



NATIONAL UNIVERSITY
OF
SINGAPORE

DIRECTORY OF
CURRENT RESEARCH
1987-8

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DIRECTORY OF CURRENT RESEARCH

1987-8

Introduction

The concentration of researchers in the University makes it an important resource centre for a wide range of R & D activities.

Indeed, it is the intention of the University to strive still further to generate excellence in research. The increasingly strong research culture, sustained by more active research by the staff themselves, provides the environment to build up a pool of R & D manpower in wide-ranging areas. It is hoped that this *Directory* will help staff to identify common areas of research interests so that expertise in different disciplines may be pooled and unnecessary duplication of research effort avoided. In the process, funds, facilities and time will be more likely to be put to optimum use.

Besides fostering inter-faculty co-operation in multi-disciplinary research, another of the University's objective is the promotion of closer ties and collaboration with industry. It is hoped that this *Directory* will serve as a means of generating increased industrial awareness of and interest in the University's research skills and expertise which may be used, to solve pressing applied problems for the benefit of industry. This publication should also prove useful to government ministries and other research bodies.

Enquiries on research collaboration may be addressed to: The Director, University Liaison Office, 3rd Floor, Administration Building, National University of Singapore, 10 Kent Ridge Crescent, Singapore 0511.

Other enquiries relating to the publication itself can be directed to Miss Irene Koh, at tel: 772-2315.

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FACULTY OF ARCHITECTURE AND BUILDING

SCHOOL OF ARCHITECTURE

Associate Professor

Edwards, Norman, PhD Syd., MArch MIT, BArch Syd., FRAIA, RIBA

History of the Singapore house, 1884-1940
Public space: Design, use and management
Singapore architecture, 1819-1987
Urban design and theory

Senior Lecturers

Harrison, James D, BArch Sheffield

Traditional building forms in hot climates
Integration of environmental control in architectural design
Graphic communication techniques in design

Hussain, Abdul H M, DipTP Poly Central Lond., ARIBA, MRTPI, MBIM, MSIP

Commercial developments in the city
Land use/transport relationship
Urban planning
Inter-faculty research on transport

Hyde, Richard, BSc, DipArch Birm., PhD, RIBA

Multi disciplinary research project: 'The family: Its role in a changing Singapore'
CAAD research project, School of Architecture

Indorf, Pinna (Miss), BArch Texas, PhD Sing.

Hindu/Buddhist architecture of Southeast Asia
Indigenous architecture of Southeast Asia
Religious buildings in Singapore

Lim, Jon, MArch Melb.

The Singapore house, 1884-1940
Architects and civil engineers, 1786-1964 of Singapore and Malaysia
Interiors and applied artist (pre-war 1942) (sculptors, furniture designers, interiors)

Lip Mong Har, Evelyn (Mrs), PhD Sing., MArch Sing., DipArch Lond., Dip Bldg Design, Dip Interior Decor and Design
Building construction details in Singapore
Linkage in architecture between China and Southeast Asia
Chinese culture and architecture

Powell, Robert, BA, Dip Arch Durham, RIBA, MRTPI, MSIP
Urban design: The meaning of urban space and form in Singapore – a case study of the visual perception of a multi-racial society
Conservation in Southeast Asia
Mass rapid transit systems

Rao, S P, ME IISc, BE Bangalore, MCIBSE, MAIRAH, MSSEE, Chartered Bldg Services Engineer UK
Dynamic thermal performance of buildings under the Singapore climate
Thermal performance of industrial roofs

Smith, Russell Arthur, BArch (Hons), MArch Q'ld., MIPR Sing., MRAIPR, FRAIA
Planning and design of facilities for tourism and recreation
Conservation
Education (higher and architectural)

Woods, Peter, BSc Lond.
Energy utilisation in combined daylight and electric lighting installations
Design and evaluation of daylight with reference to energy conservation in buildings

