Theresa A Scott, MS

theresa.scott@vanderbilt.edu • http://biostat.mc.vanderbilt.edu/TheresaScott
Work Address: Vanderbilt University Medical Center • Department of Biostatistics •
S-2323 Medical Center North • 1161 21st Avenue South • Nashville, TN 37232-2158 •
(615) 343-1713 • (615) 343-4924 (fax)

EDUCATION

University of Michigan, Department of Biostatistics, Ann Arbor, MI
Master of Science in Biostatistics,
Interdepartmental Concentration in Public Health Genetics, April 2003

Carnegie Mellon University, Pittsburgh, PA
Bachelor of Science in Mathematics,
Operations Research Concentration, May 2001

PRESENT POSITION

Department of Biostatistics, Vanderbilt University Medical Center, Nashville, TN
Biostatistician III, June 2006 - present
Biostatistician II, April 2004 - May 2006

Key functions performed:

1. Collaborated as a member of numerous research teams on the design, implementation, analysis, and publication of various research projects.

   - Provided statistical expertise in the design of research projects, focusing on fundamental issues including the determination and clarification of the research problem, hypothesis/hypotheses, specific aim(s), and basic study design.
   - Participated in the writing and revisions of grants and IRB proposals, including providing sample size/power calculations and justifications, and statistical analysis plans.
   - Assisted in the design and development of methods, operations and procedures to collect, edit, verify, and manage data, including the design of questionnaires and other data collection instruments.
   - Implemented the planned analysis of research projects, including data verification and data correction as necessary, using statistical analysis software (primarily the statistical programming language R) and ensuring reproducible research.
     - Implemented analysis included univariate and group-wise summary statistics, graphical exploratory data analysis, parametric and non-parametric tests of association, analysis of missing data, multiple imputation, linear regression analysis, generalized linear models (logistic and proportional odds), survival analysis, use of restricted cubic splines in various regression analysis, model validation using bootstrapping, and analysis of survey data (specifically NAMCS/NHAMCS data sets both with and without Census data, the National Survey of Children's Health data set, and the Nationwide Inpatient Sample data sets).
   - Prepared formal written reports summarizing and interpreting the data analysis results, including detailed explanations of the statistical methods and the synthesis of conclusions.
   - Presented written reports to collaborators, explaining all statistical methods and results in lay terms, and answering any of their questions.
   - Based on feedback from the collaborators, modified the planned analysis and implemented any new or revised analysis.

- Participated in the writing and revision of abstracts, posters, slide presentations, and manuscripts for publication, including providing statistical methods and results sections, figures and tables.
- Assisted in the revision of submitted and reviewed manuscripts based on reviewers' comments, including performing any additional or modified analysis.

2. Acted as database manager for both research and quality improvement projects.

Current allocation of percent effort:
- Tennessee Initiative for Perinatal Quality Care, May 2009 - present (50% effort).
    - Statewide collaborative (`http://tipqc.org/`) that seeks to improve health outcomes for mothers and infants in Tennessee by implementing data-driven provider- and community-based performance improvement initiatives.
        - Current statewide projects: NICU Central Line Associated Blood Stream Infection (CLABSI) Reduction, Human Milk for NICU Infants, and Reducing Elective Deliveries before 39 Weeks.
        - Projects being piloted: TN Breastfeeding Promotion.
        - Projects being developed: NICU Undetected CCHD Registry, NICU Follow Up Network, NICU Golden Hour, NICU Neonatal Abstinence Management, and Maternal Mortality.
    - Designed, managed, and maintained a REDCap (see below) database for each quality improvement project.
    - Created custom reports for each project using R, Sweave, and LaTeX (and `brew` R package), which were generated in real-time in REDCap based both on an individual group's data and state-level aggregate data.
    - Participated in monthly project specific webinars from initial project development to pilot and statewide implementation and project continuation.
    - Provided training, including training materials, on the use of the databases and report generation and interpretation.
    - Provided administrative oversight of database users.
- The National Children's Study, August 2010 - present (40% effort).
    - Nationwide study (`http://www.nationalchildrensstudy.gov/`) that seeks to improve the health and well-being of children by examining the effects of environmental influences on the health and development of 100,000 children across the United States, following them from before birth until age 21.
        - Provided database support for the Davidson County Study Center.
    - Designed, managed, and maintained multiple REDCap (see below) databases to capture and manage both participant and operational data defined by the (NICHD) Program Office.
    - Revised the REDCap data collection forms as newer versions of the Master Data Elements Specifications were released.
    - Generated internal weekly reports as well as a Bi-weekly Progress Report submitted to the (NICHD) Program Office.
    - Exported, manipulated, and transmitted the (full) raw REDCap data to the (NICHD) Program Office as an XML file, based on a specified schema, every two weeks.
    - Provided training, including guides and a manual, on the use of the databases to Study Center and sub-contractor staff.
    - Provided administrative oversight of database users.
    - Served as REDCap liaison for other Study Centers.
- Research Electronic Data Capture (REDCap), October 2009 - present (10% effort).
    - A secure, web-based application developed at Vanderbilt University (and used world-wide; `http://www.project-redcap.org/`) for building and managing online databases and surveys and supporting the subsequent capture and management of data.

