

CIVS Newsletter

April 2026

"Where Ideas Become Reality"

Issue 42



CENTER FOR INNOVATION THROUGH
VISUALIZATION & SIMULATION

PURDUE
UNIVERSITY
NORTHWEST



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SMSVC Celebrates 10 Years of Cutting-Edge Innovation

On April 22, SMSVC celebrated its 10-year anniversary with around 120 attendees from industry, community, and PNW. Over the past decade, CIVS and SMSVC together have built a powerful model and demonstrated what is possible when industry and academia work side by side to deliver impactful, real-world solutions. Since 2016, SMSVC has involved 300+ industrial professionals, conducted nearly 200 projects, provided 400+ student research positions, resulted in 180+ student awards and grants, and \$25+ million in competitive federal research funding to develop and implement new technologies for ironmaking and steelmaking using simulation, visualization, AI, and digital twins. [Read more...](#)



PNW Earns National Carnegie Research Designation



PNW researchers have earned over \$70 million in research funds since 2021, a major achievement that has helped the university earn the Research Universities designation from the American Council for Education and Carnegie Foundation. PNW is the only university or college located in NW Indiana to earn this designation. CIVS is featured in the PNW news release. [Read more...](#)

2026 AIST Best Ladle Paper Award

CIVS researchers and industry collaborators received the 2026 AIST Ladle & Secondary Refining Best Paper Award titled "Comparison of Lance and Plug Methods for Gas Purging in a Ladle on Mixing Efficiency". This award, established in 2005, is for the authors of a paper judged by the LSRTC and will be presented at AISTech 2026 in May. [Read more...](#)



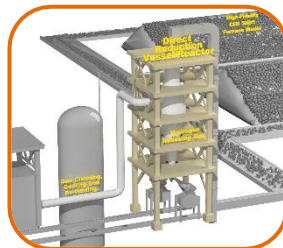
CIVS Hosted AIST President and Executive Director

CIVS welcomed AIST President and Nucor Executive VP Allen (Al) Behr and AIST Executive Director Ron Ashburn on Feb. 11. During their visit, the SMSVC was highlighted, including its effective organizational structure, roadmap, unique methodology of integrating simulation, AR/VR visualization, AI and smart sensors, as well as the cutting edge models and simulators and project examples. They also experienced hands-on demos of the crane and other simulators, showing how CIVS technologies are enhancing workforce development and safety... [Read more...](#)



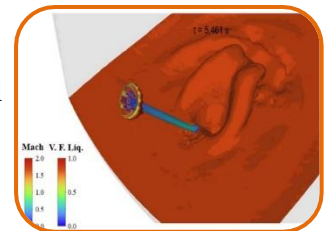
CIVS Presented at ArcelorMittal CFD Days

At the 9th ArcelorMittal CFD and Thermomechanics Days on March 25, CIVS Director Chenn Zhou presented a Keynote “Smart Steel Manufacturing through Simulation: latest advancements”. CIVS Research Engineer Sam Nielson also presented “Numerical Simulation of Reducing Gas Composition Impacts on DRI Shaft Furnace Operation”. [Read more...](#)



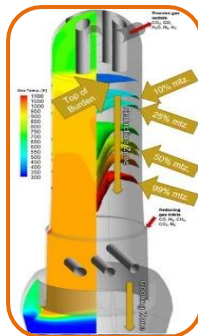
Dr. Ty Okosun Highlighted CIVS and SMSVC Research at Charter Steel

On December 8, Ty Okosun visited Charter Steel to present to their Innovative Technology Council. Ty showcased how CIVS and SMSVC support the steel industry through advanced modeling, simulation, visualization and AI, with highlights on EAF, alternative ironmaking technologies, and virtual training simulators for workforce and safety. [Read more...](#)



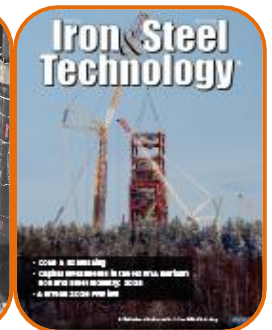
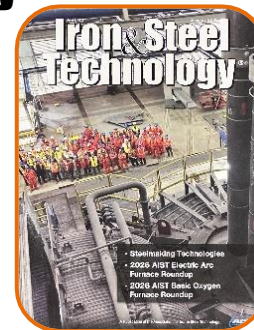
CIVS DRI Research Presented at AIST Scrap Supplements

CIVS Research Engineer, Sam Nielson, presented “Numerical Simulation of Reducing Gas Composition Impacts on DRI Shaft Furnace Operation” at the AIST Scrap Supplements and Alternative Ironmaking Conference in Orlando, FL. [Read more...](#)



CIVS Research Featured in AIST Iron & Steel Technology

CIVS EAF and Blast Furnace Research was featured in January issue [Read more...](#) and April issue of AIST Iron & Steel Technology Magazine. [Read more...](#)



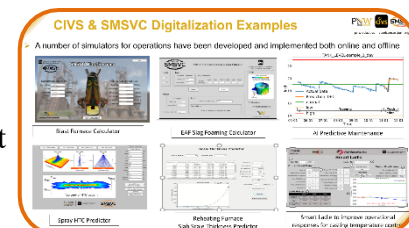
Distinguished Speakers Seminars



CIVS hosted four Distinguished Speaker Seminars in the areas of Distribution Systems, AI, Blast Furnace and Design to PNW and CIVS students and staff. The speakers were 1) Prof. Mohsen Saffari [Read more...](#) 2) Prof. Yang Ni [Read more...](#) 3) Joe Morey [Read more...](#) 4) Prof. Subbarao Majety [Read more...](#)