Lecturers

Kong Shee Chong, MArch Cornell, BArch Houston, ACSA
Calligraphy of the land: The evolution of possibility and probability of a theory of form from the ground up with an anthology of work
Meta architecture: The roles of mimesis, method, metamorphosis, mystique and metaphysics in the making of architecture
A visual study of tropical architecture typology in Southeast Asia:
Some specific views on vernacular architecture of Singapore and Malaysia

Lam Khee Poh, BA (Hons), BArch (Hons), RIBA
CAAD useware research project: Working procedures and data management with particular reference to building structures

Ong Boon Lay, MArch (Auck)
CAAD useware research project

Rojanavanich, Pisit, MSc/Arch Studies MIT, BArch Chulalongkorn
A study of school buildings in use

Sabapathy, T K, BA (Hons) Sing., MA Calif.
Art and the public: Public sculpture of the 20th century in Southeast Asia
Modern art and artists in Singapore and Malaysia

Wong Yunn Chii, MArch, BA Arch, BS (CE) Wash. Univ.
A study of school buildings in use
Western settlement pattern in Southeast Asia
Environmental design evaluation

Yeh, Winston, MArch Urb. Design and Planning Harv., BArch Houston
Physical proportion in design based on geomancy
Similarity and differences in design of Christianity, Islam, Hinduism and Buddhism
Utilitarian and aesthetic use of rainwater in tropical regions

Senior Teaching Fellow

Chu, Dorothy, BA (Mathematics) Cornell, MArch Harv.
Artificial intelligence area
Knowledge engineering and expert systems applied to architecture

SCHOOL OF BUILDING AND ESTATE MANAGEMENT

Professors

***Greaves, Michael J**, BSc (Est Man) Lond., PhD (Est Man) R'dg, FRICS
Financial aspects of property development
Investment valuation methodology
The application of econometric methods to valuation and the analysis of real property transactions

*Head of Department

Rao, K R, PhD Roor., MSc BSc And., FInstP Lond., MISES, FIE India, MCIBS UK., MIABSE

Energy conservation in buildings

Building climatology with special reference to radiation climatology

Thermal design and performance of buildings in tropical climates

Thermal environment and thermal comfort

Solar energy applications to buildings

Daylighting in buildings

Non-destructive testing of concrete

Analogue and digital simulation of non-steady heat transfer through buildings

Passive cooling of buildings

Associate Professors

Khoo Cheng Lim, PhD Edin., BE Malaya, DIC Lond., MICE, MIEM, MIES, PEng

Piling systems

Basement excavations

Vibration tolerance in buildings

Motha, Philip, MSc (Est Man) BSc (Est Man) Lond., BSc Ceyl., FRICS, FSIS, FSIV

The Singapore property tax

Computer applications in real estate

Computerised analysis of property market transactions

Management of strata title and condominium property

The MRT and the property market

Murthy, C K, PhD Liv., BE Mys., FIES, FIE India, MASCE, PEng

Partially prestressed concrete structures

Timber concrete composite construction

Economics of reinforced and prestressed concrete structures

Ratcliffe, John, MA Sussex, BSc (Est Man) London, FRICS, FSVA, MBIM.

Project management for property development

Development appraisal and valuation

Land policy

Planning for development

Tharmaratnam, K, PhD MSc Lond., BSc Ceyl., DIC Lond., MICE, MIES, MIE India, PEng

Reinforced concrete and prestressed concrete design applications for buildings and simplification of concepts for architectural students

Stability of prefabricated buildings

Non-destructive testing of concrete

Senior Lecturers

Briffett, Clive, MSc (Arch), FRICS, Cert Ed (FE), MSIB

Building maintenance defect case studies

Property management — structure and organisation of the industry in Singapore

Maintenance and design of buildings

Building surveying practice

Brown, Peter M, MPhil (Hons) Auck., BEc W.Aust., VFM Linc. NZ, RDA S.Aust., FAIV Aust., NZIV NZ, MSISV Sing., MPMI NZ, FSLE

