

CURRICULUM VITAE of Giovanni Parmigiani

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CONTACT

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EDUCATION

Ph.D. in Statistics, [Department of Statistics, Carnegie Mellon University](#), 1990.

Thesis: "Optimal Scheduling of Inspections with an Application to Medical Screening Tests."

Thesis advisor: [J. B. Kadane](#).

M.S. in Statistics, [Department of Statistics, Carnegie Mellon University](#), 1987.

B.S. (*cum laude*), in Economics and Social Sciences, [Università L. Bocconi, Milano](#), 1984.

Thesis: "Prediction Sufficiency in Statistical Decision Theory."

Thesis advisor: [D. M. Cifarelli](#).

POSITIONS

Harvard University:

Professor, [Department of Data Science, Dana Farber Cancer Institute and Department of Biostatistics, T.H. Chan School of Public Health](#) 2009–present.

Associate Director for Population Sciences, [Dana-Farber/Harvard Cancer Center](#) 2010–present.

Chair, [Department of Biostatistics & Computational Biology, Dana Farber Cancer Institute](#) 2009–2018.

Program Leader, [Dana-Farber/Harvard Cancer Center Program in Biostatistics and Computational Biology](#), 2010—2015.

Visiting Assistant Professor, [Department of Biostatistics, T.H. Chan School of Public Health and Department of Biostatistical Science, Dana-Farber Cancer Institute](#), Fall 1994.

Johns Hopkins University:

Adjunct Professor, [Department of Oncology](#), 2009—present.

Professor, [Department of Oncology](#), 2005—2009.

Director, [Bioinformatics Shared Resource, Kimmel Cancer Center](#) 2004—2009.

Associate Professor, [Department of Oncology](#), 1999—2005.

Joint appointments: [Department of Biostatistics](#) 2000—2009;

[Department of Pathology](#), 2000—2009.

Division of Health Sciences Informatics, 2006—2009.
Visiting Scholar, Department of Biostatistics, 1997—1998.

M.D. Anderson Cancer Center: Edward Rotan Visiting Professors, 2002

Duke University:
Adjunct Associate Professor, Institute of Statistics and Decision Sciences, 1999—2003
Associate Professor, Institute of Statistics and Decision Sciences, 1998—1999.
Joint appointments: Cancer Prevention, Detection and Control Program, 1996—1999.
Center for Clinical Health Policy Research, 1996—1999.
Assistant Professor, Institute of Statistics and Decision Sciences, 1991—1998.

Carnegie Mellon University: Research Scientist, Department of Statistics, 1990—1991.

Università L. Bocconi: Fellow, Institute of Quantitative Methods, Milano. 1984—1986.

HONORS AND FELLOWSHIPS

- Casty Family Award for Achievement in Mentoring, Dana Farber Cancer Institute, 2020
- Fellow of the American Association for the Advancement of Science, 2019
- Junior Faculty Mentoring Award, Harvard T.H. Chan School of Public Health, 2016
- DeGroot Prize for *Decision Theory*, by Giovanni Parmigiani and Lurdes Y T Inoue, with contributions by Hedibert Freitas Lopes, 2009
- Advising, Mentoring, and Teaching Recognition Award. Johns Hopkins School of Public Health Student Assembly, 2002
- Edward Rotan Visiting Professorship, M. D. Anderson Cancer Center, 2002
- Hecht Scholar, Johns Hopkins University, 2000
- Fellow of the American Statistical Association, 1999
- Myrto Lefkopoulou Distinguished Lecture, Harvard School of Public Health 1999.
- Biometrics ENAR Student Travel Award, 1991.
- L.J. Savage Ph.D. Thesis Award, International Society for Bayesian Analysis, 1990.
- Gavasakar Dissertation Prize, 1990.
- Graduate Student of the Year, 1990, Pittsburgh Chapter of the ASA.
- Thesis Publication Honor, 1984, Università L. Bocconi, Milano.

SOFTWARE

Ask2me [[Website](#)]

Decision support tool for precision prevention in individuals undergoing panel DNA testing for cancer susceptibility.

BayesMendel [[Website](#)]

comprehensive R environment for prediction of inherited cancer susceptibility using familial history includes the BRCA_{PRO} model for the breast/ovarian cancer syndrome, the MMR_{PRO} model for the Lynch syndrome, the MELAP_{PRO} model for inherited cutaneous melanoma and the PANCP_{PRO} model for familial pancreatic cancer;

Bioconductor Packages

[XDE](#) Multi-level model for cross-study detection of differential gene expression.

Authors: R.B. Scharpf, G. Parmigiani, A.B. Nobel, and H. Tjelmeland

Maintainer: Robert Scharpf

[MergeMaid](#) Merging and visualization tools for cross-study validation of gene expression microarray analyses.

Authors: Xiaogang Zhong Leslie Cope Elizabeth Garrett Giovanni Parmigiani

Maintainer: Xiaogang Zhong

[CANCER MUTATION ANALYSIS](#) Tools for data analysis of cancer genome sequencing studies.

Authors: Giovanni Parmigiani, Simina M. Boca

Maintainer: Simina M. Boca

[lungExpression](#) Data from three large lung cancer studies provided as ExpressionSets.

Authors: Robert Scharpf, Simens Zhong, Giovanni Parmigiani

Maintainer: Robert Scharpf

[PatientGeneSets](#) Patient-oriented analysis of mutations from cancer genome studies.

Authors: Simina M. Boca, Giovanni Parmigiani

Maintainer: Simina M. Boca

[curatedOvarianData](#) Clinically Annotated Data for the Ovarian Cancer Transcriptome.

Authors: Benjamin F. Ganzfried, Markus Riester, Steve Skates, Victoria Wang, Thomas Risch, Benjamin Haibe-Kains, Svitlana Tyekucheva, Jie Ding, Ina Jazic, Michael Birrer, Giovanni Parmigiani, Curtis Huttenhower, Levi Waldron

Maintainer: Levi Waldron

PATENTS

1. Wiles TM, Turner DJ, O'Connell MA, Parmigiani G, and Clyde MA. *System and method for analyzing susceptibility of biological samples*, for Becton, Dickinson & Co. Patents EP1160564, US6849422, CA2349043, JP2002125697. [[Patent Documents](#)]
2. Vogelstein et al *Genomic Landscapes of Human Breast and Colorectal Cancers*, for The Johns Hopkins University. Patents US2009/0123,928, WO2009049166. [[Patent Documents](#)]
3. Vogelstein et al *Genetic Alterations in Isocitrate Dehydrogenase and other Genes in Malignant Gliomas*, for the Johns Hopkins University, Patent US2012/0202,207, EP2326735, EP2546365, CN102177251, AU2009288004, CA 2736125, MX2011002409, JP2012501652. [[Patent Documents](#)]
4. Vogelstein et al *Pathways Underlying Pancreatic Tumorigenesis* for the Johns Hopkins University, Patent US2012/0115,735, EP2326734, CA2736124, JP2012501651, AU2009288097. [[Patent Documents](#)]

5. Wood et al. *Genomic Landscapes of Human Breast and Colorectal Cancers*, for The Johns Hopkins University. Patent US2013/0196312.
6. Parmigiani G, Riestler M. *Methods and Systems for the Treatment of Ovarian Cancer*, for the Dana-Farber Cancer Institute. Patent Application No PCT/US14/31295.
7. Vogelstein et al. *Genetic Alterations in Isocitrate Dehydrogenase and Other Genes in Malignant Glioma* for the Johns Hopkins University. Patent US2017/0081730 A1. US Patent #10,894,987 [[Patent Documents](#)]

PUBLICATIONS

[Link to Publications on Google Scholar](#)

Books

- [1] Parmigiani G. *Modeling in Medical Decision Making: A Bayesian Approach*. Chichester: Wiley 2002.
- [2] Parmigiani G, Garrett ES, Irizarry R, Zeger SL, eds. *The analysis of gene expression data: an overview of methods and software*. New York: Springer 2003.
- [3] Parmigiani G, Inoue LYT. *Decision Theory: Principles and Approaches*. Chichester: Wiley 2009.

Reports

- [4] Marchionni L, Wilson RF, Marinopoulos SS, Wolff AC, Parmigiani G, Bass EB, Goodman SN. Impact of gene expression profiling tests on breast cancer outcomes. *Evid Rep Technol Assess Full Rep* 1–105 Dec 2007.

Articles

- [5] Banks DL, Parmigiani G. [Pre-analysis of super large industrial data sets](#). *Journal of Quality Technology* 24; 115–129 1992.
- [6] Parmigiani G. [Minimax, information and ultrapessimism](#). *Theory and Decision* 33; 241–252 1992.
- [7] Parmigiani G. [On optimal screening ages](#). *Journal of the American Statistical Association* 88; 622–628 1993.
- [8] Muliere P, Parmigiani G, Polson NG. A note on the residual entropy function. *Probability in the Engineering and Informational Sciences* 7; 413–420 1993.
- [9] Muliere P, Parmigiani G. On quasi-means. *Utilitas Mathematica* 43; 79–87 1993.
- [10] Parmigiani G. [Optimal inspection and replacement policies with age-dependent failures and fallible tests \(stma V35 3349\)](#). *Journal of the Operational Research Society* 44; 1105–1114 1993.
- [11] Muliere P, Parmigiani G. [Utility and means in the 1930s](#). *Statistical Science* 8; 421–432 1993.

