Chih-Hung Chiang, PhD. 江支弘教授 簡歷

Joint Professor, Dept. Construction Engineering and Graduate Institute of Aeronautics, Chaoyang University of Technology *2024 to date*

Dean, College of Aviation, Chaoyang University of Technology *2021 - 2025*
Director, Center for NDT, Chaoyang University of Technology *2015 - 2020*

1) General Information

- Mailing address: Chaoyang University of Technology, 168, Jifeng E. Rd., Wufeng District, Taichung, 41349, Taiwan, R.O.C.
- Email: chiangc@cyut.edu.tw
- Phone: +886-4-23323000 ext. 4248/7002

2) Academic Background and Degrees

- B.S. Mechanical Engineering, National Taiwan University
- PhD. Solid Mechanics, Mechanical Engineering, University of Colorado – Boulder
- Research interests: Structural health monitoring for civil structures, NDT for civil structures and composite materials; Infrared thermography

3) Professional Services

- Subject Editor for Civil Structures and Construction Materials, *NDT&E International*, an Elsevier Journal
- Member of Board of Directors, The Society for Nondestructive Testingand Certification of Taiwan 曾任台灣非破壞檢測協會常務董事、學術委員會召集人、授證管理 委員會副主任委員、主任委員，參與非破壞檢測人員 ISO 9712 授證體系之修訂與推動
- Elected Board member, Asia-Pacific Federation for Nondestructive Testing 亞太非破壞聯盟理事
- Reviewers for ACI Materials Journal, NDT&E International, Journal of Mechanics, Automation in Construction, Journal of the Chinese Institute of Civil and Hydraulic Engineering, and International Journal of Applied Science and Engineering

4) Selected Publications

- Hidayat, M., Huang Y., Chiang, C.-H.*(2025) “Determining the Defect Sizes of CFRP Laminates by Employing Step-Heating Thermography and an Artificial Neural Network Approach,” Proceedings. 2025; 129(1):11. Presented at the 18th International Workshop on Advanced Infrared Technology and Applications (AITA 2025), Kobe, Japan, 15–19 September 2025. (DOI: 10.3390/proceedings2025129011)
- Prasad, S., Chiang, C.-H.*, Kumar, D.*, Kalra, S., Khandelwal, A (2025) ”AI-Based Marker-Free DIC for Measuring Displacements of Large Structures,” IEEE Sensors Journal, 25 (3), pp. 5221 – 5230

(Scopus) (DOI: 10.1109/JSEN.2024.3519460)

- Prasad, S., Chiang, C.-H., Kumar, D. (2025) "Real-time modal analysis of large structures using AI-DIC," Proceedings of SPIE - The International Society for Optical Engineering, 13436, art. no. 1343612 (Scopus) (DOI: 10.1117/12.3051451)
- Chiang, C.-H., Lin, Y.-C., Huang, Y., Mahesh (2024) "Thermal imaging of thin CFRP plates subjected to cyclic loading" The 1st Formosa Conference of Non-Destructive Testing (FCNDT 2024), Tainan, Taiwan, October 3-4, 2024.
- Prasad, S., Chiang, C.-H., Kumar, D., Kalra, S., Khandelwal, A. (2023) Robust and efficient feature-based method for structural health monitoring of large structures. *Journal of Civil Structural Health Monitoring*, 13 (4-5), pp. 961-982. (SCI) (DOI: 10.1007/s13349-023-00686-5)
- Huang, Y., Chen, C.-L., Chiang, C.-H. (2023) Analyzing a series of thermal infrared images to identify defects using a hybrid approach that combines robust principal component analysis and image segmentation. *NDT and E International*, 137, art. no. 102818. (SCI) (DOI: 10.1016/j.ndteint.2023.102818)
- Hidayat, M., Chiang, C.-H., Yen, M. (2023) Determination of the defect's size of multi-layer woven CFRP based on its temperature profile. *International Journal of Applied Science and Engineering*, 20 (3) (Scopus) (DOI: 10.6703/IJASE.202309_20(3).003)
- Kumar, D., Chiang, C.-H.*, Lin, Y.-C. (2022) Experimental vibration analysis of large structures using 3D DIC technique with a novel calibration method. *Journal of Civil Structural Health Monitoring* 12(2) 391-409. (SCI) (Scopus) (https://doi.org/10.1007/s13349-022-00549-5)
- Chih-Hung Chiang*, Hung-Yu Tao, Yung-Chiang Lin (2021) Transient thermal analysis of layered media based on thermal quadrupoles. *International Journal of Applied Science and Engineering* 18:3 (Scopus) (DOI: 10.6703/IJASE.202106_18(3).001)
- Lin, Y-C., Chiang, C-H., Yu, C-P., Kumar, D., Hsu, K-T. (2021) Application of DIC method to modal vibration study for structure health monitoring of WT tower. *International Journal of Applied Science and Engineering* 18:3 (Scopus) (DOI: 10.6703/IJASE.202106_18(3).003)
- Yung-Chiang Lin, Chih-Hung Chiang*, Chih-Peng Yu, Keng-Tsang Hsu (2020) Deterministic deterioration modeling of wind turbines toward the failure identification – a modal curvature approach, *Journal of Structural Integrity and Maintenance*, 5:2, 104-112, (DOI: 10.1080/24705314.2020.1729518) (Scopus)
- Huang, Y., Shih, P., Hsu, K.-T., Chiang, C.-H. (2020) To identify the defects illustrated on building facades by employing infrared

thermography under shadow, *NDT & E International*, 111 (DOI: 10.1016/j.ndteint.2020.102240) (SCI)(Scopus)

- Chih-Hung Chiang*, Keng-Tsang Hsu, Chih-Peng Yu, Chia-Chi Cheng, Jie-Zhen Pan (2018) "Remote measurements and vibration analyses of existing wind turbines," J*ournal of Testing and Evaluation*, 47: 3, 2193-2206 (DOI: 10.1520/JTE20180025) (SCI)(Scopus)
- Chan, C. C-K., Kumar, D., Chiang, C-H. (2021) "Coarse and fine localized CNN classifier for intelligent DIC preprocessing in large structure health monitoring sample", Proceedings of SPIE - The International Society for Optical Engineering, 11592, art. no. 115920L (DOI: 10.1117/12.2584023) (Scopus)
- Kumar, D., Chiang, C-H.*, Lin, Y-C. (2021) "Identification and correlation of natural patterns using a hybrid BRISK-DIC method", Proceedings of SPIE - The International Society for Optical Engineering, 11592, art. no. 115920K (DOI: 10.1117/12.2584776) (Scopus)
- Kumar, D., Chiang, C-H. (2021) "In-house digital image correlation technique for large structures", *AIAA Scitech 2021 Forum*, pp. 1-10 (Scopus)