The real estate market, local and overseas

The real estate cycle

The demand and supply of space

Computer applications in real estate

Land value mapping

The influence of legal decisions on valuation methodology

Real estate as an investment

Maintenance costs

Chew-Quah Lee Kiang (Mrs), MSc Constrn. Mgt. (Maintenance Mgt)

Distinct. (R'dg UK), BSc (Bldg) Hons. Sing., MBIM (UK), MSISV

Construction technology with respect to methodology

Maintenance management

Maintenance technology

Chong Sun Ming, BSc (R'dg), FRICS, MSISV

Real estate development; management and economics

CAM/EDP education and development

Dutt, A J, PhD Liv., BEng Calc., MICE, MASCE, CEng FIAA Lond., MIEM, MIES, PEng (Malaysia), PEng (Sing.), MSSEE

Behaviour of high strength concrete columns

Vibration dampening of slender structures

Behaviour of ultra high-rise buildings under vertical and horizontal loads

Natural ventilation in apartment blocks and wind environment of buildings

Natural ventilation in schools and halls of residence

Wind tunnel tests on buildings and structures models

Field, B G, M.Phil (Camb), MA (Brunel), BSc (City), Dip. TP (PCL) MRTPI (UK), MCIT (UK)

The administration of a two-tier statutory planning system

The impact of government legislation on the employment behaviour of small firms

An evaluation of the London Government Act with special reference to town planning

Contemporary planning theory and its applicability in the Singaporean context

Gan Cheong Eng, MBM A.I.M., BSc (Bldg) Sing., FSIB, FSISV

Management of construction businesses

Real estate investment strategies

Manpower planning and training

Haque, M A, MSc (Lond.), BSc (Rajs.), Dip HVRFE (N.C./South Bank), MCIBSE, MASHRAE, Chartered Building Services Engineer (UK)

Building services for high-rise buildings

Air-conditioning and energy conservation

Performance of water cooling towers and evaporative condensers

Khublall, Naturam, BSc (Est Man) Lond., MSc R'dg, FRICS, Of Lincoln's Inn Barrister

Statutory valuations

Real estate law

(a) land acquisition

(b) land law

(c) landlord and tenant law

(d) legislative controls relating to buildings

(e) property tax

Leong Tuck Wah, PhD NSW, ME Auck., BSc (Eng) Natn'l Taiwan, MIE Aust., MIES, MIEM, MICE, MPIENZ, PEng, CEng

Concrete, reinforced concrete and prestressed concrete structures subjected under long term and repetitive loading

Temperature and shrinkage effects on concrete structures

Properties of early aged concretes and its effect on building construction

Long span structures

Precast and prestressed concrete buildings

Effects of admixtures on concrete and structures

Lewis, J B, MSc (Constr Eng) Sing., BBldg Melb., FSIB, MAIB,
Chartered Builder

Mechanisation, prefabrication and industrialisation of building construction

Construction, project and contractors management

Construction and maintenance technology and their integration in the design, maintenance and use of buildings

Lim Chong Nam, MSc (Constr Eng) Sing., BBldg Melb., MAIB, AAIQS, FSIB

The development of construction techniques and equipment appropriate to Singapore

Look Yep Sang, MSc BSc H W, Prof Dip (Bldg) Poly Sing., FRICS, MSISV, FSIB

Construction cost and economics

Development economics

Design economics

Multi-trade system communication at shop-floor level

Mathur, Krishan S, PhD Strathclyde, MTech BTech I.I.T.Kanpur, MSIB

Application of computers in building design, project management, and quantity surveying

Cost modelling in quantity surveying

Use of mathematical (operations research, statistical, simulation) models in building design economics

Design methods and systems approach in building design

Building design appraisal

Expert systems in building design and construction

Netto, A E, FRICS, ACI Arb., MSISV, MA Cost E.