- [12] Parmigiani G. [Inspection times for stand-by units](#). *Journal of Applied Probability* 31; 1015–1025 1994.
- [13] Müller P, Parmigiani G. [Optimal design via curve fitting of Monte Carlo experiments](#). *Journal of the American Statistical Association* 90; 1322–1330 1995.
- [14] Parmigiani G. [Optimal scheduling of fallible inspections](#). *Operations Research* 44; 360–367 1996.
- [15] Carota C, Parmigiani G, Polson NG. [Diagnostic measures for model criticism](#). *Journal of the American Statistical Association* 91; 753–762 1996.
- [16] Clyde MA, DeSimone H, Parmigiani G. [Prediction via orthogonalized model mixing](#). *Journal of the American Statistical Association* 91; 1197–1208 1996.
- [17] Berry DA, Parmigiani G, Sanchez J, Schildkraut J, Winer E. [Probability of carrying a mutation of breast-ovarian cancer gene BRCA1 based on family history](#). *J Natl Cancer Inst* 89; 227–238 Feb 1997.
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- [19] Parmigiani G, Samsa GP, Ancukiewicz M, Lipscomb J, Hasselblad V, Matchar DB. [Assessing uncertainty in cost-effectiveness analyses: application to a complex decision model](#). *Med Decis Making* 17; 390–401 1997.
- [20] Matchar DB, Samsa GP, Matthews JR, Ancukiewicz M, Parmigiani G, Hasselblad V, Wolf PA, D'Agostino RB, Lipscomb J. [The stroke prevention policy model: linking evidence and clinical decisions](#). *Ann Intern Med* 127; 704–711 Oct 1997.
- [21] Dominici F, Parmigiani G, Reckhow KH, Wolpert RL. [Combining information from related regressions](#). *Journal of Agricultural Biological and Environmental Statistics* 2; 313–332 1997.
- [22] Parmigiani G. [Timing medical examinations via intensity functions](#). *Biometrika* 84; 803–816 1997.
- [23] Parmigiani G, Berry D, Aguilar O. [Determining carrier probabilities for breast cancer-susceptibility genes BRCA1 and BRCA2](#). *Am J Hum Genet* 62; 145–158 Jan 1998. PMC1376797.
- [24] Lipscomb J, Parmigiani G, Hasselblad V. [Combining expert judgment by hierarchical modeling: An application to physician staffing](#). *Management Science Journal of the Institute of Management Sciences* 44; 149–161 1998.
- [25] Lipscomb J, Ancukiewicz M, Parmigiani G, Hasselblad V, Samsa G, Matchar DB. [Predicting the cost of illness: a comparison of alternative models applied to stroke](#). *Med Decis Making* 18; S39–S56 1998.
- [26] Berry DA, Parmigiani G. [Assessing the benefits of testing for breast cancer susceptibility genes: a decision analysis](#). *Breast Dis* 10; 115–125 Apr 1998.
- [27] Clyde MA, Parmigiani G. [Protein construct storage: Bayesian variable selection and prediction with mixtures](#). *J Biopharm Stat* 8; 431–443 Jul 1998.
- [28] Petersen GM, Parmigiani G, Thomas D. [Missense mutations in disease genes: a bayesian approach to evaluate causality](#). *Am J Hum Genet* 62; 1516–1524 Jun 1998. PMC1377150.

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- [30] Clyde MA, Parmigiani G, Vidakovic B. [Multiple shrinkage and subset selection in wavelets.](#) *Biometrika* 85; 391–402 1998.
- [31] Parmigiani G. [Designing observation times for interval censored data.](#) *Sankhya A* 60; 446–458 1998.
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- [35] Parmigiani G, Berry DA, Winer EP, Tebaldi C, Iglehart JD, Prosnitz LR. [Is axillary lymph node dissection indicated for early-stage breast cancer? a decision analysis.](#) *J Clin Oncol* 17; 1465–1473 May 1999.
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- [41] Parmigiani G, Skates S. [Estimating the age of onset of detectable asymptomatic cancer.](#) *Mathematical and Computer Modeling* 33(1273); 1347–60 2001.
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- [51] Parmigiani G, Garrett ES, Anbazhagan R, Gabrielson E. [A statistical framework for expression-based molecular classification in cancers](#). *Journal of the Royal Statistical Society Series B* 64; 717–736 2002.
- [52] Parmigiani G. [Measuring uncertainty in complex decision analysis models](#). *Stat Methods Med Res* 11; 513–537 Dec 2002.
- [53] Scharpf R, Garrett ES, Hu J, Parmigiani G. [Statistical modeling and visualization of molecular profiles in cancer](#). *Biotechniques* Suppl; 22–29 Mar 2003.
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FUNDING

Training fellowship

1. Manca Fellowship for Research and Teaching at Università L. Bocconi, Milano, 1984–85 and 1985–86.

Funding at Duke

AS PRINCIPAL INVESTIGATOR OR PROJECT LEADER: ¹

2. NSF DMS-94 03818 (PI). "Bayesian Methods and Decisions for Observation Times." From 6-94 to 12-97.
3. NIH-NCI P20-CA66228-01 (PL). "Decision Models for Breast Cancer Screening." Pilot Project within "Planning a Program of Research in Early Breast Cancer" (PI: B. Rimer). From 6-94 to 6-95.
4. NSF DMS-95 0519 (PI). "Workshop on Model Uncertainty and Model Robustness" From 7-95 to 7-96.
5. NIH-NCI 95-018 (Co-PL). "Modeling Risk of Breast Cancer." Developmental Project within the Duke CPRU (P.I.: B. Rimer). From 6-96 to 6-98.
6. NIH-NCI R21-CA68438-01 (Co-PL). "Decision Models in Breast Cancer." Developmental project within the Duke SPORE in Breast Cancer (PI: D. Iglehart). From 7-96 to 7-97.
7. NIH-NCI (Co-PL). "Models for Assessing Risk of Familial Breast and Ovarian Cancer." Developmental project within the Duke SPORE in Breast Cancer (PI: D. Iglehart). From 7-97 to 7-98.
8. NSF DMS: (PI) "Workshop on stochastic model building and variable selection," From 7-97 to 7-98.
9. NIH-NCI (Co-PL in year 1, PL in year 2) "Modeling BRCA1&2 carrier probabilities." Project 4 within the Duke SPORE in Breast Cancer renewal application (PI: D. Iglehart). \$180432 requested for Project 4. From 7-98 to 7-00.
10. NIH-NCI (Co-PL). "Tamoxifen for prevention of breast cancer in genetically susceptible women." Developmental project within the Duke SPORE in Breast Cancer (PI: D. Iglehart). From 7-98 to 7-99.
11. NIH-NCI 95-018 (PL). "External Validation of the CPRU Breast Cancer Risk Prediction Model." Developmental Project within the Duke CPRU (P.I.: I. Siegler). From 6-98 to 6-99.

AS INVESTIGATOR:

12. NSF DMS-93-05699. "Mathematical Sciences Computing Resource Environments." From 6-93 to 11-95.
13. NIH-NCI 1P50-CA68438-01. "Interventions in Breast Cancer: A Decision Model." Project 4 within the Duke SPORE in Breast Cancer (PI: D. Iglehart). From 7-95 to 7-96.
14. NIH-NCI Cancer Genetics Networks. (P.I. D. Iglehart)
15. DuPont Merck. "A randomized trial of anticoagulation services for stroke prevention". 11-98 to 11-99.

¹PI: Principal investigator; PL: Project leader; CL: Core leader

AS SPONSOR OF GRADUATE STUDENTS:

16. Duke University, Arts and Sciences Research Council seed grants. 1992 (PI), 1993 (co-PI), 1994 (co-PI), 1995 (co-PI), 1996 (PI), 1998 (PI).
17. Becton Dickinson Research Center. Graduate student internship grant 1997/98 and 1998/99
18. Janssen Research Foundation. "A User-friendly Acute Stroke Treatment Model for Lubeluzole". (PI: D. Matchar) From 10-97 to 10-99.
19. Knoll Pharmaceuticals. From 9-99 to 8-00.

Funding at Johns Hopkins

AS PRINCIPAL INVESTIGATOR OR PROJECT/CORE LEADER: ²

20. NIH-NCI "Biostatistics and Bioinformatics Core" (CL) within the "Johns Hopkins SPORE in Breast Cancer" (SPORE PI: Davidson). From 00 to 12.
21. NIH-NIDDK "Biostatistics Core" (CL) within the "The Hopkins DK Center for the Analysis of Gene Expression" (Center PI Germino). From 00 to 03.
22. NIH-NCI Cancer Genetics Networks. (PL) "Validation of BRCA1&2 Carrier Probability Models" (Center PI Griffin). From 01 to 02.
23. CRFA (PI) "Risk Prediction in Familial Colon Cancer". From 01 to 03.
24. NIH-NCI P50 (PI) "Susceptibility Prediction in Familial Colon Cancer". Project 3a of "Johns Hopkins SPORE in Gastrointestinal Cancer" (SPORE PI: Kern). From 02 to 07.
25. NSF (PI) "Multi-study genomic data analysis". From 04 to 09.
26. NIH-NCI R01 (PI) "Statistical Methods for Cancer Genes". From 04 to 08.
27. NIH-NCI "Sidney Kimmel Cancer Center Bioinformatics Shared Resource" (CL) within the "Regional Oncology Research Center" (PI: Abeloff). From 06 to 11.
28. NIH-NIGMS "Pre-doctoral biostatistical training in genetics/genomics" 1T32 GM074906-01A1/B7BSCW. From 06 to 10.
29. Komen Foundation "Improvement and Validation of BRCAPRO", from 08 to 11.

AS INVESTIGATOR:

30. NIH-NCI "Regional Oncology research center" (PI's: Abeloff, Baylin). From 99 to 11.
31. NIH-NCI "Johns Hopkins SPORE in Gastrointestinal Cancer" Biostatistics core (PI: Kern, CL: Goodman). From 99 to 11.
32. NIH-NCI "High throughput genetic analysis of bladder cancer" (PI Schoenberg). From 99 to 00.
33. NIH "Applied Genomics in Cardiopulmonary Disease" (PI: Garcia). From 00 to 02.
34. ACS "Molecular Genetic Alterations in Germ Cell Tumors" (PI Perlman) From 00 to 01
35. ACS "Genetic Analysis of Pediatric Germ Cell Tumors" (PI Perlman) From 01 to 01
36. NIH-NCI "Molecular epidemiology of progression to breast cancer" (PI: Helzlsour). Project 1 within the "Johns Hopkins SPORE in Breast Cancer". From 00 to 05.
37. NIH-NCI "Molecular classification of breast cancer" (PI: Gabrielson). Project 3 within the "Johns Hopkins SPORE in Breast Cancer". From 00 to 05.
38. NIH-NCI-EDRN "Evaluating Biomarkers of Carcinogenesis" (PI: Helzlsour). From 00 to 03.

²PI: Principal investigator; PL: Project leader; CL: Core leader

39. Broad Foundation "Classification of Crohn's disease subtypes by gene expression profiles" (PI Chakravarti). From 03 to 04.
40. NIH-NIDDK R01 "Consequences of Lifetime Isolated GH Deficiency" (PI: Salvatori). From 04 to 08.
41. NIH-NCI "Phase II Imaging & Localizing Device the Barkhausen Effect" (PI: Dicello). From 06 to 08.
42. Lustgarten Foundation "Pancreatic Cancer Genome Sequencing" (PI: Vogelstein). From 07 to 09.
43. NIH-NCI "Institute for Clinical and Translational Research" (PI: Ford) 07 to 12.
44. NIH-NCI "Tools for Large-Scale Analysis of Driver Pathways" (PI: Karchin) 08 to 10.

