

Name: Tommy H.T. Chan

Qualifications:

BE (First Class Hons.) (University of Queensland) 1984; PhD (University of Queensland) 1988; MDiv (Bible College of Victoria) 2006

MIE Aust., C.P. Eng., NPER, MICE, MHKIE, C. Eng, MCSCE

Research expertise:

- Structural Dynamics, Bridge-Deck Analysis, Bridge-Vehicle Interaction
- Design, Construction and Analysis of Bridges including Long Span Cable-supported Bridges
- Highway Bridge Loadings (Static and Dynamic)
- Weigh-In-Motion Studies, Moving Force Identification
- System Identifications, Non-destructive Damage Detection
- Structural Health Monitoring, Optical Fiber Sensors, Fatigue Analysis

Teaching experience:

Jul 07 – Now *Senior Lecturer*, School of Urban Development, Queensland University of Technology, Australia

Feb 99 – Jun 07 *Associate Professor*, Department of Civil & Structural Engineering, the Hong Kong Polytechnic University.

Jan 95 - Feb 99 *Assistant Professor*, Department of Civil & Structural Engineering, the HK PolyU

Oct 92 - Jan 95 *Lecturer (College of Degree Studies)*, Department of Civil & Structural Engineering, Hong Kong Polytechnic.

Sep 91 - Sep 92 *Lecturer*, Department of Civil & Structural Engineering, Hong Kong Polytechnic.
(For the above employments in the Hong Kong PolyU, formerly Hong Kong Polytechnic, please refer to *Activities in the H.K. PolyU* below for details):

Industry experience:

Mar 89 - Aug 91 *Engineer* (from Mar 89), then *Assistant Resident Engineer* (from Dec 89), then *Engineer* (from Jun 91), Maunsell Consultants Asia Limited (MCAL)

Period: Jun 91 - Aug 91 *Engineer*

Project Partner: Mr. P. Yim, Director of MCAL

Duties: To assist the Project Partner in managing the Project of Ma On Shan Development Phase 2 Contract P (HK\$ 180M)

Period: Dec 89 - Jun 91 *Assistant Resident Engineer*

HK Government Secondment (agreement with MCAL)

Direct Supervisor: Mr. A. Wong, Resident Engineer

Project: Ma On Shan Development Phase 2 Contract P (HK\$ 180M)

Duties: To supervise the construction of various structures, drainage and road works, to monitor the progress of the contract, to liaise with other parties involving works within the contract, e.g. utility companies, various Departments of the Government and the design office, to participate in various site meetings with the Contractor to discuss site problems arisen, to check the Contractor's Claims of Extension of Time, to prepare site instructions and estimate the cost involved, and to attend Rates Meetings.

Period: Mar 89 - Dec 89 *Engineer*

Direct Supervisor: Mr. C. Wong (first), Principal Engineer of MCAL

Mr. P.K. Yung (later), Associate of MCAL

Project: Ma On Shan Development Phase 2 Contract F (HK\$ 306M)

Duties: To conduct designs of various structures (including reinforced concrete and prestressed concrete bridges) and other civil engineering works.

Awards and recognitions:

