Prof. Xinyan Huang

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Short Biography: Ir. Prof. Xinyan Huang is an Associate Professor of Dept of Building Environment and Energy Engineering at The Hong Kong Polytechnic University. He received his PhD from Imperial College London, MSc from UC San Diego, and BEng from Southeast University. Before joining PolyU, he was a Postdoc and Lecturer at the UC Berkeley, where he explored the Microgravity Fire Safety for the International Space Station with NASA. Dr Huang is a Combustion Scientist and a Fire Safety Engineer who has co-authored over 200 journal papers and supervised over 40 Postdocs and PhD students. He is a board member of Int. Assoc. for Fire Safety Science (IAFSS), Int. Assoc. of Wildland Fire (IAWF), and Society of Fire Protection Engineers (SFPE) Foundation, an Associate Editor of *Fire Technology*, *Proc. Combust. Inst.*, *J. Safety Science and Resilience*, and *Int. J. Wildland Fire*, an editorial member of *J. Building Engineering*, *Fire Safety J.* and *Fire and Materials*, a Chartered Building Services and Fire Engineer, a committee member for HK Fire Safety Code, and a Fire Expert in High Court. He is a winner of the NSFC Excellent Young Scientists Fund, Bernard Lewis Fellowship and Best Paper Award from Combustion Institute, IAFSS Early Career Award, Ricardo Award from Institute of Physics, HKIE Fire Engineering Grand Award, SFPE Bono Engineering Communication Award twice, and Faculty Teaching Award. He has incubated two start-up companies, WideMount Dynamics for Firefighting Robots and GABES for intelligent fire services system. Currently, his research team has 20+ PhD students and postdoc fellows, and new positions are open all year round.

Academic Position

Dept of Building Environment and Energy Engineering, The Hong Kong Polytechnic University (PolyU)
Associate Professor (2023 - present); Assistant Professor (2017 - 2023)

- Deputy Director, Research Center for Smart Urban Resilience and Firefighting
- Program Leader, Master of Engineering (MEng) on Building Services Engineering (2023 -2025)
- Deputy Program Leader, BEng of Structural and Fire Safety Engineering (2019 - 2023)
- Member, Research Institute for Smart Energy (RISE); Smart Cities Research Institute (RCRI), Research Centre for Resources Engineering towards Carbon Neutrality (RCRE), Research Institute for Sustainable Urban Development (RISUD), Research Centre for Electric Vehicles (RCEV), Research Centre for Deep Space Explorations (RCDSE), State Key Lab of Climate Resilience for Coastal Cities (SKL-CRCC)

Education

Ph.D.	Imperial College London, UK (Mechanical Engineering) Thesis: *Fundamental Study of Smouldering Combustion of Peat in Wildfires* Advisor: Guillermo Rein	2012 – 2016
M.Sc.	University of California, San Diego, USA (Mechanical Engineering) Thesis: *Ignition and Spread of Electrical Wire Fires* Advisor: Forman Williams	2010 – 2012
B.Eng.	Southeast University, China (Thermal Energy and Power Engineering)	2006 – 2010

Other Academic/Research Experiences

Lecturer & Postdoc	University of California at Berkeley, USA (Mechanical Engineering) 2016 - 2017 *Microgravity Combustion & Fire Safety* by NASA & JAXA Advisor: Carlos Fernandez-Pello
Visiting Scholar	Building Research Institute (ITB), Poland (2025); Universiti Malaysia Sabah (2025); Tsinghua University (2024, K.C. Wong Visiting Scholarship); University of Science and Technology of China (2024, 2013); FM Global Research (2023); University of Technology Sydney (2022); National University of Singapore (2013); Hokkaido University (2011)

Research Interests

Heat Transfer, Combustion, Building Fire Safety, Smart Firefighting, Wildland Fire and Ecology, Fire Modeling and Investigation; Energy Thermal Safety, Bioenergy and Environmental Protection

Research Overview

- **Publications:** 4 Books; 10 Chapters; 200+ Journal Papers; 300+ Conference Communications
- **Citations:** 10K+, h-index = 60 (Google Scholar), World's top 2% most-cited scientists (since 2021)
- **Supervision:** 10+ Postdocs, 30+ PhD students (16 graduated, 10 as the Chief supervisor and 6 as a co-supervisor), 50+ Master and undergraduate students
- **Research Funding (PI):** > HK$ 30 million (~US$ 4 million)
- **Reviewer:** >100 SCI Journals;
- **Patents Pending/Granted:** 30+

Professional Societies

Combustion Institute (CI); Society of Fire Protection Engineers (SFPE); International Association for Fire Safety Science (IAFSS); International Association of Wildland Fire (IAWF); Chinese Society of Space Research (CSSR); Chartered Institution of Building Services Engineers (CIBSE); Hong Kong Institute of Engineers (HKIE)

Editorial Services

Associate Editor	*Proceedings of the Combustion Institute* - Elsevier (Official Journal of CI) since 2026
	Journal of Safety Science and Resilience – Elsevier since 2024
	International Journal of Wildland Fire – CSIRO (Official Journal of IAWF) since 2021
	Fire Technology – Springer Nature (Official Journal of SFPE and NFPA) since 2020
	Emergency Management Science and Technology – Maximum Academic Press since 2022
Editorial Board	*Engineering* - Elsevier (Official Journal of Chinese Academy of Engineering);
	Fire Safety Journal – Elsevier (Official Journal of IAFSS);
	Fire and Materials – Wiley;
	Journal of Building Engineering – Elsevier;
	Energy and Safety Science – Elsevier & KeAi
Guest Editor	Process Safety and Environmental Protection: *Battery fire* (2025)
	Journal of Loss Prevention in the Process Industries: *APSS 2025*
	Applications in Energy and Combustion Science: *Fires in Infrastructures* (2025)
	Fire Technology: *Lithium Battery Fire Safety* (2025); *Structure in Fire* (2023); *State-of-the-Art Fire Research in China* (2022); *Façade Flammability and Fire Engineering* (2021); *Spacecraft Fire Safety* (2018); Frontiers in Mechanical Engineering: *Wildland Fire* (2019)
Conference Proceeding Co-Chair	41st International Symposium on Combustion (2026), 15th Asia-Pacific Conference on Combustion (2025), published in *Proc. Combust. Inst.*
	14th International Symposium of Fire Safety Science (2023), published in *Fire Safety J.*

Awards and Honors

2026	Best of Innovation Award (Smart Firefighting Robot by WideMount Dynamics)	Consumer Electronics Show (CES)
	Outstanding Associate Editor Award	International Journal of Wildland Fire
	Invited Topical Review of 41st Symposium	Combustion Institute (CI)
2025	Early Career Award in Fire Science	Int. Assoc. of Wildland Fire (IAWF)
	Young Scientist Award, Technological Invention Award (1st	China Association for Public Safety

