



INTRODUCTION TO THE HSBC QUANT
ACADEMY

HSBC QUANT ACADEMY FOR AGH WMS

DR. PHILIPPE J.S. DE BROUWER

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Philippe De Brouwer

Academic and Professional Profile Dr. Philippe De Brouwer holds a background in theoretical physics and earned a second Master’s degree in Business Engineering while working full time. His academic distinction includes solving the “fallacy of large numbers” puzzle, originally posed by P.A. Samuelson and unresolved for 38 years. In his Ph.D., he challenged the foundational assumptions of Harry Markowitz’s Nobel Prize-winning Mean Variance Theory, developing the “Maslowian Portfolio Theory” and fundamentally advancing the field of investment advice.

Career Highlights Early in his career, De Brouwer transitioned from insurance to banking and from IT to asset management. At Fortis (now BNP Paribas), he played a key role in launching one of Belgium’s first capital-guaranteed funds and was promoted to director in 2000. In 2002, he joined KBC, where he orchestrated the merger of four companies and became CEO of the consolidated entity in 2005. Under his leadership, the company climbed from 11th to 5th in the market, even amid heightened competition.

Following the financial crisis, De Brouwer led the creation of a new investment management company for KBC in Ireland, which quickly grew to manage around 1000 investment funds and approximately €32 billion in assets. In 2012, he broadened his expertise into financial risk management, focusing on statistics, analytics, data, and numerical methods.

Recent Roles and Publications De Brouwer served as Head of Analytics Development for the Royal Bank of Scotland Group and currently holds the position of SVP at HSBC in Kraków. There, he oversees the Model Review Centre of Excellence and serves as Global Head of Professional Practices for Model Risk Management. He also coordinates collaboration with universities.

He has authored numerous scientific papers and books, with his latest being “The Big R-Book: From Data Science to Big Data and Learning Machines.” His work continues to influence both academic and practical approaches to finance, risk, and data science.



[Wikipedia Website](#)

Contact
[LinkedIn](#)
[e-mail](#)

mobile: +48
790 715 002



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1 The Lecture Plan

The Lecture Plan

HSBC Quantis Academy Programme | processed for AGH

program coordinator	Philippe De Brouwer
program supervisor	Philippe De Brouwer
when	Mondays 15:00 – 18:15
where	AGH / A3-A4 / 304-406

Breaks

2-7 April Spring Break
1st of May 2026
3rd of May 2026
4th of June

	time (h)	coordinator	lecturer	date
PART I: Introduction to Banking and Risk				
Introduction + Banking / financial services organizations	3.0	Philippe De Brouwer	Philippe De Brouwer	2-Mar-2026
Risk Management and risk types	3.0		TBC Jorge Rosales	9-Mar-2026
PART II: Market Risk				
Loss distributions and risk metrics	3.0	Jorge Rosales	Jorge Rosales	16-Mar-2026
FRTB (TBC)	3.0		Jakub Lis	23-Mar-2026
PART III: Credit Risk				
Introduction to Credit Risk & the modelling framework	3.0		Piotr Kobus	30-Mar-2026
Risk-Based Pricing	3.0		Roman Ivanov	13-Apr-2026
Regression techniques and scorecards in credit risk modelling	3.0	Piotr Kobus	Michal Kusy	20-Apr-2026
Risk Management in Pre-provision Net Revenue Forecasting	3.0		Kamil Stajerski + Marcin Nowik	27-Apr-2026
PART V: Valuation Adjustments				
Introduction to FVA + PVA	3.0	Eray Ferah	Artur Zajac	4-May-2026
Introduction to XVA + CCR	3.0		Eray Ferah	11-May-2026
PART VI: Operational Risk				
Introduction to quantitative operational risk	3.0	Jorge Rosales	Katarzyna Poljanik	18-May-2026
Natural Hazards as part of the credit risk*	3.0		Jakub JANKOWSKI	25-May-2026
PART VII: Elective Subjects and project counselling				
(TBC)	3.0	Philippe De Brouwer	Wojciech	1-Jun-2026
Quantum computing in banking	3.0		Jakub JANKOWSKI	8-Jun-2026
PART VIII: Concluding remarks & Exam				
Student's presentations & exam + starting in HSBC	3.0	Philippe De Brouwer	volunteers	15-Jun-2026

2 The Exam

The End-Work Choice of project:

- Market Risk
- Credit Risk
- Counterparty Credit Risk (maybe)

Teamwork:

- 2 to 5 people per project
- You choose your team

Plan:

- **May:** communication of the project briefings
- **May:** teams and subjects to be submitted to prof. Dzieza
- **June :** presentation in HSBC - for each team:
 - 10 minutes presentation
 - 10 minutes discussion

3 Disclaimer

Disclaimer

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