AS CONSULTANT or MENTOR:

45. NIH "cDNA Microarrays in the Differential Diagnosis of Suspicious Thyroid Lesions" (PI: Zeiger). From 7/99 to 11/03.
46. NIH "Regulation of RHODOPSIN Gene Expression" (PI: Zack).
47. NLM "Johns Hopkins Health Sciences Informatics Training Program" (PI: Lehmann).
48. Fogarty International Center "International Collaborative Genetics Research Training Program" (PI: Jabs).
49. NIH-NIMH K01 "Bioinformatics for Gene Discovery in Psychiatric Disorders" (PI: Zandi)
50. NIH-NIAID K01 "Mutation profile analysis of HIV genetic heterogeneity" (PI: Kowalski)

Funding at Harvard

AS PRINCIPAL INVESTIGATOR OR PROJECT/CORE LEADER: ³

51. NIH/NCI (PI), R01 "Statistical Methods for Cancer Susceptibility Genes". From 04 to 10.
52. Susan G Komen Breast Cancer Foundation (PI), "Improvement and Validation of BRCAPRO". From 08 to 10.
53. NSF (PI) "Multi-study genomic data analysis". From 09 to 11.
54. NIH-NCI (PL) P30 "CCSG Administrative Program Senior Leaders". From 09 to present.
55. NIH-NCI P01 "Integrative Oncogenomics of Multiple Myeloma: Biostatistics and Bioinformatics Core" (currently CL, PI: Nikhil Munshi) from 11 to present.
56. NSF (PI) "ADT: Quantitative Methods for Estimating Sequencing Errors". From 12 to 15.
57. NIH-NCI (PI) T32 "Quantitative Sciences for Cancer Research". From 13 to present.
58. NIH-NCI (PI) R01 "Bioinformatics Tools for Genomic Analysis of Tumor and Stromal Pathways in Cancer". From 13 to 19.
59. NIH-NCI (PI) R21 "Novel Tools for Familial Risk Prediction". From 13 to 16.
60. NSF-DMS (PI) "Statistical Methods for Multi-Study Predictions". From 18 to 21.
61. NSF-DMS (PI) "Advancing Statistical Methods for Multi-Study Predictions". From 21 to 24.
62. NIH-NCI (PI) R01 "Statistical methods for cancer mutational signatures". From 21 to present.

AS INVESTIGATOR:

63. American Cancer Society, "Refining Molecular Risk Assessment in the Familial Melanoma Population" (PI: Hensin Tsao). From 09 to 10.

³PI: Principal investigator; PL: Project leader; CL: Core leader

64. NIH-NCI, R01 "Genomic Stratification of Ovarian Cancer Patients" (PI: Michael Birrer). From 10 to 13.
65. Prostate Cancer Foundation, "Shedding Light on Stromal-Epithelial Interactions in Prostate Carcinogenesis and Mortality". (PI: Massimo Loda) From 12 to 16.
66. NIH-NCI P50 "SPORE in Multiple Myeloma". (PI: Kenneth Anderson). From 13 to present.
67. NIH, R21 "Statistical Analysis Methods for Validating Risk Prediction Models". (PI: Hajime Uno) From 14 to 17.
68. NIH-NCI P01 "Host-Tumor Cell Interaction in Myeloma Therapeutic Applications". (PI: Kenneth Anderson). From 13 to present
69. Burroughs Wellcome Fund, "Development of a Biomarker Enriched Adaptive Trial for Patients with Glioblastoma" (PI: Brian Alexander) From 14 to 19.
70. NIH/NCI "Validation and Extension of the PREMM Model for Inherited Colorectal Cancer" subsequently "Development and Validation of Clinical Prediction Models for the Use and Interpretation of Multigene Hereditary Cancer Risk Assessment" (PI: Sapna Syngal). From 14 to present
71. CDC "Prevention Policy Modeling Lab" (PI: Joshua Solomon) From 16 to 20.
72. NIH-NCI R01 "Precision Assessment and Delivery of Cancer Risks in BRCA1/2 Mutation Carriers" (PI Tim Rebbeck). From 17 to present.
73. NIH-NCI R37 "Comprehensive Characterization of Prostate Stromal Gene Expression and Association with Lethal Prostate Cancer" (PIs Kathrine Penney and Svitlana Tyekucheva). From 18 to present.
74. NIH-NCI R01 "Statistical Methods and Tools for Cancer Risk Prediction in Families with Germline Mutations in TP53". (PI Wenyi Wang). From 19 to present.
75. NIH-NCI R01 "Biomarker approaches to individualizing systemic therapy for high risk prostate cancer" (PI Feng). From 20 to present.
76. NIH-NCI R01 "Statistical Methods for cancer genomics and cell-free DNA analysis" (PI Miller). From 20 to present.
77. DOD "The Genomic, Epigenomic and Quality of Life Characteristics of Long-Term Survivors of Ovarian Cancer" (PI Birrer). From 20 to present.

AS CONSULTANT or MENTOR:

78. NCI, "An Open-Source Algorithm Isolating Signatures in Microarray Data" (PI: Michael Ochs). From 08 to 10.

LECTURES

Named Lectures

1. Harvard School of Public Health, Department of Biostatistics, Myrto Lefkopoulou Distinguished Lecture, September 1999: *Breast Cancer Genes: Modeling and Medical Care*.
2. Dana-Farber Cancer Center, October 2002: Dana Farber / Frontiers of Science Annual Lecture. *Statistical challenges in expression-based molecular classification of cancer*.
3. University of California at Irvine, February 2009: Distinguished Speaker, Genetic Epidemiology Research Institute. *Risk prediction in familial cancer syndromes*.

4. MRC Biostatistics Unit, Cambridge UK, November 2013: Armitage Lectureship. Cross Study Reproducibility of Prognostic Signatures From High Throughput Genomic Data.
5. Università di Perugia, Italy, July 2015: "Top Italian Scientist" Seminar.
6. The Blaffer Lecture, M. D. Anderson Cancer Center, October 2018 *Knowledge management and decision support for commonly tested susceptibility mutations.*

Grand Rounds

7. M. D. Anderson Cancer Center, Institutional Grand Rounds, October 2002: *Breast Cancer Genes: Modeling and Medical Care.*
8. Department of Pathology, Johns Hopkins University, Nov 2006: *Familial Risk Prediction: Examples from Colon, Pancreas and Breast Cancer.*
9. Massachusetts General Hospital, Breast Program, Feb 2008: *Risk assessment in familial breast and ovarian cancer.*
10. Welch Center, Johns Hopkins University, Apr 2007: *Comparing and combining multiple microarray datasets.*
11. Medical Grand Rounds at Juravinski Cancer Centre, Ontario, Nov 2016: *Assessing Risk in Families with Cancer.*
12. Brigham and Women's Hospital Pathology Grand Rounds, Dec 2016: *Precision Genetic Risk Assessment in Cancer.*

Invited Lectures at Conferences

13. 40-th Seminar on Bayesian Inference in Econometrics and Statistics, Washington, March 1990: *Inspecting For Failures While Learning About the Failure Rate.*
14. International Research Conference in Reliability, Columbia, MS, June 1991: *Optimal Scheduling of Inspections with Applications in Reliability and Bayesian Design.*
15. 10th National Symposium of Probability and Statistics (SINAPE), Rio de Janeiro, August 1992: *Statistical Issues in Screening for Chronic Disease.*
16. Joint Statistical Meetings, Boston, August 1992: *Optimal Screening Ages.*
17. 45-th Seminar on Bayesian Inference in Econometrics and Statistics, Durham, November 1992: *Sequential Design via Curve-Fitting of Monte-Carlo Experiments.*
18. Stroke PORT Annual Meeting, Durham, December 1992: *Modeling and Estimation Strategies for Transition Probabilities.*
19. Biometric Society ENAR Spring Meeting, Philadelphia, April 1993: *Bayesian Methods in the Design of Biomedical Experiments.*
20. International Society for Bayesian Analysis annual Meeting, San Francisco, August 1993: *Introducing Bayesian Statistics to Undergraduates.*
21. Southeastern Regional Conference of Statisticians in the Health Care Industry, RTP, March 1994: *Bayesian Variable Selection and Prediction via Mixtures.*
22. Royal Statistical Society of Spain, Madrid, June 1994: *Information and Model Criticism.*
23. International Society for Bayesian Analysis annual Meeting, Alicante, June 1994: *Information and Model Criticism.*
24. 26th Symposium on the interface: Computing Science and Statistics, RTP, June 1994. *Stochastic Optimization by Curve Fitting of Monte-Carlo Experiments.*

25. IMS Workshop: Directions in Sequential Analysis, Chapel Hill, June 1994: *Stochastic Optimization by Curve Fitting of Monte-Carlo Experiments.*
26. Joint Statistical Meetings, Toronto, August 1994: *Screening: is it all in the Timing?*
27. American Statistical Association, Winter Conference, Raleigh, January 1995: *Pre-analysis of super-large data set.*
28. Fourth Conference on Model-oriented Data Analysis, Spetztes, June 1995: *Design of repeated medical exams.*
29. III World Meeting of the International Society for Bayesian Analysis, Oaxaca, Mexico, September 1995. *Prediction via Model Mixing.*
30. Biometric Society ENAR Spring Meeting, Richmond, March 1996. "New strategies for model mixing in biostatistical analysis"
31. INFORMS meeting, Washington, May 1996. *Prediction via Model Mixing.*
32. Institute for Mathematics and its Applications, Summer Program, July 1997, Minneapolis, MN. *Timing Medical Examination via Intensity Functions.*
33. Annual NIH SPORE Investigators Meeting, Rockville, MD, July 1997 *Decision model for assessing the benefits of axillary lymph node dissection (ALND) in patients with breast cancer.*
34. Fourth Workshop on Bayesian Statistics in Science and Technology: Case Studies Carnegie Mellon University, Pittsburgh, September 1997. *Modeling Risk of Breast Cancer and Decisions about Genetic Testing.*
35. Doing and Understanding Meta-analysis. Rockville, MD, October 1997. *Combining Incomplete Information on Headache Treatments.*
36. International Conference on Health Policy Research: Methodologic Issues in Health Services and Outcomes Research, Washington, DC, December 1997. *Assessing Uncertainty in Cost-Effectiveness Analyses: Application to a Complex Decision Model*
37. Bayesian Statistics VI, Valencia, Spain, June 1998. *Decision Models in Screening for breast cancer.*
38. Carcinogenesis Modeling and Risk Assessment Conference, Park City UT, July 1998. "Semiparametric Bayesian models in risk analysis".
39. Joint Statistical Meetings, Dallas, August 1998: *Toward a Comprehensive Model of Breast Cancer Risk.*
40. Joint Working Group on Methodological Issues in Clinical Trials in Radiological Screening and Related Computer Modeling, Washington, DC, January 1999: *Uncertainty in decision models of screening illustrated with examples in breast cancer and stroke.*
41. Joint Statistical Meetings, Baltimore, August 1999: *Bayesian Approaches to Sample Size Determination: Concepts, Applications and Computing.*
42. Gertrude M Cox Statistics Conference Research Triangle Institute, RTP NC, September 1999. *Bayesian decision models and the genetics of breast cancer*
43. International Workshop on Foundational Issues and Statistical Practice, Bibbiena, Italy, October 1999. *Comprehensive medical decision models: toward a new foundational paradigm?*
44. Biometric Society ENAR Spring Meeting, Chicago, March 2000. *Genetic Susceptibility and Survival: A case study in the use of surveillance data in modeling*
45. Joint Statistical Meetings, Indianapolis, August 2000: *Bayesian methods in cancer prevention and early detection.*
46. Biometric Society ENAR Spring Meeting, Charlotte, March 2001. *Breast Cancer Genes: Modeling and Medical Care*

