

# postgraduate

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SWINBURNE  
UNIVERSITY OF  
TECHNOLOGY

Postgraduate programs in  
**Construction Management**

The construction industry has always required efficient technical and financial administrators, however, in today's economic climate this need is growing. This is reflected by the demands on industry managers to efficiently manage projects on all fronts. Managers must be able to plan, execute and supervise jobs professionally in areas where each new technological advance creates a need for new techniques, methods and equipment.

Swinburne's construction management programs assist professionals to move from technical practice to technical management. Following completion of the program, you will have gained the skills and knowledge needed to advance your career into the upper levels of management.

# Construction Management

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### Special offer

#### **Master of Technology (Civil) and Master of Technology Management (Construction Management)**

Students can now undertake the Master of Technology (Civil) and the Master of Technology Management (Construction Management), resulting in a combined duration of two years.

Students who successfully complete the Master of Technology (Civil) will receive six months of exemptions when they enrol in the Master of Technology Management (Construction Management) and receive two master degrees in two years!

# Construction Management

## Graduate Certificate of Technology (Construction Management)

## Graduate Diploma of Technology (Construction Management)

## Master of Technology Management (Construction Management)

### Program overview

Swinburne's suite of postgraduate programs in construction management aims to prepare graduates for future roles in managing people, equipment, materials, technological processes and funds in the construction, building and maintenance of buildings and assets in civil infrastructure. This is achieved by providing a structured study of advanced management and engineering techniques in the fields of construction, building and maintenance, with the opportunity to specialise within the program.

These programs are designed to develop:

- ▶ an ability to plan construction, building and maintenance operations and to forecast resource needs
- ▶ skill at allocation of material resources, and in organisation and leadership of people
- ▶ the key issues and concepts of procuring
- ▶ knowledge of modern building, construction and maintenance technology
- ▶ an understanding of the financial considerations and the risk involved in project funding
- ▶ an appreciation of contractual obligations and risk and legal requirements
- ▶ an understanding of the requirements of quality management
- ▶ an awareness of environmental impacts of construction projects
- ▶ an ability to communicate effectively within a project setting

### Career opportunities

These programs will provide graduates with an opportunity to gain advanced theoretical and practical knowledge of construction and infrastructure management principles, procurement and cost analysis. The programs will also assist in up-skilling local and international graduates in state-of-the-art Australian professional engineering.

Graduates may obtain positions as construction managers, project engineers/managers, civil engineers or asset management engineers in a range of industries including consulting engineering, construction, research organisations, private sector, local and other government authorities.

### Location

Hawthorn campus or by distance education

### Program length

#### Graduate Certificate of Technology (Construction Management)

One semester full-time or one year part-time

#### Graduate Diploma of Technology (Construction Management)

One year full-time or two years part-time

#### Master of Technology Management (Construction Management)

One and a half years full-time or three years part-time

Students may commence their studies in either first or second semester of any year.

Students in employment are encouraged to study part-time. Students may vary their study load to accommodate changing employment and personal commitments.

Please note: International applicants wishing to study on-campus should be aware that due to visa requirements a full-time study load (four units) must be maintained with the exception of the final semester.

### Admission requirements

For admission into Swinburne's construction management programs, it is preferable that applicants have relevant industry experience. In addition, applicants should:

- ▶ have completed a bachelor degree in engineering (or diploma for graduate certificate applicants) or equivalent qualifications **OR**
- ▶ have completed a four year degree in building or architecture **OR**
- ▶ have qualifications and experience which, in the opinion of the selection officer are of satisfactory standard for the nominated program

It is also preferable that applicants for the master program have an honours or postgraduate qualification.

All candidates must satisfy the university that their standard of English (oral and written) is appropriate for the program.

### Program structure

All units of study are valued at 12.5 credit points except for HES7608 Research Project which is valued at 37.5 credit points.

#### Graduate Certificate of Technology (Construction Management)

In order to gain the Graduate Certificate of Technology (Construction Management) students must satisfactorily complete four units of study to the value of 50 credit points. A minimum of two of these must be discipline-specific units.

#### Graduate Diploma of Technology (Construction Management)

In order to gain the Graduate Diploma of Technology (Construction Management) students must satisfactorily complete eight units of study to the value of 100 credit points. A minimum of five of these must be discipline-specific units.

#### Master of Technology Management (Construction Management)

In order to gain the Master of Technology Management (Construction Management) students must satisfactorily complete 12 units of study to the value of 150 credit points. In addition to the requirements of the graduate diploma, students must complete four units of study. At least three of these must be discipline-specific units.

