

Prof. Zhongqing SU

Professor of Mechanical Engineering
Editor-in-Chief, *Ultrasonics* (Elsevier)

Associate Head of Department

B.Eng.; M.S. (BUAA); Ph.D. (Syd); FHKIE; MASME; MHKSTAM

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Research Interests

Structural Health Monitoring (SHM); Ultrasonics; Wave Propagation; Sensor and Sensor Network;
Non-destructive Evaluation (NDE); Smart Materials and Structures; Advanced Composite Materials

Information on Internet

Group Website: <https://www.polyu.edu.hk/researchgrp/shm/>
Dept. Website: <https://www.polyu.edu.hk/me/people/academic-teaching-staff/su-zhong-qing-prof/>
Google Scholar: http://scholar.google.com.hk/citations?user=k_a3FB0AAAAJ&hl=en
Mendeley (Elsevier): <https://www.mendeley.com/profiles/zhongqing-su/>
Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57208661555>
ORCID: <https://orcid.org/0000-0003-1524-0026>
YouTube Research Channel: <https://www.youtube.com/channel/UCANVp-KGXweQMZwiyIxR11g>

Personal Particulars

Married with a child; Citizenship: Australian; Residence: Hong Kong

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Education

- **Ph.D.** (2004) **School of Aerospace, Mechanical & Mechatronic Engineering**
The University of Sydney, Australia
Thesis Title: An Elastic Wave-based Quantitative Damage Identification Technique Using Active Sensor Network (Supervisor: Prof. Lin YE; Co-Supervisor: Prof. Y.-W. MAI)
- **M.S. (Aeronautics)** (2000, *Magna Cum Laude*) **School of Aeronautical Science & Engineering**
Beijing University of Aeronautics & Astronautics, China
Thesis Title: Investigation of The Thermo-mechanical Characteristics of Shape Memory Alloy-reinforced Composites and Applications to Active Structural Control
- **B.Eng. (Aeronautics)** (1997, *Summa Cum Laude*) **School of Aeronautical Science & Engineering**
Beijing University of Aeronautics & Astronautics, China
Thesis Title: Dynamic Characteristics of Flight Vehicle Rudder Systems at Hypersonic Speeds

Academic & Administrative Appointments

- **Full Professor & Associate Head of Department** (2017 to date)
Department of Mechanical Engineering, The Hong Kong Polytechnic University
- **Full Professor** (2016 to date)
Department of Mechanical Engineering, The Hong Kong Polytechnic University
- **Associate Professor** (2012~2016; with tenure; under “University Fast-track Promotion Scheme” for outstanding young faculty members)
Department of Mechanical Engineering, The Hong Kong Polytechnic University
- **Assistant Professor** (2007~2011)
Department of Mechanical Engineering, The Hong Kong Polytechnic University
- **Australian Research Council – Australian Postdoctoral Fellow (ARC-APD)** (2005~2006)
School of Aerospace, Mechanical & Mechatronic Engineering, The University of Sydney
- **Postdoctoral Research Fellow** (2004)
School of Aerospace, Mechanical & Mechatronic Engineering, The University of Sydney

Adjunct Appointments

- **Chair Professor** (2020 to date)
School of Astronautics, Northwestern Polytechnical University, P. R. China
- **Adjunct Professor** (2019 to date)
Shenzhen Institutes of Nanjing University of Posts and Telecommunications, Nanjing, P. R. China
- **Adjunct Professor** (2018 to date)
College of Aerospace Engineering, Chongqing University, P. R. China
- **Adjunct Professor** (2018 to date)
School of Automation, Nanjing University of Posts and Telecommunications, Nanjing, P. R. China

Honours, Awards & Scholarships

- **Structural Health Monitoring – Person of the Year (SHM-POY) Award**
Structural Health Monitoring: An International Journal (2012)
- **The President's Award for Excellent Performance/Achievement in Research and Scholarly Activities (*Individual*)**
The Hong Kong Polytechnic University (2011)
- **The Dragon-Star Innovation Award (1st Place)**
Seventh Framework Programme, European Commission (2015)
- **Natural Science Award for Higher Education Outstanding Scientific Research Output (2nd Class)**
The Ministry of Education, P. R. China (2015)
- **The Faculty of Engineering Research Grant Achievement Award (*Individual*)**
Faculty of Engineering, The Hong Kong Polytechnic University (2017)
- **The Faculty of Engineering Research Grant Achievement Award (*Individual*)**
Faculty of Engineering, The Hong Kong Polytechnic University (2015)
- **The Faculty Award for Outstanding Performance/Achievement in Research (*Individual*)**
Faculty of Engineering, The Hong Kong Polytechnic University (2011)
- **The Faculty Merit Award in Teaching (*Individual*)**
Faculty of Engineering, The Hong Kong Polytechnic University (2010)
- **Appreciation of Research Achievement Award**
Committee of Science & Technology Innovation, Municipal Government of Shenzhen (2014)
- **Australian Postdoctoral Fellowship (ARC-APD) Award**
Australian Research Council (ARC) (2005-2007)
- **The Performance Reward**
Department of Mechanical Engineering, Hong Kong Polytechnic University (2007, 2008)
- **Early Career Symposium Fellowship Award**
Australian Academy of Technological Sciences & Engineering (ATSE) (2006)
- **Early Career Researcher Grant Award**
ARC Australian Research Network for Advanced Materials (ARC-ARNAM) (2006)
- **International Postgraduate Research Scholarship (IPRS)**
Department of Education, Science & Training (DEST), Australia (2000-2004)
- **International Postgraduate Award (IPA)**
The University of Sydney (2000-2004)
- **The Faculty Postgraduate Scholarship**
Faculty of Engineering, The University of Sydney (2002-2004)

Publications & Bibliometrics (see [Annex II](#) for a full list)

- 2 authored research monographs, 1 book under contract with Cambridge University Press (to be

published in 2022), **5** edited books/international conference proceedings, **6** book chapters

- **~180** peer-reviewed journal papers; **~140** refereed international conference proceeding papers
- **H-index: 37** (ISI Web of Knowledge) / **38** (Scopus) / **43** (Google Scholar)
- **Citation: 4700+** (ISI Web of Knowledge) / **5100+** (Scopus) / **7300+** (Google Scholar)
- The monograph, "Identification of Damage Using Lamb Waves: *From Fundamentals to Applications*" (London: Springer-Verlag, 2009), is among the **Top 25% Most Downloaded Engineering Books published by Springer** (source: Springer-Verlag).
- The paper, "Guided Lamb waves for identification of damage in composite structures: A review" (*Journal of Sound and Vibration* (JSV), 295(3-5):753-780), is the **No. 2 Most Cited Article** on JSV (2006~2012); the **No. 1~3 Hottest Paper** on JSV by 2015 (source: Elsevier).
This paper is one of the **ONLY** two **Highly Cited Papers** (2005-2015) pertaining to "Lamb waves" (source: Essential Science IndicatorsSM, ISI Web of Knowledge).
- The paper, "Quantitative assessment of through-thickness crack size based on Lamb wave scattering in aluminium plates" (*NDT&E International*, 41(1):59-68), is the **No. 1 Most Cited Article** on NDT&E International (2007~2012) (source: Elsevier).
- The paper, "On selection of data fusion schemes for structural damage evaluation" (*Structural Health Monitoring: An International Journal* (SHMIJ), 8(3):223-241), is among the **Top 5 Most Cited Articles** on SHMIJ (source: SAGE Publications, 2015).
- The paper, "Fundamental Lamb mode-based delamination detection for CF/EP composite laminates using distributed piezoelectrics" (*Structural Health Monitoring: An International Journal*, 3(1):43-68), is the **No. 23 Most Cited Article** on SHMIJ (source: SAGE Publications, 2015).
- The paper, "Damage identification of metallic structures using A_0 mode of Lamb waves: (*Structural Health Monitoring: An International Journal*, 7(3):271-285), is the **No. 26 Most Cited Article** on SHMIJ (source: SAGE Publications, 2015).
- The paper, "Probabilistic damage identification based on correlation analysis using guided wave signals in aluminum plates" (*Structural Health Monitoring: An International Journal*, 9(2):133-144), is the **No. 27 Most Cited Article** on SHMIJ (source: SAGE Publications, 2015).

Editorial Appointments

- **Editor-in-Chief, *Ultrasonics* (Elsevier)** (since 2019)
- **Handling Editor, *Physics Open* (Elsevier)** (since 2019)
- **Associate Editor, *Structural Health Monitoring: An International Journal* (SAGE)** (since 2016)
- **Associate Editor, *ASME Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems* (ASME Publishing)** (since 2017)
- **Editorial Board Member, *Aerospace* (MDPI)** (since 2017)
- **Editorial Board Member, *Structural Engineering and Mechanics: An International Journal* (Techno-Press)** (since 2013)
- Previous appointments:
 - **Associate Editor, *Ultrasonics* (Elsevier)** (2016-2018)
 - **Subject Editor, *Journal of Sound and Vibration* (Elsevier)** (2016-2018)
 - **Associate Editor, *Coupled Systems Mechanics: An International Journal* (Techno-Press)**

- **Associate Editor**, *Structural Monitoring and Maintenance: An International Journal* (Techno-Press)
- **Guest Editor**, *Smart Materials and Structures* (IOP Publishing)
- **Guest Editor**, *Structural Health Monitoring: An International Journal* (SAGE)
- **Guest Editor**, *Sensors* (MDPI)
- **Guest Editor**, *Mathematical Problems in Engineering* (Hindawi Publishing)
- **Guest Editor**, *ASME Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems* (ASME Publishing)

Professional Appointments, Fellowships & Memberships

- **Secretary General**
 - The Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM) (2016-2018)
 - The 14th Asia-Pacific Vibration Conference (APVC2011) (5-8, December, 2011, Hong Kong)
 - Australian Composite Structures Society (ACSS) (Sydney Chapter) (2004-2007)
 - The 4th Asian-Australasian Conference on Composite Materials (ACCM-4) (6-9, July, 2004, Sydney, Australia)
- **Vice President**
 - Equipment Structural Health Monitoring and Prognostics Branch of China Instrument and Control Society (CSHMP) (October 2016-present)
- **Fellow**
 - The Hong Kong Institution of Engineers (HKIE)
- **Member**
 - The American Society of Mechanical Engineers (ASME)
 - Executive Committee of the Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM)
 - The Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM)
 - Australian Composite Structures Society (ACSS)
 - ARC-Australian Research Network for Advanced Materials (ARC-ARNAM)
 - Scientific Steering Committee of China Electro-technical Society (Railway Technology)

Conference Organisation, Chairmanships & Committee Memberships

- **Conference Chair**, The 7th Asia-Pacific Workshop on Structural Health Monitoring (APWSHM-2018) (12-15, November, 2018, Hong Kong)
- **Conference Co-chair**, Health Monitoring of Structural and Biological Systems, SPIE Conference Series on Smart Structures/NDE
- **Conference Co-chair**, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems, SPIE Conference Series on Smart Structures/NDE
- **Steering Committee Member**, European Workshop on Structural Health Monitoring (EWSHM)
- **Scientific Committee Member**, Asia-Pacific Workshop on Structural Health Monitoring (APWSHM)
- **Executive Organising Committee Member**, SPIE Conference Series on Smart Structures/NDE
- **Board Member**, International Congress on Ultrasonics (ICU)
- **Organising Committee Chair**, The 22nd Annual Conference of the Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM) in conjunction with the 14th Shanghai-Hong Kong Forum on Mechanics and Its Application (14, April, 2018, Hong Kong)

- **Organising Committee Chair**, The 21st Annual Conference of the Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM) in conjunction with the 13th Jiangsu-Hong Kong Forum on Mechanics and Its Application (8, April, 2017, Hong Kong)
- **International Scientific, Organising or Technical Committee Member**
 - **SPIE Conference Series** on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems)
 - **SPIE Conference Series** on Smart Structures/NDE (Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems)
 - **European Workshop Series** on Structural Health Monitoring (EWSHM)
 - **Asia-Pacific Workshop Series** on Structural Health Monitoring (APWSHM)
 - **The American Society of Mechanical Engineers (ASME) Conference Series** on Non-destructive Evaluation, Diagnosis, and Prognosis Division (NDPD)
 - **International Conference Series on Structural Health Monitoring and Integrity Management (ICSHMIM)**
 - **International Symposium Series on NDT in Aerospace**
 - **The 20th World Conference on Non-Destructive Testing (WCNDT 2020)**
 - **The 3rd World Congress on Condition Monitoring (WCCM)**
 - 2017 International Conference on Electrical Engineering and Information Technologies for Rail Transportation
 - The 29th International Congress on Condition Monitoring and Diagnostic Engineering Management, (COMADEM 2016) (20-22, August, 2016, Xi'an, P. R. China)
 - The 19th International Conference on Vibration Science of Infrastructure Engineering (19th Vibroengineering 2015) (26-28, September, 2015, Nanjing, P. R. China)
 - The 6th International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII-6) (9-11, December, 2013, Hong Kong)
 - The 8th World Congress on Engineering Asset Management (30, October-1, November, 2013, Hong Kong)
 - The 2012 International Conference on Advances in Coupled Systems Mechanics (ACSM12) (26-30, August, 2012, Seoul, Republic of Korea)
 - The 14th Asia-Pacific Vibration Conference (APVC2011) (5-8, December, 2011, Hong Kong)
 - The 1st International Workshop on High-speed and Intercity Railways (19-22, July, 2011, Hong Kong)
 - International Aeronautical Science and Engineering Workshop (24-27, May, 2011, Hong Kong)
 - International Workshop on Fracture of Materials (23-25, January, 2006, Sydney, Australia)
- **Symposium Chair**
 - “Sensing Strategy for Wave-based SHM” associated with the 9th International Workshop on Structural Health Monitoring (IWSHM-9) (10-12, September, 2013, Stanford, CA., USA)
 - “Structural Health Monitoring for Mechanical Structures” associated with the 14th Asia-Pacific Vibration Conference (APVC2011) (5-8, December, 2011, Hong Kong)

Key External Competitive Research Grants & Funding

Having secured sizable research grants and funding from government agencies (e.g., Research Grants Council (RGC) Hong Kong, Innovation & Technology Commission (ITC) Hong Kong, Natural Science Foundation of China (NSFC), and Australian Research Council (ARC)), industries (e.g., China Academy of Space Technology (CAST), Airbus Industrie, The Commercial Aircraft Corporation of China, Ltd. (COMAC), Aero Engine Academy of China, China High-speed Railways) and universities.

From Governmental Agencies (as a Principal Investigator (PI))

- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: Non-invasive Ultrasound ...
- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**

Title: In-situ 3-D ...

- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: A New Research Framework for ...
- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: Probabilistic Evaluation of ...
- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: In-situ Sensing ...
- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: Structural Health Monitoring-oriented ...
- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: Model-free Multilevel Identification of ...
- **Innovation and Technology Fund (ITF) (Innovation & Technology Commission (ITC) Hong Kong)**
Title: An Innovative Smart Sensing ...
- **Innovation and Technology Fund (ITF) (Innovation & Technology Commission (ITC) Hong Kong)**
Title: Trial of "Online Health Diagnosis ..."
- **Innovation and Technology Fund (ITF) (Innovation & Technology Commission (ITC) Hong Kong)**
Title: Online Health Diagnosis ...
- **Natural Science Foundation Key Project (Natural Science Foundation of China (NSFC))**
Title: Elastic Wave-based ...
- **Natural Science Foundation General Project (Natural Science Foundation of China (NSFC))**
Title: In-situ Monitoring of ...
- **Natural Science Foundation General Project (Natural Science Foundation of China (NSFC))**
Title: Acoustical Nonlinearity of ...
- **Key Project Program (State Key Laboratory of Mechanics and Control of Mechanical Structures, China)**
Title: Characteristics of Damage-induced ...
- **Discovery Project (DP) (Australian Research Council (ARC) Australia)**
Title: Online Structural Health Monitoring (SHM) ...

From Industry and Other External Sources (as a Principal Investigator (PI) or Co-PI)

- **General Research Program (Aero Engine Academy of China (AEAC), China)**
Title: Laser Ultrasonics ...
- **General Research Program (The Commercial Aircraft Corporation of China, Ltd. (COMAC), China)**
Title: Development of ...
- **General Research Program (The Commercial Aircraft Corporation of China, Ltd. (COMAC), China)**
Title: Airworthiness ...
- **General Research Program (Airbus Industrie)**
Title: Nanocomposites-driven ...
- **General Research Program (Southwest Jiaotong University Railway Development Co. Ltd., China)**
Title: Active ...
- **General Research Program (Beijing Institute of Spacecraft Environment Engineering, China)**

Academy of Space Technology (CAST), China)

Title: Online Health Diagnosis ...

- **General Research Program (The Nanjing University of Aeronautics and Astronautics, China)**
Title: Simulation-based ...

From Governmental Agencies or Industry (as a Co-Investigator (Co-I))

- **General Research Fund (GRF) (Research Grants Council (RGC) Hong Kong)**
Title: The Design of ...
- **NSFC/RGC Joint Research Scheme (National Natural Science Foundation of China (NSFC) and Research Grants Council (RGC) Hong Kong)**
Title: Corrosion and Fatigue ...
- **Innovation and Technology Fund (ITF) (Innovation & Technology Commission (ITC) Hong Kong)**
Title: Design of ...
- **General Research Program (Beijing Institute of Spacecraft Environment Engineering, China Academy of Space Technology (CAST), China)**
Title: A Hierarchical Diagnosis ...
- **General Research Program (Beijing Institute of Spacecraft Environment Engineering, China Academy of Space Technology (CAST), China)**
Title: Online Sound ...
- **General Research Program (LORD Asia Pacific Limited)**
Title: Quantification of ...

Research Supervision (in a descending chronological order of commencement date)**As Chief Supervisor of PhD Students**

- Mr. Yi He (**on-going** since 07/2020)
- Ms. Tianhui Lu (**on-going** since 07/2020)
- Mr. Yiyin Su (**on-going** since 08/2018)
- Mr. Lei Xu (**on-going** since 08/2018)
- Mr. Jianwei Yang (**on-going** since 08/2018)
- Mr. Xiongbin Yang (**on-going** since 01/2018)
- Mr. Pengyu Zhou (**on-going** since 07/2017)
- Mr. Wuxiong Cao (**on-going** since 07/2017)
- Mr. Yaozhong Liao (**on-going** since 07/2016)
- Dr. Yehai Li (**PhD, 2019**)
- Dr. Kai Wang (**PhD, 2019**)
- Dr. Zhen Zhang (**PhD, 2017**)
- Dr. Menglong Liu (**PhD, 2017**)
- Dr. Rafal Radecki (**PhD, 2017**)

- Dr. Ming Hong (**PhD, 2016**; recipient of “Hong Kong PhD Fellowship”, recipient of “Fulbright-RGC Hong Kong Scholar Award”, and recipient of “Endeavour Australia Cheung Kong Research Fellowship”)
- Dr. Hao Xu (**PhD, 2014**)
- Dr. Jiangang Chen (**PhD, 2011**)

As Chief Supervisor of MSc (by Research) Students

- Mr. Jiayuan Fang (**on-going** since 01/2019)
- Mr. Dongyue Pan (**MSc, 2019**; Dissertation title: Additive Manufacturing-driven Design and Fabrication of Nanocomposite Sensing Units for Ultrasonics-based Structural Health Monitoring)
- Mr. Yaozhong Liao (**MSc, 2016**)
- Mr. Jing Liu (**MSc, 2016**)
- Mr. Bo Lu (**MSc, 2015**)
- Mr. Weijian Liu (**MSc, 2015**)
- Mr. Bing Wu (**MSc, 2014**)
- Mr. Junhao Wei (**MSc, 2014**)
- Mr. Bingham Wang (**MSc, 2014**)
- Mr. Mingran Liu (**MSc, 2012**)

As Co-Supervisor of PhD/MSc (by Research) Students

- Dr. Aleksandra Ziaja (**PhD, 2016**; recipient of “**Hong Kong PhD Fellowship**”)
- Dr. Chao Zhou (**PhD, 2011**)
- Dr. Dong Wang (**PhD, 2010**)
- Mr. Nan Pan (**MSc, 2005**; School of Aerospace, Mechanical & Mechatronic Engineering, The University of Sydney, Australia)

As Advisor of Research Personnel

- Dr. Wei Xu (Postdoctoral Fellow supported by “**Hong Kong Scholar Program**”) (since 11/2018)
- Dr. Kai Wang (Postdoctoral Fellow) (since 03/2019)
- Dr. Yehai Li (Research Associate) (03/2019-08/2019)
- Mr. Junfei Tai (Research Assistant) (04/2019-06/2020)
- Mr. Qi Zhou (Research Assistant) (03/2019-06/2020)
- Dr. Yanfeng Xu (Postdoctoral Fellow) (06/2017 to 01/2019)
- Ms. Ruiqi Guan (Research Assistant) (06/2017-01/2018)
- Ms. Feng Duan (Research Assistant) (12/2016-12/2018)
- Prof. Lei Qiu (Postdoctoral Fellow supported by “**Hong Kong Scholar Program**”) (01/2015-02/2017); recipient of “**Humboldt Research Fellow**”
- Dr. Menglong Liu (Research Assistant) (12/2016-02/2017)
- Prof. Hao Xu (Postdoctoral Fellow) (05/2015-08/2016)
- Mr. Weijian Liu (Research Assistant) (11/2014-07/2016)

