

CHENN Q. ZHOU

Purdue University Northwest, Hammond, IN
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A. Professional Preparation:

Ph.D. Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA, 1991
B.S. & M.S. Thermal Power Engineering, Nanjing Univ. of Aeronautics & Astronautics, China

B. Appointments:

Mechanical & Civil Engineering Departments, Purdue University Northwest, Hammond, IN

NIPSCO Distinguished Professor of Engineering Simulation	April 2020 – present
Founding Director, Steel Manufacturing Simulation and Visualization Consortium	August 2015 – present
Founding Director, Center for Innovation through Visualization and Simulation	July 2009 – present
Interim Associate Vice Chancellor for Research and Graduate Studies	July 2012 – August 2015
Director, Engineering Outreach	August 2011 – June 2012
Department Head of Mechanical Engineering	July 2005 – July 2011
Interim Department Head of Electrical and Computer Engineering	July 2005 – June 2009
Engineering Graduate Program Director	August 2001 – June 2005
Professor, Mechanical Engineering	August 2000 – present
Associate Professor, Mechanical Engineering	July 1997 – June 2000
Assistant Professor, Mechanical Engineering	August 1994 – June 1997

School of Mechanical Engineering, Purdue University, West Lafayette, IN

Professor by Courtesy, Mechanical Engineering August 2008–present

Argonne National Laboratory, Argonne, IL

Summer Faculty Appointment or Special Term Appointment (STA) 1995–2005

NOXSO Corporation, Pittsburgh, PA

Senior Research Engineer Mar 1991–Aug 1994

C. Selected Synergistic Activities:

- Received \$55+ Million grants for 200+ projects as PI, Co-PI, or instrumental role since 1995 in collaboration with over 200 organizations including companies, national labs, universities, such as:
 - “Development and Demonstration of an Industrial Hydrogen-Fired Steel Reheating Furnace”, awarded for \$9,926,123 by DOE ITO in October 2023
 - “Steel Manufacturing Simulation and Visualization Consortium (SMSVC)” membership fee: \$700,000+ annually since 2016
- Conference Chair, 8th International Conference on Modelling and Simulation of Metallurgical Processes in Steelmaking (STEELSIM2019), Toronto, Canada, August 13-15, 2019
- Association of Iron and Steel Technology (AIST) Midwest Chapter Executive Board member, 2009 – present
- AIST multiple committees such as AIST Foundation University-Industry Relations Roundtable, Digitalization Committee, Energy & Utilities Technology Committee, 2010 – present; AIST Foundation Trustees, 2007 - 2011
- Member, One Region in Northwest Indian, Jan 2026 - present
- Associate Editor, Journal of Smart and Sustainable Manufacturing Systems, July 2025 – present
- Member of Purdue Engineering Initiative on Energy Faculty Leadership Council, 2023 - 2025
- Conference Chair, 8th International Conference on Modelling and Simulation of Metallurgical Processes in Steelmaking (STEELSIM2019), Toronto, Canada, August 13-15, 2019
- Chair (2007-2010) and Vice Chair (2004-2007) of ASME Fire and Combustion (K-11) Committee

D. Selected Honors:

- 2025, 2024, 2011 & 2010 Purdue Seed for Success Acorn Award for people with external award of \$1M+

