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# Faculty of Engineering and Information Sciences

Saravanan (Saran) Nagarathinam – International Manager

November 2017



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

# University at a glance

**32,953**

total student enrolment

**138,594**

UOW alumni

**6,143**

international students

**304**

degrees on offer

**147**

countries where  
UOW alumni live

**78.3%**

Academic staff  
with PhDs

**9**

Australian  
campuses

**7**

international  
teaching locations



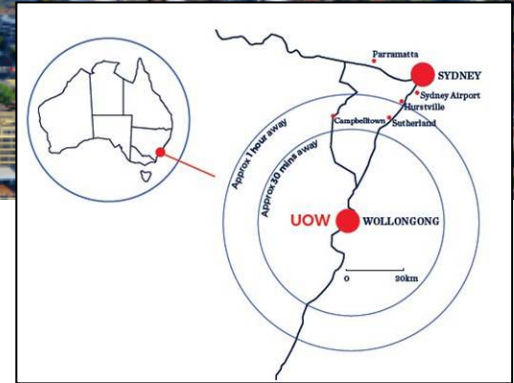
# A university city

**WOLLONGONG**



- More than 160 nationalities represented at our Wollongong campus
- Religious services including on-campus Muslim Prayer Space, the Omar Mosque, Nan Tien Buddhist Temple and Sri Venkateshwara Hindu Temple

- 90 minutes from the Sydney CBD
- Third largest city in New South Wales
- 17 patrolled surf beaches
- 11 national parks within 50km



# Campus Life

## MODERN TEACHING FACILITIES AND BEAUTIFUL STUDY SPACES



### EAT WELL

UOW students can choose between eight cafes, the popular UniBar and the IGA supermarket, which are conveniently located throughout the campus.



### GET ACTIVE

Students can keep fit in the UOW gym, the Olympic-sized swimming pool, or with any of the more than 60 student sporting teams including cricket and rugby.



### JOIN THE CLUB

Students can get involved and find like-minded people through UOW's 120 student clubs and societies. If none of the existing ones are right, it's easy to start a new one.



### FACILITIES

Our students have easy access to extensive library resources, world-class labs and science teaching facilities right on campus.



# Transport in Wollongong

## CONVENIENT TRANSPORT OPTIONS



### **BICYCLE**

UOW has more than 800 bike racks for secure and convenient bike parking. There are always second-hand bikes for sale around campus.



### **TRAIN**

North Wollongong Station is a 15-minute walk or a short free shuttle bus ride from our main campus.



### **BUS**

Wollongong is well connected with city buses going to all its suburbs. Free 'city loop' buses run all day and into the night, linking UOW with the city centre, trains and shopping district.



### **CAR**

UOW runs a carpooling program, so if you have two or more friends in your car, you get free parking on campus.



# Student support services

## PERSONAL

- Student Support Advisors
- UOW Wellbeing: Maintain a happy and healthy life balance (The Lounge @ UOW)
- Counselling: Free and Confidential Counselling Services.
- Campus Health: GPs, dentists, Dietitians on campus
- Other Services such as Legal Advice, Financial counselling and disability services.

## ACADEMIC AND SOCIAL

- Peer Assisted Study Sessions (PASS)
- Technology-rich learning
- Award winning Library
- English Conversation groups
- 120+Clubs and Societies
- Onsite sports facilities – Gym, Olympic Sized Swimming Pool, Sporting Fields
- Free City Loop Buses



# Live on campus

## UOW LIVING

- Award-winning academic and wellbeing support
- Choice of seven residences on or near campus, or in the CBD
- Cost includes high-speed internet, electricity, water, furniture, security and support
- Full calendar of social, cultural and sporting events
- Brand new residence opening on campus in 2018



**A WELCOMING  
COMMUNITY WITH  
SUPPORT AT YOUR  
DOOR**



# South Western Sydney Campus



UOW has a vision to create a contemporary city campus in Liverpool, one of the fastest growing urban areas in Australia.

