Dissertation Research	550.800, Spring 2008	(4)
Statistical Theory I	550.630, Fall 2007	(21)
Dissertation Research	550.800, Fall 2007	(3)
Undergraduate Research	550.500, Fall 2007	(1)
Undergraduate Research	550.597, Summer 2007	(1)
Statistical Theory II	550.631, Spring 2007	(7)
Topics in Statistics: Pattern Recognition	550.735, Spring 2007	(12)
Dissertation Research	550.800, Spring 2007	(4)
Statistical Theory I	550.630, Fall 2006	(17)
Dissertation Research	550.800, Fall 2006	(4)
Undergraduate Research	550.500, Fall 2006	(1)
Undergraduate Research	550.597, Summer 2006	(2)
Statistical Theory II	550.631, Spring 2006	(4)

Dissertation Research	550.800, Spring 2006	(3)
Statistical Theory I	550.630, Fall 2005	(6)
Dissertation Research	550.800, Fall 2005	(2)
Dissertation Research	550.800, Spring 2005	(3)
Statistical Theory I	550.630, Fall 2004	(3)
Dissertation Research	550.800, Fall 2004	(3)
Statistical Theory II	550.631, Spring 2004	(6)
Dissertation Research	550.800, Spring 2004	(2)
Topics in Statistics: Pattern Recognition	550.730, Fall 2003	(9)
Statistical Theory I	550.630, Fall 2003	(10)
Dissertation Research	550.800, Fall 2003	(2)
Independent Research	990.892, Summer 2003	(1)
Stochastic Processes	550.426, Spring 2003	(19)
Statistical Theory II	550.631, Spring 2003	(6)
Dissertation Research	550.800, Spring 2003	(2)
Undergraduate Research	550.500, Spring 2003	(1)
Statistical Theory	550.630, Fall 2002	(7)
Dissertation Research	550.800, Fall 2002	(2)
Undergraduate Research	550.500, Fall 2002	(1)
Topics in Statistics: Random Graphs	550.730, Spring 2002	(5)
Statistical Theory II	550.631, Spring 2002	(4)
Dissertation Research	550.800, Spring 2002	(2)
Undergraduate Research	550.500, Spring 2002	(1)
Statistical Theory	550.630, Fall 2001	(6)
Dissertation Research	550.800, Fall 2001	(1)
Undergraduate Research	550.500, Fall 2001	(1)
Topics in Statistics: Pattern Recognition	550.732, Spring 2000	(16)
Mathematical Modelling and Consulting	550.401, Spring 2000	(5)
Dissertation Research	550.800, Spring 2000	(1)
Probability and Statistics	550.310, Fall 1999	(60)
Mathematical Modelling and Consulting	550.400, Fall 1999	(8)
Dissertation Research	550.800, Fall 1999	(2)
Undergraduate Research	550.500, Fall 1999	(1)
Statistical Theory	550.630, Spring 1999	(10)
Dissertation Research	550.800, Spring 1999	(3)
Undergraduate Research	550.500, Spring 1999	(1)
Introduction to Probability	550.420, Fall 1998	(50)
Topics in Statistics: Pattern Recognition	550.730, Fall 1998	(13)
Dissertation Research	550.800, Fall 1998	(3)
Undergraduate Research	550.500, Fall 1998	(1)
Introduction to Statistics II	550.112, Spring 1998	(100)
Applied Functional Analysis Seminar	550.895, Spring 1998	(4)
Dissertation Research	550.800, Spring 1998	(3)
Undergraduate Research	550.500, Spring 1998	(1)
Introduction to Statistics I	550.111, Fall 1997	(279)
Applied Functional Analysis Seminar	550.895, Fall 1997	(5)
Dissertation Research	550.800, Fall 1997	(3)
Topics in Statistics: Spatial Scan Statistics	550.730, Spring 1997	(8)
Undergraduate Research	550.500, Spring 1997	(1)
Probability and Statistics	550.310, Fall 1996	(58)
Statistical Data Analysis	550.413, Fall 1996	(14)
Statistics	550.430, Spring 1996	(22)
Mathematical Modelling	550.400, Spring 1996	(10)
Probability and Statistics	550.310, Fall 1995	(55)



Topics in Statistics: Kernel & Mixture Estimates	550.727, Spring 1995	(9)
Nonparametric and Robust Methods	550.424, Fall 1994	(6)

@ George Mason University:

Kernel & Mixture Estimates	CSI 790, Summer 1994	(5)
Exploratory Data Analysis	CSI 773, Spring 1994	(20)
Statistical Pattern Recognition	CSI 790, Summer 1993	(15)

## STUDENTS SUPERVISED

Cencheng Shen, Ph.D. (2015)

Dissertation Title: Matching and Inference for Multiple Correlated Data Sets

Defended: March 2015

Cencheng is now postdoc at Temple University

Li Chen, Ph.D. (2015)

Dissertation Title: Pattern Recognition on Random Graphs

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Lee is now Data Scientist at Intel

Sancar Adali, Ph.D. (2014)

Dissertation Title: Joint Optimization of Fidelity and Commensurability for Manifold Alignment

Defended: March 2014

Sancar is now at BBN

Daniel Sussman, Ph.D. (2014)

Dissertation Title: Foundations of Adjacency Spectral Embedding

Defended: December 2013

Daniel is now postdoc at Harvard

Ming Sun, Ph.D. (2013)