1. Invited to contribute a chapter to a book on "Innovations in Professional Education – Practices and Reflection" – to be published by Pearson Education Asia Limited under the imprint of Prentice Hall Publishing in 2007.
2. Invited to be a Member of the International Scientific Committee of the *5th International Conference on Weigh-In-Motion (ICWIM5)* May 2008, Paris, France.
3. Invited to be a Member of the International Scientific Committee of the *3rd International Symposium on Environmental Vibrations: Prediction, Monitoring, Mitigation and Evaluation (ISEV 2007)* 28-30 November 2007, Taipei.
4. Invited Speech: "A Multi-scale Finite Element Model of Tsing Ma Bridge for Hot Spot Stress Analysis", Health Monitoring of Structure Material and Environment, Nanjing, PR China, 16-18 October 2007.
5. Invited Speech: "Structural Health Monitoring for Long Span Bridges: Hong Kong Experience", hosted by the Institution of Engineers, Australia, 22 July 2005, Australia.
6. Invited Speech: "Cable Supported Bridges and their Structural Health Monitoring", hosted by University of Queensland, 29 July 2005, Australia.
7. Invited Speech: "Structural Health Monitoring: Hong Kong Experience", hosted by Southeast University, 27 August 2003, P.R. China.
8. Who's Who in Asia since 2006.
9. Marquis Who's Who in Science and Engineering since 2003.
10. Recipient of the Outstanding Consultancy Awards (1998): Winner of the Largest Consultancy Project Category within the Hong Kong Polytechnic University.
11. Recipient of Hong Kong Institution of Engineers Civil Engineering Paper of the Year Awards (1998/1999): Research Medal.
12. Winner of the Personal Homepage Competition (1997) organized by Office of Information Services, the Hong Kong Polytechnic University.

Professional and group memberships:

- Member, the Institution of Engineers, Australia (since 1991).
- Member, the Hong Kong Institution of Engineers, Hong Kong (since 1992).
- Member, the Institution of Civil Engineers (since 1993).
- Member, the Canadian Society of Civil Engineers (since 2002).
- Chartered Professional Engineers, Australia (since 1991).
- National Professional Engineer Registered in Civil (since 1994) & Structural (since 1997), Australia.
- Chartered Engineer, the Engineering Council, UK (since 1994).
- Registered Professional Engineer, Hong Kong (1992-2007).

Grants and other funded projects

Only projects of which I am the Principal Investigator/Chief Investigator are listed:

Total Research Funding Received about AUD 1.1 M equivalent (for these listed projects only)

On-going

1. Monitoring and Maintaining the Structural Health of Bridges Using Vibration Characteristics (supported by Australia Research Council Grants– AUD 219,000, secured in 2007). This project will develop an innovative structural health monitoring system using sensors, damage detection models and dynamic computer simulation techniques to assess bridge health, predict distress and recommend retrofitting. It is supported by the Queensland Main Roads Department and the Brisbane Council through an ARC Linkage Grant.
2. Vertical Displacement Measurements using Optical Sensors/Devices for Monitoring the Structural Health of Bridges (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 672,000, secured in 2006). The main objective of this proposal is to extend the application of FBG sensors for measuring the vertical displacement of bridges using the FBG strain sensors together with several FBG-based tilt sensors, developed by the investigators. In order to enhance the inspection procedures of bridge maintenance, the proposed study will also develop a method using a digital camera based on sub-pixel identification for displacement measurement.
3. Fibre Optic Sensors/Devices for Vertical Displacement Measurements for Highway Bridges (supported by the Hong Kong Polytechnic University Grants: HK\$ 140,000, secured in 2005). The main objective of this project is a preliminary study of the above project.
4. Effective Improvement on Moving Force Identification System (MFIS) (supported by the Hong Kong Polytechnic University Postdoctoral Fellowship Scheme: HK\$ 652,000, secured in 2004). The main objectives of the present project are to improve the developed moving force identification system (MFIS) to identify moving time-varying axle loads on bridges with more effective and more practical.
5. Nonlinear Physical-Based Modeling of Long-Span Steel Bridges for Health Assessment in Structural Health Monitoring (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 402,969, secured in 2003). The main objectives of this project are to develop a theoretical framework for the nonlinear physical-based modeling of structural degradation behavior during the service lifetime of long-span steel bridges for the purpose of assessing their health status based on the validated model and structural health monitoring data.
6. Evaluation of Dynamic Loads for Bridge Design in Hong Kong (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 451,404, secured in 2002). The main objective of the present project is to develop dynamic load expressions for bridge design in Hong Kong.

