

Christoph Frei

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SUMMARY	Strongly committed to advancing and integrating academic research, teaching, student supervision, and industrial practice in quantitative finance and risk management	
RESEARCH	Mathematical finance: risk management, algorithmic trading, machine learning Mathematical economics: over-the-counter markets, economics of digital currencies	
EDUCATION	Ph.D. studies in mathematical finance , ETH Zürich	May 2006 – Oct. 2009
	<ul style="list-style-type: none">• <i>Doctor of Sciences</i>, Oct. 2009• Advisor: Prof. Martin Schweizer	
	Diploma studies in mathematics , ETH Zürich	Oct. 2001 – Apr. 2006
	<ul style="list-style-type: none">• <i>Diploma in mathematics</i> (with distinction), Apr. 2006• Extra diploma in insurance mathematics, Apr. 2006	
EMPLOYMENT	University of Alberta , Edmonton, Canada	
	<i>Department Chair</i> , Mathematics and Statistics	since July 2023
	<i>Interim Department Chair</i> , Mathematics and Statistics	July 2022 – June 2023
	<i>Professor</i> (with tenure), Mathematical Finance	since July 2021
	<i>Associate Chair Graduate</i> , Mathematics and Statistics	July 2021 – June 2022
	<i>McCalla Professor</i> (awarded for significant contributions to the integration of teaching, research, and leadership)	Sept. 2020 – Aug. 2022
	<i>Associate Professor</i> (with tenure), Mathematical Finance	July 2014 – June 2021
	<i>Assistant Professor</i> (tenure track), Mathematical Finance	July 2010 – June 2014
	ETH Zürich , Switzerland	Jan. 2013 – June 2013
	<i>Visiting Professor</i> , Department of Mathematics	
	École Polytechnique , Palaiseau, France	Oct. 2009 – June 2010
	<i>Postdoctoral Researcher</i> , Mathematical Finance	
	Credit Suisse , Zürich, Switzerland	May 2001 – Sept. 2009
	<i>Financial Controller</i> (20%), External Reporting	
SELECTED	A complete list can be found at www.math.ualberta.ca/~cfrei/research.html .	
RECENT		
PUBLICATIONS	[1] Baldauf, M., Frei, C., and Mollner, J. (2022): Principal Trading Arrangements: When Are Common Contracts Optimal? <i>Best Paper in Asset Pricing (SFS Cavalcade North America, 2019)</i> , <i>Management Science</i> 68 , 3112–3128	
	[3] Frei, C., Capponi, A., and Brunetti, C. (2022): Counterparty Risk in Over-the-Counter Markets, <i>Journal of Financial and Quantitative Analysis</i> 57 , 1058–1082	
	[2] Frei, C. and Mitra, J. (2021): Optimal Closing Benchmarks, <i>Finance Research Letters</i> 40 , 101674, 8 pages	
	[4] Ewanchuk, L. and Frei, C. (2019): Recent Regulation in Credit Risk Management: a Statistical Framework. <i>Risks</i> 7 , 40, 19 pages	
	[5] Frei, C. and Westray, N. (2018): Optimal Execution in Hong Kong given a Market-On-Close Benchmark. <i>Quantitative Finance</i> 18 , 655–671	
	[6] Capponi, A. and Frei, C. (2017): Systemic Influences on Optimal Equity-Credit Investment. <i>Management Science</i> 63 , 2756–2771	

RECENT INDUSTRY PROJECTS	<p>Mitacs Fellowship for collaboration with ATB Financial, Calgary, Canada Jan. 2019 – June 2022 Building a framework to use banking data for learning, warning, and prevention</p> <p>Mitacs, NSERC Alliance and Engage projects with Canadian Western Bank, Edmonton, Canada Sept. 2018 – Oct. 2021 <i>Academic Partner</i> of a project to analyze implications of new regulation in credit risk</p> <p>UBS, Zürich, Switzerland Developing a risk allocation and attribution framework Dec. 2018 – Mar. 2019 Assessing and improving credit risk models July 2016 – Mar. 2017</p> <p>Board of Governors of the Federal Reserve System, Washington DC, USA Jan., Apr. & May 2017 <i>Visiting Researcher</i> for a project on how counterparty risk affects CDS markets</p>
ACTIVITIES IN ORGANI- ZATIONS	<p>PRMIA (Professional Risk Managers' International Association) <i>Regional Co-Director</i>, Edmonton Chapter since Jan. 2020 <i>Member of the Steering Committee</i>, Edmonton Chapter Apr. 2015 – Dec. 2019</p> <p>NSERC (Natural Sciences and Engineering Research Council of Canada), Scholarships and Fellowships for Mathematical Sciences <i>Chair of the Selection Committee</i> July 2016 – June 2017 <i>Member of the Selection Committee</i> July 2014 – June 2016</p>
RECENT TEACHING	<ul style="list-style-type: none"> • MATH 154 and 156: Calculus for Business and Economics I + II (Fall 2020: 161 students and teaching evaluation 4.8/5.0; Winter 2020: 137 students and teaching evaluation 4.8/5.0; Fall 2019: 149 students and teaching evaluation 4.5/5.0) • MATH 408/508: Computational Finance (Fall 2021: 12 students and teaching evaluation 4.9/5.0; Winter 2020: 22 students and teaching evaluation 4.9/5.0) • STAT 471: Probability Theory (Fall 2017: 46 students and teaching evaluation 5.0/5.0; Fall 2015: 33 students and teaching evaluation 4.7/5.0) • STAT 479: Time Series Analysis (Winter 2018: 22 students and teaching evaluation 4.9/5.0; Winter 2014: 19 students and teaching evaluation 4.9/5.0)
STUDENT TRAINING	<ul style="list-style-type: none"> • Over the last five years, I supervised one postdoctoral researcher, two Ph.D. students, nine master's students, and six undergraduate students, who started successful careers in academia and the finance and risk management industry. • Further information about my current team and former students can be found at www.math.ualberta.ca/~cfrei/team.html. • As the Associate Chair Graduate of the Department of Mathematical and Statistical Sciences, I oversaw academically and administratively the Department's graduate programs. • As the Regional Co-Director of PRMIA Edmonton, I establish and strengthen links for students to the finance and risk management industry.
SELECTED RESEARCH GRANTS	<ul style="list-style-type: none"> • <i>NSERC Discovery Grant (Mathematics and Statistics)</i> Apr. 2019 – Mar. 2025 • <i>SSHRC Insight Grant (Economics)</i> Apr. 2018 – Mar. 2024 • <i>Mitacs Fellowship Grant</i> Jan. 2019 – Jun. 2022 (collaboration with ATB Financial)