## UNDERGRADUATE COURSES AVAILABLE

- Bachelor of Arts (History, Sociology)
- Bachelor of Arts – Bachelor of Laws
- Bachelor of Business
- Bachelor of Business Information Systems
- Bachelor of Business – Bachelor of Laws
- **Bachelor of Computer Science**
- **Bachelor of Information Technology**
- Bachelor of Commerce (Mark or Mgmt) – 2018 (Subject to approval)

## POSTGRADUATE COURSES AVAILABLE

- Graduate Certificate in Health Leadership and Management
- Master of Health Leadership and Management
- Master of Nursing International
- Master of Social Work (Qualifying)

## UOW COLLEGE PROGRAMS

- Diploma of Business
- Diploma of Information Technology
- Diploma of Legal Services
- English for Tertiary Studies (Pending Approval)

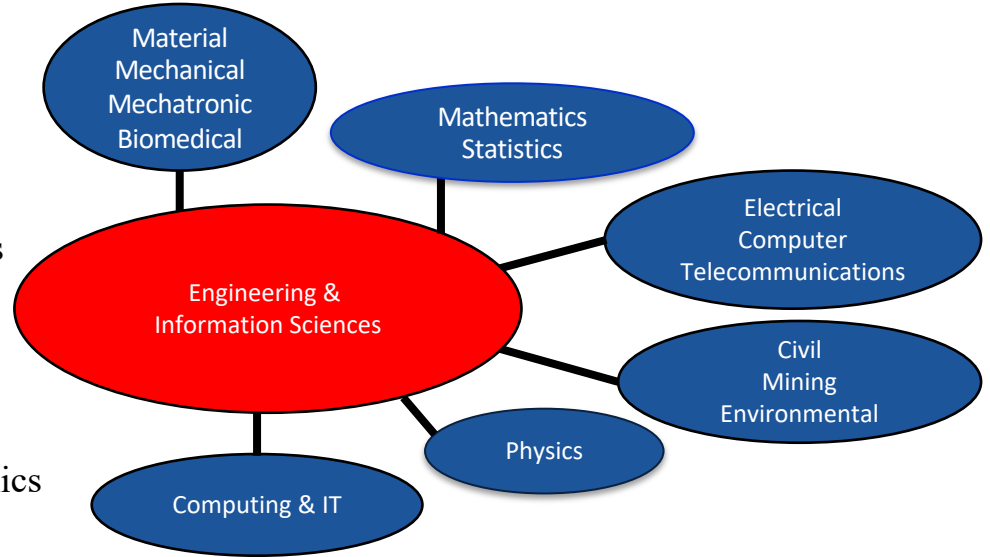




# Faculty of Engineering & Information Sciences

## 6 SYNERGISTIC SCHOOLS

- School of Computer Science and IT
- School of Electrical, Computer and Telecommunications Engineering
- School of Mathematics and Applied Statistics
- School of Civil, Mining and Environmental Engineering
- School of Physics
- School of Mechanical, Materials, Mechatronics and Biomedical Engineering



TOP 1 %  
Research quality



**GROUP  
OF EIGHT  
AUSTRALIA**

ENGINEERING  
ASSOCIATE



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

# Our achievements

**RANKED 96<sup>TH</sup> IN THE WORLD AND 7<sup>TH</sup> IN AUSTRALIA**

In the 2018 Times Higher Education World University Rankings for “Engineering and Technology”

**RANKED 1<sup>ST</sup> IN AUSTRALIA**

In the QILT Rankings for Engineering

**RANKED 2<sup>ND</sup> IN NSW / ACT**

In the QILT Rankings for:  
Computing and Information Systems  
Mathematics and Statistics  
Physics



# Faculty discipline based rankings

## TOP 50 IN THE WORLD

Mineral and Mining Engineering

## TOP 150 IN THE WORLD

Civil and Structural Engineering  
Materials Science

## TOP 200 IN THE WORLD

Mechanical Engineering

## TOP 250 IN THE WORLD

Electrical & Electronic Engineering  
Computer Science & Information Systems



*\*2017 QS world rankings by subject*



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AUSTRALIA

Faculty of Engineering & Information Sciences (EIS) is part of  
the “Group of Eight Engineering Associates”



The **Group of Eight** (Go8) is a coalition of research-intensive Australian **Universities** and UOW is a member of the Engineering Associates.

