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香港理工大学

INSTITUTE OF
BUILDING & REAL ESTATE
RESEARCH

Ensuring Value for Money in Large and Complex Construction Projects

Professor Geoffrey Q.P. SHEN,
BEng, PhD, VMF (List A), FRICS, FHKIVM
Department of Building and Real Estate,
The Hong Kong Polytechnic University

Presentation at Bauhaus University Weimar, Germany

4 June 2015

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Issues to be covered

1. Introduction
2. The Value Methodology
3. Research & Development
4. Real Life Case Studies
5. Summary and Conclusions

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1. Introduction

- Increasing construction activities
- Challenges of large and complex projects
- Growing demand for value for money
- Collaborative working is essential
- Increasing awareness and application of VM
- One useful tool in project managers' toolbox
- Implemented in both public and private sectors



19-20 November 2007

International Workshop on
Collaborative Human Futures
A New Design Paradigm

Organized by
Faculty of Construction and Land Use,
The Hong Kong Polytechnic University

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Collaborative Construction Information Management

SPON RESEARCH

Collaborative Construction Information Management

Edited by
Geoffrey Q.P. Shen
Peter Branton
Andrew Braham

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Applications in Hong Kong

- Technical Circular 16/98 by Works Bureau in 1998
- Technical Circular 35/2002 by Environment, Transport, and Works Bureau in 2002

The Government of the Hong Kong Special Administration Region
 香港特別行政區政府
 政府總署
 環境運輸及工務局
 建築工程處
 香港建築師學會

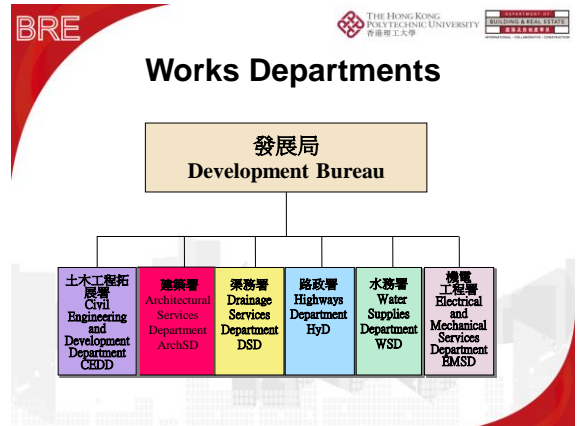
Environment, Transport and Works Bureau
 Government Architectural Department
 Project and Value Management
 Head Office, Level 22, 1000
 The Hong Kong

Ref : ETWB (W) 209/32/73 P. III
 Group : 5

13 August 2002

Environment, Transport and Works Bureau
 Issued as Circular (Works) No. 35/2002

Implementation of value management in public works projects



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My Involvement in VM

- Trained PhD and master students
- Undertaken a number of research projects
- Founding Fellow, Past President of HKIVM
- First batch of Certified Value Specialists in China
- Given keynotes at international conferences
- Served as a Director of Miles Value Foundation
- Designed and facilitated 30+ workshops
- Award from SAVE International





Design and Installation of Passenger Gangways for the Kai Tak Cruise Terminal



Retirement residence for senior citizens



Tangdao Bay Mixed Use Development Project, Tsingdao, China

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2. The Value Methodology

Structured and analytical process which seeks to achieve value for money by providing all the necessary functions at the lowest total cost, consistent with required levels of quality and performance.

Australian/New Zealand Standard for Value Management, AS/NZS 4183:1994

Structured and analytical process which follows a prescribed Work Plan to achieve best value or, where appropriate, best value for money.


Australian Standard for Value Management, AS 4183:2007

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Tribute to Lawrence Miles

Function Analysis and a VM job plan developed by Lawrence D. Miles at General Electric Company in 1947.

Value analysis is a problem-solving system implemented by the use of a specific set of techniques, a body of knowledge, and a group of learned skills. It is an organised creative approach that has for its purpose the efficient identification of unnecessary cost, i.e. cost that provides neither quality nor use nor life nor appearance nor customer features.



- L. D. Miles (1972)

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Definition of Value

$$\text{Value} \approx \frac{\text{Function}}{\text{Cost}}$$

$$\text{Value} \approx \frac{\text{Satisfaction of needs}}{\text{Use of resources}}$$

A function is the performance characteristic of a product or a service which distinguishes it from other products or services. It answers the question: "what does it do?".

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Use of the Methodology

Enhancing Value?

OR

Cutting Cost?