- Mr. Zhihui Zeng (Research Assistant) (09/2015-03/2016)
- Mr. Yetong Zhang (Research Assistant) (11/2014-04/2016)
- Dr. Wenyan Liang (Research Associate) (01/2015-05/2015)
- Dr. Weikang Li (Postdoctoral Fellow) (12/2013-05/2015)
- Dr. Qiang Wang (Research Fellow) (02/2011-08/2012)
- Dr. Chao Zhou (Research Associate) (12/2010-07/2012)
- Dr. Jiangang Chen (Research Associate) (12/2010-12/2011)
- Mr. Shek Chun Law (Research Assistant) (10/2010-08/2011)
- Prof. Maosen Cao (Research Fellow) (07/2010-07/2011)
- Dr. Haifeng Yang (Research Assistant) (01/2010-07/2010)
- Dr. Rrongping Fan (Research Associate) (09/2009-09/2011)
- Dr. Long Yu (Research Associate) (2007-2009)

Plenary, Keynote & Invited Talks (see [Annex I](#) for a full list)

Invited Plenary Talks at International Conferences

- Title: Additive-manufacturing-driven sensing technology for new era of structural health monitoring: from distributed to dispersed sensing (The 2020 SPIE Conference on Smart Structures/NDE; 26-30, April, 2020; Anaheim, CA., USA) (*postponed due to COVID-19*).
- Title: In situ condition monitoring of high-speed rail tracks using diffuse ultrasonic waves: from theory to applications (The 2nd World Congress on Condition Monitoring (WCCM-2019); 2-5, December, 2019; Singapore)
- Title: Nanocomposites-inspired sensing for ultrasonic-wave-based structural health monitoring: from distributed, through quasi-diffuse, to fully-dispersed sensing (The 4th International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2018); 21-23, October, 2018; Hangzhou, P. R. China)
- Title: Evaluation of hypervelocity impact (>2 km/s)-induced damage based on nonlinear acousto-ultrasonic waves: a framework for space application-oriented structural health monitoring (The 3rd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2016); 15-17, October, 2016; Chengdu, P. R. China)
- Title: A coatable nanocomposite sensing network for vibration and ultrasonic wave based condition monitoring and structural health monitoring (The 29th International Congress on Condition Monitoring and Diagnostic Engineering Management (COMADEM 2016); 20-22, August, 2016; Xi'an, P. R. China)
- Title: A nano-engineered, coatable, networkable, lightweight sensor for in-situ acquisition of ultrasonic waves (The 6th East Asia Mechanical & Aerospace Engineering Workshop; 2-4, June, 2016; National Cheng Kung University, Tainan, Taiwan)
- Title: Guided wave-based in-situ structural health monitoring for high-speed train bogie systems (The 2nd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2014); 24-26, September, 2014; Nanjing, P. R. China)
- Title: Guided wave-based in-situ structural health monitoring for high-speed train bogies (The 2013 International Conference on Electrical Engineering and Information Technologies for Rail Transportation (EITRT2013); 7-10, November, 2013; Changchun, P. R. China)

- Title: Integrated damage inspection system for engineering structure using an active sensing network: development and validation (The 1st International Conference on Mechatronic System and Measurement Technology (ICMSMT); 16-18, August, 2012; Nanjing, P. R. China)

Invited Plenary Talks at National Conferences

- Title: Guided-wave-based health monitoring and its realization on CRH380 high-speed trains (The 2016 Forum on New Technologies for High-speed Railway Construction and Operation Safety; 21-22, April, 2016; Chengdu, P. R. China)
- Title: A nano-engineered sensor coating and its use for in-situ acquisition of structural vibration and guided ultrasonic waves (The 1st National Conference on Structural Health Monitoring and Cross-strait Forum on Structural Health Monitoring Development; 10-12, December, 2015; Xiamen, P. R. China)

Invited Keynote Talks at International Conferences

- Title: Nanocomposite-inspired sensing for new era of structural health monitoring technology (Conference on "CAMT2019 – 30-year Progress in Advanced Materials Technology (CAMT2019); 19-21, April, 2019; Shanghai, P. R. China).
- Title: *In-situ* health monitoring of space structures under hypervelocity impact: hybrid use of passive acoustic emission and active nonlinear guided waves (The 6th International Congress on Ultrasonics (ICU 2017); 18-20, December, 2017; Honolulu, HI., USA)
- Title: A high-sensitivity, sprayable nanocomposite sensor for localizing damage in aircraft radomes (The 9th International Symposium on NDT in Aerospace (NDT in Aerospace); 8-10, November, 2017; Xiamen, Daegu, P. R. China)
- Title: A nano-engineered sensing coating for guided-ultrasonic-wave-based structural integrity monitoring: from distributed to quasi-dispersed sensing (The Korean Society for Nondestructive Testing (KSNT) 2017 Spring Conference and International Workshop; 24-26, May, 2017; Daegu, Republic of Korea)
- Title: Damage identification using guided waves: from linear to nonlinear, from macroscopic to mesoscopic, from distributed to dispersed sensing (Workshop on Health Monitoring of Offshore Wind Farms (HEMOW); 26, September, 2014; Nanjing, P. R. China)
- Title: Acousto-ultrasonic wave-based characterization of fatigue damage for SHM: non-linear vs. linear approaches (The 164th Meeting of the Acoustical Society of America; 22-26, October, 2012; Kansas City, MO., USA)
- Title: Noise reduction for vibration-based damage detection involving high-order derivatives (The Symposium on Structural Health Monitoring for Mechanical Structures, associated with the 14th Asia-Pacific Vibration Conference (APVC2011); 5-8, December, 2011; Hong Kong)
- Title: Detecting fatigue cracks using nonlinear characteristics of acousto-ultrasonic Lamb waves (The 2011 World Congress on Advances in Structural Engineering and Mechanics (ASEM'11+) & the 2011 International Conference on Smart Structures and Systems (ICOSSS'11); 18-22, September, 2011; Seoul, Republic of Korea)
- Title: Moving forward: from damage detection to structural health monitoring (The 14th International Symposium on Applied Electromagnetics and Mechanics (ISEM-14); 20-24, September, 2009; Xi'an, P. R. China)
- Title: Hierarchical database and fast training for artificial neural network (ANN)-based quantitative damage identification (The US Air Force Specialist International Workshop on Health Assessment of Composite Structures; 17, November, 2005, Monash University, Melbourne, Australia)

Invited Keynote Talks at National Conferences

- Title: Evaluating fatigue crack orientation using crack-induced contact acoustic nonlinearity (2018 National Conference on Solid Mechanics; 23-25, November, 2018; Harbin, P. R. China)
- Title: Characterizing hypervelocity impact (HVI)-induced pitting damage using active guided ultrasonic waves: from linear to nonlinear (The Chinese Congress of Theoretical and Applied Mechanics-2017 (CCTAM2017); 13-16, August, 2017; Beijing, P. R. China)
- Title: A nano-engineered, sprayable sensing network coating for *in situ* guided-wave-based SHM (The Chinese Congress of Theoretical and Applied Mechanics-2017 (CCTAM2017); 13-16, August, 2017; Beijing, P. R. China)

Invited Talks at Workshops and Forums

- Title: A perspective from an editor's point of view on publishing in international journals (Ultrasonics Authors' Workshop for Early Career Researchers affiliated with the 7th International Congress on Ultrasonics (ICU 2019); 3, September, 2019; Bruges, Belgium)
- Title: Nanocomposites-inspired sensing for ultrasonic-wave-based structural health monitoring: from distributed, through quasi-diffuse, to fully-diffuse sensing (PolyU & Imperial College London - Joint Seminar on Advances in Non-destructive Evaluation and Structural Health Monitoring; 22, August, 2018; Hong Kong)
- Title: A perspective from an Asian point of view on publishing in international journals (The Authors' Workshop for Early Career Researchers affiliated with the 6th International Congress on Ultrasonics (ICU 2017); 18, December, 2017; Honolulu, HI., USA)
- Title: Initiatives to enhance guided-wave-based structural health monitoring: from linear to nonlinear algorithm, from distributed to dispersed sensing (The 12th Jiangsu-Hong Kong Forum on Theoretical and Applied Mechanics; 6, November, 2016; Nanjing, P. R. China)
- Title: An online diagnosis technique and system for cracks in train structures using acousto-ultrasonic waves and active sensor network: methodology, system development and applications (MTR Condition Monitoring Technical Forum; 12, July, 2012; MTR Operations Division, Hong Kong)
- Title: Damage identification using piezoelectric wafers and artificial neural networks (Australian CRC-ACS Cost-effective NDI of Composite Structures Workshop; 7, May, 2002; RMIT University, Melbourne, Australia)
- Title: Structural health monitoring for aircraft composite structures (The Institute of Materials Engineering Australasia Ltd (IMEA) Postgraduate/Industry Forum; 9, April, 2002; The University of Technology, Sydney, Australia)

Academic Visits

- **Distinguished Scholar (under "Monash Engineering Distinguished Scholar Scheme")**
Faculty of Engineering, Monash University, Australia (August, 2019)
- **Visiting Scientist**
School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore (August, 2017)
- **Visiting Scholar**
Department of Mechanical Engineering, University College London, the UK (June-July, 2016)
- **Visiting Scientist**

School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore (August, 2015)

- **Overseas Expert**

COMAC Beijing Aeronautical Science & Technology Research Institute
The Commercial Aircraft Corporation of China, Ltd., Beijing, P. R. China (July, 2014)

- **Visiting Professor**

School of Automation, Nanjing University of Posts and Telecommunications, Nanjing, P. R. China (June, 2013)

Patents & Technology Transfer

- **Gold Medal of the 46th International Exhibition of Inventions of Geneva:** Sprayable Smart Sensing Network coating for Structural Health Monitoring (inventors: Su, Z., Zhou, L.-M. and Zhang, Z.), 11-15, April, 2018, Geneva, Swiss
- **US Patent:** Coated Nanofiller/Polymer Composite Sensor Network for Guided-wave-based Structural Health Monitoring (US Patent No.: US 10,012,553 B2 (granted on 3rd July 2018); Inventors: Su, Z., Zhou, L.-M., Zeng, Z., Liu, M. and Xu, H.)
<https://patents.google.com/patent/US10012553B2/en?q=US10012553B2>
- **US Patent:** Resistance-voltage Transformation System for Sensors in Dynamic Strain Measurement and Structural Health Monitoring (US Patent No.: US 9,863,824 B1 (granted on 9th January 2018); Inventors: Su, Z., Zhou, L.-M., Qiu, L., Xu, H., Zeng, Z. and Liu, M.)
<https://patents.google.com/patent/US9863824B1/en>
- **China Patent:** Method and System for Detecting and Displaying Structural Damage Situation of Pipeline (China Patent No.: CN104279424A (granted on 12th June 2018); Inventors: Su, Z., Wang, Q., Cheng, L. and Hong, M.)
<https://patents.google.com/patent/CN104279424A/en?q=CN104279424A>
- **Engineering Application Paradigm I:** Development of an SHM Technique and System for China's high-speed trains (Model: CRH380CL) operated in Beijing-Shanghai high-speed railway
Links to videos introducing this real-world application:
<https://www.youtube.com/watch?v=4R9BImwH0rl>
http://v.youku.com/v_show/id_XNTE4ODQyNDUy.html?11
- **Engineering Application Paradigm II:** Development of a Nano-engineered Sensing Network Coating for Guided Wave-based SHM
Link to video introducing this real-world application:
<https://www.youtube.com/watch?v=i-hcQqGZ6w>
- **Engineering Application Paradigm III:** Development of an SHM Technique and System for Satellite Structures developed by China Academy of Space Technology (CAST)

Teaching

Consistently delivering outstanding teaching, as partially reflected by "Student Feedback Questionnaire (SFQ)" (average SFQ to date: **4.6 out of 5.0**, which is consistently among **Top 5%** in the University)

Current

- Advanced Aircraft Structures (ME577)

- Aircraft Systems (ME45002)

Previous

- Aircraft Structures and Materials (ME37002/AAE3002)
- Engineering Composites (ME4310)
- Aircraft Structure and Engineering Composites (ME45006)
- Aviation Systems (ME4503)
- Mechanics and Composites for Aircraft Structures (ME4305)
- Structural Design and Analysis of Products (ME3307)
- Structural Design in Products (ME384)
- Advanced Materials and Structural Design (ME558)
- Car Body Structures and Aerodynamics (ME5102)
- Project Development and Manufacturing (ME5101)
- Having supervised 60+ Undergraduate Final Year Projects (FYPs)

Teaching Awards & Grants

- **The Faculty Merit Award in Teaching (*Individual*)**
Faculty of Engineering, The Hong Kong Polytechnic University (2010)
- **“Ten Thousand People’s Scheme”** – An Education-related Grant to Promote Students’ Learning and Studying Exchange between Hong Kong and China)
The Ministry of Education, P. R. China

Administrative Services to University

- **Associate Head of Department** (2017 to date)
- **Chair** of Departmental Learning and Teaching Committee (2017 to date)
- **Chair** of Bachelor of Engineering (Honours) Scheme in Mechanical Engineering (2016-2017)
- **Programme Leader** of Master of Science in Mechanical Engineering (2012-2015)
- **Chair** of Department Postgraduate Programmes Committee (2012-2015)
- **Chair** of Master of Science in Mechanical Engineering Award Committee (2012-2015)
- **Deputy Programme Leader** of Bachelor of Engineering (Honours) in Mechanical Engineering (2015-2016)
- **Deputy Programme Leader** of MSc in Automotive Engineering Design (AED) (2009-2012)
- **Member of**
 - Faculty Board
 - Departmental Staffing Committee
 - Departmental Review Committee
 - University Research Committee

- Faculty Research Committee
- Head of Department Searching Committee
- Board of School of Hotel and Tourism Management
- Departmental Management Committee
- Departmental Research Committee
- Departmental Learning Outcomes Assessment Committee
- Technology Transfer Committee
- Departmental Advisory Committee
- Enrolment Liaison Officers
- Departmental Planning Committee for Aerospace Programme
- Departmental Publicity Committee
- Departmental Learning and Teaching Committee
- Departmental Undergraduate Programmes Committee
- Department Postgraduate Programmes Committee
- Department Scholarships Assessment Board
- Organisation Committee of Virya Foundation

Academic Programme & Curriculum Development

- A key member of Programme Planning Committee for 2-year Top-up BEng (Hons) Programme in Aeronautical Engineering and Aviation
- A key member for Developing BEng (Hons) Programme in Aeronautical Engineering and Aviation
- A key member for Developing MSc in Mechanical Engineering (Aeronautical Engineering and Aviation)
- A key member for Developing Joint Research Institute of Aeronautical Science & Engineering, with partner institutes including Beijing University of Aeronautics & Astronautics, University of California at Irvine and Hong Kong University of Science & Technology
- A key member of 3-3-4 Curricula Working Group

Referee for Journal Papers, Grant Applications & PhD Theses

- **International Journals**

Ultrasonics; **Journal** of Sound and Vibration; **Smart** Materials and Structures; **Structural** Health Monitoring: An International Journal; **Mechanical** Systems and Signal Processing; **Carbon**; **Advanced** Materials; **Journal** of Intelligent Material Systems and Structures; **IEEE** Transactions on Ultrasonics, Ferroelectrics, and Frequency Control; **Wave** Motion; **Composites** Science and Technology; **NDT & E** International; **Nondestructive** Testing and Evaluation; **Journal** of Mechanics of Materials and Structures; **International** Journal of Mechatronics; **International** Journal of Smart Structures and Systems; **Applied** Physics Letters; **Acta** Materialia; **Composites**: Part A, Part B; **Shock** and Vibration Digest; **Composite** Structures; **Journal** of the Acoustical Society of America; **Finite** Elements in Analysis and Design; **International** Journal of Non-linear Mechanics; **Structural** Engineering and Mechanics: An International Journal; **Noise** Control Engineering Journal; **Mechanics** of Advanced Materials and Structures; **Advances** in Civil Engineering; **Journal** of BioBased Materials and BioEnergy; **International** Journal of Applied Electromagnetics and Mechanics; **ASME** Journal of Vibration and Acoustics; **Sensors**; **IEEE** Transactions on Instrumentation and Measurement; **IEEE** Sensors Journal; **IEEE** Transactions on Industrial Electronics; **Measurement** Science and Technology; **Measurement**; **Advances** in Vibration Engineering; **Journal** of Materials Science: Materials in Electronics; **International** Journal Advances in Structural Engineering; **Sensors** and Actuators: A. Physical; **International** Journal of Vehicle Noise and Vibration; **Nanotechnology**; **Coupled** Systems Mechanics: An International Journal; **Information** Fusion; **ASME** Journal of Computational and Nonlinear Dynamics; **Advances** in Mechanical Engineering; **International** Journal of Mechanical Sciences; **Computer-Aided** Civil and Infrastructure Engineering; **Journal** of Reinforced Plastics and Composites; **Journal** of Aerospace Engineering; **The** Aeronautical Journal; **Structural** Engineering and Mechanics; **Aerospace** Science

and Technology; **Scientific Reports**; **Applied Mathematical Modelling**; **International journal of solids and structures**; **ACS Applied Materials & Interfaces**; **Automation in Construction**; **ACS Applied Materials & Interfaces**

▪ **Grants and Funding Agencies**

- National Science Center, Poland
- National Science Foundation China (NSFC)
- The University of Macau, Macau SAR
- Swiss Federal Laboratories for Materials Science and Technology
- Kuwait Foundation for the Advancement of Sciences

▪ **Universities (for PhD Thesis Examination)**

- RMIT University, Australia (2015)
- The University of Technology Sydney, Australia (2014)
- The Hong Kong University of Science and Technology, Hong Kong (2013)
- The University of Sydney, Australia (2012)
- The University of Technology Sydney, Australia (2010)
- The University of Technology Sydney, Australia (2009)
- City University of Hong Kong, Hong Kong (2017)
- Nanyang Technological University, Singapore (2017)
- University of Chinese Academy of Sciences, P. R. China (2018)
- Peking University, P. R. China (2018)
- City University of Hong Kong, Hong Kong (2019)
- Nanyang Technological University, Singapore (2017)

ANNEX I: A List of Presentations (in an ascending chronological order)

Invited Plenary Talks at International Conferences:

1. Title: Additive-manufacturing-driven sensing technology for new era of structural health monitoring: from distributed to dispersed sensing (The 2020 SPIE Conference on Smart Structures/NDE; 26-30, April, 2020; Anaheim, CA., USA) (*postponed due to COVID-19*).
2. Title: In situ condition monitoring of high-speed rail tracks using diffuse ultrasonic waves: from theory to applications (The 2nd World Congress on Condition Monitoring (WCCM-2019); 2-5, December, 2019; Singapore).
3. Title: Nanocomposites-inspired sensing for ultrasonic-wave-based structural health monitoring: from distributed, through quasi-diffuse, to fully-dispersed sensing (The 4th International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2018); 21-23, October, 2018; Hangzhou, P. R. China).
4. Title: Evaluation of hypervelocity impact (>2 km/s)-induced damage based on nonlinear acousto-ultrasonic waves: a framework for space application-oriented structural health monitoring (The 3rd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2016); 15-17, October, 2016; Chengdu, P. R. China).
5. Title: A coatable nanocomposite sensing network for vibration and ultrasonic wave based condition monitoring and structural health monitoring (The 29th International Congress on Condition Monitoring and Diagnostic Engineering Management (COMADEM 2016); 20-22, August, 2016; Xi'an, P. R. China).
6. Title: A nano-engineered, coatable, networkable, lightweight sensor for *in-situ* acquisition of ultrasonic waves (The 6th East Asia Mechanical & Aerospace Engineering Workshop; 2-4, June, 2016; National Cheng Kung University, Tainan, Taiwan).
7. Title: Guided wave-based *in-situ* structural health monitoring for high-speed train bogie systems (The 2nd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2014); 24-26, September, 2014; Nanjing, P. R. China).
8. Title: Guided wave-based *in-situ* structural health monitoring for high-speed train bogies (The 2013 International Conference on Electrical Engineering and Information Technologies for Rail Transportation (EITRT2013); 7-10, November, 2013; Changchun, P. R. China).
9. Title: Integrated damage inspection system for engineering structure using an active sensing network: development and validation (The 1st International Conference on Mechatronic System and Measurement Technology (ICMSMT); 16-18, August, 2012; Nanjing, P. R. China).

Invited Plenary Talks at National Conferences:

10. Title: Guided-wave-based health monitoring and its realization on CRH380 high-speed trains (The 2016 Forum on New Technologies for High-speed Railway Construction and Operation Safety; 21-22, April, 2016; Chengdu, P. R. China).

11. Title: A nano-engineered sensor coating and its use for *in-situ* acquisition of structural vibration and guided ultrasonic waves (The 1st National Conference on Structural Health Monitoring and Cross-strait Forum on Structural Health Monitoring Development; 10-12, December, 2015; Xiamen, P. R. China).