Alternatively, students may wish to replace these final four units with a research component. In this case students must complete HES7605 Research Design and Methodology and HES7608 Research Project (valued at 37.5 credit points).

### Units of study

#### Discipline specific units

HES6793	Construction Law
HES6690	Engineering Project Control
HES6176	Environmental Sustainability in Construction
HES6192	Infrastructure Deterioration Modelling
HES6193	Infrastructure Asset Management
HES6791	Project Management
HES6175	Project Costing
HES6177	International Construction*
HES6795	Construction Site Operations
HES6178	Sustainable Buildings

#### Recommended elective units

HES6194	Geotechnical Design
HES6195	Building Design
HES6196	Integrated Water Design
HES6197	Principles of Sustainability
HES6CME	Coastal and Maritime Engineering
HES6PHE	Port and Harbour Engineering
HES6723	Financial Risk Management*
HBSG500	New Venture Development and Management*
HES6720	Risk Perception and Analysis*
HES6721	Risk Management Principles*
HES6722	Quantitative Risk and Modelling*

#### Research units

HES7605	Research Design and Methodology*
HES7608	Research Project

Students may also select other suitable electives from relevant disciplines, subject to approval of the program coordinator.

*\* Delivered via distance education only*

# Construction Management

## Unit of study outlines

### Building Design

This unit provides an overview of the structural design of a multi-storey building including conceptual and detailed design techniques. A number of industry-based case study examples will be introduced to complement the lectures. Topics include: conceptual design and approximate methods; structural loadings (dead, live, fire, wind and earthquake); structural analysis and modelling using software programs; design of lateral force resisting systems; design of columns composite beams and slabs for strength and serviceability.

### Construction Law

This unit covers legal relationships including agency, partnerships, firms, companies and unincorporated associations. It covers professional responsibility and relationships including the client, architect, engineer, contractor and sub-contractor. It also looks at insurance including loss, non-completion of contract, injury, death and weather. Finally it addresses the role of the lawyer in drawing up contracts, including: bankruptcy of contractor/client; tendering procedure; negotiating within an existing contract; dispute avoidance and resolution; commercial law.

### Coastal and Maritime Engineering

Coastal and maritime engineering is a discipline of civil engineering, particularly relevant for Australia whose majority of infrastructure is concentrated in coastal areas. The unit addresses a range of topics including: purpose and scope of coastal and maritime engineering; wave theory; statistical description of waves; wave modelling; SWAN (Simulating WAVes Nearshore) model; wave impacts on coastal and engineering structures; sediment transport; and near-shore and deep-water engineering processes and applications.

### Construction Site Operations

This unit covers the assessment and control of the impact of building construction on the environment; methods of dealing with objections from the public to proposed works; occupational health and safety; managing construction site documentation and communications including working drawings; specification; contract administration and construction management documentation; site meetings; negotiation strategies and tactics; and report writing.

### Engineering Project Control

This unit covers: the nature of the construction industry; project phases; identification; planning; feasibility phase; preliminary engineering and detailed design phase; contracts and procurement phase; construction and commissioning phase; control of project costs; project programming and scheduling; project quality control; project occupational health and safety.

### Environmental Sustainability in Construction

This unit covers a number of concepts including: terminology, international developments, national developments.

- ▶ sustainability issues, climate change, energy, resources and materials, indoor environment, quality of building services, outdoor environment
- ▶ implementation: strategies, design issues, tools and indicators

### Geotechnical Design

This unit introduces various specialised geotechnical engineering concepts and design methodologies including: site characterisation and in-situ testing; foundation engineering; excavations and slope stability; tunnelling; field instrumentation; ground improvement; geosynthetics; dredging and land reclamation. A number of industry-based case study examples will be introduced to complement the lectures.

### Financial Risk Management

This unit covers types of financial risk, break-even analysis, time-money relationships, project financing, capital returns, risk interest and cash flows rates of return, incremental investment analysis, financial risk, probability, uncertainty and forecasting technique, financial engineering to address corporate risk management issues.

### Infrastructure Asset Management

This unit focuses on the different phases of managing the life cycle of civil infrastructure systems. This includes planning, programming and budgeting, design, construction, operations, maintenance, repair and renovation, and disposal. Students will be given the opportunity to develop an understanding of the many factors that need to be considered in the management of civil infrastructure. Students will undertake a group project where each member of the group will be responsible for investigating and reporting (with case studies) on one of the management stages of the life cycle of a civil infrastructure system.

### **Infrastructure Deterioration Modelling**

This unit provides an overview of the deterioration aspects of civil infrastructure such as road pavements, drainage and sewer systems, water supply systems, bridges and buildings.