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Underpinning Principles


- Function analysis**
 - A project/product is not an end in itself, but a means to achieving a wider purpose
- Systematic approach**
 - Job plan, detailed procedure to conduct VM studies
- Collaborative working**
 - Multi-disciplinary team of stakeholders working together to achieve common objectives
- System thinking**
 - Optimisation of the system as a whole, rather than optimisation of individual elements

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Function Analysis

A function is the performance characteristic of a product or a service which distinguishes it from other products or services.

It answers the question: "what does it do?"

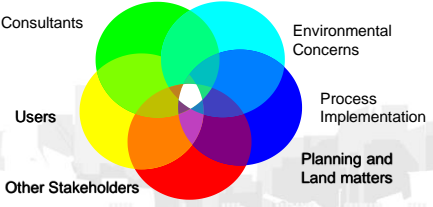


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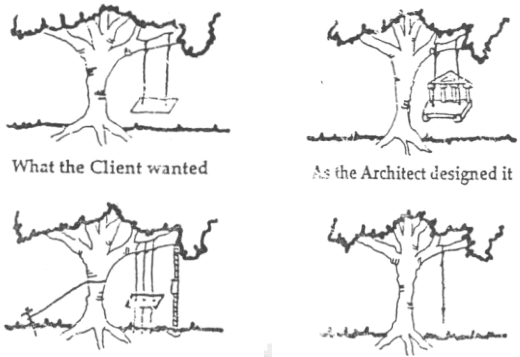
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Collaborative Working

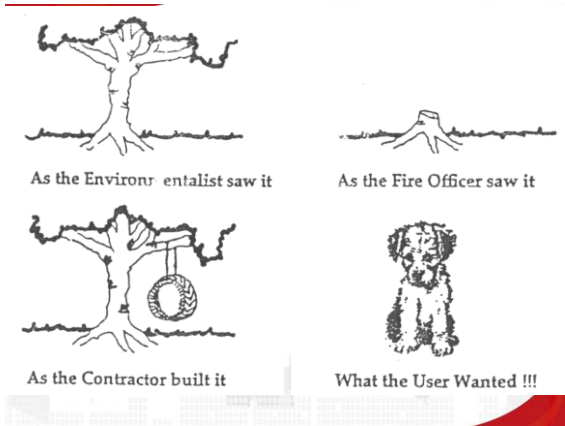
VM harnesses the creative powers of a group of stakeholders in harmony to achieve more than the sum total.



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Acknowledgement to Christopher Alexander et al. 1975



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System Thinking

Understand how different elements within a project affect each other.

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Systematic Approach

- Information**
 - What is it?
 - What does it do?
 - What does it cost?
 - What is its worth?
 - What assumptions?
 - What criteria?
 - Givens/constraints?
- Analysis**
 - What must it do?
 - How does it do it?
 - Supporting functions?
 - Is it necessary?
- Creativity**
 - What else will do?
 - What alternatives?
 - What if...?
 - Can we...?
- Evaluation**
 - Will it work?
 - How compatible?
 - Cost and savings?
 - Implementation problems?
 - Advantages & disadvantages?
- Development**
 - Implementable proposals?
 - Establish action plans?
 - By whom & when?

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Special Characteristics

- Alignment of value systems
- Focus on strategic issues
- Early stages of the development
- Large no. of stakeholders
- Short duration, formal team
- Ownership and commitment
- Mixed culture – East and West

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3. Research & Development

- A strong need for research on value management in construction, supported by the latest development of information technology.
- Secured over HK\$20 million research funds including five successful RGC's CERG projects in a row.
- High-level consultancies for the Government e.g. Housing Authority, Water Supplies Department, Drainage Services Department, and Housing Society.
- Successful supervision of research and postgraduate students including PhD, MPhil, MSc students.

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Relevant RGC CERG/GRF Grants

Project No.	Project Title	Status
PolyU524612	Analyzing stakeholder-organization relationships in mega construction projects: a social network approach	On-going
PolyU529409	The effect of using group support systems on virtual value management workshops for major construction projects	Completed
PolyU526406	Managing multiple stakeholders in the briefing process of large construction projects	Completed
PolyU525205	A computer-aided toolkit for using the functional performance specification in the briefing process of construction projects	Completed
PolyU516104	Measuring the Processes and Outcomes of Value Management Studies in Construction	Completed
PolyU511403	The effect of using group decision support systems on the processes and outcomes of value management studies	Completed
PolyU500702	A best practice framework for systematic identification and precise representation of client's requirements in the briefing process	Completed
PolyU500898	Successful value management applications in China: development of a framework for implementing the best practice	Completed

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A best practice framework for systematic identification and precise representation of client requirements in the briefing process

The image shows two book covers. The left one is 'A How-To Guide to Value Briefing' and the right one is 'A Concise Guide to Value Briefing'. Both are published by Hong Kong Polytechnic University. The authors listed are Professor Geoffrey Q.P. Shen and Professor John Kelly.

