

Lorin Crawford

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EDUCATION	Duke University , Durham, North Carolina, USA M.S./Ph.D. in Statistical Science Advisor(s): Sayan Mukherjee, Ph.D. and Kris C. Wood, Ph.D. Thesis: Bayesian Kernel Models for Statistical Genetics and Cancer Genomics Aug 2013 – May 2017	Aug 2013 – May 2017
	Clark Atlanta University , Atlanta, Georgia, USA B.S. in Mathematics Advisor(s): Fisseha Abebe, Ph.D. Valedictorian/ <i>Summa Cum Laude</i> (Cumulative GPA: 4.0/4.0) Aug 2009 – May 2013	Aug 2009 – May 2013
PROFESSIONAL EXPERIENCE	Brown University , Providence, Rhode Island, USA Assistant Professor, Department of Biostatistics, School of Public Health Assistant Professor, Center for Statistical Sciences, School of Public Health Assistant Professor, Center for Computational Molecular Biology Jul 2017 – Present	Jul 2017 – Present
	Hi Fidelity Genetics , Durham, North Carolina, USA Data Scientist Intern, American Tobacco Campus May 2015 – Aug 2015	May 2015 – Aug 2015
	San Diego State University , San Diego, California, USA NSF Undergraduate Research Fellow, Department of Mathematics May 2012 – Jul 2012	May 2012 – Jul 2012
AWARDS, & FELLOWSHIPS	Golden Heart Education and Humanitarian Award National Science Foundation (NSF) Graduate Research Fellowship Fitzgerald Outstanding Presentation Award Duke University Dean Graduate Fellowship Isabella T. Jenkins Honors Program Outstanding Academic Achievement Award Joint Mathematics Meetings (JMM) Outstanding Presentation Award J.J. Dennis Endowed Fellowship Clark Atlanta University Provost Scholarship	2016 2015 2014 2013 2013 2013 2012 2009
RESEARCH INTERESTS	Bayesian methodology, statistical and quantitative genetics, functional genomics, pharmacology and cancer biology, radiogenomics, applied topology, machine learning	
PUBLICATIONS	REFEREED PAPERS (*CO-FIRST AUTHOR; #CORRESPONDING AUTHOR) [1] L. Crawford , V. Ponomarenko#, J. Steinberg, and M. Williams (2014). Accepted elasticity in local arithmetic congruence monoids. <i>Results in Mathematics</i> . 66 : 227-245. [2] G.R. Anderson, S.E. Wardell, M. Cakir, L. Crawford , J.C. Leeds, D.P. Nussbaum, P.S. Shankar, R.S. Soderquist, E.M. Stein, J.P. Tingley, P.S. Winter, E.K. Zeiser-Misenheimer, H.M. Alley, A. Yllanes, V. Haney, K.L. Blackwell, S.J. McCall, D.P. McDonnell, and K.C. Wood (2016). PIK3CA mutations enable selective targeting of a breast tumor lineage survival dependency through MTOR-mediated control of MCL-1 translation. <i>Science Translational Medicine</i> . 8 : 369ra175. [3] G.R. Anderson, P.S. Winter, K.H. Lin, D.P. Nussbaum, M. Cakir, E.M. Stein, R. Soderquist, L. Crawford , J.C. Leeds, R. Newcomb, P. Stepp, C. Yip, S.E. Wardell, J.P. Tingley, M. Ali, M. Xu, M. Ryan, S.J. McCall, A. McRee, C.M. Counter, C.J. Der, K.C. Wood (2017). A landscape of therapeutic cooperativity in KRAS mutant cancers reveals principles for controlling tumor evolution. <i>Cell Reports</i> . 20 (4): 999-1015. [4] L. Crawford #, P. Zeng, S. Mukherjee, and X. Zhou# (2017). Detecting epistasis with the marginal epistasis test in genetic mapping studies of quantitative traits. <i>PLOS Genetics</i> . 13 (7): e1006869.	

- [5] **L. Crawford#**, K.C. Wood, X. Zhou#, and S. Mukherjee# (2017). Bayesian approximate kernel regression with variable selection. *Journal of the American Statistical Association*. In Press.

PREPRINT (*CO-FIRST AUTHOR; #CORRESPONDING AUTHOR)

- [1] **L. Crawford#**, A. Monod#, A.X. Chen, S. Mukherjee, and R. Rabadán (2016). Functional data analysis using a novel topological summary statistic: the smooth Euler characteristic transform. *arXiv*. 1611.06818.

SOFTWARE

- [1] **BAKR**: Bayesian Approximate Kernel Regression
 [2] **MAPIT**: MArginal ePIstasis Test
 [3] **SECT**: The Smooth Euler Characteristic Transform

SPONSORED RESEARCH

5U54CA193313-02 Pilot Subaward: Crawford (PI) 2017 – 2018
 National Cancer Institute – Physical Sciences in Oncology Network
Reconstructing and Collating Topological Quantifications of Tumors for Radiogenomics
 Amount: \$10,000

INVITED TALKS

AS GRADUATE STUDENT

Duke University, University Program in Genetics and Genomics Seminar, Durham, NC	2014
Duke University, Dept. of Statistical Science Seminar, Durham, NC	2016
University of North Carolina-Chapel Hill, Dept. of Biostatistics Seminar, Chapel Hill, NC	2016
Clark Atlanta University, Dept. of Mathematics Seminar, Atlanta, GA	2016
University of Chicago, Dept. of Human Genetics Seminar, Chicago, IL	2016
Brown University, Dept. of Biostatistics Seminar, Providence, RI	2017
University of Texas at Austin, Dept. of Statistics Seminar, Austin, TX	2017
Columbia University, Dept. of Biomedical Informatics Seminar, New York, NY	2017
Society of Duke Fellows (SDF) Seminar, Durham, NC	2017

AS ASSISTANT PROFESSOR

SIAM AG'17, Statistics and Applied Algebraic Topology Workshop, Atlanta, GA	2017
Brown University, Center for Computational Molecular Biology Seminar, Providence, RI	2017
Brown University, Data Science Initiative Seminar Series, Providence, RI	2017

PROFESSIONAL MEMBERSHIP

Genetics Society of America (GSA), International Society for Bayesian Analysis (ISBA), American Statistical Association (ASA), National College Resources Foundation (NCRF), United Negro College Fund (UNCF)

[CV compiled on 2017-07-27]