Dissertation Title: Data Fusion via Manifold Matching

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Ming is now Machine Learning Scientist at Amazon

Yichen Qin, Ph.D. (2013)

Dissertation Title: Robust Inference via Lq-Likelihood

Defended: June 2013

Yichen is now Assistant Professor at the University of Cincinnati

Adam Cardinal-Stakenas, Ph.D. (2011)

Dissertation Title: Choosing a Dissimilarity Representation for Classification

Defended: February 2011

Adam is employed with DoD

Ting Yang, Ph.D. (2010)

Dissertation Title: The Effect of Model Misspecification on Semi-supervised Classification

Defended: December 2010

Ting is now at Armstrong Institute

Zhiliang Ma, Ph.D. (2010)

Dissertation Title: Disparate Information Fusion in the Dissimilarity Framework

Defended: October 2010

Zhiliang is now at Facebook

Andrey Rukhin, Ph.D. (2009)

Dissertation Title: Asymptotic Analysis of Various Statistics for Random Graph Inference

Defended: April 2009

Andrey is now at NSWC Dahlgren

Libby Beer, Ph.D. (2009)

Dissertation Title: Latent Position Random Graphs: Theory, Inference, and Applications

Defended: February 2009

(Co-advisor with Ed Scheinerman)

Libby is now at Center for Computing Sciences (IDA/CCS-Bowie)

Xugang Ye, Ph.D. (2008)

Dissertation Title: Random Disambiguation Paths: Models, Algorithms, and Analysis

Defended: September 2008  
(Co-advisor with Shih-Ping Han)  
Xugang is now at Microsoft Bing

Al Aksakalli, Ph.D. (2007)  
Dissertation Title: Protocols for Stochastic Shortest Path Problems with Dynamic Learning  
Defended: March 2007  
(Co-advisor with Donniell Fishkind)  
Al is now Associate Professor at Istanbul Sehir University, Turkey

Kendall Giles, Ph.D. (2007)  
Dissertation Title: Knowledge Discovery in Computer Network Data: A Security Perspective  
Defended: October 2006  
Kendall is now Assistant Professor at Virginia Commonwealth University

Majnu John, Ph.D. (2005)  
Dissertation Title: A data-adaptive methodology for finding an optimal weighted generalized MWW statistic  
Defended: January 2005  
Majnu is Institute Scientist at Hofstra North Shore-Long Island Jewish School of Medicine

Elvan Ceyhan, Ph.D. (2005)  
Dissertation Title: An Investigation of Proximity Catch Digraphs in Delaunay Tessellations  
Defended: October 2004  
Elvan Ceyhan is now Associate Professor, Department of Mathematics, Koc University, Istanbul

Jason DeVinney, Ph.D. (2003)  
Dissertation Title: The Class Cover Problem and its Applications in Pattern Recognition  
Defended: November 2002  
Jason DeVinney is now at Center for Computing Sciences

Adam Cannon, Ph.D. (2001)  
Dissertation Title: Approximate Distance Methods in Classification  
Defended: May 2000  
(Co-advisor with Lenore Cowen)  
Adam Cannon is now at Columbia University

Peng Tao, Ph.D. (2000)  
Dissertation Title: The Generalized Borrowed Strength Method and the Application to Image Recognition  
Defended: March 2000  
Peng Tao is now at AccuImage

Dalei Chen, Ph.D. (2000)  
Dissertation Title: Borrowed Strength Density Estimation and Applications  
Defended: November 1999  
Dalei Chen is now at Bristol-Myers Squibb

Jingdong Xie, Ph.D. (1999)  
Dissertation Title: Generalizing the Mann-Whitney-Wilcoxon Statistic  
Defended: April 1999  
Jingdong Xie is now at Forest Research Institute

Dominic Lee, Ph.D. (1996)  
Dissertation Title: Advancing the Resampling Paradigm  
Dominic is Senior Lecturer at University of Canterbury, Christchurch, New Zealand

Nikhil Ram Mohan , M.S. (2009)  
Thesis Title: Hippocampus shape analysis of clinically depressed twin populations using a modified Mann-Whitney-Wilcoxon test statistic

Allison Barker, M.S. (2003)

Thesis Title: Statistical Testing on Labelled Cortical Distance Maps to Identify Dementia Progression

Karen Shahar, M.S. (2000)

Thesis Title: Quantitative Differentiation of Breast Lesions Based on 3-D Morphology from MR Imaging  
(Co-advisor with Cheng Cheng)

**Current Doctoral Research Advisees:**

- Heng Wang
- Jordan Yoder
- Runze Tang
- Shangsi Wang
- Keith Levin (CS Dept)
- Congyuan Yang (ECE Dept)

**Current Undergraduate Research Advisee:**

- Agastya Mondal

**Current Postdoctoral Research Advisees:**

- Minh Tang
- Vince Lyzinski

**PostDocs Supervised**

Daniel Sussman (01/01/2014–present); Minh Tang (09/01/2010–present); Vince Lyzinski (01/01/2013–present); Nam Lee (AY 2008, then Assistant Research Professor –present); Youngser Park (AY 2003, then Assistant/Associate Research Scientist –present); Ali Fuat Alkaya (10/01/2011–9/30/2012); Joshua Vogelstein (01/01/2010–12/31/2011, then Assistant Research Scientist 01/01/2012 - 08/15/2012); Bennett Landman (09/01/2008–06/30/2009); Damianos Karakos (AY 2003–2005); Diego Socolinsky (AY 2000–2004); Rida Mustafa (AY 2001–2002); Sung Ahn (AY 1998–1999); Tim Olson (AY 1997–1998)