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The effect of using group decision support systems on the processes and outcomes of VM studies

The diagram illustrates the effects of using Group Decision Support Systems (GDSS) on Value Management (VM) studies. It features four central toolboxes: Analysis, Collaboration, Discussion, and Information. These are surrounded by text boxes describing their effects:

- Problems in VM Studies:** Lack of information, Lack of participation and interaction, Difficulty conducting processes of evaluation and analysis.
- Analysis Toolbox:** Improve the effectiveness of presentation, Avoid conformance pressure in evaluation, Improve the availability of information, Enhance communication in the and post-study phases.
- Collaboration Toolbox:** (No specific text box, but connected to the central tools).
- Discussion Toolbox:** (No specific text box, but connected to the central tools).
- Information Toolbox:** (No specific text box, but connected to the central tools).

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Electronic Brainstorming

The screenshot shows a brainstorming session titled 'Abstract Lighting'. The list of ideas includes:

- special pattern of the light with music(2:28 PM)
- periodic light show(2:28 PM)
- movable bridge design features(2:28 PM)
- varying illumination levels(2:28 PM)
- special pattern related to IR (2:28 PM)
- highlight the structure of the bridge, such as the deck, the tower, the cable, etc.(2:28 PM)
- focus on themes(2:28 PM)
- Special pattern of the light with music(2:28 PM)
- lighting to be integrated with the surroundings(2:29 PM)
- changing illumination angle(2:29 PM)
- special colour(2:29 PM)
- light show with fireworks(2:29 PM)
- responsive lighting(2:29 PM)
- match with environment around(2:29 PM)
- allow public participation in the generation of colours and theme for particular event(2:29 PM)
- coordinate with the special designers(2:30 PM)
- have been in special festival(2:30 PM)
- show different lighting style based on the seasons(2:30 PM)
- firework(2:30 PM)
- for special promotion(2:31 PM)
- sign use seasonal(2:31 PM)
- periodic light(2:31 PM)
- energy saving and efficient lighting equipment(2:31 PM)
- redirect the lighting centre on the road(2:32 PM)
- use lightbulbs to form words of greetings(2:32 PM)
- use LED for saving energy(2:32 PM)
- variable refraction(2:33 PM)
- the colour of lighting matched with the colour of bridge body(2:33 PM)
- optical fibres(2:33 PM)

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Process Measures

The radar chart, titled 'Effectiveness of VM workshops', compares 'VMS-supported' (blue) and 'Traditional' (red) methods across seven measures. The 'VMS-supported' method scores significantly higher in most areas.

Measure	VMS-supported	Traditional
Data-based	6.00	2.00
Participatory	4.00	2.00
Accountability	4.00	2.00
Goal-centered	4.00	2.00
Efficiency	4.00	2.00
Adaptable	4.00	2.00
Legitimacy	4.00	2.00
Supportability	4.00	2.00

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Measuring the processes and outcomes of value management studies in construction projects

The flowchart illustrates the stages of a value management study, divided into three main phases:

- Predicting indicators:** Clear objectives of workshop, Client's participation, Client's support, Discipline of participants, Qualification of facilitators, Relevant department's support.
- Process performance:** Expected information collected, Pre-workshop stage, Workshop stages, Client's objectives clarified, Interaction among participants in each phase, Primary functions identified, Project given/assumptions clarified.
- Outcome performance:** Percentage of action plan carried out, Quality of the report, Post-workshop stage, Accelerating the decision-making, Client's satisfaction, Identification and clarification of client's requirement, Improving communication and understanding, Post-project stage, Improving the project quality.

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A computer-aided toolkit for using the functional performance specification in briefing

The diagram shows a three-layered 'Computer-aided Toolkit' structure:

- Top Layer (Blue):** Computer-aided Toolkit. Reference: RGC-CERG 2005-06. Purpose: To implement the proposed framework in a computer-aided toolkit.
- Middle Layer (Green):** Practical Framework. Purpose: To develop, validate and verify a practical framework of using the FPS in briefing.
- Bottom Layer (Yellow):** Theoretical Foundation. Purpose: To establish a theoretical foundation that underpins the use of the FPS in briefing.