- Co-provided (along with a member of the REDCap team) a weekly 1.5 hour clinic to assist Vanderbilt researchers using REDCap.
- Addressed questions regarding database and survey design, project workflow, reporting, and other REDCap functionality.
- Assisted in the development of additional reporting functionality using advanced links, external plugins, and application programming interface (API).
- Presented several "Biostats Discussion" topics during weekly consortium wide REDCap webinar and invited speaker topics at the 2010 and 2011 annual consortium wide meeting.

Previous allocation of percent effort:
- Vanderbilt Institute for Clinical and Translational Research (VICTR; funded by an NIH Clinical and Translational Science Award, CTSA), December 2009 - November 2011 (at most 25% effort).
  - Provided statistical support to individual researchers via a 'Voucher' (short-term consulting) system and weekly Biostatistics Clinics.
  - Selected and scheduled topics and presenters for the Clinical Research Center's (CRC) weekly Research Skills Workshop (co-Course Director); often a presenter as well (see Teaching Experience section).
  - Additionally attended monthly Biostatistics and Biostatistics/Ethics meetings, and weekly Biostatistics Clinics.
- Collaboration plan between the Department of Biostatistics and the Department of Obstetrics and Gynecology, August 2004 - July 2010 (at most 25% effort).
  - Provided statistical support to physicians, clinicians, post-docs, fellows, residents, and medical students.
  - Additionally participated in monthly journal clubs, providing critiques of the statistical methods of the presented article(s), and attended monthly departmental grand rounds.
- Collaboration plan between the Department of Biostatistics and the Division of General Pediatrics, January 2007 - May 2009 (50% effort).
  - Provided statistical support to physicians, clinicians, post-docs, fellows, residents, and medical students.
  - Additionally attended a monthly "Research Works in Progress" meeting, providing feedback to division members presenting their research studies.
- Data Safety Monitoring Committee (DSMC) for a large pharmaceutical company clinical trial, January 2004 - December 2006 (75% effort).
  - Generated the open (blinded) and closed (un-blinded) reports for each meeting of the DSMC (every three months) using the statistical programming language R and LaTeX.
  - Modified the reports as needed based on DSMC members comments at each meeting.
  - Contributed to the development of `rreport`, an R package that produces statistical reports in LaTeX for clinical trials.
  - Maintained data, code files, and correspondence with Amgen.

Additional functions performed:
- Attended various continuing education opportunities including daily Biostatistics clinics, a weekly Biostatistics seminar, and a weekly meeting of the Department's MS level biostatisticians.
- Served as a source for other department members and other clinicians/researchers to learn the statistical programming language R, LaTeX, and Sweave, including addressing their questions outside of the R Clinic (included multiple 'Continuing Education' sessions of the weekly meeting of Department's MS level biostatisticians and other instances described in the Teaching Experience section).
- Participated in the recruiting of MS level biostatisticians, including rewriting the current job ad, going on recruiting trips, interviewing prospective candidates, and attending monthly MS Search Committee meetings.

PUBLICATIONS

Published:

1. Maron DJ, Stone GW, Berman DS, Mancini GBJ, Scott TA, Byrne DW, Harrell FE, Shaw LJ, Hachamovitch R, Boden WE, Weintraub WS, Spertus JA. *Is cardiac catheterization necessary before initial management of patients with stable ischemic heart disease? Results from a Web-based survey of cardiologists.* Am Heart J. 2011 Dec;162(6):1034-1043.e13.

