

CURRICULUM VITAE

Andrea G. Rotnitzky
 Departamento de Economía
 Universidad Torcuato Di Tella
 Saenz Valiente 1010
 Buenos Aires, C1428BIJ, Argentina

Date & Place of Birth: January 18, 1959, Buenos Aires, Argentina

EDUCATION:

1988	Ph.D.	Statistics	University of California, Berkeley
1986	M.A.	Statistics	University of California, Berkeley
1982	Licenciate	Mathematics	Universidad de Buenos Aires, Argentina

ACADEMIC APPOINTMENTS:

11/2005-	Full Professor , Departamento de Economía, Universidad Torcuato Di Tella
8/2005-11-2005	Associate Professor , Departamento de Economía, Universidad Torcuato Di Tella
8/2005-	Adjunct Professor , Department of Biostatistics, Harvard School of Public Health
2000-7/2005	Senior Lecturer , Department of Biostatistics, Harvard School of Public Health
2001-2004	Visiting Professor , Departamento de Economía, Universidad Di Tella, Buenos Aires, Argentina (every fall semester while on leave from Harvard)
1995-2000	Associate Professor , Department of Biostatistics, Harvard School of Public Health
1989-1995	Assistant Professor , Department of Biostatistics, Harvard School of Public Health
1988-1989	Postdoctoral Research Fellow , Department of Biostatistics, Harvard School of Public Health
2000	Offered a Full Professor appointment at the Department of Biostatistics, Harvard School of Public Health (appointment not accepted due to uncertainty about the possibility of residing full-time in Boston in the future because of family constraints).

AWARDS

1991	Mellon Foundation Faculty Development Award, HSPH
1987	Teaching Award, Department of Statistics, University of California, Berkeley
2008	Outstanding Reviewer Award, Journal of Educational and Behavioral Statistics

MAJOR RESEARCH INTERESTS:

1. Inference with missing data.
2. Causal inference from observational studies with time dependent treatment and confounders
3. Analysis of clinical trials with non-compliance
4. Recovery of information from surrogate marker data in clinical trials
5. Analysis of complex epidemiological surveys
6. Analysis of informatively censored data
7. Semiparametric efficiency theory
8. Asymptotic inference in non-regular parametric models

EDITORIAL ACTIVITIES:

Associate Editor *Biometrics* (1998-2000)
Bernoulli (1999-2000)
Annals of Statistics (2007-2008)

TEACHING EXPERIENCE:

2010- Taught “**Statistical Inference**”, Dep. of Biostatistics, Harvard School of Public Health
2010- Taught “**Causal Inference**”, Dep. of Biostatistics, Harvard School of Public Health
Summer 2009 Taught “**Causal Inference**”, Bioepi Summer School on Modern Methods in Biostatistics and Epidemiology, Treviso, Italy.
Summer 2008-9 Taught “**Methods for Drawing Casual Conclusion from Observational Studies**”, Academic Research Program for Spanish and Latin American Professors Research Methods in Public Health, Harvard University, Boston, MA.
2006-2008 Taught “Probability and Measure”, Dep. of Biostatistics, Harvard School of Public Health
2003-2005 Taught “**Regression and Analysis of Variance (Theory of Linear Models)**”, Dep. of Biostatistics, Harvard School of Public Health
2004-2005 Taught “**Semiparametric Methods for the Analysis of Missing and Censored Data**”, Dep. of Biostatistics, Harvard School of Public Health (*Course Developer*)
2004-2008 Taught “**Advanced topics in Mathematical Statistics**”, Dep. of Economics, Universidad Torcuato Di Tella (*Course Developer*)
2002 Taught “**Applied Stochastic Processes in Public Health**”, Dep. of Biostatistics, Harvard School of Public Health
2001-2004 Taught “**Statistical Inference**”, Dep. Of Economics, Master of Economics Program, Universidad Torcuato Di Tella (*Course Developer*)
2001-2004 Taught “ **Introduction to Statistics**”, Dep. of Economics, Universidad Torcuato Di Tella
1999-2000 Taught “**Regression and Analysis of Variance in Experimental Research**”, Dep. of Biostatistics, Harvard School of Public Health
1998 Taught “**Causal Inference**”, Dep. of Biostatistics, Harvard School of Public Health (*Course Developer*)
Summer 1997 Co-taught “ **International Advanced Course on Statistical Methods: Recent Developments in Biostatistics with Potential Application to Cancer Research**” World Health Organization, International Agency for Research on Cancer
Summer 1996 Taught “**The Analysis of Studies with Missing Data**” Department of Statistics and Operations Research, Polytechnic University of Barcelona. (*Course Developer*)
1995-1997 Taught “**Statistical Inference II**”, Dep. of Biostatistics, Harvard School of Public Health
1993-1994 Taught “**Multivariate Analysis**”, Dep. of Biostatistics, Harvard School of Public Health
1991-1992 Taught “**Statistical Inference II**”. Dep. of Biostatistics, Harvard School of Public Health
Summer 1991 Taught “**Survival Analysis**”, Centro Universitario de Salud Publica, Madrid, Spain
1989 Taught “**Statistical Inference II**”. Dep. of Biostatistics, Harvard School of Public Health

