

## CURRICULUM VITAE

Kevin Dobbin

### ADDRESS

College of Public Health  
University of Georgia  
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### EDUCATION

2001 Ph.D. University of Minnesota at Twin Cities, Minnesota, in Statistics  
1996 B.A. University of Colorado at Boulder, Colorado, in Mathematics  
1987 B.A. St. John's College, Santa Fe, New Mexico, Great Books Program

### PROFESSIONAL EXPERIENCE

2015- Associate Professor of Biostatistics, College of Public Health, University of Georgia, Athens  
2009-2015 Assistant Professor of Biostatistics, College of Public Health, University of Georgia, Athens  
2002-2008 Mathematical Statistician, National Cancer Institute, National Institutes of Health  
2001-2002 Postdoctoral Fellow, National Cancer Institute, National Institutes of Health  
1999-2001 Research Assistant, Minnesota Epilepsy Group, P.A., St. Paul  
1998-2001 Lecturer, Department of Statistics, University of Minnesota, Twin Cities  
1996-1998 Teaching Assistant and Research Assistant, University of Minnesota, Twin Cities

### HONORS AND AWARDS

2009-2014 Distinguished Cancer Scholar, Georgia Cancer Coalition  
2007 Performance Award, National Institutes of Health  
2003 Performance Award, National Institutes of Health  
2001-2002 Cancer Research Training Award, National Institutes of Health

2000	Student Paper Award, International Biometric Society, Eastern North American Region
1999-2001	Scholarship, College of Liberal Arts, University of Minnesota
1995-1996	J. Tour Scholarship in Mathematics, College of Arts and Sciences, University of Colorado

## **PROFESSIONAL ACTIVITIES**

### **Memberships**

American Statistical Association  
The International Biometric Society, Eastern North American Region (ENAR)

### **Consulting, review and advisory**

National Cancer Institute's (NCI's) Cooperative Prostate Cancer Tissue Resource (2002-6)  
Colon Cancer Working Group of the NCI's Program for the Assessment of Clinical Cancer Tests (PACCT) (2004-8)  
Biomarkers Task Force of the NCI's Investigational Drug Steering Committee for the Clinical Trials Evaluation Program (2006-8)  
Ad hoc transition committees for R21/R33 grants in the NCI's Cancer Diagnosis Program (2002-8)  
NCI's Clinical Trials Evaluation Program Concept Review Committees (correlative studies, 2002-8)  
NCI's Clinical Trials Evaluation Program Protocol Review Committees (correlative studies, 2002-8)  
NCI's Lung Cancer Intergroup correlative study review committee (2007-8)  
NCI's Colon Cancer Intergroup correlative study review committee (2007-8)  
NCI's Childhood Cancer Therapeutically Applicable Research to Generate Effective Treatments (TARGET), Childhood Acute Lymphocytic Leukemia Pilot Project (2006-8)  
Scientific Committee for the 2008 ASCO-NCI-EORTC Annual Meeting on Molecular Markers in Cancer (2008)  
Statistical consultant, TMA design, National Cancer Institute Tissue Arrays Research Project (TARP)  
Ad hoc reviewer, National Cancer Institute's Thoracic Malignancy Steering Committee (TMSC) (2011)  
Organizing Committee, National Cancer Institute Workshop on Criteria for Use of Omics-Based Predictors in Clinical Trials (2011)  
Ad hoc reviewer, The Netherlands Organisation for Health Research and Development, Vidi Program (2012)  
Ad hoc reviewer, Medical Research Council, United Kingdom (2014)  
Member, Biomarkers Task Force Working Group, Society for Immunotherapy of Cancer (SITC) (2014-2015)  
Reviewer, NCI Assay Validation for High Quality Markers (UH2/UH3) Panel (2015)  
Member, NCI Cancer Biomarker Development and Validation Review Panel (2015)

Member, Society for Immunotherapy  
External Reviewer, National Cancer Trials Network Biospecimen Banks

### **University Service**

- 2009- Biostatistics Curriculum Committee, Department of Epidemiology and Biostatistics, University of Georgia
- 2009- Biostatistics MPH Admissions Committee (Chair 2010-present), Department of Epidemiology and Biostatistics, University of Georgia
- 2009-2011 Undergraduate Minor in Public Health Committee, College of Public Health, University of Georgia
- 2010 Recommendation for Faculty Promotion Review, Queens University, Ontario, Canada
- 2013- Awards Committee, College of Public Health, University of Georgia
- 2014- Biostatistics Ph.D. and M.S. Admissions Committee, Department of Epidemiology and Biostatistics, CPH, University of Georgia
- 2014- MPH Curriculum Revision Committee, College of Public Health, University of Georgia
- 2013- Libraries Committee, University of Georgia
- 2015-2016 GRU/UGA Clinical and Translational Research Unit (CTRU) Seed grant proposal reviewer.
- 2015- Member, Scientific Advisory Committee, Clinical and Translational Research Unit, University of Georgia
- 2017- Co-Director, Biostatistics, Epidemiology and Research Design (BERD) Core at the University of Georgia
- 2018- Chair, Biostatistics MS/PhD Qualifying Exams Committee, Department of Epidemiology and Biostatistics

### **Other University Activities**

- 2009- Associate Member, Biomedical and Health Science Institute, University of Georgia
- 2009- Member, Institute of Bioinformatics, University of Georgia

### **Journal Editorial/Consulting**

- 7/2009-7/2017 Associate Editor, Biometrics
- 7/2012-8/2017 Associate Editor, Scandinavian Journal of Statistics
- 8/2013-6/2017 Statistical Consultant, Nature Journals Publishing Group
- 2/2014 Guest Editor, Cancer Informatics
- 2014-2017 Statistical Editor, Journal of the National Cancer Institute (JNCI)
- 2017- Member, Editorial Board, JNCI and JNCICS