## HONORS

ASEE Sabbatical Leave Fellow, 2009–2010

Erskine Fellow, University of Canterbury, Christchurch, New Zealand, 2009

National Security Science and Engineering Faculty Fellow, 2008

Robert B. Pond, Sr., Excellence in Teaching Award, 2008

Senior Member, IEEE (Elected 2008)

Elected Member of the International Statistical Institute (Elected 2007)

Fellow of the American Statistical Association (Elected 2002)

ASEE Sabbatical Leave Fellow, 2000–2001

Office of Naval Research Young Investigator Award, 1995–1998

Oraculum Award for Excellence in Teaching, Johns Hopkins University, 1994

Outstanding Ph.D. Dissertation in Statistical Sciences Award, George Mason University, 1993

## EDITORIAL POSITIONS

Associate Editor, *Computational Statistics and Data Analysis*, 1999–

Associate Editor, *Journal of Computational and Graphical Statistics*, 2000–

Associate Editor, *Computational Statistics*, 2004–

## COMMITTEE & PANEL MEMBERSHIP

Board of Directors, Computing Science and Statistics: Interface Foundation of North America (IFNA) (1997–2003); President, 2001–2004

Chair, American Statistical Association (ASA) Section on Statistical Computing (Elected 2002)

Vice President International Association for Statistical Computing (IASC) a Section of the International Statistical Institute (ISI) (Elected 2007–2009)

Chair, Institute of Mathematical Statistics (IMS) New Researchers Committee (1998–2000)

Office of Naval Research (ONR) / American Society for Engineering Education (ASEE) Research Evaluation Committee (1998–)

IMS representative to CBMS (Conference Board of the Mathematical Sciences) (2000–2003)

National Science Foundation Statistics & Probability Screening Panel (FY05)

National Representative and Chapter Secretary for the Maryland Chapter of the American Statistical Association (1995–1999)

NSWCDD (Naval Surface Warfare Center Dahlgren Division) FY00 ILIR (Internal Laboratory Independent Research) Program Review Committee (2000)

Conflict of Interest Committee, Johns Hopkins University, Whiting School of Engineering (2002–)

Library Advisory Committee, Johns Hopkins University, Whiting School of Engineering (2002–)

Applied and Computational Mathematics Program Committee, Johns Hopkins University, Whiting School of Engineering, Part-Time Programs in Engineering and Applied Science (1997–2003)

Joint Appointment, Johns Hopkins University Department of Biomedical Engineering

Johns Hopkins University Biomedical Engineering Institute Imaging Group Planning Committee (1999)

Academic Affairs Committee, Department of Mathematical Sciences, Johns Hopkins University (AY 94-95  
– 99-00 & 01–; Chair AY 99-00 & 01–)

JHU Secondary BME Faculty

Program Committees:

The International Statistical Institute's 57th Biennial Session, Durban, South Africa, August 2009  
Scientific Committee for the SAMSI program on National Defense and Homeland Security for 2005-06.  
Organizing Committee for IPAM Graduate Summer School: Intelligent Extraction of Information, July 2005.  
34th Symposium on the Interface: Computing Science and Statistics, Montreal, Canada, April 2002.  
The International Statistical Institute's 53rd Biennial Session, Seoul, South Korea, August 2001  
(IASC Program Chair).  
1999 Joint Statistical Meetings, Baltimore, MD, August 1999.  
1999 IMS New Researchers' Conference, Baltimore, MD, August 1999  
(Program Chair).  
30th Symposium on the Interface: Computing Science and Statistics, Minneapolis, MN, May 1998.  
XIII COMPSTAT Conference of the IASC, Bristol, England, August 1998.

**OTHER PROFESSIONAL ACTIVITIES**

Invited Session Organizer:

17th COMPSTAT Symposium of the IASC, Rome, August 2006  
"Modeling and Statistical Inference for Time Series of Graphs"  
The International Statistical Institute's 55th Biennial Session, Sydney, Australia, April 2005  
"Pattern Recognition in High Dimensions"  
34th Symposium on the Interface: Computing Science and Statistics, Montreal, Canada, April 2002.  
"Random Graphs for Statistical Pattern Recognition"  
2000 Joint Statistical Meetings:  
"Consistent Estimation of Mixture Complexity"  
1999 Joint Statistical Meetings:  
"Statistical Education at the Interface: Distance Learning/Computers in the Classroom"  
30th Symposium on the Interface: Computing Science and Statistics: Interface '98:  
"Nonparametric Density Estimation"

Referee: Journal of the American Statistical Association, Journal of Statistical Planning and Inference, Journal of Nonparametric Statistics, Journal of Computational and Graphical Statistics, Computational Statistics and Data Analysis, Canadian Journal of Statistics, Statistics and Probability Letters, Communications in Statistics, IEEE Transactions on Information Theory, IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Systems, Man, and Cybernetics, Pattern Recognition Letters, Image and Vision Computing, Computerized Medical Imaging and Graphics, Naval Research Logistics, American Mathematical Monthly, Journal of Mathematical Sociology, Chemical Reviews

