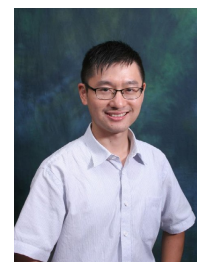


Bo Zhu

Division of Science, Engineering and Health Studies (SEHS)

Email: bo.zhu@cpce-polyu.edu.hk



Employment

Division of Science, Engineering and Health Studies (SEHS)

College of Professional and Continuing Education (CPCE)

11 Aug 2014 → present

Research outputs

Army Ant Nest Inspired Adaptive Textile for Smart Thermal Regulation and Healthcare Monitoring

Chow, L., Zhang, Q., Huang, X., Zhang, J., Zhou, J., Zhu, B., Li, J., Huang, Y., Zhang, B., Li, J., Wu, P., Gao, Y., Gao, Z., Zhao, G., Yao, K., Liu, Y., Yip, J., Yang, Z. & Yu, X., 5 Mar 2025, In: Advanced Materials. 37, 9, 2406798.

Army ant nest inspired adaptive textile for smart thermal regulation and healthcare monitoring

Chow, L., Zhang, Q., Huang, X., Zhang, J., Zhou, J., Zhu, B., Li, J., Huang, Y., Zhang, B., Li, J., Wu, P., Gao, Y., Gao, Z., Zhao, G., Yao, K., Liu, Y., Yip, Y. W. J., Yang, Z. & Yu, X., 2024, In: Advanced Materials. 12 p., 2406798.

基于超螺旋状复合纤维的热驱动变形织物及其制备方法

Zhu, B. (Inventor), Zhang, Z. (Inventor), Xiong, Y. (Inventor), Chen, W. (Inventor) & Tao, X. (Inventor), 2024, Patent No. CN115323580B, 16 Jan 2024

Smart clothing with built-in soft sensing network for measuring temporal and spatial distribution of pressure under impact scenarios

Zhu, B., Wang, F., Shu, L., Li, Y., Zhou, Q., Yu, T. X. & Tao, X., 2022, In: Advanced Sensor Research. 2200019.

一种超螺旋状复合纤维驱动器的模量分析测试方法

Zhu, B. (Inventor), Zhang, Z. (Inventor), Chen, W. (Inventor) & Tao, X. (Inventor), 2022, Patent No. CN115290447A, 4 Nov 2022

Permeable and washable electronics based on polyamide fibrous membrane for wearable applications

Yang, S., Liu, S., Ding, X., Zhu, B., Shi, J., Yang, B., Liu, S., Chen, W. & Tao, X., 3 May 2021, In: Composites Science and Technology. 207, 108729.

Programmable and Thermally Hardening Composite Yarn Actuators with a Wide Range of Operating Temperature

Zhang, Z., Zhu, B., Peng, Z., Yin, R., Baughman, R. H. & Tao, X., 1 Sept 2020, In: Advanced Materials Technologies. 5, 9, 2000329.

Fabrication and evaluation of a notched polymer optical fiber fabric strain sensor and its application in human respiration monitoring

Zheng, W., Tao, X., Zhu, B., Wang, G. & Hui, C., Oct 2014, In: Textile Research Journal. 84, 17, p. 1791-1802 12 p.

Flexible pressure sensors for smart protective clothing against impact loading

Wang, F., Zhu, B., Shu, L. & Tao, X., Jan 2014, In: Smart Materials and Structures. 23, 1, 015001.

A flexible pressure sensor for high-speed impact measurement with a large measurement range and a high sensitivity

Zhu, B. (Inventor), Tao, X. (Inventor), Wang, F. (Inventor), Li, M. (Inventor), Shu, L. (Inventor) & Li, Y. (Inventor), 2013, Patent No. RIP-60A

A largely deformable fabric sensor matrix for online impact measurement

Zhu, B., Tao, X., Li, J. & Wang, J., 2013, In: Research Journal of Textile and Apparel. 34, 2

Soft fiber optic sensors for precision measurement of shear stress and pressure

Zhang, Z. F., Tao, X. M., Zhang, H. P. & Zhu, B., 2013, In: IEEE Sensors Journal. 13, 5, p. 1478-1482 5 p., 6400208.