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Managing multiple stakeholders in the briefing process of large & complex construction projects

- RGC-CERG 2006-07
- To establish a theoretical foundation that underpins the management of the value systems of multiple stakeholders in the briefing process of large and complex construction projects;
- To develop and verify a practical framework for identifying and managing stakeholders in the briefing process, and
- To develop and validate a computer-aided platform underpinned by Social Network Analysis for mapping and measuring the relationships and flows among people, groups, and organisations in the briefing process.

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The effect of using group support systems on virtual value management workshops for major construction projects



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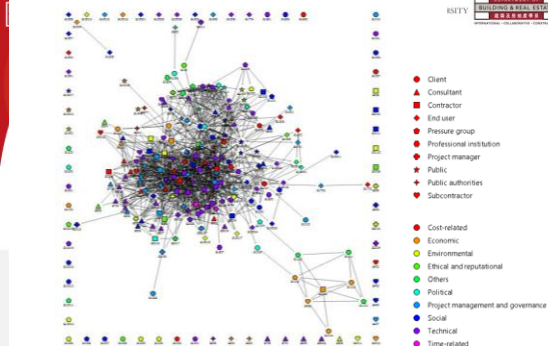
Managing stakeholders in mega projects: a social network approach



Case Study

- An iconic public office building development
- It was procured under the design-and-build method with a contract sum of approximately HK\$5 billion
- Project scope: three office towers with a total gross floor area of around 130,000 m², two pedestrian footbridges and an open space of nearly 20,000 m² for public enjoyment

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- Client
- Consultant
- Contractor
- End user
- Pressure group
- Professional institution
- Project manager
- Public
- Public authorities
- Subcontractor

- Cost-related
- Economic
- Environmental
- Ethical and reputational
- Others
- Political
- Project management and governance
- Social
- Technical
- Time-related

The network of stakeholder-associated issues in the case project

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4. Real Life Case Studies

Client Organisations:

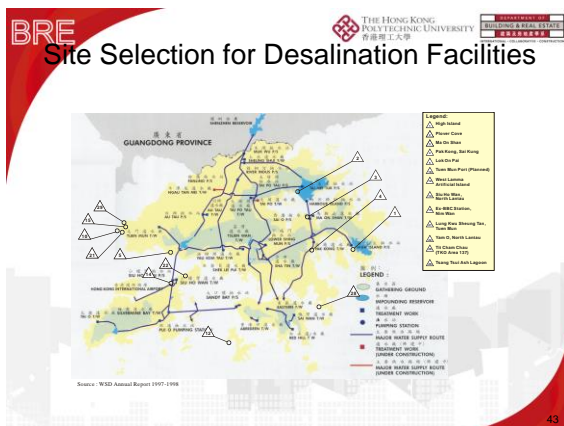
- Architectural Services Department
- Civil Engineering and Development Department
- Drainage Services Department
- Highways Department
- Water Supplies Department
- Electrical and Mechanical Services Department
- Housing Department
- Housing Society
- MTRC
- Sun Hung Kai Properties
- Hong Kong Telecom
-

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Application Areas

- Scheme Selection
- Design Improvement
- Cost Reduction
- Problem Solving
- Enhance Communication
- ...

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Sites for Desalination Facilities

Approach:

- ✓ A pre-workshop meeting, followed by two separate one-day workshops, attended by 20+ participants from various government departments and consultants, representing major stakeholders of the project.
- ✓ Following a brief introduction on VM methodology and the arrangement for the workshop, the information phase started with a presentation given by the client's representatives from WSD, the VM team then identified project objectives, givens and assumptions.

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Major Stakeholders

- Study Management Group, Water Supplies Department (WSD)
- Environmental Protection Department (EPD)
- Agriculture Fisheries Conservation Department (AFCD)
- Planning Department (PlanD)
- Antiquities and Monuments Office, LCSD
- Lands Department (LD)
- Marine Department (MD)
- Consultant's study manager and members