Proposal Reviewer: National Science Foundation, Department of the Navy, Department of the Army, Department of Energy, Department of State

Member: American Statistical Association (ASA), Institute of Mathematical Statistics (IMS), Interface Foundation of North America (IFNA), International Association for Statistical Computing (IASC), IEEE, Sigma Xi – The Scientific Research Society

Affiliated Faculty:

Johns Hopkins University Center for Imaging Science (CIS)  
Johns Hopkins University Center for Language and Speech Processing (CLSP)  
George Mason University Center for Computational Statistics  
NSWCDD B10: The Advanced Computation Technology Group

## INVITED PRESENTATIONS

Invited to present “On the role of the conditionality principle in dimensionality reduction” at Multiscale Geometry and Analysis in High Dimensions, October 25-29, 2004, IPAM, UCLA.

Invited to present “Iterative denoising for cross-corpus discovery” at the Army Conference on Applied Statistics, October 19-22, 2004, Atlanta.

Invited to present “Statistical Pattern Recognition in High Dimensions” at COMPSTAT 2004: the 16th Symposium of IASC, August 23-27, 2004, Prague, Czech Republic.

Invited to present plenary talk “Classification Using Class Cover Catch Digraphs” at IFCS 2004: The 2004 Meeting of the International Federation of Classification Societies, July 15-18, 2004, Chicago

Invited to present plenary talk “Perspectives on Mathematical Image Analysis” at Mathematical Imaging and Image Analysis, January 24-27, 2004, Gainesville, Florida.

Invited to present “Statistical Pattern Recognition in High Dimensions” at Operations Research-Statistics Workshop, January 11-13, 2004, Sante Fe.

Invited to present “Segmenting Magnetic Resonance Images via Hierarchical Mixture Modelling” at the Department of Statistics Seminar, October 24, 2003, University of Michigan, Ann Arbor.

Invited to present “Statistical Pattern Recognition in High Dimensions” at the DARPA DSO Tech meeting, July 18-20, 2003, San Diego, California.

Invited to present “Segmenting Magnetic Resonance Images via Hierarchical Mixture Modelling” at the Eastern North American Region (ENAR) of the International Biometric Society annual meeting, March 30-April 2, 2003, Tampa, Florida.

Invited to present “Random Disambiguation Paths” at the Army Conference on Applied Statistics, October 30 - November 1, 2002, North Carolina State University.

Invited to present “Integrated Sensing and Processing for Statistical Pattern Recognition” at the DARPA DSO ACMP ISP Kickoff meeting, September 18-19, 2002, Annapolis, Maryland.

Invited to present “Assessing the Significance of Excursion Regions in Brain Imagery via Importance Sampling” at the Summer Workshop in fMRI Informatics, July 8-10, 2002, Dartmouth College.

Invited to present “Consistent Estimation of Mixture Complexity” at the Workshop on Developments and Challenges in Mixture Models, June 2-4, 2002, Cleveland, Ohio.

Invited to present “Class Cover Catch Digraphs for Gene Expression Analysis” at the Eastern North American Region (ENAR) of the International Biometric Society annual meeting, Washington, DC, March 2002.

Invited to present “Class Cover Catch Digraphs for Gene Expression Analysis” Seminar, Department of Mathematics, University of Maryland: March 14, 2002.

“Investigating the structure of high dimensional pattern recognition problems” Johns Hopkins University Whiting School of Engineering Inaugural Professorial Lecture, November 29, 2001.

Invited to present “Assessing the Significance of Excursion Regions in Brain Imagery via Importance Sampling” at The International Statistical Institute’s 53rd Biennial Session, Seoul, South Korea, August 2001.

Invited to present “Integrated Sensing and Processing” at MSRI Modern Signal Processing, Berkeley, CA, June 2001.

Invited to present “The Adaptive Data Cube: An Experiment in Hyperspectral Pattern Recognition” at the 33rd Symposium on the Interface: Computing Science and Statistics, Orange County, CA, June 2001.

Invited to present “Unmanned Aerial Vehicle-Based Remote Sensing for Detecting Minefields” at the Eastern



North American Region (ENAR) of the International Biometric Society annual meeting, Charlotte, NC, March 2001.

Invited to present “The Adaptive Data Cube” at the Integrated Sensing and Processing Workshop, Boulder, CO, August 2000.

Invited to present “Investigating an Artificial Nose” at Maryland Chapter of the American Statistical Association Annual Banquet, Columbia, MD, June 2000.

Invited to present “Statistical Pattern Recognition for an Artificial Nose” at the 1999 WSE Anniversary Symposium, Baltimore, MD, November 1999.

Invited to present “Optimizing Classification Performance” at the 1999 Joint Statistical Meetings, Baltimore, MD, August 1999.

Invited to present “Advanced Data Analysis Methods for Analyte Recognition from Optical Sensor Arrays” at the 1999 DARPA Applied and Computational Mathematics Program Conference, San Francisco, CA, July 1999.

Invited to present “Optimizing Sensor Fusion” at the 1999 International Conference on Imaging Science, Las Vegas, NV, June 1999.

Invited to present “Image Analysis via Spatial Scan Density Estimates” for the Iowa State University Department of Statistics Lecture Series, Ames, IA, June 1998.

