Camila P. Estevam de Souza, PhD

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CURRENT POSITION

Postdoctoral fellow, October 2013 - current | Shah Lab for Computational Cancer Biology
BC Cancer Research Centre
University of British Columbia, Canada
Supervisor: Sohrab Shah

EDUCATION

PhD in Statistics, September 2013 | **University of British Columbia, Canada**
Thesis: Switching Nonparametric Regression Models
Supervisor: Professor Nancy Heckman

Master's Degree in Statistics, April 2008 | **University of Campinas, Brazil**
Thesis: Hypothesis tests for functional data based on distances:
a study using splines
Supervisor: Professor Ronaldo Dias

Bachelor's Degree in Statistics, July 2005 | **University of Campinas, Brazil**

RESEARCH INTERESTS

Nonparametric regression, functional data analysis, density estimation, machine learning, latent variable modeling, applications to energy consumption data, method development and analysis of cancer genomic data

RESEARCH PUBLICATIONS

de Souza, C. P. E., Heckman, N. E. and Xu, F., Switching nonparametric regression models for multi-curve data *TO APPEAR The Canadian Journal of Statistics* (preprint available at https://arxiv.org/abs/1504.02813)

McPherson, A., Roth, A., Ha, G., Chauve, C., Steif, A., **de Souza, C. P. E.**, Eirew, P., Bouchard-Côté, A., Aparicio, S., Sahinalp, S., and Shah, S., ReMixT: Clone Specific Genomic Structure Estimation in Cancer *TO APPEAR Genome Biology*

Lenzi, A., **de Souza, C. P. E.**, Dias, R., Garcia, N. L. and Heckman, N. E. (2017) Analysis of aggregated functional data from mixed populations with application to energy consumption, *Environmetrics*, 28: e2414.

Eirew, P., Steif, A., Jaswinder, K., Ha, G., Yap, D., Farahani, H., Gelmon, K., Chia, S., Mar, C., Wan, A., Laks, E., Biele, J., Shumansky, K., Rosner, J., McPherson, A., Nielsen, C., Roth, A., Lefebvre C., Bashashati, A., **de Souza, C.**, Siu, C., Aniba, R., Brimhall, J., Oloumi, A., Osako, T., Bruna, A., Sandoval, J., Algara, T., Greenwood, W., Leung, K., Cheng, H., Xue, H., Wang, Y., Lin, D., Mungall, A., Moore, R., Zhao, Y., Lorette, J., Nguyen, L., Huntsman, D., Eaves, C. J., Hansen, C., Marra, M. A., Caldas, C., Shah, S. P., Aparicio, S. (2015) Dynamics of genomic clones in breast cancer patient xenografts at single cell resolution, *Nature* 518, 422–426

De Souza, C. P. E. and Heckman, N. E. (2014) Switching nonparametric regression models. *Journal of Nonparametric Statistics,* 26(4), 617-637 (winner of the 2014 Journal of Nonparametric Statistics Best Student Paper Award).

De Souza, C. P. E. and Dias, R. (2010) Introdução à Análise de Dados Funcionais *(Introduction to Functional Data Analysis)*. Monograph from the 19th National Symposium of Probability and Statistics (135 pages). Published by Associação Brasileira de Estatística (*Brazilian Association of Statistics*), São Paulo, Brazil.

MANUSCRIPTS IN PREPARATION/SUBMISSION

Faharani, H., **de Souza, C. P. E.**, Billings, R., Yap, D., Shumansky, K., Aniba, M. R., Wan, A., Lai, D., Mes-Masson, A-M., Aparicio, S., Shah, S., Engineered in-vitro cell line mixtures and robust evaluation of computation methods for clonal decomposition and longitudinal dynamics in cancer (*under review*)

De Souza, C. P. E., Andronescu, M., and Shah S., A probabilistic-based approach for clustering sparse single-cell DNA methylation data (expected submission Fall 2017)

ACADEMIC AND PROFESSIONAL EXPERIENCE

Department of Statistics – University of British Columbia
Co-supervision of Fan Xu (undergraduate research assistant)
May/2015 – Aug/2015