### **Journal Referee**

Journal of the National Cancer Institute  
Journal of Clinical Oncology  
Clinical Cancer Research

Bioinformatics  
Biostatistics  
Statistics in Medicine  
Journal of the Royal Statistical Society, Series C, Applied Statistics  
Journal of the American Statistical Association  
Annals of Applied Statistics  
PLoS One  
Physiological Genomics  
Journal of Statistical Planning and Inference  
Statistical Applications in Genetics and Molecular Biology  
American Statistician  
Journal of Clinical Epidemiology  
Genomics  
Biotechniques  
Pharmacogenomics  
Molecular Medicine  
Journal of Chemometrics  
Gastroenterology  
Cancer Informatics  
Gynecologic Oncology  
Journal of Biotechnology  
Biomed Central (BMC) Bioinformatics  
Biomed Central (BMC) Genomics  
Biomed Central (BMC) Cancer  
Expert Reviews of Molecular Diagnostics  
Biometrical Journal  
Biopreservation and Biobanking  
Functional and Integrative Genomics  
Journal of Translational Medicine  
Australian Journal of Experimental Agriculture

## **Grant Review**

Ad hoc for National Science Foundation  
Ad hoc for Collaborative Grant Competition of the City University of New York.  
Modeling and Analysis of Biological Systems (MABS) Study Section, Center for Scientific Review, National Institutes of Health (June 2003)  
Cancer Biomarkers Study Section (CBSS), Center for Scientific Review, National Institutes of Health (June 2009, October 2009)  
Recovery Challenge Grant Study Section, Center for Scientific Review, National Institutes of Health (July 2009)  
Georgia Cancer Coalition Grant Applications Reviewer (Fall 2010)  
Member, National Cancer Institute, Clinical Assay Development Program, Special Emphasis Panel, 2011-2014.  
Special Emphasis Panel (Assay Validation for High Quality Markers), National Institutes of Health, Scientific Review Group, Z2015/10 ZCA1 RPRB-B(01) (July 2015)

Special Emphasis Panel/Scientific Review Group 2016/10 ZCA1 TCRB-Q (O3) B,  
National Institutes of Health, PLCO Biospecimens Resource  
Special Emphasis Panel/Scientific Review Group 2017/01 ZCA1 SRB-2 (J1) S, National  
Institutes of Health  
Special Emphasis Panel/Scientific Review Group 2017/07, National Institutes of Health.

### **Postdoctoral Training**

- 2004 Genomics: Experimental and Computational Methods: FAES Graduate School,  
NIH, Bethesda, MD
- 2003 DNA Microarrays: Fabrication and Application: The Foundation for Advanced  
Education in the Sciences (FAES) Graduate School, National Institutes of Health,  
Bethesda, MD

### **COMMUNITY SERVICE**

- 2009-2015 Court Appointed Special Advocate (CASA) for Children, CASA Program  
of Clarke-Oconee County, Athens, GA
- 2005-2008 Court Appointed Special Advocate (CASA) for Children, CASA Program  
of Frederick County, Frederick, MD
- 2001-2005 Court Appointed Special Advocate (CASA) for Children, CASA Program  
of Montgomery County, Rockville, MD
- 1996-1997 Volunteer, Arthritis Foundation, Minneapolis, MN
- 1994-1996 Volunteer, Arthritis Foundation, Denver, CO
- 1994-1995 Volunteer, Boulder Arts Commission, Boulder, CO

### **CLASSROOM TEACHING**

Biostatistics for Public Health Service (BIOS 2010-2010L)  
Introductory Biostatistics I (BIOS 7010)  
Survival Analysis (BIOS 6380)  
Clinical Trials (BIOS 8220)  
Regression and Analysis of Variance (BIOS 8010)  
(Guest Lecturer) Introduction to Bioinformatics (BINF 6001)  
(Guest Lecturer) Biomarkers: Public Health, Clinical, and Environmental  
Toxicology Applications (EHSC 8250)

### **STUDENT FUNDING**

- 2009-2010 David Benkeser, Graduate Assistant
- 2010-2013 Stephanie Cooke, Graduate Assistant

2011-2014 Sandra Esi Addo, Graduate Assistant  
 2011-2014 Alexei Ionan, Graduate Assistant