Invited to present “Spatial Scan Density Estimates” at the 1998 SPIE International AeroSense Symposium, Orlando, FL, April 1998.

Invited to present “Introduction to Mathematical Imaging and Image Processing” at The Mathematical Association of America Meeting, Baltimore, MD, January 1998.

Invited to present “Applications of Change Point Analysis” at the NCI Lung Imaging Workshop, Bethesda, MD, January 1998.

Invited to present “Nonparametric Discriminant Analysis in High Dimensions via Generalized Interpoint Distances” at the Army Conference on Applied Statistics, Fairfax, VA, October 1997.

Invited to present “Borrowing Strength for Nonhomogeneity Detection in Digital Mammography” in a session titled “Image Analysis, Including Applications to Biomedicine” at The International Statistical Institute’s 51st Biennial Session, Istanbul, Turkey, August 1997.

Invited to present “Nonparametric Discriminant Analysis in High Dimensions via Generalized Interpoint Distances” in a session titled “Current Issues with High-Dimensional Data” at The 60th IMS Annual Meeting, Park City, UT, July 1997.

Invited to present “Approximate Distance Clustering” in a session titled “Dimension Reduction and Projection Pursuit” at The 29th Interface of Computer Science and Statistics, Houston, TX, May 1997.

Invited to present “Spatial Scan Statistics and the Detection of Clustered Microcalcifications in Digital Mammography” as a Colloquium to the Division of Cancer Prevention and Control, National Cancer Institute, National Institutes of Health, Rockville, MD, April 1997.

Invited to present “Approximate Distance Clustering” for the George Mason University Center for Computational Statistics Lecture Series, Fairfax, VA, October 1996.

Invited to present “A Spatial Scan Statistic for Stochastic Scan Partitions” Workshop on Spatial Point Processes, Dahlgren, VA, May, 1996.

Invited to present “Segmentation of Random Fields via Borrowed Strength Density Estimation,” the Whiting School of Engineering Junior Faculty Lecture, Baltimore, MD, May 1996.

Invited to present “Semiparametric Nonhomogeneity Analysis,” Johns Hopkins University Department of Biostatistics Seminar, Baltimore, MD, December 1994.

Invited to present “Image Analysis Using Fractal Features,” National Cancer Institute, National Institutes of Health, Bethesda, MD, February 1993.

## SELECTED NON-REFEREED TECHNICAL PUBLICATIONS

### Book Chapters

C.E. Priebe, D.J. Marchette, and D.M. Healy, "Integrated Sensing and Processing for Statistical Pattern Recognition," in *Modern Signal Processing*, edited by Rockmore, D. and Healy, D.M., Jr., Cambridge University Press, 2004.

G.W. Rogers, C.E. Priebe, and J.L. Solka, "Fractals for Pattern Recognition," in *The Industrial Electronics Handbook*, edited by Irwin, J.D., CRC Press, 1997.

W.L. Poston, C.E. Priebe, and O.T. Holland, "Maximizing the Fisher Information in Discrete-Time Systems," in *Digital Design and Control Systems (Techniques and Their Applications)*, edited by Leondes, C., New York: Academic Press, 1995.

### Anthologies

C.E. Priebe, J.L. Solka, R.A. Lorey, G.W. Rogers, W.L. Poston, M. Kallergi, W. Qian, L.P. Clarke, and R.A. Clark, "The Application of Fractal Analysis to Mammographic Tissue Classification," in *Chaos in Medicine: Source Readings*, edited by Sataloff, R.T., and Hawkshaw, M.J., San Diego: Delmar Publishers, 2001.

C.E. Priebe and D. Chen, "Spatial Scan Density Estimates," in *Selected SPIE Papers on CD-ROM, Vol 6: Automatic Target Recognition*, edited by Sadjadi, F., SPIE, 1999.

### International Workshop on Digital Mammography

C.E. Priebe, D.Q. Naiman, and L. Cope, "Assessing Cluster Significance," in *Digital Mammography 2000: Proceedings of the 5th International Workshop on Digital Mammography, Toronto, Canada, June 2000*, edited by Yaffe, M.J., Madison, WI: Medical Physics Publishing, 2001.

C.E. Priebe, "The Application of Stochastic Scan Analysis to the Detection of Microcalcifications in Digital Mammography," in *Digital Mammography '98: Proceedings of the 4th International Workshop on Digital Mammography, Nijmegen, The Netherlands, June 1998*, edited by Karssemeijer, N., Thijssen, M., Hendriks, J., and van Erning, L., Dordrecht: Kluwer, 1998.

C.E. Priebe and D.J. Marchette, "Characterizing Mammographic Tissue via Borrowed Strength Density Estimation," in *Digital Mammography '96: Proceedings of the 3rd International Workshop on Digital Mammography, Chicago, U.S.A., June 1996*, edited by Doi, K., Giger, M.L., Nishikawa, R.M., and Schmidt, R.A., Amsterdam: Elsevier, 1996.

C.E. Priebe, R.A. Lorey, D.J. Marchette, J.L. Solka, and G.W. Rogers, "Nonparametric Spatio-Temporal Change Point Analysis for Early Detection in Mammography," in *Digital Mammography: Proceedings of the 2nd International Workshop on Digital Mammography, York, England, July 1994*, edited by Gail, A.G., Astley, S.M., Dance, A.R. and Cairns, A.Y., Amsterdam: Elsevier, 1994.

