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MRIC | Munich Risk and Insurance Center

MRIC ANNUAL REPORT 2020

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Munich Risk and
Insurance Center

MRIC ANNUAL REPORT 2020

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2. MEMBERS OF THE MUNICH RISK AND INSURANCE CENTER

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3. PERSONNEL

The following persons worked at the institutes involved in the Munich Risk and Insurance Center during the reporting period:

3.1 PERSONNEL AT THE INSTITUTE FOR RISK MANAGEMENT AND INSURANCE

PROFESSORS
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Jonathan Knopse
Caroline Sprater

4. COURSES

4.1
COURSES AT THE INSTITUTE FOR RISK MANAGEMENT AND INSURANCE

SUMMER TERM 2020

BACHELOR OF SCIENCE:
Risiko und Versicherung (Richter)
Tutorial for Risiko und Versicherung (Zoller)
Versicherungsbilanzen (Knoller)
Tutorial for Versicherungsbilanzen (Roth)
Praxis der PR: Communicative Leadership (Galli Zugaro)
Hauptseminar: Behavioral Risk Management and Insurance (Richter, Heidler)

MASTER OF SCIENCE:
Insurance Economics (Li)
Tutorial for Insurance Economics (Huber)
Reinsurance (Liebwein)
Projektkurs: Versicherungsmanagement (Müller)

MASTER OF BUSINESS RESEARCH:
Microeconomic Modeling Methods (Peter)

ADDITIONAL SEMINARS:
Open research seminar series “Risk and Microeconomics Research Seminar” (Richter)
Risk & Insurance Research Seminar (Richter)
Vertiefungskolloquium (Heidler, Huber, Li, Richter, Roth, Steinacker, Zoller)

EXECUTIVE MASTER OF INSURANCE:
Corporate Finance (Elsas)
Current Trends in Finance and Insurance (Hartung)
Data Analysis (Mittnik)
Insurance Accounting (Gallasch, Knoller)
Value-Based Management of Insurance Companies (Wilson)

4. COURSES

WINTER TERM 2020/2021

BACHELOR OF SCIENCE:
Risiko und Versicherung (Richter)
Tutorial for Risiko und Versicherung (Steinacker)
Insurance Management (Müller)
Tutorial for Insurance Management (Müller)
Praxis der PR: Communicative Leadership (Galli Zugaro)
BWL in Theorie und Praxis – Ringvorlesung (Richter)
Hauptseminar: Information and Insurance (Richter, Huber)
Seminar: Catastrophe Risk Management (Born)

MASTER OF SCIENCE:
Advanced Risk Management (Li)
Tutorial for Advanced Risk Management (Zoller)
Projektkurs: Versicherungsmanagement (Müller)
Proseminar: Aktuelle Entwicklungen in der Altersvorsorge (Kling)
Proseminar: Asset Liability Management (Schwarz)

ADDITIONAL SEMINARS:
Open research seminar series “Risk and Microeconomics Research Seminar” (Richter)
Risk & Insurance Research Seminar (Richter)
Vertiefungskolloquium (Holzapfel, Huber, Li, Richter, Müller, Steinacker, Stöckl, Zoller)

EXECUTIVE MASTER OF INSURANCE:
Business Models and Current Challenges (Müller, Zeppezauer)
Corporate Governance (Reichl)
Digital Transformation in the Insurance Industry (Hess, Rawolle)
General Business Administration (Hartung, Schiller)
General Economics (Harhoff, Kocher, Kretschmer)
Insurance Accounting (Gallasch, Knoller)
Insurance Management and Economics – Principles (Richter)
Insurance Marketing (Schwaiger)
Law and Regulation (Brand, Schiller)
Management Simulation Game (Klotzbücher, Schmidt)
Mathematics Preparatory Course (Knoller)
Quantitative Methods (Knoller)
Risk Management (Bender)
Risk Theory (Knoller)
Seminar: Insurance Research Projects (Richter)

4.2
COURSES AT THE WORKGROUP IN FINANCIAL MATHEMATICS

SUMMER TERM 2020

BACHELOR FINANCIAL MATHEMATICS:
Angewandte Finanzmathematik (Perkkiö)

