FRANCIS ABREU

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EDUCATION

2010-2015 **PhD in Biostatistics**. Johns Hopkins Bloomberg School of Public Health.
Advisor: Scott Zeger, PhD. Area of study: Analysis of clustered longitudinal data.

2004-2006 **Specialist in Statistics**. Universidad Central de Venezuela.
Distinction of excellence on specialization thesis.

1998-2003 **Bachelor in Statistical Sciences**. Universidad Central de Venezuela.
Summa Cum Laude. First student to receive this honor in the 50 years since the founding of the School of Statistics and Actuarial Sciences.

TEACHING

2007-2010 **Instructor.** Universidad Central de Venezuela, School of Statistics and Actuarial Sciences.
Tenure-track full-time instructor, tenured in 2010 in the Department of Advanced Statistical Methods. Taught ~ 4 undergraduate-level classes per semester with a co-instructor. Developed class materials and delivered lectures, as well as designed and graded homework assignments and exams. Participated in oral examination committees (8 undergraduate, 1 ScM). Courses taught:

- Statistical Inference (5 semesters): ~50 enrollment
- Sampling I (7 semesters): ~ 50 enrollment
- Sampling II (3 semesters): ~ 50 enrollment
- Data Analysis (4 semesters): ~20 enrollment

Visiting lecturer
Designed and delivered lectures and labs with interactive activities (theory, application and computing). Designed and graded student assessments.

AMERICAN UNIVERSITY OF ARMENIA

Fall 2014 Inferential Biostatistics. MPH-level, ~20 enrollment
Fall 2013 Inferential Biostatistics. MPH-level, ~20 enrollment

UNIVERSIDAD CENTRAL DE VENEZUELA, POSTGRADUATE AREA IN STATISTICS AND ACTUARIAL SCIENCES

Summer 2013 Survival Analysis. ScM-level, ~50 enrollment
Summer 2006 Probability Theory and Sampling in Audit processes. Professional-level, ~40 enrollment

Guest lecturer. Johns Hopkins Bloomberg School of Public Health.
Delivered lectures when instructor was out of town.

Spring 2015 Statistical Methods in Public Health II. MPH-level course, ~500 enrollment
Spring 2014 Analysis of Longitudinal Data. School-wide course, ~90 enrollment

TEACHING (CONT.)

Lead teaching assistant / Lab instructor.

Designed and lead labs with interactive exercises on theory, design, interpretation, computation and presentation of results. Held office hours and provided one-one consulting for final projects. Beta-tested and proctored quizzes and exams. Graded student assessments.

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

Spring 2015	Statistical Methods in Public Health III. MPH-level course, ~500 enrollment
Fall 2014	Statistical Methods in Public Health II. MPH-level course, ~500 enrollment
Spring 2014	Multilevel Statistical Models in Public Health. School-wide course, ~70 enrollment
Spring 2014	Analysis of Longitudinal Data. School-wide course, ~90 enrollment
Fall 2013	Statistical Methods in Public Health I. MPH-level course, ~500 enrollment
Spring 2013	Multilevel Statistical Models in Public Health. School-wide course, ~70 enrollment
Spring 2013	Analysis of Longitudinal Data. School-wide course, ~90 enrollment
2011-2012	Essentials of Probability and Statistical Science I-IV. ScM-level year-long course, ~25 enrollment

JOHNS HOPKINS KRIEGER SCHOOL OF ARTS AND SCIENCES

Spring 2014	Health Data Analysis Practicum. Undergraduate-level course, ~15 enrollment

UNIVERSIDAD CENTRAL VENEZUELA. SCHOOL OF STATISTICS AND ACTUARIAL SCIENCES

2006	Statistical Methods II. Undergraduate-level, ~40 enrollment

Teaching assistant

Answered student's questions on theory, application and computing. Graded student assessments.

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH

Spring 2014	Case-based Introduction to Biostatistics. Coursera MOOC, ~27,000 enrollment
Summer 2013	Case-based Introduction to Biostatistics. Coursera MOOC, ~23,000 enrollment
Fall 2012	Design of Clinical Experiments. School-wide course, ~30 enrollment
Fall 2012	Statistical Reasoning in Public Health I. Online course, ~200 enrollment

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH, SUMMER INSTITUTE OF EPIDEMIOLOGY AND BIOSTATISTICS

Summer 2014	Longitudinal Data Analysis. ~50 enrollment
Summer 2014	Data Analysis Workshop I & II. ~60 enrollment
Summer 2013	Statistical Reasoning in Public Health I & II. ~100 enrollment
Summer 2012	Statistical Reasoning in Public Health I & II. ~100 enrollment
Summer 2011	Biostatistics in Medical Product Regulation, ~10 enrollment

MENTORING

2008-2010 *Bachelor in Statistical Sciences*. Universidad Central de Venezuela, School of Statistics and Actuarial Sciences.

