



University of Cape Town
Scientific Computing Research Unit (SCRU) and Department of Chemistry

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Masters Degree - Computational Science - 2016

The Scientific Computing Research Unit invites students with an Honours Degree in one of the sciences or a four-year degree in engineering, to apply for a Master's Degree Scholarship in Computational Science. This degree programme offers an opportunity for students to develop computational skills in computing and data analysis as it applies to the life and material sciences.

The successful incumbents' will be expected to contribute to the interdisciplinary research projects conducted within the Scientific Computing Research Unit (SCRU). The research focus is in method development for chemistry, chemical physics, chemical biology, bioinformatics and cheminformatics. Projects include high performance computing, algorithm design, statistical mechanics methods development, big data analysis and visualisation in chemical biology.

The Masters degree programme commences with training in scripting, mathematical modelling and informatics methods. Students will learn to produce scientific computer code in one of the following programming languages: C++, Fortran, C and/or design a computational module in scripting languages Python or Perl and/or apply or design an analytics method using R, MATLAB or Maple.

Pre-requisites:

An Honours degree in one or more of the following domain disciplines: chemistry, molecular and cellular biology, physics, applied mathematics, statistics and computer science. Students with four-year degrees in electrical, chemical and mechanical engineering will be considered.

A common framework of technical knowledge in the allied fields of applied mathematics, computer architecture and software methods, data handling and statistics would be advantageous to the success within a thesis research project.

Master's Degree Scholarship:

The value of the scholarship is R70 000 per annum, renewed for a second year pending mutual agreement and satisfactory progress.

These scholarships are funded by the National Research Foundation (NRF) and Department of Science and Technology (DST) and are open to **South African students and permanent residents of South Africa only**. There are a very limited number of scholarships available to international students.

Online application forms are available on the Scientific Computing Research Unit Website: <http://www.scientificcomputing.com> and should include; a CV, list of publications (if applicable), academic transcripts and contact details for two referees.

Closing date for applications is 9 October 2015.

Please contact Ms Louise Bezuidenhout at the Scientific Computing Research Unit for further information.
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