- “Why Trailblazer Chenn Zhou Isn’t Worried About AI Disruption in Steel Manufacturing”, featured in The Industrious Series by DOE Industrial Technologies Office (ITO) in July 2024, which highlights outstanding individuals working with the ITO to implement meaningful change in the industrial sector.
 - AIST Distinguished Member and Fellow (since April 2022), ASME Fellow (since 2003), NWI Innovation Society Fellow (since 2005)
 - 2021 AIME Honorary Membership award, May 2021 - present
 - NIPSCO Distinguished Professor of Engineering Simulation, April 2020 - present
 - Commended in December 2017 Congressional Record, Vol. 163, No. 198, December 5, 2017
 - AIME Keynote & AIST J. Keith Brimacombe Memorial Lecture Award, May 2010
 - 2005 American Iron & Steel Institute (AISI) Medal Award
 - R&D 100 Award - GFM: Glass Furnace Model (one of co-authors), “Through the Looking Glass,” R&D Magazine, Vol. 46, No. 9, 2004
 - One of 12 Most Influential Over 50 by Northwest Indiana Business Quarterly Magazine, December, 2014 (http://www.nwibq.com/wp-content/uploads/2014/12/RL_Winter15.pdf#page=16)
 - PNW Outstanding Faculty Teaching (2009), Research (2009), Sponsored Program (2016), and Engagement (2017) Awards
 - 10 AIST Best Paper awards since 2005
- E. **Selected Products:** (2 patents, 7 copyrights, 13 book editing & contributions, 180+ Invited talks, and total technical papers and abstracts: 582 – Journal articles: 109, Technical Magazines papers: 35, Refereed Conference papers: 324; Non-Refereed Conferences papers or abstracts: 114). Examples:
- Calix, R., Okosun, T., Zhou, C., and Wang, H. (2025) A Preferences Corpus and Annotation Scheme for Human-Guided Alignment of Time-Series GPTs. *Data*, 2025, 10(10), 161; <https://doi.org/10.3390/data10100161>
 - Meng, D., Nandipati, S., Silaen, A., Wang, Y., Abraham, S., Brown, D., and Zhou, C. (2025) Impacts of Cooling Reduction Due to Spray Nozzle Clogging on Shell Formation in Continuous Casting of Steel. *Metals*, 2025, 15(10), 1107; <https://doi.org/10.3390/met15101107>
 - Kottapalli, S., Ugarte, O., Konar, B., Okosun, T., & Zhou, C. Q. (2025). CFD Modelling of Refining Behavior in EAF: Influence of Burner Arrangement and Oxygen Flow Rates. *Metals*, 15(7), 775.
 - Guo, X., Lingeswaran, K., Razzak, M., Syed, I., Walla, N., Yin, H., Sousa, F., Gouveia, M., & Zhou, C. (2025) Impact of Impeller Operation on the Mixing Efficiency of Kanbara Reactors. *Steel Research International*, (2025.5): 2500097, <https://doi.org/10.1002/srin.202500097>
 - Wang, S., Ugarte, O., Ryan, S., Okosun, T., & Zhou, C. Q. (2025). Computational Fluid Dynamics Simulation of Industrial Electric Arc Furnace Operation: Validation and Performance of Melting Phenomena. *Steel Research International*, 96(7), 2400509.
 - Guo, X., Jojo-Cunningham, Y., Silaen, A., Walla, N., & Zhou, C. (2024) Mixing Time Prediction in the Ladle Furnace. *Metals* 2024, 14(5), 518
 - Ugarte, O., Busa, N., Konar, B., Okosun, T., & Zhou, C., (2024). Impact of Injection Rate on Flow Mixing during the Refining Stage in an Electric Arc Furnace. *Metals* 2024, 14(2), 134; <https://doi.org/10.3390/met14020134>
 - Chen, Y., Ryan, S., Silaen, A. K., and Zhou, C. Q. 2023. “An investigation into EAF Burner Preheating and Melting Characteristics: CFD Model Development and Experimental Validation”. *Metallurgical and Materials Transactions B* (20 pages), DOI: 10.1007/s11663-023-02741-4
 - Chen, Y., Luo, Q., Silaen, A., and Zhou, C., 2023 “Numerical Investigation of EAF Arc Exposure and Water Panel Overheating”. *AIST Transactions*, April 2023, DOI: 10.33313/TR/0423
 - Chen, Y., Ryan, S., Silaen, A.K., and Zhou, C.Q., 2022 “Simulation of Scrap Melting Process in an AC Electric Arc Furnace: CFD Model Development and Experimental Validation” *Metallurgical and Materials Transactions B*, 22 (20 pages). DOI: [doi.org/ 10.1007/s11663-022-02559-6](https://doi.org/10.1007/s11663-022-02559-6)
 - Chandramouli, C.V., Zhou, C. Q. and Moreland, J.,2021. “Virtual Reality Applications,” Chapter 6 in the book “Dynamic Simulation and Virtual Reality in Hydrology and Water Resources Management” by Tony Moore (ISBN 9780367363789)