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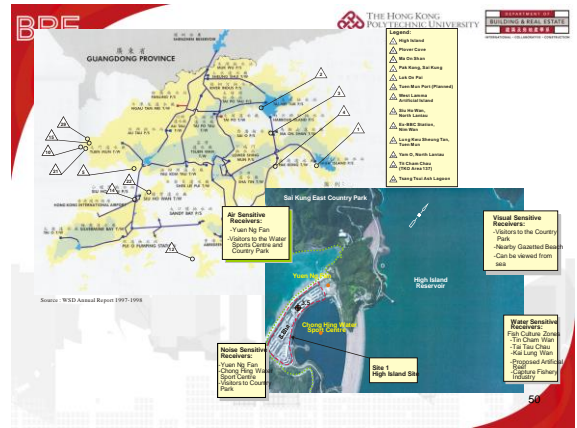
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Sites for Desalination Facilities

Outcomes:

- ✓ Agreed criteria for assessing site options
- ✓ Site options have been generated and evaluated
- ✓ Ranked site options in order of preference.
- ✓ Baseline conditions provided for future references
- ✓ An action plan was prepared which listed actions to be taken for the project.
- ✓ Improved understanding of the project.

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Rehabilitation of Housing Estate

- **Objective:**
The objective of the VM workshop is to create a structured forum whereby views from all stakeholders on what why and how rehabilitation works should be implemented can be discussed openly to reach a consensus on the best value solutions for the project.
- **Approach:**
A pre-workshop meeting in advance to plan and prepare for the workshops, followed by two separate one-day workshops, attended by 30+ participants, representing major stakeholders of the project.



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Building Elevation - Existing



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Building Elevation - Proposed



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Internal Common Area - Existing



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Internal Common Area - Proposed



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Participants of the Workshop

- Project management team
- Property & facility management team
- Architects
- Structural engineers
- Building services engineers
- Potential contractors

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Outcomes of The VM Workshop

- Identified client value system and priorities
- Agreed criteria for assessing alternative options
- Reviewed and revised existing design options
- Agreed actions to be taken after the workshop
- Agreed the best approaches to complete the project
- Generated value proposals in five areas: transfer lift, lifts at linear blocks, covered walkways, corridors & external walls, improvement to vacant flats
- Improved understanding among project stakeholders
- Created consensus, ownership and commitment

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5. Summary and Conclusions

- A very useful tool to ensure value for money.
- Increasing awareness and applications.
- Collective effort from the key players.
- A strong need for research & development.
- Your potential competitive advantage.
- Not a panacea to solve all problems.
- The proof of the pudding is in the eating!

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Summary of VM Studies

- Structured,
- Multi-disciplinary,
- Professionally facilitated,
- Shared understanding, goals and objectives,
- Group process to create innovative solutions, and
- Ownership and commitment.

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Benefits of using VM

- Improve value of the projects
- Challenge the status quo/conventions
- Define and clarify the needs of all involved
- Ensure project is the best way of meeting the needs
- Provide a forum for stakeholders to share information
- Improve communications and understanding
- Create ownership and commitment among stakeholders

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Critical Success Factors

- The methodology
VM job plan must be followed in the workshop
- Attitude of participants
Right attitude, appropriate stakeholders, awareness of the process
- Executive client support
Support to the VM workshops and implementation of proposals
- Management of process
Clear objectives, set time, follow-up actions, review and feedback
- Professional workshop facilitation
Probing with the right questions, use appropriate tools, managing the process, maintain the momentum of the team

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Acknowledgement

- The Hong Kong Polytechnic University for the working environment.
- Research Grants Council for the generous funding in CERG and GRF grants.
- Colleagues, assistants, students for their support, collaboration, and assistance.

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Thank you!

Professor Geoffrey Qiping SHEN,
BEng, PhD, VMF (List A), FRICS, FHKIVM
Chair Professor of Construction Management
Associate Dean of Faculty of Construction and Environment
Department of Building and Real Estate,
The Hong Kong Polytechnic University
Hung Hom, Kowloon, Hong Kong, China
Tel: (+852) 2766 5817, Fax: (+852) 2764 2572
Email: bsqpshen@polyu.edu.hk
Homepage: <http://www.bre.polyu.edu.hk/staff/bsqpshen/>

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建築及房地產學系

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Where are we?

- Strategically located in Hong Kong - a gateway or super-connector to China Mainland



- HK is at the 5th position of the **QS Best Student Cities 2015** and 1st in Asia. <http://www.topuniversities.com/city-rankings/2015#sorting=rank+custom=rank+order=desc+search=>

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Overview of BRE

- One of the very first three departments of the University established in 1937 (over 75 years)
- Strong research activities
- Attractive teaching programmes with professional recognition
- Large number of remarkable alumni
- Strong links with the industry
- Intellectually-challenging environment

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Overview of BRE

Ranked 12th in the subject 'Architecture and Built Environment' by QS World University Rankings by Subject 2015

Ranked 2nd in the **Built Environment and Design** by the University Ranking by Academic Performance (URAP) 2013-14.

