CURRICULUM VITAE OF JOSEF TEICHMANN (EMPHASIS ON LAST FIVE YEARS)

1. Curriculum

Born in Lienz, Austria on August 27, 1972. Married to Inna Giter. Three Children. Austrian Citizen.

1.1. Education.

- School Education in Oberdrauburg, Austria (elementary school) and Lienz, Austria (Gymnasium). Matura at the Bundesrealgymnasium Lienz in June 1990.
- Master studies (Diplomstudium) in Mathematics at the Universität Graz from September 1990 to June 1994.
- DEA in Mathematics at Université de Franche Comte in Besançon from September 1994 to June 1995 supervised by Prof. Wolfgang Arendt and Prof. Peter Imkeller. *Mémoire "Quelques méthodes et idées de la théorie de semi-groupes linéaires"*.
- Master in Mathematics at the Universität Graz from September 1995 to June 1996. *Diploma Thesis "Hopf's decomposition and recurrent Semi-groups"* supervised by Prof. Wilhelm Schappacher.
- Ph.D. in Mathematics at the University of Vienna from September 1996 to May 1999 supervised by Peter Michor. *Ph.D.-Thesis "Infinite dimensional Lie Groups with a view towards Functional Analysis"*.
- Fluent (oral and written) in English, French and German (native).

1.2. Professional Activities.

- Civil Service at ESRA (Jewish community of Vienna) from June 1999 to May 2000.
- **Post-doc-position** at the Institute of Financial and Actuarial Mathematics, University of Technology Vienna, with special interest in geometrical questions of Stochastic Analysis and Financial Mathematics from June 2000 to July 2001.
- **Assistant Professor (Universitätsassistent)** at the Institute of Financial and Actuarial Mathematics from August 2001 to February 2003.
- **Habilitation (Venia docendi) in Mathematics** on October 9, 2002.
- **Visiting Professor at Université Paris 6 and at CREST** in February and March 2003.
- **Associate Professor (Universitätsdozent)** at the Institute of Financial and Actuarial Mathematics from March 2003 until May 2009.
- **START-project from 2007–2009** at TU Wien. Euro 0.6 Mio. for building my own research group, see my webpage for further information. In average two post-doc and four pre-doc researchers worked in the framework of the START-project.

- **Professor for mathematical Finance at the Department of mathematics at ETH Zürich** since June 2009.
- **Executive Secretary of the Bachelier Finance Society** since July 2016.

1.3. Editorial Activities.

- **Associate Editor** of Finance and Stochastics since January 1, 2007.
- **Associate Editor** of the newly founded Journal of Geometric Mechanics since January 1, 2008 (inaugural issue in 2009, Juan-Pablo Ortega is one of the managing editors).
- **Associate Editor** of Stochastic Processes and their Applications since January 1, 2011.
- **Associate Editor** of Electronic Journal of Probability, since January 2012.
- **Associate Editor** of Electronic Communication in Probability, since January 2012.
- **Associate Editor** of Bernoulli, since January 2013.

1.4. Awards.

- **Studienpreis 2000** of the ÖMG (Austrian Mathematical Society) for the Ph.D.-Thesis.
- **Prix Jeune Chercheur 2003 de l'Institut Europlace** for the work on Geometry of Interest Rates (joint with Peter Bank and Damir Filipović).
- **Förderungspreis 2005** of the ÖMG (Austrian Mathematical Society).
- **START-Prize 2006** awarded in September 2006 by the Austrian Ministry of Science.
- **Prix Louis Bachelier de la Fondation Natixis pour la recherche quantitative et de la SMAI 2014** awarded by Academie des Sciences.

