

CURRICULUM VITAE

Jane Holland Monaco

Contact Information:

Department of Biostatistics, CB # 7420
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Education:

2003 DrPH (Biostatistics) The University of North Carolina at Chapel Hill
Advisors: Drs. Jianwen Cai and James Grizzle
1998 M.S. (Biostatistics) The University of North Carolina at Chapel Hill
Advisor: Dr. Lawrence Kupper
1989 M.S. (Mathematics) The University of North Carolina at Chapel Hill
Advisor: Dr. Robert Gardner
1987 B.S. (Mathematics Honors Program) North Carolina State University
Summa Cum Laude

Professional Experience:

Clinical Associate Professor: Department of Biostatistics The University of North Carolina at Chapel Hill	2013-present
Director of Undergraduate Studies: Department of Biostatistics The University of North Carolina at Chapel Hill	2006-present
Clinical Assistant Professor: Department of Biostatistics The University of North Carolina at Chapel Hill	2004-2013
Statistical Analyst: Department of Epidemiology American Cancer Society, Atlanta, GA	1995-1996
Principal Analyst/Programmer: Department of Epidemiology Bowman Gray Medical School, Wake Forest University	1992-1995
Instructor: Department of Mathematics North Carolina State University	1989-1991

Honors and Awards:

Gillings SPH Teaching Excellence and Innovation Award	2017
Class of 1996 Advising Award (University-wide Award to three advisors)	2015
Gillings SPH Teaching Innovation Award	2015
McGavran Award for Teaching Excellence, UNC-CH Gillings School of Public Health, <i>school-wide award to one SPH faculty member to "recognize career-long excellence in teaching"</i>	2013
Predocutorial Traineeship in Environmental Biostatistics (funded by the NIEHS), Recipient	1997-2002
Public Health Service Traineeship, Recipient	1996-1997
Delta Omega Honor Society: Public Health Honor Society	Inducted 1998
Caldwell Scholarship: Full four-year academic merit-based scholarship to North Carolina State University	1983-1989

Professional Societies:

American Statistical Association (ASA)

Eastern North American Region of the International Biometric Society (ENAR)

Book Chapter:

Monaco, J., Cai, J., Lavange, L., & Kosorok, M. (2013). The University of North Carolina at Chapel Hill Department of Biostatistics. In A. Agresti & X. Meng (Eds.) *Strength in Numbers: The Rising of Academic Statistics Departments in the U.S.* (pp. 453-468).

Peer- Reviewed Publications:

11. Schwartz, T., **Monaco, J.**, Ajazi, E. (2018). Findings from a Survey of Statistics and Biostatistics Instructors in the Health Sciences Who Teach Using an Online or Flipped Format. *Journal of Statistics Education*, 26:2, 143-148, DOI: 10.1080/10691898.2018.1484675
10. Caron, W., Lay, J., Fong, A., La-Beck, N., Kumar, P., Newman, S., Zhou, H., **Monaco, J.**, Clarke-Pearson, D., Brewster, W., Le, L., Bae-Jump, V., Gehrig, P., and Zamboni, W. (2013). Translational studies of phenotypic probes for the mononuclear phagocyte system and liposomal pharmacologys. *Journal of Pharmacology and Experimental Therapeutics*, 347(3), 599-606.
9. Kang, C., Qaqish, B., **Monaco, J.H.**, Sheridan, S., & Cai, J. (2013). Kappa statistic for the clustered dichotomous responses from physicians and patients. *Statistics in Medicine*, 32(21), 3700-3719.
8. **Monaco, J.H.** (2012). Case-control studies. Cohort studies. Ecological fallacy. Retrospective study. Weighted sampling. In M.D. Gellman & J. R. Turner (Eds.) *Encyclopedia of Behavioral Medicine*. (pp. 356-357, 454-455, 644, 1678, 2043, 2044).
7. Ivanova, A., **Monaco, J.H.**, & Stinchcombe, T. (2012). Efficient designs for phase II oncology trials with ordinal outcome. *Statistics and Its Interface*, 5, 463-469.
6. Noah, T.L., Zhou, H., **Monaco, J.H.**, Horvath, K., Herbst, M., & Jaspers, I. (2011). Tobacco smoke exposure and altered nasal responses to live attenuated influenza virus. *Environmental Health Perspectives*, 119, 78-83.
5. **Monaco, J.H.**, Cai, J., & Grizzle, J. (2005). Bootstrap analysis of multivariate failure time data. *Statistics in Medicine*, 24, 3387-3400.
4. Thun, M.J., Peto, R., Lopez, A., **Monaco, J.H.**, Henley, J., Health, C., & Doll, R. (1997). Alcohol consumption and mortality among middle aged and elderly US adults. *The New England Journal of Medicine*, 337(24), 1705-1713.
3. Mayer-Davis, E., **Monaco, J.H.**, Marshall, J.A., Rushing, J., & Juhaeri. (1997). Vitamin C intake and cardiovascular disease risk factors in persons in non-insulin-dependent diabetes mellitus. *Preventive Medicine*, 26(3), 277-283.
2. Mayer-Davis, E.J., **Monaco, J.H.**, Hoen, H.M., Carmichael, S., Vitolins, M., Rewers, M.J., Haffner, S.M., Ayad, M.F., Bergman, & R.N., Karter, A.J. for the IRAS investigators. (1997). Dietary fat and insulin sensitivity in a

