CURRICULUM VITAE

Ernst Wilhelm Eberlein

Personal Information

Place of Birth: Rothenburg o. Tbr., Germany Citizenship: German

Current Address

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Education

1966 - 1970	Studies in Mathematics and Physics, University of Erlangen-Nürnberg
	and University of Paris
1970	Diploma degree in Mathematics, University of Erlangen-Nürnberg
1972	Dr. rer. nat. (Mathematics), University of Erlangen-Nürnberg
1978	Habilitation (Mathematics), ETH Zürich

Positions

1971 - 1973	Wissensch. Mitarbeiter, Mathematics, University of Erlangen-Nürnberg
1974 - 1977	Wissensch. Assistent, Statistics and Economics, University of Bonn
1977 - 1978	Assistent, Mathematics, ETH Zürich
1978	Privatdozent, Mathematics, ETH Zürich
1978 - 2013	Professor, Mathematical Stochastics, University of Freiburg
1985 - 1986	Dean, Faculty of Mathematics, University of Freiburg
Since 2001	Ordinarius, Mathematical Stochastics, University of Freiburg
2008-2012	Dean of Study Affairs, Faculty of Mathematics and Physics
Since 2013	Professor Emeritus, University of Freiburg
2015	John-von-Neumann Professor, TU München

Research Interests

- Realistic modeling of financial markets
- Valuation of derivative products
- Statistical analysis of financial data
- Market, credit and liquidity risk management
- Application of Lévy processes in finance

Grants and Awards

- More than 10 DFG (German Research Foundation) Research Grants (Volume Euro 60.000–200.000 each), 1986–Present
- BMBF (Federal Ministry of Education and Research) Research Grant, (Volume Euro 175.000), 2004–2007
- DAAD-Grant Financial Mathematics in the Islamic World within the program Dialogue with the Islamic World, 2013–2014
- Research Grant within the EU-Network Statistical Methods for Dynamical Stochastic Models (DYNSTOCH), (Volume Euro 230.000), 2000–2004
- Member of the European Science Foundation-Network Advanced Mathematical Methods for Finance (AMaMeF), 2004–2009
- Teamleader in the EU-Network 'Statistical Inference for Stochastic Processes', 1993–1997
- Volkswagen Foundation Research Grant 1986
- Isaac Newton Institute, Cambridge University, Visiting Grant (Financial Mathematics) 1995
- Fields Institute, Toronto, Visiting Grant, 2010
- Visiting Professor, UTS, Sydney, Australia, 2005–2006
- Visiting Professor, UCSD, San Diego, USA, 1987
- Visiting Professor, Stanford University, Palo Alto, USA, 1982–1983
- Visiting Scientist, IMPA, Rio de Janeiro, Brazil, 1973–1974
- Internal Fellow, Freiburg Institute for Advanced Studies (FRIAS), with the interdisciplinary research project *Information, Liquidity, and Trust in Incomplete Markets*, 2009–2010
- Establishment of a research group *Financial Mathematics: Pricing of Risk in Incomplete Markets* within the *Windows for Research* competition, University of Freiburg, 2009
- Senior Fellow, Freiburg Institute for Advanced Studies (FRIAS), 2017–2019
- Founding member of the Freiburg Center for Data Analysis and Modeling (FDM), 1994
- Member of the Graduiertenkolleg Nonlinear Differential Equations: Modelling, Theory, Numerics, Visualisation, University of Freiburg, 1999–2004
- Elected Member of the International Statistical Institute (ISI), since 1994
- Honorary Member of the Bachelier Finance Society, since 2012
- Fellow Institut Louis Bachelier, Paris, since 2021

Professional Service Appointments

- Co-Editor Mathematical Finance, 2006–2013
- Co-Editor Applied Mathematical Finance, 2004–2016
- Book Series Co-Editor Financial Engineering Explained, Palgrave McMillan, 2012–
- Organizer and co-organizer of a large number of conferences in mathematics and finance
- Member as well as head of a number of search committees
- Head of the Examination Boards, Faculty of Mathematics, 1989–1991
- Executive Secretary of the Bachelier Finance Society, 2000–2010

Ph.D. and Master students

- Supervision of 22 Ph.D. Theses
- Supervision of approx. 80 Diploma and Master Theses

Lecture Notes

- Stochastik 87 pp.
- Wahrscheinlichkeitstheorie 104 pp.
- Wahrscheinlichkeitstheorie II 120 pp.
- Stochastische Prozesse und Finanzmathematik 29 pp.
- Statistisches Praktikum 126 pp.
- Futures and Options 43 pp.

