# CURRICULUM VITAE

**YUEN, Ka Veng (Kelvin)**



**Short Biography**

Prof. Yuen was a representative of Macao for the 32nd and 33rd International Mathematics Olympics and he received the honorary student title from the Pui Ching Middle School in 1993. He received his BSc in Civil Engineering from the National Taiwan University in 1997 with no.1 ranking among 152 students and his MPhil in Civil Engineering from the Hong Kong University of Science and Technology with CGA 12/12 (i.e. straight A+). With the Harold-Hellwig fellowship, he entered at the California Institute of Technology and finished his doctorate study in 2 years and 7 months with GPA 4.1 (A+). His academic great grandfather was Prof. GW Housner, who was recognized as t人he “Father of Earthquake Engineering.” He was also the first recipient of the Housner’s fellowship.

Prof. Yuen is a Distinguished Professor of Civil and Environmental Engineering (CEE). He is also visiting Chair Professor of the South China University of Technology. He is a member of the 8th Science and Technology Commission of the Ministry of Education. He also serves as a Council Member of the University of Macau and the Escola Superior das Forças de Segurança de Macau (ESFSM) and Member of Board of Trustee of the Science and Technology Development Fund (FDCT) of the Macau SAR Government. He was the Head of Department of Civil and Environmental Engineering, Associate Dean (Academic Affairs), Associate Dean (Research and Graduate Studies) and Interim Dean of FST; and the Registrar and the Dean of Graduate School of the University of Macau. He also serves/served as the Chair of Information and Education Technology Committee and Scholarship Committee of the Senate and the Panel of Intellectual Property Rights. He was Member of the Administrative Committee of UMTEC Limited and Academic Advisor of Research & Development Administrative Office. His major achievements in administration include: being the spokesman of Joint Admission Examination and managing its establishment; in charge of HKIE accreditation for four FST undergraduate programmes in the capacity as Associate Dean during 2010-2012; establishing 3+2 programmes; drafting the first intellectual properties guidelines and regulations; and analyzing university ranking, etc.

Prof. Yuen’s research interest includes Bayesian inference, model selection, model updating, structural health monitoring, structural reliability, and structural vibration control. His H-index is 39 (according to the Core database of Web of Science), which is considered extremely high at the age of 47 in Civil Engineering. His paper “Model selection using response measurements: Bayesian probabilistic approach” (coauthored with J.L. Beck) is one of the top 10 most cited papers among all papers published in the Journal of Engineering Mechanics (established since 1983) of the American Society of Civil Engineers. Furthermore, his single-author book “Bayesian methods for structural dynamics and civil engineering” (published by John Wiley & Sons in 2010) has attracted great attention of Bayesian methods for structural dynamics. It has become a classical reading in this research field. In 2010 and 2018, he became the youngest UM full professor and distinguished professor, respectively. In 2012, he was elected in the National Science and Technology Award Panel Expert Bank and the National Science and Technology Programs Expert Bank of the Ministry of Science and Technology, People's Republic of China. His major awards include: Guanghua Engineering Science and Technology Prize (2024), Young Investigator Award, International Chinese Association on Computational Mechanics; QIAN Weichang programme scholar, K.C. Wong Education Foundation; and Phi-Tau-Phi Honorary member.

1. **General Information**
   1. **Personal Particulars**

Position:

Distinguished Professor, Department of Civil and Environmental Engineering, University of Macau (UM)

Address: Faculty of Science and Technology, University of Macau, Macau, China

Email: [kvyuen@umac.mo](mailto:kvyuen@umac.mo); Website: <http://www.cis.umac.mo/~kvyuen>

Tel.: (853) 88224960; Fax: (853) 88222426

* 1. **Academic Background**

**Ph.D. in Civil Engineering (2002)**

**California Institute of Technology, Pasadena, CA, USA**

Thesis: *Model Selection, Identification and Robust Control for Dynamical Systems*

GPA: 4.1/4.0 (A+)

**M.Phil. in Civil Engineering (1999)**

**Hong Kong University of Science and Technology, HK**

Thesis: *Structural Modal Identification Using Ambient Dynamic Data*

CGA: 12.0/12.0 (A+)

**B.Sc. in Civil Engineering (1997)**

**National Taiwan University, Taipei**

GPA: 3.96/4.00 (90.26/100) Ranking: 1/152

* 1. **Working Experiences**

08/2020 – Member, Board of Directors, UMCERT ENGINEERING RESEARCH AND TESTING LIMITED (UMCERT)

11/2018 – Distinguished Professor of Civil and Environmental Engineering, UM

06/2019 –06/2022 Dean of Graduate School, University of Macau (UM)

01/2019 –12/2021 Chair Professor of Civil Engineering, South China University of Technology

07/2016 – 06/2019 Registrar

01/2018 – 02/2019 Interim Dean, FST

01/2013 – 12/2018 Member, Administrative Committee, UMTec Limited

09/2010 – 10/2018 Professor of Civil and Environmental Engineering, UM

07/2013 – 12/2017 Academic Advisor, Research and Development Administrative Office

09/2012 – 03/2013 Associate Dean (Research & Graduate Studies), FST

09/2011 – 08/2012 Associate Dean (Academic Affairs), FST

12/2010 – 08/2011 Interim Associate Dean, FST

09/2008 – 11/2010 Head, Department of Civil and Environmental Engineering, FST

08/2006 – 08/2010 Associate Professor of Civil and Environmental Engineering, UM

09/2002 – 08/2006 Assistant Professor of Civil and Environmental Engineering, UM

10/1999 – 06/2002 Teaching Assistant, California Institute of Technology

09/1997 – 8/1999 Teaching/Research Assistant, Hong Kong University of Science and Technology

* 1. **Major Awards and Honors**

2024 2010-2019 Best Five Survey Papers of IEEE Intelligent Transportation Systems: Hao Zhu; Ka-Veng Yuen; Lyudmila Mihaylova; Henry Leung, “Overview of Environment Perception for Intelligent Vehicles,” IEEE Transactions on Intelligent Transportation Systems, vol. 18, no. 10, pp. 2584-2601, Oct. 2017.

2024 Guanghua Engineering Science and Technology Prize (2024)

2020 Second prize in “Natural Science Award”, Macao Science and Technology Award, Macao SAR Government: “Bayesian Methods for Structural Dynamics: from offline to real-time” (Sole PI: K.V. Yuen)

2018 Outstanding reviewer, Mechanical Systems and Signal Processing, Elsevier

2018 Outstanding reviewer, Automation in Construction, Elsevier

2017 FST Research Excellence Award 2016/2017

2017 Outstanding reviewer, Computer Methods in Applied Mechanics and Engineering, Elsevier

2017 Outstanding reviewer, International Journal of Nonlinear Mechanics, Elsevier

2017 Outstanding Academic Staff 2016/2017, University of Macau

2016 Outstanding reviewer, Engineering Geology, Elsevier

2016 Outstanding reviewer, Journal of Sound and Vibration, Elsevier

2015 Outstanding reviewer, Mechanical Systems and Signal Processing, Elsevier

2015 Listed in Marquis Who’s Who in the World 2015 (32nd edition)

2014 Outstanding reviewer, Engineering Structures, Elsevier

2014 Second prize in “Technology Invention Award”, Macao Science and Technology Award, Macao SAR Government: “Air Quality Modeling and Forecasting in Macao” (K.M. Mok, K.V. Yuen, K.I. Hoi and S.C. Tam)

2012 University-level Outstanding Academic Staff Award (5 Awardees from the entire university)

2012 Listed in National Science and Technology Award Panel Expert Bank, Ministry of Science and Technology, People’s Republic of China (life appointment)

2012 Listed in National Science and Technology Programs Expert Bank, Ministry of Science and Technology, People’s Republic of China (life appointment)

2011 Young Investigator Award, International Chinese Association on Computational Mechanics

2011 UM Academic Staff Award 2011

2008 My favorite teacher of Department of Civil and Environmental Engineering, election organized by FST student union

1. K.C. Wong Education Foundation – QIAN Weichang Academic Exchange Program

2005 Listed in Who’s Who in Computational Science and Engineering, Saxe-Coburg Publications

2001-2002 George W. Housner fellowship in earthquake engineering (Caltech)

1999-2001 Harold-Hellwig fellowship in structural engineering (Caltech)

1997- Honorary member, the Phi-Tau-Phi scholastic honor society (life membership)

1993-1997 Presidential awards (NTU), awarded to the top 5% students (all undergraduate semesters)

1992, 1993 Representative of Macau in the 33rd (Moscow, Russia) and 34th (Istanbul, Turkey) International Mathematics Olympics

1. **Teaching**
   1. **Courses Taught since 2004**

Fall 2023/2024 Spring 2023/2024

Kinematics and Dynamics Special Topics in Structural Engineering IM

Spring 2023/2024

Special Topics in Structural Engineering IM

Fall 2015/2016 Spring 2015/2016

Advanced MathematicsM Structural VibrationsM

Fall 2014/2015 Spring 2014/2015

Advanced MathematicsM Structural VibrationsM

Fall 2013/2014 Spring 2013/2014

Advanced MathematicsM Advanced Mechanics of Materials

Strength of Materials II

Structural VibrationsM

Research Writing

Fall 2012/2013 Spring 2012/2013

Advanced MathematicsM Structural VibrationsM

Research Writing

Fall 2011/2012 Spring 2011/2012

Advanced MathematicsM Structural VibrationsM

Fall 2010/2011 Spring 2010/2011

Strength of Materials I Structural VibrationsM

Advanced MathematicsM

Fall 2009/2010 Spring 2009/2010

Strength of Materials I Mechanics I

Advanced MathematicsM

Fall 2008/2009 Spring 2008/2009

Strength of Materials I Strength of Materials II

Advanced MathematicsM Structural VibrationsM

Fall 2007/2008 Spring 2007/2008

Strength of Materials I Strength of Materials II

Advanced MathematicsM Structural VibrationsM

Fall 2006/2007 Spring 2006/2007

Strength of Materials I Strength of Materials II

Advanced MathematicsM Structural VibrationsM

Fall 2005/2006 Spring 2005/2006

Strength of Materials I Strength of Materials II (5.13/6)

Advanced Mathematics Structural VibrationsM

Fall 2004/2005 Spring 2004/2005

Strength of Materials I Structures III (6/6)

Theory of Elasticity and PlasticityM Advanced Applications of Structural DynamicsM

M: master-level courses

* 1. **Master and PhD students Supervised**

**Graduate Students Being Supervised**

1. Xiaolin ZOU (PhD student in structural engineering, expected to graduate in 2028) since 2024.
2. Zhongxin LI (PhD student in remote sensing, expected to graduate in 2027) since 2023.
3. Zitong ZHAO (PhD student in structural engineering, expected to graduate in 2025) since 2021.
4. Huozhuo GUO (PhD student in structural engineering, expected to graduate in 2025) since 2021.

**PhD Students Supervised**

1. Wenjing ZHANG (PhD 2024) Thesis: “*Bayesian Nonparametric General Regression for System Identification.*” Period: August 2021- August 2024.
2. Sheng WANG (PhD 2023) Thesis: “*Genesis Detection and Surface Winds Inversion for Tropical Cyclones from Remotely Sensed Observations*.” Period: August 2020 – September 2023.
3. Xiaohan HAO (PhD 2022) Thesis: “*Optimal Sensor Placement for Structural Health Monitoring Using a Robust Information Entropy-based Approach*.” Period: August 2019 – May 2022.
4. Xiaohui YANG (PhD 2021) Thesis: “*Rayleigh Wave Dispersion Curve Inversion for Estimation of Near-Surface Shear-Wave Velocity Profiles Using Bayesian Methods*.” Period: August 2018 – Jan 2021.
5. Le DONG (PhD 2020) Thesis: “*Bayesian Real-time System Identification Using Self-calibrating Scheme and Hierarchical Model Classes.*” Period: September 2014 – December 2020.
6. Ke HUANG (PhD 2017) Thesis: “*Substructure Identification and Decentralized Identification Using Bayesian Methods.*” Period: September 2015 – June 2019.
7. Fang TAN (PhD 2016, co-supervise with Dr. W.H. Zhou) Thesis: “*Probabilistic Analysis for Soil Water Retention Property of Unsaturated Soil and Creep Behavior of Soft Soil*.” Period: September 2010 - September 2016.
8. Gilberto Alejandro Ortiz Garcia (PhD 2017) Thesis: “*Bayesian Nonparametric General Regression for System Identification and Model Class Selection*.” Period: September 2014 - May 2017.
9. Hui-Ping WU (PhD 2015, co-supervise with Prof. S.O. Leung, FED) Thesis: “*Bayesian Goodness-of-fit and Model Selection for Dichotomous Latent Trait Models*.” Period: September 2011 – May 2015.
10. Sin-Chi KUOK (PhD 2015) Thesis: “*Optimal Sensory System Design and Online Model Updating via Bayesian Framework*.” Period: September 2010 - March 2015.
11. He-Qing MU (PhD 2014) Thesis: “*Probabilistic Approach for Robust Parametric Identification, Outlier Detection and Real-time Model class Selection*.” Period: September 2010 - September 2014.
12. Ka-In HOI (PhD 2010, co-supervise with Prof. K.M. Mok) Thesis: “*Enhancement of Efficiency and Robustness of Kalman Filter Based Statistical Air Quality Models by Using Bayesian Approach*.” Period: September 2005 – November 2010. Degree Classification: Very Good with Honor and Distinction (highest classification)