Pavements: pavement material degradation, performance assessment, condition surveys and technologies/equipment used in condition data collection. Drainage, sewer and water supply systems: types, problems and deterioration mechanisms, inspection and data gathering techniques, condition monitoring technologies, failure modes (structural and physical models) and rehabilitation methods. Bridge structures: types and causes of deterioration in timber, concrete and steel bridges, inspection methods, condition assessment of individual elements and overall structural rating techniques. Masonry Buildings: damage caused by brick growth, foundation movement, mortar deterioration and detailing and repair methods.

### **Integrated Water Design**

This unit provides the fundamental knowledge of the objectives and management strategies adopted in the management of integrated urban water systems. The unit will focus on the management of issues related to both water quality and quantity within urban areas. Students will be given the opportunity to develop skills in the application of computer models in the assessment of urban water management strategies, and use these models to develop a better understanding of the application of best management practice in integrated urban water systems.

### **International Construction**

This unit is an introduction to international construction and covers: the global construction market, construction industries in developing countries, national and cultural differences, privately financed infrastructure projects, financial risk management, international joint ventures, technology transfer, skills for international construction professionals, and construction in the knowledge-based economy.

### **New Venture Development and Management**

This unit covers entrepreneurial concepts, venture development history, business evaluation, strategy development, resource selection, business licenses, partners and associates, finance, taxation and investors, start-up issues, building of new markets, handling growth, equity and investors.

### **Port and Harbour Engineering**

Port and harbour engineering is a discipline of civil engineering, particularly relevant for Australia with its developed network of sea ports. Civil engineering applications at ports are approached in a very different manner compared to those onshore and require special knowledge. This unit provides a multi-disciplinary overview of problems and issues relevant for port and harbour engineering. A number of industry-based applications and case study examples will be introduced to complement the lectures. Topics include: structural design of marine infrastructure, dredging, hydrographic surveying, port design, corrosion protection and civil works at ports.

### **Principles of Sustainability**

A very new and thoroughgoing approach to sustainability is introduced in this unit of study. It is based on the idea that by recognising that we act in the world through frameworks of thinking and of organising society (ie. institutions), leads to a circumspect and responsible approach to life. The institutional bases of our expectations of the world are investigated along with the tools used to respond and act. Examples from science and engineering as well as extensive use of mini-excursions are used to illustrate these points. Later in the unit, specific socio-economic tools such as the Precautionary Principle and Triple Bottom Line accounting are introduced and analysed. Their role as change agents in the process of moving to sustainable institutions is highlighted.

### **Project Costing**

This unit covers: standard method of measurement; measuring and billing of quantities; trade-oriented bill of quantities; including elemental specified and operational; principles of elemental cost analysis; reliability of data; measurement of civil engineering quantities; computer-assisted bills of quantities.

### **Project Management**

This unit covers management principles, total quality management, management styles, leadership, leadership traits and behaviour, organisational life cycle, coordinating design and site functions, organising capital inputs and work methods.

# Construction Management

## Quantitative Risk and Modelling

Students who complete this unit will gain an understanding of the nature of statistical methods and skill in application of the various methods to data generated within risk situations. They will learn how to represent risk, using standard measurement techniques and gain competence in the use of electronic spreadsheets to analyse risk.

## Research Design and Methodology

This unit includes: literature survey; investigation design; data gathering and analysis; presentation of results in an oral and written form.

## Research Project

Students work on an approved project under Swinburne staff supervision. External supervisors, where appropriate, may be appointed. The project involves the application of research techniques, including literature search and experimental investigation.