Invited Keynote Talks at International Conferences:

12. Title: Nanocomposite-inspired sensing for new era of structural health monitoring technology (Conference on “CAMT2019 – 30-year Progress in Advanced Materials Technology (CAMT2019); 19-21, April, 2019; Shanghai, P. R. China).
13. Title: *In-situ* health monitoring of space structures under hypervelocity impact: hybrid use of passive acoustic emission and active nonlinear guided waves (The 6th International Congress on Ultrasonics (ICU 2017); 18-20, December, 2017; Honolulu, HI., USA).
14. Title: A high-sensitivity, sprayable nanocomposite sensor for localizing damage in aircraft radomes (The 9th International Symposium on NDT in Aerospace (NDT in Aerospace); 8-10, November, 2017; Xiamen, P. R. China).
15. Title: A nano-engineered sensing coating for guided-ultrasonic-wave-based structural integrity monitoring: from distributed to quasi-dispersed sensing (The Korean Society for Nondestructive Testing (KSNT) 2017 Spring Conference and International Workshop; 24-26, May, 2017; Daegu, Republic of Korea).
16. Title: Damage identification using guided waves: from linear to nonlinear, from macroscopic to mesoscopic, from distributed to dispersed sensing (Workshop on Health Monitoring of Offshore Wind Farms (HEMOW); 26, September, 2014; Nanjing, P. R. China).
17. Title: Acousto-ultrasonic wave-based characterization of fatigue damage for SHM: non-linear vs. linear approaches (The 164th Meeting of the Acoustical Society of America; 22-26, October, 2012; Kansas City, MO., USA).
18. Title: Noise reduction for vibration-based damage detection involving high-order derivatives (The Symposium on Structural Health Monitoring for Mechanical Structures, associated with the 14th Asia-Pacific Vibration Conference (APVC2011); 5-8, December, 2011; Hong Kong).
19. Title: Detecting fatigue cracks using nonlinear characteristics of acousto-ultrasonic Lamb waves (The 2011 World Congress on Advances in Structural Engineering and Mechanics (ASEM'11+) & the 2011 International Conference on Smart Structures and Systems (ICOSSS'11); 18-22, September, 2011; Seoul, Republic of Korea).
20. Title: Moving forward: from damage detection to structural health monitoring (The 14th International Symposium on Applied Electromagnetics and Mechanics (ISEM-14); 20-24, September, 2009; Xi'an, P. R. China).
21. Title: Hierarchical database and fast training for artificial neural network (ANN)-based quantitative damage identification (The US Air Force Specialist International Workshop on Health Assessment of Composite Structures; 17, November, 2005, Monash University, Melbourne, Australia).

Invited Keynote Talks at National Conferences:

22. Title: Evaluating fatigue crack orientation using crack-induced contact acoustic nonlinearity (2018 National Conference on Solid Mechanics; 23-25, November, 2018; Harbin, P. R. China).
23. Title: Characterizing hypervelocity impact (HVI)-induced pitting damage using active guided ultrasonic waves: from linear to nonlinear (The Chinese Congress of Theoretical and Applied Mechanics-2017 (CCTAM2017); 13-16, August, 2017; Beijing, P. R. China).
24. Title: A nano-engineered, sprayable sensing network coating for *in situ* guided-wave-based SHM (The Chinese Congress of Theoretical and Applied Mechanics-2017 (CCTAM2017); 13-16, August, 2017; Beijing, P. R. China).

Invited Talks at Workshops and Forums:

25. Title: A perspective from an editor's point of view on publishing in international journals (Ultrasonics Authors' Workshop for Early Career Researchers affiliated with the 7th International Congress on Ultrasonics (ICU 2019); 3, September, 2019; Bruges, Belgium).
26. Title: Nanocomposites-inspired sensing for ultrasonic-wave-based structural health monitoring: from distributed, through quasi-diffuse, to fully-diffuse sensing (PolyU & Imperial College London - Joint Seminar on Advances in Non-destructive Evaluation and Structural Health Monitoring; 22, August, 2018; Hong Kong).
27. Title: A perspective from an Asian point of view on publishing in international journals (The Authors' Workshop for Early Career Researchers affiliated with the 6th International Congress on Ultrasonics (ICU 2017); 18, December, 2017; Honolulu, HI., USA).
28. Title: Initiatives to enhance guided-wave-based structural health monitoring: from linear to nonlinear algorithm, from distributed to dispersed sensing (The 12th Jiangsu-Hong Kong Forum on Theoretical and Applied Mechanics; 6, November, 2016; Nanjing, P. R. China).
29. Title: An online diagnosis technique and system for cracks in train structures using acousto-ultrasonic waves and active sensor network: methodology, system development and applications (MTR Condition Monitoring Technical Forum; 12, July, 2012; MTR Operations Division, Hong Kong).
30. Title: Damage identification using piezoelectric wafers and artificial neural networks (Australian CRC-ACS Cost-effective NDI of Composite Structures Workshop; 7, May, 2002; RMIT University, Melbourne, Australia).
31. Title: Structural health monitoring for aircraft composite structures (The Institute of Materials Engineering Australasia Ltd (IMEA) Postgraduate/Industry Forum; 9, April, 2002; The University of Technology, Sydney, Australia).

Oral Presentations at International Conferences:

32. The 7th International Congress on Ultrasonics (ICU 2019); 3-6, September, 2019; Bruges, Belgium; Chairs: Van Den Abeele, K., D'hooge, J., Glorieux, C. and Kersemans, M.; Presentation title: Understanding "breathing" crack-induced contact acoustic nonlinearity: from analytical modeling to quantitative evaluation of fatigue cracks.

33. The 2019 SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XIII); 3-7, March, 2019; Denver, CO., USA; Chairs: Fromme, P. and Su, Z.; Presentation title: Thermal sensitivity-based ultrasonic quantification of material acoustic nonlinearity.
34. The 9th European Workshop on Structural Health Monitoring (EWSHM-9); 10-13, July, 2018; Manchester, UK; Chairs: Soutis, C. and Gresil, M.; Presentation title: Health self-monitoring of nano-engineered composite structures with enhanced mechanical and electrical profiles.
35. The 2018 SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XII); 4-8, March, 2018; Denver, CO., USA; Chairs: Kundu, T. and Fromme, P.; Presentation title: Evaluation of crack orientation using fatigue crack-induced contact acoustic nonlinearity.
36. The 11th International Workshop on Structural Health Monitoring (IWSHM-11); 12-14, September, 2017; Stanford, CA., USA; Chairs: Chang, F.-K. and Güemes, A.; Presentation title: Interrogation of linear/nonlinear features of guided waves for characterizing hypervelocity impact-induced pitting damage in shielding structures.
37. The 8th ECCOMAS Thematic Conference on Smart Structures and Materials (SMART2017) & the 6th International Conference on Smart Materials and Nanotechnology in Engineering; 5-8, June, 2017; Madrid, Spain; Chairs: Güemes, A., Benjeddou, A., Rodellar, J. and Leng, J.; Presentation title: A nanocomposites-inspired sensing coating for acousto-ultrasonics-based SHM: modeling, validation and application.
38. The 2017 SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XI); 25-29, March, 2017; Portland, OR., USA; Chairs: Kundu, T. and Fromme, P.; Presentation title: A 3D analytical model for contact acoustic nonlinearity of guided ultrasonic waves (with application to evaluating severity of “breathing” crack).
39. The 8th European Workshop on Structural Health Monitoring (EWSHM-8); 5-8, July, 2016; Bilbao, Spain; Chairs: Güemes, A., Aranguren, G., and Martinez, F.; Presentation title: A coatable, lightweight nanocomposite sensor for *in-situ* acquisition of ultrasonic waves and its application to embeddable structural health monitoring.
40. The 19th World Conference on Non-destructive Testing (WCNDT-2016); 13-17, June, 2016; Munich, Germany; Presentation title: Analytical insight into contact acoustic nonlinearity of ultrasonic waves induced by a “breathing” crack (with an application to evaluating crack severity).
41. The 2016 SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems X); 20-24, March, 2016; Las Vegas, NV., USA; Chair: Kundu, T.; Presentation title: Analytical modeling of contact acoustic nonlinearity of guided waves and its application to evaluating severity of fatigue damage.
42. The 10th International Workshop on Structural Health Monitoring (IWSHM-10); 1-3, September, 2015; Stanford, CA., USA; Chairs: Chang, F.-K. and Güemes, A.; Presentation title: On hypervelocity impact (HVI) (>4 km/s)-induced waves: a simulation and application to characterizing orbital debris-induced damage in space structures.
43. The 10th International Workshop on Structural Health Monitoring (IWSHM-10); 1-3, September, 2015; Stanford, CA., USA; Chairs: Chang, F.-K. and Güemes, A.; Presentation title: A probabilistic model for quantifying uncertainty of acoustic

- nonlinearities of Lamb waves with an application to predicting damage in composites structures.
44. The 5th International Conference on Smart Materials and Nanotechnology in Engineering (SMN) & the International Conference on Smart Materials and Structures; 15-17, July, 2015; Vancouver, Canada; Chair: Akhras, G.; Presentation title: A coated carbon nanotube sensor network for *in-situ* active sensing of ultrasonic elastic waves.
 45. The International Congress (APCF/SIF-2014) (Asian-Pacific Conference on Fracture and Strength (APCF-S-2014) & the International Conference on Structural Integrity and Failure (SIF-2014)); 9-12, December, 2014; Sydney, Australia; Chairs: Ye, L., Kotousov, A. and Tu, S.T.; Presentation title: Real-time signal processing of guided waves acquired on high-speed trains for health monitoring of bogie systems.
 46. The 7th European Workshop on Structural Health Monitoring (EWSHM-7); 8-11, July, 2014; Nantes, France; Chairs: Le Cam, V., Mevel, L. and Schoefs, F.; Presentation title: An insight into high-order harmonic generation of guided waves using a local computation approach.
 47. The 7th European Workshop on Structural Health Monitoring (EWSHM-7); 8-11, July, 2014; Nantes, France; Chairs: Le Cam, V., Mevel, L. and Schoefs, F.; Presentation title: Real-time signal processing of guided waves acquired from high-speed trains for health monitoring of bogie systems.
 48. The 2014 SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems VIII); 9-13, March, 2014; San Diego, CA., USA; Chair: Kundu, T.; Presentation title: Fatigue damage localization using time-domain features extracted from nonlinear Lamb waves.
 49. The 9th International Workshop on Structural Health Monitoring (IWSHM-9); 10-12, September, 2013; Stanford, CA., USA; Chair: Chang, F.-K.; Presentation title: *In-situ* structural health monitoring for high-speed trains.
 50. The 2012 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM'12) & the 2012 International Conference on Advances in Coupled Systems Mechanics (ACSM'12); 26-29, August, 2012; Seoul, Republic of Korea; Chairs: Choi, C.-K.; Presentation title: Coupling effect on propagation of guided waves in engineering structures and human bone structures.
 51. The 6th European Workshop on Structural Health Monitoring (EWSHM-6); 3-6, July, 2012; Dresden, Germany; Chair: Boller, C.; Presentation title: Development, validation and application of a structural health diagnosis technique using an active sensing network.
 52. The 3rd Asia-Pacific Workshop on Structural Health Monitoring (APWSHM-3); 30, November - 2, December, 2010; Tokyo, Japan; Chairs: Takeda, N. and Okabe, Y.; Presentation title: Damage characterisation using pulse-echo and pitch-catch active sensor network.
 53. The 6th World Congress of Biomechanics (WCB 2010) in conjunction with the 14th International Conference on Biomedical Engineering (ICBME) & the 5th Asia-Pacific Conference on Biomechanics (AP Biomech-2010); 1-6, August, 2010; Singapore; Chairs: Lim, C.T. and Goh, J.C.H.; Presentation title: Influence of soft tissues on ultrasonic Lamb waves in synthesised soft tissue-bone phantoms.
 54. The 5th European Workshop on Structural Health Monitoring (EWSHM-5); 29, June - 2, July, 2010; Sorrento, Naples, Italy; Chairs: Casciati, F. and Giordano, M.; Presentation title: Evaluation of structural damage using correlative sensor array (CSA).

55. The 7th International Workshop on Structural Health Monitoring (IWSHM-7); 9-11, September, 2009; Stanford, CA., USA; Chair: Chang, F.-K.; Presentation title: Quantifying orientation-specific damage using diagnostic imaging.
56. The 4th Asia-Pacific Conference on Biomechanics (AP Biomech-2009); 14-17, April, 2009; Christchurch, New Zealand; Chairs: David, T. and Tanaka, M.; Presentation title: Influence of media coupling on Lamb waves in bone phantoms.
57. The Multi-functional Materials and Structures (MFMS-2008); 28-31, July, 2008; Hong Kong; Chair: Lau, A.K.T.; Presentation title: Diagnostic imaging for structural damage.
58. The Frontiers in Materials Science and Technology (FMST2008); 26-28, March, 2008; Brisbane, Australia; Chairs: Bell, J., Yan, C., Ye, L. and Zhang, L.; Presentation title: Evaluating multi-delamination of composite laminates using an active sensor network.
59. The 36th International Congress and Exhibition on Noise Control Engineering (Inter-Noise 2007); 28-31, August, 2007; Istanbul, Turkey; Chair: Belek, H.T.; Presentation title: Vibration-based structural condition monitoring using concept of digital damage fingerprints (DDF).
60. The 5th Asian-Australasian Conference on Composite Materials (ACCM-5); 27-30, November, 2006; Hong Kong; Chairs: Kim, J.K., Wo, D.Z. and Zhou, L.-M.; Presentation title: Damage assessment of multi-layered composite structure using an embedded active sensor network.
61. The 13th International Conference of Composite Structures (ICCS-13); 14-16, November, 2005; Melbourne, Australia; Chair: Marshall, I.; Presentation title: Quantitative assessment of delamination using concept of Digital Damage Fingerprints (DDF).
62. The 15th International Conference on Composite Materials (ICCM-15); 27, June - 1, July, 2005; Durban, South Africa; Chair: Verijenko, V.E.; Presentation title: Comparison of genetic algorithm and artificial neural network for damage detection of composite structures.
63. The Annual Conference of Hong Kong Society of Theoretical and applied Mechanics; 12, March, 2005; Hong Kong; Chair: Chau, K.-T.; Presentation title: Artificial intelligence-inspired structural health monitoring for aircraft structures.
64. The Frontier of Structural Health Monitoring (FSHM-2004); 19-21, April, 2004; Geelong, Melbourne, Australia; Chair: Rose, F.; Presentation title: Modelling technique for structural health monitoring.
65. The 12th International Conference of Composite Structures (ICCS-12); 17-19, November, 2003; Melbourne, Australia; Chair: Marshall, I.; Presentation title: Lamb wave-based quantitative identification for delamination in CF/EP composite structures using artificial neural network.
66. The 4th International Workshop on Structural Health Monitoring (IWSHM-4); 15-17, September, 2003; Stanford, CA., USA; Chair: Chang, F.-K.; Presentation title: A signal processing and interpretation technique for Lamb-wave-based damage diagnosis using digital damage fingerprints extracted from actuator/sensor network.
67. The International Conference of Structural Integrity and Fracture (SIF-2002); 25-28, September, 2002; Perth, WA, Australia; Chair: Dyskin, A.V.; Presentation title: Identification of delamination in woven fabric composite laminates using surface-bonded piezoelectrics.
68. The 1st European Workshop on Structural Health Monitoring (EWSHM-1); 10-12, July, 2002; Paris, France; Chair: Balageas, D.; Presentation title: Evaluation of

delamination in laminated composites based on Lamb wave modes: FEM simulation and experimental verification.

69. The 3rd Australasian Congress on Applied Mechanics (ACAM-3); 20-22, February, 2002; Sydney, Australia; Chair: Zhang, L.; Presentation title: A damage identification approach based on stress wave propagation.

Invited Research Seminars:

70. Evaluation of space junk-induced damage in spacecraft based on nonlinear acousto-ultrasonic waves: a framework for space application-oriented structural health monitoring (14, August, 2019; Faculty of Engineering, Monash University, Australia) (under “**Monash Engineering Distinguished Scholar Scheme**”).
71. Nanocomposite-inspired and additive-manufacturing-driven sensing technology for new era of structural health monitoring: a path from distributed, through quasi-diffuse, to fully-disperse sensing (9, August, 2019; Faculty of Engineering, Monash University, Australia) (under “**Monash Engineering Distinguished Scholar Scheme**”).
72. Evaluation of hypervelocity impact (>2 km/s)-induced damage based on nonlinear acousto-ultrasonic waves: a framework for space application-oriented structural health monitoring (6, June, 2019; School of Astronautics, Northwestern Polytechnical University, Xi’an, P. R. China).
73. Recent advances on guided-ultrasonic-wave-based structural health monitoring (6, June, 2019; School of Aeronautics, Northwestern Polytechnical University, Xi’an, P. R. China).
74. Recent research advances on ultrasonic-wave-based structural health monitoring (18, April, 2019; Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, P. R. China).
75. Nanocomposites-inspired diffuse sensing network for ultrasonic-wave-based structural health monitoring (25, May, 2018; National Center for Nanoscience and Technology, Beijing, P. R. China).
76. Breaking through bottlenecks of guided-ultrasonic-wave-based structural health monitoring: from linear to nonlinear, from distributed to dispersed sensing (20, April, 2018; Nanjing University of Posts and telecommunications, Nanjing, P. R. China).
77. A nano-engineered, sprayable sensing network coating for *in situ* guided-wave-based SHM (20, April, 2018; Hohai University, Nanjing, P. R. China).
78. Breaking through bottlenecks of guided-ultrasonic-wave-based structural health monitoring: from linear to nonlinear, from distributed to dispersed sensing (15, March, 2018; University Distinguished Seminar Series on Recent Breakthroughs in Engineering Field; Chongqing University, Chongqing, P. R. China).
79. Health monitoring for space vehicle structures under hypervelocity impact (> 1km/s) (17, August, 2017; COMAC Beijing Aeronautical Science & Technology Research Institute, The Commercial Aircraft Corporation of China, Ltd., Beijing, P. R. China).
80. A nano-engineered, sprayable sensing network coating for *in situ* guided-wave-based SHM: from distributed to quasi-dispersed sensing (3, August, 2017; Nanyang Technological University, Singapore).
81. R&D on structural health monitoring: from laboratory to real-world applications (2, August, 2017; Institute of High Performance Computing, A*STAR, Singapore).

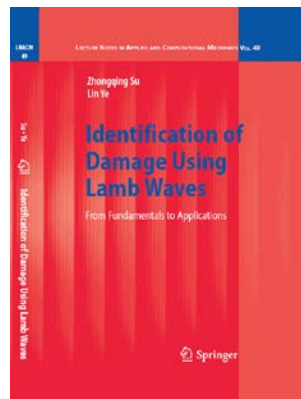
82. Recent R&D on structural health monitoring @ Hong Kong PolyU towards real-world engineering applications (20, June, 2017; University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai, P. R. China).
83. Recent R&D on structural health monitoring @ Hong Kong PolyU towards real-world engineering applications (16, December, 2016; Tongji University, Shanghai, P. R. China).
84. Recent R&D on structural health monitoring @ Hong Kong PolyU towards real-world engineering applications (18, November, 2016; Peking University, Beijing, P. R. China).
85. Recent R&D on structural health monitoring @ Hong Kong PolyU for real-world engineering applications (26, August, 2016; China Special Equipment Inspection and Research Institute, Beijing, P. R. China).
86. Initiatives to enhance guided-wave-based structural health monitoring: from linear to nonlinear algorithm, and from distributed to dispersed sensing (13, November, 2015; Nanjing University of Aeronautics and Astronautics, Nanjing, P. R. China).
87. Initiatives for enhancing guided-wave-based damage identification: from linear to nonlinear, from qualitative to quantitative, from distributed to dispersed (12, August, 2015; Nanyang Technological University, Singapore).
88. Guided-wave-based *in-situ* structural health monitoring for high-speed trains on Beijing-Shanghai high-speed railway (3, August, 2015; Nanyang Technological University, Singapore).
89. *In-situ* structural health monitoring for high-speed trains on Beijing-Shanghai high-speed railway (1, July, 2015; Xi'an Jiaotong University, Xi'an, P. R. China).
90. *In-situ* structural health monitoring for high-speed trains on Beijing-Shanghai high-speed railway (19, December, 2014; Guangzhou University, Guangzhou, P. R. China).
91. *In-situ* structural health monitoring for high-speed trains on Beijing-Shanghai high-speed railway (17, December, 2014; Wuhan University, Wuhan, P. R. China).
92. Initiatives for enhancing guided wave-based damage identification: from linear to nonlinear, from qualitative to quantitative, from distributed to dispersed (27, September, 2014; Hohai University, Nanjing, P. R. China).
93. *In-situ* structural health monitoring for aircraft composites and high-speed trains (19, September, 2014; Dalian University of Technology, Dalian, P. R. China).
94. Quantitative evaluation of small-scale fatigue damage using nonlinear guided waves (31, July, 2014; COMAC Beijing Aeronautical Science & Technology Research Institute, The Commercial Aircraft Corporation of China, Ltd., Beijing, P. R. China).
95. *In-situ* structural health monitoring for CRH high-speed trains (29, July, 2014; COMAC Beijing Aeronautical Science & Technology Research Institute, The Commercial Aircraft Corporation of China, Ltd., Beijing, P. R. China).
96. *In-situ* structural health monitoring for aircraft composites and high-speed trains (13, June, 2014; Chongqing University, Chongqing, P. R. China).
97. Structural health monitoring (SHM) and its application to engineering structures (26, May, 2014; Harbin Engineering University, Harbin, P. R. China).
98. *In-situ* guided-wave-based health monitoring for train bogie systems on Beijing-Shanghai high-speed railway: signal sensing, analysis and interpretation (23, December, 2013; University of Science and Technology Beijing, Beijing, P. R. China).
99. *In-situ* structural health monitoring for high-speed trains (15, October, 2013; Hohai University, Nanjing, P. R. China).