2. Tzanetos DB, Fahrenholz JM, Scott T, Buchholz K. *Comparison of the sedating effects of levocetirizine and cetirizine: a randomized, double-blind, placebo-controlled trial.* Ann Allergy Asthma. 2011 Dec;107(6):517-522.

3. Darbar M, Emans SJ, Harris ZL, Brown NJ, Scott TA, Cooper WO. *Part-time physician faculty in a pediatrics department: a study of equity in compensation and academic advancement.* Acad Med. 2011 Aug;86(8):968-73. PubMed PMID: 21694562.

4. McPheeters ML, Davis A, Navarre JR 2nd, Scott TA. *Family report of ASD concomitant with depression or anxiety among US children.* J Autism Dev Disord. 2011 May;41(5):646-53. PubMed PMID: 20697792.

5. Eden SK, An AQ, Horner J, Jenkins CA, Scott TA. *A two-step process for graphically summarizing spatial temporal multivariate data in two dimensions.* Computational Statistics. 2010 Dec;25(4):587-601.

6. Scholer SJ, Hamilton EC, Johnson MC, Scott TA. *A brief intervention may affect parents' attitudes toward using less physical punishment.* Fam Community Health. 2010 Apr-Jun;33(2):106-16. PubMed PMID: 20216353.

7. Gesell SB, Scott TA, Barkin SL. *Accuracy of perception of body size among overweight Latino preadolescents after a 6-month physical activity skills building intervention.* Clin Pediatr (Phila). 2010 Apr;49(4):323-9. Epub 2009 Jul 15. PubMed PMID: 19605865.

8. Moore RD, Schuman TA, Scott TA, Mann SE, Davidson MA, Labadie RF. *Exostoses of the external auditory canal in white-water kayakers.* Laryngoscope. 2010 Mar;120(3):582-90. PubMed PMID: 20066729.

9. Gallion HR, Dupree LJ, Scott TA, Arnold DH. *Diagnosis of Trichomonas vaginalis in female children and adolescents evaluated for possible sexual abuse: a comparison of the InPouch TV culture method and wet mount microscopy.* J Pediatr Adolesc Gynecol. 2009 Oct;22(5):300-5. Epub 2009 Jul 3. PubMed PMID: 19576816.

10. Hartmann KE, McPheeters ML, Biller DH, Ward RM, McKoy JN, Jerome RN, Micucci SR, Meints L, Fisher JA, Scott TA, Slaughter JC, Blume JD. *Treatment of overactive bladder in women.* Evid Rep Technol Assess (Full Rep). 2009 Aug;(187):1-120, v. Review. PubMed PMID: 19947666.

11. Pont SJ, Grijalva CG, Griffin MR, Scott TA, Cooper WO. *National rates of diarrhea-associated ambulatory visits in children.* J Pediatr. 2009 Jul;155(1):56-61. Epub 2009 Apr 25. PubMed PMID: 19394047.

12. Patel RP, Gambrell M, Speroff T, Scott TA, Pun BT, Okahashi J, Strength C, Pandharipande P, Girard TD, Burgess H, Dittus RS, Bernard GR, Ely EW. *Delirium and sedation in the intensive care unit: survey of behaviors and attitudes of 1384 healthcare professionals.* Crit Care Med. 2009 Mar;37(3):825-32. PubMed PMID: 19237884.

13. Hebert PR, Coffey CS, Byrne DW, Scott TA, Fagard RH, Rottman JN, Murray KT, Oates JA. *Treatment of Elderly Hypertensive Patients with Epithelial Sodium Channel Inhibitors Combined with a Thiazide Diuretic Reduces Coronary Mortality and Sudden Cardiac Death.* J Am Soc Hypertens. 2008 Sep;2(5):355-365. PubMed PMID: 19727429; PubMed Central PMCID: PMC2633478.

14. Cole ME, Milam MR, Scott TA, Jones HW 3rd. *Inadequate screening in patients evaluated by nongynecologists for cervical cancer: a case control analysis.* Am J Obstet Gynecol. 2008 May;198(5):e48-50. Epub 2008 Mar 14. PubMed PMID: 18342826.

15. Lemly D, Mandelbrot L, Meier F, Firtion G, Matheron S, Jeantils V, Scott TA. *Factors related to medical appointment attendance after childbirth among HIV-infected women in the Paris region.* AIDS Care. 2007 Mar;19(3):346-54. PubMed PMID: 17453568.