## Risk Management Principles

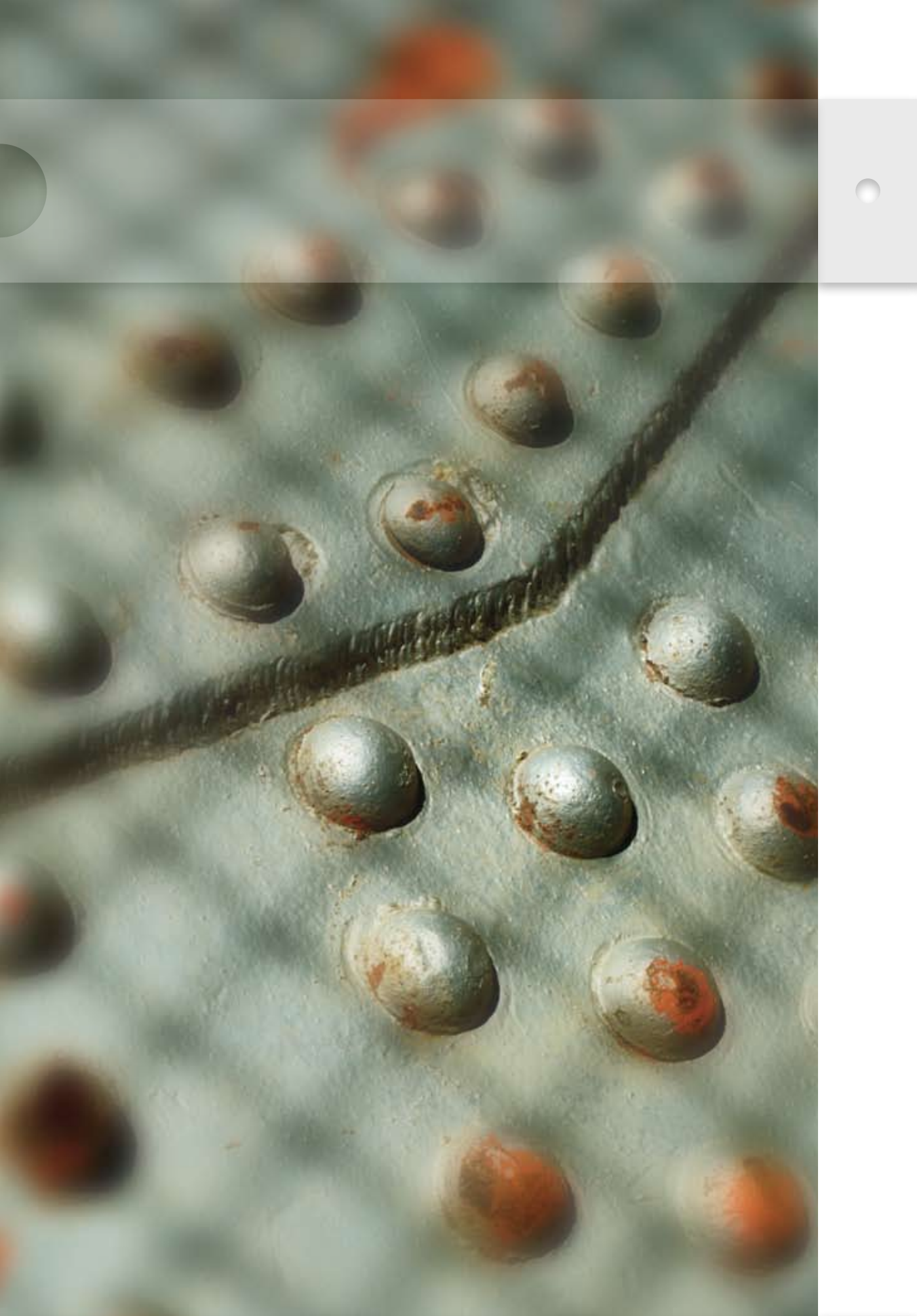
Students who complete this unit will possess an awareness of fundamental principles related to loss prevention and a fundamental understanding of functional management concepts and processes. They will study practical applications concerning the effective management of risk, and gain an awareness of the legal structures and processes within Australia and an introductory understanding of health and safety law and related legal obligations.

## Risk Perception and Analysis

This unit aims to provide an understanding of the philosophy and terminology concerning the idea of risk, and to provide an understanding of the nature of human perception and experience of risk. Students will also learn to recognise situations where potential loss occurs and how humans respond to these situations, and to understand the general principles and practical techniques of risk identification, assessment, analysis and control.

## Sustainable Buildings

This unit provides a multi-disciplinary overview of the design of sustainable buildings and considers the design from an architectural, services engineering, façade engineering, environmental engineering and structural engineering, tenants and owner's perspective. Topics include: ecological sustainable design, life cycle analysis, planning for sustainable buildings and cities, regulatory environment, barriers to green buildings, green building rating tools, material selection, embodied energy, operating energy, indoor environmental quality (noise, light and air), façade systems, ventilation systems, transportation, water treatment systems, water efficiency, building economics, and staff productivity. A number of industry-based case study examples will be introduced to complement the lectures.



# Construction Management

## Key staff

### **Program Coordinator, Dr Monzur Imteaz, BEng, MEng(AIT), PhD(Saitama, Japan), MIEAust, CPEng**

Monzur Imteaz is a Senior Lecturer of Civil Engineering at Swinburne. He has a Bachelor of Engineering Degree in Civil Engineering from Bangladesh University of Engineering and Technology, a Master of Engineering degree in Water Engineering from the Asian Institute of Technology (Thailand) and a PhD in Environmental Engineering from Saitama University, Japan.