47. ISPOR, Washington, May 2001. *Making Models Better*
48. AIRC Workshop on Genetic Epidemiology of Inherited Breast Cancer, Pisa, July 2001: *Modeling inherited susceptibility to breast cancer.*
49. Joint Statistical Meetings, Atlanta, August 2001: *Molecular Classification of Cancer Using Gene Expression.*
50. American Society of Preventive Oncology, March 2002: *How can epidemiology inform interpretation of array experiments?*
51. Biometric Society ENAR Spring Meeting, Alexandria, March 2002. *A statistical framework for expression-based molecular classification of cancer.*
52. Royal Statistical Society meeting on *Statistical modelling and analysis of genetic data*, London, May 2002: *A statistical framework for expression-based molecular classification of cancer.*
53. Annual NIH SPORE Investigators Meeting, Chantilly, VA, July 2002 *A statistical framework for expression-based molecular classification of cancer.*
54. Joint Statistical Meetings, New York, August 2002: *Assessing uncertainty in complex decision models.*
55. Workshop On High-Dimensional Data. Leiden, NL, September 2002: *A statistical framework for expression-based molecular classification of cancer*
56. American Association for Cancer Research, Boston, October 2002: *Assessing and communicating the validity of individualized model of genetic risk.*
57. San Antonio Breast Cancer Symposium, San Antonio, December 2002: *Assessing and communicating the validity of individualized model of genetic risk.*
58. Bayesian Biostatistics: Introduction and Recent Advances, Houston, January 2003: *Can Nothing Teach Us Something? Bayesian Meta-analysis of Sparse Contingency Tables.*
59. Workshop on Statistical Analysis of Gene Expression Data. Wye, July 2003: *Molecular Classification of Lung Cancer: A Cross-Platform Comparison and Validation of Gene Expression Data Sets.*
60. Joint Statistical Meetings, San Francisco, August 2003: *Generating "Hit Lists" from High-throughput Genomic Assays: Are Hierarchical Models Helping?*
61. Seventh Workshop on Bayesian Statistics in Science and Technology: Case Studies, Carnegie Mellon University, Pittsburgh, September 2003. *Bayesian multilevel and mixture models in genomic analysis.*
62. University of Florida Sixth Annual Winter Workshop: "Data Mining, Statistical Learning, and Bioinformatics", Jan 2004: *Multilevel models and gene expression data analysis.*
63. Biometric Society ENAR Spring Meeting, Pittsburgh, March 2004: *Multi-study genomic data analysis.*
64. Cancer Risk Prediction Models: A Workshop on Development, Evaluation, and Application, Bethesda, May 2004: *Susceptibility Prediction in Familial Colon Cancer.*
65. Computational Biology, Systems Biology and Bioinformatics Symposium 2004, Johns Hopkins University, Baltimore, May 2004. *Multi-study genomic data analysis.*
66. Interface 2004: Computational Biology and Bioinformatics, Baltimore, May 2004. *Mixture models in gene expression data analysis.*
67. Annual NIH SPORE Investigators Meeting, Baltimore, MD, July 2004, *Integrating and Cross-Validating Microarray Studies: an Inter-SPORE Collaboration and Resource.*
68. Joint Statistical Meetings, Toronto, August 2004: *Multi-study genomic data analysis.*

69. American Public Health Association Meeting, Washington, DC, November 2004. *Microarray studies: Can they be reproduced? Can they be combined?*
70. US FDA, Microarrays in Transcriptional Profiling Course, Rockville, DC, November 2004. *Cross-study validation of molecular markers and profiles.*
71. Joint Statistical Meetings, Minneapolis, August 2005: *Decision Theory and Genomic Experiments.*
72. Joint Statistical Meetings, Salt Lake City, August 2007: *Application of Hierarchical Models to Study Genetic and Epidemiologic Risk Factors.*
73. Conference on Design and Analysis Issues in Genomic Studies in Population Sciences, Boston, October 2007: *Statistical Methods for Mutational Analysis of Cancer.*
74. Biometric Society ENAR Spring Meeting, Crystal City, March 2008: *What is New in Gene Set Enrichment Analysis?.*
75. Conferenza in Onore di D.M. Cifarelli, Milano, June 2008: *Coherent Bayesian Model Averaging.*
76. Joint Statistical Meetings, Denver, August 2008: *Bayesian and Frequentist Multiple Testing in Cancer Genome Sequencing.*
77. Workshop on Cancer Risk Prediction, Banff, March 2008: *Risk prediction in familial cancer syndromes.*
78. AACR Meeting, Denver, March 2009: *Meet the expert session: Development, Validation, Interpretation and Clinical Implementation of statistical models for familial risk prediction.*
79. Joint Statistical Meetings, Washington, August 2009: *Gene Set Analysis as a Tool for Cross-Platform Integration in Genomics..*
80. Bayesian Biostatistics Meeting, Houston, January 2010: *Multi-study Analysis of Gene Expression: Data Exploration and Bayesian Modeling.*
81. ENAR Meeting, New Orleans, March 2010: *Using Statistics to Fight Cancer: Examples From Don Berry's Career*
82. Joint Statistical Meetings, Vancouver, August 2010: *Statistical Analysis of Somatic Changes in Cancer Genomics..*
83. AACR Meeting, Orlando, April 2010: *Statistical Issues in Somatic Mutation Studies of Cancer*
84. High Dimensional Data Workshop, Nantucket, May 2011: *Integrating Diverse Genomic Data using Gene Sets.*
85. Joint Statistical Meetings, Miami, FL, August 2011: *In Honor of Jay Kadane's 70th Birthday: Decision Theory in All Walks of Life.*
86. Conference on Risk Assessment and Evaluation of Predictions, Silver Spring, MD, October 2011: *Assessing Risk in Families with Cancer.*
87. Innovative Methods Program for Advancing Clinical Trials (IMPACT) Symposium, Chapel Hill, NC, November 2011: *Adaptive randomized trial design for patients with recurrent glioblastoma.*
88. David Blackwell Memorial Conference, Howard University, April 2012: *Blackwell's Impact on Statistics: Bayesian.*
89. AAAS Annual Meeting, Boston, MA, February 2013: *How useful is it to know your genomes?.*
90. JSM Annual Meeting, Montreal, Canada, August 2013: *Bayesian effect estimation accounting for adjustment uncertainty.*
91. Symposium on Advances in Statistical Methods for Cancer Genetic Epidemiology, New York, NY, August 2013: *Statistical modeling of somatic mutation data .*
92. Paths of Precision Medicine Symposium, Harvard School of Public Health, Boston, MA, January 2014: *Cross-study reproducibility of ovarian cancer signatures.*

93. Statistics for the Century of Data, Rutgers University Statistics Symposium, Piscataway, NJ, May 2014: *Cross-study Reproducibility of Predictions, with Application to Genomics*.
94. IMS Meeting of New Researchers in Statistics and Probability, Harvard University, August 2014: *Cross-study Reproducibility of Predictions, with Application to Genomics*.
95. JSM Annual Meeting, Boston, MA, August 2014: *Cross-study Reproducibility of Predictions, with Application to Genomics*.
96. Johns Hopkins Young investigators' Genomics & Bioinformatics Symposium, Baltimore, MD, March 2016. Keynote presentation: *Cross-study Analysis of Prediction Algorithms in Genomics*.
97. Symposium on Statistical and Computational Methods for Pharmacogenetic Epidemiology of Cancer, Memorial Sloan Kettering Cancer Center, August 11-12, 2016: *Cross-study Analysis of Prediction Algorithms in Genomics*.
98. Biostatistics Training Initiative (BTI) Distinguished Lecture, at the Ontario Institute for Cancer Research (OICR), November 4 2016: *Cross-study Analysis of Prediction Algorithms in Genomics*.
99. Symposium on "Precision medicine, Tobacco and Air Pollution Control: New Evidence, Challenges and Future Directions", INSP Cuernavaca MX, January 2017: *Precision Medicine and Precision Public Health*.
100. Sackler Colloquia of the National Academy of Sciences, Reproducibility of Research: Issues and Proposed Remedies, March 10, 2017: *New statistical approaches to reproducibility*.
101. Big Data in Life Sciences Symposium, Dartmouth College, May 23, 2017: *Cross-study analysis of predictions*.
102. Pezcoller Symposium, Trento, Italy, June 22-23, 2017: *Novel Approaches to Clinical Trial Design in Cancer*.
103. AACR annual meeting; Major symposium on "Integrative Data Science for the Precision Medicine Era", April 17 2018: *Knowledge management and decision support for commonly tested susceptibility mutations*.
104. National Cancer Policy Forum's workshop on "Improving Cancer Diagnosis and Care: The Clinical Application of Computational Methods in Precision Oncology". Washington, DC, October 29 2018: *Validation and Replicability of Prediction Algorithms in Oncology*.
105. CSHL conference on "Biological Data Science", Cold Spring Harbor, NY, November 7-10 2018: *Training replicable predictors in multiple studies*.
106. Science for Peace 2018: Global Inequalities, Milan, Italy Nov 15-16. *Big Data and Global Inequalities*.
107. Florence Center for Data Science 2019 Workshop. *Replicability Challenges in Machine Learning and Prediction*.

Colloquia

108. Stanford University, Department of Statistics, August 1990: *Optimal Design of Screening Programs*.
109. AT&T Bell Laboratories, Statistics Group, September 1990: *Problems in Optimal Scheduling of Inspections*.
110. Università L. Bocconi, Milano, Institute of Quantitative Methods, September 1990: *Problems in Optimal Scheduling of Inspections*.
111. University of Pittsburgh, Department of Biostatistics, November 1990: *Optimal Design of Screening Programs*.