CIVS Director Presents at IEEE/NSPE

On Feb 12, Dr. Chenn Zhou was invited to present “Smarter Manufacturing Enabled by Digital Simulation, Visualization, and Artificial Intelligence” at IEEE/NSPE Calumet Chapter Dinner. [Read more...](#)



Record Turnout for PNW Students at Joint AIST/AWMI Women in Metal Industry Panel

49 PNW engineering and sciences students enjoyed the epic Women in Metal Industry Panel organized by the AIST Midwest Chapter and AWMI Chicago Chapter on March 10. They actively engaged with over 300 industry attendees. Moderated by AIST Executive Director Ron Ashburn, the panel included five high-achieving women leaders - Tara Carraro, Kara Orszula, Kelly Dallas, Liz Borges and our own Distinguished Professor and Director Chenn Zhou. The event provided valuable insights and best practices for innovation and career development. It also demonstrated how united institutions can achieve impactful initiatives. [Read more...](#)



CVIS & CS Leaders Participated in National Competitive Talks in AI and Quantum



Dr. Chenn Zhou and CS Dept. Head Dr. Grace Yang participated in the “Competitiveness Conversations Across America: Maryland - Unlocking American Innovation in the AI and Quantum Era,” hosted by Council on Competitiveness on March 23 & 24. [Read more...](#)

CVIS Research Presented at TMS



CVIS Research Assistant, Abdul Mateen, presented ironmaking research funded by ARPA-E at the TMS 2026 Conference in San Diego, CA, on March 15-17. [Read more...](#)

Regional Leaders Join to Shape Northwest Indiana’s Economic Future

CVIS Director Chenn Zhou joined nearly 40 other One Region members to visit Phoenix, AZ, for learning one of the most successful regional economic transformations in the country. [Read more...](#)



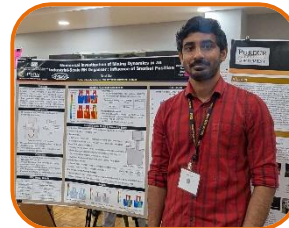
CVIS Outreach to Field Trips

CVIS hosted local grade school and college students to showcase CVIS projects. 1) Hobart Middle School [Read more...](#) 2) Merrillville High School [Read more...](#) 3) Ivy Tech Community College [Read more...](#) 4) Incoming PNW CES students [Read more...](#)



CVIS Students Showcased at PNW Days of Discovery

20 CVIS students participated in the Day of Discovery on April 16. Their research topics included simulation of iron & steelmaking processes such as Blast Furnace, EAF, Reheating Furnace, Ladle, Casting, Ladle, and Safety and Workforce Development. [Read more...](#)



Student Success Story: Sathvika Kottapalli

Sathvika Kottapalli was a Graduate Research Assistant at CVIS during her studies for her MSME degree. She defended her thesis “Impact of Oxygen Injection Parameters on Refining in Industry-scale EAF using CFD” in Spring of 2025. She is now working as a Design Release Engineer in automobile industry. Sathvika said, “CVIS played a huge role in shaping how I think as an engineer. The industry-focused research, constant problem-solving, and interaction with industry partners really prepared me for working in a fast-paced automotive environment... Most importantly, it gave me the technical confidence and practical mindset I use every day at work..” [Read more...](#)



Successful SMSVC April Semi-Annual Meeting

90+ SMSVC members and CIVS faculty, staff and students gathered at CIVS for the SMSVC Semi-Annual Meeting on April 22 and 23. The events included 1) SMSVC 10-year anniversary celebration, 2) a workshop of Introduction to AI in manufacturing, 3) technical presentations by CIVS staff and students in 6 topics (Safety, Ironmaking, EAF, Continuous Casting, Ladle and Reheating Furnace), 4) Project Technical Committee meetings, 5) the SMSVC board meeting, and 6) student poster competition. The participants thoroughly enjoyed all the events and were highly satisfied with the progress of all projects. [Read more...](#)





SMSVC NOTES

Annual Meeting
November 4-5, 2026

If interested in becoming a member, please contact steelcons@pnw.edu or visit steelconsortium.org

CVIS Research Showcased at “Accelerating U.S. Manufacturing Prosperity with High-Performance Computing” Workshop

On February 24-26, CIVS Director Chenn Zhou and Associate Director for Research Ty Okosun attended the workshop hosted by Lawrence Livermore National Laboratory’s High-Performance Computing for Energy Innovation program, which also celebrated its 10-year anniversary [Read more...](#)



CVIS Staff Visit Rea Magnet Wire for Manufature Collaboration

On Feb. 6, CIVS research staff Armin Silaen and Nick Walla visited Rea Magnet Wire in Lafayette, IN. The purpose is to work with ManuFuture Purdue to develop a potential project with Rea Magnet Wire for the application of data analytics, sensors, and physics-based modeling to improve production efficiency and remain competitive. [Read more...](#)



Quantum Expert Jean-Luc Cambier Visited CIVS & Roberts Impact Lab

On March 19, PNW welcomed Dr. Jean-Luc Cambier, the Regional Innovation Officer of The Bloch Quantum, which is the US EDA-designated Tech Hub led by the Chicago Quantum Exchange.

Jean-Luc visited CIVS and the Roberts Impact Lab, which is planned to host a quantum computing lab. [Read more...](#)



Facts and Impacts

- \$40+ million savings for companies
- \$54.75+ million in external grants and contracts
- 190+ external organizations collaborated with CIVS
- 505+ projects
- 700+ national and local news
- 2,320+ students employed and mentored
- 11,700+ students used CIVS for virtual labs
- 200+ Purdue faculty and staff collaborators
- 360+ student awards and grants (globally since 2011)
- 45,800+ local, national, and international visitors