100. Structural health monitoring (SHM) and its application to engineering structures (14, October, 2013; Nanjing University of Posts and Telecommunications, Nanjing, P. R. China).
101. *In-situ* structural health monitoring for high-speed trains (26, June, 2013; Nanjing University of Posts and Telecommunications, Nanjing, P. R. China).
102. Integrated damage inspection system for engineering structure using an active sensing network: Development and Validation (17, August, 2012; Hohai University, Nanjing, P. R. China).
103. Health diagnosis for engineering assets using acousto-ultrasonic waves and active sensor networks (9, July, 2012; Fraunhofer Institute for Non-Destructive Testing (IZFP), Saarbrücken, Germany).
104. Health diagnosis for engineering assets using acousto-ultrasonic waves and active sensor networks (29, June, 2012; The Institute of Fluid-Flow Machinery, Polish Academy of Sciences, Gdansk, Poland).
105. An online health diagnosis system (in conjunction with use of a decentralized sensing network) and its applications (24, May, 2012; COMAC Beijing Aeronautical Science & Technology Research Institute, The Commercial Aircraft Corporation of China, Ltd., Beijing, P. R. China).
106. Research activities on structural health monitoring at ME@PolyU (18, April, 2012; Nanjing University of Science and Technology, Nanjing, P. R. China).
107. Research activities on structural health monitoring at ME@PolyU (18, April, 2012; Nanjing University of Posts and Telecommunications, Nanjing, P. R. China).
108. Diagnostic imaging for engineering structures (19, April, 2012; Shanghai Jiaotong University, Shanghai, P. R. China).
109. Structural health monitoring for engineering assets using active sensor networks (25, April, 2011; Hohai University, Nanjing, P. R. China).
110. Structural health monitoring at ME@PolyU (3, December, 2010; Chiba University, Chiba, Japan).
111. Structural health monitoring for aircraft structures using active sensor networks (27, August, 2010; The Aeronautical Science Key Laboratory for Smart Materials & Structures, Nanjing University of Aeronautics and Astronautics, Nanjing, P. R. China).
112. Structural health monitoring for aircraft composite structures (23, June, 2009; Northwestern Polytechnical University, Xi'an, P. R. China).
113. Structural health monitoring for composite structures (18, June, 2009; Tongji University, Shanghai, P. R. China).
114. Structural health monitoring for aircraft composite structures using active sensor networks (17, June, 2009; Shanghai Jiaotong University, Shanghai, P. R. China).
115. Structural health monitoring for aircraft composite structures using active sensor networks (12, June, 2009; Beijing University of Aeronautics and Astronautics, Beijing, P. R. China).
116. Structural health monitoring for aircraft structures (23, June, 2008; Nanchang Aeronautics University, Nanchang, P. R. China).
117. R&D of SHM technique in The University of Sydney and damage identification using piezoelectric elements (24, July, 2002; The University of Kaiserslautern, Kaiserslautern, Germany).

ANNEX II: A List of Publications (in an ascending chronological order)

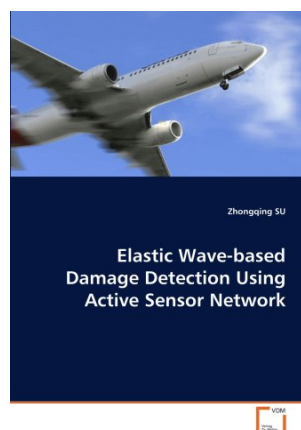
Monographs:

1. Su, Z. and Ye, L. 2009. *Identification of Damage Using Lamb Waves: From Fundamentals to Applications*, London: Springer-Verlag GmbH & Co., ISBN: 978-1-84882-783-7 (hardcover), 978-1-4471-2674-4 (softcover), **346 pages**.



(book website: <http://www.springer.com/engineering/book/978-1-84882-783-7>;
independent review of this book: A. DasGupta, 2003. Journal of Sound and
Vibration, **332**:1153-1154)

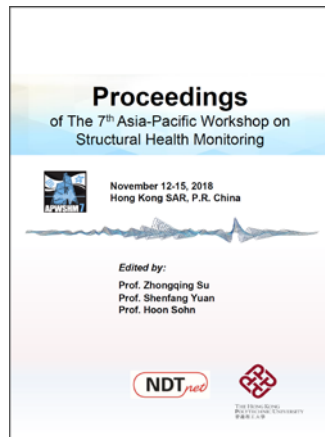
2. Su, Z. 2009. *Elastic Wave-based Damage Detection Using Active Sensor Network*, Saarbrücken: VDM Verlag Dr. Müller Aktiengesellschaft & Co. KG, ISBN: 978-3-639-04567-3, **186 pages**.



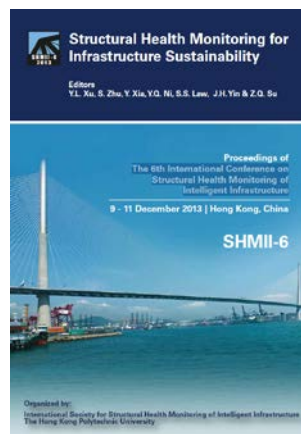
(book website: <https://www.morebooks.de/store/gb/book/elastic-wave-based-damage-detection-using-active-sensor-network/isbn/978-3-639-04567-3>)

Edited Books and International Conference Proceedings:

3. Su, Z., Yuan, S. and Sohn, H. 2018. *Proceedings of the 7th Asia Pacific Workshop on Structural Health Monitoring* (APWSHM-2018), Bad Breisig: NDT.net, ISBN: 978-3-00-060359-4, 1241 pages.



4. Xu, Y., Zhu, S., Xia, Y., Ni, Y.Q., Law, S.S., Yin, J.H. and Su, Z. 2013. *Structural Health Monitoring for Infrastructure Sustainability - Proceedings of the 6th International Conference on Structural Health Monitoring of Intelligent Infrastructure* (SHMII-6), Hong Kong: The Hong Kong Polytechnic University, ISBN: 978-962-367-768-4, 502 pages.



5. Law, S.S., Cheng, L., Xia, Y. and Su, Z. 2011. *Dynamics for Sustainable Engineering - Proceedings of the 14th Asia-Pacific Vibration Conference* (APVC2011), Hong Kong: The Hong Kong Polytechnic University, ISBN: 978-962-367-731-8 (Vol. 1), 978-962-367-732-5 (Vol. 2), 978-962-367-733-2 (Vol. 3) and 978-962-367-734-9 (Vol. 4), 2071 pages.

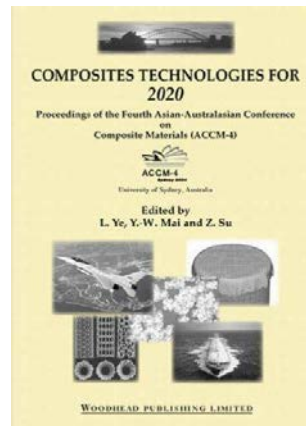


6. Lau, K.-T., Cheng, L., Su, Z. and Varadan, V.K. 2009. *Smart Composite Materials: Selected Papers from the International Conference on Multifunctional Materials and Structures (MFMS-08)* (Hong Kong, 28-31, July, 2008), in a special issue of *Smart Materials and Structures*, Vol: **18**.



(Book website: <http://iopscience.iop.org/0964-1726/18/7>)

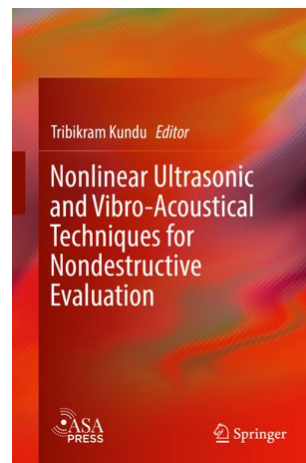
7. Ye, L., Mai, Y.-W. and Su, Z. 2004. *Composites Technologies for 2020 - Proceedings of the 4th Asian-Australasian Conference on Composite Materials*, Cambridge: Woodhead Publishing Ltd., ISBN: 1-85573-831-7, 1096 pages.



(book website: <http://www.woodheadpublishing.com/en/book.aspx?bookID=721>)

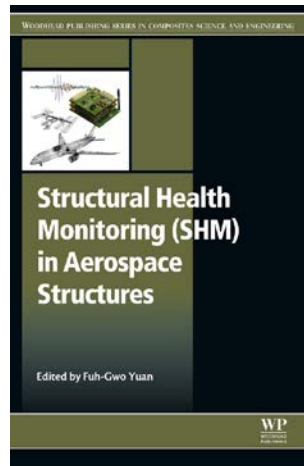
Book Chapters:

8. Hong, M. and Su, Z. 2019. 'Characterizing fatigue cracks using active sensor networks', in *Nonlinear Ultrasonic and Vibro-Acoustical Techniques for Nondestructive Evaluation*, edited by Kundu, T., Cham: Springer Nature, ISBN: 978-3-319-94474-6, pp. 699-739.



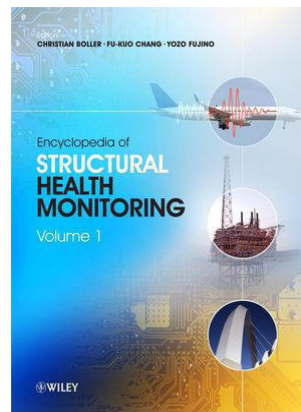
(book website: <https://www.springer.com/us/book/9783319944746>)

9. Su, Z. and Hong, M. 2016. 'Nonlinear ultrasonics for health monitoring of aerospace structures using active sparse sensor networks', in *Structural Health Monitoring (SHM) in Aerospace Structures* (Woodhead Publishing Series in Composites Science and Engineering: Number 68), edited by Yuan, F.-G., Cambridge: Woodhead Publishing Ltd., ISBN: 978-0-08-100148-6, pp. 353-392.



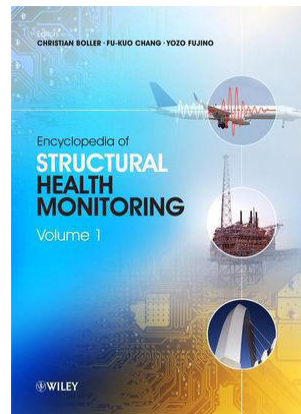
(book website: <https://www.elsevier.com/books/structural-health-monitoring-shm-in-aerospace-structures/unknown/978-0-08-100148-6>)

10. Wang, X. and Su, Z. 2009. 'Design of active sensor network and multilevel data fusion', in *Encyclopedia of Structural Health Monitoring*, edited by Boller, C., Chang, F.-K. and Fujino, Y., Chichester: John Wiley & Sons, Inc. (U.K.), ISBN: 978-0-470-05822-0, pp. 1301-1314.



(book website: <http://as.wiley.com/WileyCDA/WileyTitle/productCd-0470058226.html>)

11. Su, Z., Wang, X. and Ye, L. 2009. 'Data fusion of multiple signals from the sensor network', in *Encyclopedia of Structural Health Monitoring*, edited by Boller, C., Chang, F.-K. and Fujino, Y., Chichester: John Wiley & Sons, Inc. (U.K.), ISBN: 978-0-470-05822-0, pp. 697-708.



(book website: <http://as.wiley.com/WileyCDA/WileyTitle/productCd-0470058226.html>)

12. Su, Z. and Ye, L. 2008. 'Lamb wave-based quantitative identification of delamination in composite laminates', in *Delamination Behaviour of Composites*, edited by Sridharan, S., Cambridge: Woodhead Publishing Ltd., ISBN: 9781845692445, pp. 169-216.



(book website: <https://www.elsevier.com/books/delamination-behaviour-of-composites/sridharan/978-1-84569-244-5>)

13. Su, Z. and Ye, L. 2005. 'Modelling structural damage using elastic wave-based techniques', in *Multi-scale Modelling of Composite Material Systems - the Art of Predictive Damage Modelling*, edited by Soutis, C. and Beaumont, P.W.R., Cambridge: Woodhead Publishing Ltd., ISBN: 9781855739369, pp. 430-468.



(book website: <https://www.elsevier.com/books/multi-scale-modelling-of-composite-material-systems/soutis/978-1-85573-936-9>)

Peer-reviewed Journal Papers and Editorials (*: corresponding author):

14. Yang, X., Wang, K., Xu, Y., Xu, L., Hu, W., Wang, H. and Su, Z.* 'A reverse time migration-based multistep angular spectrum approach for ultrasonic imaging of specimens with irregular surfaces', *Ultrasonics* (in press).
15. Li, Y., Wang, K., Wang, Q., Yang, J., Zhou, P., Su, Y., Guo, S. and Su, Z.* 'Acousto-ultrasonics-based health monitoring for nano-engineered composites using a dispersive graphene-networked sensing system', *Structural Health Monitoring: An International Journal* (in press).
16. Wang, K., Cao, W., Su, Z.* , Wang, P., Zhang, X., Chen, L., Guan, R. and Lu, Y. 'Structural health monitoring of high-speed railway tracks using diffuse ultrasonic wave-based condition contrast: theory and validation', *Smart Structures and Systems* (in press).
17. Cao, W., Wang, K., Zhou, P., Yang, X., Xu, L., Liu, M., Fromme, P., Pang, B., Chi, R. and Su, Z.* 'Nonlinear ultrasonic evaluation of disorderedly clustered pitting damage using an in-situ sensor network', *Structural Health Monitoring: An International Journal* (in press).
18. Wang, K., Liu, M., Cao, W., Yang, W., Su, Z. and Cui, F. 'Detection and sizing of disbond in multilayer bonded structure using modally selective guided wave', *Structural Health Monitoring: An International Journal* (in press).
19. Liao, Y., Zhou, P., Pan, D., Zhou, L.-M. and Su, Z.* 'An ultra-thin printable nanocomposite sensor network for structural health monitoring', *Structural Health Monitoring: An International Journal* (in press).
20. Guan, R., Zou, F., Weng, Z., Zhou, P., Liao, Y., Su, Z. and Huang, L. 2020. 'On a highly reproducible, broadband nanocomposite ultrasonic film sensor fabricated by ultrasonic atomization-assisted spray coating', *Advanced Engineering Materials*, 2000462 (11pp).
21. Chen, D., Lv, G., Guo, S., Zuo, R., Liu, Y., Zhang, K., Su, Z. and Feng, W. 2020. 'Subsurface defect detection using phase evolution of line laser-generated Rayleigh waves', *Optics and Laser Technology*, **131**:106410.

22. Zhou, P., Cao, W., Liao, Y., Wang, K., Yang, X., Yang, J., Su, Y., Xu, L., Zhou, L.-M., Zhang, Z. and Su, Z.* 2020. 'Temperature effect on all-inkjet-printed nanocomposite piezoresistive sensors for ultrasonics-based health monitoring', *Composites Science and Technology*, **197**:108273.
23. Su, Z.* 2020. 'Editorial: 2019 International Congress on Ultrasonics', *Ultrasonics*, **107**:106055.
24. Cao, M., Su, Z., Xu, H., Radziński, M. Xu, W. and Ostachowicz, W. 2020. 'A novel damage characterization approach for laminated composites in the absence of material and structural information', *Mechanical Systems and Signal Processing*, **143**:106831.
25. Wang, K., Cao, W., Liu, M., Li, Y., Zhou, P. and Su, Z.* 2020. 'Advancing elastic wave imaging using thermal susceptibility of acoustic nonlinearity', *International Journal of Mechanical Sciences*, **175**:105509.
26. Xu, W., Su, Z., Liu, J., Cao, M. and Ostachowicz, W. 2020. 'Singular energy component for identification of initial delamination in CFRP laminates through piezoelectric actuation and non-contact measurement', *Smart Materials and Structures*, **29**:045001 (12pp).
27. Zhang, Z., Guo, S., Li, Q., Cui, F., Malcolm, A., Su, Z. and Liu, M. 2020. 'Ultrasonic detection and characterization of delamination and rich resin in thick composites with waviness', *Composites Science and Technology*, **189**:108016.
28. Wang, K., Cao, W., Xu, L., Yang, X., Su, Z.*, Zhang, X. and Chen, L. 2020. 'Diffuse ultrasonic wave-based structural health monitoring for railway turnouts', *Ultrasonics*, **101**:106031.
29. Su, Z.* 2019. 'Arthur Every hands on the torch to new Editor-in-Chief of *Ultrasonics*', *Ultrasonics*, **99**:105935.
30. Su, Z.*, Yuan, S. and Sohn, H. 2019. 'Editorial: special section on selected papers from the 7th Asia-Pacific Workshop on Structural Health Monitoring (APWSHM) 2018', *ASME Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems*, **2**:040301 (1pp).
31. He, Y., Xiao, Y. and Su, Z. 2019. 'Effects of surface contact on the dynamic responses of delaminated composite plates', *Composite Structures*, **229**:111378.
32. Wang, Q., Xu, Y., Su, Z., Cao, M. and Yue, D. 2019. 'An enhanced time-reversal imaging algorithm-driven sparse linear array for progressive and quantitative monitoring of cracks', *IEEE Transactions on Instrumentation and Measurement*, **68**(10):3433-3445.
33. Cao, W., Wang, Y., Zhou, P., Yang, X., Wang, K., Pang, B., Chi, R. and Su, Z.* 2019. 'Microstructural material characterization of hypervelocity-impact-induced pitting damage', *International Journal of Mechanical Sciences*, **163**:105097.
34. Zhou, P., Liao, Y., Li, Y., Pan, D., Cao, W., Yang, X., Zou, F., Zhou, L.-M., Zhang, Z. and Su, Z.* 2019. 'An inkjet-printed, flexible, ultra-broadband nanocomposite film sensor for in-situ acquisition of high-frequency dynamic strains', *Composites Part A: Applied Science and Manufacturing*, **125**:105554.
35. Chen, M., Huan, Q., Su, Z. and Li, F. 2019. 'A tunable bidirectional SH wave transducer based on antiparallel thickness-shear (d15) piezoelectric strips', *Ultrasonics*, **98**:35-50.
36. Wang, K., Li, Y., Su, Z.*, Guan, R., Lu, Y. and Yuan, S. 2019. 'Nonlinear aspects of "breathing" crack-disturbed plate waves: 3-D analytical modeling with experimental validation', *International Journal of Mechanical Sciences*, **159**:140-150.