Soft pressure sensing device

Zhu, B. (Inventor), Tao, X. (Inventor), Wang, Y. (Inventor), Hua, T. (Inventor) & Li, Q. (Inventor), 2013, Patent No. 8,393,229

Deformation analysis and failure modelling of woven composite preform in general bias extension

Zhu, B., Yu, T. & Tao, X., Jun 2012, In: Acta Mechanica Solida Sinica. 25, 3, p. 277-284 8 p.

Flexible pressure sensor for smart protective clothing under dynamic and impact loading

Zhu, B., Wang, F. & Tao, X., 2012.

Stretchable Electrical Interconnect and Method of Making Same

Zhu, B. (Inventor), Tao, X. (Inventor) & Li, Q. (Inventor), 2012, Patent No. 13/442.388

可拉伸电互连件和制造方法

Zhu, B. (Inventor), Tao, X. (Inventor) & Li, Q. (Inventor), 2012, Patent No. 201210283525.1

适用于高速和大变形测量的织物应变传感器实验结果和理论分析

Zhu, B., Wang, J. & Tao, X., 2012.

Novel fabric pressure sensors: Design, fabrication, and characterization

Wang, Y., Hua, T., Zhu, B., Li, Q., Yi, W. & Tao, X., Jun 2011, In: Smart Materials and Structures. 20, 6, 065015.

Experimental investigation of formability of commingled woven composite preform in stamping operation

Zhu, B., Yu, T. X., Zhang, H. & Tao, X. M., Mar 2011, In: Composites Part B: Engineering. 42, 2, p. 289-295 7 p.

Knitted stretchable interconnects for wearable electronics

Li, Q., Tao, X. & Zhu, B., 2011, p. 93-94. 2 p.

New technology of fabric sensors for impact measurement in largely-deformed components

Zhu, B., Tao, X., Li, Q., Yi, W., Wang, J. & Wen, X., 2011.

织物型压力传感器制造方法和工具

Zhu, B. (Inventor), Tao, X. (Inventor), Hua, T. (Inventor), Wang, Y. (Inventor) & Li, Q. (Inventor), 2010, Patent No. 201010287822.4

薄膜型风压传感器及相应的无线传感网络

Zhu, B. (Inventor), Tao, X. (Inventor), Hua, T. (Inventor), Wang, Y. (Inventor), Shu, L. (Inventor) & Sun, S. (Inventor), 2010, Patent No. 201010528303.2

Large shear deformation of E-glass/ polypropylene woven fabric composites at elevated temperatures

Zhu, B., Yu, T. X. & Tao, X. M., Nov 2009, In: Journal of Reinforced Plastics and Composites. 28, 21, p. 2615-2630 16 p.

Theoretical modeling of large shear deformation and wrinkling of plain woven composite

Zhu, B., Yu, T. X., Teng, J. & Tao, X. M., Jan 2009, In: Journal of Composite Materials. 43, 2, p. 125-138 14 p.

Deformation pattern and failure criteria of woven composite preform in general bias extension

Zhu, B., Yu, T. X. & Tao, X. M., 2009, *ICCM-17 - 17th International Conference on Composite Materials*. International Committee on Composite Materials, (ICCM International Conferences on Composite Materials).

Experimental investigation of formability of woven textile composite preform in stamping operation

Zhu, B., Yu, T. X., Zhang, H. & Tao, X. M., Jul 2008, In: *International Journal of Material Forming*. 1, SUPPL. 1, p. 969-972 4 p.