Monzur has more than 17 years of research, teaching and professional experiences in the field of hydrologic and hydraulic modelling, water quality modelling, urban drainage and pollution transport, waste water treatment modelling and ecological modelling.

Monzur has completed his post-doctoral research at University of Queensland, Brisbane. He was involved with several projects on flood and drainage studies, water quality monitoring and modelling in Australia and abroad. He has worked on some projects in collaboration with the Danish Hydraulic Institute (DHI) in Denmark; gaining extensive expertise on DHI developed softwares on water and environment. Before joining Swinburne he has been involved with several local and state government positions in Queensland, New South Wales and Victoria.

### **Dr Kamiran Abdouka, PhD and MSc in Structural Eng, BSc Civil Eng**

Kamiran Abdouka is a senior lecturer in the Faculty of Engineering and Industrial Sciences at Swinburne and is a registered building practitioner in the field of civil engineering in the state of Victoria. He has more than 10 years of design experience in steel, masonry, timber, concrete (both reinforced and post-tensioned) structures. He has a Bachelor of Science in Civil Engineering and a Master of Sciences in Structural Engineering from the University of Baghdad-Iraq and a PhD in Civil Engineering (Structures) from the University of Melbourne. His research interests include the performance of concrete buildings under earthquake loading and the monitoring and assessment of infrastructure deterioration such as buildings and bridges.

### **Dr A. Arulrajah (Arul), BSc (Purdue University, USA), MEngSc (Malaya), PhD (Curtin), FIEAust, CPEng**

Arul Arulrajah is a Senior Lecturer (Civil Engineering) at Swinburne and a fellow of the Institution of Engineers

Australia and a chartered professional engineer. Arul obtained his BSc from Purdue University in the United States, MEngSc from the University of Malaya and PhD from Curtin University in Western Australia. His current research interests include geotechnical engineering, ground improvement, dredging, land reclamation and sustainable materials. He has gained extensive experience in the project management, design and site implementation of civil engineering infrastructure projects in the Australasian region having worked with various consultants in Australia, Singapore and Malaysia over the last 15 years.

### **Assoc Prof Alexander V Babanin, BSc(Physics), MSc(Physical Oceanography, Moscow), PhD(Physical Oceanography, Russia)**

Alex Babanin is a graduate of the M. V. Lomonosov Moscow State University, and has extensive research and academic experience in Coastal and Maritime Engineering, Physical Oceanography. His research interests include experimental and theoretical aspects of fluid mechanics of atmospheric and marine boundary layers, wind-generated waves and related phenomena, turbulence. He is an elected member of the American Meteorological Society.

### **Mr Keith Caporn, BSc Civil Eng, NSW**

Mr Keith Caporn graduated from Swinburne University of Technology with a BEng (Civil) in 1976 and is a civil/structural engineer with an extensive career spanning over 28 years as a professional engineer, general manager and consultant in Australia and overseas. His wide-ranging experience covers general management, sales and marketing, technical and commercial expertise in engineering and manufacturing. Senior management experience includes contract, licensee and licensor negotiations and project management, and he possesses strong industry knowledge and experience in engineering-related infrastructure projects relating to water, roads, bridges and building. He is currently the national president of the Stormwater Industry Association.

### **Barry G Cargill, MEngSc (UNSW), BCom(Melb), DipCivEng(SUT), MIE Aust CPEng, Assoc AIPM**

Barry Cargill has over 30 years experience in the design and construction management of projects both within Australia and overseas (UK, Czech Republic, India, Indonesia, Myanmar, New Zealand, and Pakistan). These projects have been undertaken in the area of infrastructure development (roads, motorways, railways, power stations, schools) and in multi-discipline industrial development projects (process, chemical plants, food and beverages).

Barry has also been involved in the development of quality management systems for engineering companies and contractors. He is currently the managing director of a specialist multi-discipline engineering design and construction management company in Melbourne, Australia.

**Robert Evans, BEng(Hons), MEng(SUT), MBA, MIEAust, CPEng**

Robert Evans is a lecturer of civil and geotechnical engineering at Swinburne University of Technology. He has a Bachelor of Engineering degree, a Graduate Diploma in Management and a Master of Engineering degree (by research) all from Swinburne University, as well as a Master of Business and Administration degree in Management from Deakin University. Before entering the academic environment he worked for Vicroads and a local geotechnical consultant, Piper and Associates. He has research interests and expertise in the behaviour of expansive soils, road roughness, vertical moisture barriers, wavelength analysis of road roughness, and modelling the deterioration of pavements.