37. Zhang, Z., Xiao, Y., Su, Z. and Pan, Y. 2019. 'Continuous monitoring of tightening condition of single-lap bolted composite joints using intrinsic mode functions of acoustic emission signals: a proof-of-concept study', *Structural Health Monitoring: An International Journal*, **18**(4):1219-1234.
38. Huan, Q., Chen, M., Su, Z. and Li, F. 2019. 'A high-resolution structural health monitoring system based on SH wave piezoelectric transducers phased array', *Ultrasonics*, **97**:29-37.
39. Liu, M., Wang, Q., Zhang, Q., Long, R., Cui, F. and Su, Z. 2019. 'Hypervelocity impact induced shock acoustic emission waves for quantitative damage evaluation using in situ miniaturized piezoelectric sensor network', *Chinese Journal of Aeronautics*, **32**(5):1059-1070.
40. Cao, W., Zhou, P., Liao, Y., Yang, X., Pan, D., Li, Y., Pang, B., Zhou, L.-M. and Su, Z.* 2019. 'A spray-on, nanocomposite-based sensor network for in-situ active structural health monitoring', *Sensors*, **19**(9):2077 (14pp).
41. Duan, F., Liao, Y., Zeng, Z., Jin, H., Zhou, L.-M., Zhang, Z. and Su, Z.* 2019. 'Graphene-based nanocomposite strain sensor response to ultrasonic guided waves', *Composites Science and Technology*, **174**:42-49.
42. Zhang, Z., Xiao, Y., Xie, Y. and Su, Z. 2019. 'Effects of contact between rough surfaces on the dynamic responses of bolted composite joints: multiscale modeling and numerical simulation', *Composite Structures*, **211**:13-23.
43. Guan, R., Lu, Y., Wang, K. and Su, Z. 2019. 'Quantitative fatigue crack evaluation in pipeline structures using nonlinear cylindrical waves', *Smart Materials and Structures*, **28**:025015 (13pp).
44. Guan, R., Lu, Y., Wang, K. and Su, Z. 2019. 'Fatigue crack detection in pipes with multiple mode nonlinear guided waves', *Structural Health Monitoring: An International Journal*, **18**(1):180-192.
45. Liao, Y., Duan, F., Zhang, H., Lu, Y., Zeng, Z., Liu, M., Xu, H., Gao, C., Zhou, L.-M., Jin, H., Zhang, Z. and Su, Z.* 2019. 'Ultrafast response of spray-on nanocomposite piezoresistive sensors to broadband ultrasound', *Carbon*, **143**:743-751.
46. Li, Y., Liao, Y. and Su, Z.* 2018. 'Graphene-functionalized polymer composites for self-sensing of ultrasonic waves: an initiative towards "sensor-free" structural health monitoring', *Composites Science and Technology*, **168**:203-213.
47. Wang, K., Fan, Z. and Su, Z.* 2018. 'Orienting fatigue cracks using contact acoustic nonlinearity in scattered plate waves', *Smart Materials and Structures*, **27**:09LT01 (6pp).
48. Sun, X., Ding, X., Li, F., Zhou, S., Liu, Y., Hu, N., Su, Z., Zhao, Y., Zhang, J. and Deng, M. 2018. 'Interaction of Lamb wave modes with weak material nonlinearity: generation of symmetric zero-frequency mode', *Sensors*, **18**:2451 (20pp).
49. Xu, H., Zhou, Q., Cao, M., Su, Z. and Wu, Z. 2018. 'A dynamic equilibrium-based damage identification method free of structural baseline parameters: experimental validation in a two-dimensional plane structure', *Journal of Aerospace Engineering*, **31**(6):04018081 (8pp).
50. Alkayem, N.F., Cao, M., Zhang, Y., Bayat, M. and Su, Z. 2018. 'Structural damage detection using finite element model updating with evolutionary algorithms: a survey', *Neural Computing and Applications*, **30**:389-411.
51. Li, Y., Wang, K. and Su, Z.* 2018. 'Dispersed sensing networks in nano-engineered polymer composites: from static strain measurement to ultrasonic wave acquisition', *Sensors*, **18**(5):1398 (15pp).

52. Wang, K., Liu, M., Su, Z.* , Yuan, S. and Fan, Z. 2018. ‘Analytical insight into “breathing” crack-induced acoustic nonlinearity with an application to quantitative evaluation of contact cracks’, *Ultrasonics*, **88**:157-167.
53. Liu, M., Schmicker, D., Su, Z.* and Cui, F. 2018. ‘A benchmark study of modeling Lamb wave scattering by a through hole using a time-domain spectral element method’, *ASME Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems*, **1**:021006 (8pp).
54. Radecki, R., Su, Z., Cheng, L., Packo, P. and Staszewski, W.J. 2018. ‘Modelling nonlinearity of guided ultrasonic waves in fatigued materials using a nonlinear local interaction simulation approach and a spring model’, *Ultrasonics*, **84**:272-289.
55. Liu, M., Wang, Q., Zhang, Q., Long, R. and Su, Z.* 2018. ‘Characterizing hypervelocity (> 2.5 km/s)-impact-engendered damage in shielding structures using *in-situ* acoustic emission: simulation and experiment’, *International Journal of Impact Engineering*, **111**:273-284.
56. Zhang, Z., Liu, M., Liao, Y., Su, Z.* and Xiao, Y. 2018. ‘Contact acoustic nonlinearity (CAN)-based continuous monitoring of bolt loosening: hybrid use of high-order harmonics and spectral sidebands’, *Mechanical Systems and Signal Processing*, **103**:280-294.
57. Zhou, C., Zhang, C., Su, Z., Yue, X., Xiang, J. and Liu, G. 2017. ‘Health monitoring of rail structures using guided waves and three-dimensional diagnostic imaging’, *Structural Control and Health Monitoring*, **24**(9):e1966.
58. Xu, H., Zeng, Z., Wu, Z., Zhou, L.-M., Su, Z.* , Liao, Y. and Liu, M. 2017. ‘Broadband dynamic responses of flexible carbon black/poly (vinylidene fluoride) nanocomposites: a sensitivity study’, *Composites Science and Technology*, **149**:246-253.
59. Zeng, Z., Liu, M., Xu, H., Liao, Y., Duan, F., Zhou, L.-M., Jin, H., Zhang, Z. and Su, Z.* 2017. ‘Ultra-broadband frequency responsive sensor based on lightweight and flexible carbon nanostructured polymeric nanocomposites’, *Carbon*, **121**:490-501.
60. Zhang, Z., Xu, H., Liao, Y., Su, Z.* and Xiao, Y. 2017. ‘Vibro-acoustic modulation (VAM)-inspired structural integrity monitoring and its applications to bolted composite joints’, *Composite Structures*, **176**:505-515.
61. Liu, M., Wang, K., Lissenden, C.J., Wang, Q., Zhang, Q., Long, R., Su, Z.* and Cui, F. 2017. ‘Characterizing hypervelocity impact (HVI)-induced pitting damage using active guided ultrasonic waves: from linear to nonlinear’, *Materials*, **10**:547 (20pp).
62. Liu, M., Lissenden, C.J., Wang, Q., Su, Z.* , Zhang, Q. and Long, R. 2017. ‘Characterization of damage in shielding structures of space vehicles under hypervelocity impact’, *Procedia Engineering*, **188**:286-292.
63. Zhang, Z., Liu, M., Su, Z.* and Xiao, Y. 2017. ‘Continuous monitoring of residual torque of loose bolt in a bolted joint’, *Procedia Engineering*, **188**:278-285.
64. Liu, M., Zeng, Z., Xu, H., Liao, Y., Zhou, L.-M., Zhang, Z. and Su, Z.* 2017. ‘Applications of a nanocomposite-inspired *in-situ* broadband ultrasonic sensor to acousto-ultrasonics-based passive and active structural health monitoring’, *Ultrasonics*, **78**:166-174.
65. Xu, H., Su, Z.* , Cheng, L. and Guyader, J.-L. 2017. ‘On a hybrid use of structural vibration signatures for damage identification: a virtual vibration deflection (VVD) method’, *Journal of Vibration and Control*, **23**(4):615-631.

66. Cao, M., Xu, W., Su, Z., Ostachowicz, W. and Xia, N. 2017. 'Local coordinate systems-based method to analyze high-order modes of n-step Timoshenko beam', *Journal of Vibration and Control*, **23**(1):89-102.
67. Ren, Y., Qiu, L., Yuan, S. and Su, Z.* 2017. 'A diagnostic imaging approach for online characterization of multi-impact in aircraft composite structures based on a scanning spatial-wavenumber filter of guided wave', *Mechanical Systems and Signal Processing*, **90**:44-63.
68. Hong, M., Mao, Z., Todd, M.D. and Su, Z.* 2017. 'Uncertainty quantification for acoustic nonlinearity parameter in Lamb wave-based prediction of barely visible impact damage in composites', *Mechanical Systems and Signal Processing*, **82**:448-460.
69. Zhang, Z., Xiao, Y., Liu, Y.Q. and Su, Z. 2016. 'A quantitative investigation on vibration durability of viscoelastic relaxation in bolted composite joints', *Journal of Composite Materials*, **50**(29):4041-4056.
70. Zhang, Z., Liu, M., Su, Z.* and Xiao, Y. 2016. 'Quantitative evaluation of residual torque of a loose bolt based on wave energy dissipation and vibro-acoustic modulation: a comparative study', *Journal of Sound and Vibration*, **383**:156-170.
71. Su, Z.* 2016. 'Editorial: introduction to the 19th World Conference on Non-Destructive Testing (WCNDT-2016)', *Ultrasonics*, **71**:A1.
72. Qiu, L., Liu, B., Yuan, S., Su, Z.* and Ren, Y. 2016. 'A scanning spatial-wavenumber filter and PZT 2-D cruciform array based on-line damage imaging method of composite structure', *Sensors and Actuators A: Physical*, **248**:62-72.
73. Liu, M., Su, Z.*, Zhang, Q. and Long, R. 2016. 'Modeling hypervelocity-impact-induced shock waves for characterizing orbital debris-produced damage', *ASME Journal of Applied Mechanics*, **83**:081010 (11pp).
74. Wang, Q., Hong, M. and Su, Z.* 2016. 'A sparse sensor network topologized for cylindrical wave-based identification of damage in pipeline structures', *Smart Materials and Structures*, **25**:075015 (15pp).
75. Zeng, Z., Liu, M., Xu, H., Liu, W., Liao, Y., Jin, H., Zhou, L.-M., Zhang, Z. and Su, Z.* 2016. 'A coatable, light-weight, fast-response nanocomposite sensor for the *in situ* acquisition of dynamic elastic disturbance: from structural vibration to ultrasonic waves', *Smart Materials and Structures*, **25**:065005 (12pp).
76. Qiu, L., Yuan, S., Su, Z. and Liu, B. 2016. 'Research on Lamb wave wavenumber response and PZT 2D cross-shaped array based damage imaging method of aircraft composite structures', *Journal of Vibroengineering*, **18**(1):190-201.
77. Qiu, L., Liu, B., Yuan, S. and Su, Z. 2016. 'Impact imaging of aircraft composite structure based on a model-independent spatial-wavenumber filter', *Ultrasonics*, **64**:10-24.
78. Zhang, Z., Xiao, Y., Liu, Y. and Su, Z. 2016. 'Preload relaxation characteristics in composite bolted joints based on vibration fatigue test', *Acta Materialiae Compositae Sinica*, **33**(1):163-173.
79. Bai, R., Radziński, M., Cao, M., Ostachowicz, W. and Su, Z. 2015. 'Non-baseline identification of delamination in plates using wavelet-aided fractal analysis of two-dimensional mode shapes', *Journal of Intelligent Material Systems and Structures*, **26**(17):2338-2350.
80. Xu, H., Su, Z. and Cao, M. 2015. 'Dynamic perturbation characteristics for non-baseline structural damage diagnosis', *Journal of Vibroengineering*, **17**(4):1796-1804.

81. Wang, Q., Yuan, S., Hong, M. and Su, Z. 2015. 'On time reversal-based signal enhancement for active Lamb wave-based damage identification', *Smart Structures and Systems: An International Journal*, **15**(6):1463-1479.
82. Xu, H., Lu, B., Su, Z.* and Cheng, L. 2015. 'Statistical enhancement of a dynamic equilibrium-based damage identification strategy: theory and experimental validation', *Journal of Sound and Vibration*, **351**:236-250.
83. Ziaja, A., Cheng, L., Su, Z., Packo, P., Pieczonka, L., Uhl, T. and Staszewski, W. 2015. 'Thick hollow cylindrical waveguides: a theoretical, numerical and experimental study', *Journal of Sound and Vibration*, **350**:73-90.
84. Wang, Q., Hong, M. and Su, Z.* 2015. 'An *in-situ* structural health diagnosis technique and its realization via a modularized system', *IEEE Transactions on Instrumentation and Measurement*, **64**(4):873-887.
85. Hong, M., Su, Z.*, Ye, L., Sohn, H. and Qing, X. 2015. 'Locating fatigue damage using temporal signal features of nonlinear Lamb waves', *Mechanical Systems and Signal Processing*, **60-61**:182-197.
86. Xu, W., Cao, M., Radziński, M., Xia, N., Su, Z., Ostachowicz, W. and Wang, S. 2015. 'Detecting multiple small-sized damage in beam-type structures by Teager energy of modal curvature shape', *Journal of Vibroengineering*, **17**:275-286.
87. Lu, M., Yang, H., Qing, X., Su, Z. and Zhou, L.-M. 2015. 'Real-time impact monitoring of composites for ship applications', *Materials Science Forum*, **813**:72-77.
88. Xu, H., Su, Z.*, Cheng, L. and Guyader, J.-L. 2015. 'A "pseudo-excitation" approach for structural damage identification: from "strong" to "weak" modality', *Journal of Sound and Vibration*, **337**:181-198.
89. Ma, S., Wang, Y., Su, Z. and Dong, X. 2015. 'Study of high speed train terminal cabin design scheme evaluation based on fuzzy and AHP', *Journal of Dalian Jiaotong University*, **36**(2):30-34.
90. Li, W., Dichiaro, A., Zha, J., Su, Z. and Bai, J. 2014. 'On improvement of mechanical and thermo-mechanical properties of glass fabric/epoxy composites by incorporating CNT-Al₂O₃ hybrids', *Composites Science and Technology*, **103**:36-43.
91. Fan, R., Meng, G. and Su, Z. 2014. 'Research on the interior noise reduction of an elastic cavity by the multipoint panel acoustic contribution method based on Moore-Glasberg loudness model', *ASME Journal of Vibration and Acoustics*, **136**(6):061004 (12pp).
92. Bai, R., Ostachowicz, W., Cao, M. and Su, Z. 2014. 'Crack detection in beams in noisy conditions using scale fractal dimension analysis of mode shapes', *Smart Materials and Structures*, **23**:065014 (10pp).
93. Fan, R., Su, Z., Meng, G. and He, C. 2014. 'Application of sound intensity and partial coherence to identify interior noise sources on the high speed train', *Mechanical Systems and Signal Processing*, **46**:481-493.
94. Xu, Y.L., Huang, Q., Zhan, S., Su, Z. and Liu, H.J. 2014. 'FRF-based structural damage detection of controlled buildings with podium structures: Experimental investigation', *Journal of Sound and Vibration*, **333**:2762-2775.
95. Chen, J. and Su, Z.* 2014. 'On ultrasound waves guided by bones with coupled soft tissues: a mechanism study and *in vitro* calibration', *Ultrasonics*, **54**:1186-1196.
96. Cao, M., Song, X., Xu, W., Su, Z. and Zhu, W. 2014. 'Performance assessment of natural frequencies in characterizing cracks in beams in noisy conditions', *Journal of Vibroengineering*, **16**(2):1010-1021.

97. Fan, R., Meng, G. and Su, Z. 2014. 'The experimental study of the effect of air conditioning system on internal noise within high speed train', *International Journal of Vehicle Noise and Vibration*, **10**(1/2):93-107.
98. Hong, M., Wang, Q., Su, Z.* and Cheng, L. 2014. 'In situ health monitoring for bogie systems of CRH380 train on Beijing-Shanghai high-speed railway', *Mechanical Systems and Signal Processing*, **45**:378-395.
99. Cao, M., Xu, W., Ostachowicz, W. and Su, Z. 2014. 'Damage identification for beams in noisy conditions based on Teager energy operator-wavelet transform modal curvature', *Journal of Sound and Vibration*, **333**:1543-1553.
100. Su, Z.*, Zhou, C., Hong, M., Cheng, L., Wang, Q. and Qing, X. 2014. 'Acousto-ultrasonics-based fatigue damage characterization: linear versus nonlinear signal features', *Mechanical Systems and Signal Processing*, **45**:225-239.
101. Hong, M., Su, Z.*, Wang, Q., Cheng, L. and Qing, X. 2014. 'Modeling nonlinearities of ultrasonic waves for fatigue damage characterization: theory, simulation, and experimental validation', *Ultrasonics*, **54**:770-778.
102. Xu, K., Ta, D., Su, Z. and Wang, W. 2014. 'Transmission analysis of ultrasonic Lamb mode conversion in a plate with partial-thickness notch', *Ultrasonics*, **54**:395-401.
103. Xu, W., Cao, M., Ren, Q. and Su, Z. 2014. 'Numerical evaluation of high-order modes for stepped beam', *ASME Journal of Vibration and Acoustics*, **136**(1):014503 (6pp).
104. Wang, Q., Su, Z., Wang, J. and Jiang, B. 2013. 'Research on integrated active Lamb wave based structural health monitoring system', *Journal of Nanjing University of Posts and Telecommunications (Natural Science)*, **33**(4):71-77.
105. Xu, H., Su, Z.*, Cheng, L., Guyader, J.-L. and Hamelin, P. 2013. 'Reconstructing interfacial force distribution for identification of multi-debonding in steel-reinforced concrete structures using noncontact laser vibrometry', *Structural Health Monitoring: An International Journal*, **12**(5-6):507-521.
106. Chen, J., Su, Z.*, Cheng, L. and Ta, D.-A. 2013. 'Exploring and calibrating local curvature effect of cortical bone for quantitative ultrasound (QUS)', *Structural Engineering and Mechanics: An International Journal*, **48**(4):501-518.
107. Lu, W., Teng, J., Xu, Y.L. and Su, Z. 2013. 'Identification of damage in dome-like structures using hybrid sensor measurements and artificial neural networks', *Smart Materials and Structures*, **22**:105014 (10pp).
108. Fan, R., Su, Z.* and Cheng, L. 2013. 'Modeling, analysis, and validation of an active T-shaped noise barrier', *Journal of the Acoustical Society of America*, **134**(3):1990-2003.
109. Cao, M., Su, Z., Cheng, L. and Xu, H. 2013. 'A multi-scale pseudo-force model for characterization of damage in beam components with unknown material and structural parameters', *Journal of Sound and Vibration*, **332**:5566-5583.
110. Lu, Y., Lu, M., Ye, L., Wang, D., Zhou, L.-M. and Su, Z. 2013. 'Lamb wave based monitoring of fatigue crack growth using principal component analysis', *Key Engineering Materials*, **558**:260-267.
111. Hong, M., Zhou, C., Su, Z.*, Cheng, L. and Qing, X. 2013. 'Nonlinear properties of Lamb waves under modulation of fatigue damage: finite element simulation with experimental validation', *Key Engineering Materials*, **558**:195-204.
112. Xu, H., Cheng, L., Su, Z.* and Guyader, J.-L. 2013. 'Damage visualization based on local dynamic perturbation: theory and application to characterization of multi-damage in a plane structure', *Journal of Sound and Vibration*, **332**:3438-3462.

113. Xu, H., Cheng, L. and Su, Z.* 2013. 'Suppressing influence of measurement noise on vibration-based damage detection involving higher-order derivatives', *Advances in Structural Engineering*, **16**(1):233-244.
114. Zhou, C., Hong, M., Su, Z.* , Wang, Q. and Cheng, L. 2013. 'Evaluation of fatigue cracks using nonlinearities of acousto-ultrasonic waves acquired by an active sensor network', *Smart Materials and Structures*, **22**:015018 (12pp).
115. Marzani, A., Su, Z. and Bartoli, I. 2013. 'Editorial: new strategies and challenges in SHM for aerospace and civil structures', *Mathematical Problems in Engineering*, **2013**:614050 (2pp).
116. Chen, J., Cheng, L., Su, Z.* and Qin, L. 2013. 'Modeling elastic waves in coupled media: estimate of soft tissue influence and application to quantitative ultrasound', *Ultrasonics*, **53**:350-362.
117. Qian, X., Cao, M., Su, Z. and Chen, J. 2012. 'A hybrid particle swarm optimization (PSO)-simplex algorithm for damage identification of delaminated beams', *Mathematical Problems in Engineering*, **2012**:607418 (11pp).
118. Chen, J., Su, Z.* and Cheng, L. 2012. 'The medium coupling effect on propagation of guided waves in engineering structures and human bone phantoms', *Coupled Systems Mechanics: An International Journal*, **1**(4): 297-309.
119. Bai, R., Cao, M., Su, Z., Ostachowicz, W. and Xu, H. 2012. 'Fractal dimension analysis of higher-order mode shapes for damage identification of beam structures', *Mathematical Problems in Engineering*, **2012**:454568 (16pp).
120. Yu, L., Cheng, L. and Su, Z.* 2012. 'Correlative sensor array and its applications to identification of damage in plate-like structures', *Structural Control and Health Monitoring*, **19**:650-671.
121. Yu, L. and Su, Z. 2012. 'Application of kernel density estimation in Lamb wave-based damage detection', *Mathematical Problems in Engineering*, **2012**:406521 (24pp).
122. Chen, J., Foiret, J., Minonzio, J.-G., Talmant, M., Su, Z., Cheng, L. and Laugier, P. 2012. 'Measurement of guided mode wavenumbers in soft tissue–bone mimicking phantoms using ultrasonic axial transmission', *Physics in Medicine and Biology*, **57**:3025-3037.
123. Huang, Q., Xu, Y.L., Li, J.C., Su, Z. and Liu, H.J. 2012. 'Structural damage detection of controlled building structures using frequency response functions', *Journal of Sound and Vibration*, **331**:3476-3492.
124. Cao, M., Cheng, L., Su, Z.* and Xu, H. 2012. 'A multi-scale pseudo-force model in wavelet domain for identification of damage in structural components', *Mechanical Systems and Signal Processing*, **28**:638-659.
125. Zhou, C., Su, Z. and Cheng, L. 2011. 'Probability-based diagnostic imaging using hybrid features extracted from ultrasonic Lamb wave signals', *Smart Materials and Structures*, **20**:125005 (14pp).
126. Wang, D., Ye, L., Su, Z. and Lu, Y. 2011. 'Quantitative identification of multiple damage in laminated composite beams using A_0 Lamb mode', *Journal of Composite Materials*, **45**(20):2061-2069.
127. Xu, H., Cheng, L., Su, Z.* and Guyader, J.-L. 2011. 'Identification of structural damage based on locally perturbed dynamic equilibrium with an application to beam component', *Journal of Sound and Vibration*, **330**:5963-5981.
128. Zhou, C., Su, Z. and Cheng, L. 2011. 'Quantitative evaluation of orientation-specific damage using elastic waves and probability-based diagnostic imaging', *Mechanical Systems and Signal Processing*, **25**:2135-2156.

