

## John A. Ramey II, Ph.D.

Postdoctoral Researcher, Fred Hutchinson Cancer Research Center  
Seattle, Washington, USA

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<http://ramhiser.com>

### Personal Statement

My research interests are in biostatistics and bioinformatics with an emphasis on statistical and machine learning, modern multivariate analysis, computational statistics, and Bayesian methods.

### Education

**Baylor University**

*Ph.D. Statistics*

– Adviser: Dean M. Young, Ph.D.

Waco, TX

*July 2012*

**Baylor University**

*M.Sc. Statistics*

Waco, TX

*Dec. 2009*

**Baylor University**

*B.Sc. Mathematics (Minor: Computer Science)*

Waco, TX

*Aug. 2008*

### Publications

**Ramey, J. A.** and Young, P. D. (2013) “A Comparison of Regularization Methods Applied to the Linear Discriminant Function with High-Dimensional Microarray Data,” *Journal of Statistical Computation and Simulation*, 83, 3, 581–596.

McDermott, J., Wang, J., Mitchell, H., Webb-Robertson, B., Hafen, R., **Ramey, J.**, and Rodland, K. (2013) “Challenges in Biomarker Discovery: Combining Expert Insights with Statistical Analysis of Complex Omics Data,” *Expert Opinion on Medical Diagnostics*, 7, 1, 37–51.

### Articles Submitted for Publication

**Ramey, J. A.**, Stein, C. K., and Young, D. M., “High-Dimensional Regularized Discriminant Analysis.”

**Ramey, J. A.**, Sego, L. H., and Young, D. M. “Cluster Stability Evaluation via Cluster Omission.” (under revision)

Sego, L. H., Shulman, S. A., Anderson, K. K., **Ramey, J. A.**, Wilson, J. E., Pulsipher, B. A., and Sieber, W. K. “A Bayesian Acceptance Sampling Model for Combining Judgmental and Randomly Selected Samples.” (under revision)

## Articles in Preparation

**Ramey, J.**, Finak, G., Jiang, M., Taghiyar, J., de Rosa, S., Brinkman, R., and Gottardo, R., “Automated Flow Cytometry Data Analysis with the OpenCyto Framework.”

**Ramey, J. A.** and Young, D. M., “Sparse Discriminant Analysis with Simultaneous Diagonalization of Covariance Matrices.”

**Ramey, J. A.**, Young, D. M., and Sego, L. H., “On Model Selection with Regularized Discriminant Analysis.”

**Ramey, J. A.**, Sego, L. H., and Young, D. M., “A Generalized Jaccard Similarity Coefficient for Comparing Partitions.”

## Awards, Grants & Honors

Outstanding Graduate Student – Department of Statistical Science, Baylor University . . . . 2011  
JSM Stat Bowl – Champion . . . . . 2010  
Outstanding First Year Graduate Student – Department of Statistical Science . . . . . 2009  
Baylor University Dean’s Scholarship . . . . . 2008-2012

## Research Experience

<b>Fred Hutchinson Cancer Research Center</b>	Seattle, WA
<i>Postdoctoral Researcher in Statistical Genetics under Raphael Gottardo</i>	<i>August 2012-present</i>
<b>Pacific Northwest National Laboratory</b>	Richland, WA
<i>Research Associate, National Security Internship Program</i>	<i>June 2011 - July 2012</i>
<b>Statistical and Machine Learning Research Group</b>	Waco, TX
<i>Department of Statistical Science, Baylor University</i>	<i>2009-2012</i>
<b>Research Experience for Undergraduates at The Ohio State University</b>	Columbus, OH
<i>Vertical Integration of Research and Education in Computational Mathematics</i>	<i>Summer 2004</i>

## Journal Reviewer

Journal of Statistical Computation and Simulation

## Conference Papers

**Ramey, J. A.** and Young, D. M. (2010). *A More Computationally Efficient Model Selection Method for Regularized Discriminant Analysis*, Joint Statistical Meetings Proceedings, Vancouver, BC, Canada.

## Invited Talks

**Ramey, J. A.** (November 2012). *Automated Bayesian Gating with OpenCyto*. FlowCAP-III Summit, National Institute of Health, Bethesda, Maryland, USA.