## EXAM COMMITTEES

2010-2012	Jeannie Daniel, M.P.H. Advisor (Awarded 2012)
2010-2011	John Parmer, Ph.D. Exam Cmte (HPB, Awarded 2011)
2010-2011	Jeff Cook, Ph.D. Cmte (HPB)
2010-2012	Stephanie Cook, M.S. Advisor (Statistics, Awarded 2012)
2010-2012	Hannah Jackson, Ph.D. Exam Cmte (HPB, Awarded 2012)
2010-2013	Adeya Powell, M.S. Co-Advisor (Statistics, Awarded 2013)
2010	Stephanie Cooke, Lab Rotation, Institute of Bioinformatics
2011-2014	Sandra (Addo) Safo, Ph.D. Co-Advisor (Statistics)
2011-2013	Wenjuan Zhang, Ph.D. Exam Cmte (Bioinformatics, Awarded 2013)
2011-2014	Deli Liu, Ph.D. Exam Cmte (Bioinformatics)
2012-2013	Juliet Sekandi, Dr.P.H. Exam Cmte (Epidemiology, Awarded 2013)
2010-2015	Dean Meyer, Ph.D. Exam Cmte (EHS)
2012-2014	Haileab Halifu, Ph.D. Exam Cmte (Statistics)
2012-2014	Nan Zhang, Ph.D. Exam Cmte (Statistics)
2014-2018	Edward Abdul Sheriff, Ph.D. Exam Cmte (Epidemiology)
2014-2016	Qian Kuang, M.S., Advisor (Statistics)
2015-	Jin Wang, Ph.D. Exam Cmte (Bioinformatics)
2015-2016	Joseph Allegra, Ph.D. Exam Cmte (Epidemiology)
2015-2018	Tianfang Wang, Ph.D. Exam Cmte (Bioinformatics)
2015-2018	Henok Woldu, Ph.D. Advisor (Biostatistics)
2015-	Ye Wang, Ph.D. Exam Cmte (Biochemistry)
2015-2016	Son Nguyen, M.P.H. Advisor (Biostatistics)
2016-	Joshua Lee Watson, Ph.D. Exam Cmte (Bioinformatics)
2015-2017	Chao Li, Ph.D. Exam Cmte (Biostatistics)
2015-2016	Israel Agaku, Ph.D. Exam Cmte (Epidemiology)
2015-	Robert Kakaire, Ph.D. Exam Cmte (Epidemiology)
2015-	Sarah Byers, Ph.D. Exam Cmte (Biostatistics)
2015-2016	Ben Hallowel, Ph.D. Exam Cmte (Epidemiology)
2014-2017	Alexei Ionan, Ph.D. Exam Cmte (Statistics)
2016-2017	Georgianna L.T. Campbell, M.S. Advisor (Biostatistics)
2017-	Yuan Feng, Ph.D. Exam Cmte (Bioinformatics)
2016-2017	William Lindblad, M.S. Advisor (Biostatistics)
2017-2017	Xiaoyan (Yana) Tan, M.S. Exam Cmte (Biostatistics)
2017-	Kyle Turner, Ph.D. Exam Cmte (Educational Psychology)
2017-2018	Feng Zhang, M.S. Exam Cmte (Biostatistics)
2017-2018	Yujia Cheng, M.S. Exam Cmte (Biostatistics)
2018-	Hulya Kocyigit, Ph.D. Advisor (Biostatistics)
2017-	Joshua Lee Watson, Ph.D. Exam Cmte (Bioinformatics)
2017-	Maria Eugenia Castellanos Reynosa, Ph.D. Exam Cmte (Epidemiology)

## **PUBLICATIONS**

### **Publications pending**

1. Murph M, Liu, S, Jia W, Nguyen H, MacFarlane M, Smyth S, Dobbin K (revised) Diet-regulated behavior: FVB/N mice fed a lean diet exhibit increased nocturnal bouts between littermates.
2. Dobbin KK and McShane LM (submitted) Sample size methods for validation of predictive biomarkers.
3. Woldu HG and Dobbin KK (submitted) Sample size estimation for evaluating biomarker clinical utility: a predictive biomarker and binary endpoint. *Journal of Biopharmaceutical Statistics*.
4. Song X and Dobbin KK (submitted) Evaluating biomarkers for treatment selection from reproducibility studies.
5. Dale AP, Ebell M, McKay B, Handel A, Forehand R, Dobbin K (in press) Impact of a rapid point of care PCR test for influenza on guideline consistent care and antibiotic use. *Journal of the American Board of Family Medicine*.

### **Peer reviewed Journal Articles**

1. Wang J, Wang T, Sun Y, Feng Y, Kisseberth WC, Henry CJ, Mok I, Lana SE, Dobbin K, Northrup N, Howerth EW, Zhao S (2018) Proliferative and invasive colorectal tumors in pet dogs provide unique insights into human colorectal cancer. *Cancers*, 10(9): 330.
2. Zhang M, Liu D, Tank J, Feng Y, Wang T, Dobbin KK, Schliekelman P, Zhao S (2018) SEG – A software program for finding somatic copy number alterations in whole genome sequencing data of cancer. *Computational and Structural Biotechnology Journal*. <https://doi/10.1016/j.csbj.2018.09.001>.
3. Masucci G, Cessano A, Eggermont A, Fox BA, Ciliberto G, Marincola F, Wand E, Dobbin K, Puzanov I, Taube J, Wargo J, Butterfield L, Villabona L, Thurin M, Postow MA, Sondel PM, Demaria S, Agarwala S, Ascierto PA (2017) The need for a network to establish and validate predictive biomarkers in cancer immunotherapy. *Journal of Translational Medicine*, 15(1): 223.
4. Dobbin KK and Ebell MH (2018) Should we expect all-cause mortality reductions in large screening studies? *British Journal of General Practice*, 68 (671): 290-291.

