Thomas K. **Kloster**

Postdoc - Quantitative Finance

Department of Economics and Business Economics, Aarhus University
Building 1816 - Office 520, Universitetsbyen 51, 8200 Aarhus C

tkk@econ.au.dk | tkkloster

Personal Data

Nationality Danish

Research interests Stochastic modelling, volatility modelling, derivatives, computational methods for derivatives, electricity markets.

Academic positions

Postdoc — *Aarhus, Denmark*
Department of Economics and Business Economics, Aarhus University and CoRE — *Nov. 2025 - Feb. 2029*
- Focus on modelling and risk management in energy markets under the green transition.

Ph.D. in quantitative finance — *Aarhus, Denmark*
Department of Economics and Business Economics, Aarhus University — *Sept. 2022 - Oct. 2025*
- Supervisors: Elisa Nicolato & Thomas Kokholm.

Visiting Ph.D. — *Oslo, Norway*
Department of Mathematics, Oslo University — *Sept. 2024 - Jan. 2025*
- Visiting professor Fred Espen Benth.

Research Assistant (part time) — *Aarhus, Denmark*
Department of Economics and Business Economics, Aarhus University — *Sept. 2018 - Jan. 2022*
- Research assistant for professor of economics and finance Bent Jesper Christensen.

Work Experience (non-academic)

Quantitative advisor (part time) — *Aarhus, Denmark*
Nabla Technologies — *Feb. 2025 - now*
- Quantitative model advisory and development for energy markets.

Quantitative analyst (part time) — *Aarhus, Denmark*
BD Energy — *May 2023 - Jun. 2024*
- Developing quantitative models for automated trading in energy markets.

Education

Ph.D. in quantitative finance — *Aarhus, Denmark*
Department of Economics and Business Economics, Aarhus University — *Sept. 2022 - Oct. 2025*
- Supervisors: Elisa Nicolato & Thomas Kokholm.

M.Sc. in mathematics-economics — *Aarhus, Denmark*
Department of Mathematics, Aarhus University — *Sept. 2020 - Jun. 2022*
- Specializing in mathematical finance.
- Thesis: A joint Venture: Pricing SPX and VIX options under various jump distributions.

B.Sc. in mathematics-economics — *Aarhus, Denmark*
Department of Mathematics, Aarhus University — *Sept. 2017 - Jun. 2020*
- Thesis: Modelling and implementation of intensity based models of credit risk.

Research

A Wiener-chaos approach to martingale modelling and implied volatility calibration — *Working paper*
Joint with Pere Diaz Lozano

An ambit field framework for the full panel of day-ahead electricity prices *Working paper*
SINGLE AUTHORED

Lévy bases on manifolds *Working paper*
SINGLE AUTHORED

Orthogonal expansions in Volterra-Heston models *Working paper*
JOINT WITH ELISA NICOLATO

An orthogonal expansion approach to joint SPX and VIX calibration in affine stochastic volatility models with jumps *Quantitative Finance*
JOINT WITH ELISA NICOLATO *2025*

Research Grants

2025-2027 **DFF International PostDoc**, 2,239,200 DKK (ca. 300,000 EUR)
2026 **Nordic Energy Research Grant**, 72,000 NOK (ca. 6,300 EUR)

Affiliations

2024-now **Member**, Center for Research in Energy: Economics and Markets (CoRE), Aarhus University.

Invited Talks

AI4FinTech Seminar, University of Amsterdam *Amsterdam, Netherlands*
SEMINAR *Feb. 2026*
- Presented work on chaos expansions for non-parametric option pricing.

Data Science Seminar, BI Norwegian Business School *Oslo, Norway*
SEMINAR *Dec. 2025*
- Presented my work on space-time stochastic models for energy markets.

CoRE members retreat *Sandbjerg, Denmark*
PLENARY TALK *Sept. 2025*
- Presented the working paper 'An ambit field framework for the full panel of day-ahead electricity prices'.

Symposium in honor of Jørgen Aase Nielsen *Aarhus, Denmark*
PRESENTATION *Oct. 2024*
- Presented the working paper 'Orthogonal expansions in Volterra-Heston models'.

Selected Presentations

Vienna Conference on Mathematical Finance *Vienna, Austria*
PRESENTATION *Jul. 2025*
- Presented the paper 'An ambit field framework for the full panel of day-ahead electricity prices'.

12th AMaMeF conference *Verona, Italy*
PRESENTATION *Jun. 2025*
- Presented the paper 'An ambit field framework for the full panel of day-ahead electricity prices'.

XXIV Quantitative Finance Workshop *Palermo, Italy*
LONG TALK *Apr. 2025*
- Presented the paper 'An ambit field framework for the full panel of day-ahead electricity prices'.

STAR seminar *Oslo, Norway*
SEMINAR PRESENTATION *Nov. 2024*
- Presented work on orthogonal expansions for option pricing.

12th Bachelier World Congress 2024 *Rio de Janeiro, Brazil*
PRESENTATION *Jul. 2024*
- Presented the working paper 'Orthogonal expansions in Volterra-Heston models'.

XXV Quantitative Finance Workshop *Bologna, Italy*

SHORT TALK *Apr. 2024*

- Presented the working paper 'Orthogonal expansions in Volterra-Heston models'.

Stochastics seminar *Aarhus, Denmark*

SEMINAR PRESENTATION *May 2023*

- Presented the working paper 'An orthogonal expansions approach to joint SPX and VIX calibration in the SVJJ model'.

XXIV Quantitative Finance Workshop *Gaeta, Italy*

SHORT TALK *Apr. 2023*

- Presented the working paper 'An orthogonal expansions approach to joint SPX and VIX calibration in the SVJJ model'.