**Ramey, J. A.** (February 2012). *Diagonal Discriminant Analysis with Simultaneous Diagonalization of Covariance Matrices*. Fred Hutchison Cancer Research Center, Seattle, Washington, USA.

**Ramey, J. A.** (February 2011). *Diagonal Discriminant Analysis after Simultaneous Diagonalization of Covariance Matrices with High-Dimensional Data*. Pacific Northwest National Laboratory, Richland, Washington, USA.

## Presentations

**Ramey, J.**, Finak, G., Jiang, M., Taghiyar, J., de Rosa, S., Brinkman, R., and Gottardo, R. (May 2013) *Automated Flow Cytometry Data Analysis with the OpenCyto Framework*. Cyto 2013, San Diego, California, USA. (poster)

**Ramey, J. A.** (August 2012). *On the Estimation of Similarity Indices in Clustering Evaluation*. Joint Statistical Meetings, San Diego, California, USA.

**Ramey, J. A.** and Young, D. M. (August 2010). *Efficient Model Selection for Regularized Discriminant Analysis*. Joint Statistical Meetings, Vancouver, British Columbia, Canada. (poster)

**Ramey, J. A.** (April 2010). *Bayesian Regularized Logistic Regression in High-Dimensional Classification*. Instituto Panamericano de Estudios Avanzados en Probabilidad y Estadística: Semana en Métodos de Reducción de Dimensión. Centro de Investigación en Matemáticas, A.C. Guanajuato, Mexico. (poster)

## Teaching Experience

### Elementary Statistics

*Teacher of Record*

Baylor University  
Aug. 2009 - May 2011

- Taught this freshman level course in the Statistics Department.
- Developed homework, quizzes and exams for the class.
- Attended weekly meetings to enhance and improve teaching skills and techniques.

### Statistics Department Tutoring Lab

*Graduate Teaching Assistant*

Baylor University  
Aug. 2008 - May 2011

- Conducted one-on-one and group tutoring to students in undergraduate statistics courses.

### Statistics for Psychology Majors

*Graduate Teaching Assistant*

Baylor University  
Aug. 2008 - Jul. 2009

- Provided weekly supplemental instruction to a small group of undergraduate students.
- Lectured to a large number of students in an auditorium during professor absences.
- Led weekly course seminars.

## Professional Service

Session on Generalized Linear and Mixed Models  
*Chair*

Joint Statistical Meetings  
*August 2012, San Diego, CA, USA*

## Software Projects (Available at <http://github.com/ramey>)

**activelearning:** An R Package for Querying Unlabeled Observations with Active Learning.

**clusteval:** Evaluation of Clustering Algorithms in R.

**datamicroarray:** Collection of High-Dimensional Microarray Data Sets.

**errorest:** An R Package for Error Rate Estimation for Statistical and Machine Learning.

**openCyto:** An R Package for Automated Analysis of Flow Cytometry Data.

**sparsediscrim:** An R Package for Regularized and Sparse Discriminant Analysis Methods.

## Professional Membership

International Society for Advancement of Cytometry

*2013-present*

Seattle R Users Group

*2012-present*

Association for Computing Machinery

*2011-present*

Institute of Electrical and Electronics Engineers

*2011-present*

American Statistical Association

*2008-present*

## Skills

### Programming and Markup Languages

- **Skilled:** R
- **Proficient:** BUGS,  $\text{\LaTeX}$ , Linux, Python, SQL
- **Experienced:** ASP, C#, C++, Java, Mathematica, MATLAB, .NET, PHP

## Miscellaneous

**Innovation in Graduate Education Challenge**

*Judge*

National Science Foundation

*2013*

**Systems and Computational Biology Affinity Group**

*Co-Organizer*

Fred Hutchinson Cancer Center

*2013 - present*

**United States Soccer Federation**

*Referee*

*1995 - present*

## References

**Dr. Dean Young (Ph.D. Adviser)**

*Department of Statistical Science, Baylor University*

**Dr. John Seaman**

*Department of Statistical Science, Baylor University*

**Dr. Landon Sego**

*Applied Statistics and Computational Modeling, Pacific Northwest National Laboratory*

**Dr. James Stamey**

*Department of Statistical Science, Baylor University*