Recent EIS Research Grants:-

UOW researchers win \$6 million for Rail engineering training centre  
<http://media.uow.edu.au/releases/UOW233553.html>

UOW researchers win \$10 million in Australian Research Council funding  
<http://media.uow.edu.au/releases/UOW223611.html>



# English Language Requirement for EIS courses

## Post Graduate (PG) courses:

	Overall	Reading	Writing	Listening	Speaking
IELTS	6.5	6	6	6	6
TOEFL	88	20	20	20	20
PTE	64	59	59	59	59

## Undergraduate (UG) courses:

	Overall	Reading	Writing	Listening	Speaking
IELTS	6.0	6	6	6	6
TOEFL	79	18	18	18	18
PTE	57	57	57	50	50



# Undergraduate Courses



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# Bachelor of Engineering (Honours)

## COURSE INFORMATION

A four-year degree that allows students to specialise in:

Biomedical Engineering

Civil Engineering

Computer Engineering

Environmental Engineering

Materials Engineering

Mechanical Engineering

Mechatronic Engineering

Mining Engineering

Telecommunications Engineering

Double Majors available:

Civil - Environmental

Civil – Mining

Mechanical – Materials

Mechanical – Mining

Mining – Environmental

Mining- Materials

**Duration:** 4 years

**Entry Requirements:**

**IELTS:** 6

**Location:** Wollongong

**Course Structure:** All students complete a Professional Practice subject and a dissertation project (minor research thesis).

These majors are all accredited by Engineers Australia

They also have Washington Accord status



# Bachelor of Computer Science

## COURSE INFORMATION

A three-year degree that allows students to specialise in the following majors:

Big Data

Cyber Security

Digital Systems Security

Game and Mobile Development

Software Engineering

**Duration:** 3 years

**IELTS:** 6

**Location:** Wollongong

**Course Structure:** Common first year of study and then students choose a major in second year.

This degree and majors are accredited by the Australian Computer Society (ACS) at the Professional Level





# Bachelor of Information Technology

## COURSE INFORMATION

A three-year degree that allows students to specialise in the following majors:

eBusiness

Network Design and Management

Social and Digital Innovation

Web Design and Development

**Duration:** 3 years

**IELTS:** 6

**Location:** Wollongong

**Course Structure:** All students complete a Professional Practice subject and a dissertation project (minor research thesis).

## Bachelor of Business Information Systems

A three-year degree that allows students to specialise in both IT and business disciplines.

These degrees and majors are accredited by the Australian Computer Society (ACS) at the Professional Level



# Bachelor of Medical Radiation Physics

## COURSE INFORMATION

A three-year degree that allows students to study nuclear radiation therapy and treatments.

UOW currently graduates more than 50% of medical radiation physicists working across hospitals and research centres in the state of New South Wales.

Students who wish to work as medical radiation physicists alongside hospital radiation oncologists will need to continue to the Advanced Honours program and Higher Degree Research programs.

This degree conforms to membership of the Australian Institute of Physics and the Australasian College of Physical Scientists and Engineers in Medicine.

**Duration:** 3/4 years

**IELTS:** 6

**Location:** Wollongong

**Advanced Course Structure:** 4 years and includes a substantial research thesis.



# Bachelor of Science and Bachelor of Mathematics

## COURSE INFORMATION

### **Bachelor of Science**

A three-year or four-year Advanced degree that allows students to specialise in the following majors:

Atmospheric Science  
Biomolecular Physics  
Nuclear Science and Technology  
Physics

This degree conforms to membership of the Australian Institute of Physics.

