

DIRECTORY OF
CURRENT RESEARCH

ACADEMIC YEAR 1991 - 92



**NATIONAL UNIVERSITY
OF SINGAPORE**

Introduction

The University is a rich resource centre with a strong research culture that actively encourages research on all fronts. Besides fostering inter-faculty co-operation in multi-disciplinary research, the University aims to promote closer ties and more collaboration with industry.

It is the intention of the University to achieve excellence in all faculties and disciplines. The research infrastructure is particularly conducive to building up a significant pool of R & D manpower in important areas, in line with the national emphasis on the development of a high technology and knowledge-intensive economy. With more than 1,800 teaching and full-time research staff, the University is well-placed to play a pivotal role in the promotion of R & D for the country's advancement.

More than two-thirds of the University's 1,400 academic staff are PhD holders. 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 for multi-disciplinary research activities. In the process, funds, facilities and time will be more likely to be put to optimum use.

This Directory also aims to serve as a means of generating increased industry awareness of the University's resources and research skills and expertise. The heightened interest and research effort thus generated may be harnessed to solve pressing 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 Echon Hamid at tel: 772-2322.

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FACULTY OF ARCHITECTURE AND BUILDING

SCHOOL OF ARCHITECTURE

Associate Professor

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 Singapore's transport policies and systems

Powell, Robert, BA, MArch (NUS), Dip Arch Durham, RIBA, MRTPI, MSIP

Urban design: The meaning of urban space and form in Singapore - of the visual perception of a multi-racial society

Conservation in Southeast Asia

The tropical city

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

Ultrasonic pulse method of evaluating strength of concrete

Senior Lecturer

Chou Shiuh-lin, David, B A Hons, Dip Arch, MSc, PhD (Cantab), RIBA

Modernism in architecture as the basis of a historically specific formal/aesthetic discipline with its unique limitations and possibilities

Methodology in the description of architectural form and its relation to developing strategies in design

Art historical aspects of perception and its implication on the notion of "learning from the past" in architectural design

Relation between Fine Art and Architecture in Culture - specific context

Harrison, James D, BArch Sheffield

Traditional building forms in hot climates

Integration of environmental control in architectural design

Graphic communication techniques in design

Designing for the disabled

Indorf, Pinna (Miss), BArch Texas, PhD Sing.
Hindu/Buddhist architecture of Southeast Asia
Indigenous architecture of Southeast Asia
Religious buildings in Singapore

Lim, Jon, PhD (NUS), MArch, BArch (Melb.)
Architects and civil engineers (1786-1964) of Singapore and Malaysia
Interiors and applied artist (pre-war 1942) (sculptors, furniture designers, interiors)
The origin of the shop- and terrace house in Asia

Lip Mong Har, Evelyn (Mrs), PhD Sing., MArch Sing., DipArch Lond.,
Dip Bldg Design, Dip Interior Decor and Design, RIBA, RAIA, MSIA,
Architect
Building construction details in Singapore
Chinese architecture in Southeast Asia

Raman, P G, PhD Edin. UK, BArch Madras
Architectural theory
Construction as the turning point of architecture
Architecture in historical urban settings

Rao, S P, ME IISc, BE Bangalore, MCIBSE, MAIRAH, MSSEE, CEng
Insulated claddings
Glass in buildings
Indoor air quality in buildings
Computer simulations for air conditioning cooling loads (using IBC PC)

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

Teh Kem Jin, MSc BSc (Hons), RIBA, MSIA, A.I. FIRE. E.
Review of fire regulations in collaboration with FSB and SIA

Waller, Edmund, DipArch, Cert TP, MLA, ALI, RIBA
Landscape Architecture
Ecology of Singapore
Environmental Education and Planning
Land Reclamation

Lecturer

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

Lim Guan Tiong, PhD Lanc. UK, BSc (Hons) Hatfield, Poly UK

“Integrity investigation, non-destructive testing and repairing of reinforced concrete structures” 1984 onwards

Structural systems and architectural space and forms

Computer-aided structural analysis and design

Ong Boon Lay, MArch Auck.

CAAD useware

Auditorium design

Acoustics/Auditorium design

Ecological application of Architecture

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

Teaching Fellow

Nalbantoglu, Gulsum Badyar, BA, MA, METU Turkey, PhD vc Berkeley

Modernity and Architecture

Regionalist discourse in Architecture

Architectural Historiography

Fellow

Tan Teck Kiam, B Arch (Hons), Msia

Architecture/Urban Design : Is it possible to historicise the process of producing architectural objects?