	Prize - 6/15)	
	Patents Achievement (Top Filing) Award	HK PolyU
	Gold Medal with Congratulations of the Jury	50th International Exhibition of Inventions Geneva
2024	Outstanding Young Teacher (Faculty Award)	HK PolyU
	Jack Bono Award for Engineering Communications	Society of Fire Protection Engineers
	Dean's Award for Outstanding Achievement in Research Funding	HK PolyU
2023	Excellent Young Scientists Fund (HK & Macao)	NSFC
	Excellent PhD Thesis Supervisor (for SUN Peiyi)	China Fire Protection Association
	Gold Award for project "Smart Firefighting Robot" (as Supervisor)	China International College Students Innovation Competition
2022	Excellent PhD Thesis Supervisor (for LIN Shaorun)	China Fire Protection Association
2021	"5 Under 35" Award for Top Rising Leaders	Society of Fire Protection Engineers
	Ricardo Award for Best Paper in Combustion Physics	Institute of Physics (IOP)
	Dean's Award for Outstanding Young Researchers	HK PolyU
	Jack Bono Award for Engineering Communications	Society of Fire Protection Engineers
2020	Proulx Early Career Award	Intl. Assoc. for Fire Safety Science
	KTP Visiting Fellow	University of Technology Sydney
2019	Kan Tong Po International Fellowship	The Royal Society
	Fire Engineering Grand Award	HK Institution of Engineers (HKIE)
2018	Bernard Lewis Fellowship	Combustion Institute
	Early-Career Researcher (ECR) Reviewers' Choice Award	Publons - Clarivate Analytics
2017	Sugden Award for the Most Significant UK Contribution to Combustion Research	Combustion Institute (British Section)
	Top Reviewer for Multidisciplinary	Publons - Clarivate Analytics
2016	Katopodis Prize for Best PhD Thesis in Thermofluids	Imperial College London
2015	Best Student Seminar in Thermofluids	Imperial College London
	TREE Grant	Association for Fire Ecology (AFE)
	Watts Award for Outstanding Reviewer	Fire Technology (Journal)
	Honorable Mention	5th Int. Conference of FESP
2014	Medal for PhD Research Excellence in Clean Fossil Fuels	Qatar Petroleum
	Award for Outstanding Student Abroad	China Scholarship Council
2013	International Mobility Award	Santander
2012	Exceptional Overseas Scholarship	Imperial College London

Best Conference Paper and Presentation Awards	2nd Chinese National Conference on Thermal Safety Science (2021), 2nd International Symposium on Lithium Battery Fire Safety (2021); 3rd International Symposium on Lithium Battery Fire Safety (2023); New Energy Science and Electrification of Transportation International Conference (2023)
Best Poster Awards	Chinese National Combustion Symposium (2019-20); Int. Symposium of Fire Safety Science (2017, 2014, 2011); 2nd European Fire Symposium (2015); 10th Asia-Oceania Symposium on Fire Science and Technology (AOAFST) (2015)
Best Combustion & Fire Image Award	Chinese National Combustion Symposium (2018-20); Combustion Art Competition of American Society for Gravitational and Space Research (ASGSR) (2017); International Symposium of Fire Safety Science (2014, 2011)
Editors' Featured Article	International Journal of Wildland Fire (Cover Image of Vol. 30, Issue 6 in 2021); Bioresource Technology (Cover Image of Issue 207 in 2016); Fire Safety Journal (Vol. 120 in 2021; Vol. 110 in 2019; Vol. 95 in 2018) Fire Technology (6 times), Fire Material (2020-2021)

Teaching Experience

Hong Kong PolyU	Fire Science and Fire Safety Engineering (BSE6004)	PhD Level
	Research Methods (CE620)	
	Master Dissertation (BSE575), Fire Dynamics (BSE533),	MSc Level

	Computational Fire Modeling for Building Design (BSE531) Research Project (BSE4723), Fire Services (BSE3321), Air Conditioning (BSE2201) Playing with Fire (MOOC course) https://www.edx.org/course/playing-with-fire	BEng Level
UC Berkeley (Lecturer)	Heat Transfer; Advanced Combustion; Thermodynamics	2016-2017
Imperial College (TA)	Thermofluid Lab; Heat Transfer; Experimental Reporting Skills	2012-2015
UC San Diego (TA)	Fluid Mechanics; Thermodynamics; Aerospace System Design	2011-2012

Professional Committee and Membership

- Board of Governance, Society of Fire Protection Engineers (SFPE) Foundation (2025.5 – 2028.4)
- Board Member, Chinese Society of Engineering Thermophysics – Combustion (2026 – 2028)
- Board Member, Int. Association for Disaster Reduction and Emergency Management (IADREM)
- Board of Directors, International Association of Wildland Fire (IAWF) (2022 - 2024)
- Board Member, International Association for Fire Safety Science (IAFSS) (2021 -)
- Co-Chair of Outreach and Communication Committee, IAFSS (2021 -)
- Advisory Panel of SFPE Committee on Sustainability and Fire (2023 -)
- Chartered Engineer (CEng) with Engineering Council UK (2021 -)
- Registered Engineer, Hong Kong Institute of Engineers (2022 -)
- Committee of Chinese Society of Microgravity Science and Applied Research (2021 -)
- Technical Committee on the Code for Fire Safety in Buildings, Buildings Department, HK (2018 - 2024)
- Fire Safety Committee, Buildings Department, Hong Kong (2018 – 22)
- Appeal Tribunal, Buildings Ordinance (Cap 123), Development Bureau (Planning and Lands Branch), Hong Kong (2022-2024)
- Advisory Committee under Fire Safety (Buildings) Ordinance Cap. 572, Fire Services Department, HK (2023-2027)
- Combustion Webinar, Combustion Institute, https://sun.ae.gatech.edu/combustion-webinar/ (2020 -)
- Education Committee on the Wildland Fire Protection Research Center, China (2018 -)
- Fire Services Installation working group on Development of Best Practices for Operation and Maintenance of E&M Assets, Electrical and Mechanical Services Department (EMSD), Hong Kong (2018 -)
- Large Outdoor Fires & the Built Environment (LOF&BE) Working Group, IAFSS (2019 - 2022)