**Duration:** 3 or 4 years

**IELTS:** 6

**Location:** Wollongong

**Advanced Course Structure:** 4 years includes a substantial research thesis.



### **Bachelor of Mathematics**

majors include:

Mathematics  
Applied Statistics  
Mathematics and Statistics



# Bachelor of Mathematics and Finance (Honours)

## COURSE INFORMATION

A four-year degree that allows students to specialise in the following majors:

Financial Planning

Mathematical Economics

Quantitative Corporate Finance and Investment

Quantitative and Computational Trading

Risk Management and Insurance

**Duration:** 4 years

**IELTS:** 6

**Location:** Wollongong

This degree is accredited by the Australian Mathematical Society

Completion of the degree provides 'points' toward membership of the Financial Services Institute of Australasia.



# Postgraduate Courses



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# Master of Engineering

## COURSE INFORMATION

A two-year course that allows students to specialise in:

Civil Engineering  
Computer Engineering  
Electrical Engineering  
Environmental Engineering  
Innovative Manufacturing  
Materials Engineering  
Mechanical Engineering  
Mechatronic Engineering  
Mining Engineering  
Telecommunications Engineering

These majors are accredited by  
Engineers Australia



Students can also specialise in:

Asset Management  
Management

These two majors are currently not accredited by  
Engineers Australia.

**Duration:** 2 years

**Entry Requirements:** Recognised four-year Bachelor of  
Engineering degree with an equivalent average mark of  
60%

IELTS 6.5

**Location:** Wollongong

**Course Structure:** All students complete a Professional  
Practice subject and a dissertation project (minor  
research thesis).



# Master of Engineering Management

## COURSE INFORMATION

**Course Structure:** A one-year course with six core subjects:

Engineering Logistics

Innovation and Design

Engineering Project Management

Modelling of Engineering Management Systems

Strategic Management for Engineers and Technologists

Financial Management for Engineered Assets

Students also complete two elective subjects in Engineering or Business

**Duration:** 1 year

**Entry Requirements:** Work experience in engineering and a recognised four-year Bachelor of Engineering degree with an equivalent average mark of 60%

IELTS 6.5

**Location:** Wollongong



# Master of Information and Communication Technology Advanced

## COURSE INFORMATION

A two-year course that allows graduates and IT professionals to learn more about organisational, economic, regulatory frameworks governing IT and how to manage these.

This degree has **Advanced** Professional Accreditation with the Australian Computer Society (ACS).



**This is the first degree in Australia to be awarded this advanced accreditation.**

**Duration:** 2 years

**Entry Requirements:** Recognised Bachelor degree in IT and work experience in the IT sector

IELTS 6.5

**Location:** Wollongong

**Course Structure:** Four foundation subjects and six subjects for a major, plus six elective subjects.

All students complete a research or professional project.





# Master of Health Informatics

## COURSE INFORMATION

A two-year course designed to provide IT professionals with knowledge about Health Informatics and health professionals with a better understanding of IT in their sector:

IT professionals study:

Social Determinants of Health

Health Promotion

Public Health Policy

Contemporary Public Health Issues

Health professionals study:

Big Data Management

System Analysis

Python Programming

Data Management and Security

This degree is accredited by the Australian Computer Society (ACS)



**Duration:** 2 years

**Entry Requirements:** Recognised Bachelor degree with an equivalent average mark of 60% in any area related to IT or Health

IELTS 6.5

**Location:** Wollongong

**Course Structure:** Five core subjects, plus subjects from either IT or Health stream and electives.

All students complete a research or professional project.



# Master of Computer Science

## COURSE INFORMATION

A two-year course that allows students to specialise in:

Intelligent Systems

Machine Learning and Big Data

Network and Information Security

Software Engineering

This degree and majors are accredited  
by the Australian Computer Society (ACS)



**Duration:** 2 years

**Entry Requirements:** Recognised Bachelor degree with an equivalent average mark of 60% in any area  
IELTS 6.5

**Location:** Wollongong

**Course Structure:** Four foundation subjects and six subjects for a major, plus six elective subjects.

All students complete a research or professional project.