16. Nick AM, Bruner JP, Moses R, Yang EY, Scott TA. *Second-trimester intra-abdominal bowel dilation in fetuses with gastroschisis predicts neonatal bowel atresia.* Ultrasound Obstet Gynecol. 2006 Nov;28(6):821-5. Review. PubMed PMID: 17029299.

17. Milam MR, Pollock JW, Nick AM, Scott T, Jones HW 3rd. *The effect of hormonal contraception on the adequacy of colposcopic examination of the cervix.* Am J Obstet Gynecol. 2005 May;192(5):1368-9. PubMed PMID: 15902111.

18. Lawson WE, Grant SW, Ambrosini V, Womble KE, Dawson EP, Lane KB, Markin C, Renzoni E, Lympany P, Thomas AQ, Roldan J, Scott TA, Blackwell TS, Phillips JA 3rd, Loyd JE, du Bois RM. *Genetic mutations in surfactant protein C are a rare cause of sporadic cases of IPF.* Thorax. 2004 Nov;59(11):977-80. PubMed PMID: 15516475; PubMed Central PMCID: PMC1746860.

Conference related (among others; abstracts, posters, and/or oral presentations):

1. Gesell S, Scott TA, Barkin S. *Accuracy of self-perception of body size among overweight Latino preadolescents after a 6-month physical activity skills building intervention.* Annual Scientific Meeting of The Obesity Society, October 2008.

2. Barkin S, Gesell S, Pont SJ, Richardson I, Guzman M, Scott TA. *Pediatric Obesity in Latino Preadolescents – Results from a Pilot Study Examining the Uses of a Recreation Center as an Extension of the Doctor's Office.* Pediatric Academic Societies and Asian Society for Pediatric Research Joint Meeting, May 2008.

3. Pont SJ, Gesell S, Scott TA, Barkin S. *Goal Setting in Overweight Latino Pre-adolescents.* Pediatric Academic Societies and Asian Society for Pediatric Research Joint Meeting, May 2008.

4. Gunn GL, Scott TA, Cooper WO. *Pediatricians' Level of Suspicion of Maltreatment Predicts Decision to Report.* Pediatric Academic Societies' Annual Meeting, May 2007.

5. Pont SJ, Grijalva C, Griffin MR, Scott TA, Dudley JA, Cooper WO. *National Rates of Diarrhea-Related Ambulatory Visits in Children.* Pediatric Academic Societies' Annual Meeting, May 2007.

6. Banani ND, Scott TA, Cooper WO. *Trends in Prescribing of Antidepressants to Pregnant Women in the US.* Student National Medical Association Annual Medical Education Conference, April 2007.

7. Lutenbacher M, Boero J, Cooper B, Karp S, Scott T, Temple P. *Lessons from a Community-Academic Partnership: A Nurse Home Visitor Program Serving High Risk Mothers and Newborns.* 7th International Family Nursing Conference, June 2005.

8. Martin JB, Prudhomme JB, Scott TA, Loyd JE. *Features Associated with Mortality in Fibrosing Mediastinitis.* 2005 American Thoracic Society International Conference, May 2005.

9. Azari A, Bruner J, Walters K, Scott T. *Second Trimester Head Measurements in Fetuses with Spina Bifida Are Not Different From Other Biometry.* 25th Annual SMFM Scientific Meeting, February 2005.

TEACHING EXPERIENCE

An Overview of Some Important Statistical Concepts
- Three one-hour lectures covering various important statistical concepts, including the anatomy and physiology of research, the role of statistics in clinical research, population and sample, variables (types and roles), descriptive statistics, inferential statistics (confidence intervals, hypothesis testing, determining associations, and determining relationships and making predictions), analytical pitfalls to avoid, and sample size planning.
  - Additionally developed a one-hour lecture covering *How to construct & interpret common scientific & statistical graphs.*
- Provided extensive lecture notes.
- Presented several times, including
  - Cardiovascular Research Seminar Series, Vanderbilt University (November 2011).
  - CRC Research Skills Workshop, Vanderbilt University (October, May, & January 2011; July, May, & February 2010; October & July 2009; & September 2008).
  - Dietetic Interns, Vanderbilt University (March 2011, April 2010 & February 2009).
  - Institutional Review Board (IRB) Office Workshop, Vanderbilt University (March 2011).
  - The Clinical Research Staff Council (CRSC) monthly education workshop (January 2010).
  - The NIH Fogarty International Clinical Research Scholars/Fellows Program's 2009 Orientation and Training Session, Bethesda, MD (July 2009).
  - Department of Obstetrics and Gynecology Resident Didactics, Vanderbilt University (January 2007 & February 2006).

