Two PhD vacancies in numerical analysis and financial mathematics

The Department of Mathematics of the University of Antwerp and the Department of Applied Mathematics, Computer Science and Statistics of Ghent University each have a vacancy for a

full-time (100%) doctoral scholarship holder in numerical analysis and financial mathematics

The two PhD positions are being funded by the research project "*Numerical Analysis and Simulation of Exotic Energy Derivatives*" of Prof. Karel in 't Hout (University of Antwerp), Prof. Michèle Vanmaele (Ghent University) and Prof. Fred Espen Benth (University of Oslo) that has been granted by the Research Foundation – Flanders (FWO). This project deals with the development, analysis and application of operator splitting methods for the efficient and stable numerical solution of advanced, multidimensional partial integro-differential equations (PIDEs) and partial integro-differential complementarity problems (PIDCPs) arising in contemporary financial energy option valuation. In this project we consider two main research topics: (1) infinite activity jumps and (2) swing options.

Position
- You will work actively on the preparation and defence of a PhD thesis at the intersection of the fields of numerical analysis and financial mathematics.
- You will publish scientific articles related to the research project.
- You will carry out a limited number of teaching and research support tasks.

Profile
- You hold a Master degree in Mathematics or will have obtained it by the time you start work.
- You do not yet hold a PhD in Mathematics.
- You can demonstrate excellent study results, notably in numerical analysis, partial differential equations and stochastic calculus and you possess good programming skills.
- You are proficient in written and spoken English. Moreover, you are willing to learn Dutch.

What we offer
- We offer a doctoral scholarship for a period of one year. Following a positive evaluation, the scholarship can be renewed for another three years.
- The planned start date is **May 1, 2023** or as soon as possible after that date.
- Your monthly scholarship amount is calculated according to the official regulations for doctoral scholarship holders at the University of Antwerp and Ghent University.

How to apply
- You can apply for this vacancy up to Wednesday **March 15, 2023** by a simultaneous email to Prof. Karel in 't Hout and Prof. Michèle Vanmaele (karel.inthout@uantwerpen.be and michele.vanmaele@ugent.be) using *"PhD in numerical analysis and financial mathematics"* as the subject line**.** Make sure to include the following attachments in your email:
  - ➔ your motivation letter,
  - ➔ your academic CV with an overview of your study results including official grade sheets and copies of your bachelor and master diplomas in Mathematics (in latter case if this has already been completed),
  - ➔ names and contact details of the advisor(s) of your bachelor and master theses,
  - ➔ a pdf copy of your bachelor thesis and your master thesis (in latter case, if available).
- We will review the applications as soon as possible after the application deadline and inform you about the decision. The two selected candidates will be optimally matched to the two research groups at the University of Antwerp and Ghent University.
- For further information about this vacancy, you can contact Prof. Karel in 't Hout by email.