5. Kuppa SS, Jia W, Liu S, Nguyen H, Smyth SS, Mills GB, Dobbin KK, Hardman WJ, Murph MM (2018) Autotaxin exacerbates tumor progression by enhancing MEK1 and overriding the function of miR-489-3p. *Cancer Letters*, 3835 (18): 30370-30377.
6. Meyer D, Birdsey J, Wendolowski M, Dobbin K, Williams P (2016) Differential toxicities of nickel salts to the nematode *Caenorhabditis elegans*. *Bulletin of Environmental Contamination and Toxicology*, 97: 166-170.
7. Masucci GV, Alvarez J, Cesano A, Dobbin KK, Hawtin R, Janetzki S, Kirsch I, Robbins PB, Selvan sSR, Streicher HZ, Zhang J, Butterfield LH, Thurin M (2016) Validation of biomarkers to predict response to immunotherapy in cancer, Volume 1: Pre-analytical and analytical validation. *Journal for ImmunoTherapy of Cancer*, 4(1).
8. Dobbin KK\*, Cesano A\*, Alvarez J, Hawtin R, Janetzki S, Kirsch I, Masucci GV, Robbins PB, Selvan SR, Streicher HZ, Zhang J, Butterfield LH, Thurain M (2016) Validation of biomarkers to predict response to immunotherapy in cancer, Volume II: Clinical validation and regulatory considerations. \*These authors contributed equally to this work. *Journal for ImmunoTherapy of Cancer*, 4(1).
9. Dobbin KK (2015) Immune Monitoring Technology Primer: Clinical Validation for Predictive Markers. *Journal for ImmunoTherapy of Cancer*, 3(1): doi: 10.1186/s40425-015-0086-9.
10. Liu D., Xiong H., Ellis A.E., Northrup N.C., Dobbin K.K., Shin D.M., Zhao S. (2015) Canine spontaneous head and neck squamous cell carcinomas represent their human counterparts at the molecular level. *PLoS Genetics*, 11(6), doi: 10.1371/journal.pgen.1005277.
11. Safo S., Song X. and Dobbin K.K. (2015) Sample size determination for training cancer classifiers from microarray and RNAseq data. *Annals of Applied Statistics*, 9(2): 1053-1075.
12. Sekandi J.N., Dobbin K.K., Oloya J., Okwera A., Whalen C.C., Corso P.S. (2015) Cost-effectiveness analysis of community active case finding and household contact investigation for tuberculosis case detection in urban Africa. *PLoS ONE*, 10(2). DOI: 10.1371/journal.pone.0117009.
13. Dobbin K.K. and Ionan A.C. (2015) Sample size methods for constructing confidence intervals for the intra-class correlation coefficient. *Computational Statistics and Data Analysis*, 85: 67-83. DOI: 10.1016/j.csda.2014.11.010. <http://www.sciencedirect.com/science/article/pii/S0167947314003338>.
14. Ionan A.C., Polley M.C., McShane L.M., Dobbin K.K. (2014) Comparison of confidence interval methods for an intra-class correlation coefficient (ICC). *BMC Medical Research Methodology*, 14:121. DOI: 10.1186/1471-2288-14-121.
15. Ahn J., Lee J., Dobbin K.K., (2014) Covariance adjustment for batch effect in gene expression data. *Statistics in Medicine*, 33: 2681-2695.
16. Sekandi J.N., List J., Luzze H., Yin X., Dobbin K.K., Corso P.S., Oloya J., Okwera A., Whalen C.C. (2014) The yield of undetected tuberculosis and human



- immunodeficiency virus from active case finding in urban Uganda. *The International Journal of Tuberculosis and Lung Disease*, 18(1): 13-19.
17. Dobbin K. K. and Song X. (2013) Sample size requirements for training high-dimensional risk predictors. *Biostatistics*. 14: 639-652.
  18. Robb C, Extermann M, Jacobsen P, Lee A, Dobbin K (2013) Health and personal resources in older cancer patients undergoing chemotherapy. *Journal of Geriatric Oncology*. 4(2): 166-173.
  19. Lawrence J, Saba C, Gogal R Jr, Lamberth O, Vandenplas ML, Hurley DJ, Dubreuil P, Hermine O, Dobbin K and Turek M (2012) Masitinib demonstrates antiproliferative and proapoptotic activity in primary and metastatic feline injection-site sarcoma cells. *Veterinary and Comparative Oncology*. 10(2): 143-154.
  20. Dobbin K. K. and Cooke S. (2011) Lower confidence bounds for prediction accuracy in high dimensions via AROHIL Monte Carlo. *Bioinformatics*, 27: 3129-3134.
  21. Dobbin K. K. and Simon R.M. (2011) Optimally splitting cases for training and testing high dimensional classifiers. *BMC Medical Genomics*, 4:31.
  22. Harvey R.C., Wang X., Davidson G.S., Ar K., Dobbin K.K., Bedrick E., Chen I.M., Wilson C.S., Wharton W., Atlas S.R., Hunger S.P., Davidas M., Pullen, J., Carroll A.J., Borowitz, M.J., Bowman W.P., Carroll W.L., Camitta B., Reaman G.H., Bhojwani D., and Willman C.L. (2010) Identification of novel cluster groups in pediatric high risk B-precursor Acute Lymphoblastic Leukemia by gene expression profiling: Correlation with genome-wide DNA copy number alterations, clinical characteristics, and outcome. *Blood*: 116(23): 4874-4884. PMID: 20699438.
  23. Harvey R.C., Mullighan C.G., Chen I, Wharton W., Mikhail F.M., Carroll A.J., Kang H., Liu W., Dobbin K.K., Smith M.A., Carroll W.L., Davidas, M., Bowman W.P., Camitta B., Reaman G.H., Hunger S.P., Downing J.R., Willman C.L. (2010) Rearrangement of CRLF2 is associated with mutation of JAK kinases, alteration of IKZF1, Hispanic/Latino ethnicity and a poor outcome in pediatric B-progenitor acute lymphoblastic leukemia. *Blood*: 115(26): 5312-21. PMID: 20139093.
  24. Dancey J.E., Dobbin K.K., Grever M.R. Groshen S., Jessup J.M., Koehler M., Shankar L.K. Stadler W.M., True L.D., Gravel A. on behalf of the Biomarker Task Force of the NCI Investigational Drug Steering Committee (2010) Guidelines for the development and incorporation of biomarker studies in early clinical trials of novel agents. *Clinical Cancer Research*, 16(6): 1745-55.
  25. Dobbin, K.K. (2009) A method for constructing a confidence bound for the actual error rate of a prediction rule in high dimensions. *Biostatistics*. 10: 282-296.
  26. Shedden K., Taylor J.M., Enkemann S.A., Tsao M.S., Yeatman T.J., Gerald W.L., Eschrich S., Jurisica I., Giordano T.J., Misek D.E., Chang A.C., Zhu C.Q., Strumpf D., Hanash S., Shepherd F.A., Ding K., Seymour L., Naoki K., Pennell