DOCTORAL THESIS SUPERVISIONS AT HARVARD, DEP. OF BIOSTATISTICS:

Graduation Date

1991	Masahiro Takeuchi (co-supervised with Prof. James Ware)
1995	Christina Holcroft
1997	Matteo Bottai
1998	Mary Morrissey (co-supervised with Prof. Donna Spiegelman)
2001	Jolene Birmingham (co-supervised with Prof. Nan Laird)
2004	John Page (co-supervised with Prof. James Robins)
2005	Yannis Jemai
2007	Liliana Orellana
2008	Lu Wang (co-supervised with Prof. Xihong Lin)
Current Students	Quanhong Lei-Gomez (co-supervised with Prof. James Robins), and Elizabeth Ogburn.

DOCTORAL THESIS SUPERVISIONS AT UNIVERSITY OF BUENOS AIRES, DEPARTMENT OF MATHEMATICS AND STATISTICS:

Current students Julieta Molina (co-supervised with Mariela Sued), and Lucia Babino.

PROFESSIONAL ACTIVITIES

Member of the US National Academies of Sciences CNSTAT Oversight Committee for guidelines on Handling Missing Data in Clinical Trials (2009-2010).

Member of the Honorary Academic Committee of Di Tella University (2010-).

RESEARCH SUPPORT:

Past Funding:

1992-2004	NIH/R01, Co-PI, Analytic Methods for HIV-Treatment and Cofactor Effects
1994-1998	NIH/First Award, PI, Methods for Analyzing Longitudinal Data with Missingness
1998-2002	NIH/R01, PI, Methods for Analyzing Health Studies with Missingness
2002-2006	NIH/R01, PI, Methods for Analysis with Missing and/or Censored Data

Current Funding:

2004-2013	NIH/R01, Co-PI, Analytic Methods for HIV-Treatment and Cofactor Effects
2006-2010	NIH/R01, PI, Methods for Analysis with Missing and/or Censored Data and Causal Inference

PUBLICATIONS:

Reports in peer-review journals:

1. Rotnitzky, A. and Jewell, N.P. (1990). "Hypothesis testing of regression parameters in semiparametric generalized linear models for cluster correlated data." *Biometrika*, 77, 485-497.