**MSc Students Supervised**

1. Lishu XU (MSc 2020) Thesis: “*Analysis of a 2-DOF Device Combined with Electromagnetic Vibration Energy Harvester and its Application for High-rise Buildings*.” Period: August 2017 - May 2020. Degree classification: Excellent
2. Shihuan ZHOU (MSc 2018) Thesis: “*Operational Modal Decomposition Approach for MDOF Structures Using Multi-Channel Response Measurements*.” Period: September 2015 - August 2018. Degree classification: Excellent
3. Yiyuan LI (MSc 2017) Thesis: “*Direct Finite Element Model Updating Using Incomplete Modal Data Inspired from System Control*.” Period: September 2015 - June 2017. Degree classification: Excellent
4. Zhen HUANG (MSc 2016) Thesis: “*Application of Bayesian Approach on Ground Motion Attenuation Relationship for Wenchuan Earthquake*.” Period: September 2013 - December 2016. Degree classification: Excellent
5. Ke HUANG (MSc 2015) Thesis: “*Investigation on Directivity of the 2008 Wenchuan 8.0 Earthquake*.” Period: September 2013 - July 2015. Degree classification: Excellent
6. Kueng Hong LAI (MSc 2014, co-supervise with Prof. K.M. Mok) Thesis: “*Kalman filter based statistical model for predicting the 8-hr maximum ozone and daily PM10 in Macau*.” Period: September 2008 - July 2014. Degree classification: Very good
7. Ka-Man CHAO (MSc 2013, co-supervise with Prof. K.M. Mok) Thesis: “*Development of an efficient and robust air quality prediction system for ground-level ozone in Macau*.” Period: September 2011 - September 2013. Degree classification: Excellent
8. Rong-Rong XU (MSc 2013) Thesis: “*Application of Bayesian Probabilistic Approach on Ground Motion Attenuation Relations*.” Period: September 2011 - September 2013. Degree classification: Excellent
9. Peng-Fei LIANG (MSc 2013) Thesis: “*An Online Updating Algorithm for the Identification of Noise Parameters of Kalman Filter*.” Period: September 2010 – April 2013. Degree classification: Excellent
10. Lizhi ZHANG (MSc 2012) Thesis: “*Application of Bayesian Model Class Selection on Differential Problems in Geotechnical Engineering*.” Co-supervisor: Dr. W.M. Yan (University of Hong Kong) Period: September 2009 – August 2012. Degree classification: Excellent
11. He-Qing MU (MSc 2010) Thesis: “*Bayesian Model Class Selection on Regression Problems*.” Peiord: September 2008 – July 2010. Degree classification: Excellent
12. Lianfang HUANG (MSc 2009) Thesis: “*Dilatancy of Remoulded Fine-grained Soils.*” Co-supervisor: Dr. W.M. Yan (University of Hong Kong) Period: September 2007 – November 2009. Degree classification: Very good
13. Sin-Chi KUOK (MSc 2009) Thesis: “*Ambient Effects on Structural Health Monitoring of Buildings.*” Period: September 2007 – July 2009. Degree classification: Excellent. (This work represented the Department of CEE to participate the National Challenge Cup of China in 2009 and it received the first class award)
14. He ZHANG (MSc 2009) Thesis: “*Semi-active Control Algorithm and Simulation Analysis for Structural Protection Using MR Dampers.*” Period: September 2006 – July 2009. Degree classification: Excellent
15. Jia WANG (MSc 2006) Thesis: “*Reliability Analysis Using Saddlepoint Approximation.*” Co-supervisor: Dr. S.K. Au (City University of Hong Kong) Period: September 2004 – November 2006. Degree classification: Excellent

Current status: Lecturer, Hunan University; PhD, Hong Kong University of Science and Technology

1. Yuanfeng SHI (MSc 2004) Thesis: “*Reliability-based Semi-active Control Using MR Damper.*” Period: October 2002 – July 2004. Degree classification: Excellent

Current status: Associate Research Professor, Sichuan University; PhD, Hong Kong University of Science and Technology

* 1. **Other Factual Information about Teaching Performance**

My favorite teacher of Department of Civil and Environmental Engineering, election organized by FST student union (2008)

Ms. Le Dong (my PhD student) won the best presentation award in the 2nd Annual Conference of the State Key Laboratory of Internet of Things for Smart City, University of Macau, 16 November 2020.

Ms. Yiyuan Li (my MSc student) received full scholarship for PhD study at the Bristol Unviersity.

Mr. K.U. Lai (my final year project student co-supervised with Prof. K.M. Mok, graduated in 2014) received the ASCE best final year project Award in 2014.

Mr. H.Q. Mu (my PhD student) is recognized for his research and offered as visiting scholar at the University of California at Berkeley (September 2013 – August 2014).

Ms. S.C. Kuok (my PhD student) received the Award of Merit in the Paper Award Competition (2013) “Engineer our Future with Innovation and Excellence”, Control, Automation and Instrumentation Technology Division, The Hong Kong Institution of Engineers.

Ms. K. M. CHAO (my final year project student co-supervised with Prof. K.M. Mok, graduated in 2011) received the Second Class Award by the project “Modelling a Dynamic Air Quality System with Kalman Filter (基於卡爾曼濾波器的動態空氣品質系統建模)” in the 12th Challenge Cup – the National Extracurricular Science and Technology Competition for Undergraduate Students; Known as the "Olympics" of science and technology for Chinese college students (第十二屆“挑戰杯”全國大學生課外學術科技作品競賽; 被譽為當代中國大學生科技創新的“奧林匹克”盛會), October 16-19, 2011, Dalian University of Technology, Dalian, China

Mr. K.H. Cheong (my final year project student co-supervised with Prof. K.M. Mok, graduated in 2011) received the ASCE best final year project Award in 2011.

Ms. Y.J. Duan (my final year project student, graduated in 2011) received the Ocean Tech Award (best final year project). She received admissions from a number of renowned universities, such as UCLA, University of Michigan and Duke University. She finally enrolled the master program at UCLA.

Ms. K.M. Chao (my final year project student co-supervised with Prof. K.M. Mok, graduated in 2011) obtained the second prize in the National Challenge Cup 2011 for the project of her final year research under my supervision.

Mr. H.Q. Mu (my PhD student) received the student paper award from the 8th National Civil Engineering Forum for Graduate Students, Zhejiang University, November 2010.

Mr. M.H. Pun (my final year project student co-supervised with Prof. K.M. Mok, graduated in 2010) received the ASCE best final year project Award.

Mr. H.Q. Mu (my master student, graduated in 2010) is recognized for his research and offered as visiting student researcher at the California Institute of Technology (January 2010 – July 2010).

Ms. S.C. Kuok (my master student, graduated in 2009) obtained the first prize in the National Challenge Cup 2009 for the project of her master thesis research under my supervision.

Mr. H.Q. Mu (my final year project student, graduated in 2008) received the Ocean Tech Award (best final year project).

Mr. K.I. Hoi (my doctorate student co-supervised with Prof. K.M. Mok, graduated in 2010) received two awards for his doctorate research:

1. Second Class Prize of the Best Paper Award (2008), 1st Nanshan District Academic Forum of PhD Candidates’ from ShenZhen, Hong Kong, Macau and Taiwan in conjunction with the 196th Tsinghua Forum for Doctoral Candidates, November 28-29, 2008, ShenZhen, China.
2. EPMESC X Student Paper Competition Award (2006), 10th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC X), August 21-23, Sanya, China
3. **Research and Publications**
   1. **External Grants and Contracts**

*Since 2002, Prof. Yuen’s successful rate in the application of internal UM research funding or Macao government research funding (FDCT) is 100% as PI, co-PI or Co-I.*

1. Bayesian time-varying approach for modal identification and long-term evolution analysis for bridges subject to complex operational environments

複雜運營環境下橋樑結構時變隨機動力特性識別演算法及其長期演化機制研究

W.J. Yan and **K.-V. Yuen (Co-PI)**

017/2020/A1, FDCT Science and Technology Development Fund, Macau

Duration: September 2020 – August 2022

Budget: MOP 1,157,000

1. Bayesian dual-rate structural model updating for large structures with wireless sensing

貝葉斯雙時步無線傳感大型結構模型更新

**K.-V. Yuen (PI)**

019/2016/A1, FDCT Science and Technology Development Fund, Macau

Duration: October 2016 – October 2019

Budget: MOP 1,044,000

1. Structural condition prognosis of bridges using long-term structural health monitoring data and Bayesian updating

Y.Q. Ni, and **K.-V. Yuen (Co-I)**

PolyU152241/15E, GRF, Research Grant Council, Hong Kong

Duration: January 2016 – December 2018

Budget: HKD 695,788

1. Development of “a multi-scale air pollution modeling system” (all-in-one) for urban areas of Macau

澳門城區之多尺度空氣污染模擬系統開發

K.M. Mok, Ana Isabel Miranda, **K.-V. Yuen (co-PI)** and C. Borrego

FDCT/079/2013/A3, FDCT Science and Technology Development Fund, Macau

Duration: June 2014 – June 2017

Budget: MOP 1,499,900

1. On the online identification for structural health monitoring

在線識別中的一些問題及其在結構健康監測之應用

**K.-V. Yuen (PI)**

FDCT/012/2013/A, FDCT Science and Technology Development Fund, Macau

Duration: October 2013 – October 2016

Budget: MOP 1,228,000

1. Development of a rational dynamic model for modeling the ground-level ozone concentrations of Macau

K.M. Mok, and **K.-V. Yuen (PI)**

025/2011/A, FDCT Science and Technology Development Fund, Macau

Duration: August 2011 – August 2013

Budget: MOP 352,000

1. Monitoring Air Quality in Macau Using Mobile In-situ Platform

K.M. Mok, **K.-V. Yuen** **(Co-PI)**, K.I. Hoi, S.W. Chang, C. S. Mak, and T. C. Mok

FDCT Science and Technology Development Fund, Macau

Duration: January 2009 – December 2009

Budget: MOP 498,000

1. Development of Standardized Wireless System for Health Monitoring of Typical Pedestrian, Highway and Railway Bridges

L.S. Katafygiotis, and **K.-V. Yuen (Co-I)**

HKUST630203, RGC Competitive Earmarked Research Grant, Hong Kong

Duration: September 2006 – December 2009

Budget: HKD 720,833

1. Air Quality Prediction by an Efficiency-Robustness Tradeoff Adaptive Model

K.M. Mok, and **K.-V. Yuen (PI)**

052/2005/A, FDCT Science and Technology Development Fund, Macau

Duration: January 2006 – December 2008

Budget: MOP 640,000

1. Structural Health Monitoring Using Measured Ritz Vectors Following the Pattern Recognition Approach, H.-F. Lam, J. L. Beck, **K.-V. Yuen (Co-I)** and M. Veidt

Strategic Research Grant (7001831), City University of Hong Kong

Duration: September 2005 – August 2007

Budget: HKD 180,000

1. Novel Algorithms for Calculating the Reliability of Complex Dynamic Systems with Applications in Seismic Analysis and Structural Optimization

L.S. Katafygiotis, S.K. Au, C.M. Chan, J. Ching, and **K.-V. Yuen (Co-I)**

HKUST 614305, RGC Competitive Earmarked Research Grant, Hong Kong

Duration: September 2005 – December 2006

Budget: HKD 359,224

1. Development of Novel Simulation Methods for Reliability-based Seismic Analysis and Design of Structures, L.S. Katafygiotis, S.-K. Au, C.-M. Chan, and **K.-V. Yuen (Co-I)**

HKUST630203, RGC Competitive Earmarked Research Grant, Hong Kong

Duration: September 2003 – September 2006

Budget: HKD 324,000

1. Long-Term Structural Health Monitoring for the Steel Roof structure of the Tap Seac Multi-sportive Pavilion, as **Engineering advisor**

Duration: August 2004 - July 2006

Budget: MOP 350,000

1. A Bayesian Probabilistic Method for the Design of Artificial Neural Networks & its Applications in Structural Health Monitoring Utilizing Dynamic Measurement

H.-F. Lam, and **K.-V. Yuen (Co-I)**

Direct Allocation Grant (7100296), City University of Hong Kong

Duration: October 2003 - September 2004

Budget: HKD 81,646

* 1. **Internal Grants and Contracts**

*Since 2002, Prof. Yuen’s successful rate in the application of internal UM research funding or Macao government research funding (FDCT) is 100% as PI, co-PI or Co-I.*

1. Adaptive Machine Learning Method for Disaster Mitigation

針對災害防治的自適應機器學習方法

CPG2025-00025-FST

**K.V. Yuen (PI)**

Duration: January 2025 – December 2025

Budget: MOP 242,500

1. Health Monitoring and Conservation for Macao Heritage

澳門文物健康監測及保護

SKL-IOTSC/YKV/001/2024

**K.V. Yuen (PI)**

Duration: June 2024 – May 2027

1. Simultaneous Identification of Vehicle Loads, Vehicle Speed and Structural Health Indicators for Bridges Using Vibration and Image Fused Data

基於振動和圖像融合數據的車載, 車速和橋樑健康指標識別

CPG2024-00010-FST

**K.V. Yuen (PI)**

Duration: January 2024 – December 2024

Budget: MOP 350,000

1. Health Monitoring of High Speed Railway by Using Heterogeneous Data

基於異構數據的高鐵軌道健康監測

CPG2023-00021-FST

**K.V. Yuen (PI)**

Duration: January 2023 – December 2023

Budget: MOP 350,000

1. Feature Fusion Broad Learning with Applications Using Images, Vibration Signals and Remote Sensing Data

特徵融合寬度學習及其在圖像,振動信號和遙感數據之應用

CPG2022-00003-FST

**K.V. Yuen (PI)**

Duration: January 2022 – December 2022

Budget: MOP 350,000

1. Bayesian General Regression Neural Network with Non-uniform and Missing Data

基於不均勻且有遺漏數據的貝業斯廣義迥歸神經網絡

CPG2021-00001-FST

**K.V. Yuen (PI)**

Duration: January 2021 – December 2021

Budget: MOP 245,000

1. Intelligent Nondestructive Testing Technologies for Composite Structures based on Hierarchical Bayesian Learning Scheme and Advanced Modelling of Ultrasonic Wave Interaction with Nonlinear Damage

MYRG2020-00073-IOTSC

W.J. Yan and **K.V. Yuen (Co-I)**

Duration: January 2022 – December 2023

Budget: MOP 200,000

1. Development of Bayesian Machine Learning Methods for Structural Response Reconstruction and Structural Vibration Control