Characterization of mechanical behavior of woven fabrics: Experimental methods and benchmark results

Cao, J., Akkerman, R., Boisse, P., Chen, J., Cheng, H. S., de Graaf, E. F., Gorczyca, J. L., Harrison, P., Hivet, G., Launay, J., Lee, W., Liu, L., Lomov, S. V., Long, A., de Luycker, E., Morestin, F., Padvoiskis, J., Peng, X. Q., Sherwood, J. & Stoilova, T. & 6 others, Tao, X. M., Verpoest, I., Willems, A., Wiggers, J., Yu, T. X. & Zhu, B., Jun 2008, In: *Composites Part A: Applied Science and Manufacturing*. 39, 6, p. 1037-1053 17 p.

Experimental investigation of formability of woven textile composite preform in stamping operation

Zhu, B., Yu, T. & Tao, X., 2008.

Mechanical analysis and foundation design of soft pressure sensor

Zhu, B. & Tao, X., 2008.

Large deformation and slippage mechanism of plain woven composite in bias extension

Zhu, B., Yu, T. X. & Tao, X. M., Aug 2007, In: *Composites Part A: Applied Science and Manufacturing*. 38, 8, p. 1821-1828 8 p.

An experimental study of in-plane large shear deformation of woven fabric composite

Zhu, B., Yu, T. X. & Tao, X. M., Feb 2007, In: *Composites Science and Technology*. 67, 2, p. 252-261 10 p.

Large deformation and failure mechanism of plain woven composite in bias extension test

Zhu, B., Yu, T. X. & Tao, X. M., 2007, In: *Key Engineering Materials*. 334-335 I, p. 253-256 4 p.

Effect of yarn interaction on fabric behavior in forming

Zhu, B., Chen, J., Liu, L., Cao, J., Sherwood, J., Yu, T. X. & Cheng, H. S., 2006.

In-plane large shear deformation and failure mechanism of plain woven composite in picture frame test

Zhu, B., Yu, T. X., Tao, X. & Teng, J., 2006.

The yarn-to-yarn friction of woven fabrics

Zhu, B., Liu, L., Chen, J., Yu, T. X., Tao, X. & Cao, J., 2006.

An experimental study of in-plane large shear deformation of woven fabric

Zhu, B., Yu, T. X. & Tao, X., 2005.

A cooperative benchmark effort on testing of woven composites

Zhu, B., Yu, T. X., Tao, X., Cao, J. & Cheng, H. S., 2004.

Research on the constitutive relation and formability of woven textile composites

Zhu, B., Yu, T. X. & Tao, X., 2004, In: *Advances in Mechanics*. 34, 3

Activities

Research Seminar: Emerging Research Directions of AI Technology and Green Transport Development

Zhu, B. (Participant)
29 Apr 2025

Research Seminar: Navigating Research Success – Insights on Funding Applications and Publishing in Top-Tier IS Journals

Zhu, B. (Participant)
24 Feb 2025

Corporate Member (HKIE)

Zhu, B. (External Member)
2025

Research Workshop: Introduction to Some Popular GenAI Functions and Key Prompting Techniques for LLMs

Zhu, B. (Participant)
28 Nov 2024

Sustainable Building Innovations Forum: Electrochromic Glass Technology & Practical Applications

Zhu, B. (Participant)
26 Apr 2024

Research Seminar: Intelligent Skin Electronics for Healthcare Monitoring

Zhu, B. (Participant)
27 Mar 2024

Sharing and Demonstration Session on HKCC Remote Laboratory

Zhu, B. (Participant)
18 Mar 2024

Research Seminar: Advanced Technology for Industry 4.0

Zhu, B. (Participant)
15 Nov 2023

Conference on Green and Sustainable Materials

Zhu, B. (Participant)
22 Aug 2023

Research Seminar: Enhancement of Material Properties by Plasma Treatment, Nanomaterials & Meta-structures