112. Duke University, Institute of Statistics and Decision Sciences, February 1991:
Optimal Design of Screening Programs.
113. Ohio State University, Department of Statistics, February 1991:
Optimal Design of Screening Programs.
114. Purdue University, Department of Statistics, February 1991:
Optimal Design of Screening Programs.
115. Northwestern University, Department of Statistics, February 1991:
Optimal Design of Screening Programs.
116. Massachusetts Institute of Technology, Sloan School of Management, March 1991:
Optimal Design of Screening Programs.
117. Università degli Studi di Roma *La Sapienza*, Istituto di Statistica Probabilità e Statistiche Applicate, June 1991:
Changes in Utility as Diagnostics.
118. CNR-IAMI, Milano, June 1991:
Changes in Utility as Diagnostics.
119. Duke University, Division of Biometry, March 1992:
Optimal Design of Screening Programs.
120. University of Chicago, Graduate School of Business, April 1992:
Optimal Design of Screening Programs.
121. University of North Carolina at Chapel Hill, Department of Biometry, October 1992:
Optimal Screening Ages.
122. Duke University, Division of Biometry, April 1994:
An Overview of Bayesian Tools for Decision Modeling in Medical Guideline Development.
123. University of Minnesota, Department of Statistics and Department of Economics, April 1994:
Stochastic Optimization by Curve Fitting of Monte-Carlo Experiments.
124. University of Pavia, Dipartimento di Economia Politica, May 1994:
Stochastic Optimization by Curve Fitting of Monte-Carlo Experiments.
125. Harvard School of Public Health, Department of Biostatistics, November 1994:
Prediction via Orthogonalized Model Mixing.
126. University of Pavia, Dipartimento di Economia Politica, December 1994:
Prediction via Orthogonalized Model Mixing.
127. University of North Carolina at Chapel Hill, Department of Statistics, January 1995:
Prediction via Orthogonalized Model Mixing.
128. Purdue University, Department of Statistics, January 1996:
Computing the probability of carrying a BRCA1 mutation based on family history.
129. North Carolina State University, Department of Operations Research, April 1996:
Timing Medical Examination via Intensity Functions.
130. Politecnico di Milano, Dipartimento di Matematica e Statistica, June 1996:
Timing Medical Examination via Intensity Functions.
131. Johns Hopkins University, Department of Biostatistics, October 1997:
Determining Carrier Probabilities for Breast Cancer Susceptibility Genes BRCA1 and BRCA2.
132. University of Virginia, Department of Health Evaluation Sciences, March 1998:
Determining Carrier Probabilities for Breast Cancer Susceptibility Genes BRCA1 and BRCA2.
133. Becton Dickinson Technologies, May 1998:
Determining Carrier Probabilities for Breast Cancer Susceptibility Genes BRCA1 and BRCA2.

134. University of Utah, Huntsman Cancer Center, July 1998:
Determining Carrier Probabilities for Breast Cancer Susceptibility Genes BRCA1 and BRCA2.
135. Iowa State University, Department of Statistics, October 1998:
Modeling genetic susceptibility to breast cancer.
136. University of Pennsylvania, Department of Biostatistics and Epidemiology, October 1998:
Modeling genetic susceptibility to breast cancer.
137. University of Pennsylvania, Department of Biostatistics and Epidemiology, February 1999:
Decision Models in Screening for breast cancer.
138. University of Washington, Department of Biostatistics and Department of Statistics, February 1999:
Modeling genetic susceptibility to breast cancer.
139. Iowa State University, Department of Statistics, February 1999:
Bayesian Modeling of Genetic Susceptibility Data in Cancer.
140. University of Michigan, Department of Biostatistics, February 1999:
Modeling genetic susceptibility to breast cancer.
141. National Cancer Institute, Division of Cancer Epidemiology and Genetics, March 1999:
Modeling genetic susceptibility to breast cancer.
142. National Institute of Statistical Sciences, April 1999:
Modeling genetic susceptibility to breast cancer.
143. Johns Hopkins University, Department of Oncology, April 1999:
Modeling inherited susceptibility to breast cancer.
144. Brown University, Center for Statistical Sciences, April 1999:
Decision Models in Screening for breast cancer.
145. Johns Hopkins University, Department of Biostatistics, October 1999:
Decision Models in Screening for breast cancer.
146. M. D. Anderson Cancer Center, Department of Biostatistics, June 2000:
Breast Cancer Genes: Modeling and Medical Care.
147. Columbia University, Department of Biostatistics, January 2001:
Breast Cancer Genes: Modeling and Medical Care.
148. Johns Hopkins University, Department of Mathematical Sciences, Mar 2001:
Modeling inherited susceptibility to breast cancer.
149. University of Wisconsin, Department of Biostatistics, April 2001:
Breast Cancer Genes: Modeling and Medical Care.
150. Fox Chase Cancer Center, Department of Biostatistics, May 2001:
Breast Cancer Genes: Modeling and Medical Care.
151. Memorial Sloan-Kettering Cancer Center, Department of Biostatistics, February 2002:
Breast Cancer Genes: Modeling and Medical Care.
152. M. D. Anderson Cancer Center, Department of Biostatistics, February 2002:
Assessing uncertainty in complex decision models.
153. Harvard School of Public Health, Department of Biostatistics, October 2002:
Hierarchical Mixture Models For Unsupervised Classification Using Microarrays.
154. Johns Hopkins University, Department of Biomedical Engineering, April 2002:
Molecular Classification of Lung Cancer: A Cross-Platform Comparison and Validation of Gene Expression Data Sets.

155. University of Delaware, Delaware Biotechnology Institute, May 2003:
Molecular Classification of Lung Cancer: A Cross-Platform Comparison and Validation of Gene Expression Data Sets.
156. Yale University, Department of Biostatistics, May 2003:
Statistical Modeling and Cancer Susceptibility Genes.
157. Food and Drug Administration, Center for Biologics Evaluation and Research, May 2003:
Molecular Classification of Lung Cancer: A Cross-Platform Comparison and Validation of Gene Expression Data Sets.
158. Fred Hutchinson Cancer Research Center, November 2003:
"Multilevel Models in Genomic Data Analysis".
159. Brown University, Center for Statistical Sciences, November 2003:
Molecular Classification of Lung Cancer: A Cross-Platform Comparison and Validation of Gene Expression Data Sets.
160. Food and Drug Administration, Center for Devices and Radiological Health, January 2004:
Interpreting gene expression microarray studies.
161. Università Vita-Salute San Raffaele, Dipartimento di Biostatistica, Milan, Italy, April 2004:
Statistical Methods for Analysis of gene expression data.
162. Consiglio Nazionale delle Ricerche, Pavia, Italy, April 2004.
Genomic Analysis and Statistical Modeling.
163. Harvard School of Public Health, Department of Biostatistics, April 2004:
Microarray studies: are they reproducible? Can they be combined?.
164. University of Lancaster, Department of Mathematics and Statistics, June 2004:
Multilevel models and gene expression data analysis.
Microarray studies: are they reproducible? Can they be combined?
165. Johns Hopkins University, Department of Oncology, Translational Research Conference, February 2005:
Microarray studies: are they reproducible? Can they be combined?
166. Columbia University, Department of Statistics, April 2005:
Multilevel models and gene expression data analysis.
167. University of Rochester, Department of Biostatistics and Computational Biology, May 2005:
Microarray studies: are they reproducible? Can they be combined?
168. Ohio State University, Department of Statistics, June 2005:
Multilevel models and gene expression data analysis.
169. Rutgers University, Department of Statistics, April 2006:
Apples Oranges and Pairs: Data analytic approaches for mining multiple microarray datasets.
170. University of Maryland, Greenebaum Cancer Center, April 2006:
Multilevel models and gene expression data analysis.
171. University of Chicago, Department of Statistics, May 2006:
Mining and modeling multiple microarray datasets.
172. Università Vita-Salute San Raffaele, Dipartimento di Biostatistica, Milan, Italy, September 2006:
Risk prediction in familial cancer syndromes.
173. Johns Hopkins University, Cancer Prevention Seminar Series, October 2006:
Mutation prediction in familial cancer syndromes.
174. Harvard University, Dana Farber Cancer Institute, Nov 2006:
Risk prediction in familial cancer syndromes.

175. University of Michigan, Department of Biostatistics, Nov 2006: *Comparing and combining multiple microarray datasets.*
176. Carnegie Mellon University, Department of Statistics, Dec 2006: *Bayesian models for mutation prediction in families at high risk for cancer.*
177. Johns Hopkins University, Institute of Genetic Medicine, March 2007: *Mutation prediction in familial cancer syndromes.*
178. Towson University, Towson MD, March 2007. *Microarray studies: Can they be reproduced? Can they be combined?*
179. National Cancer Institute, Biostatistics Branch, Rockville MD, August 2007 *Risk prediction in familial cancer syndromes.*
180. Yale University, Department of Biostatistics, April 2008: *Statistical Methods for Mutational Analysis of Cancer.*
181. Johns Hopkins University, Department of Biomedical Engineering, December 2008: *Gene Set Analysis as a Tool for Cross-Platform Integration in Genomics.*
182. Harvard School of Public Health, Department of Biostatistics, September 2008: *Thinking quantitatively about cancer genes.*
183. University of Wisconsin, Department of Biostatistics, September 2008: *Thinking quantitatively about cancer genes.*
184. Harvard School of Public Health, Department of Biostatistics, September 2009: *Integrating diverse genomic data with gene sets.*
185. Dana-Farber Cancer Institute, Department of Biostatistics & Computational Biology, October 2009: *Modeling risk in families with cancer.*
186. Harvard School of Public Health Program in Quantitative Genomics, November 2009: *Cross-study Differential Gene Expression.*
187. Harvard School of Public Health, Department of Biostatistics, January 2010: *Assessing Risk in Families with Cancer.*
188. Harvard Center for Biomedical Informatics, Countway Library, July 2010: *Modeling Risk in Families with Cancer.*
189. Massachusetts General Hospital, Biostatistics Center, September 2010: *Statistical Issues in Cancer Genome Sequencing Studies.*
190. University of Massachusetts Amherst, Department of Mathematics and Statistics, November 2010: *Statistical Issues in Cancer Genome Sequencing Studies.*
191. National Human Genome Research Institute, Division of Intramural Research February 2011: *Statistical Issues in Somatic Mutation Studies of Cancer.*
192. Memorial Sloan Kettering Cancer Center, Department of Epidemiology and Biostatistics, March 2011: *Statistical Issues in Cancer Genome Sequencing Studies.*
193. Brown University, Center for Statistical Sciences, April 2011: *Statistical Issues in Cancer Genome Sequencing Studies.*
194. University of Connecticut Seminar Series, November 2011: *Bayesian Effect Estimation Accounting for Adjustment Uncertainty*
195. The University of Texas MD Anderson Cancer Center, Department of Bioinformatics and Computational Biology, January 2012: *Gene set analysis as a tool for cross-platform integration in genomics.*
196. Massachusetts General Hospital Multidisciplinary Breast Rounds, February 2012: *Breast Cancer Risk Models and Web Services.*