Selected Consulting Experiences

• New Concept Eng. Ltd. (2025)	Investigation of Sprinkler Pipe Leakage
• LCJL Equipment Ltd. (2025)	Technical Evaluation of High-Pressure Fire Form System
• CITIC, Lindenford Ltd. (2024)	Fire Engineering Design and Fire Risk Analysis
• HK High Court (2020 -)	Expert Witness (Fire Investigation)
• HK Legal Aid Department (2020 -)	Investigation on fire accident and arson
• HK Building Department (2018 -)	Updating building fire safety code; assessing performance-based fire design
• PolyU Technology & Consultancy Company Limited (PTeC)	Building Fire Safety Performance-based Design; Building Fire Safety Analysis; Conduct flammability tests for new timber materials; fire and explosion impact on the safe shell of nuclear power plants; Standard material fire tests
• US Forest Service (2017)	Develop a new technique to quantify the flammability limit of wildland fuels
• Reax Engineering, US (2016-17)	Fire Investigation; Assess the self-ignition risk of coal pile in port; Evaluate reliability of flame arrestor for portable gas can

Media Coverage

• CNN, NBC, BBC, Bloomberg, CGTN, Al Jazeera, etc.	Interview about Wang Fuk Court, Tai Po Fire, Hong Kong 26-27 Nov 2025
• TVB News	理大城大學生合力研發智能消防系統助逃生,28 Dec 2024
• Radio Television HK "Backchat"	Interview about LA Wildfire, 10 Jan 2025
• WeChat Official Account "理大火灾安全科学"	Followers: 7,000 +; Original Article: 100+
• NFPA Podcast	The Future of Fire Protection with AI, Jan 2024
• WEN WEI PO 文匯報	Future Fire Safety Technology (in Chinese), Dec 2023
• Chinese Scientist	Apply New Technology to Control Fire (in Chinese), March 2023
• Radio Television HK "The 123 Show"	SureFire: change the way that future major fires are dealt with, 29 Dec 2021
• Fire Science Show (Podcast)	AI in smart firefighting and the future of FSE PBD (29 Jun 2021), Experiences with AI (14 Aug 2024), Playing with batteries (26 March 2025)
• Channel NewsAsia (CNA) Radio Show	Expert Opinion on the deadly fire accident with 8 deaths in Yau Ma Tei, Hong Kong, 15 Nov 2020
• Sing Tao Daily	New discovery on the fire ignition process, 31 May 2019

Selected Research Grants (PI or co-PI)

- Smart Forecast of Backdraft Risk and Explosion Hazards Driven by Sensor Data and Fire Images, **RGC General Research Fund** (GRF: No. 15222025), HK$ 1.17M, PI, 1/1/2026 – 31/12/2028
- Key Technologies for Intelligent Firefighting and Emergency Management in Confined Urban Transportation Infrastructure, **National Key R&D Program of China,** ITC Mainland-Hong Kong Joint Funding Scheme (MHKJFS), HK$ 2.2M, PI, 01/09/2025 - 31/08/2027;
- A Digital Twin Intelligent Platform for Aged Building Digitalization and Fire Safety Management, **Innovation and Technology Fund**, HK$ 4.1M, co-PI, 31/03/2025 - 30/03/2027.
- Energy storage system fire safety technical assistance services, **National Institute of Guangdong Advanced Energy Storage (Guangdong)**, RMB 1.9M, PI, 20/5/2025 – 31/8/2027
- Development of Key Technology and Equipment for Whole Process Safety of Coupled Electrochemical Energy Storage Station, **Key-Area Research and Development Program of Guangdong Province** (No. 2023B0909060004), RMB 3.2M, co-PI, 1/1/2024 – 31/12/2026
- Intelligent Emergency Digital Twin System in Metro Station for Fire Evacuation, **MTR Research Funding Scheme** (PTU-23005), HK$ 1,378,750, PI, 1/1/2024 – 31/12/2026
- Smoldering Wildfire, **NSFC Excellent Young Scientists Fund** (No. 52322610), RMB 2M, PI, 1/1/2024 – 31/12/2026
- A Fundamental Study on the Critical Oxygen Supply of the Persistent Deep-Layer Smouldering Peat Fires, **RGC General Research Fund** (GRF: No. 15221523), HK$1.13M, PI, 1/1/2024 – 31/12/2026
- Key Technology Development of International Li-ion Battery Energy Storage Safety Evaluation, **National Key R&D Program of China** (2022YFE0207400), RMB8.5M, Co-I, 1/1/2023 – 31/12/2026
- Modeling and detecting the smoldering peat fire spread in the Inner Mongolian Greater Khingan, **Inner Mongolian Science and Technology Fund**, RMB 500K, co-PI, 1/1/2021 – 12/31/2024.
- SureFire: Smart Urban Resilience and Firefighting, **RGC Theme-based Research Scheme** (No. T22-505/19-N), HK$ 33M, co-PI, 01/01/2020 - 31/12/2024;
- Self-heating ignition and fire hazards of high-energy lithium-ion batteries, **RGC Early Career Scheme** (ECS: No. 25205519), HK$ 0.6 M, PI, 01/10/2019 - 30/9/2022;
- Smouldering Ignition and Quenching Criteria: Interactions between Heat-and-Mass Transfer and Heterogeneous Reactions under Limiting Conditions, **NSFC General Fund** (No. 51876183), RMB 600K, PI, 01/01/2019 - 31/12/2022;

Conference Chair/Co-Chair

- 12th Asia Pacific Safety Symposium (APSS), Hong Kong, 20-23 May 2027 [Chair]
- 12th Young Scholar Meeting on Combustion Research, Hong Kong, 14-16 May 2027 [Co-Chair]
- 15th International Symposium on Fire Safety Science, France, 7-12 June 2026 [Communication Chair]
- 4th International Symposium on Lithium Battery Fire Safety (ISLBFS 2025), Hong Kong, 30 Oct - 2 November 2025 [Chair]
- 2nd International Smart Firefighting Workshop (SureFire 2024), Hong Kong (2024) [Co-Chair]

Conference Organization as Committee Member

- Asia-Pacific Conference on Combustion (ASPACC), 14th Fukuoka, Japan (2019); 15th Singapore (2025)
- China National Symposium on Combustion (2018, 2019)
- Chinese National Young Scholar Meeting on Combustion, 4th (2018); 5th (2019); 6th (2021)
- International Fire Safety Symposium (IFireSS), 6th Como, Italy, 23-25 July (2027); Belfast, UK, 25-27 June (2025)
- International Conference on Fire Safety and Compliance (FireSnC), Sydney, Australia, 22-25 Nov 2026
- 4th International Conference on Computational Engineering and Science for Safety and Environmental Problems (COMPSAFE2025), Kobe, Japan (2025)
- 16th Fire and Materials Conference, London, UK (2025)
- 11th Asia Pacific Safety Symposium (APSS), Jeju, Korea (2025)
- 16th International Conference on Combustion and Energy Utilization (ICCEU), Hong Kong (2025)
- 7th International Fire Behavior and Fuels Conference, Sydney, Australia (2024)
- 3rd International Symposium on Lithium Battery Fire Safety (3rd ISLBFS), Qingdao, China (2023)
- 14th International Symposium on Fire Safety Science, Tsukuba, Japan (2023)
- 12th International Conference on Structures in Fire (SiF), Hong Kong (2022)
- Fire and Climate Conference, Melbourne, Australia, June 6-10 (2022)
- 12th Asia-Oceania Symposium on Fire Science & Technology (AOSFST), Brisbane, Australia (2021)
- 13th International Association for Fire Safety Science, Waterloo, Canada (2021) [Session Chair]
- 4th Asia Conference of International Building Performance Simulation Association (2018)
- 7th Association for Fire Ecology (AFE) International Congress, Orlando, USA (2017)
- 8th Intl. Conference on Fire Science & Fire Protection Engineering, Nanjing, China (2017)
- 10th US National Combustion Meeting (2017) [Section Chair]

