Gregory J. Hunt

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Department of Mathematics
William & Mary
111 Jones Hall
200 Ukrop Way
Williamsburg, VA 23185

ghunt@wm.edu
(203) 615-4731
www.ghunt.info

Positions

2019 – Assistant Professor Department of Mathematics, William & Mary

Education

2018	PhD	Statistics	University of Michigan
2015	MA	Statistics	University of Michigan
2013	BA	Mathematics, Computer Science	Drew University

Publications

Manuscripts Under Review

4. **G. J. Hunt**, J. A. Gagnon-Bartsch. The Role of Scale in the Estimation of Cell-type Proportions. *Submitted*
   bioRxiv: `https://doi.org/10.1101/627802`

Refereed Articles

3. **G. J. Hunt**, C. Ground, R. L. Hunt. Fast Approximations of Spectral Lineshapes Enable Optimization of a Filtered Rayleigh Scattering Experiment. *To appear in Measurement Science and Technology*
   aRxiv: `https://doi.org/10.1088/1361-6501/ab8a7e`

2. **G. J. Hunt**, M. A. Dane, J. E. Korkola, L. M. Heiser, J. A. Gagnon-Bartsch. Transformations of Microenvironment Microarray Data Improves Discovery and Integration of Latent Effects. *To appear in the Journal of Computational and Graphical Statistics*
   bioRxiv: `https://doi.org/10.1080/10618600.2020.1741379`

1. **G. J. Hunt**, S. Freytag, M. Bahlo, and J. A. Gagnon-Bartsch, dtangle: accurate and robust cell type deconvolution, Bioinformatics, Volume 35, Issue 12, June 2019, Pages 2093–2099
   URL: `https://doi.org/10.1093/bioinformatics/bty926`

Software

1. `svsa`: A python package for creating quick and accurate approximations of any spectral lineshapes model.
   https://gjhunt.github.io/svsa
   https://pypi.org/project/svsa/
2. `rrscale`: Robust re-scaling to improve recovering of latent effects.
   cran.r-project.org/package=rrscale
   https://gjhunt.github.io/rr/

3. `dtangle`: Cell type deconvolution for high-throughput gene profiling technologies.
   cran.r-project.org/package=dtangle
   https://gjhunt.github.io/dtangle
4. `dtangle.data`: annotated collection of high-throughput genomic data for deconvolution.
   https://gjhunt.github.io/dtangle/
5. Contributor to `glmm` in `statsmodels`: statistical modeling and econometrics in Python.
   github.com/statsmodels/statsmodels

Presentations

1. **G. J. Hunt**, Cody R. Ground, Robin L. Hunt. Leveraging Statistical Learning to Make Fast Approximations of Spectral Lineshapes. *FPCB Machine Learning and Technology Group, NASA Langley*. April 2020. Hampton, VA. *Invited.*
2. **G. J. Hunt** and J. A. Gagnon-Bartsch. Estimation of Cell-type Proportions in Complex Tissue. *ENAR*. March 2020. Nashville,TN. *Contributed.*
3. **G. J. Hunt** and J. A. Gagnon-Bartsch. Estimating Cell Types in Complex Brain Tissue. *Joint Statistical Meetings*. August 2019. Denver, CO. *Contributed.*
4. **G. J. Hunt**, M. A. Dane, J. E. Korkola, L. M. Heiser, J. A. Gagnon-Bartsch. Robust Transformation of MEMA data. *WNAR*. June 2019. Portland, OR. *Invited.*
5. **G. J. Hunt**, S. Freytag, M. Bahlo, J. A. Gagnon-Bartsch. dtangle: accurate and fast cell type deconvolution. *William & Mary Department of Mathematics*. December 2017. Williamsburg, VA. *Invited.*
6. **G. J. Hunt**, S. Freytag, M. Bahlo, J. A. Gagnon-Bartsch. dtangle: a simple and fast cell type deconvolution estimator. *Joint Statistical Meetings*. August 2017. Baltimore, MD. *Contributed.*
7. **G. J. Hunt**, S. Freytag, M. Bahlo, J. A. Gagnon-Bartsch. dtangle: a simple and fast cell type deconvolution estimator. *Michigan Student Symposium for Interdisciplinary Statistical Sciences*. March 2017. Ann Arbor, MI. *Contributed.*

Grant Funding

1. Virginia Space Grant Consortium. Using Machine Learning to Efficiently Model Filtered Rayleigh Scattering. 2019-2020. PI: Gregory J. Hunt. Amount: $20,000.
2. Virginia Space Grant Consortium. Summer Collaborative Bridge: Connecting Student Summer Research Experiences Across Academic and Industry. 2020. PI: Gregory J. Hunt, Rex Kincaid. Amount: $6,558.

Teaching

William & Mary

Spring 20	MATH 300	Mathematical Sciences Writing
Spring 20	CSCI 708	Research Project in COR
Spring 20	MATH 451/551 (x2)	Probability
Fall 19	CSCI 690	Readings in Computer Science
Fall 19	MATH 459	Data Mining
Fall 19	MATH 452/552	Mathematical Statistics
Spring 19	CSCI 688	Data Mining
Spring 19	MATH 451/451	Probability

Univerisity of Michigan (As Teaching Assistant)

Summer 17		Big Data Summer Institute
Winter 17	STATS 415	Data Mining and Statistical Learning
Fall 16	STATS 408	Statistical Principles for Problem Solving: A Systems Approach.
Winter 16	STATS 408	Statistical Principles for Problem Solving: A Systems Approach.
Fall 15	STATS 403	Introduction to Quantitative Research Methods
Winter 15	STATS 485	Capstone Seminar
Fall 14	STATS 250	Introduction to Statistics and Data Analysis
Summer 14	STATS 250	Introduction to Statistics and Data Analysis
Winter 14	STATS 250	Introduction to Statistics and Data Analysis
Fall 13	STATS 250	Introduction to Statistics and Data Analysis

Mentoring

Masters

Cassandra Chang	VSGC Research Project	4/2019 –

Undergraduate

Isabel Agostino*	VSGC Research Project	4/2020 –
Alison Reynolds*	Honors Thesis	1/2020 –
Grace Smith*	Research Project	1/2020 –
Alan Song	Research Project	11/2019 – 5/2020
Bin Yang	Research Project	9/2019 – 12/2019
Chris Elsner*	Research Project	1/2019 – 4/2019
Evan Wong*	EXTREEMS-QED Summer Research	3/2018 – 7/2018

* = Funded Summer Research

Thesis Committees

Maliha Ahmad	Undergraduate Honors Defense	5/2/2019
Hayden Le	Undergraduate Honors Defense	5/1/2019

Professional Activities

Memberships

- American Statistical Association
- Institute of Mathematical Statistics

Conference Sessions

- Imaging in High-throughput -omics, Co-Organizer and Chair. 2019. Western North America Region (WNAR) of The International Biometry Society.

Journal Referee

- PLOS Computational Biology
- Journal of Healthcare Engineering
- Computational and Structural Biotechnology Journal

Committees

Collegewide Committees

1. Data science steering committee

Departmental Committees

1. Data science NTE hiring committee