

# SERGE GUILLAS (08/2006)

School of Mathematics  
Georgia Institute of Technology  
686 Cherry Street  
Atlanta, GA 30332-0160

Office phone: 404-894-8770  
Fax: 404-894-4409  
E-mail: guillas[.at.]math.gatech.edu

## EDUCATION

University Paris VII (Denis Diderot)	Mathematics	B.S.	1992
University Paris XI (Orsay-Paris Sud)	Mathematics	M.S.	1993
University Paris XI (Orsay-Paris Sud)	Mathematics	Agrégation (M.A.T.)	1995
University Paris VI (Pierre et Marie Curie)	Statistics	M.S.	1998
University Paris VI (Pierre et Marie Curie)	Statistics	Ph.D.	2001
University of Chicago	Statistics	Post doctoral	2002-2004

## PROFESSIONAL EXPERIENCE

**Assistant Professor**, School of Mathematics, Georgia Tech, 2004-

**Postdoctoral Research Associate**, Center for Integrating Statistical and Environmental Science (CISES) and Department of Statistics, University of Chicago, 2002-2004

**Instructor**, Ecole des mines de Douai (engineering school), 1996-2002

**Teacher**, high school mathematics, Lycée de Montreuil, 1995-1996

**Instructor**, Military Academy, Paris (mandatory military service), 1993-1994

## PROFESSIONAL SERVICE

Referee for *Les Annales de l'I.S.U.P.*, *Journal of Statistical Planning and Inference*, *Journal of Computational and Graphical Statistics*, *Computational Statistics and Data Analysis (3)*, *The American Statistician (2)*, *Journal of Atmospheric and Solar-Terrestrial Physics*, *Journal of Multivariate Analysis*

M.S. Committees: T. Litherland (05/2005), H. Xu, (09/2005) and T. Tezcan (12/2005)

Ph.D. Committee: C. Shim (06/2006)

Co-organizer, CISES Seminar, University of Chicago, 2003-2004

Elected member, national faculty committee, Ecoles des mines engineering schools (Albi, Alès, Douai, Nantes, Paris, Saint Etienne), 2001-2002

Member, entrance examination board, Ecole des mines de Douai, 1997-2002

## AWARDS, GRANTS & FELLOWSHIPS

New Researcher Fellow, Statistical and Applied Mathematical Sciences Institute (SAMSI), 2006-2007

EPA 2005 Stratospheric Ozone Protection Award (Tiger Team)

EPA STAR Grant, Center for Integrating Statistical and Environmental Science, University of Chicago. Co-PI, 2005-2006.

NASA-International Ozone Commission travel grant, *Quadrennial Ozone Symposium*, Kos, Greece. June 2004

NSF travel grant, *ISI International Conference on Environmental Statistics and Health*, Santiago de Compostela, Spain. July 2003

NSF travel grant, *SAMSI/GSP Workshop on Spatio-Temporal Modeling*, National Center for At-

atmospheric Research, Boulder, Colorado. June 2003

Travel grant for young researchers, *IMS Mini-Meeting on Functional Data Analysis*, University of Florida, Gainesville. January 2003

French EPA grant (2000), "Statistical methods for the prediction of pollution peaks"

*Agrégation* (1994-1995) and Master (1992-1993) national fellowships

## PUBLICATIONS

1. Guillas S., Non-causality and functional discretization, limit theorems for ARHX(1) processes [in French], *C. R. Acad. Sci. Paris*, **331**, Série I, 91-94, 2000.
2. Guillas S., Rates of convergence of autocorrelation estimates for autoregressive Hilbertian processes, *Statistics and Probability Letters*, **55**, n.3, 281-291, 2001.
3. Damon J., Guillas S., The inclusion of exogenous variables in functional autoregressive ozone forecasting, *Environmetrics*, **13**, 759-774, 2002.
4. Guillas S., Doubly stochastic Hilbertian processes, *Journal of Applied Probability*, **39**, n.3, 566-580, 2002.
5. Guillas S., Stein M.L., Wuebbles D.J., Xia J., Using chemistry-transport modeling in statistical analysis of stratospheric ozone trends from observations, *Journal of Geophysical Research - Atmospheres*, **109**, D22303, doi:10.1029/2004JD005049, 2004.
6. Damon J., Guillas S., Estimation and simulation of autoregressive Hilbertian processes with exogenous variables, *Statistical Inference for Stochastic Processes*, **8**, 185-204, 2005.
7. Fernández de Castro B., Guillas S., González Manteiga W., Functional samples and bootstrap for predicting sulfur dioxide levels, *Technometrics*, **47**, 2, 212-222, 2005.
8. Guillas S., Tiao G.C., Wuebbles D.J., and Zubrow A., Statistical diagnostic and correction of a chemistry-transport model for the prediction of total column ozone, *Atmospheric Chemistry and Physics*, **6**, 525-537, 2006.
9. Miller A.J., Cai A., Tiao G.C., Wuebbles D.J., Flynn L.E., Yang S.K., Weatherhead E.C., Fioletov V., Petropavlovskikh I., Meng X.L., Guillas S., Nagatani R.M. and Reinsel G.C., Examination of ozonesonde data for trends and trend changes incorporating solar and arctic oscillation signals, *Journal of Geophysical Research - Atmospheres*, **111**, D13305, doi:10.1029/2005JD006684, 2006.