Plenary/Keynote Talks

1. Toward Mitigating Wildfires and Fires in Wildland-Urban Interfaces, **41st International Symposium on Combustion**, Kyoto, Japan, 26-31 July 2026.
2. AI-Powered Smart Fire Safety: Progress and Perspectives, **Asia Pacific Symposium on Safety (APSS 2025)**, Jeju, Korea, 9-12 Nov, 2025.
3. Emergency Cooling for Preventing the Onset of Battery Thermal Runaway, **4th International Symposium on Lithium Battery Fire Safety (ISLBFS 2025)**, Hong Kong, 30 Oct - 2 Nov 2025
4. AI-Powered Calorimetry in Fire Safety Research, **14th Asian Thermophysical Properties Conference (ATPC)**, Shanghai, China, 17-21 Oct 2025
5. Application of AI Technology in Improving Fire Safety, **7th International Congress of Safety in Ports,** A Coruna, Span, 18-19 June 2025.
6. AI+ Smart Firefighting: Progress and Perspective, **11th International Symposium on Fire Science and Fire Protection Engineering**, Wuhan, China, 26-27 April 2025.
7. AI-Powered Smart Firefighting Towards Sustainable Future, **Annual Fire Safety Conference of Poland**,

Zakopane, Poland, 19-21 March 2025.

8. Al-Powered Smart Firefighting and Urban Resilience, **International Symposium on Disaster Reduction and Emergency Management (ISDREM 2024)**, Hefei, China, 16-17 Nov 2024.
9. Digital Twins for Smart Firefighting and Evacuation, **The 4th Digital Twin International Conference**, Milano, Italy, 14-18 Oct 2024
10. *Progress in Flame Spread Dynamics and Near-Limit Behaviors,* **13th International Symposium on Fire Safety Science**, Waterloo, Canada, 26 April 2021.
11. *Research Advances and Challenges in smoldering fire,* **9th International Conference on Fire Science and Fire Protection Engineering**, Chengdu, China 19 Oct 2019.
12. *Limiting Oxygen Concentration of Microgravity Opposed Flame Spread*, **12th Asian Microgravity Symposium (AMS2018)**, Zhuhai, China, 15 Nov 2018.
13. *Smoldering Peat in Wildland Fires and the Fire Threshold of Earth,* **3rd Chinese National Young Scholar Meeting on Combustion Research**, Xi'an, China, 16 Apr 2017.

Invited Talks/Seminars/Webinars (>40)

2026 China General Nuclear Power Group (CGN); Huawei Noah's Ark Lab

2025 University Malaysia Sabah (UMS); Building Research Institute (ITB) of Poland; TU Delft; Vrije Universiteit Amsterdam; Imperial College London;

2024 Tsinghua University; Nanjing Tech University; Beijing Institute of Technology; Xi'an University of Science and Technology; University of Science and Technology of China (USTC); Southeast University; Anhui University of Science and Technology;

2023 China Geoscience University (Wuhan); San Jose State University (SJSU); National Fire Protection Association (NFPA), USA; John Hopkins University; University of Maryland, College Park; National Institute of Standards and Technology (NIST); FM Global; University of California, Berkeley (UCB); HKIE Fire Division; Tokyo University of Science (TUS); Zhengzhou University; Beijing Institute of Technology; China People's Police University (CPPU);

2022 University of Edinburgh; Australia National University (ANU); University of Sydney; University of Technology Sydney (UTS); University of Queensland (UQ); The University of New South Wales (UNSW); National Institute of Standards and Technology (NIST); Inner Mongolia Agricultural University

2021 SFPE London Student Chapter; IAFSS Workshop of Smart Firefighting; HKIE Annual Meeting; AOSFST Workshop of Machine Learning for Real-time Fire Forecast

2020 Country Garden Group; CIBSE HK Branch

2019 Qingdao Institute of Bioenergy & Bioprocess Technology (CAS); China University of Mining and Technology (Beijing); Toyohashi Technology University (Japan); University Putra Malaysia; Hong Kong Institute of Engineers (HKIE) Fire Division; China Academy of Engineering Physics; Sun Yat-sen University

2018 Huaqiao University, China; Imperial College London; Hong Kong Fire and Ambulance Services Academy; Civil Aviation University of China; University of Science and Technology of China; Beijing Forestry University

2017 University of Connecticut; Southern University of Science and Technology of China; Worcester Polytechnic Institute; University of Arizona; Southeast University of China; China University of Mining and Technology (Xuzhou); Wuhan University; Wuhan University of Technology

2016 Nanjing University of Technology, China; Worcester Polytechnic Institute

2015 Imperial College London (Best Student Seminar)

2014 University of Maryland, College Park; University of Science and Technology of China (USTC)

Book Authored / Edited

1. X. Huang and W.C. Tam (eds) (2024) **Intelligent Building Fire Safety and Smart Firefighting**, Springer. https://link.springer.com/book/9783031481604

2. A. Usmani, L. Jiang, M.A. Orabi, A.A. Khan, X. Huang (2026). **Modelling and Simulation in Structural Fire Engineering**. CRC Press. [to be published in 2026]
3. X. Huang, J. Shi, M. Yang (eds) (2026) AI in Process Safety. Elsevier.
4. Y. Zhang, X. Huang, Y. Rui (eds) (2026) VR in Tunneling Engineering. CRC Press.
5. M. Luo, Y. Wong, X. Huang (2026) Fire Safety Engineering Performance-Based Design, Taylor & Francis [to be published in 2026]

