José R. Zubizarreta

Curriculum Vitae

Division of Decision, Risk, and Operations
Columbia Business School, Columbia University
Uris Hall, Room 417, 3022 Broadway
New York, NY 10027

Phone (work): 212-854-8112
Fax: 212-316-9180
Email: zubizarreta@columbia.edu
Webpage: http://www.columbia.edu/~jz2313

Current employment

Assistant Professor, Division of Decision, Risk, and Operations, Columbia Business School, Jan 2014 – present
Affiliated Faculty, Department of Statistics, Columbia University, Oct 2013 – present
Affiliated Member, Institute for Data Sciences and Engineering, Columbia University, Jan 2014 – present

Education

M.A. Economics, Universidad de Chile, 2008
B.S. Mathematical Engineering, Universidad Católica de Chile, 2005; Maximum Distinction

Journal articles

Statistical methodology


**Health and medical science**


**Conference proceedings and technical reports**


**Book chapters**


**Statistical software**

[R1] depinf package for R, with Peter Aronow and Forrest Crawford

[R2] designmatch package for R, with Cinar Kilcioglu

[R3] mipmatch package for R

[R4] sbw package for R

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Awards, fellowships and grants

Awards
Kenneth Rothman Prize for the best paper published in Epidemiology in 2013, 2014
Student Paper Award, Biometrics Section, American Statistical Association, 2014
Student Paper Award, International Biometric Society ENAR, 2014
Deming Scholar Award, American Statistical Society/American Society for Quality, 2012
Young Investigator Award, Statistics in Epidemiology, American Statistical Association, 2012
President Gutmann Leadership Award, University of Pennsylvania, 2012
J. Parker Memorial Bursk Prize for Excellence in Research, Statistics Department, The Wharton School, 2011
Tom Ten Have Memorial Award, Atlantic Causal Inference Conference, 2011
Student Paper Award, Health Policy Statistics Section, American Statistical Association, 2011
Distinguished Thesis, Industrial and Systems Engineering, Universidad Católica de Chile, 2005

Fellowships
Fulbright Scholarship, 2008-2012
The Wharton School, University of Pennsylvania, Graduate Fellow, 2009-2013

Grants (as Principal Investigator)

Teaching experience

As Instructor
“Causal Inference” (Ph.D.), Division of Decision, Risk and Operations, Columbia Business School (Spring 2014, Fall 2015)
“Managerial Statistics” (M.B.A.), Division of Decision, Risk and Operations, Columbia Business School (Fall 2015)
“Introduction to Econometrics and Statistical Inference” (Ph.D.), Division of Decision, Risk and Operations, Columbia Business School (Fall 2014)
“Applied Econometrics” (undergraduate), Dept. of Industrial and Systems Engineering, Universidad Católica de Chile (Spring 2007, Fall 2008)

As Teaching Assistant
“Introductory Statistics” (undergraduate), The Wharton School, University of Pennsylvania (Fall 2012)
“Ordinary Differential Equations” (undergraduate), Faculty of Mathematics, Universidad Católica de Chile (Spring 2004)
“Electricity and Magnetism” (undergraduate), Faculty of Physics, Universidad Católica de Chile (Spring 2001, Fall 2002)
“Graphical Design in Engineering” (undergraduate), Dept. of Mechanical Engineering, Universidad Católica de Chile (Fall 2001)
Professional activities

**Reviewer**

*Annals of Applied Statistics*
*Annals of Operations Research*
*Biometrics*
*Epidemiology*
*Epidemiologic Methods*
*Health Services and Outcomes Research Methodology*
*Journal of Educational and Behavioral Statistics*
*Journal of the American Statistical Association, Applications and Case Studies*
*Journal of the American Statistical Association, Theory and Methods*
*Journal of Machine Learning Research*
*Journal of the Royal Statistical Society: Series B (Statistical Methodology)*
*Journal of the Royal Statistical Society: Series C (Applied Statistics)*
*Operations Research*
*Psychometrika*
*Statistica Sinica*
*Statistics and Computing*
*Statistics in Medicine*
*Trials*

**Service**

Assistant Program Director on the Encuentros Conference, MIT Media Lab, 2013

**Presentations**

**Invited talks**

“Stable Weights that Balance Covariates for Causal Inference and Estimation with Incomplete Data”

- Economics Department, University of Chile, Jan 11, 2016
- Biostatistics Department, Johns Hopkins University, Dec 8, 2015
- Statistics Department, Duke University, Dec 4, 2015
- Heinz College, Carnegie Mellon University, Nov 9, 2015
- Robert H. Smith School of Business, University of Maryland, May 1, 2015
- International Workshop on Applied Statistics, Bogotá, Colombia, Apr 25, 2015
- UK Causal Inference Meeting, University of Bristol, England, Apr 16, 2015
- Statistical Laboratory, University of Cambridge, England, Apr 9, 2015
- Institution for Social and Policy Studies, Yale University, Mar 5, 2015

“Causal Inference and Impact Evaluation in Observational Studies: New Matching Methods to Approximate a Randomized Experiment”

- Pediatrics Division, PUC, Santiago, Chile, Jan 07, 2016 (in Spanish)

“Covariate Balanced Restricted Randomization: Optimal Designs, Exact Tests, And Asymptotic Results”

- INFORMS, San Francisco, Nov 1, 2015

“Comparative Results of the Hospitals of the Neocosur Network from Multiple Paired Samples”