Mentored 7 students conducting applied research and developing statistical products for industry internships (commercial banks, pharmaceutical and marketing companies)

RESEARCH

2011-present **Graduate research assistant**. Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics.

Dissertation advisors: Scott Zeger, PhD and Elizabeth Johnson, PhD.

- Performed applied analyses and developed statistical methods to assess gender disparities in academic rewards.
- Developed applications to understand and visualize sources of information in stepped wedge designs.

2011-present **Graduate research assistant**. Johns Hopkins Bloomberg School of Public Health, Center for Clinical Trials, Department of Epidemiology.

Supervisors: Tom Louis, PhD and Elizabeth Sugar, PhD.

- Performed validation, maintained data grid freezes and documentation for the Multicenter Uveitis Steroid Treatment (MUST) Trial.
- Performed statistical analyses on ophthalmologic outcomes from the MUST Trial.

OTHER PROFESSIONAL EXPERIENCES

2006-2010 **Senior Statistician and Project Manager.** Instituto Delphos, CA., Venezuela.

Corporate liaison between Delphos, pharmaceutical companies and medical researchers. Designed and analyzed clinical trials and observational studies. Designed and delivered detailed analysis plans and clinical study reports.

Fall 2008 **Statistical consultant**. Intelimedia, C.A., Venezuela.

Analyzed voter polarization in the 2008 Libertador District regional elections.

Summer 2006 **Statistical consultant**. CONAFIN Consultores, C.A., Venezuela.

Designed and evaluated questionnaires for client satisfaction surveys.

2003-2006 **Statistical Consultant**. United Nations Development Programme (UNDP).

Developed statistical products and training activities to further local reality understanding, promotion of proper use of statistical information and strengthening of the National Statistical System in the Public Health sector.

Summer 2004 **Expert witness**. Arbitral Court TEL-FREE VENEZUELA vs. TELECOMUNICACIONES MOVILNET

Statistical considerations on goal achievements in the Sponsored Communications Program.

2002 **Statistical Intern**. Banco del Caribe, Dept. of Planning and Development, Venezuela.

Performed econometric analyses of office profitability determinants.

2000 **Statistical Intern**. Colegio Santiago de Leon de Caracas, Venezuela.

Performed statistical analyses of the Thinking Processes program Evaluation Survey.

CERTIFICATES – TEACHING AND LEADERSHIP

2014-2015 *Preparing Future Faculty Teaching Academy*. Johns Hopkins Bloomberg School of Public Health.

Participated in monthly seminars and workshops and completed the following activities:

Phase I: An introduction to Evidence-Based Undergraduate STEM Teaching, Coursera MOOC. Phase II: Teaching at the University Level course. Phase III: Redesigned and delivered Inferential Biostatistics course for the American University of Armenia.

2006 *Virtual Tutor Training*. Center for Virtual Distance Studies (CEVAD).

2004 *Teamwork and Leadership Techniques*. Latin American Women's Rights Foundation (FUNDEMUL), Venezuela.

CERTIFICATES – RESEARCH AND COMPUTING

2013 *Conflict of interest and Commitment*. Johns Hopkins Bloomberg School of Public Health.

2013 *HIPAA & Research*. Johns Hopkins Bloomberg School of Public Health.

2013 *Intermediate Privacy course for Health Care Providers*. Johns Hopkins Bloomberg School of Public Health.

2013 *Human Subjects Research*. Johns Hopkins Bloomberg School of Public Health.

2013 *Business Ethics Training for Faculty and Staff Working on Federal Contracts*. Johns Hopkins Bloomberg School of Public Health.

2009 *Corporate Activity and Human Rights*. Amnesty International – StatoilHydro, Venezuela.

2008 *Introduction to R*. Universidad Central de Venezuela.

2007 *Good Clinical Practices / Serious Adverse Events*. Novartis Pharma, Venezuela.

2004 *Bayesian Inference*. Universidad Nacional de Colombia.

2002 *Geographical Information Systems*. Universidad Central de Venezuela.

2002 *Significance in Contingency Tables*. Universidad Central de Venezuela.

ADDITIONAL PROFESSIONAL DEVELOPMENT

2006 *Statistical Consulting*. University of Wisconsin-La Crosse.