2. Su, J., Rotnitzky, A., Burge, A., and Spengler, J. (1992). "Examination of fungi in domestic interiors by factor analysis: Correlations and associations with home factors." *Journal of Applied and Environmental Microbiology*, 58, 181-186.
3. Gold, D., Rotnitzky, A., Damokosh, A., Ware, J., Speizer, F., Ferris, B., Jr. (1993). "Race and gender differences in respiratory illness prevalence and their relationship to environmental exposures in children 7 to 14 years of age." *American Review of Respiratory Disease*, 148, 10-18.
4. Fitzmaurice, G., Laird, N., and Rotnitzky, A. (1993). "Regression models for discrete longitudinal responses." *Statistical Science*, 8, 284-309.
5. Watanabe, H., Hu, H. and Rotnitzky A. (1994) Correlates of bone and blood lead levels in carpenters. *American Journal of Industrial Medicine*, 26: 255-264.
6. Robins, J., Rotnitzky, A. and Zhao, L.P. (1994) Estimation of regression coefficients when some regressors are not always observed. *Journal of the American Statistical Association*, 89: 846-866.
7. Rotnitzky, A. and Wypij, D. (1994). "A note on the bias of estimators with missing data." *Biometrics*, 50, 1163-1170.
8. Hu, H., Watanabe, H., Payton, M., Korrick, S., and Rotnitzky, A. (1994) "The relationship between bone lead and hemoglobin." *Journal of the American Medical Association*, 272, 1512-1517.
9. Hu, H., Aro, A. and Rotnitzky, A. (1995) Bone lead measured by X-ray fluorescence: Epidemiological methods and a new biomarker. *Environmental Health Perspectives*, 103:(suppl.1) 105-100.
10. Robins, J., Rotnitzky, A. and Zhao, L.P. (1995). "Analysis of semiparametric regression models for repeated outcomes under the presence of missing data." *Journal of the American Statistical Association*, 90,106-121.
11. Robins, J. and Rotnitzky, A. (1995). "Semiparametric efficiency in multivariate regression models with missing data." *Journal of the American Statistical Association*, 90, 122-129.
12. Rotnitzky, A. and Robins, J. (1995). "Semiparametric estimation of models for means and covariances in the presence of missing data." *Scandinavian Journal of Statistics*, 22, 323-334.
13. Colditz, G.A., Willett, W.C., Rotnitzky, A., and Manson, J.E. (1995). "Weight gain as a risk factor for clinical diabetes in women." *Annals of Internal Medicine*, 122, 481-486.
14. Rotnitzky, A. and Robins, J. (1995). "Semiparametric regression estimation in the presence of dependent censoring." *Biometrika*, 82, 805-820.
15. Kim R, Aro A, Rotnitzky A, Amarasiriwadena C, and Hu H. (1995) X-ray fluorescence measurements of bone lead concentration: The analysis of low-level data. *Physics in Medicine and Biology*, 40:1475-1485.
16. Kim R., Hu H., Rotnitzky A., Bellinger D., and Needleman H. (1995) Chronic lead exposure and physical growth parameters in a 13-year follow-up study. *Environmental Health Perspectives*, 103:952-957
17. Hu H, Payton M, Korrick S, Sparrow D, Weiss ST, Aro A, Rotnitzky A. (1996). Determinants of bone and blood lead levels among community exposed middle aged to elderly men, The Normative Aging Study. *American Journal of Epidemiology*; 144:749-759.
18. Proctor SP, Rotnitzky A, Sparrow D, Weiss S and Hu H. (1996). The relationship of blood lead and dietary calcium to blood pressure in the normative aging study. *International Journal of Epidemiology*; 25:528-536.
19. Hu, H., Aro, A., Payton, M., Korrick, S., Sparrow, D., Weiss, S.T., and Rotnitzky, A. (1996). "The relationship of blood and bone lead to hypertension among middle-aged to elderly men." *Journal of the American Medical Association*, 275, 1171-1176.
20. Kim, R., Rotnitzky, A., Sparrow, D., Weiss, S., and Hu, H. (1996) "Longitudinal study of low-level lead exposure and renal function in the normative aging study." *Journal of the American Medical Association*, 275, 1177-1181.