129. Halim, D., Cheng, L. and Su, Z. 2011. 'Virtual sensors for active noise control in acoustic-structural coupled enclosures using structural sensing: Part II - optimisation of structural sensor placement', *Journal of The Acoustical Society of America*, **129**(4):1991-2004.
130. Halim, D., Cheng, L. and Su, Z. 2011. 'Virtual sensors for active noise control in acoustic-structural coupled enclosures using structural sensing: robust virtual sensor design', *Journal of The Acoustical Society of America*, **129**(3):1390-1399.
131. Lu, X., Lu, M., Zhou, L.-M., Su, Z., Cheng, L., Ye, L. and Meng, G. 2011. 'Evaluation of welding damage in welded tubular steel structures using guided waves and a probability-based imaging approach', *Smart Materials and Structures*, **20**(1):015018 (15pp).
132. Cao, M., Ye, L., Zhou, L.-M., Su, Z. and Bai, R. 2011. 'Sensitivity of fundamental mode shape and static deflection for damage identification in cantilever beams', *Mechanical Systems and Signal Processing*, **25**:630-643.
133. Lu, Y., Ye, L., Wang, D., Wang, X. and Su, Z. 2010. 'Conjunctive and compromised data fusion schemes for identification of multiple notches in an aluminium plate using lamb wave signals', *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, **57**(9):2005-2016.
134. Wang, D., Ye, L., Su, Z., Lu, Y., Li, F. and Meng, G. 2010. 'Probabilistic damage identification based on correlation analysis using guided wave signals in aluminum plates', *Structural Health Monitoring: An International Journal*, **9**(2):133-144.
135. Chen, J., Su, Z.* and Cheng, L. 2010. 'Identification of corrosion damage in submerged structures using fundamental anti-symmetric Lamb waves', *Smart Materials and Structures*, **19**(1):015004 (12pp).
136. Lau, K.-T., Cheng, L. Su, Z. and Varadan, V. K. 2009. 'Editorial: smart composite materials - selected papers from the International Conference on Multifunctional Materials and Structures', *Smart Materials and Structures*, **18**:070201 (1pp).
137. Lam, P.-M., Lau, K.-T., Ling, H.-Y., Su, Z. and Tam, H.-Y. 2009. 'Acousto-ultrasonic sensing for delaminated GFRP composites using an embedded FBG sensor', *Optics and Lasers in Engineering*, **47**:1049-1055.
138. Su, Z.*, Cheng, L., Wang, X., Yu, L. and Zhou, C. 2009. 'Predicting delamination of composite laminates using an imaging approach', *Smart Materials and Structures*, **18**(7):074002 (8pp).
139. Wang, D., Ye, L., Lu, Y. and Su, Z. 2009. 'Probability of the presence of damage estimated from an active sensor network in a composite panel of multiple stiffeners', *Composites Science and Technology*, **69**:2054-2063.
140. Li, F., Meng, G., Kageyama, K., Su, Z. and Ye, L. 2009. 'Optimal mother wavelet selection for Lamb wave analyses', *Journal of Intelligent Material Systems and Structures*, **20**:1147-1161.
141. Su, Z.*, Wang, X., Cheng, L., Yu, L. and Chen, Z. 2009. 'On selection of data fusion schemes for structural damage evaluation', *Structural Health Monitoring: An International Journal*, **8**(3):223-241.
142. Lu, Y., Ye, L., Su, Z., Zhou, L.-M. and Cheng, L. 2009. 'Artificial neural network (ANN)-based crack identification in aluminum plates with Lamb wave signals', *Journal of Intelligent Material Systems and Structures*, **20**:39-49.
143. Wang, X., Su, Z. and Cheng, L. 2009. 'Data fusion schemes in damage identification: *evaluation and comparison*', *Materials Forum*, **33**:168-172.
144. Hu, N., Shimomukai, T., Fukunaga, H. and Su, Z. 2008. 'Damage identification of metallic structures using A_0 mode of Lamb waves', *Structural Health Monitoring: An International Journal*, **7**(3):271-285.

145. Su, Z.* , Cheng, L., Wang, X. and Yu, L. 2008. 'Diagnostic imaging for structural damage', *Advanced Materials Research*, **47-50**:1157-1160.
146. Su, Z.* , Cheng, L., Wang, X., Ye, L. and Chen, Z. 2008. 'Evaluating multi-delamination of composite laminates using an active sensor network', *Advanced Materials Research*, **32**:103-106.
147. Lu, Y., Ye, L., Su, Z. and Yang, C. 2008. 'Quantitative assessment of through-thickness crack size based on Lamb wave scattering in aluminium plates', *NDT&E International*, **41**(1):59-68.
148. Su, Z.* , Wang, X., Chen, Z. and Ye, L. 2007. 'A hierarchical data fusion scheme for identifying multi-damage in composite structures with a built-in sensor network', *Smart Materials and Structures*, **16**:2067-2079.
149. Lu, Y., Ye, L., Su, Z. and Huang, N. 2007. 'Quantitative evaluation of crack orientation in aluminium plates based on Lamb waves', *Smart Materials and Structures*, **16**:1907-1914.
150. Ling, H.-Y., Lau, K.-T., Su, Z. and Wong, E.T.-T. 2007. 'Monitoring mode II fracture behaviour of composite laminates using embedded fibre-optic sensors', *Composites Part B: Engineering*, **38**:488-497.
151. Su, Z., Yang, C., Pan, N., Ye, L. and Zhou, L.-M. 2007. 'Assessment of delamination in composite beams using shear horizontal (SH) wave mode', *Composites Science and Technology*, **67**:244-251.
152. Yang, C., Su, Z., Ye, L., Zhou, L.-M. and Hodgson, P. 2007. 'A signal processing approach for elastic wave-based structural health monitoring using active piezoelectrics', *Key Engineering Materials*, **334-335**:1141-1144.
153. Lam, P.-M., Lau, K.-T., Tam, H.-Y., Ling, H.-Y., Su, Z. and Wong, E.T.-T. 2007. 'Fibre Bragg grating sensor/piezoelectric actuator hybrid system for damage detection in composite laminates', *Key Engineering Materials*, **334-335**:949-952.
154. Yang, C., Su, Z., Ye, L., Lu, Y. and Bannister, M. 2007. 'Propagation characteristics of Lamb waves in stringer-stiffened panels', *Key Engineering Materials*, **334-335**:637-640.
155. Su, Z.* , Wang, X., Chen, Z. and Ye, L. 2007. 'Damage assessment of multi-layered composite structure using an embedded active sensor network', *Key Engineering Materials*, **334-335**:461-464.
156. Su, Z., Wang, X., Chen, Z., Ye, L. and Wang, D. 2006. 'A built-in active sensor network for health monitoring of composite structures', *Smart Materials and Structures*, **15**:1939-1949.
157. Li, F., Su, Z., Ye, L. and Meng, G. 2006. 'A correlation filtering-based matching pursuit (CF-MP) for damage identification using Lamb waves', *Smart Materials and Structures*, **15**:1585-1594.
158. Ye, L., Su, Z., Yang, C., He, Z. and Wang, X. 2006. 'Hierarchical development of training database for artificial neural network-based damage identification', *Composite Structures*, **76**:224-233.
159. Ling, H.-Y., Lau, K.-T., Cheng, L. and Su, Z. 2006. 'Mode II fracture behaviour monitoring for composite laminates using embedded fibre Bragg grating sensors', *Composite Structures*, **76**:88-93.
160. Yang, C., Ye, L., Su, Z. and Bannister, M. 2006. 'Some aspects of numerical simulation for Lamb wave propagation in composite laminates', *Composite Structures*, **75**:267-275.
161. Pan, N., Su, Z., Ye, L., Zhou, L.-M. and Lu, Y. 2006. 'A quantitative identification approach for delamination in laminated composite beams using digital damage fingerprints (DDFs)', *Composite Structures*, **75**:559-570.

162. Su, Z., Ye, L. and Lu, Y. 2006. 'Guided Lamb waves for identification of damage in composite structures: a review', *Journal of Sound and Vibration*, **295**(3-5):753-780.
163. Lu, Y., Ye, L. and Su, Z. 2006. 'Crack identification in aluminium plates using Lamb wave signals of a PZT sensor network', *Smart Materials and Structures*, **15**:839-849.
164. Wang, X., Foliente, G., Su, Z. and Ye, L. 2006. 'Multilevel decision fusion in a distributed active sensor network for structural damage detection', *Structural Health Monitoring: An International Journal*, **5**(1):45-58.
165. Su, Z., Ling, H.-Y., Zhou, L.-M., Lau, K.-T. and Ye, L. 2005. 'Efficiency of genetic algorithms and artificial neural networks for evaluating delamination in composite structures using fibre Bragg grating sensors', *Smart Materials and Structures*, **14**:1541-1553.
166. Su, Z. and Ye, L. 2005. 'A fast damage locating approach using *digital damage fingerprints* extracted from Lamb wave signals', *Smart Materials and Structures*, **14**:1047-1054.
167. Ye, L., Lu, Y., Su, Z. and Meng, G. 2005. 'Functionalized composite structures for new generation airframes: a review', *Composites Science and Technology*, **65**:1436-1446.
168. Su, Z. and Ye, L. 2005. 'Quantitative damage prediction for composite laminates based on wave propagation and artificial neural networks', *Structural Health Monitoring: An International Journal*, **4**(1):57-66.
169. Su, Z. and Ye, L. 2005. 'Lamb wave propagation-based damage identification for quasi-isotropic CF/EP composite laminates using artificial neural algorithm: Part II - implementation and validation', *Journal of Intelligent Material Systems and Structures*, **16**:113-125.
170. Su, Z. and Ye, L. 2005. 'Lamb wave propagation-based damage identification for quasi-isotropic CF/EP composite laminates using artificial neural algorithm: Part I - methodology and database development', *Journal of Intelligent Material Systems and Structures*, **16**:97-111.
171. Su, Z. and Ye, L. 2005. 'Digital damage fingerprints (DDF) and its application in quantitative damage identification', *Composite Structures*, **67**:197-204.
172. Su, Z. and Ye, L. 2004. 'Lamb wave-based quantitative identification of delamination in CF/EP composite structures using artificial neural algorithm', *Composite Structures*, **66**(1-4):627-637.
173. Su, Z. and Ye, L. 2004. 'An intelligent signal processing and pattern recognition technique for defect identification using an active sensor network', *Smart Materials and Structures*, **13**(4):957-969.
174. Su, Z. and Ye, L. 2004. 'Fundamental Lamb mode-based delamination detection for CF/EP composite laminates using distributed piezoelectrics', *Structural Health Monitoring: An International Journal*, **3**(1):43-68.
175. Su, Z. and Ye, L. 2004. 'Selective generation of Lamb wave modes and their propagation characteristics in defective composite laminates', *Proceedings of the Institution of Mechanical Engineers Part L - Journal of Materials: Design and Applications*, **218**:95-110.
176. Su, Z., Ye, L., Bu, X., Wang, X. and Mai, Y.-W. 2003. 'Quantitative assessment of damage in a structural beam based on wave propagation by impact excitation', *Structural Health Monitoring: An International Journal*, **2**(1):27-40.

177. Bu, X., Ye, L., Su, Z. and Wang, C. 2003. 'Active control of a flexible smart beam using a system identification technique based on ARMAX', *Smart Materials and Structures*, **12**:845-850.
178. Su, Z., Mai, H., Wu, D. and Lu, M. 2002. 'Investigation into the distribution of SMA actuators in active vibration control for SMARC beam', *Journal of Mechanical Strength*, **24**(1):39-44.
179. Zhang, X., Mai, H., Su, Z. and Wu, S. 2002. 'Experimental study on active control technique for NiTi shape memory alloy reinforced composites', *Measurement and Control Technology*, **20**(2):28-30.
180. Su, Z., Mai, H. and Lu, M. 2000. 'Technology of modelling for NiTi shape memory alloy reinforced composites', *Journal of Beijing University of Aeronautics and Astronautics*, **26**(3):337-339.
181. Su, Z., Ye, L. and Bu, X. 2002. 'A damage identification technique for CF/EP composite laminates using distributed piezoelectric transducers', *Composite Structures*, **57**:465-471.
182. Su, Z., Mai, H.C., Lu, M. and Ye, L. 1999. 'Thermo-mechanical behaviour of shape memory alloy reinforced composite laminate (Ni-Ti/glass-fibre/epoxy)', *Composite Structures*, **47**:705-710.

Peer-reviewed Conference Proceedings Papers:

183. Cao, W., Wang, K., Xu, L., Zhou, P., Yang, X., Pang, B., Fromme, P. and Su, Z. 2020. 'Modally selective nonlinear ultrasonic waves for characterization of pitting damage in Whipple shields of spacecraft', in *Proceedings of the SPIE (Vol. 11381, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XIV))*, edited by Fromme, P. and Su, Z., pp. 11381M-1-16, 27, April-1, May, 2020 (online conference), CA., USA.
184. Wang, K., Cao, W. and Su, Z. 2019. 'In situ condition monitoring of high-speed rail tracks using diffuse ultrasonic waves: from theory to applications', in *Proceedings of the 2nd World Congress on Condition Monitoring (WCCM-2019)*, edited by Vetri, M.S. and Krishnamurthy, M., Singapore: Research Publishing, ISBN: 978-981-11-0744-3, pp. 326-333, 2-5, December, 2019, Singapore.
185. Cao, W., Zhou, P., Wang, K., Wang, Y., Chi, R., Pang, B. and Su, Z. 2019. 'Quantitative characterization of hypervelocity debris cloud-induced pitting damage in AL-Whipple shields using nonlinear ultrasonic waves', in *Structural Health Monitoring 2019: Enabling Intelligent Life-cycle Health Management for Industry Internet of Things (IIOT) - Proceedings of the 12th International Workshop on Structural Health Monitoring (IWSHM-12)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-601-5, pp. 2299-2307, 10-12, September, 2019, Stanford, CA., USA.
186. Wang, K. and Su, Z. 2019. 'Understanding "breathing" crack-induced contact acoustic nonlinearity: from analytical modeling to quantitative evaluation of fatigue cracks', in *Proceedings of the 7th International Congress on Ultrasonics (ICU 2019)*, edited by Van Den Abeele, K., D'hooge, J., Glorieux, C. and Kersemans, M., 3-6, September, 2019; Bruges, Belgium.
187. Li, Y., Zhou, P., Liao, Y. and Su, Z. 2019. 'Nano-engineered graphene polymer composites with self-health monitoring', in *Proceedings of the 22nd International*

- Conference on Composite Materials (ICCM-22)*, edited by Mouritz, A., Wang, C. and Bronwyn, F., Paper ID: 2412-5, 11-16, August, 2019, Melbourne, Australia.
188. Zhou, P., Liao, Y., Li, Y., Pan, D., Cao, W., Zhou, L.-M. and Su, Z. 2019. 'A nanocomposites-based, all-inkjet-printed, flexible, ultra-broadband film sensor for in-situ acquisition of dynamic strain', in *Proceedings of the 22nd International Conference on Composite Materials (ICCM-22)*, edited by Mouritz, A., Wang, C. and Bronwyn, F., Paper ID: 1210-1, 11-16, August, 2019, Melbourne, Australia.
 189. Wang, K., Su, Z. and Yuan, S. 2019. 'A thermal sensitivity-based approach for enhancing robustness of ultrasonic evaluation of material acoustic nonlinearity', in *Proceedings of the SPIE (Vol. 10972, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XIII))*, edited by Fromme, P. and Su, Z., pp. 109721M-1-9, 3-7, March, 2019, Denver, CO., USA.
 190. Cao, W., Pang, B., Su, Z., Chi, R., Cai, Y. and Huang, Y. 2019. 'Modeling of ultrasonic nonlinearities for debris cloud-induced micro-voids characterization: theoretical analysis and numerical validation', in *Proceedings of the 13th Symposium on Piezoelectricity, Acoustic Waves and Device Applications (SPAWDA 2019)*, IEEE Press, ISBN: 978-172810613-7, Article No.: 8681862, 11-14, January, 2019, Harbin, P. R. China.
 191. Guan, R., Lu, Y., Wang, K. and Su, Z. 2018. 'Detection of fatigue crack in an aluminium pipe with nonlinear guided waves', in *Proceedings of the 7th Asia Pacific Workshop on Structural Health Monitoring (APWSHM-2018)*, edited by Su, Z., Yuan, S. and Sohn, H., Bad Breisig: NDT.net, ISBN: 978-3-00-060359-4, pp. 250-258, 12-15, November, 2018, Hong Kong.
 192. Zhang, Z., Xiao, Y. and Su, Z. 2018. 'Continuous monitoring of tightening condition of bolted composite joints using intrinsic mode functions of acoustic emission signals', in *Proceedings of the 7th Asia Pacific Workshop on Structural Health Monitoring (APWSHM-2018)*, edited by Su, Z., Yuan, S. and Sohn, H., Bad Breisig: NDT.net, ISBN: 978-3-00-060359-4, pp. 18-25, 12-15, November, 2018, Hong Kong.
 193. Li, Y., Liao, Y. and Su, Z. 2018. 'Health self-monitoring of nano-engineered composite structures with enhanced mechanical and electrical profiles', in *Proceedings of the 9th European Workshop on Structural Health Monitoring (EWSHM-9)*, edited by Soutis, C. and Gresil, M., 10-13, July, 2018, Manchester, UK.
 194. Liao, Y., Zhou, P., Zhou, L.-M. and Su, Z. 2018. 'An inkjet-printed, nanocomposites-inspired sensor network for acousto-ultrasonics-based structural health monitoring', in *Proceedings of the 9th European Workshop on Structural Health Monitoring (EWSHM-9)*, edited by Soutis, C. and Gresil, M., 10-13, July, 2018, Manchester, UK.
 195. Wang, K., Su, Z. and Yuan, S. 2018. 'Evaluation of crack orientation using fatigue crack-induced contact acoustic nonlinearity', in *Proceedings of the SPIE (Vol. 10600, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XII))*, edited by Kundu, T., pp. 1060009-1-11, 4-8, March, 2018, Denver, CO., USA.
 196. Liao, Y., Duan, F., Zhou, L.-M. and Su, Z. 2017. 'A high-sensitivity and fast-response nanocomposites-inspired sensor for acousto-ultrasonics-based structural health monitoring', in *Proceedings of Meetings on Acoustics (Proceedings of the 6th International Congress on Ultrasonics (ICU 2017))*, 32:065001, 18-20, December, 2017, Honolulu, HI., USA.

197. Duan, F., Liao, Y., Zhang, Z. and Su, Z. 2017. 'Ultrabroad band frequency response strain sensor based on graphene nanocomposite', in *Proceedings of the 15th Japan International SAMPE Symposium and Exhibition (JISSE15)*, 27-29, November, 2017, Tokyo, Japan.
198. Liu, M., Su, Z. and Cui, F. 2017. 'Localization of hypervelocity impact to spacecraft using shock acoustic emission waves: experiment and simulation study', in *Proceedings of the 9th International Symposium on NDT in Aerospace*, edited by Yuan, S. and Qing, X., 8-10, November, 2017, Xiamen, P. R. China.
199. Li, Y., Liao, Y. and Su, Z. 2017. 'Nano-engineered functional composites with self-sensing capability for ultrasonics-based structural health monitoring', in *Structural Health Monitoring 2017: Real-Time Material State Awareness and Data-Driven Safety Assurance - Proceedings of the 11th International Workshop on Structural Health Monitoring (IWSHM-11)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-330-4, pp. 1913-1920, 12-14, September, 2017, Stanford, CA., USA.
200. Liu, M., Lissenden, C.J., Wang, Q., Su, Z., Zhang, Q., Long, R. and Cui, F. 2017. 'Interrogation of linear/nonlinear features of guided waves for characterizing hypervelocity impact-induced pitting damage in shielding structures', in *Structural Health Monitoring 2017: Real-Time Material State Awareness and Data-Driven Safety Assurance - Proceedings of the 11th International Workshop on Structural Health Monitoring (IWSHM-11)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-330-4, pp. 1819-1826, 12-14, September, 2017, Stanford, CA., USA.
201. Liu, M., Schmicker, D., Cui, F. and Su, Z. 2017. 'A time-domain spectral element method for simulating guided waves: analysis of accuracy and efficiency', in *Proceedings of the 46th International Congress and Exposition on Noise Control Engineering (Inter-Noise 2017) (Vol. 255)*, edited by Institute of Noise Control Engineering, pp. 1424-1430, 27-30, August, 2017, Hong Kong.
202. Li, Y., Liao, Y. and Su, Z. 2017. 'Nano-engineered fibre-reinforced composites with a capability of self-monitoring using ultrasonic-waves', in *Proceedings of the 21st International Conference on Composite Materials (ICCM-21)*, edited by Du. S. and Leng, J., 20-25, August, 2017, Xi'an, P. R. China.
203. Zhang, Z., Xiao, Y., Shen, Y.Z. and Su, Z. 2017. 'A multiscale model for modal analysis of composite structures with bolted joints', in *Proceedings of the 21st International Conference on Composite Materials (ICCM-21)*, edited by Du. S. and Leng, J., 20-25, August, 2017, Xi'an, P. R. China.
204. Liao, Y., Liu, M., Xu, H., Zhou, L.-M. and Su, Z. 2017. 'A nanocomposite-inspired smart sensing coating for acousto-ultrasonics-based structural health monitoring: modeling, validation and application', in *Proceedings of the 8th ECCOMAS Thematic Conference on Smart Structures and Materials (SMART2017) & the 6th International Conference on Smart Materials and Nanotechnology in Engineering*, edited by Güemes, A., Benjeddou, A., Rodellar, J. and Leng, J., International Center for Numerical Methods in Engineering (CIMNE), ISBN: 978-84-946909-3-8, pp. 1172-1182, 5-8, June, 2017, Madrid, Spain.
205. Wang, K., Su, Z. and Yuan, S. 2017. 'A three-dimensional analytical model for interpreting contact acoustic nonlinearity generated by a "breathing" crack', in *Proceedings of the SPIE (Vol. 10170, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems XI))*, edited by Kundu, T., pp. 101701X-1-11, 25-29, March, 2017, Portland, OR., USA.