# Master of Information Technology

## COURSE INFORMATION

Suitable for non IT graduates.

A two-year course with core subjects in:

Big Data Management

Information Design and Content Management

Python Programming

Web Programming

Research Methodology

Systems Development Methodology

Students can then specialise in:

[IT Strategic Management](#)

[Enterprise Networking](#)

[Information Systems Development](#)

Or complete eight electives from the schedule.

This degree and majors are accredited  
by the Australian Computer Society (ACS)



**Duration:** 2 years

**Entry Requirements:** Recognised Bachelor degree with an equivalent average mark of 60% in any area  
IELTS 6.5

**Location:** Wollongong

**Course Structure:** All students complete a research or professional project.



# Graduate Certificate in Computing

## Pathway to Computer Science and IT Degrees

### COURSE INFORMATION

The Graduate Certificate in Computing provides pathways into UOW's:

[Master of Computer Science](#)

or

[Master of Information Technology](#)

Students receive 24 credit points (four subjects of Advanced Standing into the Master programs)

**Grad Cert Computing Duration:** 6 months

**Master Duration:** 1.5 years

**Entry Requirements:** Recognised Bachelor degree with a duration of at least three years of fulltime study

IELTS 6.0

**Location:** Wollongong

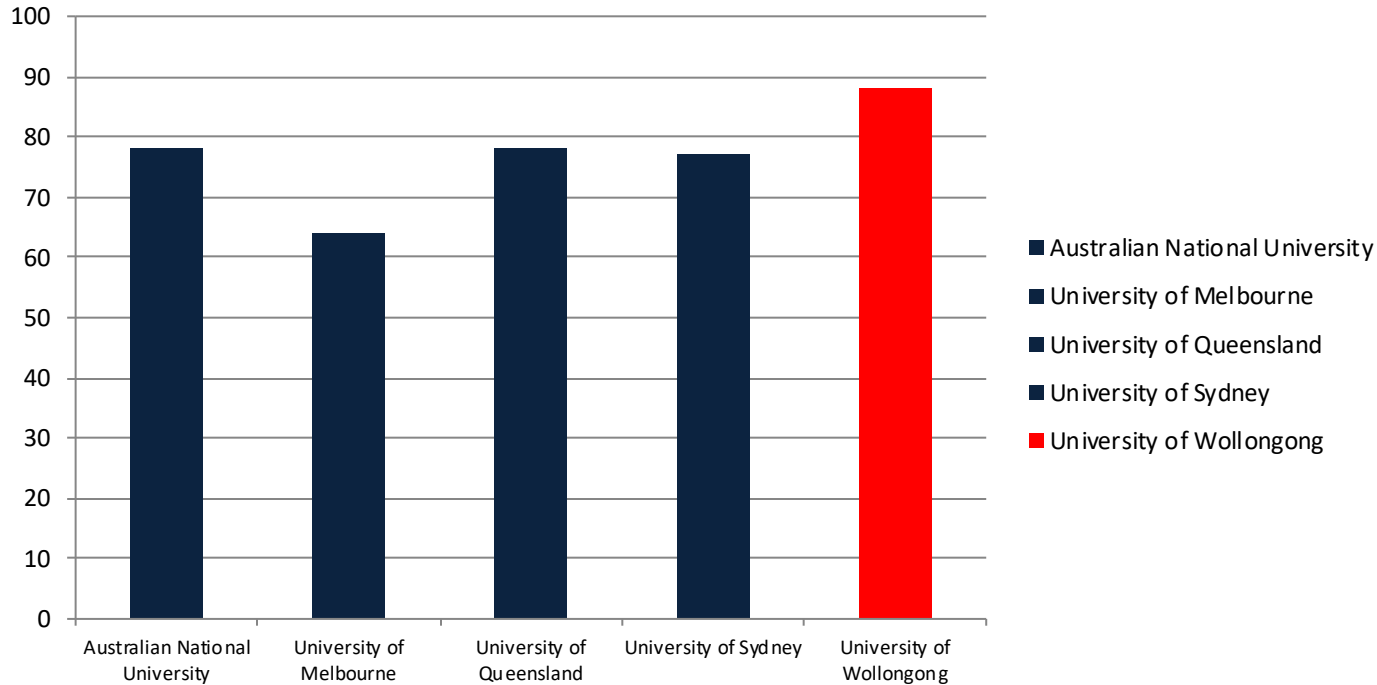
**Course Structure:** Four foundation.