PUBLICATIONS

Sarhane KA, Flores JM, Cooney CM, **Abreu FM**, Lacayo M, Baltodano PA, Ibrahim Z, Alrakan M, Brandacher G, Rosson GD. (2013). Preoperative Anemia and Postoperative Outcomes in Immediate Breast Reconstructive Surgery: A Critical Analysis of 10,958 Patients from the ACS-NSQIP database. *Plastic and Reconstructive Surgery–Global Open*, *1*(5), e30.

Abt, NB; Flores, JM; Baltodano, PA; Sarhane, KA, **Abreu, FM**; Cooney, CM; Manahan, M; Stearns, V; Makary, M; Rosson, GD. (2014). Neoadjuvant Chemotherapy and Short-term Morbidity in Patients Undergoing Mastectomy With and Without Breast Reconstruction. *JAMA surgery*, *149*(10), 1068-1076.

PUBLISHED ABSTRACTS

Qadi, MA; Baltodano, PA; Flores, JM; Reddy, S; Abt, NB; Sarhane, KA; **Abreu, FM;** Azih, LC; Cooney, CM; Rosson, G. D. (2014). Are Flaps Really Better Than Implants for Breast Reconstruction in Obese Females? An Analysis of 89,514 Women Undergoing Breast Surgery from the ACS-NSQIP Database. *Plastic and reconstructive surgery*, *133*(4S), 982-983.

Baltodano, PA; Flores, JM; Kone, L; Abt, NB; Sarhane, KA; Rochlin, DH; **Abreu, FM**; Zellars, RC; Makary, MA; Rosson, GD. (2014). Neoadjuvant Radiotherapy is not associated with Increased Post-Mastectomy/Reconstruction Morbidity Events: A Critical Analysis of 85,851 Patients from the ACS-NSQIP Database. *Plastic and Reconstructive Surgery*, *133*(3s), 135-136.

Baltodano, PA; Flores, JM; Abt, NB; Sarhane, KA; **Abreu, FM**; Burce, KKl Cooney, CMl Cooney, DS; Sacks, JM; Rosson, G. D. (2014). Timing and Technical Implications of Breast Reconstruction in Anemic Women: The Advantages of Staged (Delayed-Immediate) Breast Reconstruction. *Plastic and Reconstructive Surgery*, *133*(3s), 111.

Abt, NB; Flores, JM; Baltodano, P; Sarhane, KA; Kone, L; **Abreu, FM**; Cooney, CM; Makary, MA; Rosson, G. D. (2014). Abstract P24: Neoadjuvant Chemotherapy is Associated with Decreased Morbidity amongst 77,958 Patients Undergoing Mastectomy-only and Immediate Tissue Expander Reconstruction. *Plastic and Reconstructive Surgery*, *133*(3s), 205-206.

Sarhane, KA; Flores, JM; Shore, AD; Baltodano, PA; **Abreu, FM**; Rosson, G. D; Makary, MA; Lee, WP; Brandacher, G; Sacks, JM. (2014). Development and Validation of a Stratification Tool for Identifying Breast Cancer Patients with Elevated BMI at Increased Risk for Surgical Site Infections. *Journal of the American College of Surgeons*, *219*(3), S87.

Sarhane, KA; Flores, JM; Shore, AD; **Abreu, FM**; Ibrahim, Z; Alrakan, M; Cooney, CM; Baltodano, PA; Drogt, C; Makary, MA; Brandacher, G; Rosson, G. D. (2013). A Validated, Risk Assessment Model for Predicting Morbidity after Breast Surgery. *Plastic and Reconstructive Surgery*, *132*(4S-1), 125.

Meléndez, MM; Baltodano, PA; Flores, JM; Sarhane, KA; **Abreu, FM**; Rosson, GD. (2013). Perioperative Transfusions and Postoperative Outcomes in Free Flap Reconstructive Surgery: A Critical Analysis of 6,132 Patients from the ACS-NSQIP Database. *Plastic and Reconstructive Surgery*, *132*(4S-1), 39.

Sarhane, KA; Flores, JM; **Abreu, FM**; Ibrahim, Z; Alrakan, M; Cooney, CM; Baltodano, PA; Drogt, C; Brandacher, G; Rosson, G. D. (2013). Building a clinical risk model to predict morbidity after breast surgery. *Journal of the American College of Surgeons*, *217*(3), S89.

PRESENTATIONS

2014 Sen HN, **Abreu FM**, Louis TA, Sugar E, Altaweel MM, Elner SG, Holbrook JT, Jabs DA, Kim RY, Kempen J. Cataract Surgery Outcomes in Uveitis: The Multicenter Uveitis Steroid Treatment (MUST) Trial. American Academy of Ophthalmology Annual Meeting 2014, Chicago, USA. (Poster)

2010 **Abreu FM**, Torrealba A. Analysis of Air Pollution Statistics and Human Development, by Means of Principal Components and Cluster Analysis. IAOS 2010, Santiago de Chile, Chile. (Podium)

PRESENTATIONS (CONT.)

