

Position Title	Lecturer
Classification	Level B
School/Division	School of Physics, Mathematics and Computing
Centre/Section	Mathematics and Statistics
Supervisor Title	Professor
Supervisor Position Number	310937
Position Number	NEW

Your work area

Complex Systems research and the Complex Systems Group in the Department of Mathematics and Statistics is world-renowned for their work in the data-driven application of Complex Systems and Dynamical Systems Theory to real world problems. Members are currently involved in collaborative research projects including the Australian Research Council Industrial Transformation Training Centre for Transforming Maintenance through Data Science, the Australian Research Council Industrial Transformation Research Hub for Transforming Energy Infrastructure Through Digital Engineering, the Medical Research Fund project to Transform Indigenous Mental Health and Well-being, and the iMove Cooperative Research Centre. The focus of this project will be on research funded through the appointment of the CSIRO-UWA Chair of Complex Systems and the Australian Research Council Discovery Project TSuNAMI: Time Series Network Animal Modelling.

The CSIRO-UWA Chair of Complex Systems was established as a collaborative venture between UWA and CSIRO in 2016 and continues to drive the development of research in the area of Complex Systems between UWA and CSIRO's Mineral Resources. TSuNAMI seeks to apply time series methods to the evaluation and monitoring of animal well-being.

Reporting structure

Reports to: Professor

Your role

As the appointee you will undertake conduct high quality and high impact research that contributes to CSIRO-UWA collaboration in Complex Systems and to the TSuNAMI project. As a passionate advocate for teaching excellence, you will develop and deliver undergraduate and masters curricula with a focus on Applied Mathematics and Complex Systems as well as contributing to the Department, School and University community by contributing to service activities.

The TSuNAMI project expects to generate innovative techniques from complex systems theory, dynamical systems theory, topological data analysis and data science to transform time series to complex network representations to connect geometric and topological features of the network to system behaviour with applications to animal welfare and stress management.

You will join the Complex Systems research group in the Department of Mathematics and Statistics and work with academics and fellow researchers within that group and also researchers

in the School of Animal Biology. You may also be required to supervise honours students and postgraduate research students on projects related to this research.

Your key responsibilities

Conduct high quality research within the general discipline of Complex Systems; generate research output of high impact and international recognition, such as scholarly publications in high impact journals, standards for industrial practices and patents

Develop and maintain a strong, internationally recognized research programme synergistic with the existing Complex Systems research within the School; contribute to efforts to attract research funding from the local and federal governments, industry and foreign funding agencies

Contribute to the development and delivery of world-class innovative teaching that delivers a high quality student experience in the degree programmes of the School both in Complex Systems and undergraduate Mathematics, as required

Supervise research students at both the undergraduate and postgraduate levels and post-doctoral research fellows. Attract and recruit quality postgraduate students and postdoctoral research fellows

Duly provide services to the School and the University in its operation; develop and exercise leadership in its affairs; provide services to the government, the scholarly community and the broader public as required

Other duties as required

Your specific work capabilities (selection criteria)

PhD in Applied Mathematics, Complex Systems or an equivalent relevant field

Demonstrate an outstanding research track record, relative to opportunity, in a relevant field, such as complex systems, network science, dynamical systems, nonlinear time series analysis, persistent homology or topological data analysis, with a proven track record of attracting external competitive funding

Demonstrate research expertise in an area complementary to the schools existing Complex Systems research.

Have a proven track record in the successful supervision of the research of honours and postgraduate students.

Demonstrate an outstanding publication track record in academic peer-reviewed publications and in international journals, relative to opportunity

Demonstrate teaching and learning expertise in the discipline of mathematics and complex systems that incorporates research and/or professional practice

Demonstrate a track record in course development that enhances the student experience, contributing to the development of teaching and learning communities

Demonstrate evidence of a significant role in outreach and community engagement activities, communicating the relevance and importance of mathematics to a broad audience

Highly developed written and verbal communication skills

Ability to work independently, show initiative and work productively as part of a team

Special requirements (selection criteria)

There are no special requirements



Compliance

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including:

The University's Code of Conduct hr.uwa.edu.au/policies/policies/conduct/code/conduct

Inclusion and Diversity web.uwa.edu.au/inclusion-diversity

Safety, health and wellbeing safety.uwa.edu.au/