Book Chapters

1. Y. Zeng, X. Huang (2024) *Artificial Intelligence Powered Building Fire Safety Design Analysis*, Chapter 5, In X. Huang and W.C. Tam (eds) **Intelligent Building Fire Safety and Smart Firefighting**, Springer.
2. Y. Zhang, X. Huang (2024) *Smart Safety Design for Firefighting, Evacuation, and Rescue*, Chapter 10, In X. Huang and W.C. Tam (eds) **Intelligent Building Fire Safety and Smart Firefighting**, Springer.
3. X. Zhang, T. Zhang, Y. Ding, X. Huang (2024) *Internet of Things and Digital Twin in Fire Safety Management*, Chapter 14, In X. Huang and W.C. Tam (eds) **Intelligent Building Fire Safety and Smart Firefighting**, Springer.
4. E.T. Fu, W.C. Tam, X. Huang (2024) *Building Fire Hazard Predictions Using Machine Learning*, Chapter 16, In X. Huang and W.C. Tam (eds) **Intelligent Building Fire Safety and Smart Firefighting**, Springer.
5. M. Wang, X. Chen, X. Huang (2024) *Robotic Firefighting: A Review and Future Perspective*, Chapter 20, In X. Huang and W.C. Tam (eds) **Intelligent Building Fire Safety and Smart Firefighting**, Springer.
6. Y. Zeng, X. Huang* (2023) *Smart Building Fire Safety Design Driven by Artificial Intelligence*, Chapter 5, **Interpretable Machine Learning for the Analysis, Design, Assessment, and Informed Decision Making for Civil Infrastructure** (M.Z. Naser Ed.), Elsevier.
7. X. Huang, X. Wu, X. Zhang, A. Usmani (2022) *Smart Tunnel Fire Safety Management by Sensor Network and Artificial Intelligence*, Chapter 18, **Leveraging Artificial intelligence into Engineering, Management, and Safety of Infrastructure** (M.Z. Naser Ed.), CRC Press. doi: 10.1201/9780367823467-18
8. X. Huang, X. Wu, A. Usmani (2022). *Perspectives of Using Artificial Intelligence in Building Fire Safety*. In: Naser, M., Corbett, G. (eds) **Handbook of Cognitive and Autonomous Systems for Fire Resilient Infrastructures**. Chapter 6, Springer, doi: 10.1007/978-3-030-98685-8_6
9. M.A. Santoso, X. Huang, N. Prat, E. Christensen, Eirik; Y. Hu, G. Rein (2019) *Smouldering Fires and Soils*, Chapter 14, **Fire Effects on Soil Properties** (P. Pereira Ed.), CSIRO Publishing, 203-216.
10. E. Christensen, Y. Hu, F. Restuccia, M. A. Santoso, X. Huang, G. Rein (2019) *Experimental Methods and Scales in Smouldering Wildfires*, Chapter 19, **Fire effects on Soil Properties** (P. Pereira Ed.), CSIRO Publishing, 267-280.

Technical Notes

1. Y. Ding, W.K. Cheung, X. Huang (2024) *Digitized Fuel Load Survey Methodology: Data Collection and Statistical Analysis*, **NFPA Technical Report** (No. FPRF-2024-06), National Fire Protection Association (NFPA).
2. T. Zhang, Y. Ko, L. Marshall*, A. Tarbet, K. Collins, N. Elsagan, N. Flores-Quiroz, J. Hodges, M.H. Mozaffari, M. Pallett, A. Sharma, W.C. Tam, X. Huang (2023) *Grand Challenges in Digitalization, Artificial Intelligence, & Cybersecurity*, **SFPE Foundation Grand Challenges White Papers**.
3. H.Y. Wong, Y. Zhang, X. Huang* (2022) *A Review of Dynamic Directional Exit Signage: Challenges and Perspectives*, **NFPA Technical Report (**No. FPRF-2022-12), National Fire Protection Association (NFPA).
4. J. Shi, X. Zhang, X. Huang, A. Usmani, G. Chen (2023) *Hydrogen jet diffusion modeling by using physics-informed graph neural network and sparsely-distributed sensor data*, **Fire and Blast Information Group (FABIG) Newsletter**, 88, 30-42.
5. Y. Liu, X. Huang* (2021) *Fire Risk of Transporting and Storing Massive Li-ion Batteries*, **Fire and Blast Information Group (FABIG) Newsletter**, 82, 6-16.
6. H. Yuan, X. Huang, G. Rein (2018) **Gpyro Workbook on Pyrolysis & Smouldering Problems**. DOI: 10.5281/zenodo.1212540

7. T. Yarlagadda, X. Huang, T. Huang, X. Zhuo, Z. Li, X. Huang*, A. Usmani (2020) *Nuclear containment subjected to near field impact loading: A design safety project*, **Fire and Blast Information Group (FABIG) Newsletter**, 77, 72-82.
8. Suzuki S, McAllister S, Manzello SL, Filkov A, Gorham D, Huang X, et al. (2020) *Large Outdoor Fires and the Built Environment (LOF&BE): Summary of Virtual Workshop*. **NIST Special Publication 1263**.

Ten Representative Journal Publications (see full list in Google Scholar Page)

1. W. Xie, Y. Zhang*, T. Lu, X. Huang, J. Shi*, X. Huang*, F. Xiao, A. Usmani (2026) *Integrating Smart Fire Forecast with LLM-Powered Emergency Response*, **Engineering**, doi: 10.1016/j.eng.2026.02.023
2. Y. Zhang, X. Huang*, A. Usmani (2026) *The challenge of optimizing building renovations for urban sustainability and fire safety*, **Nature Cities**, 3, 2–3. doi: 10.1038/s44284-025-00373-0
3. Y. Qin[#], Y. Zhang[#], Y. Chen, S. Lin*, Y. Shu*, X. Huang*, M. Zhou (2025) *Impact of Snow on Underground Smouldering Wildfire in Arctic-Boreal Peatlands*, **Environmental Science & Technology**, 59, 8, 3915–3924. doi: 10.1021/acs.est.4c08569
4. X. Zhang, X. Chen, Y. Ding, Y. Zhang*, Z. Wang, J. Shi, N. Johansson*, X. Huang* (2024) *Smart real-time evaluation of tunnel fire risk and evacuation safety via computer vision*, **Safety Science**, 106563. doi: 10.1016/j.ssci.2024.106563
5. Z. Wang, H. Sadeghi, X. Huang*, F. Restuccia* (2024) *Thermal runaway and flame propagation in battery packs: Numerical simulation and deep learning prediction*, **Engineering Applications of Computational Fluid Mechanics**, 19(1), 2445160. doi: 10.1080/19942060.2024.2445160
6. Z. Wang, T. Zhang*, X. Huang* (2023) *Predicting Real-time Fire Heat Release Rate based on Flame Images and Deep Learning*, **Proceedings of the Combustion Institute**, 39(3): 4115-4123. doi: 10.1016/j.proci.2022.07.062
7. Y. Liu, G. Aldan, X. Huang*, M. Hao* (2023) *Single-phase static immersion cooling for cylindrical lithium-ion battery module*, **Applied Thermal Engineering**, 233, 121184. doi: 10.1016/j.applthermaleng.2023.121184
8. L. Su[#], X. Wu[#], X. Zhang, X. Huang* (2021) *Smart Performance-Based Design for Building Fire Safety: Prediction of Smoke Motion via AI*, **Journal of Building Engineering**, 43, 102529. doi: 10.1016/j.jobe.2021.102529
9. S. Lin, X. Huang* (2021) *Quenching of Smoldering: Effect of Wall Cooling on Extinction*, **Proceedings of the Combustion Institute**, 38, 5015-5022. doi: 10.1016/j.proci.2020.05.017
10. L. Zhang, Y. Su, Y. Zhang, P. Sun, C. Ye, Y. Liu*, X. Huang* (2025) *Early Emergency Cooling for Mitigating the Onset of Battery Thermal Runaway*, **Journal of Energy Storage**, 117820. doi: 10.1016/j.est.2025.117820