FACULTY OF ARCHITECTURE AND BUILDING

SCHOOL OF BUILDING AND ESTATE MANAGEMENT

Associate Professor

Brown, Peter M, PhD Sing., MPhil (Hons) Auck., BEc W. Aust., VFM Linc. NZ, RDA S. Aust., FVLE (Val & Econ) Aust., NZIV NZ, MSISV Sing., MPMI NZ

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

Dutt, A J, PhD Liv., BEng Calc., MICE, MASCE, CEng FIAA Lond., MIEM, MIES, PEng M'sia., PEng Sing., MSSEE, MCIQB, Chartered Builder and Chartered Civil Engineer

Wind tunnel investigation of buildings and structures

Vibration dampening of slender structures

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

Natural ventilation in HDB apartment blocks and wind environment of buildings

Natural ventilation in industrial buildings and halls of residence

Long term behaviour of high strength concrete

Field, B G, MPhil Camb, MA Brunel, BSc City, DipTP PCL, MRTPI UK, MCIT UK

Contemporary planning theory and its applicability in the Singaporean context

Equity and efficiency in urban transport planning

Urbanisation trends in East Asia

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

Piling systems

Basement excavations

Vibration tolerance in buildings

Khublall, Naturam, BSc (EstMan) Lond., MSc R'dg, FRICS, of Lincoln's Inn, Barrister

Real estate and construction law

- (a) land acquisition
- (b) land law
- (c) landlord and tenant law
- (d) defective premises law
- (e) Planning Law and Development

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

Defects and repairs of concrete structures

***Lim Lan Yuan**, MBA NUS, BSc (EstMan) Sing., BSc (Econ) Lond., LLB Lond., FRICS, FSISV, ACIS

Alternative Dispute Resolution

Real estate development in the ASEAN countries

Town councils and property management

Mathur, Krishan S, PhD(Strathclyde), MTech BTech I.I.T.(Kanpur), MSIB, MCIB, MAACE

Knowledge-based systems in cost-performance and building defects

Operations research models in building design economics and cost modelling

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

Singh, Surinder, PhD NUS, MSc Aston, Prof DipQS, Prof DipCE Punj., FIE, FIS 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

*Head of School

Senior Lecturer

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

- Development of an expert system for diagnosing building defects
- Production of a computerised management simulation package for project and property managers
- Assessment of surveying techniques used for determining the condition of buildings
- Building maintenance defect case studies
- Interrelationship of building design and maintenance
- Interactions of the built and natural environment

Chin Kein Hoong, Lawrence, PhD (Bus Admin) Georgia, BSc (EstMan) (Hons) Sing., MSISV, MSIM, ARES

- Property management and maintenance
- Real estate finance and investment analysis
- Evaluation of intelligent buildings' performance
- Corporate real estate management

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

- Computerisation in construction cost accounting & management
- Cost price relationships in the construction industry

Choo Kian Koon, Steven, PhD (Urban Planning) Wash., Cert. (Urban Design) MPhil (EnvironPlan) Nott., BSc (EstMan) Sing., MSISV, ASIP, ASVA

- Urban redevelopment and conservation
- Property development and investment in Singapore and ASEAN countries
- Citizen participation in town planning and estate management
- Development Guide Plans and the development control process

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

- Organisational Growth in the development and construction industries
- Manpower planning and training
- Real estate investment strategies
- Management of development and construction businesses

Haque, M A, MSc Lond., BSc Rajsh., Dip South Bank, CEng (UK), MCIBSE, MASHRAE

- Building services for highrise buildings
- Air-conditioning and energy conservation
- Fire safety in buildings
- Clean room performance for hot-humid climates

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

Control of factory noise and hearing acumen among industrial workers in Singapore

Community Noise Study

Sound insulation of composite structures

Response and radiation of building components to impact excitation

Acoustical design for auditorium and recording studio

Construction site noise

Lim Chong Nam, MSc (Constr Eng) Sing., BBldg (Hons) Melb., AAIQS, FSIB, AIB, FAIB Chartered Builder

Building services for highrise residential buildings

House keeping in public housing

Cleaning and maintenance of highrise buildings

Current construction techniques

Malone-Lee Lai Choo, Master (Town & Country Planning) (Sydney), B.Sc (Estate Management)(Singapore), MSIP

Impact of Information Technology on Planning

Development and Planning of Business Parks and Science Parks

Development Control - Principles, Processes, Techniques and Law

Development Charge

Urban Conservation in Singapore

Development Guide Plans and Planning Standards

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

Construction contracts: Law and administration

Standard methods of measurement

Building tender price index

Quah Lee Kiang (Ms), PhD H'Watt Edin., MSc Constrn. Mgt. (Maintenance Mgt) Distinct. R'dg, UK, BSc (Bldg) (Hons) Sing., FCI OB MBIM UK, MSISV, Chartered Builder

Maintenance management techniques

Maintenance technology

Economics and management of refurbishment and rehabilitation

Management of risks in construction projects

Rajendran, S, PhD Camb., BSc Eng Ceyl., MIES

Computer modelling of reinforced concrete structures

Diagnostic study of structural defects in building

Timber-concrete composite structures

Choice of building configurations, materials and structural systems

Development of software for computer-based learning of structures

Robinson, N M, MSc (Constr.Mgt) R'dg, FRICS, MSIArb., Cert Ed.