1.5. Successful (Co-)application for Research Projects – last five years.

- A list of all SNF projects can be found `http://p3.snf.ch/person-576071-Teichmann-Josef#`
- **SNF-Project "Regularity Structures in mathematical Finance"** A research project for one Post-Doc for 2 years since 2015.
- **SNF-Project "Prediction Theory of term structure models" together with Mario Wüthrich** A research project for one Post-Doc and one Pre-Doc researcher for 3 years since 2013.
- **SCIEX-Project 2012-13** Support of one year of Post-Doc-research within a research framework between ETHZ and Ljubljana University on affine processes on symmetric cones.
- **SCIEX-Project 2011-12** Support of one year of Post-Doc-research within a research framework between ETHZ and Ljubljana University on algebraic structures of extrapolation techniques.
- **SNF-Project "Functional analytic aspects of Robust calibration for affine models"** A research project for one Post-Doc researcher for 2 years, 2012–2014.
- **Prodoc "Stochastic Models of Complex Systems and their Applications"** A joint teaching module between eight research groups at ETHZ and UZH including several research modules (one research module is financing one of my PhD-students) 2011–2014.

1.6. Supervision of PhD students (last seven years).

(1) Ozan Akdogan, “Variance Swap Curves – Modelling and Calibration”, ETH Zürich 2016.
(2) Christa Cuchiero, “Affine and polynomial processes – theory and applications”, ETH Zürich 2011.
(3) Philip Dörsek, joint supervision with Markus Melenk (TU Wien), “Numerics for SPDEs”, TU Wien 2011.
(4) Nicoletta Gabrielli, “Affine processes from the perspective of path space valued Levy processes”, ETH Zürich 2014.
(5) Georg Grafendorfer, “Infinite dimensional affine processes”, ETH Zürich 2016.
(6) Sara Karlsson, joint supervision with Walter Schachermayer (Universität Wien), “Dynamics of implied volatility surfaces”, Universität Wien 2011.
(7) Martin Keller-Ressel, “Affine Processes - Theory and Applications in mathematical Finance”, TU Vienna 2009.
(8) Florian Leisch, “Risk management and portfolio optimization”, TU Vienna 2012.
(9) Blanka Horvath, joint supervision with Johannes Muhle-Karbe, “Geometric and asymptotic properties of multivariate models in finance”, ETH Zürich 2015.
(10) Christian Selinger, joint supervision with Anton Thalmaier (Université du Luxembourg), “Wasserstein diffussions”, Université du Luxembourg 2010.
(11) David Stefanovits, joint supervision with Mario Wüthrich, “Robust calibration in yield modeling”, ETH Zürich 2016.
(12) Lukas Gonon, ongoing since 2014, “Filtering Theory”, ETH Zürich.
(13) Thomas Krabichler, ongoing since 2012, “Multiple Yield curves”, ETH Zürich.
(14) Chong Liu, ongoing since 2015, “Optimal Transport”, ETH Zürich.
(15) Calypso Herrera, ongoing since 2016, “American Options”, ETH Zürich.

1.7. Organization of Conferences and Schools.

(1) Analysis, Stochastics, Applications, Vienna 2010, `http://www.mat.univie.ac.at/~anstap10/`
(2) Stochastic Partial Differential Equations: Analysis, Numerics, Geometry and Modeling,
`http://www.fim.math.ethz.ch/conferences/2011/Stochastic_PDEs`
(3) European Summer School in financial mathematics, Zürich 2011, `http://www.cmap.polytechnique.fr/~euroschoolmathfi11/`
(4) Perspectives in Analysis and Probability, Zürich 2012 `http://www.fim.math.ethz.ch/conferences/2012/Conference_Delbaen`
(5) First Imperial-ETH workshop on mathematical Finance, London 2013.
(6) Summer School on Stochastic Analysis with applications in biology, finance and physics, Zürich 2013 `https://www.mathematik.hu-berlin.de/rtg1845/qualprog/sumschool`
(7) Second Imperial-ETH workshop on mathematical Finance, Zürich 2014.
(8) Third Imperial-ETH workshop on mathematical Finance, London 2015.
(9) Fourth Imperial-ETH workshop on mathematical Finance, Zürich 2016.

(10) Several FWZ Seminars in Freiburg, Wien, Zürich, see `https://people.math.ethz.ch/~jteichma/index.php?content=FWZ_seminar`
(11) Mathematics of Quantitative Finance (jointly organized with Peter Friz and Antoine Jacquier), Oberwolfach (Germany), 26.2.-4.3.2017.