All students complete a research or professional project.

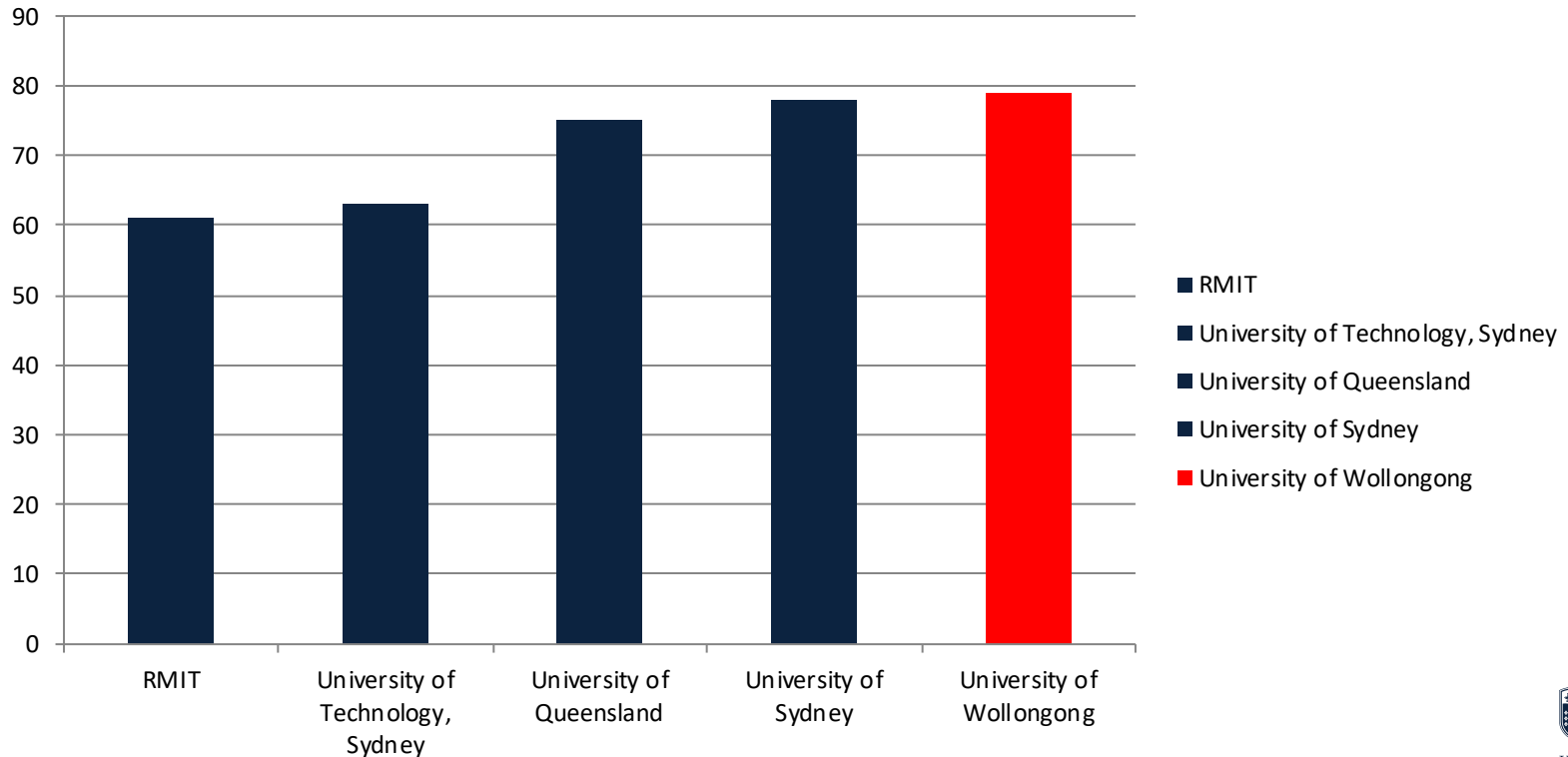


# 1<sup>st</sup> in Australia for Engineering

## Australian University Comparison - Engineering Full Time Employment



# Australian University Comparison – Computing & Information Systems Full Time Employment

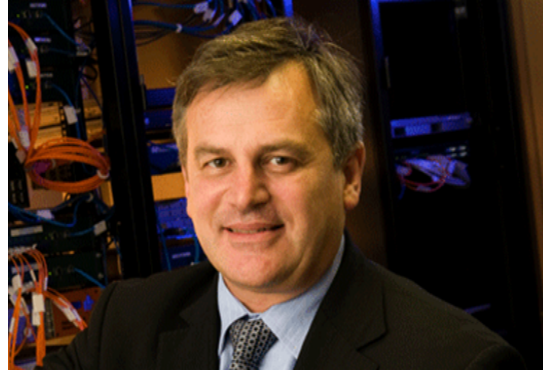


# Our alumni



## COOPER LEES

UOW Computer Engineer Alumni  
Production Engineer at Facebook



## DR ALEX ZELINSKY

UOW Engineering Alumni  
Chief Defence Scientist of Australia



## SUNIL CHANDRA

UOW Computer Engineering Alumni  
Vice President at Google



# Industry Links

- Major Australian and International Firms recruit graduates from the University