Completed

7. Innovative Optical Fibre Sensors for Structural Health Monitoring of Tsing Ma Bridge (supported by the Hong Kong Polytechnic University Cross Department Project Grants: HK\$ 360,000, 2002-2004). The objectives of the proposed project are to explore innovative optical fibre dynamic strain sensors and accelerometers and develop the corresponding techniques for sensor embedment/adhesion in civil structures and sensor signal interrogation for continuous monitoring;

and to implement the sensors in the Tsing Ma Bridge and develop experimental procedures to determine the capabilities of optical fibre sensors in detecting structural health and conditions of bridges.

8. Evaluation of Dynamic Loads for Bridge Design in Hong Kong (supported by the Hong Kong Polytechnic University Grants: HK\$ 200,000, 2000-2002). The project aims to conduct a preliminary study to explore the dynamic load expressions for bridge design in Hong Kong.
9. Fatigue Evaluation of Existing Bridges Based on Continuum Damage Mechanics and Online Monitoring (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 396,050, 2001-2004). This project is aimed at developing an approach for accurately evaluating fatigue damage and the remaining service life of existing bridges at an earlier stage than current approaches for fatigue assessment.
10. Fatigue Damage Analysis of Large Steel Bridges by Finite Element (supported by the Hong Kong Polytechnic University Grants: HK\$ 180,000, 2000-2002). The project aims to develop a finite element model for fatigue damage analysis of large steel bridges using the Tsing Ma Bridge as a case study.
11. Identification of Bridge-friendly Vehicle Characteristics (supported by the Hong Kong Polytechnic University Grants: HK\$ 200,000, secured in 1999 and completed in 2000). The main objectives of the present project are to modify a developed bridge-vehicle interaction model from a two axle vehicle model to a maximum four-axle articulated vehicle model and to carry out parametric studies based on this developed model to identify the characteristics of a bridge-friendly vehicle.
12. Accounting for Bridge Dynamic Loads Using Moving Force Identification System (MFIS) (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 360,000, 1997-2001). This research project aims to develop a system to identify moving dynamic (time-varying) axle loads based on the four developed moving force identification methods.
13. Bridge Live Load Models with special reference to Hong Kong (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 538,000, 1995-2000). This research project aims to use the weigh-in-motion data to develop static live load models for bridge design in Hong Kong.
14. Assessment of Highway Loadings from Bridge Responses (supported by Hong Kong Research Grants Council Competitive Earmarked Research Grants: HK\$ 612,000, 1993-1997). This research project aims to develop a system to identify moving dynamic (time-varying) axle loads based on the four developed moving force identification methods.
15. Bridge-Vehicle Model for Highway Bridge Impact Studies (supported by the Hong Kong Polytechnic Grants: HK\$ 252,400, 1992-1993). The project aims to develop a bridge-vehicle model for better understanding of the behaviour of bridge-vehicle interaction.

External collaboration Opportunities

- The Hong Kong Polytechnic University, Hong Kong
- The Southeast University, PR China

Supervisory information

Postgraduate supervision (Title and degree)

Completions:

Only those I am the Chief Supervisor are listed

Year Title

- 1995 Development of Simplified Methods for Bridge Design in Hong Kong (MSc awarded)
- 1996 Bridge-Vehicle Model for Highway Bridge Impact Studies (MPhil awarded)
Sensitivity Study of a Suspension Bridge (MSc awarded)
A Reconsideration of The Suitability of Seismic Design For Highway Bridges in Hong Kong (MSc awarded)
- 1997 Further Development of Simplified Method for Bridge Design in Hong Kong: Slab & Slan-on-Girder Bridges (MSc awarded)
Development of Simplified Methods for Bridge Design in H.K. (Torsion) (MSc awarded)
- 1999 Assessment of Highway Loadings from Bridge Responses (PhD awarded)
Structural Analysis of Cantilever Slabs of Concrete Girder Bridges (MSc awarded)
Assessment of Dynamic Responses and Acceptance Criteria for Steel Warren Truss footbridges in Hong Kong with respect to Pedestrian-induced Vibrations (MSc awarded)
- 2000 The Analysis of Cellular Bridge Deck by Semi-Continuum Method (MSc awarded)
- 2001 Bridge Live Load Models with special reference to Hong Kong (PhD awarded)
- 2002 Accounting for Bridge Dynamic Loads Using Moving Force Identification System (MFIS) (PhD awarded)
- 2006 Evaluation of Dynamic Loads for Bridge Design in Hong Kong (PhD awarded)