CPG2020-00001-FST

**K.V. Yuen (PI)**

Duration: January 2020 – December 2020

Budget: MOP 350,000

1. Bayesian Machine Learning Methods for Structural Model Updating

CPG2019-00023-FST

**K.V. Yuen (PI)**

Duration: January 2019 – December 2019

Budget: MOP 349,000

1. Hierarchical Wireless Sensor Network Design for Structural Health Monitoring

MYRG2018-00048-AAO

**K.V. Yuen (PI)** and S.C. Kuok

Duration: January 2019 – December 2021

Budget: MOP 603,500

1. Real-time Structural Model Updating Using Adaptive Model Classes

MYRG2016-00029-FST

**K.V. Yuen (PI)**

Duration: January 2017 – December 2019

Budget: MOP 1,348,000

1. Development of Robust Earthquake Early Warning System

MYRG2015-00048-FST

**K.V. Yuen (PI)** and H.Q. Mu

Duration: April 2015 – March 2018

Budget: MOP 964,960

1. Development of an Hybrid Operational Air Pollution Forecasting (H.O.P.E.) System

MYRG2014-00038-FST

K.M. Mok, Ana Isabel Miranda and **K.-V. Yuen (co-PI)**

Duration: April 2014 - March 2017

Budget: MOP 1,216,800

1. Online Structural Identification with Consideration of Outliers

MYRG081(Y1-L2)-FST13-YKV

**K.-V. Yuen (PI)**

Duration: September 2013-December 2015

Budget: MOP 581,000

1. Hydraulic Conductivity and Correlations of Completely Decomposed Granite Soil

MYRG189(Y1-L3)-FST11-ZWH

W.H. Zhou and **K.-V. Yuen (co-PI)**

Duration: June 2011 – May 2014

Budget: MOP 1,302,000

1. Continuous Structural Health Monitoring under Ambient Interference

RG059/09-10S/YKV/FST, RG059/09-10S/11R/YKV/FST

**K.-V. Yuen (PI)**

Duration: January 2010 - December 2011

Budget: MOP 333,560

1. Development of an Operational Air Quality Management System

RG-UL/07-08S/Y0/MKM/FST, UL019/08-Y3/CEE/MKM01/FST, UL019/08-Y4/CEE/MKM01/FST

K.M. Mok and **K.-V. Yuen (co-PI)**

Duration: January 2008 - December 2010

Budget: MOP 695,360

1. On the Seismic Attenuation Relationship in China

RG077/07-08S/YKV/FST UMAC, RG077/07-08S/09R/YKV/FST

**K.-V. Yuen (PI)**

Duration: January 2008 - December 2009

Budget: MOP 160,560

1. Efficient Reliability Methodology for High Dimensional Problems

RG074/05-06S/YKV/FST UMAC, RG074/05-06S/07R/YKV/FST

**K.-V. Yuen (PI)**, S.K. Au and H.F. Lam

Duration: January 2006 - December 2007

Budget: MOP 204,600

1. A Backward Mapping from the Incomplete Noisy Modal Space to the Physical Coordinate Space with Applications to Damage Detection

RG068/04-05S/YKV/FST UMAC, RG075/05-06S/YKV/FST UMAC

**K.-V. Yuen (PI)**

Duration: January 2005 - December 2006

Budget: MOP 180,400

1. A Novel Sub-structuring Approach for Structural Health Monitoring

RG097/03-04S/YKV/FST UMAC, RG021/04-05S/C74/YKV/FST UMAC

**K.-V. Yuen (PI)**

Duration: January 2004 - December 2005

Budget: MOP 64,600

1. Stochastic Robust Semi-active Control for Dynamical Systems

RG030/02-03S/YKV/FST UMAC, RG020/03-04S/YKV/FST UMAC

**K.-V. Yuen (PI)**

Duration: January 2003 - December 2004

Budget: MOP 89,908

1. Structural Health Monitoring without Excitation Measurements

RG007/02-03W/YKV/FST UMAC, RG007/02-03W(S)/C38/YKV/FST UMAC

**K.-V. Yuen (PI)**

Duration: November 2002 - December 2003

Budget: MOP 37,600

* 1. **Publications**

###### A. Authored Book

1. **Yuen, K.-V.** (2010). “*Bayesian Methods for Structural Dynamics and Civil Engineering.*” (294 pages) John Wiley & Sons, ISBN: 978-0-470-82454-2. (Blindly reviewed)
2. Zhou, W.H., Yin, Z.Y., and **Yuen, K.-V.** (2021). “*Practice of Bayesian Probability Theory in Geotechnical Engineering*.” Springer, ISBN 978-981-15-9104-4. (Blindly reviewed)
3. Li, Y.J., Hoi, K.I., Mok, K.M., and **Yuen, K.-V.** (2023). “*Air Quality Monitoring and Advanced Bayesian Modeling*.” Elsevier, ISBN 978-032-39-0266-3. (Blindly reviewed)
4. Huang, K, and **Yuen, K.-V.** (2023). “*Bayesian Real-time System Identification: From Centralized to Distributed Approach*.” Springer Nature, ISBN-13: 9789819905928. (Blindly reviewed)

###### B. Refereed Book Chapters

1. Zhang, Y.#, and **Yuen, K.-V.** (2021). “Applications of Deep Learning in Intelligent Construction*.*” In *Structural Health Monitoring Based on Data Science Techniques*, Springer, pp. 227-245, DOI : 10.1007/978-3-030-81716-9. (Blindly reviewed)
2. Huang, K.#, and **Yuen, K.-V.** (2021). “Advances in Online Decentralized Structural Identification*.*” In *Reliability-Based Analysis and Design of Structures and Infrastructure*(Eds. Ehsan Noroozinejad Farsangi, Mohammad Noori, Paolo Gardoni, Izuru Takewaki, Humberto Varum, Aleksandra Bogdanovic), CRC Press, eBook ISBN 9781003194613, pp. 301-314. (Blindly reviewed)
3. Shi, Y.F.#, and **Yuen, K.-V.** (2021). “Reliability-Based Structural Vibration Control*.*” In *Reliability-Based Analysis and Design of Structures and Infrastructure*(Eds. Ehsan Noroozinejad Farsangi, Mohammad Noori, Paolo Gardoni, Izuru Takewaki, Humberto Varum, Aleksandra Bogdanovic), CRC Press, eBook ISBN 9781003194613, pp. 13-30. (Blindly reviewed)
4. Ng, I.T., and **Yuen, K.-V.** (2015). “Prediction of California Bearing Ratio (CBR) for Pavement Subgrade Soils in Saturated and Unsaturated Conditions*.*” In *Advances in Environmental Research* (Ed. Justin A. Daniels), Nova Science Publishers, Volume 38, ISBN: 978-1-63482-245-9, pp. 1-16. (Blindly reviewed)
5. **Yuen, K.-V.** (2015). “*Advances in Online Structural Identification.*” *Encyclopedia of Earthquake Engineering,* Springer, DOI 10.1007/978-3-642-36197-5\_84-1, pp. 20-33 pages. (Blindly reviewed)
6. Kuok, S.C.#, and **Yuen, K.-V.** (2014). “*Wind Characteristics of Severe Typhoon and Wind-induced Structural Behavior of Reinforced Concrete Building in Bayesian Perspective.*” Chapter 3 in *Natural Disasters – Typhoons and Landslides: Risk Prediction, Crisis Management and Environment Impacts* (Ed. Karina Linwood), Nova Science Publishers, New York, ISBN: 978-1-63463-309-3, pp. 99-118. (Blindly reviewed)
7. **Yuen, K.-V.**, and Kuok, S.C.# (2013). “*System Identification and Control in Structural Engineering.*” In Civil Engineering, (Eds. UNESCO-EOLSS Joint Committee) in *Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, United Nations, Paris, France*. (Blindly reviewed)
8. **Yuen, K.-V.**, and Kuok, S.C.# (2010). “*Monitoring a 22-story Building under Severe Typhoons with Bayesian Spectral Density Approach.*” Chapter 9 in *Engineering Physics and Mechanics: Analyses, Prediction and Applications* (Eds. Sosa and Franco), Nova Science Publishers, New York, ISBN: 978-1-60876-227-9, pp. 509-533. (Blindly reviewed)
9. **Yuen, K.-V.**, and Mu, H.Q.# (2009). “*On the Seismic Attenuation with Consideration of the Prediction Model Complexity*.” Chapter 5 in *Earthquake Engineering: New Research* (Eds. Miura and Ikeda), Nova Science Publishers, New York, ISBN: 978-1-60456-736-6, pp. 135-153. (Blindly reviewed)

###### C. Keynote Papers

1. **Yuen, K.-V.**, and Mu, H.-Q.# (2014). “*A Novel Online Algorithm for Simultaneous Data Cleansing and Robust Damage Detection*.” Invited paper in CD-ROM proceedings of 5th Asia-Pacific Workshop on Structural Health Monitoring Conference (AWPSHM 2014), Shenzhen, China, December 4-5 2014.
2. **Yuen, K.-V.**, Mu, H.-Q.# and Kuok, S.-C.# (2014). “*Towards Robust Real-time System.*” Keynote lecture. In Search of Mindset for Change for Control, Automation and Instrumentation New Technologies. Proceedings of 2013/2014 Annual Symposium “In Search of Mindset of Change for Control, Automation and Instrumentation New Technologies” (ISBN 978-962-7619-61-1), Hong Kong Polytechnic University, pp.25-36.
3. **Yuen, K.-V.** (2011). “*Robust Engineering System towards Sustainable Development.*” Invited lecture. Proceedings 2010/2011 Annual Symposium on Control, Automation and Instrumentation Systems for Sustainable Development, Hong Kong Polytechnic University, pp. 1-12.
4. **Yuen, K.-V.** (2010). “*Philosophical Thoughts on Model Class Selection in Inverse Problems.*” Keynote lecture. CD-ROM Proceedings of the 8th National Civil engineering Forum for Graduates Students, Hangzhou, China.
5. **Yuen, K.-V.** (2006). “*An Extremely Efficient Finite-Element Model Updating Methodology with Applications to Damage Detection*.” Semi-plenary lecture. In Computational Methods in Engineering & Science, Tsinghua University Press & Springer, pp. 139-152. CD-ROM Proceedings of the Tenth International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC X), Sanya, Hainan, China.
6. **Yuen, K.-V.** (2005). “*Bayesian Model Class Selection and Dynamic Condensation for Monitoring Large Structures*.” CD-ROM Proc. National Symposium on Structural Dynamics 2005, Haikou, Hainan, China.