Selection of Invited Talks in Recent Years

2020

- Bachelier Colloquium 2020, Métabief, France, 13.–18.01.2020 Multiple curve Lévy swap market model
- Stochastic Finance Seminar, University of Warwick, Coventry, United Kingdom, 24.01.2020 Multiple curve interest rate modelling

- Bachelier Colloquium on Mathematical Finance and Stochastic Analysis, Métabief, France, 07.–12.01.2019
- 12th Financial Risks International Forum, Paris, France, 18.–19.03.2019 Multiple curve Lévy forward price model allowing for negative interest rates
- Conference: After the Crisis is Before the Crisis, University of Vienna, Vienna, Austria, 11.–12.04.2019
- 23rd International Congress on Insurance: Mathematics and Economics (IME), TUM, Munich, 10.–12.07.2019
 Variable annuities in a Lévy-based hybrid model with surrender risk

- Stochastic Days in Honor of Albert Shiryaev, Steklov Mathematical Institute, Moscow. Russia, 14.–15.10.2019
- Research in Options (RIO 2019), IMPA, Rio de Janeiro, Brazil, 29.11–05.12.2019 Variable annuities in a Lévy-based hybrid model with surrender risk
- Quantitative Methods in Finance Conference (QMF), Sydney, Australia, 17.–20.12.2019

- Bachelier Colloquium 2018, Métabief, France, 15.–20.01.2018 Hybrid market models
- UCLouvain Finance Seminar, Louvain-la-Neuve, Belgium, 16.02.2018 Multiple curve interest rate modelling allowing for negative rates
- Third Int. Conference on Stochastic Models, Divnomorskoye, Russia, 03.–09.06 2018 Multiple curve interest rate modelling
- 10th World Congress of the Bachelier Finance Society, Dublin, Ireland, 16.–20.07.2018 Hybrid Lévy models: Design and computational aspects
- Stochastic Analysis, Stochastic Control and New Developments, Shandong University, Weihai, China, 15.–19.08.2018
- Stochastic Analysis, Financial and Insurance Mathematics, Accra, Ghana, 20.–24.08.2018 Multiple curve interest rate modelling allowing for negative rates
- Financial Engineering Workshop, Cass Business School, London, United Kingdom, October 2018
- RIO 2018: Research in Options, Buzios, Brazil, 24.–28.11.2018 Multiple curve Lévy forward price model allowing for negative interest rates
- Première Journée d'Économétrie Financière, El Jadida, Morocco, 11.12.2018 Multiple curve interest rate modelling

2017

- Bachelier Colloquium 2017, Métabief, France, 16.–21.01.2017 Multiple curve interest rate modelling with negative rates
- Innovations in Insurance, Risk- and Asset Management, TUM München, April 2017
- International Conference on Computational Finance, Lisbon, Portugal, 04.–08.09.2017 Multiple curve interest rate modelling allowing for negative rates
- King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, November 2017 Lévy driven stochastic differential equations and their application in finance

2016

• Shanghai Jiao Tong University, Shanghai, China, March 2016 Lévy driven financial models

- Marrakech International Conference on Probability and Statistics, Marrakech, Morocco, April 2016
 A defaultable asset price model and two price valuation
- Shandong University, Weihai, China, July 2016 Lévy driven models in mathematical finance
- 9th World Congress of the Bachelier Finance Society, New York, USA, 15.–19.07.2016 The multiple curve Lévy forward price model
- Financial Engineering Workshop, Cass Business School, London, United Kingdom, 02.11.2016 Multiple curve interest rate modelling with negative rates