Ten Selected Patents (Granted/Pending)

1) X. Huang, C. Xiong, Y. Liu, C. Xu, A Fire Protection System and Extinguishing Method based on Acoustic Fire Suppression, China Patent, No. 201911058483.X Granted
2) P. Sun, C. Xu, X. Huang, Y. Jia, An experimental method of investigating dripping ignition and a system of generating dripping flame. China Patent, No. 202010284391.X Granted
3) X. Huang, C. Xiong, F. Haoran. The analytical method and system for 3D fire field information based on acoustic field variation, China Patent, No. ZL 2020 1 0956080.3 Granted
4) X. Huang, T. Zhang, X. Wu, F. Xiao, Q. Wang, A. Usmani, A system, device and method to collect the real-time 3D data from the fire scene, China Patent, No. ZL 2020115986305 Granted
5) Q. Wang, X. Huang, M. Shaheer, T. Mohammad, X. Zhang, M. Luo, L.T. Hsu, X. Wu, F. Xiao, A. Usmani, Indoor Fire Monitoring Based on Look-Up-From-Floor Sensing of Ceiling, US Patent (US 11,860,043B2) Granted & China Patent (No. 202211006213.6).
6) X. Huang, X. Zhang, L. Su, X. Wu, Y. Zeng, A method for evaluating fire engineering designs based on artificial intelligence and the apparatus, China Patent, No. 202111317179X. Granted
7) Y. Chen, S. Lin, X. Huang, Z. Liang, A mobile and real-time smouldering processing system and method for organic solid wastes, China Patent, No. 2022104633262 Granted
8) X. Huang, Y. Chen, S. Lin, An excess-enthalpy smouldering combustion system and method based on flaming

heat recovery, China Patent, No. 2022104522058 Granted

9) X. Huang, C. Xiong, Z. Wang, Y. Liu, A fire extinguishing system based continuously producing vortex ring, China Patent, No. 202210678999.X Granted

10) X. Huang, Y. Qin, S. Lin, Y. Liu, A heat-pipe based fire detection and suppression system for underground smoldering fire, China Patent, No. 2023102847505

PEER REVIEW (> 100 Journals + 12 Reviewer Awards)

1) Fire Technology #
2) Advanced Energy Materials
3) Nature Communication
4) Scientific Data
5) Proceedings of the Combustion Institute #
6) Combustion and Flame
7) Progress in Energy and Combustion Science
8) Fuel Process Technology
9) Applications in Energy and Combustion Science
10) eTransportation
11) Global Environmental Change
12) Communications Earth & Environment
13) Global Change Biology
14) Safety Science
15) Applied Thermal Engineering #
16) Global Biogeochemical Cycles
17) Energy Conversion and Management #
18) Energy & Fuel
19) Bioresource Technology #
20) Fire Ecology
21) Journal of Hazardous Materials #
22) Journal of Fire Science
23) Science of the Total Environment #
24) Applied Sciences
25) Fire Safety Journal #
26) Frontiers in Plant Science
27) Journal of Hydrology #
28) Building Simulation
29) Int. Journal of Heat and Mass Transfer #
30) Frontiers in ICT
31) International Journal of Thermal Sciences #
32) Frontiers in Mech. Engineering
33) Fire Safety Science/IAFSS Symposium
34) Frontiers in Energy Research
35) Combustion Science and Technology
36) Applied Energy
37) Resources, Conservation and Recycling
38) Advanced Engineering Informatics
39) International Journal of Wildland Fire
40) Fire and Material
41) J. of Analytical and Applied Pyrolysis
42) Energy Technology
43) J. of Thermal Analysis and Calorimetry
44) Soil Discussions
45) Experimental Thermal and Fluid Science
46) Cleaner Materials
47) Case Studies in Thermal Engineering
48) Building and Environment
49) ACS Applied Polymer Materials
50) Scientific Reports
51) Biomass Conversion and Biorefinery
52) ACS Omega
53) Physica A: Statistical Mechanics and its Applications
54) Thin-Walled Structures
55) Canadian Journal of Forest Research
56) Journal of Cleaner Production
57) Tunnelling and Underground Space Technology
58) Combustion Theory and Modelling
59) Journal of Building Engineering
60) Environmental Technology
61) Mathematical Biosciences and Engineering
62) Sustainable Energy & Fuels
63) J of Asian Architecture and Building Engineering
64) Journal of Environmental Informatics
65) Eng. Applications of Computational Fluid Mechanics
66) Engineering Failure Analysis
67) Architectural Engineering and Design Management
68) Energy Technology
69) Chinese Journal of Chemical Engineering
70) Journal of Cultural Heritage
71) Computer-Aided Civil and Infrastructure Engineering
72) Indoor and Built Environment
73) Critical Reviews in Environmental Science & Tech
74) Forests
75) IEEE Transactions on Computational Social Systems
76) Materials
77) Structural Engineering International
78) Fuel
79) Journal of Loss Prevention in the Process Industries
80) Urban Informatics
81) Environmental Science & Technology
82) Energy Sources, Part A
83) International Journal of Disaster Risk Science
84) Health Science Reports
85) International Journal of Sustainable Engineering
86) Industrial Crops & Products

87) Journal of Environmental Chemical Engineering
88) Forest Ecosystems
89) Electrochimica Acta
90) Measurement
91) Int J Computational Intelligence and Applications
92) Journal of Big Data
93) Automation in Construction
94) Chemical Engineering Journal
95) Engineering Applications of Artificial Intelligence
96) Indoor Air
97) IEEE Transactions on Industrial Informatics
98) Journal of Fluid Mechanics
99) Physics and Chemistry of the Earth
100) Fire
101) Geology, Ecology, and Landscapes
102) IET Computer Vision
103) Environmental Monitoring and Assessment
104) Nuclear Technology
105) Environmental Impact Assessment Review
106) Innovation
107) International J. of Human-Computer Interaction

[#] Received *Outstanding Reviewer Award*

Proposal Reviewer

- Engineering and Physical Sciences Research Council (EPSRC), UK
- Dutch Research Council
- European Research Council (ERC), ERC Synergy Grant
- National Research and Development Agency (ANID), Chile
- National Natural Science Foundation of China (NSFC)
- NASA (Combustion Science)