197. Fred Hutchinson Cancer Research Center, Division of Public Health Sciences, February 2012: *Gene Set Analysis as a Tool for Cross-Platform Integration in Genomics*.
198. University of Washington, Department of Biostatistics, March 2012: *Bayesian Effect Estimation Accounting for Adjustment Uncertainty*.
199. Harvard School of Public Health Department of Epidemiology, March 2012: *Analyzing genome-wide data by gene set: history, caveats, and recent trends*.
200. Department of Statistics, Wharton School at University of Pennsylvania, April 2012: *Bayesian Effect Estimation Accounting for Adjustment Uncertainty*.
201. Tufts Medical Center, Biostatistics Research Center, January 2013: *Statistical Issues in Cancer Genome Sequencing Studies*.
202. Center for Biomedical Informatics Seminar Series, Harvard Medical School, April, 2013: *Validation of molecular signatures in cancer*.
203. Program in Molecular and Genetic Epidemiology Seminar Series, Harvard School of Public Health, April 2013: *Evaluating the predictiveness of genomic signatures by systematic reviews and cross-study reproducibility*.
204. Clinical Investigators Seminar Series, Dana-Farber Cancer Institute, April 2013: *Validation and Clinical Utility of Genomic Signatures*.
205. Department of Biostatistics, Boston University, September 2013: *Statistical modeling of somatic mutation data*.
206. Center for Translational and Public Health Genomics, The University of Texas M. D. Anderson Cancer Center, January 2014: *Cross-study Reproducibility of Predictions, with Application to Genomics*.
207. Big Data Seminar Series, Department of Biostatistics, Harvard School of Public Health, February 2014: *Cross-study Replicability of Predictions, with Application to Genomics*.
208. Neyman Seminar Series, Department of Biostatistics, University of California at Berkeley, December 2014: *Cross-study Reproducibility of Predictions, with Application to Genomics*.
209. Computational and Systems Biology Seminar Series, UT Southwestern, December 2015: *Cross-study Analysis of Prediction Algorithms in Genomics*.
210. The MBI Colloquium, The Ohio State University, April 2016: *Cross-study Performance of Predictions, with Application to Genomics*.
211. Stanford University, Center for Population Health Sciences, September 2018 *Knowledge management and decision support for commonly tested susceptibility mutations*.
212. Università L. Bocconi, BIDSa, Dondena and IGIER Research Centers Joint Seminar, November 2018: *Training replicable predictors in multiple studies*.
213. University of Pisa, Department of Clinical and Experimental Medicine, June 2018: *Knowledge management and decision support for commonly tested susceptibility mutations*.
214. Norwegian University of Science and Technology, Department of Statistics, June 2019: *Training replicable predictors in multiple studies*.
215. Moffit Cancer Center, Department of Integrated Mathematical Oncology, September 2019: *Training replicable predictors in multiple studies*.
216. University of Florida, Department of Biostatistics, April 2021: *Validation and Replicability of Prediction Algorithms in Oncology*.

TEACHING

Program Leadership

Co-chair of Steering Committee developing the Bioinformatics MHS, School of Public Health, 2002–2004.

Courses ⁴

COURSES AT CARNEGIE MELLON:

Probability and Applied Statistics for Physical Scientists and Engineers, Summer 1987.

Statistical Concepts with Computer Applications, Summer 1988.

Engineering Statistics and Quality Control, Fall 1990 and Spring 1991.

COURSES AT DUKE:

Statistics and Data Analysis for Economics (STA110-B) Fall 1998.

- * Probability and Statistics in Engineering (STA113) Fall 1991–1993, Spring 1992–1994.

Developed *Using Probability to Learn from Data* (with M. Lavine).

Supplement on Bayesian statistics for the Undergraduate Engineering curriculum.

Statistical Inference (STA215) Spring 1994, Spring 1995.

- * Statistical Decision Theory (STA226) Spring 1992, 1993, 1998, and 1999; Fall 1995 and 1996.

Developed notes for *Decision Theory: Principles and Approaches* (with L. Inoue).

Experimental Design (STA246) Spring 1995 (co-taught).

Topics in Statistics (STA 294) Spring 1995 (co-taught).

COURSES AT JOHNS HOPKINS:

Oncology Fellows Journal Club 1999–present (statistical discussant)

- * Decision Theory for Biomedical Applications, 4th term 1999/00. [[Course Website](#)]

Taught from the book: *Modeling in Medical Decision Making*.

- * Statistics for Gene Expression, 4th term 2000/01, 2001/02 and 2002/03.

[[2001 Course Website](#)] [[2002 Course Website](#)] [[2003 Course Website](#)]

- * Statistical Topics in Genetics and Genomics, 2th term 2002/03.

Co-taught with K. Broman

- * Analysis of Biological Sequences, 2nd term 2004/04 and 2004/05.

Co-taught with S. Chen

- * Foundation of Statistics I: Decision Theory, 3rd term 2003/04, 2004/05, 2005/06 and 2006/07;
1st term 2008/09.

⁴Starred courses involved substantial course development

COURSES AT HARVARD:

- Methods for Comparative Effectiveness Research, Spring 2012
- Statistical Inference II, Spring 2015
- Freshman Seminar: My Genes and Cancer, Spring 2016, Fall 2016, Spring 2018.
- Data Analysis in Modern Biostatistics, Spring 2017, Spring 2018. Spring 2019. Spring 2021.
- Cancer Genome Data Science, Fall 2019. Fall 2020.

SHORT COURSES:

- * *Utility and Decision Making*, Università di Pavia, May 1993.

Bayesian Biostatistics: Applications to Clinical and Pharmaceutical Research. Houston, TX, January 2001;

- * *Gene Expression Data Analysis*; Graduate Summer Institute of Epidemiology and Biostatistics, JHU, 2002. [[Course Website](#)]

Gene Expression Data Analysis; Food and Drug Administration, Rockville, MD January 2004.

Genomics Data Analysis and Clinical Trials; Food and Drug Administration, Rockville, MD July 2009.

Statistical Genomics, Summer School on Modern Methods in Biostatistics and Epidemiology, Cison di Valmarino-Treviso, Italy, June 2010

Bioinformatics, Istituto di Genetica Molecolare, CNR Pavia Italy, Co-taught with L. Marchionni, July 2014

Multi-Study Biomarker Analysis, University of Florence, Department of Statistics, July 2019.

Advising

UNDERGRADUATE STUDENT ADVISING AT HARVARD:

Honor Theses

| Student | Year | Title |
|--------------------|------|---|
| Ina Jazic | 2013 | <i>Cross-Talk Analysis in Breast Cancer Tissues</i> |
| Benjamin Mu-En Hsu | 2017 | <i>Understanding the Mutation Process in Normal Cells through Simulations and Cancer Sequencing Data</i> (co-advised with Cristian Tomasetti) |
| Benjamin Glass | 2018 | <i>Accounting for Differing Feature Sets when Training Predictors in Multiple Studies</i> |
| Tessa Han | 2020 | <i>Applying Mediation Analysis to Predict Feed Forward Loops as Gene Regulatory Mechanisms in Multiple Myeloma – A Novel Statistical Approach</i> |
| Tejal Patwardan | 2020 | <i>A Method to Systematically Identify Casual Genes for Common Diseases</i> |

GRADUATE STUDENT ADVISING AT DUKE:

PhD Theses

| Student | Year | Title |
|---------------------|------|---|
| Heather DeSimone | 1996 | <i>Prediction Using Orthogonalized Model Mixing</i> |
| Fusheng Su | 1996 | <i>Limit Theorems on Deviation Probabilities with Applications in Two-Armed Clinical Trials</i> |
| Heidi Ashih | 2000 | <i>Joint Estimation of Mammographic Sensitivity and Tumor Growth</i> |
| Daniel Gudbjartsson | 2000 | <i>Multipoint Linkage Analysis based on Allele Sharing Models</i> |
| Xi "Kathy" Zhou | 2002 | <i>Classification of Missense Mutations of Disease Genes</i> |

PhD Thesis committee member of Gabriel Huerta, Lurdes Inoue and Chengchang Li.

Master Thesis supervisor of Richard Realbuto, Zhong Shen, Ying Su.

Master and PhD Thesis external member of Kerem Harmanci, Department of Electrical and Computer Engineering.

GRADUATE STUDENT ADVISING AT JOHNS HOPKINS:

PhD Theses

| Student | Year | Title |
|------------------|------|---|
| Natalie Blades | 2002 | <i>Statistical Methods for Serial Analysis of Gene Expression</i> |
| Dongmei Liu | 2005 | <i>Inference on functional classes using gene expression data</i> |
| Cristian Pattaro | 2005 | <i>Haplotype block partitioning as a tool for dimensionality reduction in complex disease modeling</i> |
| Valeria Edefonti | 2006 | <i>Integrating Supervised and Unsupervised Learning in Genomics Applications</i> |
| Hormuzd Katki | 2006 | <i>Extending Mendelian Models That Predict if One has a Disease-Causing Mutation Based on Family History of Disease</i> |
| Ainong Zhou | 2006 | <i>Bayes factors comparing two multi-normal covariance matrices and their application to microarray data analysis</i> |
| Robert Scharpf | 2007 | <i>Combining high-throughput genomic data: methods and utility</i> |
| Wenyi Wang | 2007 | <i>Statistical Methods for Cancer Risk Assessment and Copy Number Estimation</i> |
| YenYi Ho | 2009 | <i>Gene Association Networks and Higher Order Interactions: Algorithms and Statistical Models</i> |
| Simina Boca | 2011 | <i>Analysis of Cancer Genome Data</i> |

MHS Thesis supervised or co-supervised, *and areas*

Jian Wang *Comparison of classification approaches for microarray data*

MPH Thesis supervised or co-supervised, *and areas*

Rosemary Braun *Searching for differentially expressed gene-pathway combinations*

PhD Thesis committee member for Majnu John, Mary Lin, Xiaogang Zhong (Applied Mathematics and Statistics) Michelle Shardell, Rongheng Lin (Biostatistics) Sonja Berndt, Elizabeth Brown, Preeta Rajamaran, Reiko Sato (Epidemiology) Erica Breslau, Helen Meissner, Claire Snyder

(Health Care Policy and Management), Micheal Zilliox (Molecular Microbiology and Immunology), Genevieve Weber (Neurosurgery), Xiao Liu, Matthew Pletcher and Nidhi Saran (Physiology).