**Assoc Prof Emad Gad, BEng(Hons)(Monash), PhD(Melb), FIEAust, CPEng**

Emad Gad is an associate professor in civil engineering at Swinburne. Emad has a Bachelor of Engineering from Monash University and a PhD from Melbourne University. He has more than 10 years experience in teaching and research including positions at Melbourne University and CSIRO. His research interests include structural dynamics, modelling and steel structures. In addition to teaching and research he has also been involved in specialist consulting.

He is a fellow of Engineers Australia and past chairman of the Structural Branch, Victoria Division. He is also a member of several industry professional bodies and committees including Standards Australia Committee on Structural Steel, Australian Steel Institute (ASI) Construction Committee (Victoria) and National Association of Steel-Framed Housing (NASH).

**Dr Shirley Gato-Trinidad PhD (RMIT), MEng (AIT, Thailand), BSAE (Philippines)**

Shirley is a lecturer in civil engineering at Swinburne University of Technology (Hawthorn campus). Her research interests and experiences are urban water demand modelling, including modelling of end uses of water, water supply and sewerage systems investigation and design, water resources modelling, drip irrigation system design and integrated area development.

Prior to joining Swinburne University of Technology, Shirley worked in various government and consulting organisations as well as academic institutions in Australia, Thailand and Philippines. In Australia, she worked with Melbourne Water Corporation, RMIT University, Australian Water Technologies (AWT), the then Department of Natural Resources and Environment and the then HydroTechnology and its predecessors, where most of her research interests and experiences were developed extensively. She has also been involved in the development of catchment management and salinity plans and of the Melbourne water supply system's environmental management program.

**Dr Rayya Hassan, BSc (Civil), MEng (SUT), PhD**

Dr Rayya Hassan is a senior lecturer in the Faculty of Engineering and Industrial Sciences at Swinburne. She holds a PhD in Civil Engineering and a Master of Engineering in Construction Management from SUT. She obtained her BSc in Civil Engineering from the Baghdad University, Iraq.

Her main research areas include pavement performance assessment and modelling with particular emphasis on the interaction between road surface roughness and heavy articulated vehicles and its effect on ride and driver comfort. Other research areas include using life cycle costing analysis in assessing the economic impacts of high productivity vehicles on road pavements and cost implications of incremental loads for pricing applications. Other research interests include investigating the effect of dynamic wheel loading on road profile characteristics and studying the effects of whole body vibrations on driver perception of ride and fatigue.

**Dr Mahbub Ilahee, BSc (Civil), MTech (SUT), PhD (QUT)**

Dr Mahbub Ilahee completed his Bachelor of Science (BSc) in Civil Engineering in 1984 from BUET and his Master of Construction in Technology from Swinburne University in 1993. He was awarded PhD in 2005 from Queensland University of Technology in flood modelling. He worked in different construction/demolition organisations as a quality assurance consultant to write the quality manual, implement the QA system, QA auditing and third party certification. He worked in Sunwater as a senior hydrologist and principal hydrologist to improve the flood operation manual and upgrading of spillway of different dams in Queensland. His has extensive experience in the construction of 210 MW power stations, gas pipelines, residential buildings. He also has experience in tertiary teaching and advanced research in Griffith University from 2005 to 2007.

# Construction Management

## **Barry Ireland, FIEAust, FASCE**

Barry Ireland is a civil engineer with over 40 years construction project experience. He has been CEO of a construction contractor and an engineering consultant, a director of water, power and irrigation utilities and of the Melbourne City Link Authority. He is currently on the boards of the Southern and Eastern Integrated Transport Authority and Murray Irrigation Limited.

He has managed projects in Australia, UK, Singapore and Hong Kong. In Indonesia he established, and was CEO of, the first Australian-Indonesian joint venture construction company.

As managing director of Snowy Mountains Engineering Corporation Limited, he was responsible for its projects in 40 countries.

## **Julia M Lamborn, BE(SIT), GradDipChemEng(SIT), MEng(SUT), FIEAust, CPEng**

Julia Lamborn is the director industry liaison, Faculty of Engineering and Industrial Sciences and the program coordinator for civil engineering at Swinburne. She has been a lecturer at Swinburne for 17 years and prior to that was a design engineer at the SECV for eight years. She has a Bachelor of Civil Engineering, a Graduate Diploma of Chemical Engineering and a Master of Engineering, all from Swinburne University. She has research interests and expertise in landfills, waste management, environmental impact assessment, environmental engineering, cooling towers and engineering heritage.