Current supervision (list title and degree)

- Nonlinear Physical-Based Modeling of Long-Span Steel Bridges for Health Assessment in Structural Health Monitoring (PhD Programme, the H.K. PolyU)
- Structural Behaviour of High Strength Steel Members Subjected to Interactive Effects of Local Instability (PhD Programme, QUT)

Professional and community services roles (service on editorial board etc.)

1. Reviewer of *the Journal of Structural Engineering* of American Society of Civil Engineers.
2. Reviewer of *the Journal of Engineering Mechanics* of the American Society of Civil Engineers.
3. Reviewer of *the Journal of Vibration and Acoustics* of the American Society of Mechanical Engineers.
4. Reviewer of *the Journal of Sound and Vibrations*.
5. Reviewer of *the Journal of Engineer Structures*.
6. Reviewer of *Advances in Structural Engineering*.
7. Reviewer of *Smart Structures and Systems, An International Journal*.
8. Reviewer of *Structural Health Monitoring: An International Journal*.
9. Reviewer of *Mathematical Problems in Engineering*.
10. Reviewer of PATH (Partners for Advanced Transits and Highways, USA) Project Proposals.
11. Assessor of the Professional Assessment - Corporate Membership of the Hong Kong Institution of Engineers.
12. Member of the International Scientific Committee of the *3rd International Symposium on Environmental Vibrations: Prediction, Monitoring, Mitigation and Evaluation* (ISEV 2007) 28-30 November 2007, Taipei.
13. Examiner of Mr Zhou Tai-quan, PhD candidate of Southeast University, PR China (in 2003).
14. Member of the local organising committee of the *3rd International Conference on Advances in Steel Structures*, 9-11 December 2002, Hong Kong.
15. Member of the local organising committee of the *International Conference on Advances in Structural*

- Dynamics*, 13-15 December 2000, Hong Kong.
16. Member of the local organising committee of the *2nd International Conference on Advances in Steel Structures*, 15-17 December 1999, Hong Kong.
 17. Member of the local organising committee of the *International Conference on Advances in Steel Structures*, 11-14 December 1996, Hong Kong.
 18. Member of the local organising committee of the *International Conference on Structural Dynamic, Vibration, Noise and Control*, 5-7 December 1995, Hong Kong.
 19. Interviewed by the media to express professional views on various issues, e.g.
 - i. by TVB, Ming Pao Daily on the issue of the collapse of Jiujiang Bridge (15 Jun 2007)
 - ii. by ATV (as a special guest) in a TV programme featuring the history of HK bridges (18 Dec 2005);
 - iii. by Apple Daily on the issue of the planning, development, design and construction of the Hong Kong-Zhuhai-Macau Bridge (9 Sep 2002);
 - iv. by the Sun on the issue of the planning, development, design and construction of the Hong Kong-Zhuhai-Macau Bridge (30 Aug 2002);
 - v. by Express Weekly in a special edition on the issue of the planning, development, design and construction of the Hong Kong-Zhuhai-Macau Bridge (5 Jul 2001);
 - vi. by Ming Pao Daily on the issue of the collapse of a road bridge (13 Nov 1998);
 - vii. by RTHK (as a special guest) in a TV programme featuring the analysis, design and construction of suspension bridges (20 May 1998);
 - viii. by Apple Daily on the issue of a school accident caused by concrete spalling (9 Sep 1997);
 - ix. by ATV on the issue of the dynamic behaviour of the Tsing Ma Bridge (3 Aug 1997- after its first closure because of the Typhoon Victor);
 - x. by RTHK and Hong Kong Standard on the issue of the abnormal bouncing of the Tsing Yi South Bridge (9 Jan 1997);
 - xi. by Oriental Daily in a special column about the highway bridge loadings of Hong Kong (27 Jul 1996);
 - xii. by TVB, Cable T.V., Commercial Radio, Eastern Express, Apple Daily and Oriental Daily on the issue of the collapse of a footbridge caused by a heavy vehicle (8 Jun 1996);
 - xiii. by Commercial Radio and Metro Broadcast, Apple Daily and Oriental Daily on the issue of the collapse of a footbridge during construction (8 Jan 1996);
 - xiv. by ATV on the issue of the tilting of a building in China (in 1995);
 - xv. by RTHK on the issue of foundation caverns problems (24 Oct 1995);
 - xvi. by TVB on the issue of a faulty expansion joint of the Tsing Yi South Bridge (20 Jul 1995);
 - xvii. By the Hong Kong Cable T.V. on the issue of the collapse of a bridge in South Korea (22 Oct 1994).