PhD Oral exam committee member for Majnu John, Xiaolin Wu (Applied Mathematics and Statistics) Hormuzd Katki (Biostatistics) Janine Genking, Elizabeth Brown, Preeta Rajamaran (Epidemiology) Helen Meissner (Health Care Policy and Management) Xiao Liu, Matthew Pletcher (Physiology), Jerry Cai (Genetic Medicine) and Michael Zilliox (Molecular Microbiology and Immunology).

SKCCC Cancer in the Under-Privileged Indigent or Disadvantaged summer fellowship: Ije Abejoma.

GRADUATE STUDENT ADVISING AT HARVARD:

PhD Theses

| Student | Year | Title |
|--------------------|------|--|
| Danielle Braun | 2014 | <i>Statistical Methods to Adjust for Measurement Error in Risk Prediction Models and Observational Studies</i> |
| Yifan Zhang | 2014 | <i>Bayesian Adaptive Clinical Trials</i> |
| Christina McIntosh | 2017 | <i>An Analysis of Using Pedigrees in Family Based Studies and an Exploration of Cancer Risk and Cancer Resistance Using Twin Studies</i> |
| Theodore Huang | 2019 | <i>Statistical and Machine Learning Approaches for Family History Data</i> |
| Yuqing Zhang | 2020 | <i>Statistical and Computational Methods for Understanding and Addressing Heterogeneity in Genomic Data Analysis for Personalized Medicine</i> |
| Zoe Guan | 2020 | <i>Statistical and Machine Learning Methods for Clinical Risk Prediction</i> |
| Margaux Hujoel | 2020 | <i>Statistical inferences about the genetic architecture of disease (co advised with Alkes Price)</i> |
| Maya Ramchandran | | <i>In Progress</i> |
| Gabriel Loewinger | | <i>In Progress</i> |
| Cathy Wang | | <i>In Progress</i> |
| Jane Liang | | <i>In Progress</i> |

PhD Thesis committee member of Matthew Cefalu, David Zhou, Alejandro Quiroz Zarate, Yuqing Zhang, Sarah Anoke, Claire Pernar, Ericka Ebot, Emma Schwager, Georgia Papadogeorgou, Boyu Ren, Emma Thomas, Tom Madsen, Sam Tracy, Kelly Mossesso, Matt Ploenzke, Yuxi Liu, Sarah Kalia, Eric Dunipace, Deborah Plana.

MS Thesis supervised or co-supervised, and areas

| | |
|---------------|---|
| Linying Zhang | <i>Interactions Between Multiple Myeloma Cells and Bone Marrow Stromal Cells Impart Epigenetic Profiles of Multiple Myeloma and Stoma</i> |
| Caleb Bae | <i>Variant-level Mendelian Risk Prediction Model</i> |
| Xutao Wang | <i>Investigation of ensemble learning methods and weighting strategies in multiple studies</i> |
| Yunqi Yang | <i>A Likelihood-based Approach to Assessing Frequency of Pathogenicity among Variants of Unknown Significance (VUS) in Susceptibility Genes</i> |
| Yujie Wu | <i>Multi-study Prediction with Incomplete Covariates</i> |

GRADUATE STUDENT AWARDS:

Natalie Blades:

2003: Merrell Award for outstanding research by a PhD student. Johns Hopkins School of Public Health, Department of Biostatistics.

Wenyi Wang:

2005 The June B. Culley Award for outstanding achievement in the second-year oral exam, Johns Hopkins School of Public Health Biostatistics.

2006 Travel Award for the International Genetic Epidemiology Society 15th Annual Meeting.

2006 Student Conference Fund Award at Johns Hopkins Bloomberg School of Health, The 15th Genetic Analysis Workshop.

2007: Travel Award for the 11th International Conference on Research in Computational Molecular Biology.

2008: Elected member of Phi Beta Kappa Society, Johns Hopkins University.

2008: Elected member of Delta Omega Honor Society, Alpha Chapter Johns Hopkins Bloomberg School of Public Health.

2008: The Jane and Steve Dykacz Award for outstanding student paper in medical statistics Johns Hopkins School of Public Health Department of Biostatistics.

Hormuzd Katki:

2006: Merrell Award for outstanding research by a PhD student. Johns Hopkins School of Public Health, Department of Biostatistics.

Dongmei Liu:

ENAR travel award.

Simina Boca: 2007: Glaxo SmithKline Award, for outstanding achievement on the Department of Biostatistics first-year exam.

Rob Scharpf:

2007: Merrell Award for outstanding research by a PhD student. Johns Hopkins School of Public Health, Department of Biostatistics.

Chi Wang:

Distinguished Student Paper Awards. Biometric Society, ENAR.

Valeria Edefonti:

2008: Best Doctoral thesis in Statistics. Italian Statistical Society, 2008

POSTDOCTORAL FELLOWS MENTORING AT JOHNS HOPKINS:

| Fellow | Years | Area |
|------------------|---------|---|
| Sining Chen | 2003-05 | <i>Risk prediction in familial cancer</i> |
| Qiushan Tao | 2004-05 | <i>Networks in genomics</i> |
| Jianweng Zhang | 2004-05 | <i>Genomics of resistance to chemotherapy</i> |
| Marcel Dettling | 2004-06 | <i>Multivariate Differential Expression</i> |
| Luigi Marchionni | 2005-07 | <i>Multi-study genomic data analysis</i> |
| YuChuan Tai | 2005-07 | <i>Spatial modeling of cancer-causing mutations</i> |
| Suraj Peri | 2005-07 | <i>miRNA analysis</i> |
| Betty Doan | 2005-09 | <i>Colonoscopy screening modeling</i> |
| Sierra Min Li | 2006-07 | <i>Bayesian Variable Selection</i> |
| Loris Mularoni | 2008-11 | <i>Sequence Analysis</i> |
| Jeff Leek | 2008-09 | <i>Microarray-based classification</i> |
| Corrie Joshu | 2008-10 | <i>Colorectal Cancer Risk</i> |

POSTDOCTORAL FELLOWS MENTORING AT HARVARD:

| Fellow | Years | Area |
|----------------------|---------|---|
| Svitlana Tyekucheva | 2008–11 | <i>Next Generation Sequencing</i> |
| Lorenzo Trippa | 2009–11 | <i>Bayesian Modeling</i> |
| Victoria Wang | 2010–11 | <i>Cross-Platform Genomic Integration</i> |
| Emanuele Mazzola | 2010–12 | <i>Models for in situ breast carcinomas</i> |
| Jie Ding | 2008–13 | <i>Modeling Signaling Pathways</i> |
| Cristian Tomasetti | 2011–13 | <i>Mathematical modeling of cancer evolution, drug resistance, stem cell dynamics</i> |
| Levi Waldron | 2011–13 | <i>Improving the reproducibility and robustness of conclusions drawn from high-dimensional genomic data, focusing on translational relevance</i> |
| Steffen Ventz | 2012–15 | <i>Adaptive clinical trials, next generation sequencing methodology</i> |
| Reuma Admanit | 2012–15 | <i>Ovarian cancer prognosis, AIDS research</i> |
| Naim Rashid | 2013–14 | <i>High dimensional data analysis, genomics, statistical genetics, next generation sequencing data analysis, classification, variable selection in non-independent data</i> |
| Mehmet Samur | 2013–15 | <i>Bioinformatics, Genomics and Computational Biology, Next generation sequencing and integrative data analysis, gene networks</i> |
| Danielle Braun | 2014–16 | <i>Cancer risk prediction, comparative effectiveness research, measurement error</i> |
| Alice Cleynen | 2014–15 | <i>Statistical genetics; Decision theory, survival analysis, model selection</i> |
| David Mosen Ansorena | 2015–16 | <i>Statistical analysis of high-throughput genomics; Genomic copy number analysis in cancer; Algorithmics and optimization problems</i> |
| Nathanael Fillmore | 2016–17 | <i>Machine learning, medical informatics, multiple myeloma</i> |
| Anil Aktasamur | 2016–21 | <i>Alternative splicing, multiple myeloma genomics</i> |
| Prasad Patil | 2016–19 | <i>Personalized medicine, genomic biomarker development, prediction, study reproducibility/replicability, data visualization</i> |
| Boyu Ren | 2017–20 | <i>Asymptotics of Multi-study Learning</i> |
| Marco Roncador | 2018–19 | <i>Mutational signatures, multiple myeloma genomics</i> |
| Andrea Arfé | 2019–21 | <i>Bayesian adaptive trials</i> |
| Theo Huang | 2019– | <i>Inherited Cancers and Risk Prediction</i> |

SERVICE

EDITORIAL WORK

Associate Editor, *Journal of the American Statistical Association — Theory and Methods*, 1999–2002.

Associate Editor, *Journal of the American Statistical Association — Applications and Case Studies*, 2003–2007.

Associate Editor, *Biometrics*, 2000–2002.

Editorial Board Member of *Medical Decision Making*, 1999–2005.

Editorial Board Member of *Source Code for Biology and Medicine*, 2005–present.

Book Series Editor, *UseR!*, Springer, 2004–present.

Statistical Board of Reviewing Editors (SBoRE) Member, *Science Magazine*, 2014–present.

Referee for: *American Journal of Epidemiology*, *American Journal of Human Genetics*, *Annals of Applied Statistics*, *Annals of Internal Medicine*, *Bioinformatics*, *Biometrics*, *Biometrika*, *Cancer Research*, *Clinical Chemistry*, *Computational Statistics and Data Analysis*, *Journal of Biomedical Informatics*, *Journal of the American Statistical Association*, *Journal of Econometrics*, *Journal of Statistical Computations and Graphics*, *Journal of Statistical Planning and Inference*, *Journal of the Royal Statistical Society B*, *Medical Decision Making*, *New England Journal of Medicine*, *Statistics in Medicine*.

Book reviewer for MIT Press, McMillan, Marcel Dekker, Springer, Wiley.

GRANT REVIEWS

Grant proposal reviewer for:

Alberta Heritage Foundation for Medical Research;

Department of Higher Education and Scientific Research, Italy;

National Coordinating Center for Health Technology Assessment;

CIHR, Canada Research Chairs

Swiss National Science Foundation

NIH Study Sessions:

CA-99-013 "Cancer Surveillance Modeling Network (CISNET)", 1999

NIH "Genome" Study Section, *Ad hoc* member, 2003.

NIH "Genomics, Computational Biology and Technology" Study Section, *Ad hoc* member, 2004.

NIH Special Emphasis Panel/Scientific Review Group 2007/01 ZCA1 RTRB-2. *Ad hoc* member, 2006.

NIH Special Emphasis Panel/Scientific Review Group 2008/05 ZRG1 HOP-Z (29) "Diversity Predoctoral Fellowship" *Ad hoc* member, 2008.