triethnic population: the role of obesity. The Insulin Resistance and Atherosclerosis Study. *American Journal of Clinical Nutrition*, 65, 79-87.

1. Monaco, J.H., & Anderson, R. (1994). Tai's formula is the Trapezoidal Rule. *Diabetes Care*, 17(10), 1224-1227.

Videos

"Careers in Biostatistics: Relevant, High Impact and Rewarding" developed 28-minute informational YouTube video as part of the American Statistical Association initiative "Training the Next Generation of Biostatisticians." More than 31,000 views.

http://youtu.be/oZcrfrS_3MU

"Developing the Next Generation of Biostatisticians" developed a 19-minute YouTube video with information about educational requirements and job opportunities for biostatistical careers. Video contains clips of presentations by biostatisticians from Harvard and Emory. More than 1,200 views. <http://youtu.be/8T0p4ubBVLO>

"Where are the Biostatisticians?" informational video about the impact of biostatisticians as part of an American Statistical Association Biometric Section Initiative. More than 7,500 views. <https://www.youtube.com/watch?v=sJmi5umt-1g>

Grants:

"Biostatistics: High-Impact Discipline and Growing Career Field," American Statistical Association, Biometric Section (PI) \$4050 2013-2015

"Raising Interest in Biostatistics Careers among Miami High School Students," American Statistical Association, Biometric Section (PI) with Dr. Amy Herring (Co-PI) \$2,997 Jan 1-Dec 31, 2011

"Training the Next Generation of Biostatisticians," American Statistical Association, Biometric Section (PI) \$3,000 Jan 1-Dec 31, 2009

Departmental and School Service:

Director of Undergraduate Studies: coordinate undergraduate admissions, lead departmental information sessions, attend and lead meetings/fairs/open houses, advise >50 BSPH biostatistics majors students, update curriculum. Coordinate student Honors Research projects. Cohort size has more than quadrupled since beginning this role. 2006 –present

SPH MPH Core Instructor Team 2017-present

Academic Programs Committee, Gillings School of Global Public Health, Member. 2009-present

SPH MPH Core Curriculum Development Committee, Member. 2017

SPH MPH Core Curriculum Implementation Committee, Member. 2016-2017

Biostatistics Department Web and Communications Committee, Member. 2016-2018

Biostatistics Department Diversity Committee, Member.	2017-2018
SPH Student Services Organizational Development Work Group	2016
MS/MPH Task Force, Department of Biostatistics, Member.	2013
SPH 2020 Admissions Practices Committee, Member.	2012-2015
SPH Student Services Council, Member.	2010-2016
Undergraduate Admissions Committee, Department of Biostatistics, <i>Chair</i> .	2006-present
Undergraduate Honors Program, Department of Biostatistics, <i>Coordinator</i> .	2007-present
Alumni Activities and Social Committee, Department of Biostatistics, Member.	2006-present
Doctoral and Masters Exam Grader, Department of Biostatistics.	2006-present
<u>Teaching Advisor:</u> serving as mentor and teaching advisor for numerous Teaching Assistants and new faculty for a variety of biostatistics courses.	2009-present
Delta Omega Honor Society Committee, Gillings School of Global Public Health, Member.	2006-present
BSURE Committee, Summer Program Fostering Diversity, Department of Biostatistics, Member.	2009-2012
Academic Programs Sub-committee for Core Course Review, Gillings School of Global Public Health. <i>Co-author</i> of Report, "SPH Academic Programs Core Course Report and Recommendations 2010."	2009-2010
Distance Education Guild, Gillings School of Global Public Health, Member	2008-2010

Professional Service:

