

NITheCS COLLOQUIUM:

How can Central Banks Help Finance the Transition to a Net-zero Economy

Prof Matheus Grasselli (McMaster University, Canada)

DATE: Monday, 8 April 2024 | 16h00 – 17h00 SAST

VENUES:

- Neelsie Cinema @ Stellenbosch University
- Online

ABSTRACT

It is well documented that climate change adaptation and mitigation, including the transition to net zero emissions, require financial flows that are several times larger than what is currently observed. In this talk, I review a stock-flow consistent climate-economy model and explain the inherent instability associated with balancing the effects of economic damages caused by climate change and the financial burden incurred to prevent them. I then present a modification of the model that takes into account two different monetary policies that could be implemented by central banks in order to improve the stability of the system: green quantitative easing (that is to say, large scale purchases of financial instruments used to fund green investment) and green capital requirements (that is, measures aimed at making loans for green projects more attractive for banks to hold in their balance sheets). I illustrate the stabilization effects of these policies with examples calibrated to data and similar proposals in the literature.

BIOGRAPHY

Matheus Grasselli is a Professor of Financial Mathematics and Deputy Provost at McMaster University, Canada. He was the Deputy Director of the Fields Institute for Research in Mathematical Sciences in Toronto from 2012 to 2016 and served as the Director of the Fields Centre for Financial Industries from 2017 to 2020. He holds a PhD from King's College London, and has published research papers on information geometry, statistical physics, and numerous aspects of quantitative finance, including interest rate theory, optimal portfolio, real options, executive compensation, and macroeconomics. He is also the author of an undergraduate textbook on numerical methods. He is a regular speaker in both academic and industrial conferences around the world and has consulted for CIBC, Petrobras, EDF, and Bovespa. He is the Editor-in-Chief of the *International Journal of Theoretical and Applied Finance* and is a member of the editorial board of the *Journal of Banking and Finance*, the *Journal of Dynamics and Games*, *Frontiers of Mathematical Finance*, and *Review of Political Economy*. He is also the founding managing editor of the book series *Springer Briefs on Quantitative Finance*.



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