K.S. Woods, J.L. Solka, C.E. Priebe, W.P. Kegelmeyer, C.C. Doss, and K.W. Bowyer, "Comparative Evaluation of Pattern Recognition Techniques for Detection of Microcalcifications in Mammography," in *State of the Art in Digital Mammography Image Analysis: Proceedings of the 1st International Workshop on Digital Mammography, San Jose, U.S.A., February, 1993*, edited by Bowyer, K.W. and Astley, S., Singapore: World Scientific, 1994.

## Proceedings of the Statistical Computing Section, American Statistical Association

K.E. Giles, D.J. Marchette, C.E. Priebe, "A Model of Backscatter as Escher Tessellations," *Proceedings of the Statistical Graphics Section and Section on Statistics in Defense and National Security, American Statistical Association*, 2005.

K.E. Giles, D.J. Marchette, C.E. Priebe, "The Development and Exploration of Online Classifiers for Backscatter from Denial of Service Attacks," *Proceedings of the Statistical Computing Section, American Statistical Association*, 2004.

J.G. DeVinney, Priebe, Marchette, Socolinsky, "Classification Using the Random Walk Class Cover," *Proceedings of the Statistical Computing Section, American Statistical Association*, 2003.

Barker, Priebe, et al., "Statistical Testing on Labelled Cortical Distance Maps to Identify Dementia Progression," *Proceedings of the Statistical Computing Section, American Statistical Association*, 2003.

K.E. Giles, D.J. Marchette, C.E. Priebe, "A Backscatter Characterization of Denial of Service Attacks," *Proceedings of the Statistical Computing Section, American Statistical Association*, 2003.

E. Ceyhan and C.E. Priebe, "Central Similarity Proximity Maps in Delaunay Tessellations," *Proceedings of the Statistical Computing Section, American Statistical Association*, 2003.

C.E. Priebe, D.J. Marchette and J.L. Solka, "On the Selection of Distance for a High-Dimensional Classification Problem," *Proceedings of the Statistical Computing Section, American Statistical Association*, pp. 58-63, 2000.

C.E. Priebe, J.L. Solka, and P. Tao, "Spatial Scan Analysis of Unmanned Aerial Vehicle Imagery," *Proceedings of the Statistical Computing Section, American Statistical Association*, pp. 92-97, 1997.

C.E. Priebe, D.J. Marchette, and H.H. Holcomb, "Contextual Investigation of Ketamine Effects in PET Scan Brain Imaging," *Proceedings of the Statistical Computing Section, American Statistical Association*, pp. 245-249, 1996.

## Computing Science and Statistics

D.A. Socolinsky, J.D. Neuheisel, C.E. Priebe, D. Marchette and J.G. DeVinney, "A Boosted CCD Classifier for Fast Face Detection," *Computing Science and Statistics*, Vol. 35, 2003.

J.G. DeVinney, C.E. Priebe, D.J. Marchette, and D. Socolinsky, "Random Walks and Catch Digraphs in Classification," *Computing Science and Statistics*, Vol. 34, 2002.

J. L. Solka, C. E. Priebe, and D. J. Marchette, "Graph Theoretic Latent Class Discovery and Its Robustness to Minimal Dominating Set Choice," Vol. 34, 2002.

C.E. Priebe and D.J. Marchette, "Characterizing the Complexity of a High-Dimensional Classification Problem," *Computing Science and Statistics*, Vol. 32, pp. 48-62, 2000.

C.E. Priebe, D.Q. Naiman and L. Cope, "Importance Sampling for Spatial Scan Analysis: Computing Scan Statistic p-Values for Marked Point Processes," *Computing Science and Statistics*, Vol. 31, pp. 213-217, 1999.

A.H. Cannon, L.J. Cowen, and C.E. Priebe, "Approximate Distance Classification," *Computing Science and Statistics*, Vol. 30, pp. 544-549, 1998.

C.E. Priebe and L.J. Cowen, "Approximate Distance Clustering," *Computing Science and Statistics*, Vol. 29, pp. 337-346, 1997.

C.E. Priebe, E.G. Julin, G.W. Rogers, J.L., D.M. Healy, J. Lu, Solka, and D.J. Marchette, "Incorporating Segmentation Boundaries into the Calculation of Fractal Dimension Features," *Computing Science and*

*Statistics*, Vol. 26, pp. 52-56, 1994.

W.L. Poston and C.E. Priebe, "Finding the Minimum Volume Ellipsoid," *Computing Science and Statistics*, Vol. 26, pp. 351-355, 1994.

J.L. Solka, C.E. Priebe, G.W. Rogers, W.L. Poston, and R.A. Lorey, "Maximum Likelihood Density Estimation with Term Creation and Annihilation," *Computing Science and Statistics*, Vol. 26, pp. 222-225, 1994.

### **Proceedings of the SPIE**

J.T. Ratnanather, C.E. Priebe, and M.I. Miller, "Semi-Automated Segmentation of Cortical Subvolumes via Hierarchical Mixture Modelling," *Proceedings of the SPIE Medical Imaging*, 2003.

C.D. Piatko, C.E. Priebe, L.J. Cowen, I.-J. Wang, and P. McNamee, "Path Planning for Mine Countermeasures Command and Control," *Proceedings of the SPIE*, Vol. 4394, pp. 836-843, 2001.