- N., Weir B., Verhaak R., Ladd-Acosta C., Golub T., Gruidl M., Sharma A., Szoke J., Zakowski M., Rusch V., Kris M., Viale A., Motoi N., Travis W., Conley B., Seshan V.E., Meyerson M., Kuick R., Dobbin K.K., Lively T., Jacobson J.W., Beer D.G. (2008) Gene expression-based survival prediction in lung adenocarcinoma: a multi-site, blinded validation study. *Nature Medicine*, 14(8): 822-7.
27. Dobbin, K.K., Zhao, Y. and Simon, R.M. (2008) How large a training set is needed to develop a classifier for microarray data? *Clinical Cancer Research*, 14: 108-114.
  28. Kajdacsy-Balla A, Geynisman JM, Macias V, Setty S, Nanaji NM, Berman JJ, Dobbin K, Melamed J, Kong X, Bosland M, Orenstein J, Bayerl J, Becich MJ, Dhir R, Datta MW and the Cooperative Prostate Cancer Tissue Resource (2007) Practical Aspects of Planning, Building and Interpreting Tissue Microarrays: The Cooperative Prostate Cancer Tissue Resource Experience. *Journal of Molecular Histology*, 38: 113-21.
  29. Dobbin, K.K. and Simon, R.M. (2007) Sample size planning for developing classifiers using high dimensional DNA microarray data. *Biostatistics*, 8: 101-117.
  30. Dobbin, K.K., Shih, J.H. and Simon, R.M. (2005) Comment on 'Evaluation of the gene-specific dye bias in cDNA microarray experiments'. *Bioinformatics*, 21, 2803-2804.
  31. Dobbin, K.K., Kawasaki, E.S., Petersen, D.W., and Simon, R.M. (2005) Characterizing dye bias in microarray experiments. *Bioinformatics*, 21: 2430-2437.
  32. Dobbin, K., Beer, D.G., Meyerson, M., Yeatman, T., Gerald, W., Jacobson, J., Conley, B., Buetow, K., Heiskanen, M., Simon, R., Minna, J., Girard, L., Misek, D., Taylor, J., Hanash, S., Naoki, K., Hayes, D. N., Ladd-Acosta, C., Enkemann, S., Viale, A., Giordano, T. (2005) Inter-laboratory comparability study of cancer gene expression analysis using oligonucleotide microarrays. *Clinical Cancer Research*, 11: 565-72.
  33. Datta, M.W., Dhir, R., Dobbin, K., Melamed, J., Becich, M.J., Orenstein, J.M., Kajdacsy-Balla, A.A., Bosland, M.C., Patel, A., Macias, V., Berman, J.J., and the Cooperative Prostate Cancer Tissue Resource (2005) Prostate cancer in patients with screening serum PSA values less than 4.0 ng/dl: Results from the Cooperative Prostate Cancer Tissue Resource . *Journal of Urology*, 173: 1546-1551.
  34. Dobbin, K. and Simon, R. (2005) Sample Size Determination in Microarray Experiments for Class Comparison and Prognostic Classification. *Biostatistics*, 6: 27-38.
  35. Shih, J., Michalowska, A., Dobbin, K., Ye, Y., Qiu, T. and Green, J. (2004) Effects of pooling mRNA in microarray class comparisons. *Bioinformatics*, 18: 3318-3325.

36. Berman, J.J., Datta, M., Kajdacsy-Balla, A., Melamed, J., Orenstein, J., Dobbin, K., Patel, A., and Dhir, R. (2004) The tissue microarray data exchange specification: implementation by the Cooperative Prostate Cancer Tissue Resource. *BMC: Bioinformatics*, 5: 19.
37. Dobbin, K., Shih, J. and Simon, R. (2003) Questions and Answers on Design of Dual-label Microarrays for Identifying Differentially Expressed Genes. *Journal of the National Cancer Institute*, 95: 1362-1369.
38. Simon, R. and Dobbin, K. (2003) Experimental Design of DNA Microarray Experiments. *Biotechniques*, March Supplement: 16-21.
39. Dobbin, K. and Louis, T. (2003) Accommodating Stochastic Departures from Percentile Invariance in Causal Models. *Journal of the Royal Statistical Society, Series B*, 65: 837-849.
40. Dobbin, K., Shih, J., and Simon, R. (2003) Statistical Design of Reverse Dye Microarrays. *Bioinformatics*, 19: 803-810.
41. Simon, R., Radmacher, M., Dobbin, K. and McShane, L. (2003) Pitfalls in the Use of DNA Microarray Data for Diagnostic and Prognostic Classification. *Journal of the National Cancer Institute*, 95: 14-18.
42. Simon, R., Radmacher, M. and Dobbin, K. (2002) Design of Studies Using DNA Microarrays. *Genetic Epidemiology*, 23: 21-36.
43. Dobbin, K. and Simon, R. (2002) Comparison of Microarray Designs for Class Comparison and Class Discovery. *Bioinformatics*, 18: 1438-1445.

### **Peer reviewed reports**

1. Dobbin, KK (2006) Experimental design of DNA microarray studies. In: Validation of toxicogenomic technologies: A workshop summary National Research Council of the National Academies of Science. <http://dels.nas.edu/emergingissues/index.shtml>.