Zhu, B. (Participant)
21 Jun 2023

Exploring the Virtual Reality for Enhancing Teaching Experience

Zhu, B. (Participant)
6 Jun 2023

黏接工程技術及應用實例研討會

Zhu, B. (Participant)
5 Jun 2023

Research Seminar: Potentials and Limitations of Artificial Intelligence on Academic Writing, by LC, CPCE

Zhu, B. (Participant)
5 May 2023

SPEED Chat: Prof Peter YUEN, by SPEED, CPCE

Zhu, B. (Participant)
27 Apr 2023

Mechanical Characteristics and Engineering Applications of Materials, Structures, and Phases

Zhu, B. (Speaker)

30 Mar 2023 → 31 Mar 2023

Research Seminar: Advanced Materials with Superior Properties Nanocomposites & Metamaterials, by RCADMM, CPCE

Zhu, B. (Participant)

21 Mar 2023

Chinese Mainland Services (Programmes co-organized with Hong Kong Red Cross), CPCE Programme Counselling Team, Student/Staff Consultative Group, Discipline Team, and Board of Examiners in SEHS Division

Zhu, B. (Member)

2023 → 2024

Theoretical analysis of mechanical behavior of 3D spacer materials throughout different stages of compression

Zhu, B. (Speaker)

7 Oct 2022

Research Workshop: Artificial Intelligence Applications for Industry 4.0, by RCADMM, CPCE

Zhu, B. (Participant)

28 Jun 2022

Teacher Sharing Session: How Pre-recorded Short Videos Made My Online and Face-to-face Teaching Duties Easier, by EDC, PolyU

Zhu, B. (Participant)

16 Jun 2022

Sensing Technology of Large Deformation and Impact Force on 3D Flexible Man-machine Interface

Zhu, B. (Speaker)

7 Jan 2022

Fibers and Polymers (Journal)

Zhu, B. (Reviewer)

2022 → ...

Member in Chinese Mainland Services (Programmes co-organized with Hong Kong Red Cross), Student/Staff Consultative Group, Discipline Team, Board of Examiners

Zhu, B. (Member)

2022 → 2023

Program counseling & Academic advising

Zhu, B. (Academic Advisor)

2022 → 2023

Subjects Management & Leadership

Zhu, B. (Subject Leader)

2022 → 2023

Textile Research Journal (Journal)

Zhu, B. (Reviewer)

2021 → 2022

Member in Chinese Mainland Services (Programmes co-organized with Hong Kong Red Cross)

Zhu, B. (Member)

2019 → 2023

Accounts of Chemical Research (Journal)

Zhu, B. (Reviewer)

2018 → 2020

Academic Advising

Zhu, B. (Academic Advisor)

2016 → 2025

Board of Examiners

Zhu, B. (Member)

2016 → 2025

Programme Counselling

Zhu, B. (Member)

2016 → 2025

Subject Leadership & Management

Zhu, B. (Subject Leader)

2014 → 2025

Flexible pressure sensor for smart protective clothing under dynamic and impact loading

Zhu, B. (Speaker)

2012

InnoCarnival 2012

Zhu, B. (Moderator) & Shu, L. (Moderator)

2012

Fabric and Fiber Sensors and Prototypes of Smart Textiles

Zhu, B. (Speaker)

2011

Fabric Sensors for 3D Surface Pressure Mapping as Wearable Electronics

Zhu, B. (Speaker)

2011

New technology of fabric sensors for impact measurement in largely-deformed components

Zhu, B. (Speaker)

2011

Mechanical analysis and foundation design of soft pressure sensor

Zhu, B. (Speaker)

2008

Large deformation and failure mechanism of plain woven composite in bias extension test

Zhu, B. (Speaker)

2006

An experimental study of in-plane large shear deformation of woven fabric

Zhu, B. (Speaker)

2005

Projects

**Evaluation and Optimization of Mechanical Properties of 3D Metamaterials for Energy Absorption | CPCE Research Fund
| HK\$32,000**

Zhu, B. (PI) & Ng, S. P. Z. (Col)

7/06/22 → 6/12/23