Department of Statistics – University of British Columbia
Research Assistant
Supervisor: Professor Nancy Heckman
Sep/2008 – Sep/2013

Department of Statistics – University of British Columbia
Teaching Assistant, STAT 203 (Introductory Statistics for Non-Scientists)
Sep/2012 – Dec/2012

Department of Statistics – University of British Columbia
Co-supervision of Amanda Lenzi (visitor student under the Emerging Leaders in the Americas Program)
Sep/2012 – Dec/2012

Small Energy Group (now Pulse Energy)
MITACS' Accelerate Program Internship
Project: Robust Efficient Estimation of Energy Use
Academic Supervisor: Professor Nancy Heckman
Organization Sponsor: David Helliwell
Jan/2009 – Aug/2009

Department of Statistics – University of Campinas
Scientific Initiation Program
Project: Nonparametric tests of hypothesis for the proximity of two distributions
Supervisor: Professor Ronaldo Dias
Jul/2003 – Jul/2005

Department of Histology and Embryology – University of Campinas
Laboratory Technician - Fellowship from the Student Support Service
Supervisor: Professor Sarah Arana
Jan/2002 – Jun/2003

Danone (Biscuits Sector)
Campinas, SP, Brazil
Jan/2001 – May/2001 Production Supervisor
Jan/2000 – Dec/2000 Trainee (working on industrial production)

AWARDS AND FELLOWSHIPS

2014 Journal of Nonparametric Statistics Best Student Paper Award
Paper: "Switching Nonparametric Regression Models"
Aug/2015

The Marshal Prize for 2014 (http://www.stat.ubc.ca/Department/Marshall.php)

International Partial Tuition Scholarship
Sep/2008 – Sep/2013

Faculty of Science Graduate Award
May/2009 – Apr/2013

19th National (Brazilian) Symposium of Probability and Statistics Travel Award
Jul/2010

MITACS ACCELERATE Fellowship
Jan/2009

Departmental Graduate Entrance Scholarship
Sep/2008

Master's CAPES Fellowship
Mar/2006 – Apr/2008

Scientific Initiation Program - PIBIC/CNPq Fellowship
Jul/2003 – Jul/2005

RESEARCH PRESENTATIONS

Talk: "A probabilistic-based approach for clustering sparse single-cell DNA methylation data"
2017 Annual Meeting of the Statistical Society of Canada
University of Manitoba, Winnipeg, Canada, June 11-14, 2017

Talk: "Modeling Multi-Level Power Usage with Latent States and Smooth Functions"
2015 Joint Statistical Meetings
Seattle, USA, August 8-13, 2015

Talk: "Switching nonparametric regression models with an application to building power usage data"
2nd Conference for the International Society of Nonparametric Statistics
Cádiz, Spain, June 12-16, 2014

Talk: "Switching nonparametric regression models"
2013 Joint Statistical Meetings
Montreal, QB, Canada – August 3-8, 2013
41st Annual Meeting of the Statistical Society of Canada
University of Alberta, Edmonton, AB – May 26-29, 2013
Joint UBC-SFU Graduate Student Workshop in Statistics
Simon Fraser University at Harbour Centre, Vancouver, BC – March 16, 2013

Workshop: "An Introduction to Functional Data Analysis"
19th National Symposium of Probability and Statistics
São Pedro, SP, Brazil – July 26-30, 2010
Sole presenter of 6-hour workshop for researchers, graduate and undergraduate students

Workshop: "Introduction to Smoothing Techniques"
Graduate Student Computing Sessions
Department of Statistics, University of British Columbia, Vancouver, BC – June 21, 23, 2010
Sole presenter of 3-hour workshop for graduate students

Poster: "Hypothesis Tests for Functional Data Based on Distances: a Study Using Splines"
37th Annual Meeting of the Statistical Society of Canada
University of British Columbia, Vancouver, BC – May 31st to June 3rd, 2009