MASTER FINANCIAL MATHEMATICS:
Finanzmathematik III (Meyer-Brandis, Steibel)
Finanzmathematik IV (Gonon, Reitsam)
Intensive Course on Financial Simulation (Akhtari)
Numerical Methods for Financial Mathematics (Fries, Mazzon, Christodoulou)
Mathematic(al Statistic)s and Application of Machine Learning (Deckert)
Machine Learning and Algorithmic Differentiation (Fries, Wilbertz)

ADDITIONAL SEMINARS:
Pricing Inflation-linked Products (Wagner)
Forschungsseminar Finanzmathematik (Meyer-Brandis)
Oberseminar Finanz- und Versicherungsmathematik (Biagini, Czado, Glau, Klüppelberg, Meyer-Brandis, Scherer, Zagst)
Seminar on mathematical techniques for machine learning (Gonon)
Pricing and Hedging Techniques in Incomplete Markets: Mean-Variance Hedging and Risk Minimization (Zhang)

4. COURSES

WINTER TERM 2020/2021

BACHELOR FINANCIAL MATHEMATICS:
Finanzmathematik in diskreter Zeit (Gonon, Reitsam)

MASTER FINANCIAL MATHEMATICS:
Finanzmathematik II/Stochastic Calculus and Arbitrage Theory in Continuous Time (Meyer-Brandis, Steibel)
Computational Finance and its Object Oriented Implementation (Fries, Mazzon, Bachl)
Modellierung und Enterprise Management (Schreiber) (Bachelor and Master level)
Convex Stochastic Optimization (Perkkiö) (Bachelor and Master level)

ADDITIONAL SEMINARS:
Advanced Techniques in Machine Learning for Mathematical Finance (Gonon)
Credit Risk Modeling (Zhang)
Forschungsseminar Finanzmathematik (Meyer-Brandis)
Oberseminar Finanz- und Versicherungsmathematik (Biagini, Czado, Glau, Klüppelberg, Meyer-Brandis, Scherer, Zagst)
Versicherungsmathematisches Kolloquium (Benzing, Biagini, Feilmeier, Idstein, Meyer-Brandis, Oppel, Schneemeier)

5. COMPLETED DOCTORAL PROJECTS

Martin Bauer: Mean-fileld Stochastic Differential Equations with Irregular Coefficients: Solutions and Regularity Properties

Panagiotis Christodolou: Local Risk-minimization under Illiquidity and Consistent Specification of Credit Migration Models

Tobias Huber: Essays on Household Behavior in Insurance Contexts – Theoretical Insights and Empirical Observations

Christiane Kettenbrach: Optionale Modelle als europäisches Regelungsinstrument, insbesondere im Versicherungsvertragsrecht

Sophie-Madeleine Roth: Essays on Determinants of Decision-Making under Risk

6. COMPLETED MASTER THESES (EXECUTIVE MASTER OF INSURANCE)

Analysis of Organic and Inorganic Growth / Market Entry Strategies for the Southeast Asian Life Insurance Market

Automated Underwriting – Success Factors for the Implementation of a Digital Reinsurance Platform for Single Risk Business

Climate Change Risk Assessments in Insurance

Comparing Market Risk Modules: Solvency II Standard Formula, IAIS' Insurance Capital Standard and Internal Model

Governance of Digital Transformation Strategies in Insurance Companies – An Empirical Analysis

Impediments to and Enablers of the Introduction of Machine Learning Applications in the Insurance Industry – An Empirical Investigation

Insurance-Linked Securities for Long-Tail Exposure: An Economic Analysis of Potential Design, Business Models and Prospects of Alternative Capital

Pandemic Risk: Actuarial Impact on a Life Insurer

Peculiarities of the Insurability of Cyber Risks – Can Parametric Insurance do Better than the Traditional Product?

7. FINAL THESES

7.1 FINAL THESES AT THE INSTITUTE FOR RISK MANAGEMENT AND INSURANCE

COMPLETED BACHELOR THESES:

