

Carlos F. Tolmasky

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TEACHING EXPERIENCE

2008–Present University of Minnesota. Minneapolis, MN

Adjunct Assistant Professor

- Currently teaching “Mathematical Theory Applied to Finance” at the Masters in Financial Mathematics from the School of Mathematics.

2000–2008 University of Minnesota. Minneapolis, MN

Adjunct Assistant Professor

- Taught the class “The Mathematics of Financial Futures and Options” at the Minnesota Center for Industrial Mathematics.

1992–1996 University of Washington Seattle, WA

Teaching Assistant and Instructor

- Taught classes for undergraduate and graduate levels: Calculus, Analysis, Differential Equations.

1990–1991 Universidad de San Andres Buenos Aires, Argentina

Lecturer

- Taught classes for undergraduate level: Statistics I and II.

BUSINESS EXPERIENCE

2001–Present Cargill Petroleum. Minnetonka, MN

Derivatives Trader

- Member of a team of 5 trading derivatives (futures, swaps, options) in the petroleum and natural gas markets.

1998–2001 Cargill Inc. Energy Division Minnetonka, MN

Research Analyst

- Developed and implemented term structure models for the petroleum market.
- Worked on the derivatives desk developing systems and models for market making.
- Performed statistical analysis of fundamental and price data for relative value trading.

1996–1998 Cargill Inc. Financial Markets Group Minnetonka, MN

Research Analyst

- Developed analytical models and simulations for the valuation and hedging of exotic options and futures for various commodity markets.
- Implemented two factor model for the hedging of long term future contracts.
- Developed analytics for relative value strategies for the Latin American Brady bond market.

EDUCATION

1992–1996 University of Washington Seattle, WA

- **Ph.D., Mathematics.** Fields: Partial Differential Equations, Numerical Analysis.

1985–1990

Universidad de Buenos Aires

Buenos Aires, Argentina

- Licenciado en Matemática. Field: Probability.

RECENT INVITED TALKS

- Derivatives in Commodity Markets. Short Course, Tools for Modeling and Data Analysis in Finance / Asset Pricing. IMA, University of Minnesota, 2004.
- Correlation Structures corresponding to Forward Rates. PIMS Industrial Problem Solving Workshop, University of Calgary, 2003.
- Model Calibration in Financial Mathematics. Inverse Problems Seminar, University of Washington, 2002.
- On the Spectral Decomposition of Empirical Correlation Matrices Related to Term Structures. IMA Industrial Problems Seminar, University of Minnesota, 2001.

PROFESSIONAL ACTIVITIES

- Director of Masters Thesis. Student: Burc Barin. Thesis Title: “An Orthogonal GARCH Model for Crude Oil Implied Volatilities”, 2003.
- Member of two Masters Thesis Committees in the School of Mathematics and in the Department of Applied Economics at the University of Minnesota.
- Referee for Risk Magazine, International Journal of Theoretical and Applied Finance.
- Board member of the Masters in Financial Mathematics at the School of Mathematics, University of Minnesota.

PUBLICATIONS

- Inverse Problems for Partial Differential Equations with Non-Smooth Coefficients. PhD Thesis, University of Washington, 1996.
- Exponentially Growing Solutions for non-smooth first order perturbations of the Laplacian. Siam Journal on Mathematical Analysis, 29, 1, January 1998. pp 116-133.
- Recovery of Small Perturbations of an Interface for an Elliptic Inverse Problem via Linearization. (with A. Wiegmann) Inverse Problems, 15, 2, 1999, pp 465-487.
- Principal Components Analysis for Correlated Curves and Seasonal Commodities: The Case of the Petroleum Market. (with D. Hindanov) The Journal of Futures Markets, 22, 2002, pp 1019-1035.
- A Family of Models Explaining the Level-Slope-Curvature Effect. (with L. Forzani). International Journal of Theoretical and Applied Finance, 6, 3, May 2003, pp 239-256.
- Correlation Structures corresponding to Forward Rates. (with I. Kletskin, et al.). Proceedings of the seventh PIMS Industrial Problem Solving Workshop, University of Calgary, 2003.

LANGUAGES

Fluent in English and Spanish (native speaker).