###### D. International Refereed Journal Papers (Published, in press or accepted)

###### (#: Students supervised or co-supervised by K. V. Yuen)

1. Zhan, J., Yan, W.J., Wu, W., **Yuen, K.-V.**, and Chronopoulos, D. (2025). “*Two-Stage Fast Bayesian Inference for Rail Model Updating and Crack Detection with Ultrasonic Guided Wave Measurements and Advanced Wave Propagation Simulation*.” Journal of Sound and Vibration, in press.
2. Mei, L.F.#, Yan, W.J., **Yuen, K.-V.**, Wang, Q., and Wang, H. (2025). “*Uncertainty-aware Structural Anomaly Detection under Varying Environmental Conditions Based on Bayesian Nonparametric Density Estimation-guided Probabilistic Damage Index*.” ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, in press.
3. Xiao, Z., Rau, J., Eisentrager, S., **Yuen, K.-V.**, and Ali Hadigheh, S. (2025). “*Generative Adversarial Network-based Ultrasonic Full Waveform Inversion for High-density Polyethylene Structures*.” Mechanical Systems and Signal Processing, in press.
4. Ding, Z.#, Kuok, S.C., Lei, Y., Li, Y., Yu, Y, Zhang, G., Hu, S., and **Yuen, K.-V.** (2025). “*Clustering Driven Incremental Learning Surrogate Model-assisted Evolution for Structural Condition Assessment*.” Mechanical Systems and Signal Processing, in press.
5. Zhou, M., Ye, G.#, **Yuen, K.-V.**, Yu, W., and Jin, Q. (2024). “*A Graph Attention Reasoning Model for Prefabricated Component Detection*.” Computer-aided Civil and Infrastructure Engineering, in press.
6. Guo, H.Z.#, **Yuen, K.-V.**, and Mu, H.Q. (2024). “*Real-time Bayesian Axle Load Estimation and Structural Identification of Railway Bridges under Train Loads based on Strain Monitoring*.” Engineering Structures, in press.
7. Mo, J., Yan, W.J., and **Yuen, K.-V.**, and Beer, M. (2024). “*Efficient Non-probabilistic Parallel Model Updating Based on Analytical Correlation Propagation Formula and Derivative-aware Deep Network Metamodel*.” Computer Methods in Applied Mechanics and Engineering, in press.
8. Yin, T., **Yuen, K.-V.**, and Zhu, H.P. (2024). “*A Novel Bayesian Framework for Time-Domain Operational Multi-setup Modal Analysis: Theory and Parallelization*.” Engineering Structures, in press.
9. Ye, G.#, **Yuen, K.-V.**, Jin, Q., Zhou, M., Yin, C., Jiang, Q, Zhao, S., and Su, W. (2024). “*Evaluation Method for Uniformity of Steel Slag Concrete Aggregate Based on Improved YOLOv8*.” Journal of Building Engineering, in press.
10. Du, J.#, **Yuen, K.-V.**, Whittle, A. J., Hu, L., Divoux, T., and Meegoda, J. N. (2024). “*Characterization of Mechanical Properties of Shale Constituent Minerals Using Phase-identified Nanoindentation*.” Computer-aided Civil and Infrastructure Engineering, in press.
11. Hao, X.H.#, Kuok, S.C.#, and **Yuen, K.-V.** (2024). “*Robust Wireless Sensor Network Configuration Design for Structural Health Monitoring with Optimal Information-Energy Tradeoff*.” Smart Structures and Systems, in press.
12. Kuok, S.C.#, **Yuen, K.-V.**, Dodwell, T., and Girolami, M.A. (2024). “*Generative broad Bayesian (GBB) imputer for missing data imputation with uncertainty quantification*.” Structural Health Monitoring, in press.
13. **Yuen, K.-V.** and Kuok, S.C. (2025). “*Telescopic Broad Bayesian Learning for Big Data Stream*.” Computer-aided Civil and Infrastructure Engineering, 40(1), 33-53.
14. Liu, Y.S.#, Yan, W.J., **Yuen, K.-V.** and Zhou, W.H. (2024). “*Element-wise Parallel Learning for Structural Damage Detection by Leveraging Physical Properties of Long-Gauge Strain Transmissibility under Moving Loads*.” Mechanical Systems and Signal Processing, in press.
15. Hu, X. #, Wen, H., Zhang, P., **Yuen, K.-V.**, and Zhong, P. (2024). “*Near Real-Time Burned Area Progression Mapping with Multi-Spectral Data Using Ensemble Learning*.” IEEE Geoscience and Remote Sensing Letters, in press.
16. Hu, X. #, Liu, W., Wen, H., **Yuen, K.-V.**, Jin, T., Junior, A., and Zhong, P. (2024). “*A SAF-Net: An Active Fire Detection Model Using Improved Object-Contextual Representations on Unbalanced UAV Datasets*.” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, in press.
17. Zhang, W.J.#, **Yuen, K.-V.** and Yan, W.J. (2024). “*Two-stage nonparametric framework for missing data imputation, uncertainty quantification and incorporation in system identification*.” Computer-aided Civil and Infrastructure Engineering, 39(19), 2881-2902.
18. **Yuen, K.-V.**, Zhao, Z.T.#, Mu, H.Q.#, and Shao, W. (2024). “*Analytical Bayesian Copula-based Uncertainty Quantification (A-BASIC-UQ) Using Data with Missing Values in Structural Health Monitoring*.” Structural Control and Health Monitoring, in press.
19. Ding, Z. #, Kuok, S.C., Lei, Y., Yu, Y, Zhang, G., Hu, S., and **Yuen, K.-V.** (2025). “*A* *Novel Bayesian Empowered Piecewise Multi-objective Sparse Evolution for Structural Condition Assessment*.” International Journal of Structural Stability and Dynamics, in press.
20. Peng, X. #, Zhou, Y., Sun, Z., and **Yuen, K.-V.** (2024). “*Pose Stabilization Control for Actuator Delayed Rigid Body Dynamics on SE(3) with Predicted Feedback*.” Journal of the Franklin Institute, in press.
21. Huang, K.#, **Yuen, K.-V.**, Wang, L., and Ma, Y. (2024). “*Online Operational Modal Decomposition*.” Mechanical Systems and Signal Processing, 214, 111376.
22. Peng, X. #, Zhang, Z., Zhang, A., and **Yuen, K.-V.** (2024). “*Anti-Saturation Backstepping Control for Quadrotor Slung Load System with Fixed-Time Prescribed Performance*.” IEEE Transactions on Aerospace and Electronic Systems, 60(4), 4170-4181.
23. Mu, H.Q.#, Zhao, Z.T.#, and **Yuen, K.-V.** (2024). “*Characterizing Multivariate, Asymmetric, and Multimodal Distributions of Geotechnical Data with dual-stage missing values: BASIC-H*.” Georisk, 18(1), 85-106.
24. Yuan, P.#, **Yuen, K.-V.**, Beer, M., Cai, C.S., and Yan, W.J. (2024). “*A Non-iterative Partitioned Computational Method with the Energy Conservation Property for Time-variant Dynamic Systems*.” Mechanical Systems and Signal Processing, 209, 111105.
25. Zhao, Z.T.#, Mu, H.Q.#, and **Yuen, K.-V.** (2024). “*Probability Density Function Modelling and Credible Region Construction for Multivariate, Asymmetric, and Multimodal Distributions of Geotechnical Data*.” Structural Safety, 107, 102429.
26. Wang, Z.C., Gao, P.X., Zhou, Z.D., Tijsseling, A., Qu, Y.Z., Yan, W.J., **Yuen, K.-V.**, and Cheng, S.S. (2024). “*A Numerically Stable Flexural Dynamics Model of Complex Multi-span Fluid-conveying Pipes with Flexible Components and its Application to Clamp Stiffness Identification*.” Thin-Walled Structures. 195, 111488.
27. Peng, X. #, Yi, R., Sun, Z., and **Yuen, K.-V.** (2024). “*Target Enclosing Control for Fixed-wing Unmanned Aerial Vehicle in Three Dimensional Space an Attractive Vector Approach*.” Journal of the Franklin Institute, 361(2), 1010-1022.
28. Kuok, S.C.#, and **Yuen, K.-V.**, and (2024). “*Bayesian Synergistic Metamodeling (BSM) for Physical Information Infused Data-driven Metamodeling*.” Computer Methods in Applied Mechanics and Engineering, 419, 116680.
29. Sarmardi, H., Entezami, A., **Yuen, K.-V.**, and Behkamal, B. (2024). “*Review on Smartphone Sensing Technology for Structural Health Monitoring*.” Measurement, 223, 113716.
30. Lopez, D., Ferreira, J., Rafael, S., Hoi, K.I., Li, X., Liu, Y., **Yuen, K.-V.**, Mok, K.M., and Miranda, A. (2024). “*High-resolution Multi-scale Air Pollution System: Evaluation of Modelling Performance and Emission Control Strategies*.” Journal of Environmental Sciences, 137, 65-81.
31. **Yuen, K.-V.**, Guo, H.Z.#, and Mu, H.Q.# (2023). “*Bayesian Vehicle Load Estimation, Vehicle Position Tracking and Structural Identification for Bridges with Strain Measurement*.” Structural Control and Health Monitoring, Volume 2023, Article ID 4752776.
32. Zhang, W.J.#, **Yuen, K.-V.** and Yan, W.J. (2023). “*Active Learning Aided Bayesian Nonparametric General Regression for Model Updating Using Modal Data*.” Mechanical Systems and Signal Processing, 204, 110830.
33. Ding, Z.#, Yu, Y., Tan, D. and **Yuen, K.-V.** (2023). “*Adaptive Vision Feature Extractions and Reinforced Learning-assisted Evolution for Structural Condition Assessment*.” Structural and Multidisciplinary Optimization, in press.
34. Mei, L.F.#, Yan, W.J., **Yuen, K.-V.**, Ren, W.X., and Beer, M. (2023). “*Transmissibility-based Damage Detection with Hierarchical Clustering Enhanced by Multivariate Probabilistic Distance Accommodating Uncertainty and Correlation*.” Mechanical Systems and Signal Processing, in press.
35. Yan, X.#, Yan, W.J., Xu, Y., and **Yuen, K.-V.** (2023). “*Machinery Multi-sensor Fault Diagnosis based on Adaptive Multivariate Feature Mode Decomposition and Multi-attention Fusion Residual Convolutional Neural Network*.” Mechanical Systems and Signal Processing, in press.
36. Zhang, Y.#, Zhang, R.F., and **Yuen, K.-V.** (2023). “*Neural Network-based Analytical Solver for Fokker-Planck Equation*.” Engineering Applications of Artificial Intelligence, in press.
37. Wang, Z.C., Yan, W.J., and **Yuen, K.-V.**, (2023). “*A Transfer Matrix Method-based Closed-form Solution of Sensitivities of Dynamic Properties and FRF for Multi-span Pipes under Complex Boundary*.” Mechanical Systems and Signal Processing, in press.
38. Wang, S.#, **Yuen, K.-V.**, Yang, X.F. and Zhang, Y. (2023). “*Tropical Cyclogenesis Detection from Remotely Sensed Sea Surface Winds Using Graphical and Statistical Features-based Broad Learning System*.” IEEE Transactions on Geoscience and Remote Sensing, vol. 61, pp. 1-15, 2023, Art no. 4203815.
39. Yang, D.#, **Yuen, K.-V.**, Gu, X. Sun, C., and Gao, L. (2023). “*Influences of Environmental Factors on the Dissipation of Green Tides in the Yellow Sea, China*.” Marine Pollution Bulletin, 189, 114737.
40. Daneshvar, M.H., Sarmardi, H., and **Yuen, K.-V.** (2023). “*A Locally Unsupervised Hybrid Learning Method for Removing Environmental Effects under Different Measurement Periods*.” Measurement, 208, 112465.
41. Zhang, Y.#, and **Yuen, K.-V.** (2023). “*Time-frequency Fusion Features-based Incremental Network for Smartphone Measured Structural Seismic Response Classification*.” Engineering Structures, 278, 115575.
42. Jia, X., Yan, W.J., Papadimitriou, C., and **Yuen, K.-V.** (2023). “*An Analytically Tractable Solution for Hierarchical Bayesian Model Updating with Variational Inference Scheme*.” Mechanical Systems and Signal Processing, 189, 110060.
43. **Yuen, K.-V.**, Zhang, W.J.# and Yan, W.J. (2023). “*Bayesian Nonparametric General Regression with Adaptive Kernel Bandwidth and its Application to Seismic Attenuation*.” Advanced Engineering Informatics, 55, 101859.
44. Mo, J., Yan, W.J., **Yuen, K.-V.**, and Beer, M. (2023). “*Efficient Inner-Outer Decoupling Scheme for Non-probabilistic Model Updating with High Dimensional Model Representation and Chebyshev Approximation*.” Mechanical Systems and Signal Processing, 188, 110040.
45. Yan, X., Yan, W.J., **Yuen, K.-V.**, Yang, Z.X. and Wang, X. (2023). “*An Adaptive Variational Mode Extraction Method based on Multi-domain and Multi-objective Optimization for Bearing Fault Diagnosis*.” Structural Health Monitoring, 22(4), 2708-2733.
46. Liu, J.-Q. #, **Yuen, K.-V.**, Ke, J.-F. and Chen, W.-Z. (2023). “*Developing a Prediction Model for Segment Joint Opening in an Underwater Shield Tunnel*.” Marine Georesources & Geotechnology, 41:2, 132-141.
47. Mei, L.F., Yan, W.J., **Yuen, K.-V.**, and Beer, M. (2023). “*Structural Novelty Detection Based on Laplace Asymptotic Expansion of the Bhattacharyya Distance of Transmissibility Function and Bayesian Resampling Scheme*.” Journal of Sound and Vibration, 540, Article Number 117277.
48. Wang, S.#, Yang, X.F., Portabella, M., **Yuen, K.-V.**, Zhang, M. and Du, Y. (2022). “*A SAR-based Parametric Model for Tropical Cyclone Tangential Wind Speed Estimation*.” IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 15, 8806-8818.
49. Hao, X.H.#, Kuok, S.C.#, and **Yuen, K.-V.** (2022). “*Wireless Sensor Network Design for Large-scale Infrastructures Health Monitoring with Optimal Information-lifespan Tradeoff*.” Smart Structures and Systems, in press.
50. Wang, S.#, **Yuen, K.-V.**, Yang, X.F. and Zhang, B. (2022). “*A Nonparametric Tropical Cyclone Wind Speed Estimation Model Based on Dual-Polarization SAR Observations*.” IEEE Transactions on Geoscience and Remote Sensing, 60, Article Number 4208213.
51. Zhang, Y.#, and **Yuen, K.-V.** (2022). “*Physically Guided Deep Learning Solver for Time-dependent Fokker-Planck Equation*.” International Journal of Nonlinear Mechanics, 147, Article Number 104202.
52. Hao, X.H.#, **Yuen, K.-V.**, andKuok, S.C.# (2022). “*Energy-aware Versatile Wireless Sensor Network Configuration for Structural Health Monitoring*.” Structural Control and Health Monitoring, 29(11), e3083.
53. Chen, Z., Zhao, L., Yan, W.J. **Yuen, K.-V.**, and Wu, C. (2023). “*A Statistical Influence Line Identification Method Using Bayesian Regularization and a Polynomial Interpolating Function*.” Structural Control and Health Monitoring, in press.
54. Zhang, Y.#, and **Yuen, K.-V.** (2022). “*Review of Artificial Intelligence-based Bridge Damage Detection*.” Advances in Mechanical Engineering, 14(9), Article Number 16878132221122770.
55. Li, L., Tao, J.C., Zhang, Y.#, Sun, X.H., **Yuen, K.-V.**, and You, P.B. (2022). “*Crack Fractal Analysis of Fractured Polyethylene Fiber Reinforced Alkali Activated Mortar under Flexural Load*.” Construction and Building Materials, 345, Article Number 128428.
56. Zhang, Y.#, Wang, T., and **Yuen, K.-V.** (2022). “*Construction Site Information Decentralized Management Using Blockchain and Smart Contracts*.” Computer-aided Civil and Infrastructure Engineering, 37(11), 1450-1467.
57. Pan, H.R.#, **Yuen, K.-V.**, and Kusunoki, K. (2022). “Displacement estimation for nonlinear structures using seismic acceleration response data.” Journal of Earthquake Engineering, in press.
58. **Yuen, K.-V.**, Liu, Y.S.# and Yan, W.J. (2022). “*Estimation of Time-varying Noise Parameters for Unscented Kalman Filter*.” Mechanical Systems and Signal Processing, 180, 109439.
59. Zhang, Y.#, **Yuen, K.-V.**, **Mousavi**, M., and Gandomi, A.H. (2022). “*Timber Damage Identification Using Dynamic Broad Network and Ultrasonic Signals*.” Engineering Structures, 263, 114418.
60. Yan, W.J., Hao, T.-T., **Yuen, K.-V.**, and Papadimitriou, C. (2022). “*Monitoring Gross Vehicle Weight and Influence Line-free Bridge Weight-in-motion Scheme Based on a Transmissibility-like Index*.” Mechanical Systems and Signal Processing, 177, 109133.
61. Yan, W.J., Feng, Z.-Q., Yang, W., and **Yuen, K.-V.** (2022). “*Bayesian Inference for the Dynamic Characteristics of Long-span Bridges Subject to Vortex-induced Vibration Based on Scanlan’s Model and Dense Optical Flow Scheme*.” Mechanical Systems and Signal Processing, 174, 109078.
62. Sarmardi, H., and **Yuen, K.-V.** (2022). “*Structural Health Monitoring by a Novel Probabilistic Machine Learning Method based on Extreme Value Theory and Mixture Quantile Modeling*.” Mechanical Systems and Signal Processing, 173, 109049.
63. Huang, K.#, **Yuen, K.-V.**, Wang, L., Jiang, T., and Dai, L. (2022). “*Sensor Fault Detection, Localization and Reconstruction for Online Structural Identification*.” Structural Control and Health Monitoring, 29(4), e2925.
64. Mu, H.Q., Shen, J.H., Zhao, Z.T.#, Liu, H.T., and **Yuen, K.-V.** (2022). “*A Novel Generative Approach for Modal Frequency Probabilistic Prediction under Varying Environmental Condition Using Incomplete Information*.” Engineering Structures, 252, 113571.
65. Wang, Z.C., Liu, M.Y., Yan, W.J., Song, H., Zhou, Z., **Yuen, K.-V.**, Ai, F.M., and Wei, Q. (2021). “*A Model-driven Scheme to Compensate the Strain-based Non-intrusive Dynamic Pressure Measurement for Hydraulic Pipe*.” IEEE Transaction on Instrumentation & Measurement, 70, 1011112.
66. **Yuen, K.-V.**, Hao, X.H.#, and Kuok, S.C.# (2022). “*Robust Sensor Placement for Structural Identification*.” Structural Control and Health Monitoring, 29(1), e2861.
67. Zhang, Y.#, and **Yuen, K.-V.** (2021). “*Crack Detection Using Fusion Features-based Broad Learning System and Image Processing*.” Computer-aided Civil and Infrastructure Engineering, 36(12), 1568-1584.
68. Huang, K.#, **Yuen, K.-V.**, and Wang, L. (2022). “*Real-time Simultaneous Input-state-parameter Estimation with Modulated Colored Noise Excitation*.” Mechanical Systems and Signal Processing, 165, 108378.
69. Kuok, S.C., **Yuen, K.-V.**, Girolami, M., and Roberts, S. (2022). “*Broad Learning Robust Semi-active Structural Control: a Nonparametric Approach*.” Mechanical Systems and Signal Processing, 162, 108012.
70. Yan, W.J., Chronopoulos, D., **Yuen, K.-V.**, and Zhu, Y.C. (2022). “*Structural Anomaly Detection Based on Probabilistic Distance Measures of Transmissibility Function and Statistical Threshold Selection Scheme*.” Mechanical Systems and Signal Processing, 162, 108009.
71. Zhu, H.#, Mi, J., Li, Y., **Yuen, K.-V.**, and Leung, H. (2022). “*VB-Kalman Based Localization for Connected Vehicles with Delayed and Lost Measurements: Theory and Experiments*.” IEEE Transaction on Mechatronics, 27(3), 1370-1378.
72. Zhang, Y.#, and **Yuen, K.-V.** (2022). “*Bolt Damage Identification based on Orientation-aware Center Point Estimation Network*.” Structural Health Monitoring, 21(2), 438-450.
73. Kuok, S.C.# and **Yuen, K.-V.** (2021). “*Broad Bayesian Learning (BBL) for Nonparametric Probabilistic Modeling with Optimized Architecture Configuration*.” Computer-aided Civil and Infrastructure Engineering, 36(10), 1270-1287.
74. Sarmardi, H. and **Yuen, K.-V.** (2021). “*Early Damage Detection by an Innovative Unsupervised Learning Method based on Kernel Null Space and Peak-over-threshold*.” Computer-aided Civil and Infrastructure Engineering, 36(9), 1150-1167.
75. Lopes, D., Ferreira, J., Hoi, K. I., **Yuen, K.-V.**, Mok, K. M., and Miranda A.I. (2021). “*Emission inventories and particulate matter air quality modelling over the Pearl River Delta region*.” International Journal of Environmental Research and Public Health, 18(8), 4155.
76. Hao, T.T.#, Wang, C.J., Yan, W.J., Ren, W.X., and **Yuen, K.-V.** (2021). “*Experimental Investigation on the Dynamic Responses of Vented Hydrogen Explosion in a 40-foot Container*.” International Journal of Hydrogen Energy, 46(36), 19229-19243.
77. Yan, W.J., Cao, S.Z., Ren, W.X., **Yuen, K.-V.**, Li, D., and Katafygiotis, L.S. (2021). “*Vectorization and Distributed Parallelization of Bayesian Model Updating based on a Multivariate Complex-Valued Probabilistic Model of Frequency Response Functions*.” Mechanical Systems and Signal Processing, 156, 107559.
78. Yang, X.H.#, and **Yuen, K.-V.** (2021). “*All-parameters Rayleigh Wave Inversion*.” Earthquake Engineering and Engineering Vibration, 20(2), 517-534.
79. **Yuen, K.-V.**, and Xu, L.S.# (2021). “*Efficiency enhancement of electromagnetic energy harvesters for high-rise buildings*.” Structural Control and Health Monitoring, 28(6), e2722.
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###### E. Refereed Conference Proceedings

