

# RESUMÉ

## PERSONAL DETAILS

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**Engineers Australia Member Number:** XXXXXX

**Date and Place of Birth:** XXXXXXXX

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## EDUCATION HISTORY

### **Secondary Education:**

Ku-Ring-Gai High School, Turramurra  
Higher School Certificate 1995 - TER 88.25

### **Tertiary Education<sup>1</sup>:**

University of Technology, Sydney  
Doctor of Philosophy by Research  
Commenced September 2002 (Current)

University of Technology, Sydney  
Bachelor of Engineering (Civil), First Class Honours,  
Diploma of Engineering Practice  
Completed June 2002

September 1999 to May 2000,  
University of Waterloo, Ontario, Canada  
Bachelor of Engineering (Exchange Program)

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## EMPLOYMENT HISTORY

- 2005 Spring Semester to present – UTS Faculty of Engineering Causal Academic
    - Lecturer and Course Developer, Advanced Flow Modelling
    - Lecturer and Tutor, Informatics and Visual Basic
    - Tutor for Fluid Mechanics and Hydraulics and Hydrology
  - January 2002 to present, UTS Faculty of Engineering, Computer Support Program, Desktop Support Consultant and Linux Consultant
  - Eco-Challenge 2000 to 2002, Supervisor by invitation
  - May 2000 to July 2001 full-time with Robinson GRC, as an engineer
  - January 1999 to June 1999 full time with Hornsby Shire Council, as assistant engineer to Mr Michael Bickford, Engineer Investigations
  - July 1998 to December 1998 full and part time with Webb, McKeown and Associates, as a cadet engineer
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## BOARD LEVEL APPOINTMENTS

- Non-Executive Director – UTS, November 2004 to October 2006 and June 2007 to present
    - Member Finance Committee
    - Member Student Matters Committee
  - Executive Director – NSW Cave Rescue Squad Inc (Registered Charity) 2003 to Present
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<sup>1</sup> full academic transcript can be provide upon request

## OTHER QUALIFICATIONS

St John Senior First Aid – valid until May 2010  
Unrestricted Class HR (Heavy Rigid) Drivers Licence  
NSW State Rescue Board Accredited Vertical Operator

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## PROFESSIONAL ASSOCIATIONS

Graduate Member, Institution of Engineers, Australia  
Member, APESMA

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## COMPUTER SKILLS

### **Desktop Customer Support**

University of Technology, Sydney, Faculty of Engineering Support Consultant

### **Computational Fluid Dynamics**

CFD-ACE+

### **General CAD/GIS Programs:**

Autocad Release 12, 14 and 2002

ARCVIEW GIS Version 3.0a.

### **Hydraulic and Hydrologic Programs:**

DRAINS

ILSAX

HEC-RAS

### **General Office Productivity Software:**

Microsoft Office Suite

### **General Programming and Operating Systems:**

Microsoft Visual Basic and Visual Basic for Applications

Fortran 90, 95 and 2000

HTML and PHP web scripting

SQL database management

BASH scripting

Multi-platform ISO and GNU C

Python

Windows 2000, Windows XP, UNIX, Linux and MacOSX Operating Systems

### **General Hardware Architecture:**

Working knowledge of hardware components of XT to Itanium 2 class PC  
compatible hardware and Apple hardware

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## COMMUNITY INVOLVMENT

2003 to present - Secretary NSW Cave Rescue Squad

2003 to present, Variety Club Volunteer, Ice Skating Days

2000 to Present - Member NSW Cave Rescue Squad

2003 to Present, Member of Engineers Australia Sydney Division Water Engineering Panel

2006 to present, Foundation Vice President UTS Engineering Alumni Network

## **C A M P U S I N V O L V M E N T U T S**

1996 to present - active member of UTS Speleological Society  
1997 to present - treasurer of UTS Speleological Society  
1998 to 1999 - active member UTS Rock Climbing and Mountaineering Club  
Spring 1999 - Volunteer Technical Ropes Demonstrator, UTS Information Day  
Spring 1999 - Volunteer UTS Faculty of Engineering Information Night  
Spring 1998 - Volunteer, Women in Engineering Shadow Day  
Autumn 2000 - Volunteer Demonstrator, Women in Engineering Hands On Day  
2000 to present President UTS Speleological society

Elected Postgraduate Member of University Council June 2007 to present  
Elected Postgraduate Member of University Council for November 2004 – October 2006  
2003 to present – Foundation member of the Research Students Council

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## **U N I V E R S I T Y O F W A T E R L O O**

Autumn 1999 and Winter 2000, Engineering Exchange Spokesperson  
Autumn 1999 and Winter 2000, Floor Representative to the House Council, UW Housing and Residences  
Autumn 1999 and Winter 2000, Trails Executive, University of Waterloo Outers Club  
Autumn 1999 and Winter 2000, Assistant, Village Community Outreach Campaign  
Winter 2000 Print and HTML editor house yearbook

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## **A W A R D S**

2003 ATSE Early Career Symposium Fellowship  
2002 Iplex Pipeline Prize  
2002 NSW Branch Australian Water Association, 2<sup>nd</sup> Undergraduate Water Prize  
2002 UTS Faculty of Engineering, Dean's Prize finalist, 1<sup>st</sup> Civil Engineering, 2<sup>nd</sup> Overall  
Winter 2000, University of Waterloo, Athletics and Recreation Volunteer Recognition Award  
Autumn 1999 and Winter 2000, Resident Appreciation Award, University of Waterloo  
1999, 2000 Deans List, Faculty of Engineering, UTS  
1999 UTS Union Club Member of The Year, UTS Speleological Society

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## **O T H E R I N T E R E S T S**

Home Brewing, Caving, Hiking, Rock Climbing,  
Cross Country, Downhill Skiing and Figure Skating

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## **R E F E R E E S**

Referees can be provided upon request.