21. Kawachi, I. Troisi, R.J., Rotnitzky, A., Coakley, E.H., and Colditz, G.A. (1996). "Can physical activity minimize weight gain in women after smoking cessation?" *American Journal of Public Health*, 86, 999-1004.
22. Kim R, Hu H, Rotnitzky A, Bellinger D, and Needleman H. (1996). Longitudinal relationship between dentin lead levels in childhood and bone lead levels in young adulthood. *Archives of Environmental Health*, 1996; 51:375-382.
23. Kim, R., Landrigan C, Mossman P., Rotnitzky, A., Sparrow, D., and Hu, H. (1997). "Longitudinal relationship between bone lead and blood lead levels in community-exposed men." *American Journal of Epidemiology*, 146, 586-591.
24. Rotnitzky, A. and Robins, J. (1997). "Analysis of semiparametric regression models with non-ignorable non-response." *Statistics in Medicine*, 16, 81-102.
25. Rotnitzky, A., Holcroft, C. and Robins, J. (1997). "Efficiency Comparisons in Multivariate Multiple Regression with Missing Outcomes." *Journal of Multivariate Statistics*, 61, 102-128.
26. Rotnitzky, A. (1997). "Discussion of the paper 'Inference for non-random samples by Copas, J.H. and Li, H.J. ' " *Journal of the Royal Statistical Society, Series B*, 59, 55-95.
27. Holcroft, C., Rotnitzky, A. and Robins, J. (1997). "Efficient estimation of regression parameters from multistage studies with validation of outcomes and covariates." *Journal of Statistical Planning and Inference*, 65, 349-374.
28. Robins, J.M. and Rotnitzky, A. (1997). "Discussion of the paper 'Robust models in probability sampling' by D. Firth and K. Bennett." *Journal of the Royal Statistical Society, Series B*, 60, 41-56.
29. Rotnitzky, A., Robins, J. and Scharfstein, D. (1998). "Semiparametric regression for repeated outcomes with non-ignorable non-response." *Journal of the American Statistical Association*, 93, 1321-1339.
30. Korrnick, S., Hunter, D., Rotnitzky, A., Hu, H., and Speizer, F. (1999). "Lead and hypertension in a sample of middle-aged women." *American Journal of Public Health*, 89, 330-335.
31. Scharfstein, D., Rotnitzky, A., and Robins, J. (1999). "Adjusting for non-ignorable drop-out using semiparametric drop-out models." Special Invited Paper of the *Journal of the American Statistical Association*, 94, 1096-1120.
32. Rotnitzky, A., Cox, D.R., Bottai, M. and Robins, J. (2000). "Likelihood based inference with singular information matrix." *Bernoulli*, 6, 243-284.
33. Robins, J., Rotnitzky, A., and Van der Laan, M. (2000). "Discussion of the Paper 'On Profile Likelihood' by S. Murphy and A. van der Vaart." *Journal of the American Statistical Association*, 95, 477-482.
34. Rotnitzky, A., Scharfstein, D., Su, T.L. and Robins, J. (2000). "Methods for conducting sensitivity analysis of trials with possibly non-ignorable competing causes of censoring." *Biometrics*, 57, 111-121.
35. Robins, J., Rotnitzky, A. and Bonetti, M. (2001) Discussion of the paper by Frangakis, C. and Rubin, D. "A note on addressing an idiosyncrasy in estimating survival curves using double-sampling in the presence of self-selected right censoring." *Biometrics*; 57:343-347.
36. Scharfstein, D., Robins, J., Eddings, W. and Rotnitzky, A. (2001) "Inference in Randomized Studies with Informative Censoring and Discrete Time-to-Event Endpoints." *Biometrics*; 57(2):404-413.
37. Schisterman E, Rotnitzky, A. (2001) Estimation of the mean of a K-sample and U-statistic with missing outcomes and auxiliaries. *Biometrika*; 88:713-725.
38. Robins, J., Rotnitzky, A. (2001) Discussion of a paper by Peter Bickel and Jaimyoung Kwon. *Statistica Sinica*, 2001; 4: 920-936.
39. Birmingham, J., Rotnitzky, A., and Fitzmaurice, G. (2003) "Pattern-mixture and selection models for analyzing monotone missing data" *Journal of the Royal Statistical Society, Series B*; 65, 275-297.