2. Publications (last five years)

I. Refereed publications

(Ia.) Scientific journals

(1) Philipp Harms, David Stefanovits, Josef Teichmann, Mario Wüthrich: *Consistent Re-calibration of the Discrete-Time Multifactor Vasicek Model*, arXiv/1512.06454, Risks 4, no. 3, 18, 2016.
(2) Christa Cuchiero, Irene Klein, Josef Teichmann: *A new perspective on the fundamental theorem of asset pricing for large financial markets*, arXiv/1412.7562, TVP (Theory of Probability and Its Applications) 60 (4), 561-579, 2016.
(3) Josef Teichmann, Mario Wüthrich: *Consistent Yield Curve Prediction*, ASTIN Bulletin 46, no. 2, 191–224, 2016.
(4) Peter Markovich, Josef Teichmann, Marie-Therese Wolfram: *Parabolic free boundary price formation models under market size fluctuations*, SIAM MMS 14(4), 1211–1237, 2016.
(5) Bojan Kuzma, Matjaz Omladic, Klemen Sivic, Josef Teichmann: *Exotic one-parameter semigroups of endomorphisms of a symmetric cone*, arXiv:/1408.2967, Linear Algebra and Its Applications, Vol. 477, 42–75, 2015.
(6) Christa Cuchiero, Josef Teichmann: *A convergence result for the Emery topology and a variant of the proof of the fundamental theorem of asset pricing*, arXiv/1406.5414, Finance and Stochastics, to appear, 2015.
(7) Jiro Akahori, Yuji Hishida, Josef Teichmann, Takahiro Tsuchiya: *A Heat Kernel Approach to Interest Rate Models*, arXiv/0910.5033, Jpn. J. Ind. Appl. Math. 31 (2014), no. 2, 419-439.
(8) Damir Filipovic, Stefan Tappe, Josef Teichmann: *Invariant manifolds with boundary for jump-diffusions*, arXiv/1202.1076, EJP 19 (51), 2014.
(9) Christa Cuchiero, Josef Teichmann: *Fourier transform methods for pathwise covariance estimation in the presence of jumps*, arXiv/1301.3602, to appear in SPA, 2014.
(10) Philipp Dörsek, Josef Teichmann, Dejan Veluscek: *Cubature Methods For Stochastic (Partial) Differential Equations In Weighted Space*, arXiv/1201.4024, to appear in Stochastic Partial Differential Equations: Analysis and Computations, 2014.
(11) Stefan Haller, Tomasz Rybicki, Josef Teichmann: *Smooth perfectness for the group of diffeomorphisms*, arXiv/0409605, J. Geom. Mech. 5 (2013), no. 3, 281–294.
(12) Philipp Dörsek, Josef Teichmann: *Efficient simulation and calibration for general HJM models by splitting schemes*, arXiv/1112.5330, SIAM J. Financial Math. 4 (2013), no. 1, 575–598.