1. Wang, S.#, Yang, X., and Yuen, K.-V. (2021). “*Estimating Tropical Cyclone Wind Speed with Bayesian Nonparametric General Regression.*” 43rd Photonics and Electromagnetics Research Symposium, Hangzhou, China.
2. Deng, Z.Z., Zhao, X., Ding, H.J.,, Deng, Y.S., Cao, X.Z. and Yuen, K.V. (2020). “*Pileup Scintillation Pulses Processing using Expectation Maximization Deconvolution* ” 2020 IEEE INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING, COMMUNICATIONS AND COMPUTING (IEEE ICSPCC 2020).
3. Hoi, K. I., Mok, K. M., Miranda, A. I., **Yuen, K.-V.**, Monteiro, A., Ribeiro, I. and Lopes, D. (2018). “*Adaptive Bias Correction of Numerical Air Quality Forecasts Using Parsimony Function*.” Cross-strait Enironmental Technology Innovation and Collaboration Young Scholars Forum, Hefei.
4. Lopes, D., Ferreira, J., **Yuen, K.-V.**, Hoi, K. I., Miranda, A. I., Mok, K. M. (2019). “*Development of A muLti-scaLe aIr pollutioN mOdelliNg systEm (ALL-IN-ONE)*.” 27th GLOREAM Workshop Book of Proceedings. Norrköping, Sweden.
5. Zhou, W. H., Zhao, L. S., Chen, G. M., **Yuen, K.-V.** (2018). “*3D Geologic Modeling with Borehole Data by General Regression Neural Network*.” Proceedings of the 6th International Symposium on Reliability Engineering and Risk Management (6ISRERM), Singapore.
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7. Zhu, H.#, Guo, B., **Yuen, K.-V.**, Leung, H. Li, Y. and Tian, Z. (2018). “*Joint Registration of Multiple Point Sets by Preserving Global and Local Structure*.” Proc. 2018 21st International Conference on Information Fusion (FUSION).
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9. Zhao, L.S.#, Zhou, W.H. and **Yuen, K.-V.** (2016). “*A Simplified Model for the Column-Supported Embankment System*.” (Abstract only) Proc. The 12th shanghai-Hong Kong Forum on Mechanics and its Applications, Hong Kong.
10. Hoi, K. I.#, **Yuen, K.-V.**, Mok, K. M., Miranda, A. I., Ribeiro, I. (07/2016). “*Comparison of the Offline and the Online Bias Correction of the WRF-EURAD in Porto, Portugal*.” Proceedings of the 8th International Congress on Environmental Modelling and Software. Toulouse.
11. Lopes, D.#, Ferreira, J., Hoi, K. I.#, Mok, K. M., Miranda, A. I., **Yuen, K. V.** (05/2016). WRF-CAMx Application to the Pearl River Delta Region. Proceedings of the 17th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes (HARMO 17). Budapest.
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19. Yan, W. M., and **Yuen, K.-V.** (2014). “*Application of Bayesian Probabilistic Method to Urban Infrastructure Development.*” In Proc. APCOM & ISCM 2013, Singapore.
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22. Zhou W.H., Tan F.# and **Yuen K.-V.** (2013). “*The Modified Fredlund and Xing Equation for the Soil-water Characteristic Curve*.” Proceedings of the 18th Southeast Asian geotechnical conference cum inaugural AGSSEA conference, 29 - 31 May 2013, Singapore. Advances in Geotechnical Infrastructure, Edited by C. F. Leung, S. H. Goh & R. F. Shen, Published by Research Publishing. Page 979-984.
23. **Yuen, K.-V.**, and Mu, H.-Q.# (2013). “*Outlier Detection Using the Outlier Probability for Robust Linear Regression.*” Proceedings of 59th World Statistics Congress, pp. 3994-3999. (Financial support was received from the Department of Statistics and Census Service of the Macao SAR Government.)
24. Kuok, S. C.#, and **Yuen, K.-V.** (2013). “*Bayesian Intelligent Structural Health Monitoring System: Theory and Implementation*.” Proceedings of HKIE Control, Automation and Instrumentation Division 2012/2013 Annual Symposium “CAI – Engineer Our Future with Innovation and Excellence,” City University of Hong Kong Press, ISBN 978-962-7619-59-8, pp. 85-93.
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43. Hoi, K. I.#, **Yuen, K.-V.**, and Mok, K. M. (2007). “*Statistical Modelling of Summertime PM10 Concentrations in Macau by Using Kalman Filter.*” Proc. APCOM’07 in conjunction with EPMESC XI, Kyoto, Japan.
44. Hoi, K. I.#, **Yuen, K.-V.**, and Mok, K. M. (2007). “*Applying Kalman Filter to Forecast Short-term Air Quality in Macau.*” Proc. 10th International Conference on Environmental Science and Technology, Cos island, Greece, Volume A, pp. 504-511.
45. Chang, S. W.#, Mok, K. M., and **Yuen, K.-V.** (2007). “*Association of**PM10 Pollution Episodes with the Meterological Conditions in Macau.*” Proc. 10th International Conference on Environmental Science and Technology, Cos island, Greece, pp. 90-95.
46. Hoi, K.I.#, **Yuen, K.-V.**, and Mok, K.M. (2006). “*Updating Noise Parameters of Kalman Filter Using Bayesian Approach.*” In Computational Methods in Engineering & Science, CD ROM Proceedings of Tenth international conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC X), Sanya, Hainan, China. **(This paper was awarded in the student paper competition in the conference.)**
47. Wang, J.#, **Yuen, K.-V.**, and Au, S.K. (2006). “*Reliability Analysis Using Saddlepoint Approximation.*” In Computational Methods in Engineering & Science, CD ROM Proceedings of Tenth international conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC X), Sanya, Hainan, China.
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52. Lam, H.F., and **Yuen, K.-V.** (2005). “*Structural Health Monitoring by Ritz Vector Matching Utilizing Bayesian Artificial Neural Network.*” CD-ROM Proc. ICOSSAR’ 05, Rome, Italy.
53. Lam, H.F., and **Yuen, K.-V.** (2003). “*Design of Artificial Neural Networks for Structural Health Monitoring.*” Proc. First International Conference on Structural Health Monitoring and Intelligent Infrastructure, Tokyo, Japan, A. A. Balkema Publishers, pp.611-618.
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61. Beck, J.L., Katafygiotis, L.S., **Yuen, K.-V.**, and Lam, H.-F. (2001). “*Damage Detection for a Benchmark Structure using One-step and Two-step Probabilistic Approaches.*” Proc. 3rd World Conference on Structural Health Monitoring, Stanford University, USA, pp. 478-487.
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63. **Yuen, K.-V.**, and Beck, J.L. (2001). “*Probabilistic System Identification for Nonlinear Systems with Uncertain Input.*” CD-ROM Proc. ICOSSAR’01, Newport Beach, California, USA.
64. **Yuen, K.-V.**, and Katafygiotis, L.S. (2001). “*Bayesian Time-Domain Methodology for Identification of Modal Parameters from Ambient Data.*” CD-ROM Proc. ICOSSAR’01, Newport Beach, California, USA.
65. Au, S.K., **Yuen, K.-V.**, and Beck, J.L. (2000). “*Two-Stage System Identification Results for Benchmark Structure.*” CD-ROM Proc. 14th ASCE Engineering Mechanics Conference, Austin, Texas, USA.
66. Papadimitriou, C., Katafygiotis, L.S., and **Yuen, K.-V.** (1999). “*Optimal Instrumentation Strategies for Structural Health Monitoring Applications.*” Proc. 2nd World Conference on Structural Health Monitoring, Stanford University, USA, pp. 543-552.
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###### F. Theses and Reports