- Stochastic Analysis, Controlled Dynamical Systems and Applications, Jena, Germany, 09.-13.03.2015
 Lévy driven two price valuation with applications to long-dated contracts
- MathFinance Conference 2015, Frankfurt, Germany, 23.–24.03.2015 Valuation in illiquid markets
- Challenges in Derivative Markets, München, Germany, 30.03–01.04.2015 Sensitivity analysis in Lévy fixed income theory
- Probability, Uncertainty and Quantitative Risk, Weihai, China, 22.–25.06.2015 Two price valuation in continuous time
- International Conference Stochastics & Computational Finance from Academia to Industry, Lisbon, Portugal, 06.–10.07.2015 Two price valuation theory
- Stochastic Methods in Finance and Physics, Heraklion, Greece, 20.–24.07.2015 Sensitivity analysis in Lévy fixed income theory
- Stochastic Processes and Applications Mongolia 2015, Ulaanbaatar, Mongolia, 27.07– 7.08.2015 Minicourse on Modeling in finance
- Advanced Methods in Mathematical Finance, Angers, France, 01.–4.09.2015 Sensitivity analysis in Lévy fixed income theory
- A.N. Shiryaev and Contemporary Probability Theory, Angers, France, 30.11–2.12.2015 Two price valuation theory
- Quantitative Methods in Finance (QMF), Sydney, Australia, 15.–18.12.2015

2014

• Bachelier Colloquium 2014, Métabief, France, 13.–19.01.2014 Lévy driven two price valuation with applications to long-dated contracts

- International Conference on Finance and Financial Econometrics & Engineering, Tokyo, Japan, 25.–27.03.2014
 A survey on applications of Lévy processes in finance
- King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, 20.04–05.05.2014 Three lectures on Mathematical Finance
- 8th World Congress of the Bachelier Finance Society, Brussels, Belgium, 02.–06.06.2014 Special invited plenary lecture
- Conference "Stochastic Calculus, Martingales and Financial Modeling", St. Petersburg, Russia, 29.06–06.07.2014
 Valuation in illiquid markets and the Feynman-Kac representation
- International Conference on Quantitative Finance, Insurance and Risk-Management, Marrakech, Morocco, 09.–10.10.2014
 Valuation in illiquid markets and the Feynman-Kac representation
- Fifth Joint BIS/World Bank Public Investors Conference, Bank for International Settlements, Basel, Switzerland, 17.–18.11.2014 Valuation in illiquid markets
- RIO 2014: Research in Options, Buzios, Brazil, 01.–04.12.2014 Valuation in illiquid markets and the Feynman-Kac representation

- Méthodes Statistiques et Applications en Actuariat et Finance, Université Cadi Ayyad, Marrakech, 08.–13.04.2013
 Lévy driven financial models
- DYNSTOCH conference 2013, Copenhagen, Denmark, 17.–19.04.2013 Two price economies in continuous time
- Jahrestagung der DAV/DGVFM 2013, Berlin, 24.–26.04.2013 Two price valuation with applications to actuarial problems
- Financial Regulation & Systemic Risk 2013, Paris, France, 06.–08.06.2013 Bid and ask prices as non-linear continuous time G-expectations based on distortions
- International Conference "Advanced Finance and Stochastics", Steklov Mathematical Institute, Moscow, Russia, 24.–28.06.2013 Two price valuation in continuous time
- Advanced Methods in Mathematical Finance, Angers, France, 03.–06.09.2013 A theory of two prices in continuous time
- 30th International Banking Supervision Seminar, Beatenberg, Switzerland, 23.–27.09.2013 Risk models in banking supervision
- Séminaire de Probabilités et Statistique, Université Cadi Ayyad, Marrakech, 09.10.2013 Duality theory for option pricing

- Seminar on Effective Implementation of Supervision and Regulation, Basel, Switzerland, 22.-24.10.2013
 Importance of risk models in banking supervision
- Third Workshop on the Applications of Stochastic Models in Finance and Risk Management, Faculté des Sciences, Rabat, Morocco, 01.–02.11.2013 Stochastic models and applications in finance
- Lévy Processes and Self-Similarity, Hammamet, Tunisia, 04.–11.11.2013 Lévy driven two price valuation with applications to long-dated contracts
- Graduate Seminar Financial and Actuarial Mathematics, LMU and TUM, Munich, 02.12.
 2013
 Lévy driven two price valuation with applications to long-dated contracts
- International Conference on Probability and Statistics, Marrakech, Morocco, 17.–20.12.2013 Two price economies in continuous time