- Neocosur Conference, Buenos Aires, Argentina, Aug 22, 2015 (in Spanish)
“Design of Observational Studies” (short course)

“Stronger Instrumental Variables Via Integer Programming for Healthcare Research”
   INFORMS, San Francisco, Nov 10, 2014

“Instrumental Variables for Causal Inference in the Health Sciences”
   Neocosur Conference, Buenos Aires, Argentina, Aug 30, 2014 (in Spanish)

“New Methods for Causal Inferences in the Health and Social Sciences”
   Columbia Global Center/PUC, Santiago, Chile, Aug 19, 2014 (in Spanish)

Guest lecture for the graduate level course on empirical methods for operations research
   Kellogg School of Management, Northwestern University, Jun 6, 2014

“Using Mixed Integer Programming for Matching in Observational Studies: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress”
   Department of Statistics, Columbia University, Dec 2, 2013
   Department of Statistics, Harvard University, Feb 4, 2013
   Heinz College, Carnegie Mellon University, Jan 28, 2013
   Teachers College, Columbia University, Jan 25, 2013
   Department of Statistics, Stanford University, Jan 22, 2013
   Statistical Laboratory, University of Cambridge, England, Jan 18, 2013
   Department of Statistics, London School of Economics, England, Jan 15, 2013
   Department of Statistics, Warwick University, England, Dec 16, 2012
   Atlantic Causal Inference Conference, Johns Hopkins University, May 25, 2012
   Mailman School of Public Health, Columbia University, Nov 29, 2011

“Effect of Prophylactic CPAP in Very Low Birth Weight Infants in South America”
   Neocosur Conference, Buenos Aires, Argentina, Aug 24, 2013 (in Spanish)

“Estimation Strategies in Observational Studies”
   Neocosur Conference, Buenos Aires, Argentina, Aug 23, 2013 (in Spanish)

“New Statistical Methods for Causal Inference in Observational Studies with Applications to the Social Sciences and Health Policy”
   Columbia Business School, Feb 14, 2013

“Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress”
   Booth School of Business, University of Chicago, Jan 10, 2013
   Department of Biostatistics, Johns Hopkins University, Jan 3, 2013
   Department of Biostatistics, Columbia University, Dec 13, 2012
   Department of Biostatistics and Epidemiology, McGill University, Nov 5, 2012

“Effect of the 2010 Chilean Earthquake on Posttraumatic Stress: Illustrating New Matching Methods for Clinical, Epidemiological and Health Outcomes Research”
   Department of Psychiatry, Columbia University, Dec 12, 2012

Guest lecture on matching methods for the graduate level course on causal inference
   Statistics Department, Columbia University, Oct 10, 2012

“Estimation of the Effect of Prophylactic CPAP on Very Low Birth Weight Infants Using Matching”

“How Income Stratification is Perpetuated Across Generations? The Contribution of Longitudinal Surveys”
   Expansiva Workshop, Santiago, Chile, Jun 26, 2008 (in Spanish)
“A First Household Panel Survey in Chile: Methodological Considerations”  

**Contributed talks**

“Optimal Multilevel Matching in Clustered Observational Studies: A Case Study of the School Voucher System in Chile”  
SREE, Washington DC, Mar 6, 2015

“Stable Weight Adjustment for Causal Inference and Estimation with Incomplete Data”  
Joint Statistical Meetings, Boston, Aug 5, 2015  
Eastern and North American Region/International Biometric Society Spring Meeting, Baltimore, Mar 17, 2014

“Matching for Balance, Pairing for Heterogeneity in an Observational Study of the Effectiveness of For-profit and Not-for-profit High Schools in Chile”  
Joint Statistical Meetings, San Diego, Aug 1, 2012

“Designing an Observational Study to be Less Sensitive to Unmeasured Biases: Effect of the 2010 Chilean Earthquake on Posttraumatic Stress”  
Joint Statistical Meetings, San Diego, Aug 1, 2012

“Contrasting Evidence Within and Between Institutions that Supply Treatment in an Observational Study of Alternative Forms of Anesthesia”  
International Conference on Health Policy Statistics, Cleveland, Oct 9, 2011

**Posters**

“Matching for Balance, Pairing for Heterogeneity in an Observational Study of the Effectiveness of For-profit and Not-for-profit High Schools in Chile”  
Atlantic Causal Inference Conference, Harvard University, May 20, 2013

“Introduction to Matching Using Mixed Integer Programming in Observational Studies”  
Deming Conference, Atlantic City, Dec 4, 2012

“Weight Adjustment in Longitudinal Studies of Treatment Effects Via Quadratic Programming”  
Time for Causality Workshop, University of Bristol, England, Apr 12, 2012

“Contrasting Evidence Within and Between Institutions that Supply Treatment in an Observational Study of Alternative Forms of Anesthesia”  
Atlantic Causal Inference Conference, University of Michigan, May 19, 2011

Causal Inference in Health Research Workshop, Centre de Recherches Mathématiques, Canada, May 9, 2011

“Causal Inference with Missing Data: A Bayesian Nonparametric Approach”  
Borrowing Strength: Theory Powering Applications – Conference in Honor of Larry Brown, University of Pennsylvania, Dec 15, 2010

Penn Research in Machine Learning Conference, University of Pennsylvania, Oct 1, 2010

Joint Statistical Meetings, Vancouver, Canada, Aug 3, 2010

Machine Learning Summer School, University of Cambridge, England, Sep 3, 2009