



## **Quantitative Research & Advanced Medical Research Statistics 2018**

Griffith School of Medicine  
Griffith University, Australia

Cohort One

Prepared for: **Zhe Jiang University**

## PART 1 - Proposal

### Griffith University

#### At Griffith, we believe in, strive for and celebrate the Remarkable

*The remarkable people who better our world, the remarkable experiences that transform people and communities, and the remarkable contributions that change the future forever.*



We know success often comes from being an exception to the norm—challenging convention, adapting and innovating, creating bold new trends and pioneering solutions ahead of their time. At Griffith, remarkable is the norm.

Since we started teaching over 40 years ago, we're deeply connected to our region, socially conscious and environmentally aware, an integral part of the community and heavily industry focused. We've also become a comprehensive, research-intensive university, ranking in the top 3% of universities worldwide.

Our teaching and research spans five campuses in South East Queensland and all disciplines, while our network of more than 200,000 graduates extends around the world.

*We believe in the potential for all people to become remarkable. Remarkable is earned.*

Griffith University is one of Australia's most innovative and dynamic public universities located in the nation's fastest growth region, the Brisbane-Gold Coast corridor. Griffith University is ranked in the top 400, which places Griffith in the top 5% of institutions worldwide (Academic Ranking of World Universities, 2012).

It is home to approximately 43,000 students studying one of 268 undergraduate or 382 postgraduate programs. Griffith is Australia's 9<sup>th</sup> largest higher education institution by student load and 14<sup>th</sup> by research income generated through 32 Research Centres. Consistently ranked among Australia's top ten research institutions, Griffith is committed to developing research centres of national and international significance.

Ranking in the top three per cent of universities worldwide, Griffith offers degrees in: medicine; dentistry; paramedicine, nursing, midwifery and allied health; business and government; criminology and law; education; engineering and information technology; environment, planning and architecture; humanities and languages; music; science and aviation; and visual and creative arts.

With a focus on industry connections and hands-on experience, Griffith University's global perspective is preparing graduates for tomorrow's international job market. Griffith's teaching excellence has been consistently recognised by prestigious Australian Learning and Teaching Council Grants awarded to academic staff for Teaching Excellence.

### **International Business Development Unit**

The International Business Development Unit specialises in the professional management of international projects, delivering a wide variety of flexible, distance, online and traditional based education projects on budget and on time, made possible by an adherence to standard project management methodologies.

With over 27 years' experience, our team combines world-class education with our leading expertise in international project management to deliver professional development courses.

#### Contact details:

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## **Griffith School of Medicine**

The School of Medicine has a very diverse student body, which benefits from the opportunity to study in excellent medical facilities and clinics, offering programs and courses across a wide range of disciplines including medicine, paramedicine, public health, environmental health and health services management. The school exposed Medical Doctor (MD) and PhD students to world-class teachers and medical professionals, and a friendly, supportive culture which embraces the principles of quality, equity and diversity. From cutting-edge research to the highest standards of the clinical and medical practice, Griffith will give you a fantastic foundation to your remarkable understanding of medical research and career prospective.

### **PART 2 - Program Content**

The program will take place over a two-week period during July to August 2018 at Griffith's Gold Coast Campus to provide PhD level students sound understanding of advanced research statistics for thesis writing and high level of journal publications. The language used for this training will be in English.

The training will include sessions as outlined in the schedule below.

#### **Program Topics**

An overview of principles and methods for medical statistics

1. Fundamentals of medical statistics
2. Prevalence, rate, incidence analysis for hospital and disease registry data analysis
3. Predictive model using survival analysis and cox-regression analysis
4. Meta-analysis of randomised controlled trials and cohort studies
5. Multilevel and multivariate statistics for large, longitudinal, clinical and population level data
6. Machine learning method for medical and disease classification and decision-making

#### **Practical Lab Sessions**

1. Data preparation for prevalence, rate and incidence data
2. Data analysis practice for survival and cox-regression analysis for mortality and morbidity
3. Related research
4. Date analysis practice for meta-analysis, multilevel analysis, multivariate and machine learning method.

### **Program Presenter**



**Associate Professor Jing Sun**  
**Associate Professor, Biostatistics**  
**School of Medicine**

A/Professor Jing Sun is Associate Professor of Medical Statistics and Epidemiology at Griffith University. She has been teaching post graduate health and medical statistics in Griffith's health faculty since 2006, with over 1500 postgraduate students completed her statistics course. She has obtained two university level teaching awards for her high quality of teaching. Jing leads large scale collaboration of Chronic Diseases/Mental Illness randomised controlled trials and cohort studies that led to advances in our understanding of prognosis treatment of cardiovascular disease, diabetes and schizophrenia patients in the era of effective lifestyle based rehabilitation and therapy. She has a longstanding interest in methodology for medical biostatistics and systematic reviews and meta-analysis. She has authored over 165 papers in highly esteemed journals on various advanced statistics methods, ranging

from linear regression, multi-level, meta-analysis to machine learning methods. Her other research interests include methodology for epidemiology and health services research and the epidemiology of COPD and maternal and preterm infants birth and development outcome research.