- Special Year on Financial Engineering for Energy and Commodity Risk Management, Wolfgang Pauli Institute, Vienna, Austria, 16.–17.01.2012 Fourier based valuation methods in mathematical finance
- Workshop on Stochastic Analysis and Applications, Ksar Kaissar, El-Kelâa M'Gouna, Morocco, 09.–14.04.2012
 Capital requirements, market, credit, and liquidity risk
- Croatian Quants Day, University of Zagreb, Croatia, 11.05.2012 Capital requirements, market, credit, and liquidity risk
- DYNSTOCH 2012 Statistical Methods for Dynamical Stochastic Models, Institut Henri Poincaré, Paris, France, 07.–09.06.2012 Market models for credit risky portfolios
- 7th World Congress of the Bachelier Finance Society, Sydney, Australia, 19.–22.06.2012
- Quantitative Methods in Finance (QMF) 2012, Cairns, Australia, 26.–30.06.2012 Capital requirements, market, credit, and liquidity risk
- Workshop on Mathematical Finance and Stochastic Control, Universidade Nova de Lisboa, Lisbon, Portugal, 09.–13.07.2012 Market models for credit risky portfolios
- Workshop on Mathematical Finance and Related Issues, Kyoto Research Park, Kyoto, Japan, 02.–05.09.2012
 Market models for credit risky portfolios
- 3ème Conférence Internationale de la Société Marocaine de Mathématiques Appliquées, Marrakech, Morocco, 10.–13.09.2012
 Market models for credit risky portfolios

- The Fifth Bachelier Colloquium, Métabief, France, 16.–23.01.2011 Lévy driven financial models
- Oxford-Man Institute of Quantitative Finance, University of Oxford, United Kingdom, 16.02.2011
 Capital requirements and the taxpayer put
- Spring School "Stochastic Models in Finance and Insurance", University of Jena, 21.03.– 01.04.2011 Lévy driven financial models
- Kolloquium, University of Vienna, Austria, 04.04.2011 Bid and ask: Some consequences of a theory with two prices
- Finance Seminar, NHH Bergen, Norway, 08.04.2011 Capital requirements and the taxpayer put
- 7th Seminar on Stochastic Analysis, Random Fields and Applications, Centro Stefano Franscini, Ascona, Switzerland, 23.–27.05.2011 Capital requirements, market liquidity, and credit risk
- International Conference "Statistical Methods for Dynamical Stochastic Models", University of Heidelberg, 16.–18.06.2011 Market liquidity and credit risk
- 11° Encontro Brasileiro de Finanças, Rio de Janeiro, Brazil, 28.–30.07.2011 Bid and ask: Consequences of a theory with two prices
- Workshop on Interest Rates and Credit Risk, TU Chemnitz, 23.–25.11.2011 Capital requirements, market liquidity, and credit risk
- Lisbon Financial Mathematics 2011 Winter Meeting, Center for Applied Mathematics and Economics, Lisbon, Portugal, 16.–17.12.2011 Lévy driven financial models

- Third Financial Risks International Forum, Paris, France, 25.-26.03.2010 Capital requirements and taxpayer put option values
- 6th World Congress of the Bachelier Finance Society, Toronto, Canada, 22.–26.06.2010 Analysis of Fourier transform valuation formulas and applications
- KIER-TMU International Workshop on Financial Engineering 2010, Kyoto University, Japan, 28.07.–03.08.2010 Lévy driven financial models
- International Workshop on Financial Engineering 2010, Tokyo Metropolitan University, Japan, 02.–03.08.2010
 Unlimited liabilities, reserve capital requirements, and the taxpayer put option

- Conference on Stochastic Processes and Their Applications, Osaka, Japan, 06.-10.09.2010 Unlimited liabilities, reserve capital requirements, and the taxpayer put option
- Visions in Stochastics, Steklov Mathematical Institute, Moscow, Russia, 01.-03.11.2010 Lévy driven financial models

