

Delft University of Technology (TU Delft) and the Centrum Wiskunde & Informatica (CWI) have a vacancy for a talented and ambitious

PhD student (4 years)

on the subject of new risk measures, beyond VaR, for risk assessment and hedging.

Job description

The PhD candidate will be jointly hosted by TU Delft (Applied Probability Group) and CWI (Scientific Computing Group).

The research will be carried out in the context of the H2020 EU Marie Curie Initial Training Network project named "WAKEUPCALL", which will provide a unique opportunity, for 6 researchers in the early stages of their careers, to study cutting-edge research topics in the field of computational finance and risk management, under the prestigious scheme of the Marie Curie European Industrial Doctorates (EID). The aim of the WAKEUPCALL project is to deeper understand issues in financial risk management, and in the mathematical theory of pricing financial derivatives (and the related products). The PhD candidate will join the WAKEUPCALL community, and take part in the WAKEUPCALL events across Europe.

In an EID project a close cooperation with the industry is mandatory, therefore a stay of 18 months with the industrial partner is expected and prescribed. For the current vacancy, the industrial partner is EY (Ernst & Young), one of the largest professional services companies in the world, and in particular its Dutch subsidiary, with headquarters in Amsterdam (www.ey.com/GL/EN). It is expected that the PhD student will work closely together with the industrial partner EY, and in particular with EY's Quant Team that is part of FSO Advisory, at any stage of her/his PhD, and not only during the compulsory stay at the EY offices.

The PhD student, under the joint supervision of Prof. Cornelis Oosterlee (CWI/TU Delft) and Dr. Pasquale Cirillo (TU Delft), will work on the development of new risk measures in the field of market and credit risk, with the final aim of better assessing and hedging the risk generating from a portfolio of securities and loans. The goal is thus to propose new approaches that overcome the limits of the risk measures currently used (and abused), like Value-at-Risk.

Results are to be published in international journals and presented at major conferences, and they must lead to a PhD thesis within 4 years.

At the end of the first year, the PhD student will be formally evaluated, to assess her/his ability of obtaining the PhD. The PhD title will be granted by Delft University of Technology, upon a positive final defense of the PhD thesis.

Requirements

Potential candidates have a master degree in applied mathematics, statistics, quantitative finance, econometrics, or computational sciences (with specialization in computational finance). They have a strong interest in financial mathematics and they are willing to further increase their knowledge of finance.

Preferred qualifications for candidates include excellent grades, research talent (as proven by the master thesis), affinity with the financial world and personal ambition.

Particularly good grades in Financial Mathematics, (Applied) Probability, Statistics, Scientific Computing and Numerical Analysis are a strong plus.

Candidates are expected to have and prove an excellent command of English, together with good academic writing and presentation skills.

Important: Mobility rule

Because of the mobility requirement of any Marie Curie ITN grant, the potential candidates shall not have resided or carried out their main activity (work, studies, etc.) in the Netherlands for more than 12 months in the last 3 years. Compulsory national service and/or short stays such as holidays are not taken into account.

Terms and conditions for the PhD Student

The terms of employment are in accordance with the Dutch Collective Labour Agreement for Research Centres ("CAO-onderzoeksinstellingen").

The PhD student will be formally employed by CWI with a full social security coverage, and s/he will have all the benefits provided for in the Marie Curie ITN fellowships regulations, including a highly competitive remuneration, living allowances and mobility expenses.

As an Early Stage Researcher, the applicant will register for a PhD at the Faculty of Electrical

Engineering, Mathematics and Computer Science (EEMCS) of TU Delft, and in particular in the Delft Institute of Applied Mathematics (DIAM).

Application

Applications can be sent before April 15 2015 to apply@cw.nl and cc to P.Cirillo@tudelft.nl. Applications should include a detailed CV, a motivation letter, a list of MSc courses and grades (transcripts), a copy of the master thesis, and if available a list of publications. For residents outside the EER-area, a TOEFL English language test may be required. For more information about the vacancy, please contact Prof. Cornelis Oosterlee, email c.w.oosterlee@cw.nl, and Dr. Pasquale Cirillo, email P.Cirillo@tudelft.nl.

About TU Delft

Delft University of Technology, also known as TU Delft, is the largest and oldest University of Technology in the Netherlands, with more than 3300 scientists, and about 20000 students from all over the world. It constantly ranks among the best Universities of Technology in the world: 3rd in Europe and 16th worldwide (2014 rankings).

TU Delft is internationally known for its outstanding cutting-edge research in all fields of engineering and applied sciences.

Within TU Delft, the Delft Institute of Applied Mathematics (DIAM) is responsible for research and teaching in the field of applied mathematics, including financial mathematics, computational finance and financial engineering. DIAM is part of the Faculty of Electrical Engineering, Mathematics and Computer Science.

TU Delft Campus offers excellent research and social facilities in a lively environment. For more information, visit: www.tudelft.nl

About CWI

Centrum Wiskunde & Informatica (CWI) is the Dutch national research institute for mathematics and computer science and linked to the Netherlands Organization for Scientific Research (NWO). The mission of CWI is to conduct pioneering research in mathematics and computer science, generating new knowledge in these fields and conveying it to trade, industry, and society at large.

CWI is an internationally oriented institute, with 160 scientists from approximately 27 countries. The facilities are first-rate and include excellent IT support, career planning, training, and courses.

CWI is located at Science Park Amsterdam that is presently developing into a major location of research in the natural sciences in The Netherlands, housing the sciences of the University of Amsterdam and of the Vrije Universiteit as well as several other national research institutes next to CWI.

For more information, visit: www.cwi.nl

About EY

We are 190,000 people based in 728 offices in 150 countries, organized into 28 Regions and four Areas. All of our people work in one of our service lines – Assurance, Advisory, Tax, Transaction Advisory Services (TAS) – or in Core Business Services (CBS), which provides internal operational support such as HR and IT services.

EY is committed to doing its part in building a better working world. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

Our values define who we are. They influence the way we work with each other, our clients and regulators, and our communities, where we use professional skills to create positive change close to home and around the world.

For more information, visit: www.ey.com

About FSO Advisory

We have nearly 46,000 people serving financial services clients globally, of whom 18,000 belong to our dedicated financial services organizations (FSO). There are four FSO Regions (one for each Area) that bring together the geographic, sector, service line and regulatory strengths in financial services.

The FSOs include three of our industry sectors (Asset Management, Banking & Capital Markets and Insurance) and provide clients with integrated assurance, tax, transaction and advisory services.

Advisory works with large enterprises and government institutions on their most pressing management and operational challenges. Advisory helps clients protect their business, improve performance and enable change. Advisory has three sub-service lines (Performance Improvement, Risk and IT Risk and Assurance) with deep competencies in risk, finance, supply chain, customer and information technology.