Tops the world in the publication of articles related to the field of **construction and building technology** (Canas-Guerrero et al, 2014)



PolyU has 5 subjects ranked among the World's Top 50

- 11th (Engineering - Civil & Structural)
- 12th (Architecture / Built Environment)
- 24th (Art and Design)
- 35th (Linguistics)
- 45th (Statistics & Operational Research)

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Vision and Mission

Vision

- Our vision is to be a leading academic department internationally in construction and real estate, that excels in professional education, applied research and partnership for a brilliant future.

Mission

- To nurture all-round graduates for the rapidly changing building and real estate industry;
- To advance knowledge sharing via application-oriented research and consultancy work for serving our stakeholders both locally and globally; and
- To foster close links with each of our stakeholders

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BRE Academic Programmes

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Academic Programmes

PhD/MPhil (50 Students)

Master programmes: (400 Students)

- Executive Master in Real Estate Finance (subject to final approval)
- Construction Law and Dispute Resolution
- Construction and Real Estate
- Project Management
- International Real Estate

Undergraduate programmes (900 Students)

- Building Engineering and Management
- Property Management
- Surveying
- Building Technology and Management

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Professional Recognition

Internationally (U.K)

- Royal Institution of Chartered Surveyors (RICS)
- Chartered Institute of Building (CIOB)

Hong Kong

- Hong Kong Institute of Surveyors (HKIS)
- Hong Kong Institute of Housing (HKIH)
- The Hong Kong Institution of Engineers (HKIE)
- The Hong Kong Institute of Construction Managers (HKICM)

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The Most Outstanding PolyU Student 2010

(LEE Yeuk Ying, Krystal, BSc (Hons) in Surveying, Graduated in 2011)



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Partnership

<http://www.bre.polyu.edu.hk>

[f HKPolyUBRE](#)

<http://weibo.com/> 香港理工大学建筑及房地产学系

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Outstanding Alumni

Dr. the Hon. LEUNG Chun Ying (梁振英博士)
Higher Diploma in Surveying, 1974
Chief Executive, HKSAR
Outstanding PolyU Alumni Award – 1997 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Ir Prof. NG Sai Ho (吳世豪教授 - 工程師)
Diploma in Building, 1962
Senior Advisor to the President, PolyU
Outstanding PolyU Alumni Award – 1999 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Dr. Alex CHEUNG Kwok Wai (張國維博士)
Associateship in Building Technology & Management, 1982
Outstanding PolyU Alumni Award – 1999 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Mr. David C. LEE (李碩莪先生)
Higher Diploma in Surveying / Building Technology, 1970
Chairman & CEO, DS Capital Group Co. Ltd.
Outstanding PolyU Alumni Award – 1999 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Prof. Kenneth PANG Tsan Wing, SBS (彭贊榮教授)
Higher Diploma in Surveying / Building Technology, 1967
Former Commissioner of Rating and Valuation, Rating and Valuation Department, HKSAR
Outstanding PolyU Alumni Award – 2001 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Prof. LIU Sing Cheong, JP (廖聯昌教授)
Higher Diploma in Surveying (General Practice), 1977
Advanced Higher Diploma in General Practice Surveying, 1978
Chairman, My Top Home (China) Holdings Ltd. & Evergreen Real Estate Consultants Ltd.
Outstanding PolyU Alumni Award – 2003 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

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Outstanding Alumni

Ir LO Yiu Ching (盧耀慎工程師)
Higher Diploma in Structural Engineering, 1966
Former Senior Consultant (Capital Planning), Hospital Authority Building, HKSAR
Outstanding PolyU Alumni Award – 2005 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Mr. Marco WU Moon Hoi (鄺滿海先生)
Higher Diploma in Surveying / Building Technology, 1967
Chairman, Hong Kong Housing Society
Outstanding PolyU Alumni Award – 2007 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Mr. Thomas HO On Sing, JP (何安誠先生)
Higher Diploma in Building Technology and Management, 1978
Chief Executive, Gammon Construction Ltd.
Outstanding PolyU Alumni Award – 2009 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Dr. NG Wing Hong (伍永康博士)
Diploma in Building, 1940
Hon. Doctor of Engineering, PolyU
Fellow, PolyU
Outstanding PolyU Alumni Award – 2009 Awardee
Outstanding BRE Alumni Award – 2010 Awardee