She is a fellow of Engineers Australia and has been very active for over 25 years in the organisation, currently holding four national board positions and three state positions. Engineers Australia is the national professional body for engineers and represents over 80,000 members. She also has held various positions on State Government authorities and committees for over 23 years, including the Heritage Council and Planning Panels Victoria.

## **Assoc Prof Kerry J McManus, AM, RFD, BE(Qld), MEngSc(Qld), PhD(SUT), MASEE, FCIT, FIEAust, CPEng**

Kerry McManus has wide experience in the academic field. He was involved in consulting and construction in Australia and North America before entering tertiary education. He is a former chairman of the Victoria Division of the Engineers Australia and a fellow of that institution.

He has had long service in the Army as a Reserve Officer in the Corps of Royal Australian Engineers and has the rank of Brigadier. He was appointed a member of the Order of Australia (AM) for his services to the army. He has written over 80 papers related to his research.

## **Laurence Pole, CPEng, MIEAust**

Laurence Pole is a sessional lecturer in cost engineering and project costing at Swinburne University of Technology. He has some 30 years experience in project engineering and costing in a wide variety of large-scale construction, mining infrastructure, manufacturing, and materials handling projects in Australia and South East Asia. He is a member of the Australian Cost Engineering Society (ACES) and a past member of the Association for Advancement of Cost Engineering (AACE).

His background includes development, design, manufacture and on-site construction work entailing engineering disciplines in civil, mechanical, electrical, instrumentation and controls. His area of responsibility in major infrastructure projects has variously included the role of senior project engineer, contract engineer or project manager.

## **Charles Reichman, LLB (Monash), BJuris (Monash)**

Charles Reichman is a Melbourne-based barrister and solicitor and mediator specialising in commercial law and construction law. He is admitted to practice in New South Wales (1979) Australian Capital Territory (1980) and Victoria (1980). During a varied career, Charles has served with several federal government departments, lectured in law at university level and researched and conducted many cases. His roles have ranged from export promotion to bankruptcy, taxation and various aspects of commercial law. He has acted for major multinational companies and developed and conducted in-house training and advised on statutory compliance for public and private sector clients. He has extensive litigation experience and has served as a member of the Veterans Review Board.

Charles has also taught commercial law and professional ethics at various universities including Latrobe, RMIT, Swinburne and VUT. Charles was a founding member of the Victorian chapter of the Australian Institute of Administrative Law and is active in the legal community.

**Mr Tom Van Schilfgaarde, FDip, Architecture, GradDipEd**

Mr Van Schilfgaarde is an architect and worked for many years in architectural practices before becoming a teacher at Moorabbin and Holmesglen TAFE. He has continued in his own private architectural practice since beginning teaching.

**Mr Ian Francis Xavier Stoney, DipBusStuds(Accounting), Assoc Aust Soc CPA, FAIM, MITE, MLGEA, FCIT, MREAAA, GIA (Life Member)**

Initially qualified in accountancy and business management, Mr Ian Francis Xavier Stoney, has had extensive involvement in managing large engineering-based organisations including general manager of the Grain Elevators Board, managing director and chairman of the Road Construction Authority and the Road Traffic Authority, architect for the establishment of VicRoads and ultimately its first chief executive officer, chairman of the Australia Road Research Board and chief executive officer of the Public Transport Corporation.

Ian has had considerable experience in consultancies in the water industry developing supply and water management contracts, developed training courses including those for Project Management, Human Resource Management, Managing Consultants and Preparing for Project Tendering.

**Dr Xiaoming Wang, PhD**

Dr Wang is a principal scientist of Urban Systems Program with CSIRO Sustainable Ecosystems. He is an expert in civil engineering, with strong multi-disciplinary knowledge and skills across a broad area, ranging from complex systems to material science. He is one of Australia's leading researchers in building, structural and infrastructural engineering, specialising in structural health monitoring, reliability/vulnerability assessment, risk analysis and management, and urban sustainability.

He has been extending his research into climate change, and has contributed to the Garnaut Climate Change Review on consideration of human settlement and infrastructure. He has also been involved in other consultancy to State and Federal government, and has provided research advice to Australian Building Codes Board (ABCB) on the risks of Australian construction and design industries in China in relation to Australia-China Free Trade Agreement.

He is now leading research in urban and coastal infrastructure under the impacts of climate change in Sustainable Cities and Coasts Theme. In addition, he is an expert in spatial analysis and GIS-based assessment, with strong expertise in modelling and simulation.