Student capabilities desired:

Any (not all) of the following: Structural Dynamics, Finite Element Modeling, Structural Health Monitoring, Statistical Analysis, Reliability Studies, preferably some knowledge on optical fiber sensors.

Publications:

(Please refer to http://eprints.qut.edu.au/view/person/Chan,_Tommy.html for details)

Referred Journal Publications

1. Yu L. and Chan T.H.T. (2007). Recent research on identification of moving loads on bridges. *Journal of Sound and Vibration*, Vol. 305 Issue: 1-2, pp 3-21.
2. Xia, H., Xu, Y.L., Chan, T.H.T. and Zakeri, J.A. (2007) "Dynamic Responses of Railway Suspension Bridges under Moving Trains" *Scientia Iranica*, Vol. 14 No. 5, pp 385-394.
3. Zhou, T.Q., Hua, Yuan. and Chan, T.H.T. (2007) "Fully Coupled Fatigue Damage Analysis of Welded Steel Bridge Member under Traffic Loading" *Key Engineering Materials* Vols.348-349, pp. 761-764.
4. Ashebo, D.B., Chan, T.H.T. and Yu, L. (2007) "Evaluation of Dynamic Loads on a Skew Box Girder Continuous Bridge Part I: Field Test and Modal Analysis" *Engineering Structures* 29 (6) pp. 1052-1063.
5. Ashebo, D.B., Chan, T.H.T. and Yu, L. (2007) "Evaluation of Dynamic Loads on a Skew Box Girder Continuous Bridge Part II: Parametric Study and Dynamic Load Factor" *Engineering Structures* 29 (6) pp. 1064-1073.
6. Li, Z.X., Zhou, T.Q., Chan, T.H.T., Yu, Y. "Multi-scale Numerical Analysis on Dynamic Response and Local Damage in Long-span Bridges" *Engineering Structures* 29(7) pp. 1507-1524.
7. Guo, L., Li, Z.X. and Chan, T.H.T. (2006) "Multi-stage Model Updating Method via Substructure Analysis" (in Chinese) *Engineering Science* Vol. 8 No. 9 pp. 42-48.
8. Zhou, T.Q., Li, Z.X. and Chan, T.H.T. (2006) "Fatigue Damage Analysis on Crack Growth and Fatigue Life of Welded Bridge Members with Initial Crack" *Key Engineering Materials* Vols.324-325, pp. 251-254.
9. Li, Z.X. and Chan, T.H.T. (2006) "Fatigue criteria for integrity assessment of long-span steel bridge with health monitoring", *Theoretical and Applied Fracture Mechanics* Vol. 46 114-127.
10. Chan, T.H.T., and Ashebo, D.B. (2006) "Moving Axle Load From Multi-Span Continuous Bridge: Laboratory Study" *Journal of Vibration and Acoustics-Transactions of The ASME* Vol. 128 No. 4, pp. 521-526.
11. Chan, T.H.T. and Ashebo, D.B. (2006) "Theoretical Study of Moving Force Identification on Continuous Bridges" *Journal of Sound and Vibration* 295, pp. 870-883.
12. Zhu, J.H., Yu, L., Chen, M.Z. and Chan, T.H.T. (2006), "A fast algorithm on moving force identification", *Journal of Changjiang River Scientific Research Institute* (in Chinese), 23(2): 46-49.
13. Chan, T.H.T., Yu, L. Yu, Tam, H.Y., Ni, Y.Q., Liu, S.Y., Cheung, W.H and Cheng, L.K., (2005) "Fiber Bragg Grating Sensors for Structural Health Monitoring of Tsing Ma Bridge: Background & Experimental Observation" *Engineering Structures* 28 (5): 648-659.
14. Yu, L. and Chan, T.H.T. (2005) "Moving Force Identification from Bridge Dynamic Responses" *Structural Engineering and Mechanics* Vol. 21 No. 3, pp. 369-374.
15. Chan, T.H.T., T.J. Miao and Ashebo, D.B., (2005) "Statistical Models from Weigh-In-Motion Data" *Structural Engineering and Mechanics*, Vol. 20, No. 1 pp. 85-110.
16. Li, Z.X., Chan, T.H.T., Zhou T.Q., (2005) "Accumulative damage near crack tip for welded bridge members: fatigue life determination" *Theoretical and Applied Fracture Mechanics* 43, pp. 245-260.
17. Chan, T.H.T., Zhou, T.Q., Li, Z.X., and Guo, L (2005), "Hot Spot Stress Approach for Tsing Ma Bridge Fatigue Evaluation under Traffic Using Finite Element Method" *Structural Engineering and Mechanics*, Vol.19, No.3., pp. 261-279.
18. Yu, L. and Chan, T.H.T. (2005). "Indirect identification of time-varying vehicle loads on bridge", *Journal of Vibration Engineering* (in Chinese), 18(1): 99-102.