Guidelines to Data Collection & Data Entry
- One-hour lecture on how to create a data dictionary and how to create your data file(s) to achieve (1) a smooth transfer between a spreadsheet and a statistical program package, and (2) optimal statistical analysis.
- Provided extensive lecture notes.
- Presented several times, including
  - Institutional Review Board (IRB) Office Workshop, Vanderbilt University (June 2011).
  - CRC Research Skills Workshop, Vanderbilt University (July 2011, January 2010, May 2009, & June 2008).
  - Institutional Review Board (IRB) Office Workshop, Vanderbilt University (February 2009 & August 2008).

Questionnaire Design
- One-hour lecture on the components of good questionnaires and the procedures for developing them.
- Provided extensive lecture notes.
- Presented several times, including
  - IRB Office Workshop, Vanderbilt University (September 2011, & January 2008).
  - CRC Research Skills Workshop, Vanderbilt University (March 2010, November 2009 & August 2008).

R, the free software environment for statistical computing and graphics
- **The R Clinic**, Department of Biostatistics, Vanderbilt University (March 2005 - April 2011)
  - Provided a weekly one-hour clinic to assist those members of the department and any researcher learning/using R.

- Covered both predetermined topics and any problems/questions presented by clinic attendees.
- Posted helpful R code and "solutions" to presented problems and questions to created website (`http://biostat.mc.vanderbilt.edu/RClinic`).

- ***An Introduction to the Fundamentals & Functionality of the R Programming Language*** two-day short course

  - First day's material covered "An Overview", which included reading in a data set, making modifications to it, summarizing it with descriptive statistics, and generating various graphical depictions of it.
  - Second day's material covered "The Nuts & Bolts", which included the creation, attributes, and manipulation of data structures; the conditional and repetitive evaluation of expressions; and functions, including their vectorization, the implicit and explicit looping of them, and writing your own.
  - Provided extensive lecture notes (included a catalog of various R functions, a graphics reference, and numerous practice exercises and solutions), the extracted R code from the lecture notes, and sample files.
  - Presented several times, including
    - Kennedy Center Statistics and Methodology Training Seminar Series (June & October 2009).
    - LearnSTAT Course, American Statistical Association, Alexandria, VA (April 2009 & October 2007).
    - 2007 useR! Conference, Iowa State University, Ames, Iowa (one-day only).
    - *Everything You Ever Wanted to Know About Graphics But Were Afraid to Ask: A Graphics Short-Course* two-day short course (June 2007), Kennedy Center Statistics and Methodology Training Seminar Series, Vanderbilt University (co-presented with Frank E Harrell, PhD; responsible for full-day hands-on lab session).

Reproducible Research with R, LaTeX, & Sweave
- One-hour lecture covering how to generate reproducible statistical reports.
- Provided extensive lecture notes, additional extended example, and links to resources/references.
- Presented several times, including
  - Department of Biostatistics Seminar/Workshop Series, Vanderbilt University (November 2009 & June 2008).
  - CRC Research Skills Workshop (July 2008; covered an introduction to only LaTeX).
  - Kennedy Center Statistics and Methodology Training Seminar Series (May 2008).
  - CRC Research Skills Workshop (March 2008).

An Introduction to Stata
- One-hour lecture covering a portion of essential Stata commands.
- Provided extensive lecture notes.
- Presented several times, including
  - Epidemiology PhD students, Vanderbilt University (September 2011, 2010, & 2009).

An Introduction to Microsoft Excel
- Four one-hour lectures covering *The Basics of Microsoft Excel*, *Formulas and Functions in Microsoft Excel*, *Graphing Charts in Microsoft Excel*, and *PivotTable and PivotChart Reports, and Macros in Microsoft Excel*.
  - Additionally developed a follow-up lecture containing a series of examples that illustrate *Useful Microsoft Excel Functions & Formulas* and a one-hour lecture covering *Problems with Using Microsoft Excel for Statistical Analysis & Graphics*.
- Provided extensive lecture notes, sample files, and exercises.