D.J. Marchette and C.E. Priebe, "Adaptive Nonlinear Dimensionality Reduction," *Proceedings of the SPIE*, Vol. 4055, pp. 140-146, 2000.

C.E. Priebe and D. Chen, "Spatial Scan Density Estimates," *Proceedings of the SPIE*, Vol. 3371, pp. 295-305, 1998.

C.E. Priebe and L.J. Cowen, "Mine Detection Via Generalized Wilcoxon-Mann-Whitney Classification," *Proceedings of the SPIE*, Vol. 3392, pp. 906-917, 1998.

C.E. Priebe, T.E. Olson, and D.M. Healy, "Exploiting Stochastic Partitions for Minefield Detection," *Proceedings of the SPIE*, Vol. 3079, pp. 508-518, 1997.

T.E. Olson, C.E. Priebe, and T.L. Olson, "Detection and Classification of Mines via Borrowed Strength," *Proceedings of the SPIE*, Vol. 3079, pp. 345-352, 1997.

G.W. Rogers, T.E. Olson, C.E. Priebe, and D.J. Marchette, "Imposed Measure Approach to Stochastic Clutter Characterization," *Proceedings of the SPIE*, Vol. 2823, pp. 13-19, 1996.

H.I. Hayes and C.E. Priebe, "Improved Texture Classification and Image Segmentation with Boundary Incorporation," *Proceedings of the SPIE*, Vol. 2485, pp. 260-267, 1995.

C.E. Priebe, J.L. Solka, and G.W. Rogers, "Discriminant Analysis in Aerial Images Using Fractal-Based Features," *Proceedings of the SPIE*, Vol. 1962, pp. 196-208, 1993.

G.W. Rogers, C.E. Priebe, and J.L. Solka, "A Filtered Kernel Probabilistic Neural Network," *Proceedings of the SPIE*, Vol. 1962, pp. 242-252, 1993.

G.W. Rogers, C.E. Priebe, and J.L. Solka, "A Probabilistic Neural Network with Reflected Kernels," *Proceedings of the SPIE*, Vol. 1962, pp. 231-241, 1993.

H.I. Hayes, J.L. Solka, and C.E. Priebe, "Parallel Computation of Fractal Dimension," *Proceedings of the SPIE*, Vol. 1962, pp. 219-230, 1993.

J.L. Solka, C.E. Priebe, and G.W. Rogers, "A Probabilistic Approach to Fractal Based Texture Discrimination," *Proceedings of the SPIE*, Vol. 1962, pp. 209-218, 1993.

K.S. Woods, J.L. Solka, C.E. Priebe, C.C. Doss, K.W. Bowyer, and L.P. Clarke, "Comparative Evaluation of Pattern Recognition Techniques for Detection of Microcalcifications," *Proceedings of the SPIE*, Vol. 1905, pp. 841-852, 1993.

P.A. Shoemaker, M.J. Carlin, R.L. Shimabukuru, and C.E. Priebe, "Least-Squares Learning and Approximation of Posterior Probabilities," *Proceedings of the SPIE*, Vol. 1515, pp. 187-196, 1991.