ASA Waller Education Awards Committee	2019-2020
Board Member: Data Safety and Monitoring Board, "Neuroendocrine Mechanisms of Reproductive Hormone Related Affective Dysfunction"	2013-2017
Board Member: Data Safety and Monitoring Board, "Continuous Oral Contraceptive Treatment in Premenstrual Dysphoric Disorder: Steroid Hormone Mechanisms"	2008-2012
Grant Reviewer: Juvenile Diabetes Research Foundation	
Reviewer: <i>Statistics in Medicine</i>	

Lectures, Presentations and Panels:

"Lowering the P value thresholds; What do statisticians (Bayesians and Frequentists) Think?" <i>Seminar Lead</i> , Holderness Distinguished Scholars Course	Sept 2018
"A study on the current state of the use of online/flipped classroom pedagogy in statistics/biostatistics," Webinar for CAUSE, Consortium for the Advancement of Undergraduate Statistics Education with Dr. Todd Schwartz	April 2018
"Online, Hybrid and Flipped Classrooms: Results from a Survey of Statistics and Biostatistics Instructors," ECots 2018 Virtual Poster Presentation with Dr. Todd Schwartz	May 2018
"Current Use of Online and Flipped Pedagogy in Statistics and Biostatistics Courses," JSM 2017 Presentation with Todd Schwartz	August 2017
Panelist, "Teaching Biostatistics Online: A Discussion and Debate of Problems and Solutions," Topic- Contributed Panel Discussion JSM 2017	August 2017

"Teaching Biostatistics: Why, what and how," Guest Lecture, BIOS 841	March 2017
"Biostatistical Literacy: How Best to Teach Medical and Public Health Professionals What They Need to Know About Statistics," Session Chair JSM 2016	August 2016
"Practical Considerations for Teaching Statistics in a Hybrid, Flipped, or Online Format," JSM 2016 Roundtable with Dr. Todd Schwartz	August 2016
Teaching in a Flipped, Hybrid or Online Statistics Classroom: Practical Considerations," ECots 2016 Virtual Poster Presentation with Dr. Todd Schwartz	May 2016
"Practical Considerations for Teaching Biostatistics in a Flipped, Hybrid, or Online Format", ENAR Roundtable with Dr. Todd Schwartz	April 2016
"Flipped Classroom Considerations," Lightning talk with Dr. Todd Schwartz for SPH Teaching Month	February 2016
Panelist, "A Culture of Cheating" Academic Integrity Event in Gillings School of Global Public Health	February 2015
Distinguished Scholar Seminar (DSS) for Seeding Postdoctoral Innovators in Research and Education (UNC SPIRE), Departmental Representative	Nov. 2014
"Preparing Statistics Majors for Graduate Study" American Statistical Association Webinar, ASA Working Group to Revise the Undergraduate Statistics Curriculum, Panelist	February 2014
"Biostatistics: Pertinent, High Impact and Rewarding" Presentation for Epidemiology 620 course, "Exploring Public Health"	2014, 2015, 2016, 2017
"Effective Online Instruction" Guest lecturer, <i>2011 Faculty Showcase: Educate, Innovate, Collaborate Workshop</i> sponsored by UNC-CH Center for Faculty Excellence	Nov. 2011
"Online Courses: Best Practices" Guest presenter, <i>e-Quality Essentials</i> course for UNC-CH faculty sponsored by Center for Faculty Excellence	July 2011
"Careers in Biostatistics: Relevant, High Impact, and Rewarding" Presentations at area High Schools (Athens Drive High School, Cary High School, Chapel Hill High School, East Chapel Hill High School, Leesville High School, Millbrook High School) involving approximately 400 AP Statistics and AP Calculus students	Spring 2009
"Explore Carolina" Panelist at events to encourage prospective admitted high school seniors to attend UNC-CH	March 2009, March 2013
"Biostatistics: What Medical Residents Really Need to Know" Department of Anesthesiology, UNC-CH Medical School	Fall 2008
Department of Radiation Oncology, UNC-CH Medical School, Biostatistics Lecture Series for Medical Residents	Fall 2007
Panelist, Summer Program for Women in Mathematics, George Washington University	July 2007
Panelist, Applying to Graduate and Professional Schools, Gillings School of Global Public Health	March 2007
Guest Lecture, Introduction to Allied Health (AHSC 101)	October 2006

Courses taught (and either developed or substantially revised):

“Principles of Statistical Inference” (Bios 600)

Fall 2004	Spring 2005	Fall 2005	Spring 2006
Fall 2006	Spring 2007	Fall 2007	Spring 2008
Fall 2008	Spring 2009	Fall 2009	Spring 2011
Spring 2012	Summer 2013	Spring 2013	Spring 2014
Spring 2015	Spring 2016	Spring 2017	