**Professor John Wilson, PhD, MSc, BE, FIEAust, CPEng**

John Wilson is a professor of civil engineering at Swinburne. Prior to this appointment he was a senior academic at the University of Melbourne for some 14 years and a consulting engineer for over 10 years with the SECV and Arups in their London and Melbourne offices. He has a Bachelor of Engineering degree from Monash University, a Master of Science degree from University of California (Berkeley) and a PhD from University of Melbourne.

He has a research interest and expertise in structural systems, earthquake engineering, structural dynamics and sustainable structures and has consulted widely in these fields. He was the Victorian chairman of Engineers Australia in 2002, representing the professional interests of some 14,000 engineers, a member of the steering committee for the 2005 Victorian Infrastructure Report Card and the chairman of Standards Committee BD6/11 responsible for updating the earthquake loading standard.

**Academy of Project Management**

International Construction, an online unit in Swinburne's construction management programs, is taught by the Academy of Project Management.

The Academy of Project Management (APM) is a well-established organisation, bringing together specialists with expertise in a wide range of project management disciplines. The paramount purpose of APM is to provide project management oriented training and development services to promote individual excellence within the corporate environment. All of the APM's specialists are experienced project managers, university lecturers, educational consultants and trainers with a strong track record of commercial training and personal development. APM provides both mainstream courses and individually tailored educational training and development services and consultancy up to director level within large and small businesses. APM specialises in delivering high-quality, integrated project management training and development services. APM, through its members, has affiliations with several industry associations and universities.

# Construction Management

## General information

### Facilities

As a Swinburne student you will automatically gain access to a range of facilities to assist your studies. These include a well-resourced library, computer laboratories, fitness and health facilities, personal and career counselling, housing, employment and financial advice.

Many of our construction management students, who are located outside Melbourne, will benefit from online library resources, inter-library loans, online communication tools and a Swinburne email address.

### Fees

In 2009 tuition fees for Australian citizens and permanent residents are based on \$1890 per 12.5 credit point unit of study. In the event that a unit of study is derived from another program, the applicable fee will be that of the other program. All fees are reviewed each year and may increase without notice.

FEE-HELP is a government-funded loan that helps eligible fee-paying students pay their tuition fees. FEE-HELP is not available to New Zealand citizens and most holders of Australian permanent visas, however, it is available to Australian citizens and most holders of a permanent humanitarian visa. For further information visit [www.goingtouni.gov.au](http://www.goingtouni.gov.au)

### Application procedure

Australian citizens, holders of Australian permanent residency visas and international applicants wishing to study the program outside Australia via distance education should complete the 'Postgraduate Application Form for On-Campus, Distance Education and Online Programs'.

Application forms can be downloaded from:  
[www.swinburne.edu.au/postgrad](http://www.swinburne.edu.au/postgrad)

Please include the following with your completed application:

- ▶ certified\* proof of identification and citizenship
- ▶ certified\* transcript/s of results

*\* Accepted identification is a certified copy of your passport, birth certificate or Australian citizenship certificate. A certified copy is a photocopy certified as a true and correct copy of the original by the issuing body or by a person qualified to accept statutory declaration or witness a document.*

Overseas applicants or those living in remote locations wishing to study the program by distance education should allow additional time for postage of application and enrolment papers.

### Closing dates

**Semester one** – Round one (timely) applications close early November. Round two (late) applications close mid-January. Classes begin in late February.

**Semester two** – Applications close late June, with classes beginning in late July.

Round two (late) applications are subject to the availability of places. For closing dates visit:  
[www.swinburne.edu.au/postgrad](http://www.swinburne.edu.au/postgrad)

### Recognition of Prior Learning

Recognition of Prior Learning (RPL) allows students to be granted credit or partial credit towards a qualification in recognition of skills and knowledge gained through work experience, life experience and/or formal training.

### International students

If you want to study on-campus at Swinburne but are not an Australian resident, telephone Swinburne International on +61 3 8676 7002 (worldwide) or 1800 897 973 (within Australia) or visit [www.swinburne.edu.au/international](http://www.swinburne.edu.au/international)

### Further information

Telephone: 1300 ASK SWIN (1300 275 794)  
Email: [postgrad@swinburne.edu.au](mailto:postgrad@swinburne.edu.au)  
Website: [www.swinburne.edu.au/postgrad](http://www.swinburne.edu.au/postgrad)

# ANY QUESTIONS?

[www.swinburne.edu.au](http://www.swinburne.edu.au)

**1300 ASK SWIN (1300 275 794)**

[postgrad@swin.edu.au](mailto:postgrad@swin.edu.au)

## **Postgraduate Information Day**

Swinburne Hawthorn campus.

October 2009

[www.swinburne.edu.au/postgrad](http://www.swinburne.edu.au/postgrad)

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