1. “*Long Term Structural Monitoring for the Steel Roof Structure of Ho Tung Multi-Sportive Pavilion (Initial Report)*” L/CERT/2005, Centre for Engineering Research and Testing. Center director: K.K. Cheong, **Engineering advisor:** **Yuen, K.-V.**,Engineers: K.F. Ng and W.K. Lo.
2. **Yuen, K.-V.** (2005). “*A Novel Sub-structuring Approach for Structural Health Monitoring.*” Research Report RG097/03-04S/YKV/FST UMAC, Research Committee, University of Macau.
3. **Yuen, K.-V.** (2004). “*Stochastic Robust Semi-active Control for Dynamical Systems.*” Research Report RG030/02-03S/YKV/FST UMAC UMAC, Research Committee, University of Macau.
4. **Yuen, K.-V.** (2003). “*Structural Health Monitoring without Excitation Measurements.*” Research Report RG007/02-03W/YKV/FST UMAC, Research Committee, University of Macau.
5. **Yuen, K.-V.** (2002). “*Model Selection, Identification and Robust Control for Dynamical Systems.*” Ph.D. Thesis, EERL Report 2002-03, California Institute of Technology, Pasadena, CA, USA.
6. **Yuen, K.-V.** (1999). “*Structural Modal Updating Using Ambient Dynamic Data.*” MPhil Thesis, Thesis CIVL 1999 Yuen, Hong Kong University of Science and Technology.
7. **Service to the University and the Wider Community**
   1. **University and Faculty Service**
8. Chair, Advisory Board of the Centre for Continuing Education (2020-)
9. Member, Working Group for internal appointment to the rank of Distinguished Professor in the field of Health Sciences (2021-2022)
10. Member, Adhoc Committee of Global Affairs (2020-2022)
11. Member, Faculty Working Group for internal appointment to the rank of Distinguished Professor in the field of Science and Technology (2019-2020)
12. Chair, Adhoc Panel for Academic Promotion (2019)
13. Member, Panel for recruitment of Director of Global Affairs Office (2019)
14. Member, Workgroup for appointment of Registrar (2019)
15. Chair, Panel of special batch administrative promotion for UCO (2019)
16. Member, Adhoc Committee for Academic Promotion for FED (2018)
17. Chair, Tender for 澳門大學—室外小型人造草足球場更換人造草坪工程 (2018)
18. Member, Recruitment panel for the position of Full/ Associate Professor of Portuguese (Ref. No.: FAH/DPORT/FAP/02/2018)
19. Chair, Staff Hospitalization Insurance Tender (2018)
20. Acting Vice Rector (Research) (28 February; 13 June 2018)
21. Chair, FST Academic Council (2018-2019)
22. Member, GAO Academic Advisory Committee (2018-2020)
23. Member, Promotion panel for administrative staff (2018)
24. Member, University-level Academic Staff Promotion Advisory Committee (2013-2014; 2018)
25. Campus Commander (28-30 October; 19-20 December 2017; 12-13 May; 27-30 July; 7-10 September; 7-11, 14-17 December 2018; 4-5 February, 31 October – 5 November 2019)
26. Panel member, Appraisal Assessment Committee (AAC) & Assessment Committee for Outstanding Administrative Staff Award (OASA) for Year 2017 and Year 2018 (2017, 2018)
27. Chair, Recruitment Panel for Laboratory Technician, AMSV/LT/12/2016 (2017)
28. Chair, Selection Panel for Student Representative for Speech of Congregation (2017)
29. Member, Performance-based Salary Adjustment Committee, FST (2017)
30. Member, Work Group for Internal Appointment of Director of CTLE (2017)
31. Member, Executive Committee of Honours College (2017-)
32. Chair, Selection Panel for Student Representative for Speech of Higher Degrees Recipients (2016)
33. Member, Space Allocation Committee (2016-2022)
34. Member, Quality Management System workgroup (2016-2022)
35. Chair, Scholarship Committee, Senate subcommittee (2016-2022)
36. Secretary, Honorary Degrees and Titles Committee, University Council (2016-2019)
37. Secretary and Member, General Affairs Committee, Senate subcommittee (2016-2022)
38. Secretary and Member, Academic Quality Assurance Committee, Senate subcommittee (Member: 2010-2012; 2016-2022; Secretary: 2016-2019)
39. Secretary and Member, General Education Committee, Senate subcommittee (2016-2022)
40. Secretary and Member, Senate (Member: 200-2003; 2006-2014; 2016- ; Secretary: 2016-2022)
41. Member, QMS workgroup for ISO audit (2016-2019)
42. Member, Committee on Teaching and Learning Enhancement, Senate subcommittee (2016-2019)
43. Member, Student Disciplinary Committee, Senate subcommittee (2016-2022)
44. Member, Outstanding Student-Athletics Admission Award Scheme Committee (2016-2019)
45. Acting Vice Rector (Academic Affairs) (13 July; 17 August; 21-30 October 2016; 14, 15 afternoon December 2016; 5, 25 October 2018)
46. Member, Graduate Studies Committee, Senate subcommittee (2012-2013; 2016-2022)
47. Member, Honours College Review Committee (2016)
48. Chair, Panel on Intellectual Property Rights (2016-)
49. Member, Recruitment Panel of Director of Campus Management Office (2015)
50. Affiliate, Cheng Yu Tong College (2015-2017)
51. Tea with Professor (11 Nov 2015)
52. Chair, Staff Housing Committee (June 2013 - August 2017)
53. Member, Administrative Committee, UMTec Limited (2013-2019)
54. Member, Faculty-level academic staff promotion advisory panel, FST (2012-2014; 2016)
55. Member, Grievance and Disciplinary Committee (2013-2014)
56. Member, Program Planning Committee, PhD program in Applied Physics and Materials Engineering (2012-2013)
57. Member (representative of academic staff), New Campus Relocation Service Tender Public Selection Committee (2012-2013)
58. Member (faculty representative), Research Committee, Senate subcommittee (2012-2013)
59. Chair, Faculty Graduate Studies Committee, FST (2012-2013)
60. Member, Panel for Early Admission of MSc students (2013-2014)
61. Member, Panel for Admission of PhD students (2013-2014)
62. Member, Student Disciplinary Committee (2012)
63. Member, Panel of Naming Competition for New Campus (2012)
64. Chair, selection committee for academic recruitment for: FST/AR/PMES/12/2012 (Assistant professor in Electromechanical Engineering)
65. Member, recruitment panel for: FSH/JAP/AP/04/2011 (Assistant professor in Centre for Japanese Studies, Department of English, FSH)
66. Chair, Selection Committee of FST representatives for Challenge Cup (2011)
67. Member, Academic Leave Committee, FST (2011-2014; Chair: 2012-2013)
68. Chair, Committee to select candidate for “Youth Female Scientist” (2011)
69. Chair, recruitment panel for: FST/ALL/09/2011 (Assistant professor in Physics)
70. Member (representative of academic staff), Full Workgroup on Naming Plan for New Campus Project (2011-2012)
71. Member, Health and Safety Committee (2011-2012)
72. Acting Dean of FST (7-16 August 2009; 24-27 August 2010; 20-21 February; 18-29 March; 7-8 April; 16-17 June; 22-27 July; 16-20 September; 12-18, 20-21 October; 25, 28-29 November 2011; 11-19 February; 28-31 May; 16-18, 23, 31 July; 1-10, 30-31 August; 1-12 September; 12-20, 27-31 October; 1-12, 26-30 November 2012; 2-8 January)
73. Member, Faculty-level academic staff promotion advisory panel, FBA (2011)
74. Chair, Information and Education Technology Committee, Senate subcommittee (2008-2012)
75. Member (faculty representative), Scholarship Committee (2010-2011)
76. Member (representative of academic staff), New Campus Project Campus Liaison Task Force (2010-2013)
77. Member (representative of academic staff), New Campus Project

(2010-2013)

1. Member (faculty representative), Task Force, Center for Teaching and Learning Enhancement (2010-2011)
2. Member, Seminar/Conference committee, Department of Civil and Environmental Engineering (2010-2013; chair, 2010)
3. Member (faculty representative), Focus group for unsuccessful senior academic recruitment (2010)
4. Member, Search Committee for academic recruitment (2010)
5. Member and Chair, Program review committee, Department of Civil and Environmental Engineering (2008-2009)
6. Member, Bachelor program revision committee, Department of Civil and Environmental Engineering (2007-2010; chair, 2008-2010)
7. Member, selection panel for direct admission of undergraduate students (2006, 2009-2010; chair, 2009-2010)
8. Member, selection panel for MSc students recruitment (2005, 2006, 2009, 2010, 2013; chair, 2009, 2010)
9. Founding Director, Dynamics and Monitoring Laboratory (DYAMON) (2005-)
10. Mentor for first year students (2005-2011)
11. High school briefing for undergraduate intake (2003-): Pui Ching Middle School, Centre for Pre-University Studies, Sacred Heart Canossian College (Chinese), Sacred Heart Canossian College (English), Ricci Middle School and Ling Nam Middle School
12. Member, Academic Council, FST (2002-)
13. Member, recruitment panel for: FST/DCEE/GE/03/2009 (Assistant professor), FST/DCEE/SE/06/2007 (Assistant professor), FST/PROF/GE/12/2003 (Assistant professor), FST/DCEE/2010 (Assistant professor)
14. Adhoc promotion committee, FST (2009)
15. Member, panel for promotion to assistant professorship of Dr. C.C. Lam (2009)
16. Member, Selection committee for Honours College students of FST (2009)
17. Member of PhD thesis advisory committee of Zhu, Haitao (2006-2009)
18. Member, Library Committee, Senate subcommittee (2005-2008)
19. Briefing for Recommend Direct Admission (2008)
20. Member, panel for promotion to associate professorship of Dr. K.P. Kou (2008), Dr. G.K. Er (2008)
21. Team leader of UMAC team, 4th Inter-University Invitational Civil Engineering Competition, Ansan, Korea (2006)
22. Member, recruitment selection panel for “PISA project – Centre Administrator”, FED (2005)
23. Coordinator, organizing committee of Inter-University Invitational Civil Engineering Competition at University of Macau (2004)
24. Examination committee chair/member of the following graduate students:

Zhang, Hongdong; Che, Wai Fong; Lao, Wai Keong; Zhong, Yancai; Ieong, Ka Kit; Zhu, HaiTao; Guo, Dong; Lam, Chi Leong; Leong, Chi Seng; Liu, Bin; Yang, Yang; Wang, Wei; Lai, Lei, Xiaobo; Lek Keung

* 1. **External Service (Unpaid/Uncompensated)**
     1. **Professional Societies**
  2. Expert Member, Informative Decision for Emergency Management Consultative Expert Panel, Shenzhen. 深圳市應急管理科技信息化決策咨詢專家委員會專家, 深圳市應急管理局 (2023-)
  3. Member, Award Committee, The 1st International Project Competition for Structural Health Monitoring (IPC-SHM, 2020)
  4. Member, Technical Committee, TC309 on Machine Learning and Big Data in Geotechnics, International Society for Soil Mechanics and Geotechnical Engineering (2018-)
  5. Editor, International Editorial Advisory Board, Cambridge Scholars Publishing (2017-)
  6. Executive Council Member, International Chinese Association on Computational Mechanics (2016-)
  7. Advisor, The Macau Society of Civil and Structural Engineering (MSCSE) (2015-)
  8. Invited for participation in QS World University Rankings (2012-)
  9. Invited for participation in Time Higher Education World University Rankings (2011-)
  10. Panel member for control theory and system identification, National Science and Technology Award (2012)
  11. Invited Expert, Concrete Accreditation Regulation, Hong Kong-ZhuHai-Macau Bridge Management Bureau (2012)
  12. Academic advisor, The Macau Institute of Engineers (AEM) (2011-2015)
  13. Bridge Committee, Mao Yi-Sheng Science and Technology Education Foundation (茅以升科技教育基金會橋樑委員會) (2009-)
  14. Committee of Financial Analysis and Computation, Chinese Association of New Cross Technology in Mathematics, Mechanics and Physics (中國數學力學物理學高新技術交叉研究學會金融量化分析與計算專業委員會) (2006-)
  15. SC-1 Subcommittee on Computational Stochastic Mechanics, IASSAR (2005-)
  16. SC-5 Subcommittee on System Identification and Structural Control, IASSAR (2002-)
  17. Committee on Stochastic Methods in Structural Engineering, International Association for Structural Safety and Reliability (IASSAR) (2002-)
  18. Executive committee, Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM) (2005-2007)
  19. Dynamics Committee, ASCE (2002-2006)
  20. Probabilistic Methods Committee, ASCE (2002-2006)
      1. **Community Service**

1. Member, Board of Trustee, the Science and Technology Development Fund (FDCT) of the Macau SAR Government
2. Council Member, Escola Superior das Forças de Segurança de Macau (2020-2023)
3. Advisor, Alumni Association of Pui Ching Middle School (2018-2020)
4. Member (UM representative) of the General Assembly of the Macau Civil Engineering Laboratory (LECM), 2010 - 2013
5. Civil Engineering Summer Camp 2009

**K.-V. Yuen** **(PI)**, M.H. Lok, and U.W. Tang

FDCT Science and Technology Development Fund, Macau

Duration: Summer 2009

Budget: MOP 65,000

1. Coordinator and speaker, Workshop for High School Teachers (校本培訓), Pui Ching Middle School (4 July 2009)
2. Adjudicator, representative of FST, selection panel for representatives of Macau, China Adolescents Science and Technology Invention Contest (2005-)
3. Member, referee panel, “The Macau High School Science Fun Competition” (2003-2007; 2010)
   * 1. **Journal and Conferences**
4. **Editorial Board Member of**:

- Sensors (2023-)

- Computer-aided Civil and Infrastructure Engineering, with highest impact factors among all

journals in civil engineering (2020-)

- Structural Control and Health Monitoring (2018-)

- Advances in Mechanical Engineering (2018-)

- Frontiers in Built Environment (Structural Sensing) (2015-)

- Journal of Signal Processing (2015-)

- Journal of Control and Instrumentation Engineering (2015-)

- International Journal of Mining Engineering (2014-)

- International Journal of Earthquake Engineering and Hazard Mitigation (2014-)

- International Conference on Advances in Civil and Structural Engineering, Kuala Lumpur,

Malaysia, 2-3 August, 2014

- International Journal of Structural Analysis and Design (2014-)

- Structural Engineering and Mechanics, an International Journal, Techno Press (2013-)

- Structural Monitoring and Maintenance, Techno Press (2014-)

- NED University Journal of Research-Structural Mechanics (2014-)

- Research of Geographic Structure and Earthquake (2013-)

- Research & Reviews: Discrete Mathematical Structures (2014-)

- Artificial Intelligence and Applications (2013-)

- Chinese Journal of Engineering (2013-)

- Current Advances in Civil Engineering (2013-)

- SOP Transaction on Statistics and Analysis (2013-)

- American Journal of Theoretical and Applied Statistics (2012-)

- Automation, Control and Intelligent Systems (2012-)

- International Journal of Engineering and Technology Innovation (2012-)

- Open Journal of Civil Engineering, Scientific Research Publishing, US (2012-)

- Conference Papers in Engineering, Hindawi (2012-)

- International Journal for Uncertainty Quantification, Begell House (2011-)

- International Scholarly Research Notices (formerly ISRN Applied Mathematics) (2010-)

- IST Transactions of Civil Engineering and Construction Management (2008-)

- International Journal of Reliability and Safety, InderScience Publishers (2004-2020)

1. **Associate Editor**, Frontiers in Built Environment (2020-)
2. **Scientific Committee member of:**

Revista Portuguesa de Engenharia de Estruturas

Portuguese Journal of Structural Engineering

1. **Book Reviewer for:**

Elsevier (2024-)

Taylor and Francis (2022-)

John Wiley and Sons (2007-)

CRC Press (2022-)