“Introduction to Applied Biostatistics” (Bios 540H)

Developed new Honors course specifically for mathematically adept undergraduates with at least 2 semesters of Calculus, Fall 2010

“Introduction to Applied Biostatistics” (Bios 500H)

Fall 2011	Fall 2012	Fall 2013	Fall 2014
Fall 2015	Fall 2016	Fall 2017	Fall 2018
Fall 2019			

“Field Observations in Biostatistics” (Bios 691)

Fall 2006	Fall 2007	Fall 2008	Fall 2009
Fall 2010	Fall 2011	Fall 2012	Fall 2013
Fall 2014	Fall 2015	Fall 2016	Fall 2017

“Data Analysis for Public Health Professionals” (SPHG 711)

Developed course specifically for new SPH MPH program that coordinates with other Public Health Core Courses. Developed all materials (computing, tests, live session lesson plans, video instruction) for use by multiple adjunct instructors at MPH@UNC. Recorded > 11 hours of video and screen capture at 2U Studios with didactic data analysis instruction. In addition to serving as section instructor, serve as course coordinator (some semesters) and lead faculty (all semesters since Fall 2018).

Fall 2018	Spring 2019	Spring 2020
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Biostatistics Dissertation Committee:

Elizabeth Ajazi (DrPH Candidate), In Progress, advisor Dr. Todd Schwartz
Viswanathan, Shankar (DrPH) Department of Biostatistics, “Statistical Methods for Recurrent Event Data with Incomplete Covariate Information,” advisor Dr. Jianwen Cai.

2019-present
2009-2011

Biostatistics Master of Science Committees:

Elizabeth Ajazi, "The use of online courses and flipped classrooms for statistics or biostatistics courses: Overall and selected subgroup results," co-advising with Dr. Todd Schwartz	2018
Crystal Rushing, "Survival Function Estimation in the Presence of Right-censoring and Missing Left Truncation Times," advisor, Dr. Michael Hudgens.	2015
Amelia Wallace, "Surgical Treatment of Symptomatic Neonates with Tetralogy of Fallot: An Analysis of the STS Congenital Heart Surgery Database," co-advising with Dr. Sean O'Brien.	2013-2014

Biostatistics Senior Honors Project Advising and Committees:

Leo Li, "Assessing psychosocial, Autonomic, and Pain Sensitivity Risk Factors of Chronic Temporomandibular Disorder by Using Ridge Logistic Regression and Bootstrapping," advisor Dr. Eric Bair	2018-2019
Matthew Gilleskie, "Understanding Community and Individual Level Factors Associate with HIV Care Engagement," advisor Dr. Michael Hudgens	2018-2019
Katherine Gora Combs, "Exploration of Significant Relationships between Gut Microbiota Variables and Obesity Measures in the China Health and Nutrition Survey," advisor Dr. Annie Green Howard	2018-2019
Emma Crenshaw, "The Effect of Intergenerational Educational Attainment on Cardio metabolic Health in US Latinos, " advisors Drs. Allison Aiello and Jane Monaco	2018-2019
Saster Jie, "Weighted Inference of Gene Expression Variability in Single Cell RNAseq Data for Gene Set Tests: a Replication Study," advisor Dr. Di Wu.	2018-2019
Yirun Li, "An Application of Colored Independent Component Analysis on a Real-world EEG Dataset," advisor Dr. Kinh Truong	2018-2019
Angela Xue, "Identifying Interaction Segments between Two Cytoskeletal Proteins via Firth Logistic Regression," advisor Dr. Kinh Truong.	2018-2019
Kylie Fultineer, "Relationship of BMI and BMI Change with Falls at Carol Woods Retirement Community," advisor, Dr. Clarence (Ed) Davis	2017-2018
Venkatesa Muruganandam , "BMI and Incident Hypertension among Chinese adults," advisor, Dr. Annie Green Howard	2017-2018
Mengbing Li, "Extending Dynamic Treatment Regimes to Incorporate Longitudinal Data Observed between Decision Times," advisor, Dr. Michael Kosorok	2016-2017
Yaoxuan Xia, "Associations between Genetic Variants and Clinical Psychosocial and Pain Sensitivity Risk Factors of Chronic Temporomandibular Disorders," advisor, Dr. Eric Bair	2016-2017
Subodh Selukar, "Assessing the Relationship between Measures of Pain Sensitivity and Chronic Pain Conditions Comorbid with TMD: The OPPERA Case-Control Study," advisor, Dr. Eric Bair	2015-2016
Thomas Hunold, "Evaluating the Knowledge of Emergency Medical Services Personnel in NC for pediatric and obstetric patients ," coadvisor with Dr. Lisa Wruck	2015-2016