Construction contracts: Law and administration

Estimating

Tender price index

Ofori, George, BSc (Tech) Ghana, MSc Lond., PhD Lond.

The construction industry in Singapore

The continuous improvement of the construction industry

The place of construction in national economies

Pickup, John F, MCIBSE, FIES Aust., FIPLE, MIEEE, MEES
Lighting and energy conservation
Photometry and colorimetry of light sources and luminaires
Economics and maintenance of lighting
Lighting in offices and factories
Emergency and standby lighting
Electrical safety in homes and on construction sites

Pillai, K G, FRICS, FCIQB, FSIB, ACI Arb., FSI Arb.
Public relations and the builder
Management of sub-contractors
Construction company failures
Construction contract claims
Analysis of contract pricing
Education and training in the building industry

Robinson, N M, MSc (Constr.Mgt) R'dg, FRICS, Cert Ed.
Construction law generally
Project management
Construction management – planning, organisation and marketing
Contract documentation and standard forms
Arbitration and conciliation in construction disputes
Measurement theory and practice
Contracting procedures under international aid programmes
Administrative law (aspects relevant to the construction industry)
Technology transfer in construction projects

Singh, Surinder, MSc Aston, DipCE Punj., MIE, MIS India, MBIM, MCIB-W65
Problems related to construction project management, management information systems, building sites, management and technology
Cost management, international contracting, organisational forms, construction economics, structural design economics and quantity surveying
Education and training

Ullah, M B, PhD Masc UMIST, MSc Eng B'desh UET, BSc Eng Lahore
Climatic zoning and building design: Comfort charts
Solar cooling systems
Building energy analysis
Building automation
Microcomputer applications

Lecturers

Cheng Fook Jam, Dip. Urb Val. Auck., MSc (Urban Land Appraisal), ANZIV, MSISV

The investment method of valuation as applied in Singapore
Statutory valuations in Singapore
Application of the capital market theory to real estate appraisal in Singapore

Chin Kein Hoong, Lawrence, BSc (Est Man) (Hons) Sing., MSISV, MSISM

Property management and maintenance
Management of Singapore's new towns
Prospects for low-cost housing in Southeast Asia

Choo Kian Koon, Steven, MPhil (Environ Plan) Nott., BSc (Est Man) Sing., ASISV, ASIP

Application of factor analysis to planning, estate management problems and valuation
Economics and policies of urban development
Development industry in Singapore

Christudason, Alice, LLB (Hons) Sing., LLM (London), Advocate and Solicitor of the Supreme Court (Sing.)

Contract: Effect of exemption clauses on professional negligence
Land law: Landlord and tenant, land acquisition, rent control
The MRT: Potential sources of liability for contractors and other professionals involved in the MRT.

Ho Siew Lan (Miss), MSc (Urban Land Appraisal) R'dg., BSc (Est Man) Sing., MSVA, MSISV

Real estate development – trends and problems
Condominium housing

Koh Ah Meng, Amos, MSc (Urban Land Appraisal) R'dg, BSc (Est Man) Sing., ASISV

Market studies for property development and investment
Financial analysis in property investment
Quantitative methods in real estate

Lam Kwok Wing, BSc (Bldg Sur) CNAAB, Dip. BSc (NUS), DMS, ARICS, ACI Arb, MBIM, MIIM

Building technology
Construction technology
Principles of management
The construction of MRT in Singapore

Lavers, Anthony Philip, LLB (Lond) MPhil. (Soton)

Professional negligence in the property related disciplines
Civil liability for negligent construction and defective buildings
Continuing professional education and development
Public participation in planning
Structural failures

Lee Siew Eang, PhD, MSc, BSc (Heriot-Watt)

Control of factory noise and hearing acumen among industrial workers in Singapore
Room design and speech intelligibility
Sound insulation of composite structures
Response and radiation of building components to impact excitation
Acoustical design for auditorium and recording studio

Ngo-Khng, Monica (Mrs), BSc (Est Man) Sing., MSc (Urban Land Appraisal), (R'dg UK), MSISV

Strata tiles and share value entitlements
Planning and management of shopping complexes
Condominium developments

Sim Loo Lee (Miss), BA (Hons) Sing., MSc Lond., PhD NUS, LLB (Hons) Lond.

