

KEY SELECTION CRITERIA ACADEMIC STAFF

UTS:HUMAN RESOURCES

POSITION: Research Associate – Financial Modelling

FACULTY/SCHOOL: Faculty of Business / School of Finance and Economics

Skills and Attributes

- Superior oral and written communication skills.
- Ability to work independently.
- Ability to work cooperatively with research teams.
- Ability to meet deadlines.
- An enthusiasm for research in quantitative finance.
- Capacity for a good rapport with research collaborators within the School of Finance and Economics.
- Capacity to develop as a key member of the Quantitative Finance Research Centre.

Knowledge

- Demonstrated knowledge of the models of continuous time finance.
- Demonstrated knowledge of the use of filtering methods in finance and economics.
- Demonstrated knowledge of numerical methods in financial modelling.
- Demonstrated knowledge of the use of financial and economic data bases.
- Understanding of and ability to apply equal opportunity in the work place.
- Demonstrated knowledge of programming in a language such as Fortran 90, C/C++ as it relates to applications in finance and economics.
- Demonstrated knowledge of statistical and mathematical computer packages such as MATLAB and MATHEMATICA.
- Knowledge of the Latex word processing package
- Appropriate level of skill in the use of graphical visualisation packages
- An understanding of the principles and practices of good research
- Finance theory

Qualifications

- A research higher degree in a discipline related to quantitative finance (Quantitative Finance or Economics, Mathematics, Statistics or equivalent discipline).

Experience required

- Experience in building economic and financial models.
- Experience in estimating economic and financial models.
- Experience with economic and financial databases.
- Experience (as evidenced by research papers or working papers) in obtaining research publication outcomes.
- Experience with statistical and econometric computer packages.
- Experience with continuous time finance models
- Implementation of computational aspects of major research projects in Quantitative Finance
- Experience with scientific computing

POSITION STATEMENT – ACADEMIC STAFF

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Faculty of Business

ACADEMIC SUPERVISOR'S NAME: Professor A D Hall

ACADEMIC SUPERVISOR'S POSITION : Head of School, Finance & Economics

DUTIES OF THE POSITION:

The Research Associate is responsible to Professor Carl Chiarella of the School of Finance and Economics for the timely execution of tasks associated with several ongoing research projects in the School involving various aspects of financial modelling. The incumbent will work closely with a team of researchers collaborating on a range of research projects related to derivative security pricing, estimation of term structure of interest rate modelling, and continuous time portfolio optimisation.

TEACHING AND LEARNING/EDUCATIONAL DEVELOPMENT

- No teaching and learning or educational development duties

RESEARCH AND SCHOLARSHIP

- Participate in research projects related to the projects on derivative security pricing, estimation of term structure of interest rate modelling, and continuous time portfolio optimisation, as directed by the academic supervisor.
- Collaborate with the chief investigators of the various projects concerned in the setting up of appropriate models.
- Advise members of the research group on appropriate methods and approaches for the models developed and participate in the development of computational algorithms for their implementation.
- Coding, implementation and testing of programs to implement the various algorithms developed (from a mathematical description provided by or developed in conjunction with the chief investigators) in Fortran 90, C/C++ or an equivalent programming language with user-friendly interfaces. Often the incumbent will need to clarify technical issues on his/her own with minimal guidance from the chief investigators.
- Where necessary provide sufficient description of developed solution methods and algorithms to a scientific programmer so as to enable him/her to develop computer programs.
- Some programming in a database language to extract data from economic and financial databases as appropriate for the execution of the software.
- Contribute to research working papers able to be published in good quality refereed journals, and undertake other scholarly work.
- To read and comprehend very technical literature on derivative security pricing, estimation of term structure of interest rate modelling, and continuous time portfolio optimisation..
- To provide the appropriate numerical techniques, computer programs and/or statistical analysis.
- To develop and modify models and scientific computer programs as required by the research group.
- To master the technical material required as background for the methods being developed.

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UTS:HUMAN RESOURCES

ADMINISTRATION, MANGEMENT AND LEADERSHIP

- To work independently often with minimal guidance on several concurrent projects.
- To provide detailed documentation of computer code developed and its output.
- To provide a description of the methods used suitable for use in research papers reporting the output of the research projects.
- To develop user friendly interfaces for the computer programs developed.
- To master the relevant economic and financial databases.
- To develop appropriate documentation.

OTHER

- Be prepared to carry out duties at any of the University's campuses as the teaching, administrative and research needs of the School dictate.
- Contribute to the standing of the University in the professional and broader community.