Ambiguity Preferences: Theory and Evidence
Analyzing Insurance Decisions in Laboratory Experiments
Are Flood Insurance Markets Prepared for Climate Change? – A Critical Review
Background Risks and Precautionary Effort
Behavioral Anomalies and Nudging: What Can Insurers Do when their Customers Behave Weird?
Covid-19, Climate Change, and Time Discounting
Decision-making under Risk – A Comparison between Expected Utility Theory and Prospect Theory
Do Groups Make Better Decisions? An Analysis of Group and Individual Decision-making
Does Solvency II's Standard Model Adequately Identify Pandemic and Cyber Risks?
Equilibrium Selection in Coordination Games
Exogenous and Endogenous Risk Determinants of COVID-19
Expected Utility Theory: Strengths and Weaknesses
Flood Insurance Markets Around the World – A Critical Review
Future Applications of Parametric Insurance: A Solution to the Coverage of Digital Risks?
Genetic Testing and Health Insurance Markets
Higher Degree Risk Preferences
How do External Shocks Affect Customer Behavior? On the Effects of COVID-19 on Stationary and Digital Insurance Distribution
How Does COVID-19 Affect the Insurance Industry? A Situation Analysis on Impacts and Insurance Solutions
Improving Household Decisions in Financial Contexts – Are Nudges Enough?
Insurance Solutions to Premium Risk in Health Insurance
Is Parametric Insurance the Breakthrough for Pandemic Disaster Risk Financing?
Life Insurance Cancellation Behavior in the Small and in the Large
Liquidity Constraints and Insurance
Microinsurance
Moral Hazard and the Development of New Technologies to Reduce Information Asymmetries
Moral Hazard in Health Insurance Markets
On Moral Hazard and Checklists
Pandemics: From Risk Perception to Risk Mitigation
Self-insurance-cum-protection
Solvency II Put to the Test
Testing for Adverse Selection in Health Insurance markets

7. FINAL THESES

The Annuity Puzzle
The Concept of Risk Aversion: Theory and Estimation
The Demand for Disability Insurance
The Demand for Extended Warranties
The Determinants of Insurance Fraud and Possible Counter-Measures
The Health Effects of Smoking Bans
The Impact of Choice Overload on Insurance Decisions
The Impact of Climate Change on the Insurance Industry
The Impact of Disaster Events on Insurance Supply and Demand
The Influence of Opt-Out Contracts on the Demand for Natural Disaster Insurance
The Insurability of Pandemic and Cyber Risks – A Comparison
The More, the Merrier? On the Impact of Big Data on Insurance
The Nature and Management of Interdependent Risks
The Role of Overconfidence in Economic Decision-Making
The U.S. Market for Flood Insurance – Can the National Flood Insurance Program and the Private Market Coexist?
The Weisbrod Quadrilemma

COMPLETED MASTER THESES:

Determinants of Surviving Natural Catastrophes
Does Hindsight Matter? The Impact of Feedback Availability on Risk Reduction Decisions
Endogene Fertilität und öffentliche Rentenversicherungssysteme
Experimental Tests of Underinsurance of Low-Probability, High-Consequence Events
Gender-Specific Differences in Risky Health Behaviors and Preventive Care Utilization
On the Empirical Validity of Prevention
On the Utility of Gambling in the Presence of Consumption Commitments
Optimal Insurance Demand: An Intertemporal Reinvestigation
Regret Theory with Unknown Counterfactuals
Robust Comparative Statics of Risk Changes: An Application to Precautionary Saving
The Catastrophe Risk Management Implication of Ownership Form
The Development of Enterprise Risks
The Effect of Contract Nonperformance on Moral Hazard in Insurance Markets
The Effect of Health Insurance Coverage on Preventive Care and Risky Health Behaviors
The Effect of Insurance Fraud on Markets for Repair Goods
The Effect of Organizational Form on Earnings Management in the Insurance Industry
The Impact of Pre-Plant Precipitation on Crop Insurance Take-Up
The Influence of Framing on Insurance Take-Up
The Role of Prevention Activities Under Risk Type Uncertainty
The Transformative Potential of 5G Technology for the Re-/Insurance Industry

7. FINAL THESES

MASTER THESES IN PROGRESS:

On the Interaction between Crop Yields and Weather
Quantifying Information in Risk Management Decisions
Sustainability in the Insurance Industry – A Situation Analysis
The Influence of Financial Literacy on Insurance Fraud
The U.S. Federal Crop Insurance Program and Information Asymmetries: Theoretical and Empirical Studies
Willingness to Pay for Morbidity and Mortality Risk Reductions During the COVID-19 Pandemic
Zur Bedeutung von Zusatzleistungen in der Privaten Krankenversicherung – Eine experimentelle Untersuchung