Construction law generally and statutory controls

Project management and administration

Construction management - planning, organisation and marketing

Construction contract documentation and standard forms

Arbitration and conciliation in construction disputes

Technology transfer in construction projects

Business opportunities for contractors operating overseas

Artificial intelligence applications in contract administration

Roy, S K, ScD MIT, FIDiagE, HonF SIET, MAmCS, MAustCS, MICS, MIEI, MICorrT UK, MNACorrE USA

Diagnosis of building defects

Non-destructive testing of building materials and components

Corrosion of building materials

Development of building materials with target properties

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

Land use and development

Private Housing

Retail planning

Sridharan, Govindan, M. Tech, M.S., M.B.A., C.C.E.

Reviewing planning and scheduling software package

Management reporting - Singapore experience

The place of Singapore contractors in international construction

Ullah, M B, Phd UMIST, MSc Eng B'desh UET, BSc Eng Lahore, MCIBSE, CEng UK

Building energy analysis, air-conditioning and lift design

Building and home automation, intelligent building

Microcomputer applications

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

Advanced methodologies for investment valuation/appraisal

Use of property information and information technology in real estate

Application of quantitative methods in the real estate profession

Lecturer

Betts, Martin P, PhD (CNAAB), BSc (Hons) R'dg.

The accuracy of a consultant QS's price estimating

Expert systems for building contract interpretation

The strategic use of IT in construction

A systems approach to life cycle costing

Chan Chuen Fye, Philip, DipBldg(Sing Poly), LL.B(Hons) Lond., LL.M(Lond.), DipEd.(Lond.), Barrister-at-Law (Middle Temple), Advocate & Solicitor of the Supreme Court of Singapore

Contract and tort (generally and in the construction industry)

Reception of English Law

Law of Agency

Law relating to the powers of Management Corporations & Town Councils

Cheng Fook Jam, DipUrbVal 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

Chew Yit Lin, Michael, Phd(Bldg), MEngSc (Str. Eng.), B. Build (Hons)

Fire assessment

Concrete durability

Evaluation of polymer modified repair systems

Textile form method

The study of the behaviour and performance of various stones and stone glues

High strength concrete

Christudason, Alice (Mrs), LL.M Lond., LL.B (Hons) Sing., Advocate and Solicitor of the Supreme Court of Singapore

Land law: Landlord and tenant, land acquisition, rent control, building control

Contract and tort

Company law

Ho Kim Hin, David, BScTech (Hons) Sheff., Systems Eng, USNPS Monterey; MPhil (1st C1 Hons with Distinction, Land Economy) Cambridge

Urban policy evaluation

Real estate economics

Han Swee Lean (Mrs), MSc (Ind Eng) BSc (HBP) (Hons) M'sia
Applications of operation research in BEM
Construction simulation modelling

Ho Siew Lan (Miss), MSc (Urban Land Appraisal) R'dg., BSc (EstMan)
Sing., MSVA, MSISV
Real estate development
Condominium housing

Lee-Khor Lean Suan, Amy (Mrs), MBA San Jose State, BSc (EstMan) Sing.,
MSISV
Statutory valuations
Current valuation practices in Singapore
Real estate investment and financing
Event study methodologies
Econometric forecasting models as applied to real estate
Application of financial models to real estate appraisal

Leong Hoe Yuen, Christopher, BSc (Bldg) (Hons), ARICS, MSISV, MSc
(Constr Mgt) Lough, PhD Lond, ACI Arb
Construction and project management
Contract procedure and administration
Design delegation and liability

Li Hang Han (Mrs), MSc (Ind Eng) BSc R'dg
Building economics: Construction cost and tender price movements
Durability of building materials in Singapore

Low Sui Pheng, PhD (Lond), MSc (Eng) (Birm), BSc Bldg (Hons) NUS,
Dip Bldg (Sing Poly), MSIB, MACostE
Legislative and regulatory control of construction
International contracting and marketing
The global construction industry
Quality management systems in construction
The influence of construction and marketing on economic development