Referred Journal Publications (cont'd)

19. Chan, T.H.T., Li, Z.X., and Ko, J.M. (2004), "Evaluation of Typhoon Induced Fatigue Damage using Health Monitoring Data for the Tsing Ma Bridge", *Structural Engineering and Mechanics*, Vol.17, No.5., pp. 655 - 670.
20. Yu, L. and Chan, T.H.T. (2004) "Identification of Multi-Axle Vehicle Loads on Bridges", *ASME Journal of Vibration and Acoustics*, 126(1), pp. 17-26.
21. Yu, L., Chan, T.H.T., Xu, D.Y, and Lin, S.Z. (2004). "Recent advances on moving force identification", *ACTA MECHANICA SOLIDA SINICA* (in Chinese), 25(S): 122-126.
22. Li, Z.X., Chan, T.H.T., Zheng, R. (2003) Statistical Analysis of Online Strain Response and Its Application in Fatigue Assessment of a Long-span Steel Bridge, *Engineering Structures* 25 (14) pp. 1731-1741.
23. Chan, T.H.T., Gao, L and Li, Z.X., (2003). "Finite Element Modelling for Fatigue Stress Analysis of Large Suspension Bridges" *Journal of Sound and Vibration* Vol. 261 No. 3, pp. 443-464.
24. Yu L. and Chan T.H.T., (2003). "Moving Force Identification based on the Frequency-Time Domain Method. *Journal of Sound and Vibration* Vol. 261 No. 2, pp. 329-349.
25. Chan T.H.T., Yu L., Yung T.H. and Chan J.H.F., (2003). "A New Bridge-Vehicle System Part I: Formulation and Validation" *Structural Engineering and Mechanics*, Vol.15, No.1, pp. 1-19.
26. Chan T.H.T., Yu L., Yung T.H. and Chan J.H.F., (2003). "A New Bridge-Vehicle System Part II: Parametric Study" *Structural Engineering and Mechanics*, Vol.15, No.1, pp. 21-38.
27. Yu, L. and Chan, T.H.T. (2002) "Moving Force Identification from Bending Moment Responses of Bridge" *Structural Engineering and Mechanics*, Vol. 14, No. 2, pp. 151-170.
28. Li, Z.X., Chan, T.H.T. and Ko, J.M. (2002) "Evaluation of typhoon induced fatigue damage for Tsing Ma Bridge" *Engineering Structures* Vol. 24, pp. 1035-1047.
29. Miao, T.J. and Chan, T.H.T. (2002) "Bridge live load models from WIM data", *Engineering Structures* 24 (8) pp. 1071-1084.
30. Li, Z.X., Li, A.Q., Chan, T.H.T., Guo, L., and Zhou, T.Q., (2003) "Finite element modeling for health monitoring and condition assessment of long-span bridges", *Journal of Southeast University (Natural Science Edition)*, Vol. 33, No. 5, pp. 562-572.
31. Li, Z.X., Chan, T.H.T. and Ko, J.M. (2002) "Determination of Effective Stress range and its Application on Fatigue Stress Assessment of Existing Bridges". *International Journal of Solids and Structures* Vol. 39, pp. 2401-2417.
32. Zhou, T.Q., Guo, L., and Chan, H.T. (2002) "Fatigue Evaluation of Tsing-Ma Bridge subjected to Traffic Loading" *Earthquake Engineering and Engineering Vibration*, Vol. 22, No. 5, pp. 24-29.
33. Chan, T.H.T., Yu, L. Law, S.S. and Yung, T.H. (2001) "Moving Force Identification Studies I: Theory". *Journal of Sound and Vibration*, Vol. 247, No. 1, pp.59-76.
34. Chan, T.H.T., Yu, L. Law, S.S. and Yung, T.H. (2001) "Moving Force Identification Studies II: Comparative Studies". *Journal of Sound and Vibration*, Vol. 247, No. 1, pp.77-95.
35. Li, Z.X., Ko, J.M. and Chan, T.H.T. (2001) "Modelling of Load Interaction and Overload Effect on Fatigue Damage of Steel Bridges", *Fatigue and Fracture of Engineering Materials and Structures*, Vol. 24, pp. 379-390.
36. Li, Z.X., Chan, T.H.T. and Ko, J.M. (2001), "Fatigue Damage Model for Bridge under Traffic Loading: Application Made to Tsing Ma Bridge", *Theoretical and Applied Fracture Mechanics*, 35(1), pp.81-91.
37. Law, S.S., Chan, T.H.T., Zhu, Q.X. and Zeng, Q.H. (2001) "Regularization in Moving Force Identification" *Journal of Engineering Mechanics of ASCE*, Vol. 127 No. 2 pp. 136-148.

Referred Journal Publications (cont'd)