7. FINAL THESES

7.2
FINAL THESES AT THE WORKGROUP IN FINANCIAL AND INSURANCE MATHEMATICS

COMPLETED BACHELOR THESES:

Arbitragemöglichkeiten über Flash Strategien
Duality in Discrete Time Stochastic Control
Dynamic Programming and Mean-Variance Hedging in Discrete Time
Fair Estimation of Capital Risk Allocation
Liquiditätsrisiko und kohärente Risikomaße
Optimal Dividend Payment A Two-Dimensionanal Insurance Risk Process
Partially Input Convex Neural Networks in Portfolio Optimization
Pathwise Functional Itô Caculus and Applications to Path-Dependent Derivatives
Portfolio Optimization with Respect to Utility Function
Risk Preferences, Risk Measures and Risk Acceptance Families
Sensitivity Analysis mit Hilfe von Risikomaßen
Systemic Risk Measures on Gaussian Systems
The Pricing-Hedging Duality for American Options in Discrete-Time Financial Markets
Unbiased Estimation of Risk
Verlustbasierte Risikomaße
Vertiefung zum Cantelli Lemma - eine stochastische Beziehung zwischen der prospektiven und retroprospektiven Reserve

COMPLETED MASTER THESES:

A Dynamic Extreme Value Theory Approach
An Approach to Equity Option Modeling in Stochastic and Local Volatility Frameworks
Asymptotic Analysis of Large Sparse Networks
Deep Hedging Bermudan Swaptions
Detecting Bubbles in Bitcoin Price Dynamics via Market Exuberance
Financial Contagion in the Interbank Market: Fire Sales and Price-Impact in a Multilayered Network
Neural Network Based Numerical Methods for Backward Stochastic Differential Equations
On Optimal Solutions and Fairness of Systematic Risk Measures
Solving Optimal Stopping Problems Using Neural Networks
Systemic Risk Measures via Acceptance Sets and Fair Systemic Risk Shares
The Difference between the Hull White Model and the LIBOR Market Model regarding Credit Valuation Adjustment and Calibration Quality
Time-Homogeneous LIBOR Market Model for the Valuation of Derivatives on Backward Looking Rates

7. FINAL THESES

MASTER THESES IN PROGRESS:

Deep Backward Multistep Schemes for Nonlinear Pdes and Applications to Finance
Deep Neural Network Approximations for Option Prices in Levy Models
Deep Reinforcement Learning for Portfolio Optimization
Learning with Random Features: Generalization Properties and Applications to Option Pricing
Machine Learning with Kernels for Portfolio Valuation and Risk Management
Portfolio Selection Under Systemic Risk
Signatures: Theory and Credit Cycle Forecasting
Tap Water Damage Insurance-Analysis with Combined Actuarial Neural Networks
VC Dimension-based Generalization Bounds for beta-mixing Time-Series

8. PUBLICATIONS

Beck C., Gonon L., Hutzenthaler M. and Jentzen A.: On Existence and Uniqueness Properties for Solutions of Stochastic Fixed Point Equations, Discrete and Continuous Dynamical Systems - Series B, forthcoming.

Biagini F., Doldi A., Fouque J.P., Frittelli M. and Meyer-Brandis T.: Systemic Optimal Risk Transfer Equilibrium, Mathematics and Financial Economics, forthcoming.

Biagini F., Fouque J.P., Frittelli M. and Meyer-Brandis T.: On Fairness of Systemic Risk Measures, Finance & Stochastics, 24, 513-564.

Biagini F., Gnoatto A. and Haertel M.: General Analysis of Long-term Interest Rates, International Journal of Applied and Theoretical Finance, 23, 1.

Biagini F., Huber T., Jaspersen J.G., Mazzon A.: Estimating Extreme Cancellation Rates in Life Insurance, The Journal of Risk and Insurance, forthcoming.

Born P. A., Müller S. and Tennyson S.: Credible or Biased? An Analysis of Insurance Product Ratings in Germany, The International Review of Financial Consumers, 5,1, 25-39.

Browne M. J., Hofmann A., Richter A., Roth S.-M. and Steinorth P.: Peer Effects in Risk Preferences: Evidence from Germany, Annals of Operations Research, April 2020.

Detering N., Meyer-Brandis T., Panagiotou K. and Ritter D.: Financial Contagion in a Generalized Stochastic Block Model, Internation Journal of Theoretical and Applied Finance, 23, 8.

