

# Research in Options 2017

IMPA, Rio de Janeiro, November 25-30, 2017

**Ricardo Mañé Auditorium**

Hour	Saturday 25
9:30 - 10:00	Registration
10:00 - 11:30	<b>Sebastian Jaimungal</b> (Univ. of Toronto, Canada) <i>Machine Learning and Stochastic Control for Algorithmic Trading</i> <b>Part 1</b>
11:30 - 12:00	Coffee break
12:00 - 13:30	<b>Sebastian Jaimungal</b> (Univ. of Toronto, Canada) <i>Machine Learning and Stochastic Control for Algorithmic Trading</i> <b>Part 2</b>
13:30 - 15:00	Lunch
15:00 - 16:30	<b>Lakshitha Wagalath</b> (IESEG , France) <i>Feedback effects and endogenous risk in financial markets</i> <b>Part 1</b>
16:30 - 17:00	Coffee break
17:00 - 18:30	<b>Lakshitha Wagalath</b> (IESEG , France) <i>Feedback effects and endogenous risk in financial markets</i> <b>Part 2</b>

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Hour	Sunday 26
10:00 - 11:30	<p><b>Alvaro Cartea</b> (University of Oxford) <i>Commodities</i> <b>Part 1</b></p>
11:30 - 12:00	<b>Coffee break</b>
12:00 - 13:30	<p><b>Alvaro Cartea</b> (University of Oxford) <i>Commodities</i> <b>Part 2</b></p>
13:30 - 15:00	<b>Lunch</b>
15:00 - 16:30	<p><b>Julien Guyon</b> (Bloomberg) <i>The Particle Method for Smile Calibration</i> <b>Part1</b></p>
16:30 - 17:00	<b>Coffee break</b>
17:00 - 18:30	<p><b>Julien Guyon</b> (Bloomberg) <i>The Particle Method for Smile Calibration</i> <b>Part2</b></p>

Hour	Monday 27	
08:30 - 9:00	Registration	
9:00 - 9:30	Opening Session	
09:30 - 11:00	<p><b>Minicourse</b>  <b>Marco Avellaneda (NYU, USA)</b>  <i>Volatility futures and ETNs in the US and European markets</i></p>	
11:00 - 11:15	QUESTIONS	
11:15 - 11:30	Coffee Break	
11:30 - 13:00	<p><b>Minicourse</b>  <b>Bruno Dupire (Bloomberg, NY)</b>  <i>Some Applications of Machine Learning to Finance</i></p>	
13:00 - 13:15	QUESTIONS	
13:15 - 14:30	Lunch	
14:30 - 15:15	P a n e l  1	<p><b>Emmanuel Gobet (Polytechnique, France)</b>  <i>Modeling the management of microgrid equipped with PV panels and battery</i></p>
15:15 - 16:00		<p><b>Martino Grasselli (U. Padova, Italy)</b>  <i>A Consistent Stochastic Model of the Term Structure of Interest Rates for Multiple Tenors</i></p>
16:00 - 16:15	QUESTIONS	
16:15 - 16:30	Coffee Break	
16:30 - 17:15	P a n e l  2	<p><b>Teemu Pennanen (King's College)</b>  <i>Economic valuation of defined benefit pension liabilities</i></p>
17:15 - 18:00		<p><b>Matheus Grasselli (McMaster, Canada)</b>  <i>On the Normality of Negative Interest Rates</i></p>
18:00 - 18:15	QUESTIONS	
18:15 - 20:15	Poster Session	