Prof. Thomas HO Hang Kwong (何鏡光教授)
Higher Diploma in Surveying / Building Technology, 1971
Former Property Director, MTR Corporation Ltd.
Outstanding PolyU Alumni Award – 2010 Awardee
Outstanding BRE Alumni Award – 2011 Awardee

BRE Outstanding Alumni

Ir TSUI Tack Kong (崔德剛工程師)

Diploma in Building, 1969
Director, T. K. Tsui & Associates Ltd.
Outstanding PolyU Alumni Award – 2011 Awardee
Outstanding BRE Alumni Award – 2012 Awardee

Ir Prof. Johnny FAN Siu Kay (樊紹基教授 - 工程師)

Higher Diploma in Structural Engineering, 1972
Director, WMKY Ltd.
Council and Court Member, PolyU
Outstanding BRE Alumni Award – 2012 Awardee
Outstanding PolyU Alumni Award – 2013 Awardee

Ir Prof. Peter MOK Kwok Woo (吳國和教授 - 工程師)

Higher Diploma in Structural Engineering, 1968
Chairman, Hong Kong Quality Assurance Agency
Outstanding BRE Alumni Award – 2012 Awardee

Mr. LAU Ping Cheung, SBS (劉平生先生)

Higher Diploma in Quantity Surveying (1974)
Director (Project Development) of SOCAM Asset Management (HK) Limited
Outstanding BRE Alumni Award – 2014 Awardee

Prof. CHAN Ka Kul, BBS, JP (陳家駒太平紳士)

Higher Diploma in Surveying / Building Technology (1971)
Chairman of Mueard Siew Foundation
Outstanding BRE Alumni Award – 2014 Awardee

BRE Distinguished Lecture

Dr. the Hon. Leung Chun Ying

Mr. Au Choi Kai, Director of Buildings, Buildings Department

Mr. Yu Kam Hung, Former President, HKIS

BRE Dialogue with BRE Alumni

Prof. Kenneth Pang, Former Commissioner of Rating & Valuation, Rating & Valuation Dept.

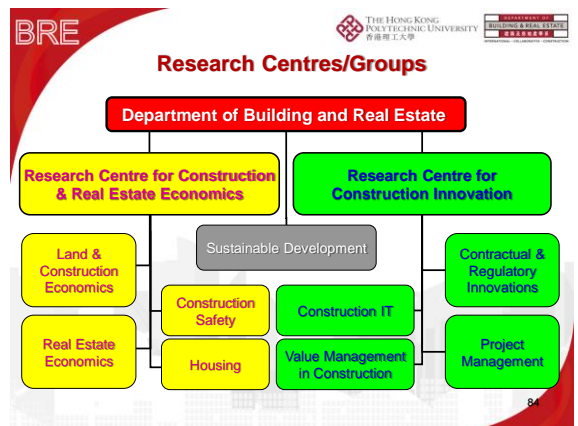
Prof. Thomas Ho, Former Property Director, MTR Corporation Ltd.

BRE Partnership with Industry

- Black and Veatch
- Highways Department, HKSAR
- Chevalier (Construction) Co. Ltd.
- Ho & Ip Solicitors
- China Vanke Co. Ltd.
- Housing Authority
- Chiu Hing Construction & Transportation Company Limited
- Housing Society
- Chubb Hong Kong Limited
- K. Wah Real Estates Co. Ltd.
- Chun Wo Construction & Engineering Co. Ltd.
- Land Supreme Surveyors Ltd.
- Civil Eng. and Development Department
- MTR Corporation Limited
- Construct IT (Hong Kong) Ltd.
- Pat Davie Ltd.
- Consumer Council
- Shenzhen Real Estate Research Center
- Drainage Services Department
- Sun Hung Kai Real Estate Agency Ltd.
- E Man Construction Co. Ltd.
- The Hong Kong Institute of Surveyors
- Fukien Secondary School (Kwun Tong) Ltd.
- The University of Hong Kong
- Gammon Construction Ltd.
- Wah Dai Engineering Company Limited
- Henderson Real Estate Agency Limited
- Water Supplies Department
- You Lee Construction Ltd.