Detering N., Meyer-Brandis T., Panagiotou K. and Ritter D.: An Integrated Model for Fire Sales and Default Contagion, Mathematics and Financial Ecocomics, 15, 59-101.

Fries C. P.: Stochastic Algorithmic Differentiation of (Expectations of) Discontinuous Functions (Indicator Functions), Journal of Computer Mathematics, forthcoming.

Fries C. P.: Dynamic Refinement of the Term Structure: Time-Homogeneous Term Structure Modeling, The Journal of Computational Finance, 24, 1, 1-27.

Fries C. P. and Torricelli L.: An Analytical Valuation Framework for Financial Assets with Trading Suspensions SIAM Journal on Financial Mathematics, 11, 2, 566-592.

Gonon L., Grigoryeva L. and Ortega J.-P.: Risk Bounds for Reservoir Computing, Journal of Machine Learning Research, 21, 240, 1-61.

Gonon L., Muhle-Karbe J. and Shi X.: Asset Pricing with General Transaction Costs: Theory and Numerics, Mathematical Finance, forthcoming.

Gonon L. and Ortega J.-P.: Reservoir Computing Universality with Stochastic Inputs, IEEE Transactions on Neural Networks and Learning Systems, 31, 1, 100-112.

8. PUBLICATIONS

Gonon L. and Teichmann J.: Linearized Filtering of Affine Processes Using Stochastic Riccati Equations, Stochastic Processes and their Applications, 130, 1, 394-430.

Gonon L., Grigoryeva L. and Ortega J.-P.: Memory and Forecasting Capacities of Nonlinear Recurrent Networks, Physica D, 414, 132721, 1-13.

Kalinin A.: Support Characterization for Regular Path-dependent Stochastic Volterra Integral Equations, Electronic Journal of Probability, forthcoming.

Kalinin A. and Cont R.: On the Support of Solutions to Stochastic Differential Equations with Path-dependent, Stochastic Processes and their Applications, 130, 5, 2639-2674.

Kalinin A.: Markovian Integral Equations, Annales de l'Institut Henri Poincaré, 56, 1, 155-174.

Li L.: Opening up the Black Box: Technological Transparency and Prevention, The Journal of Risk and Insurance, forthcoming.

Ragin M., Collier B. and Jaspersen J.G.: The Effect of Information Disclosure on Demand for High-Load Insurance, The Journal of Risk and Insurance, forthcoming.

Richter A. and Wilson T.: Covid-19: Implications for Insurer Risk Management and the Insurability of Pandemic Risk, The Geneva Risk and Insurance Review Special Issue, 45, 171-199.

9. WORKING PAPERS

Akhtari B., Biagini F., Mazzon A. and Oberpriller K.: Generalized Feynman-Kac Formula under Volatility Uncertainty.

Argyris N., Jaspersen J.G. and Richter A.: Calibrating Risk Aversion in Additive Multivariate Utility Functions.

Banos D., Bauer M., Meyer-Brandis T. and Proske F.: Restoration of Well-Posedness of Infinite-dimensional Singular ODE's via Noise.

Bauer M. and Meyer-Brandis T.: Strong Solutions of Mean-Field SDEs with Irregular Expectation Functional in the Drift.

Bauer M. and Meyer-Brandis T.: Existence and Regularity of Solutions to Multi-Dimensional Mean-Field Stochastic Differential Equations with Irregular Drift.

Bauer M. and Meyer-Brandis T.: McKean-Vlasov Equations on Infinite-dimensional Hilbert Spaces with Irregular Drift and Additive Fractional Noise.

Biagini F., Mazzon. A. and Perkkiö A.-P.: Optional Projection under Equivalent Local Martingale Measures.

Biagini F. and Oberpriller K.: Reduced-form Setting under Model Uncertainty with Non-linear Affine Intensities.

Browne M., Lin X., Richter A. and Steinacker R.: On the Trade-Off Between Moral Hazard and Basis Risk: Evidence from Area Contracts in the U.S. Federal Crop Insurance Program.

Christodoulou P., Fries C., Meyer-Brandis T. and Torricelli L.: Complications in Intensity-based Credit Migration Bond Models of HJM Type.