## Sample Program Schedule

### Week 1

Date	Day	Morning session 9am-12noon	Afternoon Session 1-4pm
22 July	Sunday	Arrival and transfer to accommodation	
23 July	Monday	Welcome and introduction  Orientation and Welcome Lunch	Introduction of Medical Research statistics  Topic1: Medical statistics data science concepts: datasets, definition of data, coding, transformation, and merging.  Tutorial
24 July	Tuesday	Topic2: Data collection and data management Methods	Module 2-Topic1: Variables  Topic2: Measurement level and Hypothesis  Topic3: Data Management: cleaning and combining datasets, classifications.  Tutorial Discussion on your own PhD research topics and hypothesis
25 July	Wednesday	Topic 3- Interventional and clinical research data: incidence, prediction analysis  Tutorial	Module 4-Topic1:Data coding, data summary  Topic2: Data presentation  Topic3: Data Interpretation  Tutorial (cardiology and respiratory disease datasets)  Bring your own data session
26 July	Thursday	Topic 4: Registry research data  Mortality, morbidity analysis  Tutorial	Regression Analysis  Multiple Logistic & Multinomial Regression Analysis  Tutorial (registry data from intensive care unit or trauma services)  Bring your own data session
27 July	Friday	Topic 5: Validation of research instruments  Tutorial	Reliability & Validity Exploratory factor analysis Confirmatory factor analysis  Tutorial (studies in population based chronic disease management) Bring your own data session
28 July	Saturday	Free day	

## Sample Program Schedule

### Week 2

Date	Day	Morning session 9am-12noon	Afternoon Session 1-4pm
29 July	Sunday	Free day	
30 July	Monday	Topic 6: Multiple Linear Regression	Multilevel Analysis on Multicenter based research  Bring your own data session
31 July	Tuesday	Topic 7: Meta-analysis	Meta-analysis  Tutorial: Randomised controlled trials in medication use/interventions Bring your own data session
1 August	Wednesday	Topic 7 Con't: Meta-analysis	Tutorial: cohort study Bring your own data session
2 August	Thursday	Topic 8: Machine Learning Analysis	Decision tree method  Tutorial: disease classification Bring your own data session
3 August	Friday	Bring your own data session and assignment items	Graduation and Farewell
4 August	Saturday	Departure	

## Part 3 - Program Quotation

### Quote 1 - Program and accommodation

Program costs are dependent on **a group of minimum 20 participants and 1 ZJU staff members** in 2018 based at Griffith's Gold Coast campus.

Quote Price:	<b>AUD \$5,200</b>	<b>Per person inclusive of GST</b>
	<b>AUD \$104,000</b>	<b>Total inclusive of GST</b>

#### **Cost includes:**

- Program delivery as outlined in proposal
- Program development fee
- Administration fees
- Airport transfer (if participants arrive as a group)
- Local transport cards (for travel to and from the campus each day)
- Venue hire
- Welcome lunch and graduation event
- Shared Accommodation
  - Two bedroom apartments
  - 3 participants in each apartment including the accompanying staff

\*Please be advised that the accommodation rates are subject to change.

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#### **Please note, quotes do not include:**

- International flights
- Visa fees
- Travel or medical insurance
- Catering and meals (with the exception of the Welcome and Graduation events)
- Airport transfers if participants arrive on different flights
- Interpreter or English language support

### Quote 2 - Program and accommodation

Program costs are dependent on **a group of minimum 30 participants and 1 ZJU staff members** in 2018 based at Griffith's Gold Coast campus.

Quote Price:	<b>AUD \$4,110</b>	<b>Per person inclusive of GST</b>
	<b>AUD \$123,300</b>	<b>Total inclusive of GST</b>

#### **Cost includes:**

- Program delivery as outlined in proposal
- Program development fee
- Administration fees
- Airport transfer (if participants arrive as a group)
- Local transport cards (for travel to and from the campus each day)
- Venue hire
- Welcome lunch and graduation event
- Shared Accommodation
  - Two bedroom apartments
  - 3 participants in each apartment including the accompanying staff

\*Please be advised that the accommodation rates are subject to change.

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**Please note, quotes do not include:**

- International flights
- Visa fees
- Travel or medical insurance
- Catering and meals (with the exception of the Welcome and Graduation events)
- Airport transfers if participants arrive on different flights
- Interpreter or English language support

***The following payment policy will apply:***

One payment of 100% of the total program cost will be made on invoice after the contract is signed and prior to workshop delivery.