38. Law S.S., Chan, T.H.T., Wu D. (2001) "Efficient numerical model for the damage detection of large scale structure" *Engineering Structures* Vol. 23, pp.436-451.
39. Law S.S., Chan, T.H.T. and Wu, D. (2001) "Super-Element with Semi-Rigid Joints in Model Updating" *The Journal of Sound and Vibration* Vol. 239, No. 1, pp. 19-39.
40. Li, Z.X., Chan, T.H.T. and Ko, J.M. (2001) "Fatigue Analysis and Life Prediction of Bridge with Health Monitoring Data – Part I: Theory and Strategy" *International Journal of Fatigue*, Vol. 23 (1), pp. 45-53.
41. Chan, T.H.T., Li, Z.X. and Ko, J.M.(2001) "Fatigue Analysis and Life Prediction of Bridge with Health Monitoring Data – Part II: Application" , *International Journal of Fatigue*, Vol. 23 (1), pp. 55-64.
42. Yu, L., Chan, T.H.T. and Law, S.S. (2001) "Identification of Moving Vehicle Loads on Bridges using Time Domain Method and Frequency-Time Domain Method". *Engineering Mechanics (in Chinese)*, Vol. 18, No. 5, pp.100-107.
43. Yu, L., Chan, T.H.T. and Law, S.S. (2001) "Experimental Validation on Two Solutions to Moving Vehicle-Axle Load Identification". *Journal of Yangtze River Scientific Research Institute (in Chinese)* Vol. 18, No.5, pp.84-87.
44. Xia, H., XU, Y.L. and Chan, T.H.T. (2000) "Dynamic Interaction of Long Suspension Bridges with Running Trains" *The Journal of Sound and Vibration* Vol. 237, No. 2, pp. 263-280.
45. Chan T.H.T. Yu L. and Law S.S. (2000) "Comparative Studies on Moving Force Identification From Bridge Strains in Laboratory" *The Journal of Sound and Vibration* Vol. 235, Issue 1, pp. 87-104.
46. Chan T.H.T. and Yung T.H. (2000) "A theoretical study of force identification using prestressed concrete bridge" *Engineering Structures* Vol. 22, No. 11, pp. 1529-1537.
47. Chan T.H.T., Law S.S. and Yung T.H. (2000) "Moving force identification using an existing prestressed concrete bridge" *Engineering Structures* Vol. 22, No. 10, pp. 1261-1270.
48. Chan T.H.T. and Yung T.H. (1999) Moving force identification studies using an existing bridge, Recipient of the Hong Kong Institution of Engineers Civil Engineering Paper of the Year Awards 1998/1999: Research Medal (<http://www.hkiecvd.org/Featre/Articles/P9899R01.htm>).