Research / Scholarly Activities

<http://www.bre.polyu.edu.hk>
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The Hong Kong Polytechnic University



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THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大学

Ng Wing Hong Laboratory for Sustainable City




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THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大学

HONG KONG PhD Fellowship Scheme
2015/16

<http://www.polyu.edu.hk/ro/hkphd-fellowship/en/>

Background
Established by the Research Grants Council (RGC) of Hong Kong in 2009, the Hong Kong PhD Fellowship Scheme (HKPFS) aims at **attracting the best and brightest students in the world to pursue their PhD studies in Hong Kong's institutions.**

Eligibility
Candidates who are seeking admission as new full time PhD students in the following eight institutions, **irrespective of their country of origin, prior work experience and ethnic background, should be eligible to apply.**

Applicants should demonstrate **outstanding qualities of academic performance, research ability / potential, communication and interpersonal skills, and leadership abilities.**

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THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大学

Impact on Industry/Community

- International recognition by peers
- Members of editorial board of leading journals
- Keynote addresses in international conferences
- Members of scientific committees of conferences
- Technology transfer to the construction industry
- Roles played by our staff and alumni in society

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Global Search for Academic Elites

<http://www.bre.polyu.edu.hk>

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<http://facebook.com/香港理工大学建筑及建造学院>

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香港理工大学

Overview

Rank	Discipline/Specialism	No. of Post
Professor / Associate Professor / Assistant Professor / Research Assistant Professor	<ul style="list-style-type: none"> • Construction & Real Estate Economics • Construction & Real Estate Law & Policy • Construction & Real Estate Management • Information & Construction Technology 	3
Assistant Professor	<ul style="list-style-type: none"> • Construction Technology and Building Maintenance 	1
Research Assistant Professor	<ul style="list-style-type: none"> • Sustainable Urban Development 	1

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香港理工大学

Duties
(Professor/Associate Professor/Assistant Professor/Research Assistant Professor in 4 Disciplines & Assistant Professor in Construction Technology and Building Maintenance)

- Undertake teaching duties at various levels
- Supervise undergraduate & postgraduate research projects & theses
- Conduct research in related areas & contribute to the development of the research strengths
- Initiate, lead & participate in scholarly research in his/her area of expertise
- Be active in research leading to quality journal publications & in bidding for external research grants & applied research projects
- Engage in programme / curriculum planning, development & administration
- Undertake relevant administrative duties
- Undertake any other duties as assigned by the Head of Department or his delegates

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Duties

(Research Assistant Professor in Sustainable Urban Development)

- Undertake **teaching duties** at both undergraduate & postgraduate levels on urban sustainability, urban development, institutional analysis, law & policy issues in the urban development industry, etc
- Initiate, lead & participate in academic & policy research** pertaining to sustainable urban development/green building, urban studies, institutional analysis of urban problems/regulations & contribute to the development of its research strengths
- Be active in research leading to **quality journal publications & in bidding for external research grants & applied research projects**
- Supervise** undergraduate & postgraduate **research projects & theses**
- Engage in **programme / curriculum planning, development & administration**
- Provide **administrative support for academic & departmental affairs**
- Undertake any other duties as assigned by the Head of Department or his delegates

BRE THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大学

Qualifications

(Professor/Associate Professor/Assistant Professor)

- A **PhD degree** in a related discipline
- Strong commitment to **excellence in teaching & research**
- A **proven record** in research & scholarship
- Effective classroom **teaching skills**
- Good **interpersonal skills**

BRE THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大学

Qualifications

(Research Assistant Professor)

- A **PhD degree** in a related discipline
- Relevant **postdoctoral research & teaching experience**
- A **good publication record in refereed journals**
- Good potential in bidding for research grants & in establishing significant externally funded research programmes**
- Committed to teaching & learning**
- Excellent command of English**

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Remuneration & Conditions of Service

- Highly Competitive Remuneration Package
- Assistant Professor : a Fixed-term Gratuity-bearing Contract (Re-engagement subject to mutual agreement)
- Research Assistant Professor : a Fixed-term Gratuity-bearing Contract (up to 3 years) (Re-engagement subject to mutual agreement)

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To Apply

- Detailed CV & Application Form (HR72A)
- State Rank & Discipline You Apply for
 - State Current & Expected Salary

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- Human Resources Office, 13/F, Li Ka Shing Tower, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong
 - hrstaff@polyu.edu.hk
 - fax at (852) 2764 3374

Details : <http://www.polyu.edu.hk/hro/job/en/index.php>
3 August 2015 : Initial consideration of applications

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Thank you very much

<http://www.bre.polyu.edu.hk>  HKPolyUBRE 

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