Real estate development
Condominium development
Planned shopping centres

Yu Shi Ming, MSc (Urban Land Appraisal) Distinction (R'dg UK); Dip Urban Valuation (Hons) (Auck)

Advanced methodologies for investment valuation/appraisal
Relationship between value and maintenance of building
Application of quantitative methods in property management

Senior Tutors

Chan Swee Lean (Mdm), BSc (Housing, Planning and Building) (Hons) Malaysia

Cost administration system
Development of a computer-aided building cost evaluation system

Lau-Chook Lai Chan (Mrs), BSc (Est Man) Sing.

Quantitative methods in real estate
Computer software and application in real estate

Leong Hoe Yin, Christopher, BSc (Bldg) (Hons), ARICS, MSISV
Construction and project management
Contract procedure and administration
Design delegation and liability

Li Hang Han (Mrs), BSc (Hons) R'dg
Building economics: Construction cost and tender price movements
Expert systems applied in construction economics and management

Low Sui Pheng, BSc (Bldg) (Hons) Sing., Tech.Dip. (Bldg) (Merit)
Sing.Poly, Dip.MS (UK)
Legislative and regulatory control of construction
Development and implementation of regional marketing strategies in construction
Purchasing pattern of construction products, tendering procedures and contractual arrangements within ASEAN/Asia and Western Pacific Region for building and civil engineering works
Sources of financing for overseas trade ventures
Infrastructural and governmental support for construction export promotion: The Japan, Korea and Singapore experience

Soon-Sng Kwang Geck, Mary (Mrs), BSc (Est Man) (Hons) Sing.
Management corporations and property management

Tan Chee Keong, Willie, B Surveying (Hons)
Spectral analysis
Forecasting and control
Risk analysis

Tan-Thang Chze Lim, Doreen (Mrs), BSc (Est Man) Sing., MSISV (Sing)
Marketing of real estate professional services
Marketing orientation of real estate consultants

Tay Poh Huat, Danny, B Surveying (Hons) Aust.
Resource-constrained
Heuristic scheduling of projects

Senior Fellow

Khoo Cheok Chuan, James, FRICS, FCIArb., FSISV
Contract administration and estimating

FACULTY OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF CHINESE STUDIES

Professor

***Lim Chee Then**, PhD MA BA Sing.

History of Chinese literature, with special reference to Chinese myths and legends, historical and philosophical prose of the Pre-Qin period, and Shih Jing and the Chu Ci
Chinese novels of the Ming and Qing Dynasties, with special reference to San Guo Yan Yi, Shui Hu Zhuan and Xi You Ji

Associate Professor

Lee En Han, PhD Calif., MA Hawaii, BA Taiwan Normal
Modern China

Chinese in Southeast Asia

Sino-British negotiations for the relinquishment of the extraterritoriality in China

Sino-British diplomacy over the retrocession of Weihaiwei (Shantung) in 1920-1930

Senior Lecturers

Keong Tow Yung, PhD Sing., MA HK, BA Nan. and Sing.

Modern and contemporary Chinese thought

History of Chinese philosophy

The aesthetic philosophy of Confucianism in the Pre-Chin period

ONG Tee Wah, PhD Nan., MA Durh., BA Nan.

Classical Chinese literature, with special reference to the Chu Ci

Chinese etymology – the science of Chinese characters

Chinese semantics

Pi Shu Ming, MA BA Taiwan Normal

Chinese classical novels

Chinese verse

Chinese drama

*Head of Department