Collier B., Huber T., Jaspersen J.G. and Richter A.: How Do Households Respond to Public Program Reforms? Evidence from the U.S. National Flood Insurance Program.

Cuchiero C., Grigoryeva L., Gonon L., Ortega J.-P. and Teichmann J.: Discrete-time Signatures and Randomness in Reservoir Computing.

Detering N., Meyer-Brandis T., Panagiotou K. and Ritter D.: Suffocating Fire Sales.

Ericson K., Jaspersen J.G. and Zoller S.: Risk Management and the Autonomy of Labor.

Gonon L., Grigoryeva L., Ortega J.-P.: Approximation Bounds for Random Neural Networks and Reservoir Systems.

Gonon L. and Ortega J.-P.: Fading Memory Echo State Networks are Universal.

10. WORKING PAPERS

Gonon L. and Schwab C.: Deep ReLU network expression rates for option prices in high-dimensional, exponential Lévy models.

Heidler B. and Steinorth P.: Health Insurance, Chronic Disease and the Affordable Care Act: How Important are Selection Effects?

Heidler B., Johannes J. G., Pooser D. M. and Richter A.: Managerial Discretion and Variable Risk Preference.

Huber M.: An Economic Theory of Resource Conflict.

Huber M., Jaspersen J. G. and Richter A: The Effect of Large Terrorism Events on the GDP of the Attacked Countries.

Huber T.: Comparative Risk Aversion in Two Periods: An Application to Self-Insurance and Self-Protection.

Huber T., Jaspersen J.G., Richter A. and Strümpel D.: On the Change of Risk Aversion in Wealth: Evidence from a Closed Economic System.

Jaspersen J.G.: Convex Combinations in Judgment Aggregation.

Jaspersen J.G., Ragin M. and Sydnor J.: Predicting Insurance Demand from Risk Attitudes.

Jaspersen J.G., Richter A., Rothschild C. and Steinacker R.: Moral Hazard in a Social Health Insurance System: Demand and Supply Reactions to a Natural Experiment in Germany.

Jaspersen J.G., Richter A. and Zoller S.: Predicting Earnings Management from Qualitative Disclosures.

Li L. and Peter R.: Should We Do More When We Know Less: Optimal Risk Mitigation Under Technological Uncertainty.

Li L., Richter A. and Steinorth P.: Mental Health Changes and the Willingness to Take Risks.

Li L., Mürmann A. and Richter A.: Public Knowledge, Privacy, and the Prevention of Interdependent Risks.

Perkkiö A.-P. and Pennanen T.: Topological Duals of Locally Convex Spaces.

Peter R., Richter A. and Thistle P.: Ambiguity Aversion in Competitive Insurance Markets: Adverse and Advantageous Selection.

Roth S.-M.: The Impact of Non-Economic Shocks on Interpersonal Trust.

Roth S.-M., Hofmann A. and Jaspersen J.G.: The Effects of Terrorism Risk on Household Savings.

Steinacker R.: Effort in Area-Based Index Contracts and the Role of the Indemnity Function.

Zoller S.: On the Role of Ownership form and Disclosure Choices.

10. CONFERENCE PRESENTATIONS AND INVITED LECTURES

SIAG/FME virtual seminar series, online, October 2020: Reduced-from Setting under Model Uncertainty with Non-linear Affine Intensities (Biagini)

Bachelier seminar, online, November 2020: Reduced-from Setting under Model Uncertainty with Non-linear Affine Intensities (Biagini)

Quantlab Workshop „Machine Learning and Algorithmic Differentiation“, Munich, Germany, February 2020: Algorithmic differentiation (Fries)

Probability Seminar, Universität Duisburg Essen, online, November 2020: Deep ReLU Network Expression Rates for Option Prices in High-dimensional, Exponential Lévy Models (Gonon)

Mathematisches Kolloquium, LMU Munich, online, November 2020: Dynamic Learning for Stochastic Processes: Neural Networks, Reservoir Computing Systems and Applications to Mathematical Finance (Vorstellung zur Habilitation) (Gonon)

Allied Social Sciences Annual Meeting 2020, San Diego, USA, January 2020: How Do Households Respond to Public Program Reforms? Evidence from the U.S. National Flood Insurance Program (Huber, T.)

World Risk and Insurance Economics Congress 2020, online, August 2020: How Do Households Respond to Public Program Reforms? Evidence from the U.S. National Flood Insurance Program (Huber, T.)