40. Robins, J. and Rotnitzky, A. G. (2004) “Estimation of Treatment Effects in Randomised Trials with Noncompliance and a Dichotomous Outcome using Structural Mean Models.”. *Biometrika*; 91:763-783.
41. Rotnitzky, A., Faraggi, D. and Schisterman, E. (2006). “Doubly-robust estimation of the area under the receiver operating characteristic curve in the presence of verification bias”. *Journal of the American Statistical Association*: 101, 1276-1288.
42. Shepherd, B., Gilbert, P., Jemai, Y. and Rotnitzky, A. (2006). “Sensitivity Analyses Comparing Outcomes Only Existing in a Subset Selected Post-Randomization, Conditional on Covariates, with Application to HIV Vaccine Trials”. *Biometrics*: 62, 332-342
43. Rotnitzky, A., Farall, A., Bergesio, A. and Scharfstein, D. (2007) Analysis of failure time data under competing censoring mechanisms. *Journal of the Royal Statistical Society, Series B*: 69, 307-327
44. Jemai, Y., Rotnitzky, A., Shepherd, B., Gilbert, P. (2007). “Semiparametric Estimation of Treatment Effects Given Baseline Covariates on an Outcome Existing Only if a Post-Randomization Event Occurs”. *Journal of the Royal Statistical Society, Series B*: 69, 879-901.
45. Vansteelandt, S., Rotnitzky, A. and Robins, J. (2007) “Estimation of regression models for the mean of repeated outcomes under non-ignorable non-monotone non-response”. *Biometrika*. 94: 841-860
46. Robins, J., Hernan, M. and Rotnitzky, A. (2007). “Effect modification by time varying covariates”. Discussion of “History-Adjusted marginal structural models to estimate time-varying effect modification”, by Petersen M, Deeks S, Martin J, van der Laan M. *American Journal of Epidemiology* , 166: 994-1002
47. Robins, J., Rotnitzky, A. and Vansteelandt, S. (2007). Discussion of “Principal stratification designs to impute data missing due to death”, by Frangakis, C., Rubin, D., An, M-W and MacKenzie, Ellen. *Biometrics*, 63: 650-653.
48. Robins, J. M., Sued, M., Quanhong-Gomez, L. & Rotnitzky, A. (2007). Performance of double-robust estimators when inverse probability weights are highly variable. *Statist. Sci.* 22, 544–59.
49. Robins, J., Orellana, L. and Rotnitzky, A. (2008). Estimation and extrapolation of optimal treatment and testing strategies. *Statistics in Medicine*. 27(23):4678-721
50. Rotnitzky, A., Bergesio, A, and Farall, A. (2009). Analysis of Quality of Life Adjusted Failure Time Data in the Presence of Competing, Possibly Informative, Censoring Mechanisms. *Lifetime Data Analysis*. 15, 1:25 DOI: 10.1007/s10985-008-9088-y.
51. Page, J. and Rotnitzky, A. (2009). Estimation of the disease-specific diagnostic marker distribution under verification bias. *Computational Statistics and Data Analysis*.53 (3): 707-717.
52. Fluss, R., Reiser, B., Faraggi, D. and Rotnitzky, A. (2009). Estimation of the ROC Curve under verification bias. *Biometrical Journal*. 51 (3): 475-490.
53. Tchetgen Tchetgen, E., Robins, J. and Rotnitzky, A. (2010). On doubly robust estimation in a semiparametric odds ratio model. *Biometrika*. 97(1):171-180.
54. Orellana, L., Rotnitzky, A. and Robins, J. (2010). Dynamic Regime Marginal Structural Mean Models for Estimation of Optimal Dynamic Treatment Regimes, Part I: Main Content. *The International Journal of Biostatistics*: Vol. 6 : Iss. 2, Article 8. DOI: 10.2202/1557-4679.1200 <http://www.bepress.com/ijb/vol6/iss2/8>
55. Orellana, L., Rotnitzky, A. and Robins, J. (2010). Dynamic Regime Marginal Structural Mean Models for Estimation of Optimal Dynamic Treatment Regimes, Part I: Proofs of Results. *The International Journal of Biostatistics* Vol. 6 : Iss. 2, Article 9. DOI: 10.2202/1557-4679.1242 <http://www.bepress.com/ijb/vol6/iss2/9>
56. Wang, L., Rotnitzky, A. and Lin, X. (2010) onparametric Regression with Missing Outcomes Using Weighted Kernel Estimating Equations. *Journal of the American Statistical Association*. To appear.
57. Rotnitzky, A., Li, L., Li, X. (2010). A note on overadjustment in inverse probability weighted estimation. *Biometrika*. To appear.

Book Chapters:

1. Robins, J. and Rotnitzky, A. (1992). "Recovery of information and adjustment for dependent censoring using surrogate markers." in *AIDS Epidemiology*; N.P. Jewell, K. Dietz and B. Farewell, eds. Birkhauser, Boston.
2. Lefkopoulou, M., Rotnitzky, A., and Ryan, L. (1994). "Trend tests for clustered data." in *Statistics in Toxicology*; Byron Morgan, ed. Oxford University Press, pp. 179-197.
3. Rotnitzky, A. (1998). "Efficiency and Efficient Estimators." *Encyclopedia of Biostatistics*, 2, 1286-1292.
4. Robins, J., Rotnitzky, A., Scharfstein, D. O. (1999) Sensitivity analysis for selection bias and unmeasured confounding in missing data and causal inference models. In *Statistical Models for Epidemiology, the environment, and Clinical Trials*. E. Halloran and D Berry, editors.; IMA Volume 116. NY, Springer-Verlag, pp.1-92.
5. Rotnitzky, A. G. and Robins, J. (2005) "Inverse Probability Weighted in Survival Analysis". *The Encyclopedia of Biostatistics*. Vol 4. pp. 2619-2625. Second Edition. Edited by Peter Armitage and Theodore Colton., 2004.
6. Rotnitzky, A. (2005). "On Semiparametric Inference". In *Celebrating Statistics in honour of Sir David Cox on his 80th birthday*. Edited by Anthony C. Davison, Yadolah Dodge and Nanny Wermuth. Oxford University Press.
7. Rotnitzky, A. (2008). Inverse Probability Weighted Methods. In *Longitudinal Data Analysis: A Handbook of Modern Statistical Methods*". Fitzmaurice, G., Davidian, M., Verbeke, G. and Molenberghs, G. editors. Chapman and Hall.

Conference Proceedings.

1. Robins, J. and Rotnitzky, A. (2000). Estimation in missing data models. *Proceedings of the XXth International Biometrics Society Conference*, 2000; 2:153-162.