- Constant engagement in industry research, within Australia and Internationally

Microsoft



bhpbilliton



BAOSTEEL

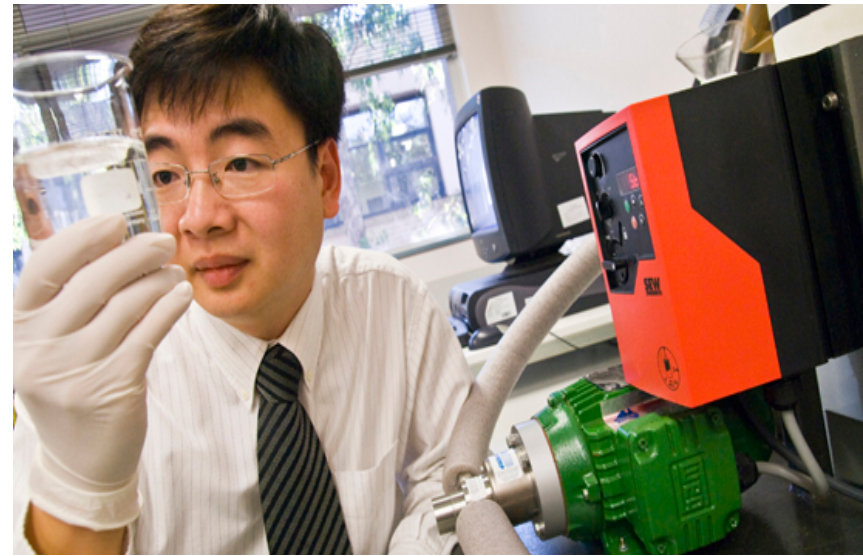


Google



UNIVERSITY OF WOLLONGONG AUSTRALIA





## Innovative research turning food waste into energy

- by UOW Professor Long Nghiem

<http://media.uow.edu.au/releases/UOW232243.html>

# Industry engagement with NASA

Faculty's Centre for Medical Radiation Physics (CMRP) won a prestigious research grant from NASA  
- to develop space qualified instrument to assess radiobiological effects on humans during long-term space missions



**DR LEROY CHIAO**

Former NASA astronaut visits UOW

He spent 6 months on the International Space Station



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