Ngo, Monica (Mrs), BSc (EstMan) Sing., MSc (Urban Land Appraisal),
R'dg, UK, MSISV
Property maintenance and maintenance performance
Establishment of standards in property maintenance
Strata titles
Land policy
Public housing policy

Poon Sun Wah, MSc Lough., CEng, MIStructE, MIWEM, MHKIE
Construction technology and failures
Temporary works design and construction
Construction and project management

Tan-Thang Chze Lin, Doreen (Mrs), MBA, BSc (EstMan), MSISV Sing.
Marketing of real estate professional services
Marketing orientation of real estate consultants
Japanese real estate investment in Singapore
Property market information systems and data bank

Tay Kah Poh, MA (BusAdmin) Georgia; BSc (EstMan) NUS, MSISV
Real estate, competitive strategy and entrepreneurship
Singapore land policy implementation

Tay Poh Huat, Danny, B Surveying (Hons) Aust., MSc (Bldg) NUS
Constraint logic programming solutions to project scheduling
Neural networks for property price forecasting

Teo Ho Pin, PhD (UK), MSc (Project Mgt) (Distinction), BSc (Bldg) (Hons), MSIB, AAPM
Management information system for competitive tendering and maintenance management
Risk management in tendering for refurbishment work
Robotisation in the construction industry - maintenance inspection of tall buildings
Building defects and diagnosis
Building cost analysis and tender price forecasting
IT applications in the construction industry

Teo Pin, BSc R'dg, UK, FRICS, MSISV
Construction industry in People's Republic of China

Tham Kwok Wai, M.Bldg.Sc. Sydney, B.Eng. (Hons) Singapore
Design theory and methodology, cognitive models and automation of design
Applications of knowledge-based techniques to design
Knowledge representation
Artificial intelligence and expert systems with special reference to building and building services design
Building energy conservation and occupant comfort

Yuen, Belinda (Ms), MA (Town and Regional Planning) Sheffield, BA (Hons) Sing., MRTPI, MSIP, Chartered Town Planner
Development control in Singapore
Industrial development planning in Singapore
Land information system in planning
Urban redevelopment

Senior Tutor

Heah Kheng Lye, MSc (Structural Eng.), BSc (Hons) (Civil Eng.) U.S., AMASCE, MSCl
Structural Systems and Structural Costs for Commerical High-rise Buildings
Knowledge-Based Expert Systems Applications in Building Design
Design Methodology and Computer Simulated Design Methods
Blackboard Approach to Cooperative Design

Liow Kim Hiang, MSc (Property and Maintenance Mgt), BSc (Estate Man) (Hons), C. Dip, AF, MABE
Town Councils policy, operations and management
Property management, accounting and informations systems
Issues in corporate finance and investment strategy
Financial and investment management

Lum Sau Kim (Miss), Master in Land Economy (Aberdeen), BSc (EstMan) (Hons) NUS
Expectations and values in the Singapore condominium market
Price dynamics of the residential market in Singapore
Property Investment Decision Making
Rational expectations and market efficiency

Tan Chee Keong, Willie, B Surveying (Hons)
House price modelling
Real estate portfolios
Forecasting

Wong Khei Mie, Grace (Ms), BSc(Est Man)(Sing), MSISV
Land policies and public housing policies
Marketing research on public housing

DEPARTMENT OF CHINESE STUDIES

Professor

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

History of Chinese literature, with special reference to Chinese myths and legends, historical and philosophical prose of the Pre-Qin period, and the Shih Jing and the Chu Ci

Chinese classical novels of the Ming and Qing Dynasties, with special reference to San Guo Yan Yi, Shui Hu Zhuan and Xi You Ji

Associate Professor

Wong Yoon Wah, PhD MA Wis., BA Natn'l Chengchi

The art of Lu Xun's fiction

Comparative literature, especially literary relationship between modern Chinese and Western literature

Reference works for the study of Modern Chinese literature

Senior Lecturer

Hsiao Wang Kuo Ying, PhD NUS, MA Harv., BA Natn'l Taiwan

Chinese classical poetry, with particular interest in the poems of parting

The impact of Confucian ideals of service to the state on Chinese poets

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

History of Chinese philosophy, with special reference to the modern and contemporary Chinese thought

Aesthetic philosophy of Confucianism in the Pre-Chin period

Lim Buan Chay, PhD NUS, MA BA (Hons) Nan., DipEd Sing.

Chinese grammar and rhetoric

Stylistics and translation

Chinese etymology and semasiology

History of Chinese Literature and Singapore Chinese Literature

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

Classical Chinese literature, with special reference to the Chu Ci

Chinese etymology

Chinese semantics

***Head of Department**