## Other

- D.J. Marchette, C.E. Priebe, Y. Park, D. Karakos, "Iterative Denoising for Adaptive Sensors," *Hawaii International Conference on Statistics and Related Fields*, 2006.
- D. Karakos, S. Khudanpur, J. Eisner, C.E. Priebe, "Unsupervised Classification via Decision Trees: An Information-Theoretic Perspective," *ICASSP: IEEE International Conference on Acoustics, Speech, and Signal Processing* 2005.
- J. Jovicich, M.F. Beg, S. Pieper, C.E. Priebe, M.I. Miller, R. Buckner, B. Rosen, "Biomedical Informatics Research Network: integrating multi-site neuroimaging data acquisition, data sharing and brain morphometric processing," *Proceedings of the 18th IEEE Symposium on Computer-Based Medical Systems (CBMS'05)*, Dublin, Ireland, June 23-24, 2005, pp. 288-293.
- C.E. Priebe, D. J. Marchette, Y. Park, E. Wegman, J. Solka, D. Socolinsky, D. Karakos, K. Church, R. Guglielmi, R. Coifman, D. Lin, D. Healy, M. Jacobs, A. Tsao, "Iterative Denoising for Cross-Corpus Discovery," *Proceedings of the 2004 Symposium on Computational Statistics*, Prague, August 23-27, 2004.
- K.E. Giles, D.J. Marchette, C.E. Priebe, "On the Spectral Analysis of Backscatter Data," *Hawaii International Conference on Statistics and Related Fields*, 2004.
- D.J. Marchette, C.E. Priebe, Y. Park, "Comparing Apples & Oranges: Methods for Comparing the Incomparable," *Hawaii International Conference on Statistics and Related Fields*, 2004.
- M.F. Beg, et al., "Biomedical Informatics Research Network: Multi-Site Processing Pipeline for Shape Analysis of Brain Structures," *Human Brain Mapping*, 2004.
- R. Coifman, J.G. DeVinney, D. Healy, S. Jones, D. Marchette, C.E. Priebe, J. Solka, A. Tsao, and E.J. Wegman, "Mathematical Challenges in Novel Types of Data Mining and Perceptual Support," *Virtual Worlds and Simulation Conference*, 2003.
- D.J. Marchette and C.E. Priebe, "Integrated Sensing and Processing Decision Trees," *Hawaii International Conference on Statistics and Related Fields*, 2003.
- C.E. Priebe, D.Q. Naiman, and J. Hu, "Assessing the Significance of Excursion Regions in Functional Brain Imagery via Spatial Scan Analysis and Importance Sampling," *Bulletin of the International Statistical Institute, Proceedings of the 53rd Session*, Serial No. 24, Topic No. 51, 2001.
- C.E. Priebe, J.-S. Pang and T. Olson, "Optimizing Sensor Fusion for Classification Performance," *Proceedings of the International Conference on Imaging Science, Systems, and Technology: CISST '99*, pp. 397-403, 1999.
- C.E. Priebe, "Borrowing Strength for Nonhomogeneity Detection in Digital Mammography," *Bulletin of the International Statistical Institute, Proceedings of the 51st Session, Book 2*, pp. 151-154, 1997.
- R.A. Lorey, J.L. Solka, G.W. Rogers, D.J. Marchette, and C.E. Priebe, "Promising Gains Made in Mammography Thanks to Dual-Use of Military Technology in Statistical Analysis and Image Processing," *Naval Surface Warfare Center Dahlgren Division Technical Digest*, pp. 152-165, 1996.
- C.E. Priebe, G.W. Rogers, D.J. Marchette, and J.L. Solka, "Change Point Analysis with Adaptive Mixtures," *Proceedings of the International Geoscience and Remote Sensing Symposium: IGARSS '94*, pp. 1795-1798, 1994.
- J.L. Solka, W.L. Poston, C.E. Priebe, G.W. Rogers, R.A. Lorey, D.J. Marchette, K.S. Woods, and K.W. Bowyer, "The Detection of Micro-Calcifications in Mammographic Images using High Dimensional Features" *Proceedings of the IEEE Seventh Symposium on Computer-Based Medical Systems: CBMS '94*, pp. 139-145, 1994.
- G.W. Rogers, C.E. Priebe, and E.J. Julin, "Calculation and Comparison of Fractal Dimension Distributions," *Proceedings of the Summer Computer Simulation Conference: SCSC '94*, pp. 223-229, 1994.

- E.J. Julin, G.W. Rogers, C.E. Priebe, and J.L. Solka, "Calculation of Power Law Features in the Presence of Segmentation Utilizing a Dijkstra Potential Based Algorithm," *Proceedings of the Summer Computer Simulation Conference: SCSC '94*, pp. 357-362, 1994.
- G.W. Rogers, H.H. Szu, C.E. Priebe, and J.L. Solka, "Nonparametric Density Estimation by a Self-Consistent Neural Network," *Proceedings of the International Joint Conference on Neural Networks: IJCNN '93*, pp. 2001-2004, 1993.
- G.W. Rogers, C.E. Priebe, H.I. Hayes, and J.L. Solka, "A Parallel Distributed Processing Algorithm for Power Law Features which Requires Only Nearest Neighbor Communications," *Proceedings WNN '93*, pp. 269-275, 1993.
- C.E. Priebe, "Nonparametric Maximum Likelihood Estimation with Data-Driven Smoothing," Ph.D. Dissertation, George Mason University, Fairfax, VA 1993.
- G.W. Rogers, C.E. Priebe, D.J. Marchette, and J.L. Solka, "Adaptive Mixture Neural Networks for Functional Estimation," *Proceedings WNN '92*, pp. 511-515, 1992.
- C.E. Priebe, D.J. Marchette, G.W. Rogers., and J.L. Solka, "Kernel Estimators and Mixture Models in Artificial Neural Networks," *Proceedings WNN '92*, pp. 516-523, 1992.
- J.L. Solka, C.E. Priebe, and G.W. Rogers, "An Initial Assessment of Discriminant Surface Complexity for Power Law Features Using Adaptive Mixture Neural Networks," *Proceedings WNN '92*, 1992.
- G.W. Rogers, H.H. Szu, J.L. Solka, and C.E. Priebe, "Simple Examples of Artificial Neuron Models with Internal Dynamical Degrees of Freedom," *Proceedings WNN '92*, 1992.
- "Temporal Information Processing," M.S. Thesis, San Diego State University, San Diego, CA 1988.
- C.E. Priebe, H. Everett, G. Gilbreath, S. Alderson and D.J. Marchette, "Intelligent Security Assessment for a Mobile Sentry Robot," *Proceedings Institute of Nuclear Materials Management Annual Meeting*, 1988.
- C.E. Priebe and D.J. Marchette, "An Adaptive Hull-to-Emitter Correlator," *Technical Proceedings Tri-Service Data Fusion Symposium*, 1988.
- C.E. Priebe, D.J. Marchette, and S. Alderson, "Experiences with Neural Networks at Naval Ocean Systems Center," *AI WEST Conference Proceedings*, 1988.
- C.E. Priebe and D.J. Marchette, "An Application of Neural Nets to a Data Fusion Problem," *Technical Proceedings Tri-Service Data Fusion Symposium*, 1987.
- C.E. Priebe and D.J. Marchette, "ASPRO Real Time Expert System," *9th AFCEA West Conference Proceedings*, 1986.