- Actuarial and Financial Mathematics Conference, Brussels, Belgium, 05.–06.02.2009 Advanced interest rate and credit risk models
- Workshop on Stochastic Analysis and Statistical Inference, University of Tokyo, Japan, 18.–19.02.2009
 Advanced credit portfolio modeling
- Fourth Conference on Advanced Mathematical Methods in Finance, Ålesund, Norway, 04.–10.05.2009
 Analysis of Fourier transform valuation formulas and applications
- Spring School in Finance, University of Bologna, 21.–22.05.2009 Lévy driven financial models
- Stochastics and Real World Models 2009, University of Bielefeld, 25.–29.05.2009 Analysis of Fourier transform valuation formulas and applications
- Symposium Mathematik die verborgene Struktur unserer Welt, Deutsches Technikmuseum Berlin, 27.06.2009
 Mathematik und die Finanzkrise
- Statistical Inference for Lévy Processes wih Applications to Finance, EURANDOM, Eindhoven, The Netherlands, 15.–17.07.2009
 Correlation based calibration of Lévy interest rate models
- International conference on selfsimilar processes and their applications, Angers, France, 20.-24.07.2009
 Valuation of exotic options in Lévy models
- DYNSTOCH Conference 2009, Humboldt-Universität, Berlin 08.–10.10.2009 Correlation based calibration of Lévy interest rate models
- ORFE Colloquium, Princeton University, USA, 10.11.2009 Analysis of Fourier Transform Valuation Formulas and Applications
- FRIAS-Workshop: Liquidity and Trust in Incomplete Financial Markets, University of Freiburg, 23.–24.11.2009 Option surface implied capital requirements and taxpayer put option values

- 7th Winter School on Mathematical Finance, Lunteren, Netherlands, 21.–23.01.2008 Lévy driven financial models
- Forum Alternative Investments, Frankfurt a.M., 06.03.2008 Erkenntnisse des modernen Risikomanagements für die Finanzindustrie

- Financial Risks: New Developments in Structural Products & Credit Derivatives; Finance Innovation, Paris, France, 27.–28.03.2008
- 3rd AMaMeF Conference in Mathematical Finance, Pitesti, Romania, 05.–10.05.2008
- Sixth Seminar on Stochastic Analysis, Random Fields and Applications, Centro Stefano Franscini (ETH), Ascona, Switzerland, 19.–23.05.2008
- DYNSTOCH Conference, Padua, Italy, 26.–27.06.2008 Advanced credit portfolio modeling and CDO pricing
- International Workshop: Credit Risk, University d'Évry-Val-d'Essone, France, 25.–27.07.2008
- Workshop Recent Advances in Interest Rate Modeling, School of Business, University of Aarhus, Denmark, 28.08.2008
- Third International Conference on Mathematics in Finance, Berg-en-Dal, Kruger National Park, South Africa, 01.–06.09.2008
 Lévy interest rate theory
- Advanced Modeling in Finance and Insurance, Johann Radon Institute for Computational and Applied Mathematics (RICAM), University of Linz, Austria, 22.–26.09.2008
- Mathematical Finance Seminar, University of Oxford, Great Britain, 17.10.2008 Analysis of valuation formulae and applications to option pricing in Lévy models
- Panorama der Mathematik, TU Dresden, 23.10.2008 Mathematik als Hightechkomponente in der Finanzindustrie
- Sparkassenforum 2008, Akademie Sankelmark, Oeversee, Schleswig-Holstein, 06.–07.11.2008 Moderne Bankgeschäfte – eine Hochtechnologie-Branche? Risikomanagement: Anforderungen und Erwartungen in die Zukunft
- Seminar on Valuation of Financial Instruments, Bank of Thailand, Bangkok, Thailand, 25.–28.11.2008
 Credit linked financial instruments

- Frankfurt MathFinance Workshop, Frankfurt a.M., 26.–27.03.2007 A cross-currency Lévy market model
- Second AMaMeF Conference in Mathematical Finance, Bedlewo, Poland, 30.04.–05.05.2007 Duality and valuation of derivatives in a semimartingale setting
- DYNSTOCH Conference, Amsterdam, Netherlands, 07.–09.06.2007 Duality theory for derivative valuation
- Conference on Stochastic Processes: Theory and Applications, Bressanone, Italy, 16.–20.07.2007 Efficient valuation of exotic derivatives in Lévy models
- Midterm AMaMeF Conference, TU Wien, Austria, 17.–22.09.2007 Lévy driven equity, FX-, and interest rate models