### **Letters**

1. Dobbin, K.K. (2007) Letter Re. A five-gene signature and clinical outcome in non-small-cell lung cancer. *New England Journal of Medicine*, 356: 1582.

### **Editorials**

1. Archer K.J., Dobbin K., Biswas S., Day, R.S., Wheeler, D.C., Wu H. (2015) Computer simulation, bioinformatics, and statistical analysis of cancer data and processes. *Cancer Informatics*, Suppl. 2: 247-251.

### **Book Chapters**

1. Chumbler NR, Desai SP, Ingls JB, Dobbin KK (accepted) Race and socioeconomic status: Public perceptions toward quality and access to care in the affordable care act. *Research in the Sociology of Health Care*. Volume 33
2. Dobbin, K.K. (2014) Statistical design and evaluation of biomarker studies. In: *Molecular Diagnostics for Melanoma*. Springer, New York. ISBN 978-1-62703-726-6.
3. Dobbin, K. and Simon, R. (2009) Statistical Issues in the Interpretation and Design of Microarray Experiments. In: *Bioinformatics in Cancer and Cancer Therapy*. Humana Press, New York. Book information website: <http://www.springer.com/humana+press/cancer+research/book/978-1-58829-753-2>.
4. Dobbin, K. and Simon, R. (2005) Experimental design [Specialist Review]. In: *Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics*. John Wiley and Sons, New York. Book website: <http://www.mrw.interscience.wiley.com/ggpb/>

### **Abstracts**

1. Jessup JM, Dobbin KK, Hamilton S, Thibodeau S, Redston M, Taube S, Wang Z, Benedetti J and the Program for the Assessment of Clinical Cancer Tests (PACCT) 18qLOH Team. (2009) Interlaboratory assay reproducibility study for loss of heterozygosity on chromosome 18 (18qLOH) in colon cancer. *Journal of Clinical Oncology*, 27: Supplement, Meeting Abstract 4052.

### **PRESENTATIONS**

1. An alternative approach to sample size estimation for risk prediction. Joint Statistical Meetings. Montreal, Quebec, Canada. August 2013.
2. Reducing dimension to improve computational efficiency in high dimensional studies. International Biometric Society, Eastern North American Region (ENAR) Annual Meeting, Washington, DC, March 2012.
3. (Invited) Assessing analytic reproducibility of predictions. NCI Workshop on Criteria for Use of Omics-Based Predictors in Clinical Trials, Bethesda, MD, June 2011.
4. A sample size method for training high dimensional risk predictors from right-censored survival data. International Biometric Society, Eastern North American Region (ENAR) Annual Meeting, Miami, FL, March 2011.

5. (Invited) Statistical issues in the design and analysis of high dimensional data. Second Annual Short Course on Frontiers in Quantitative Methods for Cancer Research. Augusta, GA, USA, November 2010.
6. Approximating high-dimensional simulations in low-dimensional space, with application to microarray prediction error estimation. Joint Statistical Meetings, Vancouver, BC, Canada, August 2010.
7. (Invited) Optimally splitting cases for training and testing high dimensional microarray classifiers. Computational Systems Biology Laboratory, University of Georgia, Athens, GA, May 2010.
8. (Invited) Optimally splitting cases for training and testing high dimensional microarray classifiers. Biostatistics Forum, University of South Carolina, Arnold School of Public Health, Columbia, South Carolina, March 2010.
9. (Invited) Towards a faster method for constructing a confidence interval for a classifier's accuracy in high dimensions. University of Georgia Statistics Department Colloquia Series. Athens, GA, August, 2009.
10. Lower confidence bounds for prediction accuracy in high dimensions with feature selection. Joint Statistical Meetings, Washington, DC, August 2009.
11. (Invited) Statistical misdiagnoses: Examples from the design of microarray experiments. University of Georgia Statistics Department Graduate Student Seminars, Athens, GA, March 2009.
12. (Invited) Developing and validating genomic classifiers. Meeting of the International Biometric Society, Eastern North American Region (ENAR), Arlington, VA, March 2008.
13. (Invited) Statistical issues in biomarker development. Workshop on profiling of immune response to guide cancer diagnosis, prognosis and prediction of therapy, Bethesda, MD, November 2007.
14. (Invited) How many samples are needed to develop a classifier from microarray data? International Chinese Statistical Association Annual Meeting, Raleigh, NC, June 2007.
15. (Invited) Statistical similarities and differences: mRNA vs. miRNA profiling studies. Workshop on MicroRNA: Potential for Cancer Detection, Diagnosis, and Prognosis, Rockville, MD, November 2006.
16. Sample size for predictive inference using microarray data. XXIIIrd International Biometric Conference, Montreal, Quebec, Canada, July 2006.
17. (Invited) Prognostic and predictive factors in cancer. American Joint Committee on Cancer meeting. Washington, DC, April 2006.
18. Developing reproducible genomic classifiers. National Cancer Institute's Strategic Partnering to Evaluate Cancer Signatures (SPECS) investigators' meeting. San Francisco, California, USA, February 2006.