Poster: "An Introduction to Functional Data Analysis"
Workshop on Stochastic Processes Applied to Spatial Statistics: multi-scenario analysis and stochasticity in environmental prediction
Institute of Mathematics and Statistics – University of São Paulo
São Paulo, SP, Brazil – December 5-7, 2007
26th Brazilian Colloquium of Mathematics
IMPA – Institute of Pure and Applied Mathematics
Rio de Janeiro, RJ, Brazil – July 29th to August 3rd, 2007

Poster: "Functional Data Analysis: Smoothing Techniques and Covariance Structure"
11th Brazilian School of Probability
Maresias, SP, Brazil – August 5-11, 2007

Poster: "Nonparametric Tests of Hypothesis for the Proximity of Two Distributions Part 2"
School and Workshop on Probability Theory and Applications ICTP/CNPq
Campos do Jordão, SP, Brazil – January 21st to February 1st, 2007
17th National Symposium of Probability and Statistics
Caxambu, MG, Brazil – July 24-28, 2006
13th University of Campinas Scientific Initiation Congress
Campinas, SP, Brazil – September 28-29, 2005

Poster: "Nonparametric Tests of Hypothesis for the Proximity of Two Distributions Part 1"
12th University of Campinas Scientific Initiation Congress
Campinas, SP, Brazil – September 22-23, 2004
University of Campinas Open to the Public – 2004
Campinas, SP, Brazil – September 3-4, 2004
16th National Symposium of Probability and Statistics
Caxambu, MG, Brazil – July 26-30, 2004

MEETINGS AND WORKSHOPS ATTENDED (OTHER THAN THE ABOVE)

4th Annual Canadian Human and Statistical Genetics Meeting
Vancouver, BC, Canada – April 18-21, 2015

International Human Epigenome Consortium (IHEC) Science Day 2014
Vancouver, BC, Canada – October 8th, 2014

Scientific Writing
University of British Columbia, 6 sessions (3 hours each), May-June 2013

2010 Joint Statistical Meetings
Vancouver, BC, Canada – July 31st - August 5th, 2010

38th Annual Meeting of the Statistical Society of Canada
University of Laval, Quebec City, QB – May 23-26, 2010

Instructional Skills Program for International Teaching Assistants
University of British Columbia – September to November 2009

Introduction to WinBUGS
Department of Statistics, University of British Columbia – October 18th, 2008

MITACS' Skill Enhancement Technical Writing Workshop
Simon Fraser University at Harbour Centre, Vancouver, BC – August 26, 2008

Introduction to Stata
Nucleus of Studies of Public Politics, University of Campinas, Brazil – May 14th to June 16th, 2007

2nd Scientific Meeting of Graduate Students from the Institute of Mathematics, Statistics and Scientific Computing
University of Campinas – April 18-20, 2007

SERVICE

2nd Conference for the International Society of Nonparametric Statistics
Cádiz, Spain, June 12-16, 2014
Organizer of the session "Advanced Techniques Applied to Electrical Energy Management"

First Luncheon for Women Graduate Students in Statistics and Mathematics
March/2013
Organizer

Department of Statistics – UBC
Graduate Student Representative
July/2009 - July/2010

Joint UBC-SFU Graduate Student Workshop in Statistics
Vancouver, BC, April 10th, 2010
Member of the organizing committee

37th Annual Meeting of the Statistical Society of Canada
University of British Columbia
Vancouver, BC – May 31st to June 3rd, 2009
Volunteer

UNICAMP with Open Doors (UPA) – 2003/2004
http://www.upa.unicamp.br
IMECC – September 3-4, 2004
IMECC – August 29-30, 2003
Volunteer

PROFESSIONAL MEMBERSHIPS

American Statistical Association
Statistical Society of Canada
Institute of Mathematical Statistics

SOFTWARE SKILLS

Statistical Software
Proficient in R

Operating Systems
Mac OS X, Windows, Linux

Office and Publishing
LaTeX and Microsoft Office

LANGUAGES

Fluent English and Portuguese