- Presented each several times from 2004 to 2009 at the CRC Research Skills Workshop, Vanderbilt University.
- Presented to the CRSC monthly education workshop (May 2009).

CONFERENCES

Attended and presented:
- 2011 REDCap Day, Breckenridge, CO, August 4-5, 2011.
    - Presented *Using R and REDCaps API to Generate Custom Project Reports*.
- 2010 REDCap Day, Rochester, MN, August 17, 2010.
    - Presented *Customized Data Queries, Customized Reporting, External Linkage, & Randomization in REDCap*.
- 2007 useR! Conference, Iowa State University, Ames, Iowa, August 8 - 10, 2007.
    - Presented a one-day tutorial titled *An Introduction to the Fundamentals & Functionality of the R Programming Language* (explained further in previous 'Teaching Experience' section).
- 2006 Joint Statistical Meeting, Seattle, WA, August 6 - 10, 2006.
    - Svetlana K Eden, MS, Angel Q An, MS, Jeffrey Horner, BS, Cathy A Jenkins, MS, and Theresa A Scott, MS. *A Two-Step Process for Graphically Summarizing Spatial Temporal Multivariate Data in Two Dimensions*.
    - "Data Exposition" poster competition sponsored by the American Statistical Association Sections of Statistical Graphics and Statistical Computing and organized by Paul Murrell, PhD.
    - Competition provided a data set of geographic and atmospheric data from NASA and entrants were asked to provide a graphical summary of the important features of the data set.
    - Received third place in competition (out of 14 entries).
    - Subsequent manuscript published in 2010 (Computational Statistics).

Attended:
- 7th International Conference on Health Policy Statistics, Philadelphia, PA, January 17-18, 2008.
- 33rd Annual High-Risk Obstetrics Seminar, Nashville, TN, November 30 - December 1, 2007.
- 2007 useR! Conference, Iowa State University, Ames, IA, August 8 - 10, 2007.
- 2006 Joint Statistical Meeting, Seattle, WA, August 7 - 10, 2006.
    - Continuing Education Courses:
        - Analysis of Clinical Trials: Theory and Applications (full day).
        - Effective Scientific Writing (full day).
        - Meta-analysis: Concepts and Applications (half day).
- 31st Annual High-Risk Obstetrics Seminar, Nashville, TN, December 2 - 3, 2005.
- 2005 Joint Statistical Meeting, Minneapolis, MN, August 7 - 11, 2005.
    - Continuing Education Courses:
        - Statistical Analysis and Data Display (full day).
        - Introduction to CART: Data Mining with Decision Trees (half day).
    - Roundtable luncheons:
        - Integrating Statistical Software into Health Sciences Graduate Courses.
        - Just Because You Can, Doesn't Mean You Should: Better Charts with Excel.
- 30th Annual High-Risk Obstetrics Seminar, Nashville, TN, December 3 - 4, 2005.

COMPUTER SKILLS

Operating systems: Linux, Windows, Macintosh, and UNIX
Statistical software: R (primary language since summer 2000), STATA, SAS, and SPSS
Reporting software/tools: LATEX and Sweave (literate programming tool that allows you to embed R code into a LATEX document for automatic report generation)
Other software: Microsoft Word, Excel, and PowerPoint

PREVIOUS WORK EXPERIENCE

University of Pittsburgh, Department of Human Genetics, Pittsburgh, PA
Research Assistant for Candice Kammerer, PhD, and Michael Barmada, PhD, May 2003 - April 2004

- Managed data and pedigree information for various projects relating to osteoporosis, arteriosclerosis, hypertension, and thyroid hormones in humans, as well as melanoma in inbred lines of Xiphophorus (a genus of freshwater fish).

- Conducted appropriate statistical analysis, including traditional exploratory data analysis, linear regression analysis, and outlier analysis, as well as parametric linkage analysis (two-point and multi-point), quantitative trait linkage analysis, association analysis, and other analyses including testing for Hardy-Weinberg equilibrium.

- Generated scripts to aid analysis process and representation of results.

- Assisted in writing the statistical methods section of specific projects for publication.

MEMBERSHIPS

American Statistical Association, July 2005 - present