206. Li, Y., Lau, K.-T. and Su, Z. 2016. 'A comparative study on nanofiller dispersion approaches and influence on electrical properties of GNP- and MWNT-based nanocomposites', in *Proceedings of the 10th Asian-Australasian Conference on Composite Materials (ACCM10)*, edited by Youn, J.R., 16-19, October, 2016, Busan, Republic of Korea.
207. Wang, Q., Wang, M., Yue, D. and Su, Z. 2016. 'A Lamb wave-based crack diagnosis method using an improved RAPID algorithm', in *Proceedings of the 8th European Workshop on Structural Health Monitoring (EWSHM-8)*, edited by Güemes, A., Aranguren, G., and Martinez, F., 5-8, July, 2016, Bilbao, Spain.
208. Wang, K. and Su, Z. 2016. 'A structural health monitoring approach based on contact acoustic nonlinearity and its application to quantitative evaluation of fatigue cracks', in *Proceedings of the 8th European Workshop on Structural Health Monitoring (EWSHM-8)*, edited by Güemes, A., Aranguren, G., and Martinez, F., 5-8, July, 2016, Bilbao, Spain.
209. Liu, M., Zeng, Z., Xu, H., Su, Z., Zhou, L.-M. and Zhang, Z. 2016. 'A coatable, lightweight nanocomposite sensor for *in-situ* acquisition of ultrasonic waves and its application to embeddable structural health monitoring', in *Proceedings of the 8th European Workshop on Structural Health Monitoring (EWSHM-8)*, edited by Güemes, A., Aranguren, G., and Martinez, F., 5-8, July, 2016, Bilbao, Spain.
210. Wang, K. and Su, Z. 2016. 'An analytical insight into contact acoustic nonlinearity of guided ultrasonic waves induced by a "breathing" crack', in *Proceedings of the 19th World Conference on Non-destructive Testing (WCNDT-2016)*, German Society for Non-Destructive Testing (DGZfP), ISBN: 978-3-940283-78-8, 13-17, June, 2016, Munich, Germany.
211. Zhang, Z., Liu, M., Su, Z. and Xiao, Y. 2016. 'Evaluation of bolt loosening using a hybrid approach based on contact acoustic nonlinearity', in *Proceedings of the 19th World Conference on Non-destructive Testing (WCNDT-2016)*, German Society for Non-Destructive Testing (DGZfP), ISBN: 978-3-940283-78-8, 13-17, June, 2016, Munich, Germany.
212. Wang, K. and Su, Z. 2016. 'Analytical modeling of contact acoustic nonlinearity of guided waves and its application to evaluating severity of fatigue damage', in *Proceedings of the SPIE (Vol. 9805, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems X))*, edited by Kundu, T., pp. 98050L-1-13, 20-24, March, 2016, Las Vegas, CA., USA.
213. Xu, H., Su, Z., Cheng, L. and Cao, M. 2015. 'A vibration-based damage identification technique free of structural baseline information: experimental validation in multi-component plane structure', in *Vibroengineering PROCEDIA (Vol. 5, Proceedings of the 19th International Conference on Vibration Science of Infrastructure Engineering (19th Vibroengineering Conference))*, edited by Cao, M. and Ragulskis, M., Kaunas: JVE International Ltd., ISSN: 2345-0533, pp. 334-338, 26-28, September, 2015, Nanjing, P. R. China.
214. Qiu, L., Yuan, S., Su, Z. and Liu, B. 2015. 'A new damage imaging method based on Lamb wave wavenumber response and PZT 2D cross-shaped array', in *Vibroengineering PROCEDIA (Vol. 5, Proceedings of the 19th International Conference on Vibration Science of Infrastructure Engineering (19th Vibroengineering Conference))*, edited by Cao, M. and Ragulskis, M., Kaunas: JVE International Ltd., ISSN: 2345-0533, pp. 193-198, 26-28, September, 2015, Nanjing, P. R. China (**Best Paper Award**).
215. Hong, M., Mao, Z., Todd, M.D., Su, Z. and Qing, X. 2015. 'A probabilistic model for quantifying uncertainty of acoustic nonlinearities of Lamb waves and its

- application to the characterization of damage in composite laminates’, in *Structural Health Monitoring 2015: System Reliability for Verification and Implementation - Proceedings of the 10th International Workshop on Structural Health Monitoring (IWSHM-10)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-111-9, pp. 2261-2268, 1-3, September, 2015, Stanford, CA., USA.
216. Radecki, R., Su, Z. and Cheng, L. 2015. ‘An insight into high-order harmonic generation of Lamb waves induced by a breathing crack using a spring model and a local interaction simulation approach’, in *Structural Health Monitoring 2015: System Reliability for Verification and Implementation - Proceedings of the 10th International Workshop on Structural Health Monitoring (IWSHM-10)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-111-9, pp. 1798-1805, 1-3, September, 2015, Stanford, CA., USA.
217. Liu, M., Su, Z., Zhang, Q. and Long, R. 2015. ‘Modeling on propagation of shock waves induced by hypervelocity impact (HVI) with application to evaluation of HVI damage’, in *Structural Health Monitoring 2015: System Reliability for Verification and Implementation - Proceedings of the 10th International Workshop on Structural Health Monitoring (IWSHM-10)*, edited by Chang, F.-K. and Kopsaftopoulos, F., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-111-9, pp. 1540-1547, 1-3, September, 2015, Stanford, CA., USA.
218. Li, W., Liu, W., Zhou, L.-M., Zhang, H., Lu, Y., Su, Z., Hong, M., Liu, M., Xu, H. and Lu, B. 2015. ‘A coated carbon nanotube sensor network for *in-situ* active sensing of ultrasonic elastic waves’, in *Proceedings of CANSMART/SMN 2015 - International Conference on Smart Materials, Structures and Nanotechnology*, edited by Akhras, G., ISBN: 978-0-9813815-2-7, pp. 127-136, 15-17, July, 2015, Vancouver, Canada.
219. Hong, M., Mao, Z., Todd, M., Su, Z. and Qing, X. 2015. ‘Uncertainty quantification of relative acoustic nonlinearity parameter of guided waves for damage detection in composite structures’, in *Proceedings of the SPIE (Vol. 9438, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems IX))*, edited by Kundu, T., pp. 94380A-1-9, 8-12, March, 2015, San Diego, CA., USA.
220. Liu, M. and Su, Z. 2015. ‘On propagation of shock waves generated under hypervelocity impact (HVI) and application to characterizing orbital debris-induced damage in space vehicles’, in *Proceedings of the SPIE (Vol. 9438, Proceedings of SPIE Conference on Smart Structures/NDE (Health Monitoring of Structural and Biological Systems IX))*, edited by Kundu, T., pp. 94381R-1-9, 8-12, March, 2015, San Diego, CA., USA.
221. Hong, M., Wang, Q., Su, Z. and Zhou, L.-M. 2014. ‘Real-time signal processing of guided waves acquired on high-speed trains for health monitoring of bogie systems’, in *Recent Advances in Structural Integrity Analysis - Proceedings of the International Congress (APCF/SIF-2014) (Asian-Pacific Conference on Fracture and Strength (APCFS-2014) & International Conference on Structural Integrity and Failure (SIF-2014))*, edited by Ye, L., Cambridge: Woodhead Publishing Ltd., ISBN: 978-0-08-100203-2, pp. 188-192, 9-12, December, 2014, Sydney, Australia.
222. Lu, Y., Li, J.C., Lyu, H.B., Hong, M. and Su, Z. 2014. ‘The application of guided waves for debonding identification in FRP-reinforced civil structures’, in *Proceedings of the 5th Asia-Pacific Workshop on Structural Health Monitoring Conference (SHM 2014)*, edited by Li, H., Teng, J., Chiu, W.K. and Mita, A., 4-5, December, 2014, Shenzhen, P. R. China.

223. Wang, B., Su, Z., Hong, M. and Wei, J. 2014. 'Evaluation of fatigue damage and loosening bolts in bolted joints using nonlinearities of Lamb waves', in *Proceedings of the 5th Asia-Pacific Workshop on Structural Health Monitoring Conference (SHM 2014)*, edited by Li, H., Teng, J., Chiu, W.K. and Mita, A., 4-5, December, 2014, Shenzhen, P. R. China.
224. Cheng, L., Su, Z. and Xu, H. 2014. 'Integral utilization of multi-types of structural vibration signals for damage identification based on the "weak" formulation of pseudo-excitation (PE) technique: virtual vibration deflection (VVD)', in *Proceedings of the International Workshop on Health Monitoring of Offshore Wind Farms (HEMOW)*, 26, September, 2014; Nanjing, P. R. China.
225. Liu, M., Su, Z. and Yuan, S. 2014. 'On propagation characteristics of shock waves generated under hypervelocity impact', in *Proceedings of the 2nd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2014)*, edited by Ding, K., Yuan, S. and Wu, Z., Taylor & Francis Group, 24-26, September, 2014, Nanjing, P. R. China.
226. Wang, Q. and Su, Z. 2014. 'A crack diagnosis and monitoring method using linear phased PZT sensor array', in *Proceedings of the 2nd International Conference on Structural Health Monitoring and Integrity Management (ICSHMIM-2014)*, edited by Ding, K., Yuan, S. and Wu, Z., Taylor & Francis Group, 24-26, September, 2014, Nanjing, P. R. China.
227. Hong, M., Su, Z., Lu, Y. and Cheng, L. 2014. 'Temporal information of linear and nonlinear Lamb waves for fatigue damage localization: analysis and synthesis', in *Proceedings of the 7th European Workshop on Structural Health Monitoring (EWSHM-7)*, edited by Le Cam, V., Mevel, L. and Schoefs, F., pp. 732-739, 8-11, July, 2014, Nantes, France.
228. Radecki, R., Leamy, M., Uhl, T., Staszewski, W., Su, Z., Cheng, L. and Packo, P. 2014. 'Investigation on high-order harmonic generation of guided waves using local computation approaches: theory and comparison with analytical modelling', in *Proceedings of the 7th European Workshop on Structural Health Monitoring (EWSHM-7)*, edited by Le Cam, V., Mevel, L. and Schoefs, F., pp. 575-582, 8-11, July, 2014, Nantes, France.
229. Ziaja, A., Cheng, L., Su, Z., Staszewski, W., Uhl, T. and Packo, P. 2014. 'On the coupling of guided cylindrical waves in thick-walled structures', in *Proceedings of the 7th European Workshop on Structural Health Monitoring (EWSHM-7)*, edited by Le Cam, V., Mevel, L. and Schoefs, F., pp. 317-324, 8-11, July, 2014, Nantes, France.
230. Wang, Q., Su, Z. and Hong, M. 2014. 'Online damage monitoring for high-speed train bogie using guided waves: development and validation', in *Proceedings of the 7th European Workshop on Structural Health Monitoring (EWSHM-7)*, edited by Le Cam, V., Mevel, L. and Schoefs, F., pp. 143-150, 8-11, July, 2014, Nantes, France.
231. Ziaja, A., Cheng, L., Su, Z., Staszewski, W., Uhl, T. and Packo, P. 2014. 'Elastic waves characteristics in thick-walled hollow cylinders with internal/external surface excitation for train axle monitoring', in *Proceedings of the 2014 Far East Forum on Nondestructive Evaluation/Testing: New Technology and Application (FENDT2014)*, 20-23, June, 2014, Chengdu, China.
232. Hong, M., Wang, Q. and Su, Z. 2014. 'A guided wave approach for real-time health monitoring of high-speed train bogie frames', in *Proceedings of the 2014 IEEE Far East Forum on Nondestructive Evaluation/Testing: New Technology and*

- Application* (FENDT2014), edited by Xu, C., Yang, L. and Pan, Q., IEEE Press, ISBN: 978-1-4799-4730-0, pp. 39-43, 20-23, June, 2014, Chengdu, China.
233. Hong, M., Su, Z., Lu, Y. and Cheng, L. 2014. 'Fatigue damage localization using time-domain features extracted from nonlinear Lamb waves', in *Proceedings of the SPIE* (Vol. 9064, *Proceedings of SPIE Conference on Smart Structures/NDE* (Health Monitoring of Structural and Biological Systems VIII)), edited by Kundu, T., pp. 906405-1-13, 9-13, March, 2014, San Diego, CA., USA.
 234. Xu, H., Su, Z., Cheng, L., Guyader, J.-L. and Hamelin, P. 2013. 'Debonding detection for steel-reinforced concrete structures based on locally perturbed structural vibration', in *Structural Health Monitoring for Infrastructure Sustainability - Proceedings of the 6th International Conference on Structural Health Monitoring of Intelligent Infrastructure* (SHMII-6), edited by Xu, Y.L., Zhu, S., Xia, Y., Ni, Y., Law, S.S., Yin, J. and Su, Z., Hong Kong: The Hong Kong Polytechnic University, ISBN: 978-962-367-768-4, 9-11, December, 2013, Hong Kong.
 235. Wang, Q., Hong, M., Su, Z. and Xu, J. 2013. 'A guided wave based online health monitoring technique for high-speed train bogie structures', in *Proceedings of the 2013 International Conference on Electrical and Information Technologies for Rail Transportation* (EITRT2013), edited by Jia, L., Liu, Z., Qin, Y., Zhao, M., and Diao, L., Berlin: Springer-Verlag GmbH & Co., ISBN: 978-3-642-53777-6, pp. 311-320, 7-9, November, 2013, Changchun, P. R. China.
 236. Xu, H., Cheng, L., Su, Z. and Guyader, J.-L. 2013. 'Identification of structural damage based on a "weak" formulation of locally perturbed structural vibration', in *Structural Health Monitoring 2013: A Roadmap to Intelligent Structures - Proceedings of the 9th International Workshop on Structural Health Monitoring* (IWSHM-9), edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-115-7, pp. 2071-2078, 10-12, September, 2013, Stanford, CA., USA.
 237. Hong, M., Wang, Q., Su, Z., Cheng, L. and Ni, Y. 2013. '*In-situ* guided-wave-based health monitoring for train bogie structures: technique development and application to Beijing-Shanghai high-speed railway', in *Structural Health Monitoring 2013: A Roadmap to Intelligent Structures - Proceedings of the 9th International Workshop on Structural Health Monitoring* (IWSHM-9), edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-115-7, pp. 948-955, 10-12, September, 2013, Stanford, CA., USA.
 238. Wang, Q., Su, Z. and Hong, M. 2013. 'Lamb wave based structural health monitoring technique and its system validation for high speed train', in *Proceedings of the 32nd Chinese Control Conference* (CCC), IEEE Press, 26-28, July, 2013, pp. 6242-6247, Xi'an, P. R. China.
 239. Cao, M., Cheng, L. and Su, Z. 2013. 'Identification of damage in structural components using multi-scale pseudo-force model', in *Proceedings of the 15th Asia Pacific Vibration Conference* (APVC 2013), Paper No.: W1-304-2, 2-6, June, 2013, Jeju, Republic of Korea.
 240. Xu, H., Cheng, L., Su, Z. and Guyader, J.-L. 2013. 'A weak formulation for detection of debonding in steel-reinforced concrete structures based on locally perturbed structural vibration', in *Proceedings of the 15th Asia Pacific Vibration Conference* (APVC 2013), Paper No.: W1-304-1, 2-6, June, 2013, Jeju, Republic of Korea.
 241. Xu, W., Ostachowicz, W., Cao, M. and Su, Z. 2013. 'Detection of damage in beams using Teager energy operator', in *Proceedings of the SPIE* (Vol. 8695, *Proceedings of SPIE Conference on Smart Structures/NDE* (Health Monitoring of Structural and

- Biological Systems VII)), edited by Kundu, T., pp. 8695118-1-9, 10-14, March, 2013, San Diego, CA., USA.
242. Lu, Y., Lu, M., Ye, L., Wang, D., Zhou, L.-M. and Su, Z. 2012. 'Lamb wave based monitoring of fatigue crack growth using principal component analysis', in *Structural Health Monitoring: Research and Applications - Proceedings of the 4th Asia-Pacific Workshop on Structural Health Monitoring Conference (SHM 2012)*, edited by Chiu, W.K. and Galea, S.C., Switzerland: Trans Tech Publications Ltd., 5-7, December, 2012, Melbourne, Australia.
243. Hong, M., Zhou, C., Su, Z., Cheng, L. and Qing, X. 2012. 'Nonlinear properties of Lamb waves under modulation of fatigue damage: finite element simulation with experimental validation', in *Structural Health Monitoring: Research and Applications - Proceedings of the 4th Asia-Pacific Workshop on Structural Health Monitoring Conference (SHM 2012)*, edited by Chiu, W.K. and Galea, S.C., Switzerland: Trans Tech Publications Ltd., 5-7, December, 2012, Melbourne, Australia.
244. Su, Z., Zhou, C., Cheng, L. and Hong, M. 2012. 'Imaging-based quantitative characterization of fatigue crack for structural integrity monitoring using nonlinear acousto-ultrasonics and active sensor networks', in *The Journal of the Acoustical Society of America*, 132(3):1933 (*Proceedings of the 164th Meeting of the Acoustical Society of America*, 22-26, October, 2012; Kansas City, MO., USA (**invited paper**)).
245. Chen, J., Su, Z. and Cheng, L. 2012. 'Coupling effect on propagation of guided waves in engineering structures and human bone structures', in *Proceedings of the 2012 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM'12) & the 2012 International Conference on Advances in Coupled Systems Mechanics (ACSM'12)*, edited by Choi, C.-K., Daejeon: Techno-Press, ISBN: 978-89-89693-34-5, pp. 312-322, 26-29, August, 2012, Seoul, Republic of Korea.
246. Wang, Q., Su, Z. and Cheng, L. 2012. 'Integrated damage inspection system for engineering structure using an active sensing network: Development and Validation', in *Proceedings of the 1st International Conference on Mechatronic System and Measurement Technology (ICMSMT)*, edited by Geim, A., He, Y., Li, X., Chen, H., Bu, X., Ye, L., Kaynak, O., Shi, J. and Noritsugu, T., Monmouth Junction: Science Press USA Inc., ISBN: 978-1-933100-43-2, pp. 38-42, 16-18, August, 2012, Nanjing, P. R. China (**keynote paper**).
247. Ye, L., Su, Z. and Lu, Y. 2012. 'Artificial intelligence for damage assessment in structures using digital damage fingerprints extracted from guided wave signals', in *Proceedings of the 5th International Conference from Scientific Computing to Computational Engineering (5th IC-SCCE)*, 4-7, July, 2012, Athens, Greece.
248. Wang, Q., Su, Z. and Cheng, L. 2012. 'Development, validation and application of a structural health diagnosis technique using an active sensing network', in *Structural Health Monitoring 2012 - Proceedings of the 6th European Workshop on Structural Health Monitoring (EWSHM-6)*, edited by Boller, C., Berlin: The German Society for Non-Destructive Testing (DGZfP) e.V., ISBN: 978-3-940283-41-2, pp. 359-366, 3-6, July, 2012, Dresden, Germany.
249. Zhou, C., Hong, M., Su, Z., Wang, Q. and Cheng, L. 2012. 'On quantitative evaluation of fatigue cracks: an active way using nonlinear acousto-ultrasonic waves', in *Structural Health Monitoring 2012 - Proceedings of the 6th European Workshop on Structural Health Monitoring (EWSHM-6)*, edited by Boller, C.,