## REPORTS

Guillas S., Rhomari N. and Zhang J., Statistical methods for the prediction of pollution peaks, 2000. *Laboratoire Central de Surveillance de la Qualité de l'Air* [French EPA]. 56 pp.

Guillas S., contribution to the Chapter 3 (Global Ozone, Past and Present), 2006 WMO/UNEP Ozone Assessment.

## PREPRINTS & WORK IN PROGRESS

Draghicescu D., Guillas S. and Wu W.B., 2006. Quantile curve estimation and visualization for non-stationary time series, submitted.

Dabo-Niang S., Guillas S., Semiparametric functional regression with autoregressive residuals.

Guillas S., Bao J., Choi Y., Wang Y., Evaluation, correction and downscaling of chemistry-transport model ozone forecasts over Atlanta.

Guillas S., Keckhut P., Bekki S., Statistical improvement of polar ozone modeling in a 3-D Chemistry-Climate model.

Guillas S., Wuebbles D.J., Miller, A.J. and Xia J., On the effectiveness of the Montreal Protocol for Northern midlatitudes: detection and attribution.

## PRESENTATIONS

- Seminar*. Université Paris VI (Pierre-et-Marie Curie), France. January 1999
- Seminar*. Université Toulouse III (Paul Sabatier), France. June 2000
- Seminar*. Université Paris VI (Pierre-et-Marie Curie), France. October 2000
- Seminar*. Université Paris VI (Pierre-et-Marie Curie), France. November 2000
- French Statistical Society Congress*. Nantes, France. May 2001.
- Scientific meeting on pollution and health*. Ecole des mines de Douai, France. May 2001
- Workshop on operator theory, functional analysis and their applications in statistical inference for stochastic processes*. Université Bordeaux II (Victor Segalen), France. June 2001
- The 53rd Session of the International Statistical Institute*. Seoul, Korea. August 2001
- Seminar*. CREST-ENSAE, Paris, France. November 2001
- Seminar*. Université Montpellier II - ENSAM - INRA, France. February 2002
- Seminar*. GREQAM (CNRS - Universities Marseille II and III), France. March 2002
- French Statistical Society Congress*. Brussels, Belgium. May 2002
- Workshop on dependent data*. Universidad de Santiago de Compostela, Spain. June 2002
- 24th European Meeting of Statisticians*. Prague, Czech Republic. August 2002
- CISES Seminar*. University of Chicago. November 2002
- IMS Mini-Meeting on Functional Data Analysis*. University of Florida, Gainesville. January 2003 (Poster)
- SAMSI/GSP Workshop on Spatio-Temporal Modeling*, National Center for Atmospheric Research, Boulder, Colorado. June 2003 (Poster)
- ISI International Conference on Environmental Statistics and Health*, Santiago de Compostela, Spain. July 2003 (Poster)
- Joint Statistical Meeting*, San Francisco. August 2003
- Seminar*, Université de Montréal, Canada. February 2004
- Seminar*, Université Laval, Québec, Canada. February 2004
- Seminar*, University of Ottawa, Canada. February 2004
- Seminar*, Boston University. February 2004
- Seminar*, University of California, San Diego. February 2004
- Seminar*, CUNY, College of Staten Island. March 2004
- Seminar*, University of Maryland, Baltimore County. March 2004
- Seminar*, Georgia Tech. March 2004
- Quadrennial Ozone Symposium*, Kos, Greece. June 2004 (Poster)
- Joint Statistical Meeting*, Toronto. August 2004
- Seminar*, Georgia Tech. September 2004
- Seminar*, University Paris 6, France. June 2005
- Conference*, Ecole des Mines de Nantes, France. June 2005
- Seminar*, Institut Pierre Simon de Laplace-CNRS, France. June 2005
- Seminar*, Ecole Nationale des Ponts et Chaussées, France. June 2005
- Joint Statistical Meeting*, Minneapolis. August 2005
- NISS/SAMSI Workshop on Collaborations in the Mathematical Geosciences*, Research Triangle Park, NC. October 2005 (poster)
- 3rd world conference on Computational Statistics & Data Analysis*, Cyprus, 28-31 October, 2005
- ISYE Statistics Seminar*, Georgia Tech. November 2005

*12th International Conference on Statistics, Combinatorics, Mathematics and Applications*, Auburn, AL, December 2-4, 2005

*Research Horizons Seminar*, Georgia Tech. February 2006

*European Geosciences Union, General Assembly 2006*, Vienna, Austria, April 2006.

## **TEACHING EXPERIENCE**

Georgia Tech, 2004-

[Graduate] Linear Statistical Models, Spring 2006

[Graduate] Special Topics (with E. di Lorenzo). Environmental Data Analysis, Fall 2005

Introduction to Linear Algebra for Calculus, Fall 2005

[Graduate] Multivariate Statistical Analysis, Spring 2005

Introduction to Linear Algebra for Calculus, Fall 2004

University of Chicago

Elementary Statistics, Fall 2003

Ecole des mines de Douai, 1996-2002

Time series; Theory of distributions (3 quarters); Introduction to stochastic processes; Statistics; Applied mathematics; Calculus, Linear algebra and probability I and II (6 semesters each)

Lycée de Montreuil, 1995-1996

High school mathematics

Military Academy, Paris, 1993-1994

Calculus, Linear algebra