PhD Thesis Examiner / Reviewer

2025	Nourmeur Abdelmoutaleb	Universiti Putra Malaysia (UPM), Selangor, Malaysia
2023	Wenmu Yang	University of New South Wales, Australia
2019	Aaron Bolanos Cuevas	University of Queensland, Australia
2016	Nieves Fernández Áñez	Universidad Politécnica de Madrid, Spain

Other Blind Review: University of Science and Technology of China (USTC), Wuhan University of Technology (WHUT)

Experience of Hosting Visiting Scholar

2025 – 2027	Prof. Li, Bo	
2024 – 2025	Prof. Chen, Liqun	Shenzhen Technology University
2023 – 2024	Prof. Hao, Menglong	Southeast University
2023 – 2024	Prof. Jiang, Binyou	Anhui University of Science and Technology
2019 - 2020	Prof. Xu, Cangsu	Zhejiang University

Experience as Postdoc Supervisor

1. Dr. Xiong, Caiyi (2019.6 – 2022.9) PhD from USTC
   Project: Acoustic Effect on Diffusion Flame
   Current position: Associate Professor at South China University of Technology
2. Dr. Wang, Supan (2019.8 – 2020.8) PhD from USTC
   Project: Thermochemical Analysis of timber Fire
   Current position: Professor at Nanjing Tech University
3. Dr. Wu, Xiqiang (2019.10 – 2020.8) PhD from University of Hong Kong
   Project: Machine-Learning Based Fire Modelling for Smart Firefighting
   Current position: Associate Professor at Southeast University, China
4. Dr. Liang, Zhirong (2021.1 – 2022.5) PhD from Beihang University

Project: Emission characteristics of biomass combustion
Current position: Assistant Professor at Zhongfa Aviation University

5. Dr. Yuan, Han (2021.1 – 2021.12) PhD from Imperial College London
   Project: Numerical modelling on smoldering fire
   Current position: Assistant Professor at Sun Yat-sen University
6. Dr. Zhang, Yuxin (2022.2– 2023.1) PhD from Tongji University
   Project: Fire Evacuation using artificial intelligence
   Current Position: Research Assistant Professor at PolyU
7. Dr. Sun, Peiyi (2022.9– present) PhD from PolyU
   Project: Modelling phase change processing in battery fire safety management
8. Dr. Lin, Shaorun (2021.9– 2021.8) PhD from PolyU
   Project: Early detection of peat wildfires via AI methods
   Current position: Research Assistant Professor at PolyU
9. Dr Rahul Wadhwani (2022.6 – present) PhD from University of Victoria
   Project: Smart firefighting for wildland urban interface
10. Dr Khan, Aatif Ali (2021.12 – 2022.10) PhD from PolyU
    Project: Structural Fire safety Analysis with AI and Big Data
    Current Position: Lecturer at University of Canterbury, New Zealand
11. Dr Shakeel Ahmad (2022.5 – 2023.12) PhD from PolyU
    Project: Modelling of fire-resistance phase change processes
12. Dr Ye, Congliang (2023.6 – present) PhD from Beijing Institute of Technology
    Project: Fire explosion dynamics of battery energy storage system
13. Dr Wang, Zilong (2023.9 – present) PhD from PolyU
    Project: Application of artificial intelligence in the safety management of energy system
14. Dr Zhang, Tianhang (2023.12 – present) PhD from PolyU
    Project: Smart building fire safety management, co-supervised by Prof. Asif Usmani
15. Dr Chen, Yuying (2023.11 – present) PhD from PolyU
    Project: Clean Removal of Organic Sewage Sludge Via Smouldering Combustion
16. Dr Liu, Yanhui (2025.04 – present) PhD from PolyU
    Project: Smart fire resilience of battery energy storage system
17. Dr Zhang, Botao (2025.12 – present) PhD from City University of Hong Kong
    Project: Smart fire evacuation
18. Dr Li, Yizhou (2026.1 – present) PhD from PolyU
    Project: Wildfires and Wildland-Urban Interface Fire
19. Dr Qin, Yunzhu (2026.7 – present) PhD from PolyU
    Project: Global Wildfire under Climate Changes

PhD Advising Experience

As Chief Supervisor

1. LIN Shaorun (2018 – 2021)
   Thesis: Fundamental Study of Near-Limit Smouldering Fire Dynamics
   Current position: Research Assistant Professor at PolyU
   - Best Thesis Award from China Fire Protection Association (2021)
   - SFPE Student Research Fund (2020)
   - Bernard Lewis Fellowship from Combustion Institute (2024)
2. SUN Peiyi (2019 – 2022)
   Thesis: Dripping Ignition Mechanism and Fire Risks of Thermoplastic Drips
   Current position: Postdoc Fellow at PolyU

- Best Thesis Award from China Fire Protection Association (2021)

3. CHEN Yuying (2020 – 2023) **Dual PhD Degree** with Univ. Tech. Sydney
   Thesis: Smouldering Fuel Processing, Emission Flammability, and Carbon Footprint
   Current position: Postdoc Fellow at University of New South Wales
4. WANG Zilong (2020 – 2023)
   Thesis: Intelligent fire identification and quantification driven by computer vision
   Current position: Postdoc Fellow at PolyU
   - SFPE Student Research Fund (2022)
5. ZHANG Tianhang (2020 – 2023)
   Thesis: Smart firefighting framework and building fire forecast driven by artificial intelligence
   Current position: Research Assistant Professor at Zhejiang University
   - SFPE Grand Challenges Initiative (GCI) Student Fellow (2022-23)
6. ZHANG Xiaoning (2021 – 2024)
   Thesis: Smart tunnel fire forecast and safety management driven by artificial intelligence of things
   Current position: Researcher at Pengcheng National Lab
7. LIU Yanhui (2021 – 2024)
   Thesis: Fundamental study of battery fire safety under the low ambient pressure
   Current position: Postdoc Fellow at PolyU
8. ZENG Yanfu (2021 – 2024)
   Thesis: Intelligent building fire safety design driven by deep learning methods
   Current position: Fire Engineer at Arup Australia
9. LI Yizhou (2021 – 2025)
   Thesis: Wildfires Forecast Based on Artificial Intelligence and UAV
10. QIN Yunzhu (2021 – 2025) **Dual PhD Degree** with Univ. Tech. Sydney (UTS)
    Thesis: Critical Oxygen Supply and Combustion Threshold of Smouldering Fire
    Current position: Postdoc Fellow at University of Hong Kong
    - Best Student Oral Presentation Award, The 23th Cross Strait, Hong Kong and Macao Academic Symposium on Environment, Resources and Ecological Conservation (2023)
11. WONG Ho Yin (2021 – 2026) Part-time PhD
    Thesis: Smart Fire Evacuation System Driven by Artificial Intelligence and Sensor Network
    - HKSAR Talent Development Scholarship (2024, 2025)
    - Best Paper First Runner-up, PolyU Research Student Conference (PRSC 2025)
12. DING Yifei (2022 – 2025)
    Thesis: Intelligent Fire Evacuation Driven by Artificial Intelligence and Computer Vision
    - Best Presentation Award, National Conference of Thermal Safety Science & Technology (2024)
    - SFPE Student Research Fund (2025)
    - Sheldon Tieszen Student Awards by IAFSS (2026)
13. CHEUNG Wai Kit (2022 – 2025)
    Thesis: AI-Driven Visibility Enhancement in Fire Scene
    - HKSAR Talent Development Scholarship (2024, 25)
    - SFPE Student Research Fund (2025)
    - Arup Margaret Law Fire Safety Award (2025)
14. ZHANG Lei (2023 – 2025)
    Thesis: Numerical Simulation of Structural Failure Induced Battery Fire
    - Best Student Presentation Award, 11th International Seminar on Fire and Explosion Hazards (2025)
    - Grand Award, BEEE Industry Day 2025
15. WANG Meng (2023 – 2026)
    Thesis: Autonomous firefighting robots