**3. Journal Reviewer for**:

* + 1. Abstract and Applied Analysis
    2. ACM Transaction on Sensor Networks
    3. Acta Geotechnica Slovenica
    4. Advances in Condensed Matter Physics
    5. Advances in Engineering Software
    6. Advances in Structural Engineering – an International Journal
    7. African Journal of Mathematics and Computer Science Research
    8. AIMS Mathematics
    9. American Journal of Theoretical and Applied Statistics
    10. Annual Research & Review in Biology
    11. Applied and Computational Mathematics
    12. Applied Mathematical Modelling
    13. Arabian Journal of Geosciences
    14. Artificial Intelligence and Applications
    15. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering
    16. Asia-Pacific Journal of Chemical Engineering
    17. Atmospheric Pollution Research
    18. Automation in Construction
    19. Biomass Conversion and Biorefinery
    20. Bulletin of Earthquake Engineering
    21. Canadian Geotechnical Journal
    22. Chemometrics and Intelligent Laboratory Systems
    23. Chinese Journal of Engineering
    24. Communications in Statistics - Simulation and Computation
    25. Computational Statistics and Data Analysis
    26. Computer-Aided Civil and Infrastructure Engineering
    27. Computer Methods in Applied Mechanics and Engineering
    28. Computer Methods in Biomechanics and Biomedical Engineering
    29. Computers and Structures
    30. Concurrency and Computation: Practice and Experience
    31. Connection Science
    32. Construction and Building Materials
    33. Control Engineering Practice
    34. Current Advances in Civil Engineering
    35. Earthquake Engineering and Engineering Vibration
    36. Earthquake Engineering and Structural Dynamics
    37. Engineering Computations
    38. Engineering Geology
    39. Engineering Science and Technology, an International Journal
    40. Engineering Structures
    41. Entropy
    42. Environmental Advances
    43. Environmental Engineering and Management Journal
    44. Environmental Pollution
    45. Expert Systems and Applications
    46. Fluctuation and Noise Letters
    47. Frontiers of Physics
    48. GEORISK
    49. Geoscience Frontiers
    50. Heliyon
    51. HKIE Transactions, Hong Kong Institution of Engineers
    52. IEEE Access
    53. IEEE Open Journal of Signal Processing
    54. IEEE Signal Processing Letters
    55. IEEE Transactions on Aerospace and Electronic Systems
    56. IEEE Transactions on Automation Science and Engineering
    57. IEEE Transactions on Biomedical Engineering
    58. IEEE Transactions on Cybernetics
    59. IEEE Transactions on Industrial Informatics
    60. IEEE Transactions on Information Theory
    61. IEEE Transactions on Signal Processing
    62. IEEE Transactions on Systems, Man and Cybernetics: Systems
    63. IET Blockchain
    64. IET Control Theory & Applications
    65. IET Wireless Sensor Systems
    66. Informatica
    67. Information Sciences
    68. Integrated Computer-Aided Engineering
    69. International Journal for Approximate Reasoning
    70. International Journal for Numerical and Analytical Methods in Geomechanics
    71. International Journal for Uncertainty Quantification
    72. International Journal of Computational Science and Engineering
    73. International Journal of Information Technology & Decision Making
    74. International Journal of Intelligent Information Systems
    75. International Journal of Management Science and Engineering Management
    76. International Journal of Nonlinear Mechanics
    77. International Journal of Reliability and Safety
    78. International Journal of Remote Sensing Letters
    79. International Journal of Robust and Nonlinear Control
    80. Inverse Problems in Science & Engineering
    81. ISRN Applied Mathematics
    82. IST Transactions
    83. Journal of Aerospace Engineering, ASCE
    84. Journal of Applied Mathematics
    85. Journal of Applied Mechanics, ASME
    86. Journal of Biopharmaceutical Statistics
    87. Journal of Bridge Engineering, ASCE
    88. Journal of Building Engineering
    89. Journal of Civil Structural Health Monitoring
    90. Journal of Computational Science
    91. Journal of Computer Design and Engineering
    92. Journal of Earthquake Engineering
    93. Journal of Engineering Mechanics, ASCE
    94. Journal of Experimental & Theoretical Artificial Intelligence
    95. Journal of Image and Vision Computing
    96. Journal of Intelligent Material Systems and Structures
    97. Journal of Loss Prevention in the Process Industries
    98. Journal of Low Frequency Noise, Vibration & Active Control
    99. Journal of Modern Power Systems and Clean Energy
    100. Journal of Mountain Science
    101. Journal of Official Statistics
    102. Journal of Performance of Constructed Facilities, ASCE
    103. Journal of Sensors
    104. Journal of Structural Engineering, ASCE
    105. Journal of Systems Science & Complexity
    106. Journal of Taibah University for Science
    107. Journal of the Air & Waste Management Association
    108. Journal of the Mechanical Behavior of Biomedical Materials
    109. Journal of Vibration and Control
    110. Land Use Policy
    111. LHB Hydroscience Journal
    112. Marine Georesources & Geotechnology
    113. Mathematical Problems in Engineering
    114. Mathematics
    115. Measurement
    116. Mechanical Systems and Signal Processing
    117. Mechanics of Advanced Materials and Structures
    118. Neural Computing and Applications
    119. Neurocomputing
    120. Nondestructive Testing and Evaluation
    121. Open Fuels & Energy Science Journal
    122. Open Geosciences
    123. Open Journal of Civil Engineering
    124. Physica Scripta
    125. Probabilistic Engineering Mechanics
    126. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability
    127. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences
    128. Proceedings of the Royal Society B: Biological Sciences
    129. Process Safety and Environmental Protection
    130. QEIOS
    131. Quality Assurance in Education
    132. Reliability Engineering & System Safety
    133. Research of Geographic Structure and Earthquake
    134. Science Bulletin
    135. Science China – Technological Sciences
    136. Scientia Iranica
    137. Security and Communication Networks
    138. Sensors
    139. Shock and Vibration
    140. Shock and Vibration Digest
    141. Smart Materials and Structures
    142. Smart Structures and Systems
    143. Soil Dynamics and Earthquake Engineering
    144. Soil Science Society of American Journal
    145. Sound and Vibration
    146. Steel and Composite Structures
    147. Structural Control and Health Monitoring, IASCM & EACS
    148. Structural Engineering and Mechanics
    149. Structural Health Monitoring
    150. Structural Monitoring and Maintenance
    151. Structural and Multidisciplinary Optimization
    152. Structural Safety
    153. Sustainable Energy & Fuels
    154. Technological Forecasting & Social Change
    155. Transactions on Terahertz Science and Technology
    156. The Journal of Chemical Physics
    157. The Scientific World Journal
    158. The Structural Design of Tall and Special Buildings
    159. Transactions of Tianjin University
    160. Wireless Communications and Mobile Computing

**4. Member, Evaluation Committee, Spark funding scheme, the Swiss National**

**Science Foundation (SNSF)**

**5. Research Fund Assessor/Reviewer for**:

Research Council of the Vrije Universiteit Brussel, 2021

Enhanced Faculty Research Grants, American University of Sharjah, 2018.

Inter-Institutional Development Scheme (IIDS), Research Grant Council (RGC), Hong Kong, 2017-

NSERC Discovery Grants, the Natural Sciences and Engineering Research Council of Canada (NSERC), 2016-

General Research Fund (GRF), Research Grant Council (RGC), Hong Kong, 2012-

Strategic Research Fund, City University of Hong Kong, 2012

National Research Competition 2007, National Fund for Scientific & Technological Development (FONDECYT), Chile government

**6. Assessor, World University Rankings, Thomson Reuters and Times Higher Education (2011-)**

**7. Quality Assurance Expert, China Knowledge Network (中國知網** [**www.cnki.net**](http://www.cnki.net)**) (2014-)**

**8. Editor**, International Conference of Architecture and Civil Engineering 2016, Changsha, Hunan, China, 19-20 March 2016.

**9. Editor board Member of:**

The Twelfth International Conference on Engineering Computational Technology

4-6 September 2024, Prague, Czech Republic

The Eleventh International Conference on Engineering Computational Technology

23-25 August 2022, Montpellier, France

**10. Conference General Chair:**

2022 2nd International Conference on Mechanical Design and Manufacturing, Automation System (MDMAS 2022)

**11. Symposium Co-chair of:**

The 3rd Cross-Strait Symposium on Civil Engineering Monitoring and Control, National Taiwan University, August 2012

The 2nd Cross-Strait Symposium on Dynamical Systems and Vibration, Hong Kong & Macau, December 2012

**11. Member, International Advisory Committee of:**

International Conference on Advances in Structural Mechanics and Applications (**ASMA**-2021), 26-28 March 2021

International Conference on Concrete Vision for Humanity, Coimbatore, Tamilnadu, India, 18-19 March 2016.

The 2014 World Congress on Advances in Civil, Environmental, and Materials (ACEM14), 24-27 August 2014, Busan, Korea.

TheAsian-Pacific Symposium on Structural Reliability and its Applications (APSSRA), Singapore, 2012

**12. Advisor, Organizing Committee**, Symposium on Low Carbon Living and Green City Under 12/5, Hong Kong Polytechnic University, 17/12/2011

**13. Member, Steering Committee:**

The 7th Cross-Strait Symposium on Civil Engineering Monitoring and Control, National Taiwan University, 5-8 July 2016

International Conference on Engineering & Applied Science, Beijing, July 2012

International Conference on Engineering & Applied Science, Osaka, November 2013

Global Civil Engineering & Applied Science Conference, Seoul, January 2014

**14. Member, Paper Review Committee**:

11th IEEE International Conference on Open Source Systems and Technologies” (ICOSST-2017), 18-20 December 2017, Lahore, Pakistan

10th IEEE International Conference on Open Source Systems and Technologies” (ICOSST-2016), 15-17 December 2016, Lahore, Pakistan

**15. Member, International Scientific Committee:**

6th International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM2024), November 9- 11 2024, Zhengzhou, Henan, China

1st International Workshop on Bayesian Approach in Civil Engineering (IWOBA 2025), January 10-12, Hong Kong.

Atmospheric Environmental Remote Sensing Society (AERSS) Annual Meeting 2024, December 1-4, Hong Kong.

The 4th International Conference on Vulnerability and Risk Analysis and Management (ICVRAM2024) & the 8th International Symposium on Uncertainty Modelling and Analysis (ISUMA2024) organized by the Infrastructure Resilience Division (IRD) of the American Society of Civil Engineers (ASCE) and the International Joint Research Center for Engineering Reliability and Stochastic Mechanics (JCERSM) of Tongji University will be held on April 25 - 28, 2024 in Shanghai, China.

First South Asia Conference on Earthquake Engineering (SACEE), South Asia

Earthquake Network (SHAKE), Karachi, 21-22 February 2019

International Symposium on Reliability Engineering and Risk Management 2018, Singapore, 31 May – 1 June 2018

Second International Conference on Performance-based and Life-Cycle Structural Engineering, Brisbane, Australia 9-11 December 2015

First International Conference on Performance-based and Life-Cycle Structural Engineering, Hong Kong, December 2012

**16. Member, Scientific Committee:**

International Symposium on Innovations in Civil Engineering and Technology, Afyonkarahisar Turkey, 23-25 October 2019

The Eighth National Civil Engineering Forum for Graduate Students Zhejiang University, November 2010

**17. Member, Academic Committee,** The 6rd Cross-Strait Symposium on Civil Engineering Monitoring and Control, Xiamen University, August 2015

**18. Member, International Program Committee:**

- Second International Conference on Advances in Signal Processing and Artificial Intelligence (ASPAI’ 2020) Conference, Berlin, Germany, April 1 - 3, 2020

- 3rd International Conference on Trends in Mechanical Engineering (MECE-2018), Dubai, UAE, August 25 - 26, 2018

- The Fourth International Conference on Recent Trends in Mechanical Engineering, Dubai, UAE, April 23-24 2016

- 2016 International Conference on Mechanical Structures and Smart Materials, 24-

25 September, 2016, Nanjing, China

- 2016 International Conference on Nanomaterial, Semiconductor and Composite

Materials, Singapore, May 21-22, 2016.

- 2014 International Conference on Mechanical Structures and Smart Materials, 16-

17 August, 2014, Kuala Lumpur, Malaysia

**-** The Twelfth East Asia-Pacific Conference on Structural Engineering and

Construction, Hong Kong, January 2010

**19. Technical Program Committee Chair:**

International Conference on Mechanical Structures and Smart Materials, Xiamen,

China, November 2013

**20. Technical Program Committee:**

- 2016 Conference on Civil Engineering and Safety, Xian, China, 22-24 September 2016

- 2016 International Conference on Architecture and Civil Engineering, Changsha, China, March 19-20, 2016.

- 2015 International Conference on Material Engineering and Mechanical Engineering, Hangzhou, October 23-25, 2015.

- International Conference on Electrical Engineering and Mechanical Automation (ICEEMA 2015), Suzhou, China, 16-17 May 2015

- 2015 International Conference on Energy and Environmental Engineering, Nanjing, Jiangsu, China, 11-12 April 2015

- 2014 Conference on Civil Engineering and Safety, Wuhan, China, 12-14 September 2014

- The International Conference on Kinematics, Mechanics of Rigid Bodies, and Materials, Indonesia, 2013

- 2013 Conference on Civil Engineering and Safety, Beijing, China, 20-22 September 2013

**21. Chairman of Organizing Committee:**

WAQRM 2009 Workshop on Air Quality Research in Macao, FDCT, Macao, 4/11/2009

**22. Member of Conference Organizing Committee**:

(1) World Conference on Engineering, Technology and Applied Science, Eurasia, November 7-8, Bangkok – 2022

(2) First International Conference on Modeling of Mechanics and Materials (icm3 2016), City University of Hong Kong, 14-16 December 2016

(3) Health Monitoring and Control of Bridges Symposium 2013, Hohhot, Inner Mogolia, 2013

(4) The 6th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-6), Hong Kong, 2013

(5) The 4th International Symposium on Geotechnical Safety and Risk, Hong Kong, 2013

(6) 2012 International Conference on Engineering and Applied Science, Beijing, July 24-27, 2012

(7) 14th Asia Pacific Vibration Conference, Polytechnic University of Hong Kong, 2011

(8) 5th Cross-Strait Conference on Structural and Geotechnical Engineering, Hong Kong Polytechnic University, 2011

(9) Health Monitoring and Control of Bridges Symposium, Zhejiang University, 2010

(10) Second International Symposium on Computational Mechanics (ISCM II) in conjunction with the Twelfth International Conference on the Enhancement and Promotion of Computational Methods of Engineering and Science, Hong Kong & Macao, 2009

(11) Asian-Pacific Symposium on Structural Reliability and its Application 2008, Hong Kong University of Science and Technology, 2008

(12) Pan-PRD Central Cities Regional Cooperation & Development in Scitech Advisory Forum 2006 (2006泛殊三角區域中心城市科技諮詢合作與發展論壇), 2006

(13) Tenth Annual Conference of Theoretical and Applied Mechanics and Third Shanghai-Hong Kong Forum on Mechanics and its Applications, 2006

**23. Session Chair/Co-chair of**:

(1) 5th Jiangsu-Hong Kong Forum on Mechanics and Its Application, Macao (2009)