14th Bachelier Colloquium on Mathematical Finance and Stochastic Calculus, Metábief, France, January 2020: Support Characterization for Regular Path-Dependent Stochastic Volterra Integral Equations (Kalinin)

World Risk and Insurance Economics Congress 2020, online, August 2020: Public Knowledge, Private Information, and the Prevention of Interdependent Risks (Li)

Research Seminar, Universität Mannheim, Mannheim, Germany, February 2020: Dynamic Programming and Duality in Convex Stochastic Optimization (Perkkiö)

VGA Assekuranzclub München und Berufsbildungswerk der Versicherungswirtschaft München Podiumsdiskussion, online, Oktober 2020: Versicherbarkeit von Pandemie-Risiken (Richter)

World Risk and Insurance Economics Congress 2020, online, August 2020: The Impact of Different Non-Economic Shocks on Interpersonal Trust (Roth)

10. CONFERENCE PRESENTATIONS AND INVITED LECTURES

World Risk and Insurance Economics Congress 2020, online, August 2020: Moral Hazard in a Social Health Insurance System: Demand and Supply Reaction (Steinacker)

World Risk and Insurance Economics Congress 2020, online, August 2020: The Role of Area Contracts in the U.S. Federal Crop Insurance Program (Steinacker)

University of Georgia Ph.D. Symposium, Athens, USA, February 2020: A Machine Learning Approach to Predicting Earnings Management (Zoller)

World Risk and Insurance Economics Congress 2020, online, August 2020: A Machine Learning Approach to Predicting Earnings Management (Zoller)

11. AWARDS, GRANTS AND SCHOLARSHIPS

Ernst-Meyer-Prize 2020 (Li)

Förderpreis der Universitätsgesellschaft für hervorragende Promotionsleistungen 2020 (Li)

ARIA Early Career Scholarly Achievement Award (Peter)

Stipendium, Verein zur Förderung der Versicherungswissenschaft in München e.V. (Reitsam)

12. DOCTORAL WORKSHOPS

MRIC Winter Workshop 2020, Munich/St. Johann, January 2020

13. DOCTORAL RESEARCH IN PROGRESS

Bachl, Roland: The Impact of Smart Derivative Contracts on Systemic Risk in Financial Networks

Heidler, Benjamin: Essays on Risk and Insurance

Holzapfel, Julia: Essays on Risk Management and Insurance

Oberpriller, Katharina: Mathematical Models for Insurance Markets

Reitsam, Thomas: Asset Price Bubbles in Financial Market Models with Transaction Costs

Steibel, Annika: Stability Analysis of Pandemic Models

Steinacker, Roxane: Essays on Moral Hazard in Insurance Markets

Stöckl, Elisabeth: Essays on Risk Management and Insurance

Strümpel, Dennis: Essays on Risk Management and Insurance

Zoller, Sandra: Essays on Risk Management and Insurance

14. ACADEMIC VISITORS TO THE MRIC

Prof. Patricia Born, Ph.D. (Florida State University)

Prof. James Carson (University of Georgia)

Prof. David Eckles (University of Georgia)

Prof. Martin Halek (University of Calgary)

Prof. Martin Kocher (University of Vienna)

Prof. Tyler Leverty (University of Wisconsin-Madison)

Prof. Alexander Mürmann (WU Vienna)

Prof. Dr. Teemu Pennanen (King’s College London)

Prof. Casey Rothschild (Wellesley College)

Prof. Jörg Schiller (University of Hohenheim)

15. EXCHANGE PROGRAMS

STUDENT EXCHANGE:

The MRIC collaborates with the Florida State University, the St. John's University and the Georgia State University for exchange programs in the field of risk and insurance. Additionally, the MRIC collaborates with the Université Paris Saclay and the University of Bologna for a double degree in Business Mathematics.