- Optimal Stopping with Applications, The University of Manchester, Great Britain, 23.-27.01.2006
 Valuation of floating range notes in Lévy term structure models
- Numerical Methods in Finance, Versailles, France, 01.–03.02.2006 A cross-currency Lévy market model
- BMBF-Workshop on Credit Risk Management, Freising, Germany, 27.02.–04.03.2006 Pricing of credit derivatives in the Lévy Libor model
- Seminar in Financial Mathematics, Bilkent University and Middle East Technical University, Ankara, Turkey, 03.04.2006
 Lévy driven models in mathematical finance
- Advanced Mathematical Methods for Finance, Antalya, Turkey, 26.–29.04.2006 A cross-currency Lévy market model
- International Workshop on Mathematical Finance and Insurance, Lijiang, China, 27.05.–03.06.2006
- Multivariate Modelling in Finance and Risk Management, Sandbjerg Manor, Denmark, 16.–18.06.2006
 Calibration of Lévy driven interest rate models
- Workshop on Credit Risk under Lévy Models, International Centre for Mathematical Sciences, Edinburgh, Great Britain, 19.–21.09.2006 The Lévy Libor model with default risk
- Mathematical Finance, Norbert Wiener Center at the University of Maryland, Washington, USA, 29.09.–01.10.2006 Lévy driven fixed income models
- Quantcongress Europe, London, 11.–12.10.2006 Pricing derivatives in Lévy driven interest rate models

- Developments in Quantitative Finance, Newton Institute, University of Cambridge, Great Britain, 28.02.–04.03.2005 The defaultable Lévy term structure: Ratings and restructuring
- Seminar on Risk Modelling and Basel II, Central Bank of the Philippines, Manila, Philippines, 24.–26.05.2005 Introduction to financial mathematics and statistics in the context of Basel II
- Fifth Minisymposium on Stochastic Methods in Financial Models, Centro Stefano Franscini, Ascona, Switzerland, 02.–03.06.2005
 Symmetries and pricing of exotic options in Lévy models
- Seminar on Advanced Risk Modeling, Financial Stability Institute, Bank for International Settlements (BIS), Beatenberg, Switzerland, 29.08.–02.09.2005 Advanced Market Risk Modelling

- Financial Modelling Workshop, University Ulm, Germany, 20.–22.09.2005 Pricing of credit derivatives in the Lévy Libor model
- Quantitative Finance Research Center, School of Finance and Economics, UTS Sydney, Australia, 06.12.2005
 Lévy driven models in mathematical finance
- Quantitative Methods in Finance, Sydney, Australia, 14.–17.12.2005 Pricing of credit derivatives in the Lévy Libor model

- Seminar on Market and Liquidity Risk, Financial Stability Institute, BIS, Basel, Switzerland, 20.–22.01.2004
 Advanced market risk modelling
- EURANDOM, University of Technology, Eindhoven, Netherlands, 03.–04.05.2004 Exotic option pricing under advanced Lévy models
- Semimartingale Theory and Practice in Finance, Banff International Research Center, Banff, Canada, 05.–10.06.2004
 Pricing interest rate derivatives in a Lévy term structure model
- Research Seminar: Mathematical Statistics, Weierstraß-Institut, Berlin, 07.07.2004 Pricing interest rate derivatives in a Lévy term structure model
- New Techniques in Applied Stochastics, University of Technology, Helsinki, Finland, 16.–18.08.2004
- Seminar on Advanced Risk Management, Financial Stability Institute, BIS, Basel, Switzerland, 30.08.–03.09.2004 Advanced market risk modelling
- 17th Annual Warwick Options Conference, University of Warwick, Great Britain, 24.09.2004
 Lévy driven interest rate theory
- Stochastic Finance 2004, Lisbon, Portugal, 26.–30.09.2004 Term structure models driven by non-homogeneous Lévy processes
- International Conference CREDIT 2004, Venedig, Italy, 01.10.2004
- BMBF-Workshop Risikomanagement in Finanz- und Versicherungsdiensten, Universität Giessen, 08.10.2004
 The defaultable Lévy term structure
- Deutsche Bank, Frankfurt am Main, 25.10.2004 Lévy driven credit risk models
- Seminar on Financial Derivatives Products, Banco Central do Brasil, Rio de Janeiro, Brazil, 11.–12.11.2004
 Interest rate derivatives