2007 **Abreu FM**, Vásquez ME. Analysis of interrelations between human development and socio-demographic environment by means of Canonical Correspondence Analysis. IV Meeting of the Central American and Caribbean Region of the International Biometric Society, Isla de Margarita – Venezuela. (Podium)

2005 Ramírez, G; Vásquez ME; **Abreu, FM**. An application of canonical correspondence analysis to diagnose the socioeconomic development of Miranda State. LV Annual Meeting of ASOVAC (Venezuelan Association for the Advancement of Science), Caracas – Venezuela. (Poster)

2004 **Abreu, FM**, Proyecto SistEEM team. Gathering of information at Municipal Micro Areas level: pilot experience with the Public Health sector. II Meeting on Experiences on Local and Community Measurements for Micro-level Planning and Design of Public Policies, Ministry of Science and Technology, Caracas – Venezuela. (Podium)

2004 **Abreu, FM**. Graduates in Statistics describe their job experiences. VI Academic Sessions of the Department of Statistics and Actuarial Sciences, Universidad Central de Venezuela, Caracas – Venezuela.

2002 **Abreu, FM**. Talking to Academic Merit Award winning students. Informative sessions on Admissions to FACES, School of Economy and Social Sciences (FACES), Universidad Central de Venezuela, Caracas – Venezuela. (Podium)

HONORS AND AWARDS - TEACHING

Recognitions given to teachers who students feel have contributed in a special way in their education.

2011 **Eponym of the LXXVIII class of Statisticians and Actuaries**. Universidad Central de Venezuela.

2010 **Godmother to the LXXVI class of Statisticians and Actuaries**. Universidad Central de Venezuela.

HONORS AND AWARDS – ACADEMIC MERIT

2003 **Best GPA in graduating class** of the School of Economic and Social Sciences II-2002. Universidad Central de Venezuela.

1999-2003 **Academic Merit Scholarship**. Universidad Central de Venezuela.

Best GPA in the Department of Statistics and Actuarial Sciences 1999-2003.

7th best overall GPA in the university 2002-2003.

5th best overall GPA in the university 2000-2001.

2002 **José Félix Ribas Order: Third degree, Academic Merit**. Ministry of Health and Social Development, Venezuela.

1997-2001 **Ernesto Rivas González Academic Merit Award**. Universidad Central de Venezuela.

Best GPA in the Department of Statistics and Actuarial Sciences for all eligible semesters (9)

1999 **Study Tour Awards for Outstanding Students of the Japanese Language**. The Japan Foundation Japanese Language Institute, Japan.

SERVICE

2013-2014 **Student Grievance Board Member**. Johns Hopkins Bloomberg School of Public Health.

2012-2014 **TA training day coordinating committee member**. Department of Biostatistics. Johns Hopkins Bloomberg School of Public Health.

2005-2010 **Secretary of External Affairs**. Venezuelan Society of Statisticians and Actuaries.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

2014-present Institute of Mathematical Statistics.

2004-present Venezuelan Society of Statisticians and Actuaries.

2004-present Venezuelan College of Statisticians and Actuaries.

LANGUAGES

Spanish (native), English (bilingual), Japanese (basic), French (basic)

SOFTWARE SKILLS

MS Office: Word, Excel, Access, Power Point, Project, OneNote, among others

Statistical: R, STATA, SAS, SPSS, Minitab, Eviews, SPAD, Redatam, among others

Markup: TeX, LaTeX, Beamer, TeXworks

REFERENCES

Scott Zeger, PhD. sz@jhu.edu. Professor of Biostatistics. Johns Hopkins Bloomberg School of Public Health.

Elizabeth Johnson, PhD. ejohnso2@jhmi.edu. Associate Scientist in Biostatistics. Johns Hopkins Bloomberg School of Public Health.

Elizabeth Sugar, PhD. esugar@jhsph.edu . Associate Scientist in Biostatistics. Johns Hopkins Bloomberg School of Public Health.

Maura Vásquez, PhD. mauralvasquez@gmail.com . Graduate Program Director, Department of Statistics and Actuarial Sciences, Universidad Central de Venezuela.

Alberto Camardiel, ScM. camardiel_2007@cantv.net . Professor and former Chair of the Department of Statistics and Actuarial Sciences, Universidad Central de Venezuela.