- PolyU Micro Fund Scheme for Start-up (2023)
- Gold Award, China International College Students Innovation Competition (2023)
- Silver Medal, 49th Int. Exhibition of Inventions Geneva (2024)
- Gold Medal with Congratulations of the Jury, 50th Int. Exhibition of Inventions Geneva (2025)

16. XIE Weikang (2023 – 2026)
    Thesis: AIoT-driven building fire safety management
17. ZHOU Yuxin (2023 – 2026)
    Thesis: Battery fire safety Management
18. LIANG Yixuan (2024 – 2027) Part-time PhD
    Thesis: Smart fire evacuation in construction sites
19. DING Saizhe (2024 – 2027)
    Thesis: Virtual Reality in Fire Evacuation Research
20. ZHANG Yichao (2024 – 2027)
    Thesis: Smouldering peat fire and ecological impact
    - Best Student Oral Presentation Award, 17th International Peatland Congress
21. LU Tong (2024 – 2027)
    Thesis: Smart fire evacuation powered by AI
    - Best Student Oral Presentation Award, National Conference of Thermal Safety Science & Technology (2025)
22. GENG Mengyao (2024 – 2027)
    Thesis: Intelligent early prediction of battery failure and fire risk
    - 3rd Prize (Team Leader), Early Warning Algorithm Competition of New-Energy Vehicle Power Battery Safety (2024)
23. DENG Rong (2024 – 2027)
    Thesis: Smart computer vision for fire safety management
24. LIU Changlin (2024 – 2027)
    Thesis: Smart Firefighting
25. QUAN Sainan (2024 – 2027) **Dual PhD Degree** with South China University of Technology
    Thesis: Fire extinction under air vortex ring
26. WO Ka Fai West (2024 – 2027) Part-time PhD
    Thesis: Smart fire Modelling powered by AI
27. JIANG Yuying (2025 – 2028)
    Thesis: AI-Powered Forecast of Fire Explosion in Battery Energy Storage System
28. SUN Xiaoyu (2025 – 2028)
    Thesis: LLM-Powered Urban Risk Analysis and Resilience
29. ZHENG Hongtao (2025 – 2028)
    Thesis: LLM--Powered Fire Safety Management
30. SU Yanghan (2025 – 2028)
    Thesis: Smart Thermal Management of Battery Energy Storage System
31. CAI Ziqi (2025 – 2028)
    Thesis: Advanced materials for improving battery fire safety
32. WU Ziheng (2026 – 2028)
    Thesis: AI-power thermal safety management

As Co-Supervisor

1. Dr Orabi, Anwar (2019 – 2021) Co-supervising with Prof. Asif Usmani (PolyU)
   Thesis: Structural analysis of large structures subject to fire

Current position: Lecturer in University of Queensland, Australia

2. Dr. Khan, Aatif Ali (2019 – 2021) Co-supervising with Prof. Asif Usmani (PolyU)
   Thesis: An Open Computational Framework for simulating structural response to real fires
   Current Position: Lecturer in University of Canterbury, New Zealand
3. Nan, Zhuojun (2020 – 2023) Co-supervising with Prof. Asif USMANI (PolyU)
   Thesis: Towards safer buildings: an integrated approach for structural fire analysis, design, and collapse prediction
   Current position: Postdoc Fellow in TU Delft
   - SFPE Student Scholar Award (2023)
4. Musa, Dayang (2020 – 2023) Co-supervising with Dr Zahirasri TOHIR
   Joint Supervision with Universiti Putra Malaysia
   Thesis: Peat Fire Management: Post-Fire Effects and Peat Fire Mitigation
   Current position: Senior Lecturer in Universiti Malaysia Sabah
5. Luan, Die (2022 – 2025) Co-supervising with Prof. Chuangang FANn
   Joint Supervision with Central South University, China
   Thesis: Fire dynamics and safety in tunnel under extreme weather
6. Bielawski, Jakub (2022 – 2025) Co-supervising with Prof. Wojciech WĘGRZYŃSKI
   Joint Supervision with Instytut Techniki Budowlanej (ITB), Poland
   Thesis: Tunnel fire smoke dynamics with traffic flow
7. Wang, Yucheng (2022 – 2025) Co-supervising with Prof. Asif USMANI (PolyU)
   Thesis: Computational platform of smart firefighting software and APPs
8. Xie, Jiekai (2022 – 2026) Co-supervising with Prof. Guoqing ZHANG
   Joint Supervision with Guangdong University of Technology, China
   Thesis: Battery thermal management and thermal disaster prevention technology
9. GUAN Yufei (2022 – 2026) Co-supervising with Prof. Liaobo GUO
   Joint Supervision with Huazhong University of Science and Technology, China
   Thesis: Structure imaging of Li-ion battery based on laser opto-ultrasonic dual detection
10. LU Shiping (2022 – 2026) Co-supervising with Prof. Jingyue ZHAO
    Joint Supervision with Xi'an University of Science and Technology, China
11. HE Feifan (2022 – 2026) Co-supervising with Prof. Wenguo WENG
    Joint Supervision with Tsinghua University, China
12. ALI Mostafa (2022 – 2026) Co-supervising with Prof. Maryam Ghodrat
    Joint Supervision with University of New South Wales, Australia
13. Tian, Chang (2022 – 2025) Co-supervising with Dr Anthony Yuen (PolyU)
    Thesis: Fire-retardant materials
14. Wu, Yongxi (2022 – 2025) Co-supervising with Dr Anthony Yuen (PolyU)
    Thesis: Battery fire safety