(13) Christa Cuchiero, Martin Keller-Ressel, Eberhard Mayerhofer, Josef Teichmann: *Affine processes on symmetric cones*, arXiv1112.1233, to appear in Journal of Theoretical Probability, 2014.
(14) Martin Keller-Ressel, Walter Schachermayer, Josef Teichmann: *Regularity of affine processes on general state spaces*, arXiv/1105.0632, Electron. J. Probab. 18 (2013), no. 43, 17 pp.
(15) Christa Cuchiero, Josef Teichmann: *Path properties and regularity of affine processes on general state spaces*, arXiv/1107.1607, accepted for publication in Séminaire de Probabilité XLV, 2013.
(16) Martin Keller-Ressel, Antonis Papapantoleon, Josef Teichmann: *A new approach to LIBOR modeling*, arXiv/0904.0555, Math. Finance 23 (2013), no. 4, 627-658.
(17) Josef Teichmann: *Another approach to some rough and stochastic partial differential equations*, arXiv/0908.2814, Stochastics and Dynamics 11 (2011), no. 2-3, 535-550.
(18) Kojiro Oshima, Josef Teichmann, Dejan Veluscek: *A new extrapolation method for weak approximation schemes with applications*, arXiv/0911.4380, Ann. Appl. Probab. Volume 22, Number 3 (2012).
(19) Christa Cuchiero, Damir Filipovic, Eberhard Mayerhofer, Josef Teichmann: *Affine processes on positive semidefinite matrices*, arXiv/0910.0137, The Annals of Applied Probability. Volume 21, Number 2 (2011), 397-463.
(20) Martin Keller-Ressel, Walter Schachermayer, Josef Teichmann: *Affine processes are regular*, arXiv/0906.3392, Probab. Theory Relat. Fields 151 (2011), 591-611.
(21) Christa Cuchiero, Martin Keller-Ressel, Josef Teichmann: *Polynomial Processes and their applications to mathematical Finance*, arXiv/0812.4740, Finance and Stochastics 16 (2012), volume 4.
(22) Damir Filipovic, Stefan Tappe, Josef Teichmann: *Jump-Diffusions in Hilbert Spaces: Existence, Stability and Numerics*, arXiv/0810.5023, Stochastics and Dynamics 11 (2011), no. 2-3, 535-550.
(23) Maria Siopacha, Josef Teichmann: *Weak and Strong Taylor methods for numerical solutions of stochastic differential equations*, arXiv/0704.0745, Journal of Quantitative Finance 11 (2011), no. 4, 517-528.

(Ib.) Conference proceedings

(1) Irene Klein, Thorsten Schmidt, Josef Teichmann: *No Arbitrage Theory for Bond Markets*, in Jan Kallsen and Antonis Papapantoleon (Eds): Advanced Modeling in Mathematical Finance, Springer, 2016.
(2) Archil Gulisashvili, Josef Teichmann: *The Gärtner-Ellis theorem, homogenization, and affine processes*, arXiv/1406.3716, to appear in "Large Deviations and Asymptotic Methods in Finance" (Editors: P. Friz, J. Gatheral, A. Gulisashvili, A. Jacqier, J. Teichmann) , Springer Proceedings in Mathematics and Statistics, Vol. 110, 2015.
(3) Martin Keller-Ressel, Josef Teichmann: *A remark on Gatheral's most-likely path approximation of implied volatility*, arXiv/0911.5062, to appear in "Large Deviations and Asymptotic Methods in Finance" (Editors: P. Friz, J. Gatheral, A. Gulisashvili, A. Jacqier, J. Teichmann) , Springer Proceedings in Mathematics and Statistics, Vol. 110 2015.

(Ic.) Monographs **II. Submitted publications** **(IIa.) Scientific journals**

(1) David Prömel, Josef Teichmann: *Stochastic analysis with modelled distributions*, arXiv/1609.03834, preprint, submitted, 2016.
(2) Leif Döring, Blanka Horvath, Josef Teichmann: *Functional Analytic (Ir-)-Regularity Properties of SABR-Type Processes*, preprint, submitted, 2016.
(3) Nicoletta Gabrielli, Josef Teichmann: *Pathwise construction of affine processes*, arxiv:/1412.7837, preprint, submitted, 2015.
(4) Anja Richter, Josef Teichmann: *Discrete Time Term Structure Theory and Consistent Recalibration Models*, arXiv:/1409.1830, preprint, submitted, 2014.
(5) Philipp Dörsek, Josef Teichmann: *A Semigroup Point Of View On Splitting Schemes For Stochastic (Partial) Differential Equations*, arXiv/1011.2651, submitted, 2010.

(IIb.) Conference proceedings

(IIc.) Monographs

III. Non-refereed publications

(IIIa.) Scientific journals

(1) Josef Teichmann, *Martin Hairer's regularity structures*, IMN 228, 11–21 (2015).
(2) Walter Schachermayer, Karl Sigmund, Josef Teichmann: *Franz Alt 1910-2011*, IMN 218, 12/2011.

(IIIb.) Conference proceedings

(IIIc.) Monographs

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