49. Law S.S., Chan, T.H.T. and Zeng Q.H. (1999) "Moving Force Identification - A Frequency-Time Domains Approach" *Journal of Dynamic Systems, Measurement and Control ASME*, Vol. 121, No. 3, pp. 394-401.
50. Chan, T.H.T., and Chan, J.H.F. (1999) "The Use of Eccentric Beam Elements in the Analysis of Slab-on-Girder Bridges" *Structural Engineering & Mechanics*, Vol.8, No.1, pp. 85 - 102.
51. Chan, T.H.T., S.S. Law, Yung, T.H. and Yuan, X.R. (1999) "An Interpretive Method for Moving Force Identification " *The Journal of Sound and Vibration* Vol. 219, Issue 3, pp. 503-524.
52. Chan, T.H.T., S.S. Law, and Yung, T.H. (1998) "Modal Test on an Existing Concrete Bridge: Experience Acquired" *The HKIE Transactions*, Vol. 5, No. 3, December, pp. 8-16.
53. Law, S.S., Chan, T.H.T., and Zeng Q.H. (1997) "Moving Force Identification - Time Domain Method" *The Journal of Sound and Vibration* Vol. 201, Issue 1, pp.1-22.
54. Chan T.H.T., B. Bakht and M.Y. Wong (1995) "An Introduction to Simplified Methods of Bridge Analysis for Hong Kong" *The HKIE Transactions*, Vol. 2, No. 1, April, pp.1-8.
55. Chan T.H.T. and O'Connor C. (1990) "Vehicle Model for Highway Bridge Impact". *Structural Engineering ASCE*, 116 (ST7), pp.1772-1793.
56. Chan T.H.T. and O'Connor C. (1990) "Wheel Loads from Highway Bridge Strains -Field Studies" *Structural Engineering ASCE*, 116 (ST7), pp.1751-1771.
57. O'Connor C. and Chan T.H.T. (1988) "Dynamic Wheel Loads from Bridge Strains" *Journal of Structural Engineering ASCE*, 114 (ST8), pp. 1703-1723.

Referred Journal Publications (cont'd)

58. O'Connor C. and Chan T.H.T. (1988) "Dynamic Wheel Loads from Bridge Strains: -Laboratory Studies" *Journal of Structural Engineering ASCE*, 114 (ST8), pp. 1724-1740.

Referred Conference Publications

59. Chan, T.H.T. (2007) "Recent Advances in Moving Force Identification" *Proceedings of 3rd International Symposium on Environmental Vibrations: Prediction, Monitoring, Mitigation and Evaluation (ISEV2007)*, 28-30 November 2007, Taipei, pp. 609-616. (invited paper)
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