Hour	Tuesday 28									
09:30 - 10:15	P a n e l 3	<b>Stephane Crépey</b> (U. Evry, France) <i>GPU Nested Monte Carlo Techniques for XVA Computations</i>								
10:15 - 11:00		<b>Lane Hughston</b> (Brunel University, UK) <i>Optimal taxation and wealth redistribution</i>								
11:00 - 11:15	QUESTIONS									
11:15 - 11:30	Coffee Break									
11:30 - 13:15	C o n t r i b u t e	<table border="1"> <thead> <tr> <th>Room 333</th> <th>Room 347</th> </tr> </thead> <tbody> <tr> <td><b>Davi Michel Valladão</b> (PUC-RJ) <i>Data-driven Robust Option Pricing</i></td> <td><b>Gyorgy Varga</b> (FCE) <i>The relative trading activity in options and stocks in Brazil</i></td> </tr> <tr> <td><b>David Evangelista da Silveira Junior</b> (KAUST) <i>Optimal inventory management and orderbook modelling</i></td> <td><b>Mariana Piaia Abreu</b> (UFF) <i>Structure of Control in Financial Networks: an Application to the Brazilian Stock Market</i></td> </tr> <tr> <td><b>Vinicius Viana Luiz Albani</b> (UFSC) <i>Local Volatility Calibration in Commodity Markets</i></td> <td><b>Matheus Pimentel Rodrigues</b> (USP – POLI) <i>Some Evidence of the Importance of Measuring Default Risk for Equities</i></td> </tr> </tbody> </table>	Room 333	Room 347	<b>Davi Michel Valladão</b> (PUC-RJ) <i>Data-driven Robust Option Pricing</i>	<b>Gyorgy Varga</b> (FCE) <i>The relative trading activity in options and stocks in Brazil</i>	<b>David Evangelista da Silveira Junior</b> (KAUST) <i>Optimal inventory management and orderbook modelling</i>	<b>Mariana Piaia Abreu</b> (UFF) <i>Structure of Control in Financial Networks: an Application to the Brazilian Stock Market</i>	<b>Vinicius Viana Luiz Albani</b> (UFSC) <i>Local Volatility Calibration in Commodity Markets</i>	<b>Matheus Pimentel Rodrigues</b> (USP – POLI) <i>Some Evidence of the Importance of Measuring Default Risk for Equities</i>
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Lunch										
13:15 - 14:30										
14:30 - 15:15	P a n e l 4	<b>Roger Lee</b> (University of Chicago, USA) <i>Cumulant formulas for implied volatility</i>								
15:15 - 16:00		<b>Raphael Douady</b> (SUNY Stony Brook) <i>Dominant Factor Analysis</i>								
16:00 - 16:15	QUESTIONS									
16:15 - 16:30	Coffee Break									
16:30 - 17:00	P a n e l 5	<p><b>16:30 - 17:00</b></p> <b>Yuri Saporito</b> (FGV, Brazil) <i>Stochastic Control and Differential Games with Path-Dependent Controls</i>								
17:00 - 17:30		<p><b>17:00 - 17:30</b></p> <b>Rodrigo Targino</b> (FGV, Brazil) <i>Efficient Monte Carlo algorithms for risk allocation</i>								
17:30 - 18:00		<p><b>17:30 - 18:00</b></p> <b>Alan De Genaro Dario</b> (USP, Brazil) <i>Pricing interest rate derivatives under monetary policy changes</i>								
18:00 - 18:15	QUESTIONS									

Hour	Wednesday 29	
09:30 - 10:15	P a n e l  6	<b>Stefano De Marco</b> (École Polytechnique, France) <i>Enhancing rough forward variance models with VIX smiles</i>
10:15 - 11:00		<b>Nizar Touzi</b> (École Polytechnique, France) <i>Branching diffusion representation of nonlinear PDEs</i>
11:00 - 11:15	QUESTIONS	
11:15 - 11:30	Coffee Break	
11:30 - 13:15	C o n t r i b u t e	<b>Room 333</b>
		<b>Room 347</b>
		<b>José Germán López Salas</b> (École Polytechnique) <i>CVaR Variation Margin Pricing and Hedging</i>
		<b>Dietmar Leisen</b> (UNI-MAINZ) <i>Heterogeneity in Risk Preferences leads to Stochastic Volatility</i>
		<b>Julien Claisse</b> (École Polytechnique) <i>Branching diffusion representation of semi-linear elliptic PDEs and numerical applications</i>
		<b>Fernando A L Aiube</b> (UERJ) <i>Hedging stocks through commodity indexes: A DCC-GARCH approach</i>
		<b>Ryan Donnelly</b> (University of Washington) <i>Substitute Hedging with (Cross) Price Impact</i>
		<b>Rafael Serrano Perdomo</b> (Universidad del Rosario) <i>Optimal portfolio allocation for an investor with insurance risk and differential rates</i>
13:15 - 14:30	Lunch	
14:30 - 15:15	P a n e l  7	<b>Gilles Pagès</b> (Univ. Pierre et Marie Curie) <i>Functional convex order preserving approximations with application to the pricing of derivatives</i>
15:15 - 16:00		<b>Alberto Pinto</b> (Porto U., Portugal) <i>Prices dependence of social preferences</i>
16:00 - 16:15	QUESTIONS	
16:15 - 16:30	Coffee Break	
16:30 - 17:15	P a n e l  8	<b>Uwe Schmock</b> (Vienna University of Technology) <i>Normal Variance Mixture Distributions as Approximations of Poisson Mixture Sums</i>
17:15 - 18:00		<b>Jorge P. Zubelli</b> (IMPA, Brazil) <i>The Calibration of Stochastic-Local Volatility Models - An Inverse Problem Perspective</i>
18:00 - 18:15	QUESTIONS	