



<b>Position Title:</b>	Research Fellow
<b>Position Classification:</b>	Level B
<b>Position Number:</b>	NEW
<b>Faculty:</b>	Faculty of Engineering and Mathematical Sciences
<b>School:</b>	School of Physics, Mathematics and Computing
<b>Department:</b>	Department of Mathematics and Statistics
<b>Supervisor Title:</b>	Professor
<b>Supervisor Position Number:</b>	316893

### Your work area

The Department of Mathematics and Statistics in the School of Physics, Mathematics and Computing is renowned for its research and teaching in pure and applied mathematics, statistics and data science. The Statistics section has seven full-time staff engaged in research and teaching, and includes the director of the Centre for Applied Statistics that employs a number of contract staff in statistics. The academic staff in Statistics are collaborating on interdisciplinary research in engineering, medicine, biology/biochemistry, public health, oceans research, astronomy and mathematics education and currently supervise or co-supervise more than 10 PhD students. Our statistics seminar series brings together statisticians from across different disciplines at UWA including PhD students and post-docs.

Statistics has developed strong links with Computer Science and is establishing a joint major for the combined computer science/statistics undergraduate degree in Data Science, as well as increasing statistics courses in the joint Master in Data Science.

Further information about the Department of Mathematics and Statistics can be found at <https://www.uwa.edu.au/ems/Schools/Physics-Mathematics-and-Computing/Mathematics-and-Stats>

### Reporting Structure

Reports to: Professor Inge Koch

### Your role

You will perform research in statistical learning and analyse multivariate and high-dimensional data under the direction of and in collaboration with Professor Inge Koch. The research will involve developing statistical learning approaches in some of the areas: classification and clustering, dimension reduction, feature selection and sparsity, but is not restricted to these topics. You will be responsible for applying statistical theory and methods to different domains which may include functional data such as proteomics mass spectrometry imaging or fMRI imaging, and complex multivariate data from astronomy. Your research will involve consultation and collaboration with experts within the different application domains, and you will take responsibility for developing computer programs which test and implement these approaches on real and simulated data.

You will present research outcomes by writing and publishing journal articles and giving presentations at conferences.

You will join in the research activities of the statistics staff and actively contribute to the statistics seminar series. You may be required to supervise Honours students and co-supervise postgraduate research students on projects related to your research.

## Key responsibilities

1. Work as a full-time researcher in the Department of Mathematics and Statistics under the supervision of Professor Inge Koch.
2. Work collaboratively with other researchers and students engaged in the research projects.
3. Participate in research projects undertaken within the statistics group as appropriate and as agreed with Professor Koch.
4. Conduct high-quality, high-impact research for the analysis of multivariate and high-dimensional data, publish results in peer-reviewed journals and present the results at conferences and elsewhere as appropriate.
5. Present research activities and results in reports, research publications, and to visitors, potential sponsors and peers.
6. Contribute to report and grant writing.
7. Assist in the supervision of undergraduate students and Masters and PhD students.
8. Perform other duties as directed.

## Your specific work capabilities (selection criteria)

1. PhD in statistics, data science or similar.
2. Good knowledge of multivariate statistical theory and a familiarity with approaches used in statistical learning.
3. Demonstrated ability of applying statistical methods to multivariate and high-dimensional data.
4. Extensive experience with software development (eg. R, Matlab, python or similar).
5. Demonstrated ability to work independently and to show initiative.
6. Experience in working as a team player, preferably within a cross-disciplinary team. Track record of research publication relative to opportunity.
7. Highly developed written and verbal communication skills in the preparation of high-quality reports, presentations and publications.
8. An ability and willingness to direct and supervise final year undergraduate students and research students, if appropriate, in areas related to the research of the statistics group.
9. Highly developed organisational skills and demonstrated ability to set priorities and to meet deadlines.

## Special Requirements

You may be required to travel interstate and collaborate with statistical colleagues or domain experts involved in the research projects.

## Compliance

### Workplace Health and Safety

All supervising staff are required to undertake effective measures to ensure compliance with the Occupational Safety and Health Act 1984 and related University requirements (including Safety, Health and Wellbeing Objectives and Targets).

All staff must comply with requirements of the Occupational Safety and Health Act and all reasonable directives given in relation to health and safety at work, to ensure compliance with University and Legislative health and safety requirements.

Details of the safety obligations can be accessed at <http://www.safety.uwa.edu.au>

### Equity and Diversity

All staff members are required to comply with the University's Code of Ethics and Code of Conduct and Equity and Diversity principles. Details of the University policies on these can be accessed at [http://www.hr.uwa.edu.au/publications/code\\_of\\_ethics](http://www.hr.uwa.edu.au/publications/code_of_ethics), <http://www.equity.uwa.edu.au>