NIH "Epidemiology of Cancer" Study Section, *Ad hoc* member, 2007. Charter member 2008–2012.

NIH Site Visits:

P01 "Statistical Methods for Medical Studies", Fred Hutchinson Cancer Research Center, 2000.

National Science Foundation Panels

Mathematical Biology 2019

PANELS, COMMITTEES AND ADVISORY BOARDS

Member, American Cancer Society's *Breast Cancer Risk Communication* workshop and consensus statement. October 1999.

Member, NIH-NIDDK mPSA Biomarkers Consortium External Advisory Panel. 2002–2005.

Member (Chair since 2018), External Advisory Committee, The University of North Carolina-Chapel Hill Innovative Methods Program for Advancing Clinical Trials (IMPACT), 2010-present.

Member, The University of Texas M.D. Anderson Cancer Center CCSG External Advisory Board. 2010–present.

Member, Case Western University SPORE in Gastrointestinal Cancer External Advisory Board. 2009–present.

Member, External Advisory Board, R01 "Personalizing NSCLC Therapy: Exploiting KRAS Activated Pathways". 2011-2014.

Member, Steering Committee, National Brain Tumor Society Endpoints. 2012-2017.

Member, Committee on Applied and Theoretical Statistics (CATS), National Academies of Science. 2012-2015.

Member, Intelligence Science and Technology Experts Group (ISTEG), The National Academies of Sciences, Engineering, and Medicine, 2015-present.

Member, External Advisory Board, Pancreatic Cancer SPORE at UNC-Chapel Hill, 2016-present.

Member, External Advisory Board, Dana Farber Physical Science / Oncology Center. 2016-present.

Member, The Fred Hutchinson Cancer Research Center CCSG External Advisory Board. 2018–present.

Member, National Academies study committee on Assessment of Options for Managing Cancer Risks Associated with Radiation Exposure following Crewed Space Missions.

PROFESSIONAL SOCIETIES

Member of Sigma Xi, IMS, ISI, ASA, SMDM, AACR and Biometric Society.

International Biometric Society / ENAR.

Member of the ENAR Regional Advisory Board, 2000-2003.

Member of the ENAR Education Advisory Committee 2004.

American Statistical Association: Section on Risk Analysis.

Charter Member, 1995.

Publication Officer, 1998-1999.

Chair, 2002.

International Society for Bayesian Analysis

Member of the presidential nominating committee. 1995.

CONFERENCES

Ideator and organizer (with D. Draper and M. West) of the Workshop on Model Uncertainty and Model Robustness, Bath, England, June 30 and July 1, 1995.

Program Committee member of the III-rd World Meeting of the International Society for Bayesian Analysis, Oaxaca, Mexico, 29-30 September 1995.

Chair of the program committee and organizing committee of the Workshop on Stochastic Model Building and Variable Selection, Duke University, October 9 and 10, 1997.

Member of the scientific committee of the International Workshop on Foundational Issues and Statistical Practice, October 14–16, 1999 Bibbiena, Italy.

Co-organizer of the IMA Workshop on Statistical Methods for Gene Expression: Microarrays and Proteomics. Minneapolis, September 2003.

Member of the scientific committee of the Genomic Signal Processing and Statistics (GENSIPS) workshop on “Computational Techniques for Genomic Regulatory Networks”, Baltimore, May 26-28, 2004.

Member of the scientific committee of the Third Annual AACR International Conference on Frontiers in Cancer Prevention Research, Seattle, October 16-20, 2004.

Member of the scientific committee of the Second International IMS/ISBA Joint Meeting, Bormio, Italy, January 12-14, 2005.

Scientific Committee. AACR Annual Meeting 2018.

Session organizer.

1996 ENAR meetings. Richmond, VA. Invited session.

1996 Joint Statistical Meetings. Chicago, IL. Special contributed session.

1998 Joint Statistical Meetings. Dallas TX. Invited session.

1999 Joint Statistical Meetings. Baltimore MD. Invited session.

2020 ENAR meetings. Invited session.

AWARD COMMITTEES

ASA, Risk Analysis Section. Best Contributed Paper Award, 1999—2003.

ASA, Risk Analysis Section. Student Travel Award, 2001—2003.

Myrto Lefkopoulou Lecture, 2000

Savage Award Committee, 2004—2007.

SERVICE AT DUKE

Committee for the revision of the ISDS PhD curriculum. 1991/92 and 1998/99.

Committee for Ph.D. Exam, 1991/92 1992/93 and 1996/97.

Organizer of the ISDS Departmental Seminar. 1992/93 through 1994/95.

Organizer of the ISDS Student/Faculty Workshop. 1992/93 through 1994/95.

Committee for the Review of the ISDS PhD program. 1997-1998.

SERVICE AT JOHNS HOPKINS

Administration

Director, Bioinformatics Shared Resource, Kimmel Cancer Center. 2004–2009.

Committees

Organizer, Gene Expression Methodology Seminar Series, Department of Oncology, 1999–2001.

Organizer, Grand Rounds, Department of Biostatistics, 2000–2002.

Organizer, Genomics Working Group, Departments of Oncology and Biostatistics, 2001–2003.

Chair, Search Committee for Oncology Biostatistics faculty position, Department of Oncology, 2001.

Member, Search Committee for Genetic Epidemiology faculty position, Department of Epidemiology, 2001.

Member, Advisory Board for the JHMI Microarray Core Facility, School of Medicine. 2002—2009.

Chair, Steering Committee for Genomics in Public Health, School of Public Health, 2002–present.

Member, *Ad hoc* committee to evaluate the cancer prevention and control program, School of Medicine, 2002–2003.

Ad hoc member, Appointment/Promotion Committee, School of Public Health, 3 associate professor cases.

Member, Committee on information technology in research, Department of Oncology 2003–2004.

Member, Shared Resources Committee, Department of Oncology, 2003–present.

Member, Search Committee for Director of the Cancer Prevention and Control Program in the Cancer Center. 2003–2004.

Member, Search Committee for Director of Information Technology in the Cancer Center. 2004–2005.

Chair, Joint Search Committee for Bioinformatics Faculty in Oncology, Biostatistics and MMI. 2004–2005 and 2005–2006.

Member, Search Committee for Biostatistics Faculty in Oncology. 2007–2008.

SERVICE AT HARVARD

Chair, Task Force on Research Computing, DFCI Strategic Plan 2012.

Chair, Senior Faculty Search Committee, Cancer Epidemiology and Cancer Prevention, HSPH, 2014.

co-Chair, Task force on Prevention and Early Detection; DFCI Strategic Plan 2018.

Member, Executive Committee on Research, DFCI, 2009-2018.

Member, Executive Committee, DF/HCC, 2009–present.

Member, Committee of Comparative Effectiveness, HMS, 2010–2011.

Member, Subcommittee on the Degree of Doctor of Philosophy in Biostatistics, HSPH 2010–2011, 2012-2014, 2014-2015.

Member, Committee on Professional Conduct, HSPH, 2010-present.

Member, External Advisory Board, Cancer Genetics Program, DFCI, 2010.

Member, Milton Fund Committee, HU 2010-present.

Member, Scientific Council, DF/HCC 2010-present.

Member, Office for Faculty Development Advisory Committee, DFCI, 2011-present.

Member, OnCore Faculty Advisory Committee, DFCI, 2012-2013.

Member, Faculty Database Steering Committee, DFCI 2012-2018.

Member, Research Computing Working Group, DFCI, 2012-2014.

Member, Internal Advisory Board for the Harvard Cancer Prevention Education and Career Development Program, 2013-present.

Member, Claudia Adams Barr Funds Review Committee, DFCI, 2014-present.

Member, Junior Faculty Search Committee (Genetics), DFCI, 2014.

Member, Junior Faculty Search Committee (Center for Cancer Precision Medicine), DFCI, 2013-2014.

Member, Junior Faculty Search Committee (Biostatistics), CHB, 2010, 2014

Member, Junior Faculty Search Committee (Medical Oncology), DFCI, 2013-2014.

Member, Junior Faculty Search Committee (Biostatistics), HSPH, 2009-2010. 2010-2011, 2013-2014.

Member, Senior Vice President of Research Administration Search Committee, DFCI, 2013-2014

Member, Research Backfill Task Force, Dana-Farber Cancer Institute, 2013-2014.

Member, Faculty Advisory Committee of the Harvard Office for Scholarly Communication, HU 2015-present.

member, Dana-Farber Cancer Institute Award Nomination Committee, 2014—present.

Member, Casty Award Selection Committee 2013—present.

Member, Medical Oncology Chair Search Committee, DFCI, 2017.

Member, Junior Faculty Search Committee (Biomedical Informatics), DFCI and HMS, 2017.

Member, Dana-Farber Cancer Institute Office of Faculty Affairs faculty Advisory Board, 2015—present

Member, Dana-Farber Cancer Institute Committee for Women Faculty, 2018—present

Member, Dana-Farber Cancer Institute Strategic Planning Committee (Cancer Prevention), 2018—present.

Member, Steering Committee, The Zhu Family Center for Global Cancer Prevention, Chan School of Public Health, 2018—present.

Member, Dana-Farber Cancer Institute Promotion Committee, 2019—present.

Member, Early Career Faculty Development Fund: Review Committee. 2019—present.

EXTERNAL ACTIVITIES

Consultant, Italian Association of Machine-tool Producers (UCIMU), Milan, Italy, 1985—1986.

Consultant, Lombardy's Institute of Regional Research (IRER), Milan, Italy, 1985—1986.

Consultant, Institute for Social Research, Milan, Italy, 1985—1986.

Consultant, PPG Industries, Pittsburgh, PA 1989—1991.

Consultant, Becton Dickinson Technologies, RTP, 1997—1999.

Consultant, Requisite Consulting, Chapel Hill, 1999–2000.

Consultant, RTI, Research Triangle Park, 2009.

Member, Scientific Advisory Board, Counsyl, 2007–2018

Member, Scientific Advisory Board, CRA Health 2010–present.

Book Series Editor, UseR, Springer, 2010-present.

Consultant, Dainippon Sumitomo Pharma Co Ltd, 2014.

Consultant, Metamark, Boston, 2014.

Member, Scientific Advisory Board, Konica-Minolta Precision Medicine, 2018–present.

Co-founder and Chair of Scientific Advisory Board, Phaeno Biotechnology, 2018–present.

Member, Data Safety Monitoring Board, DETECT Study, Geisinger, 2018—present.

Consultant, Biogen, 2019—2020.

Expert witness, Gibson, Dunn & Crutcher LLP 2019.

Expert witness, Turner Boyd. 2019—2020.

Consultant, Delfi Diagnostics, 2020—present.