19. (Invited) Statistical issues with marker validation. Resources for melanoma research workshop. National Cancer Institute and Melanoma Research Foundation. Gaithersburg, Maryland, USA, October 2005.
20. (Invited) Incorporating Data from Multiple Labs to Develop Prognostic Predictors. Cambridge Healthtech Institute workshop: From gene expression profiling to validated biology. Cambridge, Massachusetts, USA, October 2005.
21. (Invited) Experimental design issues in expression profiling. National Academy of Sciences, 10th meeting of the Committee on Emerging Issues and Data on Environmental Contaminants, Washington, DC, July 2005.
22. (Invited) Sample comparability. A joint Food and Drug Administration, Johns Hopkins University, and the Pharmaceutical Researchers and Manufacturers of America Workshop, Rockville, Maryland, USA, July 2005.
23. Interlaboratory comparability study of cancer gene expression analysis using oligonucleotide microarrays. Minisymposium presentation, American Association of Cancer Researchers 96th Annual Meeting, Anaheim, California, USA, April 2005.
24. Sample size determination in microarray experiments for class comparison and prognostic classification. Joint Statistical Meetings, Toronto, Ontario, Canada, August 2004.
25. (Invited) Design of microarray studies. Infocast's Microarray Data Analysis, Rockville, Maryland, USA, June 2004.
26. (Invited) Statistical design of microarrays. Microarray Interest Group Meeting, National Institutes of Health, Bethesda, Maryland, USA, August 2003.
27. Designing cDNA microarray experiments for cancer research: issues in class comparison, class discovery, and dye bias. Conference on New Directions in Experimental Design (DAE), Chicago, Illinois, USA, May 2003.
28. Statistical design of reverse dye microarrays, International Biometric Society (ENAR), Tampa, Florida, USA, March 2003.
29. Some issues in microarray experimental design, International Biometric Society (ENAR), Arlington, Virginia, USA, March 2002.
30. Stochastic permutation models for causal inference in clinical trials, Joint Statistical Meetings, Atlanta, Georgia, USA, August 2001.
31. Dose-response curve recovery in placebo-controlled clinical trials. International Biometric Society (ENAR), Chicago, Illinois, USA, March 2000.

## **RESEARCH GRANTS**

Note: NIH employees are not eligible for extramural or NSF funding, so I became eligible for funding in 2009.

## SUBMITTED

1. R01: Using causal models to develop treatment selection cancer biomarkers from observational data. NIH. PI: Kevin K. Dobbin and Xiao Song. 05/01/2019-04/30/2024. Role: Principal Investigator. 50% academic credit. Summary: This proposal will develop methods for identifying predictive biomarkers from nonrandomized observational data using causal modeling.
2. R01: Basal-like breast cancer driver discovery via dog-human comparison. NIH. PI: Shaying Zhao. Role: Co-Investigator. 5% academic credit. Summary: This project will collect sequencing and experimental data on hundreds dog tumors and by combining with human tumor data seek to reduce the current number of potential drivers of human basal-like breast cancer by an order of magnitude.

## FUNDED

1. UL1: TR002378 Georgia Clinical and Translational Science Alliance. NIH. PI: Bradley G. Phillips (UGA) with Garcia, Ofili, and Taylor. 9/22/17-6/30/22. Role: Statistician and Co-Director of BERD. 8% Academic Credit. Summary: The purpose of this grant is to support and foster translational science and education across Emory University, Georgia Institute of Technology, Morehouse school of Medicine, and the University of Georgia.
2. R01. Enhancing antibiotic stewardship in primary care. DHHS/AHRQ. PI: Mark Ebell. Role: Co-Investigator. 8% Academic Credit. Summary: This project will collect data on patients presenting with lower respiratory tract infections to develop clinical decision rules for diagnosing patients with high probability of not needing antibiotic intervention.
3. R21. Predictive cancer biomarkers: Design and analysis of reproducibility studies. NIH. PI: Dobbin/Song. Role: Principal Investigator. 25% Academic credit. Summary: This project will produce biostatistical methods to clear away roadblocks which stymy the development of predictive cancer biomarkers. 6<sup>th</sup> percentile.
4. U01. Discovery and development of cancer glycomarkers. NIH. PI: Pierce. Role Co-Investigator. 7% Academic credit. Summary: The role of this project is to develop proteomic and glycomic biomarkers which have cancer of potential clinical utility as early detection, diagnostic, or prognostic markers.
5. U01. Glycomics laboratory for the early detection of epithelial ovarian cancer. NIH. PI Pierce. Role: Co-Investigator. 10% Academic credit. The general role of this project is to investigate glycomic biomarkers in cancer.
6. R15. Altered microRNA as a biomarker for the onset of obesity-related women's cancers. NIH. PI: Murph. Role: Co-Investigator. 20% Academic credit. Summary: The goal of this research is to investigate circulating miRNA

expression levels in transgenic mice and humans and evaluate their potential as biomarkers of cancer risk.

7. R21. Evaluation of sample sizes used to train classifiers and prognostic predictors. NIH. PI: Dobbin (with Ahn in Statistics). 40% Academic credit. Summary: Develop sample size methods for studies to develop classifiers and prognostic predictors in high dimensions, and batch effect removal methods for combining publicly available datasets.
8. GRA. Distinguished cancer clinicians and scientists program. Georgia Research Alliance. PI: Dobbin. 100% Academic credit. Summary: Develop a cancer research program.
9. MAF. Effect of tyrosine kinase inhibition on radiosensitivity of feline vaccine-associated sarcoma cells. PI: Lawrence. Role: Co-investigator. 0% Academic credit. Summary: To evaluate the effectiveness of masitinib in downregulating PDGFR signaling and thereby increase the sensitivity of cats with vaccine-associated sarcomas to radiation therapy.