Pallavi Surana, "Examination of prospective diagnostics thresholds in PMDD," advisor Dr. Jacqueline Johnson	2015-2016
Parker Xie, "A method for estimating treatment effects in clinical data associated with personalized medicine: a replication study," advisor Dr. Michael Hudgens	2015-2016
Camille Morgan, "Status of water, sanitation, and hygiene access in schools in six African countries," advisor Dr. Michael Bowling.	2014-2015
Jenny Sun, "Nonspecific orofacial symptoms as risk factors for first onset TMD and Chronic TMD," advisor Dr. Eric Bair.	2014-2015
Laura Zhou, "Some Statistical Considerations for Comparisons Between Groups for Counts of Events During At Risk Time Periods," Graduating with Honors, advisor Dr. Gary Koch.	2013-2014
Sheila Gaynor, "Identification of biologically relevant subtypes via preweighted sparse clustering," Graduated with Highest Distinction and Highest Honors, advisor Dr. Eric Bair.	2012-2013
Ben Buck, "Predicting and Modeling Survival and Growth in the Mice Lacking the $\alpha 3$, $\beta 4$ and $\alpha 5$ Subunits of the nACh Receptor," Graduated with Honors, advisor Dr. William Valdar.	2011-2012
Eric Butter, "Socio-economic diabetes risk factors in Cleveland Mississippi: Mixed Model Analysis in a Subject-Limited Retrospective Chart Review," Graduated with Distinction and Honors, advisor Dr. Amy Herring.	2011-2012
Katherine Hunold, "Alternative Matching Strategies to Control for Confounders: An application to the Comparison of Change in Pain and Side Effects from Opioid vs. Non Opioid for the Outpatient Treatment of Acute Pain of Older Adults," Graduated with Highest Distinction and Highest Honors, advisor Dr. Denise Esserman.	2011-2012
Andrei Stefanescu, "Diet and Exercise Behavioral Intervention. Reduces 10 Year Risk of Developing Cardiovascular Disease in Schizophrenic," Graduated with Highest Distinction and Highest Honors, advisor Dr. Robert Hamer.	2011-2012
Beth Wiener, "Investigating New Methods to Provide Robust Confidence Intervals for Differences in Proportions in Setting with Small Counts," Graduated with Distinction and Highest Honors, advisors Drs. Gary Koch and Todd Schwartz.	2011-2012
Mary Cooter, "A Two-Step Approach for Accurate Detection of Copy Variations," advisor Dr. Wei Sun.	2010-2011
Jenny Yang, "A Comparison of Depression Symptomatology Instruments," Graduated with Distinction and Honors, advisor Dr. Todd Schwartz.	2010-2011
Elizabeth Church, "Predictors of CD4 Count at Time of Interview in an HIV-infected Cohort," Graduated with Distinction and Honors, advisor Dr. Michael Hudgens.	2010-2011
Amelia Wallace, "Medication Adherence Disparities among the Elderly," Graduated with Honors, advisor Dr. Denise Esserman.	2009-2010
Molly Jones, "Analysis of Los Angeles Public Opinion Survey," Graduated with Honors, advisor Dr. William Kalsbeek.	2009-2010

Senhlnathan Ramalingam, "Determining the Distribution of SOX9 Intensity in Colorectal Tumors," Graduated with Highest Distinction and Highest Honors, advisor Dr. Young Truong.	2009-2010
Sarah Elizabeth Smith, "Survival Analysis of Data on the Prevention of Mother-to-Child Transmission of HIV in a Resource-Limited Setting" Graduated with Distinction and Honors, advisor Dr. Michael Hudgens.	2009-2010
Danielle Boree, "A Secondary Analysis of HIV Adherence Counseling Practices among North Carolina Physicians Stratified by Medical Specialty," Graduated with Distinction and Highest Honors, advisor Dr. Rosalie Dominik.	2007-2008
Victoria Ding, "Quantifying the Effect of Sinemet on Neural Activity on Parkinson's Disease Subjects Using fMRI," Graduated with Distinction and Highest Honors, advisor Dr. Young Truong.	2007-2008
Meredith Johnston, "A Rat Model of Pre- and Postpartum Depression and Anxiety and Their Thyroid Correlates," Graduated with Distinction and Highest Honors , advisor Dr. Robert Hamer.	2007-2008