DOCTORAL EXCHANGE:

Katharina Oberpriller, Gran Sasso Science Institute

Sandra Zoller, Boston University

16. PRESENTATIONS IN MRIC SEMINAR SERIES

RISK & MICROECONOMICS SEMINAR (PRESENTATIONS BY MRIC VISITORS)

Andreas Milidonis (University of Cyprus): Limited Attention for Institutional Investors (01/30/2020)

Bojan Srbinoski (University Carlo Cattaneo – LIUC): Life Insurance Demand and Borrowing Constraints (01/28/2020)

BUSINESS MODELS & CURRENT CHALLENGES

Thomas Bischof (Württembergische Versicherungen): Regulation is Like Cement: It‘s about How you Use it (09/24/2020)

Dr. Christian Brandt (andsafe AG): andsafe - Building a Digital Attacker on the German SME market (10/21/2020)

Dr. Thomas Rodewis (Versicherungskammer Bayern): Building an Innovation Process for an Insurance Company (10/23/2020)

17. EVENTS HOSTED BY THE MRIC

Dr. Gunther Kraut (Munich Re): Epidemic Risk Insurance: Challenges, Products and Market Development (11/20/2020)

Robert Dietrich (HISCOX Deutschland) and Franziska Schaefer (HISCOX SA): Cyber Insurance: Market Development and Challenges Regarding Products and Marketing (11/24/2020)

Irina Fan (Swiss Re Institutes): Why Gender Equality Matters for Insurance (11/25/2020)

Nico Ahn (Allianz SE): Integrating Sustainability in Insurance and Investment - The Allianz Group ESG Approach (01/29/2021)

SEMINARS

Risk & Microeconomics Seminar: Open seminar series offering presentations of international guest lecturers

Risk & Insurance Research Seminar (internal research seminar of the Institute for Risk Management and Insurance)

COURSES HELD BY INTERNATIONAL GUEST LECTURERS

Prof. Patricia Born (Proseminar: Catastrophe Risk Management)

Prof. Richard Peter (MBR-Course: Microeconomic Modeling Methods)

GUEST LECTURES

Prof. Dr. Jörg Schiller (University of Hohenheim) in the lecture Risiko und Versicherung: Versicherungstechnische Risikopolitik.

Dr. Gunther Kraut (Munich Re) in the lecture Risiko und Versicherung: Epidemic Risk Insurance: Challenges, Products and Market Development.

Dr. Klaus Math (Lebensversicherung von 1871 VVaG) in the lecture BWL in Theorie und Praxis: Die Versicherung existenzieller Lebensrisiken – eine spannende Herausforderung.

18. PROFESSIONAL BOARD MEMBERSHIPS AND ACADEMIC SERVICE

18.1
PROF. DR. JUR. THOMAS ACKERMANN, LL.M. (CAMBRIDGE)

Director of the Cambridge-LMU Strategic Partnership

Editorial Board, Common Market Law Review

Editorial Board, Neue Zeitschrift für Kartellrecht

Head and Coordinator of the MUST (Munich University Summer Training) Program in German and European Law

Member of the Selection Committee "Juristische Bücher des Jahres"

Referee for National and International Academic Organizations and Institutions (DFG, DAAD, Studienstiftung, NVAO, EUI)

18.2
PROF. DR. FRANCESCA BIAGINI

President of the Bachelier-Finance Society

Vice-President of LMU for International Affairs and Diversity

18.3
PROF. DR. MEYER-BRANDIS

Co-director of the quantLab@LMU: Computer Laboratory for Quantitative Risk Control

Member of the managing board of the German Data Science Society

Member of the advisory board of the Frankfurter Institut für Risikomanagement und Regulierung (FIRM)

18. PROFESSIONAL BOARD MEMBERSHIPS AND ACADEMIC SERVICE

18.4 PROF. DR. ANDREAS RICHTER

Vice Dean, Munich School of Management

Academic Director, Executive Master of Insurance Program

Past President, American Risk and Insurance Association

Executive Board, European Group of Risk and Insurance Economists

International Advisory Board, Risk and Insurance Research Center, National Chengchi University, Taiwan

Advisory Board, SKKU Graduate School of Insurance, South Korea

Advisory Board, Federal Financial Supervisory Authority (BaFin)

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IMPRINT

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Layout, Typesetting, Print:
Applevillage Werbeagentur, Daniela Höfler

This report refers to the calendar year 2020. For seminar series or courses, which can be attributed to one semester, the report refers to the summer term 2020 and the winter term 2020/2021. With regard to final theses this report lists papers submitted within the calendar year 2020.

Facts concerning the Workgroup in Financial and Insurance Mathematics and the Chair for Civil Law, European and International Business Law are reported whenever they reflect topics related to the field of risk management and insurance.

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