## DETAILED WORK DUTIES

### Additional Roles at UTS

- Lecturer Advanced Flow Modelling – I was tasked to develop this course from scratch following the shock departure of the original lecturer. This subject is a Masters level coursework subject on Computational Fluid Dynamics.
- Lecturer and Tutor for Informatics and Visual Basic – as well as lecturing and tutoring I have been instrumental in the course management and restructure, in particular for the programming aspects of the subject.
- Laboratory demonstrator and tutor for Hydraulics and Hydrology
- Foundation member of the Research Student Council and active member of the RSC – This organisation is run as a sub-committee of the Research Degrees Committee and is aimed at maximising the student experience at UTS by providing opportunities for social and technical interaction. I have organised and assisted with various events including social functions and formal presentations such as the Engineering Research Showcase
- Capstone and Exchange Supervisor – I have co-supervised a number of exchange students from INSA Toulouse and the University of Bologna who have been engaged on projects related to my own research. In addition I have co-supervised a local capstone student who has been involved in a Computational Fluid Dynamics project.
- Postgraduate Member of University Council, term of office November 2004 to October 2006.
- Assistant to the Research Computing Manager –engaged on a project to investigate converting the existing computer laboratories into a single dedicated parallel computer outside of normal operating hours. This parallel computer would be used for projects with very high computational requirements.

### Major Project Work with Robinson GRC

- Bidwill Major Drainage Paths – design of overland flow paths for a sub-division redevelopment and re-zoning.
- Burwood Drainage Study – detailed urban drainage modelling of all of the catchments within the Burwood LGA using DRAINS. The results were then integrated with the Council's existing GIS infrastructure.
- Hurstville Drainage Study – detailed urban drainage modelling of the catchments around the Hurstville Central Business District.

## **Major Duties at Hornsby Shire Council**

- Assist the Engineer Investigations with general design of minor drainage works, deal with minor drainage matters as raised by members of the public.
- Review the database of properties affected by stormwater inundation in the whole of the Shire with a view to updating the list as mitigation works have now been undertaken in the majority of catchments.
- Liaise with consultants currently engaged by Council for studies in order to provide the consultants with the appropriate data that they may require to perform the studies and deal with general management of the studies. The studies included Catchment Management Plans, Stormwater Catchment Management Plans and a Review of Council's On-Site Detention Policy

## **Major Project Involvement with Webb, McKeown and Associates:**

- Stoney Creek Overflow Channel Design - design and drafting of an overflow channel for the Stoney Creek culvert on the Main Southern Railway near Wollongong, NSW. The design was a follow-on from a flood study previously carried out by WMA.
- Wee Waa Railway Bridge - preliminary computer modelling of the 1%, 2%, 5% and 10% AEP design floods for the Wee Waa railway bridge to be raised to the 1 in 50 year flood height. I set the model river geometry and model calibration from known flood events.
- Hampden Road, Lakemba, Urban Drainage - audit and upgrade of the stormwater pipe system around Hampton Road for Canterbury Council. This involved the collation of survey data and council plans dating from early this century to be able to setup an accurate ILSAX model for the upgrade and design runs.
- Hawkesbury-Nepean River Low Flow Homogeneity - used Microsoft Excel to perform a statistical analysis to cross reference and debug the FORTRAN program that Webb McKeown & Associates had written to analyse data spanning over 100 years.
- Parramatta River Seawalls Audit - drafting work for site layout and conversion of GIS data to a suitable format. HTML programming for the final internet style presentation on CD-ROM.
- Smiths Lake EPS - drafting work for the final presentation of data to be consistent with the Wallis Lake EPS report.

**P U B L I C A T I O N S  
A N D  
P R E S E N T A T I O N S**

PUBLICATIONS - PRINCIPAL AUTHOR

- Brady, P., 2002, *3-D Unsteady Modelling of Sewer Overflows Using Computational Fluid Dynamics*, Undergraduate Thesis, University of Technology Sydney, Sydney Australia

PRESENTATIONS

- Brady, P 19<sup>th</sup> September 2007, *CFD For Civil Engineers*, Institution of Engineers Australia Sydney Division Water Panel, UTS, Sydney Australia
- Brady, P. and Beecham, S., 24<sup>th</sup> July 2002, *CFD Modelling of Sewer Overflows*, Institution of Engineers Australia Sydney Division Water Panel, Eagle House, Sydney Australia
- Brady, P., 17<sup>th</sup> July 2002, Deans Prize Presentation of Undergraduate Thesis, University of Technology, Sydney, Sydney Australia

CONFERENCES PAPERS - PRINCIPAL AUTHOR

- Brady, P., Boutounet, M and Beecham, S., December 2004, *Free Surface Monitoring Using Image Processing*, in 15<sup>th</sup> Australian Fluid Mechanics Conference, Sydney Australia

CONFERENCES PAPERS - ALTERNATE AUTHOR

- Amur, G. et al. 2004, *Role of Plant Buildings in a Power Station Acting as Barrier to the Wind Affecting the Natural Draft Cooling Tower Performance*, In Fifteenth Australasian Fluid Mechanics Conference, (eds) Behnia, M., Lin, W. and McBain, G., The University of Sydney.