Department of Mathematics
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Christa Cuchiero

born in Linz on April 13, 1983
Nationality: Austria

Education

July 2007–present — **Ph.D. in Mathematics**, *ETH Zürich*, *Vienna University of Technology*.
Supervisors: Prof. Damir Filipović and Prof. Josef Teichmann

Oct. 2001–Oct. 2006 — **MSc in Technical Mathematics**, *Vienna University of Technology*.
Major: Mathematical Economics, diploma with distinction

Sept. 2004–May 2005 — **Studies at Ecole Centrale Paris**.
Option: Applied Mathematics, emphasis on Mathematical Finance

June 2001 — **Matura**, *Akademisches Gymnasium Linz*.

Employment and Academic Positions

July 2009–present — **Ph.D. position**, *ETH Zürich*, Department of Mathematics.
Research Topics:
- New analytically tractable processes (polynomial processes)
- Generalizations of affine processes (generalized state spaces, Wishart processes...)
- Applications to Mathematical Finance (option pricing, interest rate theory...)

July 2007–June 2009 — **Ph.D. position**, *Vienna University of Technology*, Institute of Mathematical Methods in Economics, START-prize project "Geometry of Stochastic Differential Equations".

Sept. 2006–June 2007 — **Junior Risk Analyst**, *AGF France (Allianz Group), Paris*, Risk Management.
- Risk capital calculation for market, credit, mortality risk, etc.
- Reinsurance retention studies
- Implementation and testing of risk capital model enhancements

Aug. 2005–Aug. 2006 — **Internship at Allianz Elementar, Vienna**, *ALM & Risk Controlling*.
- Asset liability management with internal model

Current Research Interests

Mathematical Finance, Affine processes, Wishart processes, Stochastic Differential Equations

Grants

2002–2004 — Scholarships for outstanding studies awarded by the Vienna University of Technology

Publications and Preprints

Affine processes on positive semidefinite matrices (with Damir Filipović, Eberhard Mayerhofer and Josef Teichmann), Preprint, submitted 2009

Polynomial processes and their applications in Mathematical Finance (with Martin Keller-Ressel and Josef Teichmann), Preprint, submitted 2008

Affine Models (with Damir Filipović and Josef Teichmann), to appear in Encyclopedia of Quantitative Finance, 2009

Diploma Thesis

Title Affine Interest Rate Models – Theory and Practice

Supervisor Prof. Josef Teichmann

Talks

“Affine processes on positive semidefinite matrices”, One-Day Workshop on Portfolio Risk Management, TU Wien, September 2009

“Affine processes on positive semidefinite matrices”, ÖMG+DMV Kongress Graz, September 2009

“Polynomial processes and applications to option pricing”, Istanbul Workshop on Mathematical Finance, May 2009

“Polynomial processes and applications to option pricing”, Seminar talk, TU München, April 2009

“A class of analytically tractable processes with applications to option pricing”, Special Semester on Stochastics with Emphasis on Finance in Linz, Concluding Workshop, December 2008

“A class of analytically tractable processes with applications to pricing”, 5th World Congress of the Bachelier Finance Society, July 2008

“Affine processes on positive semidefinite matrices”, Seminar talk, Vienna Institute of Finance, June 2008

“Affine term structure models on symmetric cones”, Seminar talk, Vienna Institute of Finance, February 2008

“Affine interest rate models”, Seminar talk, Vienna University of Technology, October 2007