#### NOT FUNDED

1. NIJ: Can the criminal justice system deter violence against elders? PI Toni Miles. Role: Statistician. 28% academic credit. National Institute of Justice.
2. R01: Mutating, stapling and probing RGS10, the off switch in chemoresistant signaling. PI: Mandi Murph. Role: Statistician. 10% Academic credit.
3. R21: Novel methods for the statistical design and analysis of multi-sample CNV studies. PI: Dobbin/Huang. Role: Principal Investigator. 100% summer and 10% Academic credit. NIH
4. R34/R01. Effectiveness of directly observed therapy (DOT) and mobile phone-enhanced adherence (mPAD) monitoring of tuberculosis treatment in Africa. NIH. PI: Whalen. Role: Co-Investigator. 16% Academic credit. Summary: This is a randomized clinical trial in Uganda to determine whether time-to-tuberculosis cure is equivalent between mPAD and DOT.
5. PCORI. Evaluation of a stroke nurse navigator in improving patient outcomes of stroke in a rural underserved area. PCORI. PI: Chumbler (with Hess at GRU). Role: Co-Investigator. 20% Academic credit. Summary: This is a proposal for a randomized trial to compare standard of care to a stroke nurse navigator (SNN) intervention in patients who have recently suffered from Stroke in Georgia. The primary outcome measure is stroke-specific quality of life.
6. R03. Experimental designs for studying ratios of variance components. NIH. PI: Dobbin. 100% Academic credit. Summary: The goal of this project is to develop improved methods and software for designing cancer biomarker reproducibility studies.
7. R15. Investigating therapeutic role of Mir-30c02 in chemoresistant ovarian cancer. NIH. PI: Murph. Role: Co-Investigator. 10% Academic credit.



Summary: The goal of this project was to investigate levels of circulating micro-RNA in transgenic mice and assess potential as biomarkers of cancer risk.

8. R01: Novel dimension reduction method and applications for high dimensional studies. NIH. PI: Dobbin. Co-I: Yin (Statistics). 60% Academic credit. Summary: The goal of this project was to develop dimension reduction methods for high dimensional data that could be used for analyzing data from next generation sequencing, single nucleotide polymorphism chips, and microarrays.
9. R01: Novel dimension reduction method and applications for high dimensional studies. NIH. PI: Dobbin. Co-I: Yin (Statistics). 60% Academic credit. Summary: Revision and resubmission.
10. R01: Testing and improving oncolytic parainfluenza virus 5. NIH. PI: Biao He. Role: Co-Investigator. 20% Academic credit. Summary: This project will attempt to develop J Paramyxovirus along the road towards potential clinical testing by studying it's anti-cancer effects in cell lines and animal models.
11. R01. Cell Phone Enhanced Treatment Supervision of Tuberculosis in Africa. NIH. PI: Whalen. Role: Co-Investigator. 7% Academic credit. Summary: See later resubmission.
12. R15. Altered microRNA as a biomarker for the onset of obesity-related women's cancers. NIH. PI: Murph. Role: Co-Investigator. 15% Academic credit. Summary: See later funded resubmission.
13. U01. Breast cancer diagnostics driven by glycan changes. NIH. PI: Pierce. Role: Co-Investigator. 12%. Summary: See later funded resubmission.
14. R01. Paramyxovirus as oncolytic agent. NIH. PI: Biao He. Role: Co-Investigator. 5% Academic credit. Summary: See later revision submission.
15. R01. Molecular basis of individual response to green tea polyphenols. NIH. PI: JS Wang. Role: Co-Investigator. 6% Academic credit. Summary: The goal of this project was to measure biomarkers of oxidative damage in blood and urine samples from participants in a trial of green tea polyphenol supplementation, and assess the markers' correlations with genetic risk factors and aflatoxin exposure.
16. R01. A novel oncolytic agent based on J Paramyxovirus. NIH. PI: Biao He. Role: Co-Investigator. 10% Academic credit. Summary: See later revision submission.
17. R21. Evaluation of training set sizes used in microarray studies. NIH. PI: Dobbin (with Ahn in Statistics). 40% academic credit. Summary: See later funded revision.

18. R01. Validation of biomarkers for assessing antioxidant effects of green tea polyphenols. NIH. PI: JS Wang. Role: Co-investigator. 5% Academic credit. Summary: See later revision submission.
19. RC1. Validating sample sizes used to develop biomarkers from microarray data. NIH. PI: Dobbin (with Ahn in Statistics). 40% Academic credit. Summary: See later funded revision.
20. BEST. Broadening experiences in scientific training (DP7/BEST). NIH. PI: Dailey. Role: Faculty. 0% Academic credit. Summary: This is an educational proposal to provide graduate students and postdoctoral fellows with training experiences.
21. CDC. Pilot study for surveillance and epidemiology of HPV typing and gene-environment interaction for cervical and oropharyngeal cancer in Georgia. CDC, UGA, and GA Division of public health collaboration. PI: JS Wang. 0% Academic credit. Summary: This is a proposal to develop an infrastructure for systematic monitoring of HPV in Georgia.
22. R03. Identifying modifiers of phenotypic severity in fukutin knockout mice. NIH. PI: Beedle. Role: Co-investigator. 0% Academic credit. Summary: This is a grant to study the molecular mechanisms underlying dystroglycanopathy.
23. R25: Summer school on bioinformatics methods. NIH. PI: Liming Cai. Role: Instructor. 0% Academic credit. Summary: This is a proposal to establish a summer school at the University of Georgia to teach quantitative methods to bench biologists.

## **PRE-DOCTORAL WORK EXPERIENCE**

1994-1996 Temporary, Kelly Temporary Services, Boulder, CO

1991-1994 Copywriter and Promotions Assistant, Butterworth Legal Publishers, Salem, NH

1989-1991 Marketing Assistant, G.K. Hall Division, Macmillan Publishing, Boston, MA

1987-1989 Caretaker for Donald Dobbin, Boston, MA

1988-1989 Receiving Clerk, Lauriat's Bookstore, Boston, MA

1987-1988 Clerk/Third in Charge, Barnes and Noble Bookstore, Boston, MA