- Berlin: The German Society for Non-Destructive Testing (DGZfP) e.V., ISBN: 978-3-940283-41-2, pp. 99-106, 3-6, July, 2012, Dresden, Germany.
250. Lu, M., Qu, Y., Lu, Y., Ye, L., Zhou, L.-M. and Su, Z. 2011. 'Monitoring of surface-fatigue crack propagation in a welded steel angle structure using guided waves and principal component analysis', in *Proceedings of the SPIE (Vol. 8409, Proceedings of the 3rd International Conference on Smart Materials and Nanotechnology in Engineering (SMN2011))*, edited by Leng, J., BarCohen, Y., Lee, I. and Lu, J., ISBN: 978-0-8194-9087-2, DOI: 10.1117/12.924070, 5-8, December, 2011, Shenzhen, P. R. China.
 251. Xu, H., Cheng, L. and Su, Z. 2011. 'Development of a noise reduction approach for vibration-based damage detection involving high-order derivatives', in *Dynamics for Sustainable Engineering - Proceedings of the 14th Asia Pacific Vibration Conference (APVC2011)*, edited by Law, S.S., Cheng, L., Xia, Y., and Su, Z., Hong Kong: The Hong Kong Polytechnic University, ISBN: 978-962-367-731-8, pp. 363-372, 5-8, December, 2011, Hong Kong (**invited paper**).
 252. Yu, L., Su, Z. and Liu, X. 2011. 'The Definition and measurement of the probability density function in Lamb wave damage detection based on data fusion', in *Dynamics for Sustainable Engineering - Proceedings of the 14th Asia Pacific Vibration Conference (APVC2011)*, edited by Law, S.S., Cheng, L., Xia, Y., and Su, Z., Hong Kong: The Hong Kong Polytechnic University, ISBN: 978-962-367-731-8, pp. 357-362, 5-8, December, 2011, Hong Kong (**invited paper**).
 253. Zhou, C., Su, Z. and Cheng, L. 2011. 'Detecting fatigue cracks using nonlinear characteristics of acousto-ultrasonic Lamb waves', in *Proceedings of the 2011 World Congress on Advances in Structural Engineering and Mechanics (ASEM'11+) & the 2011 International Conference on Smart Structures and Systems (ICOSSS'11)*, edited by Choi, C.-K., Daejeon: Techno-Press, ISBN: 978-89-89693-32-1, pp. 3576-3584, 18-22, September, 2011, Seoul, Republic of Korea (**invited paper**).
 254. Lu, M., Lu, X., Zhou, L.-M., Su, Z., Ye, L. and Li, F. 2011. 'Fatigue crack detection using guided waves and probability-based imaging approach', in *Structural Health Monitoring 2011: Condition-based Maintenance and Intelligent Structures - Proceedings of the 8th International Workshop on Structural Health Monitoring (IWSHM-8)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-053-2, pp. 282-289, 13-15, September, 2011, Stanford, CA., USA.
 255. Xu, H., Cheng, L. and Su, Z. 2011. 'Characterizing damage in plate structures based on local perturbation to dynamic equilibrium', in *Structural Health Monitoring 2011: Condition-based Maintenance and Intelligent Structures - Proceedings of the 8th International Workshop on Structural Health Monitoring (IWSHM-8)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-053-2, pp. 95-102, 13-15, September, 2011, Stanford, CA., USA.
 256. Lu, X., Lu, M., Zhou, L.-M., Su, Z., Cheng, L., Ye, L. and Meng, G. 2011. 'Guided wave and probability based diagnostic imaging for detection of multiple welding damages in welded tubular steel structures', in *Structural Health Monitoring 2011: Condition-based Maintenance and Intelligent Structures - Proceedings of the 8th International Workshop on Structural Health Monitoring (IWSHM-8)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-053-2, pp. 79-86, 13-15, September, 2011, Stanford, CA., USA.
 257. Lu, M., Wang, D., Zhou, L.-M., Su, Z., Cheng, L. and Ye, L. 2011. 'Monitoring of fatigue crack propagation of engineering structures using time reversal method', in

- Proceedings of the 18th International Conference on Composite Materials (ICCM-18)*, edited by Lee, W.I., 21-26, August, 2011, Jeju, Republic of Korea.
258. Wang, Q., Su, Z., Cheng, L. and Zhou, C. 2011. 'Detection of fatigue cracks in train structures using nonlinear Lamb waves', in *Proceedings of the 1st International Workshop on High-speed and Intercity Railways (IWHIR-2011)*, edited by Ni, Y. and Ye, X.W., Berlin: Springer-Verlag GmbH & Co., ISBN: 978-3-642-27959-1, pp. 267-277, 19-22, July, 2011, Hong Kong.
 259. Zhou, C., Su, Z. and Cheng, L. 2011. 'Characterising fatigue crack in an aluminium plate using guided elastic waves', in *Proceedings of the SPIE (Vol. 7981, Proceedings of SPIE Conference on Smart Structures/NDE (Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems 2011))*, edited by Tomizuka, M., Yun, C.-B., Giurgiutiu, V. and Lynch, J.P., pp. 798134-1-7, DOI: 10.1117/12.879894, 6-10, March, 2011, San Diego, CA., USA.
 260. Huang, Q., Xu, Y.L., Li, J., Liu, H.J. and Su, Z. 2011. 'Use semi-active friction dampers for damage detection of a building complex', in *Proceedings of the 12th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-12)*, 26-28, January, 2011, Hong Kong.
 261. Huang, Q., Xu, Y.L., Li, J., Liu, H.J. and Su, Z. 2010. 'Structural damage detection of building structures by model updating using semi-active friction dampers and frequency response functions', in *Proceedings of the 11th International Symposium on Structural Engineering (ISSE-11)*, 18-20, December, 2010, Guangzhou, P. R. China.
 262. Zhou, C., Su, Z. and Cheng, L. 2010. 'Damage characterisation using pulse-echo and pitch-catch active sensor network', in *Proceedings of the 3rd Asia-Pacific Workshop on Structural Health Monitoring (APWSHM-3)*, edited by Takeda, N. and Okabe, Y., pp. (3A17)-1-9, 30, November - 2, December, 2010, Tokyo, Japan.
 263. Xu, H., Cheng, L., Su, Z. and Guyader, J.-L. 2010. 'A novel damage identification approach based on local structural dynamic equilibrium', in *Proceedings of the 3rd Asia-Pacific Workshop on Structural Health Monitoring (APWSHM-3)*, edited by Takeda, N. and Okabe, Y., pp. (3A13)-1-10, 30, November - 2, December, 2010, Tokyo, Japan.
 264. Chen, J., Su, Z., Cheng, L. and Qin, L. 2010. 'Influence of soft tissues on ultrasonic Lamb waves in synthesised soft tissue-bone phantoms', in *IFMBE Proceedings (Vol. 31, Proceedings of the 6th World Congress of Biomechanics (WCB 2010) in conjunction with the 14th International Conference on Biomedical Engineering (ICBME) & the 5th Asia-Pacific Conference on Biomechanics (AP Biomech-2010))*, edited by Lim, C.T. and Goh, J.C.H., Heidelberg: Springer-Verlag GmbH & Co., ISBN: 978-3-642-14514-8, pp. 1315-1318, 1-6, August, 2010, Singapore.
 265. Zhou, C., Su, Z. and Cheng, L. 2010. 'A probability-based diagnostic imaging approach using an active sensor network based on hybrid pulse-echo and pitch-catch configurations', in *Structural Health Monitoring 2010 - Proceedings of the 5th European Workshop on Structural Health Monitoring (EWSHM-5)*, edited by Casciati, F. and Giordano, M., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-024-2, pp. 1045-1050, 28, June - 2, July, 2010, Sorrento, Italy.
 266. Chen, J., Su, Z. and Cheng, L. 2010. 'Identification of corrosion damage in submerged structures using anti-symmetric Lamb wave mode', in *Structural Health Monitoring 2010 - Proceedings of the 5th European Workshop on Structural Health Monitoring (EWSHM-5)*, edited by Casciati, F. and Giordano, M., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-024-2, pp. 554-559, 28, June - 2, July, 2010, Sorrento, Italy.

267. Cheng, L., Su, Z. and Yu, L. 2010. 'Evaluation of structural damage using correlative sensor array (CSA)', in *Structural Health Monitoring 2010 - Proceedings of the 5th European Workshop on Structural Health Monitoring (EWSHM-5)*, edited by Casciati, F. and Giordano, M., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-024-2, pp. 444-449, 28, June - 2, July, 2010, Sorrento, Italy.
268. Halim, D., Cheng, L. and Su, Z. 2010. 'Robust virtual sensors for vibro-acoustic applications using structural sensing', in *Proceedings of the 39th International Congress and Exposition on Noise Control Engineering (Inter-Noise 2010)*, edited by Patrício, J. and Pérez-López, A., 13-16, June, 2010, Lisbon, Portugal.
269. Chen, J., Su, Z. and Cheng, L. 2009. 'Exploring influence of coupled fluid layer on propagation of Lamb waves in bone phantoms: *modelling and experiment*', in *Proceedings of the 3rd International Conference on Mechanics of Biomaterials and Tissues*, 13-17, December, 2009, Clearwater Beach, FL., USA.
270. Su, Z. and Cheng, L. 2009. 'Moving forward: *from damage detection to structural health monitoring*', in *JSAEM Studies in Applied Electromagnetics and Mechanics (Vol. 13) - Proceedings of the 14th International Symposium on Applied Electromagnetics and Mechanics (ISEM-14)*, edited by Chen, Z., Jiang, J. and Ma, X., ISBN: 978-4-931455-14-6, pp. 597-598, 20-24, September, 2009, Xi'an, P. R. China (**invited paper**).
271. Lu, Y., Ye, L., Wang, D., Wang, X. and Su, Z. 2009. 'Lamb wave signals for damage detection using a probability-based imaging algorithm', in *Structural Health Monitoring 2009: from System Integration to Autonomous Systems - Proceedings of the 7th International Workshop on Structural Health Monitoring (IWSHM-7)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-007-5, pp. 1272-1279, 9-11, September, 2009, Stanford, CA., USA.
272. Zhou, C., Cheng, L. and Su, Z. 2009. 'Quantifying orientation-specific damage using diagnostic imaging', in *Structural Health Monitoring 2009: from System Integration to Autonomous Systems - Proceedings of the 7th International Workshop on Structural Health Monitoring (IWSHM-7)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 978-1-60595-007-5, pp. 1240-1247, 9-11, September, 2009, Stanford, CA., USA.
273. Lu, X., Lu, M., Zhou, L.-M., Su, Z., Cheng, L., Ye, L. and Meng, G. 2009. 'Guided wave propagation based damage detection in welded rectangular tubular structures', in *Proceedings of the SPIE (Vol. 7493, Proceedings of the 2nd International Conference on Smart Materials and Nanotechnology in Engineering (SMN2009))*, edited by Leng, J., Asundi, A.K. and Ecke, W., ISBN: 978-0-81947-804-7, pp. 749313-749313-8, DOI: 10.1117/12.838679, 8-11, July, 2009, Weihai, P. R. China.
274. Lu, M., Lu, X., Zhou, L.-M., Su, Z. and Ye, L. 2009. 'Guided-wave-based detections of weld and crack in steel plates', in *Proceedings of the SPIE (Vol. 7493, Proceedings of the 2nd International Conference on Smart Materials and Nanotechnology in Engineering (SMN2009))*, edited by Leng, J., Asundi, A.K. and Ecke, W., ISBN: 978-0-81947-804-7, pp. 749313-1-8, DOI: 10.1117/12.845656, 8-11, July, 2009, Weihai, P. R. China.
275. Chen, J., Su, Z. and Cheng, L. 2009. 'Influence of media coupling on Lamb waves in bone phantoms', in *Proceedings of the 4th Asia-Pacific Conference on Biomechanics (AP Biomech-2009, A supplement of Journal of Biomechanical Science and Engineering)*, edited by David, T. and Tanaka, M., pp. 236-237, 14-17, April, 2009, Christchurch, New Zealand.

276. Peng, S., Cheng, L., Su, Z., Pan, J. and Wang, C. 2008. 'Power flow characteristics of an L-shaped plates by the improved acoustical wave propagator technique. I: Theoretical analysis and numerical simulation', in *Proceedings of the 15th International Congress on Sound and Vibration (ICSV 15)*, Curran Associates, Inc., ISBN: 978-1-62748-151-9, pp. 387 – 399, 6-10, July, 2008, Daejeon, Republic of Korea.
277. Su, Z., Cheng, L., Wang, X., Ye, L. and Chen, Z. 2008. 'Evaluating multi-delamination of composite laminates using an active sensor network', in *Proceedings of the Conference on Frontiers in Materials Science and Technology (FMST2008)*, edited by Bell, J., Yan, C., Ye, L. and Zhang, L., Switzerland: Trans Tech Publications Ltd., 26-28, March, 2008, Brisbane, Australia.
278. Wang, D., Ye, L., Su, Z. and Lu, Y. 2007. 'Identification of dual damage in woven fabric composite beams using low frequency A_0 Lamb mode', In *Proceedings of the 14th International Conference on Composite Structures (ICCS-14)*, edited by Marshall, I.H., 19-21, November, 2007, Melbourne, Australia.
279. Su, Z., Cheng, L. and Ye, L. 2007. 'Vibration-based structural condition monitoring using concept of digital damage fingerprints (DDF)', in *Proceedings of the 36th International Congress and Exposition on Noise Control Engineering (Inter-Noise 2007)*, edited by Belek, H.T., 28-31, August, 2007, Istanbul, Turkey.
280. Lu, Y., Ye, L. and Su, Z. 2006. 'Lamb wave-based quantitative crack evaluation in aluminium plates', in *Proceedings of International Conference and Exhibition on Structural Integrity and Failure (SIF2006)*, edited by Hoffman, M. and Price, J., ISBN: 1-876855-26-6, pp. 262-267, 27-29, September, 2006, Sydney, Australia.
281. Yang, C., Ye, L. and Su, Z. 2005. 'Mechanistic models for PZT actuators/sensors of wave propagation in plate-like structures', in *Proceedings of the Australian Structural Engineering Conference (ASEC-2005)*, edited by Stewart, M.G. and Dockrill, B., ISBN: 1-877040-37-1, 11-14, September, 2005, Newcastle, Australia.
282. Ling, H.-Y., Lau, K.-T., Cheng, L. and Su, Z. 2005. 'Mode II fracture behaviour monitoring for composite laminates using embedded fibre Bragg grating sensors', in *Proceedings of the 15th International Conference on Composite Materials (ICCM-15)*, edited by Verijenko, V.E., Adali, S., Morozov, E. and Klemperer, C.J.V., University of KwaZulu-Natal Press, ISBN: 1-86840-5877, 27, June - 1, July, 2005, Durban, South Africa.
283. Su, Z., Ling, H.-Y., Zhou, L.-M., Lau, K.-T. and Ye, L. 2005. 'Comparison of genetic algorithm and artificial neural network for damage detection of composite structures', in *Proceedings of the 15th International Conference on Composite Materials (ICCM-15)*, edited by Verijenko, V.E., Adali, S., Morozov, E. and Klemperer, C.J.V., University of KwaZulu-Natal Press, ISBN: 1-86840-5877, 27, June - 1, July, 2005, Durban, South Africa.
284. Nguyen, M., Wang, X., Su, Z. and Ye, L. 2004. 'Damage identification for composite structures with a Bayesian network', in *Proceedings of the 2004 International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP-2004)*, edited by Palaniswami, M., Krishnamachari, B., Sowmya, A. and Challa, S., IEEE Press, ISBN: 0-7803-8894-1, IEEE Cat. No. 04EX994C, pp. 307-311, 14-17, December, 2004, Melbourne, Australia.
285. Lu, Y., Ye, L. and Su, Z. 2004. 'Identification of crack in aluminium plate based on Lamb wave', in *Proceedings of the 2nd Australasian Workshop on Structural Health Monitoring (AWSHM-2)*, edited by Galea, S.C. and Chiu, W.K., ISBN: 0-9756992-0-2, 16-17, December, 2004, Melbourne, Australia.

286. Wang, X., Foliente, G., Su, Z. and Ye, L. 2004. 'Bayesian inference for structural damage identification with distributed sensor network', in *Proceedings of the 2nd Australasian Workshop on Structural Health Monitoring (AWSHM-2)*, edited by Galea, S.C. and Chiu, W.K., ISBN: 0-9756992-0-2, 16-17, December, 2004, Melbourne, Australia.
287. Lu, Y., Ye, L. and Su, Z. 2004. 'Lamb wave-based crack identification for aluminium plate using active sensor network', in *Structural Health Monitoring 2004 - Proceedings of the 2nd European Workshop on Structural Health Monitoring (EWSHM-2)*, edited by Boller, C. and Staszewski, W.J., Lancaster: DEStech Publications, Inc., ISBN: 1-932078-41-X, pp. 1009-1016, 7-9, July, 2004, Munich, Germany.
288. Choi, Y.-G., Su, Z., Chen, Z. and Ye, L. 2004. 'Quantitative nondestructive evaluation in composites beam using piezoelectrics', in *Composites Technologies for 2020 - Proceedings of the 4th Asian-Australasian Conference on Composite Materials (ACCM-4)*, edited by Ye, L., Mai, Y.-W. and Su, Z., Cambridge: Woodhead Publishing Ltd., ISBN: 1-85573-831-7, pp. 1032-1037, 6-9, July, 2004, Sydney, Australia.
289. Wang, X., Foliente, G., Su, Z. and Ye, L. 2004. 'Information fusion in distributed sensor network for structural damage detection', in *Composites Technologies for 2020 - Proceedings of the 4th Asian-Australasian Conference on Composite Materials (ACCM-4)*, edited by Ye, L., Mai, Y.-W. and Su, Z., Cambridge: Woodhead Publishing Ltd., ISBN: 1-85573-831-7, pp. 1005-1009, 6-9, July, 2004, Sydney, Australia.
290. Huang, N., Ye, L. and Su, Z. 2004. 'Parameterised modelling technique and its application to artificial neural network-based structural health monitoring', in *Composites Technologies for 2020 - Proceedings of the 4th Asian-Australasian Conference on Composite Materials (ACCM-4)*, edited by Ye, L., Mai, Y.-W. and Su, Z., Cambridge: Woodhead Publishing Ltd., ISBN: 1-85573-831-7, pp. 999-1004, 6-9, July, 2004, Sydney, Australia.
291. Su, Z. and Ye, L. 2003. 'A signal processing and interpretation technique for Lamb wave-based damage diagnosis using digital damage fingerprints extracted from an actuator/sensor network', in *Structural Health Monitoring 2003: from Diagnostics & Prognostics to Structural Health Management - Proceedings of the 4th International Workshop on Structural Health Monitoring (IWSHM-4)*, edited by Chang, F.-K., Lancaster: DEStech Publications, Inc., ISBN: 1-932078-20-7, pp. 1300-1307, 15-17, September, 2003, Stanford, CA., USA.
292. Su, Z. and Ye, L. 2003. 'Guided wave-based inverse identification technique for damages in CF/EP composites using neural network algorithm', in *Global Composite Advancements - Proceedings of the 14th International Conference on Composite Materials (ICCM-14)*, edited by Hahn, H.T. and Martin, M.J., ISBN: 0-87263-684-4, 14-18, July, 2003, San Diego, CA., USA.
293. Su, Z. and Ye, L. 2003. 'Artificial neural algorithm-based damage assessment for laminated composite structures using distributed actuators/sensors', in *Advances in Composite Technology - Proceedings of the 5th International Symposium on Advanced Composites (Comp'03)*, edited by Paipetis, A.S., 5-7, May, 2003, Corfu, Greece (**invited paper**).
294. Su, Z., Ye, L. and Bu, X. 2002. 'Identification of delamination in woven fabric composite laminates using surface-bonded piezoelectrics', in *Proceedings of the International Conference of Structural Integrity and Fracture (SIF-2002)*, edited by

- Dyskin, A.V., Hu, X. and Sahouryeh, E., Lisse: A.A. Balkema Publishers, ISBN: 90-5809-513-4, pp. 415-420, 25-27, September, 2002, Perth, Australia.
295. Su, Z., Ye, L. and Bu, X. 2002. 'Evaluation of delamination in laminated composites based on Lamb wave modes: FEM simulation and experimental verification', in *Structural Health Monitoring 2002 - Proceedings of the 1st European Workshop on Structural Health Monitoring (EWSHM-1)*, edited by Balageas, D., Lancaster: DEStech Publications, Inc., ISBN: 1-932078-08-8, pp. 328-335, 10-12, July, 2002, Paris, France.
296. Su, Z., Ye, L., Bu, X., Mai, Y.-W. and Wang, X. 2002. 'A damage identification approach based on stress wave propagation', in *Applied Mechanics Progress and Applications - Proceedings of the 3rd Australasian Congress on Applied Mechanics (ACAM-3)*, edited by Zhang, L., Tong, L. and Gal, J., Singapore: World Scientific Publishing Co., ISBN: 981-02-4867-9, pp. 183-188, 20-22, February, 2002, Sydney, Australia.
297. Chen, Z., Su, Z., Mai, H. and Lu, M. 1997. 'Dynamic characterizations of a flight vehicle rudder system at hypersonic speeds, Part I: mode, frequency and dynamic response', in *Proceedings of the 2nd Asian-Pacific Conference on Aerospace Technology and Science*, edited by Gong, Y., pp. 292-296, 6-10, October, 1997, Dun Huang, P. R. China.