(2) International Symposium on Global Developments in Steel Structures, University of Macau (6/12/2008)

(3) Asian-Pacific Symposium on Structural Reliability and its Application 2008, Hong Kong University of Science and Technology

(4) 9th, 10th International Conference on the Enhancement and Promotion of Computational Methods of Engineering and Science (2003, 2006)

(5) Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics (2005-2006)

(6) 3rd Shanghai-Hong Kong Forum on Mechanics and Its Application, Hong Kong (2006)

**24. Coordinator and Co-chair of**:

(1) Special Session MS/SS No. 11 “Uncertainty Modelling, Quantification and Propagation in System Identification and Structural Damage Detection” International Conference on Structural Safety and Reliability, June 2021, Shanghai, China

(2) Special Session MS/SS No. 43 “Machine Learning for Structural Health Monitoring and Reliability” International Conference on Structural Safety and Reliability, June 2021, Shanghai, China

(3) Special Session SS5 “Bayesian Inference and Applications in Civil Engineering”, The Twelfth East Asia-Pacific Conference on Structural Engineering and Construction, January 2011, Hong Kong

(4) Session 20 “Structural Health Monitoring”, International Conference on Structural Safety and Reliability, June 2009, Osaka, Japan

(5) Structural Health Monitoring in Mini-Symposium f1, International Conference on Structural Safety and Reliability, June 2005, Rome, Italy

* + 1. **PhD Examinations**

Chair, examination panel for Mr. S.C. U (FBA)

Examiner of qualifying examination and thesis proposal examination of Zhu, Haitao and Zhao, Lin Shuan

* + 1. **Keynote/Invited Lectures**

1. Broad Learning for Disaster Mitigation 寬度學習在災害防治應用

Keynote Lecture, 3rd Conference on Digital Twin and Intelligent Construction (粵港澳大灣區面向碳中和的可持續藍色經濟發展路徑高級別論壇), Macao, 6 January 2025

1. Telescopic Broad Bayesian Learning Using Big Data Stream

基於串流大資料的可伸縮貝葉斯寬度學習

Keynote Lecture, 3rd Conference on Digital Twin and Intelligent Construction (第三屆數字孿生與智慧建造學術會議), Liyang, Jiangsu, 15 December 2024

1. 線上結構參數識別與車輛參數追蹤

Online Structural Parameter Identification and Vehicles Tracking for Highway Bridges

Keynote Lecture, 10th National Symposium on Structural Vibration Control and Health Monitoring, Xiamen, 3 November 2024

1. Telescopic Broad Bayesian Learning and its Applications to Disaster Mitigation

可伸縮貝葉斯寬度學習在災害防治的應用

Keynote Lecture, 3rd Cross-Strait, Hong Kong & Macao Urban Construction & Sustainable Development Science and Technology Forum (第三屆海峽兩岸暨港澳城市建設與持續發展論壇), Hong Kong, 30 October 2024

1. Online health monitoring of bridges with simultaneous estimation of vehicle loads and positions using strain measurements only

Keynote Lecture, 10th International Conference on Test Automation and Instrumentation (ISTAI 2024), Shenzhen, 14-16 August 2024

1. Real-time health monitoring for bridges with simultaneous estimation of vehicles speed and weight

Keynote Lecture, 12th Cross-Strait Summer School on Monitoring and Control in Civil Engineering (MCCE2024), Hangzhou, 8-11 August 2024

1. On the complexity of models for system identification with particular focus on structural health monitoring

Invited Lecture, Changsha University of Science and Technology, Changsha, 27 July 2024

1. Two new paradigms in Bayesian system identification

Invited Lecture, Central South University, Changsha, 26 July 2024

1. Bayesian Distributed Identification with consideration of outliers and asynchronous data

Invited Lecture, Hunan University, Changsha, 26 July 2024

1. Bayesian system identification and its application in SHM: from fundamentals to front edge

Invited Lecture, The 5th "AI + Smart Transportation" Graduate Summer Program, Shandong University, 6 July 2024

1. Bayesian system identification and its application in structural health monitoring

Invited Lecture, Beijing University of Technology, 24 June 2024

1. Three Levels of Bayesian System Identification

Invited Lecture, Hong Kong Polytechnic University, Hong Kong 18 March 2024

1. Broad Bayesian Learning for Disaster Mitigation Management

Keynote speaker, 5th International Conference on Civil Architecture and Urban Engineering, Xiamen, 18 November 2023

1. Broad Bayesian Learning and FF-BLS with Applications in Disaster Prevention

Specially invited speaker, 20th China Rock Mechanics and Engineering Annual Academic Conference, Foshan, 21 October 2023

1. Broad Bayesian Learning and its Applications in Disaster-related Research

Keynote speaker, 2nd Symposium on Big Data in Civil Engineering, Hangzhou, 20 August 2023

1. Robust Optimal Sensor Configuration Design

Keynote speaker, 4th International Conference on Mechanical Engineering and Intelligent Manufacturing, Dalian, 5 August 2023

1. Distributed System Identification and its Application for Bridge Health Monitoring

Keynote speaker, 11th Cross-Strait Summer School on Monitoring and Control in Civil Engineering (MCCE2023), Hong Kong Polytechnic University, Hong Kong, 5 July 2023

1. Recent Advances in Optimal Sensor Placement for Structural Health Monitoring

Keynote speaker, 3rd International Conference on Civil, Architecture and Disaster Prevention and Control, Wuhan, 25 March 2023

1. Online Structural Health Monitoring for Smart Infrastructures

Urban Safety Administration and Emergency Management Summit 城市安全治理與應急管理創新高峰論壇, Shenzhen, 15 November 2022

1. Real-time Structural Damage Warning System

Greater Bay Area Academician Forum on Smart City 大灣區智慧城市院士論壇, Shenzhen, 14 November 2022

1. Recent Advances on Bayesian Real-time Structural Health Monitoring

Keynote speaker, 2022 Resilient City Development and Science & Technology Emergency Management Workshop, Sustech, Shenzhen, 21 August 2022

1. System Identification with Self-Calibratable Model Classes

Keynote speaker, 2nd International Conference on Mechanical Design and Manufacturing, Automation System, Huhehot, China, 16 July 2022

1. System Identification with Deficient Model Classes

Keynote speaker, 2nd International Forum of NFEES on Intelligence & Disaster Prevention and Mitigation (IFNEES02), Tianjin University, China, 2 July 2022

1. Bayesian Online Identification and Distributed Identification for Large Infrastructures

Distinguished Scholars Forum (University Distinguished Lecture), Central South University, Changsha, China, 27 June 2022

1. The Third Level of System Identification

Keynote speaker, The 1st ASCE Greater China Conference, Shenzhen, China, 4 December 2021

1. Real-time Distributed Structural Identification

Keynote speaker, International Symposium on Structural Health Monitoring, Nanjing, China, 29-30 October 2021

1. Recent Advances in Decentralized Structural Identification for Wireless Sensor Networks

Keynote speaker, International Conference on Advances in Structural Mechanics and Applications (ASMA-2021), Silchar, India, 6-8 October 2021

1. Advances in Online Decentralized Identification

Keynote speaker, The 6th Cross-Strait Symposium on Dynamics, Vibration and Control (SDVC 2021), Hothot, Inner Mongolia, China, 17-21 July 2021

1. Bayesian Lecture Series II: Background and Modal Identification 1

South China University of Technology, 6 December 2019

1. Recent Developments on Urban Public Safety and Disaster Prevention at the University of Macau

FCE Translational Research Forum on Sustainable Urban Development in the Greater Bay Area, Hong Kong Polytechnic University, 26 April 2019

1. Bayesian Lecture Series I: My Research Path and Introduction

South China University of Technology, 18 January 2019

1. Recent Advances in Health Monitoring for Large Structures

Keynote speaker, Symposium on Sustainable Development Technology for Smart City, University of Macau, 26 November 2018

1. Progress on Real-time Model updating

Invited lecture, Zhejiang University of Technology, 11 June 2018

1. Advances in Bayesian Real-time Model Updating

Keynote speaker, The 8th Cross-Strait Symposium on Civil Engineering Monitoring and Control, Zhejiang University, 24 August 2017

1. Bayesian Structural Health Monitoring for Intelligent Infrastructures

Keynote lecture, 2017 Summit on Smart Highway and Bridge, Nanjing, 28 July 2017

1. Towards Robust Realtime System Identification

Keynote lecture, Proceedings 2013/2014 Annual Symposium “In Search of Mindset of Change for Control, Automation and Instrumentation New Technologies”, CAI Division, Hong Kong Institute of Engineers, Hong Kong Polytechnic University, 5 March 2014

1. Probabilistic Outlier Analysis for Linear Regression and Online Structural Identification

Distinguished lecture, 17th Annual conference of Hong Kong Society of Theoretical and Applied Mechanics; 9th Jiangsu-Hong Kong Forum on Applied Mechanics and its Applications; 3rd Symposium on Development of Mechanics in Macau, Macau, 23 March 2013

1. Keynote address, HKIE Control, Automation and Instrumentation Division 2012/2013 Annual

Symposium “CAI – Engineer Our Future with Innovation and Excellence,” Hong Kong Polytechnic University, 22 March 2013

1. A Highly Efficient Finite Element Model Updating Algorithm Using Model Measurements

Keynote speaker, The 2nd Cross-Strait Symposium on Dynamical Systems and Vibration, Hong Kong & Macau, 17 December 2012

1. Bayesian Methods for Structural Engineering I, II & III (5 hours)

Keynote speaker, The 3rd Cross-Strait Symposium on Civil Engineering Monitoring and Control, National Taiwan University, Taipei, 20-22 August 2012

1. Bayesian Methods for Structural Dynamics and Control

Keynote lecture, National Winter School on Cyber-Systems & Control (NWSCSC’2011), Zhejiang University, 13 December 2011

1. Robust Engineering System towards Sustainable Development

Invited lecture, Proceedings 2010/2011 Annual Symposium on Control, Automation and Instrumentation Systems for Sustainable Development, Hong Kong Institute of Engineers, Hong Kong Polytechnic University, 20 June 2011

1. Bayesian System Identification for Structural Dynamics

Special speaker, Symposium on Development of Computational Mechanics and Computational Methods in Engineering and Science, 4 April 2011

1. Stochastic Mechanics Research at University of Macau

Distinguished lecture, 15th Annual conference of Hong Kong Society of Theoretical and Applied Mechanics; 7th Jiangsu-Hong Kong Forum on Applied Mechanics; 2nd Symposium on Development of Mechanics in Macau, Macau, 12 March 2011

1. Philosophical Thoughts on Model Class Selection in Inverse Problems

Keynote lecture, 8th National Civil Engineering Forum for Graduate Students, Zhejiang University, 28 November 2010

1. Bayesian Methods for Structural Health Monitoring: Advantage and Challenge

“Health Monitoring and Control of Bridges” Symposium, Zhejiang University, August 2010

1. Air Quality Prediction by an Efficiency-Robustness Tradeoff Adaptive Model:A Study of Macau and Neighboring Cities. Joint Seminar by the Macao Meteorological and Geophysical Bureau and FST, at SMG, 18 September 2008
2. Probabilistic Methods, System Identification and Structural Health Monitoring, K.C. Wong foundation lecture II, Zhejiang University, 25 September 2006
3. Bayesian Approach: from Mathematics, Engineering to Financial Markets, K.C. Wong foundation lecture I, Nanjing University of Aeronautics and Astronautics, 22 September 2006
4. An Extremely Efficient Finite-Element Model Updating Methodology with Applications to Damage Detection

Semi-plenary lecture, EPMESC X, Sanya, Hainan, China, 21 August 2006

1. Bayesian Model Class Selection and Dynamic Condensation for Monitoring Large Structures

Keynote lecture, National Symposium on Structural Dynamics 2005, Haikou, China, 19 December 2005

* + 1. **External examiners:**

Ye YUAN, PhD (2022), The University of Hong Kong

PhD Thesis: Structural identification and model updating based on active learning Kriging approach and Bayesian inference

Supervisor: Prof. Francis T.K. Au

Josephine Kelvina Florence S, PhD (2019), Anna University – Chennai, India

PhD Thesis: Response of Composite Cylindrical Shells to High Frequency Acoustic Excitation Using Statistical Energy Analysis

Supervisor: Prof. K. Renji

Rongpan HU, PhD (2019), The Hong Kong Polytechnic University

PhD Thesis: SHM-based Seismic Performance Assessment for Super High-rise Buildings under Long-period Ground Motion

Supervisor: Prof. Y.L. Xu

LIM, Hong Cheet, University of Malaya

PhD Thesis: Automated Impact Device Based on Phase Synchronisation Assessemnt for the Enhancement of Impact-Synchronous Modal Analysis during Operation

Supervisors: Ir. Dr. Ong Zhi Chao, Dr. Khoo Shin Yee, Professor Dr. Zubaidah Binti Ismail

Adeyemi Emman ALADEJARE, The City University of Hong Kong

PhD Thesis: Development of Bayesian Probabilistic Approaches for Rock Property Characterization

Supervisor: Prof. Y. Wang

Kun LIU, PhD (2014), The Hong Kong Polytechnic University

PhD Thesis: Structural Condition Assessment with Incomplete Acceleration Responses

Supervisor: Prof. S.S. Law

Xiaohua ZHANG, PhD (2012), The Hong Kong Polytechnic University

PhD Thesis: Multi-sensing and Multi-scale Monitoring of Long-span Suspension Bridges

Supervisor: Prof. Y.L. Xu and Prof. S. Zhu

Yong HUANG (2012), Harbin Institute of Technology

PhD Thesis: Bayesian Compressive Sensing and Fractal Damage Identification for Civil Structural Health Monitoring

Supervisor: Prof. Hui Li and Prof. J.L. Beck

Hongwen XIA, PhD (2011), The Hong Kong Polytechnic University

PhD Thesis: SHM-based Condition Assessment of In-Service Bridge Structures Using Strain Measurement

Supervisor: Prof. Y.Q. Ni

Yanlin GUO, MPhil (2010), The Hong Kong Polytechnic University

Master Thesis: Monitoring-based Assessment of Bridges Subject to Ship Collision

Supervisor: Prof. Y.Q. Ni