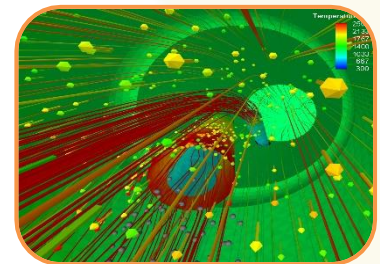
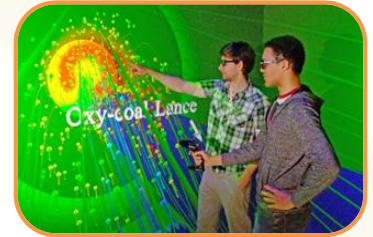




CIVS and AK Steel Receive First Place Award for AIST Best Paper

CIVS and AK Steel researchers have been selected to receive the 2017 AIST Hunt-Kelly Outstanding Paper Award (AIME) – First Place for their paper entitled “*Investigation of Co-Injection of Natural Gas and Pulverized Coal in a Blast Furnace.*” The award recipients are CIVS Director and Professor Chenn Q. Zhou, graduate student Tyamo Okosun, AK Steel Technical Manager Stuart J. Street, CIVS alumni Yan Chen, Bin Wu, and Jaiqi Zhao. The Hunt-Kelly Outstanding Paper Award – First Place is the highest award given to a technical paper selected from division level best papers in 26 categories in the steel industry.

The authors will receive the award at the AIST President’s Award Breakfast on Tuesday, 9 May 2017 in Nashville, TN. [Read more...](#)



CIVS Director Receives Outstanding Faculty Engagement Award

Dr. Chenn Zhou, Director of CIVS and PNW professor received the Outstanding Faculty Engagement Award at the first PNW Founders Day on March 6, 2017. The award was given to Dr. Zhou for her dedicated efforts and contributions she has provided to the university, students, industry and community. Beneficiaries of CIVS technology have included steel, aluminum, oil and energy companies, as well as manufacturing firms, medical labs, K-16 education and governmental agencies. Dr. Zhou humbly gave credit for the award to all of her collaborators and supporters including the CIVS team, faculty, staff, students, the PNW leadership team, and others from industry, local communities, other universities and government agencies. She said, “If it were not for people believing in my dreams of integrating simulation and visualization to provide innovative real-world solutions and the unending dedication of my students and collaborators, today’s award would not be possible”.



The nomination was submitted by Dr. Zhou’s student, Bethany Whitaker (see picture), who conducted senior design projects under her supervision and will receive her B.S degree in mechanical engineering. Whitaker stated in her nomination that, “Dr. Zhou has a passion for her work. She would have this great excitement while presenting that invigorated students to get involved with PNW and CIVS... She has helped many students get in touch with potential employers within industries and gain valuable experience from interacting with them at CIVS events.” Other recommendations were given through letters of support from Violet Sistovaris (President of NIPSCO), Ron Ashburn (Executive Director of AIST). [Read more...](#)



CENTER FOR INNOVATION THROUGH VISUALIZATION & SIMULATION

PURDUE UNIVERSITY NORTHWEST

Giving to CIVS

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219.989.2765 civs@pnw.edu centers.pnw.edu/civs



CVIS Team Invited to Speak at NUCOR

CVIS attended Nucor’s 2017 Metallurgical Meeting in Crawfordsville, IN. Dr. Zhou gave a presentation on the overview of CVIS, SMSVC, and a safety simulator project for training. Reserchers, Armin Silaen and Guangwu Tang, gave updates on the research projects at the Steel Consortium (SMSVC). Nucor, who is a charter member, found the updates very beneficial and are now looking at new ways to collaborate with CVIS. Eric Gallo, manager at Nucor, commented that Chenn and her team are open-minded and innovitive and that connects to Nucor’s culture.

We’re always looking for new ways to do things, whether it’s improvement in safety or operating processes. [Read more...](#)



Students Visit Praxair Training Center

CVIS Researchers John Moreland and Mike Hoerter, along with CVIS Research Assistant Yuqian Fang, visited the Praxair National Training Center in East Chicago, IN to demonstrate the SMSVC Fall Protection Simulator to Praxair training coordinators and administrators. Mitch Day, the Strategic Account Director for Praxair, serves on the SMSVC safety project technical committee and is working with CVIS staff an students to develop a simulator for confined spaces safety training. [Read more...](#)



ArcelorMittal hosted tour for CVIS at Indiana Burns Harbor Facility

ArcelorMittal hosted a tour for CVIS students and staff members at their Indiana Burns Harbor facility on March 17th, 2017. The goal of the visit was to gain critical knowledge of the casting house and processes associated with casting. The students will apply what was learned during the tour and demonstrations to a casting project currently being done at CVIS. The visit helped further the team’s understanding of the casting process and the casting house environment.

[Read more...](#)



CVIS Student Presents at AIST Ladle Secondary Refining Technology Committee

Sotiri Hovardas, a recent PNW Graduate in Mechanical Engineering and CVIS

Research Assistant

and Dr. Chenn Zhou gave a presentation on “Computer Modeling of Refining in the Ladle” at the AIST Ladle Technology Committee meeting in Charleston, SC. The presentation focused on the integration of simulation and visualization in respect to CFD analysis of heat loss in steel ladle cycling. Following the presentation attendees toured the Crawfordville Melting, and Casting Houses, and the Hot Mill. [Read more...](#)



Faculty Spotlight: Dr. Michelle Block



Michelle Block is an Associate Professor of Nursing who is working with CVIS on a project related to interactive training in the steel industry to analyze the benefits of various training methods. She is also Co-PI with John Moreland on a project to investigate attitudes and beliefs regarding safety, and is also collaborating on an industrial crane safety project. Her research interests include perceptions related to risk of cardiovascular disease, health behavior choices, psychometrics in primary research, and systematic review work in the Indiana Center for Evidence Based Nursing Practice.

United Way Promotes STEM with CIVS

Lake Area United Way invited 25 area middle school girls to CIVS as a part of their program, “*Real Strong Girls*” to engage female students in science, technology, engineering and math (STEM) careers. While at CIVS, the middle school students were mentored by female undergraduate mechanical engineering students, Bethany Whitaker and Camila Pillo. Whitaker said, “I’m thrilled I had an opportunity to expose all the different kinds of technology at CIVS to young girls; it was rewarding to see them get excited about science and have fun with it...CIVS helped them learn about the incredible possibilities for their future and inspired them to pursue STEM careers.” [Read more...](#)



CIVS Presents Virtual Training at Wind Conference



CIVS Research Scientist, John Moreland, presented at the American Wind Energy Association’s 2017 Operations & Maintenance and Safety Conference in early March. The presentation titled “Development of a Troubleshooting and Safety Simulator for Wind Technology Education”, showcased current work on an NSF-sponsored project to develop an interactive 3D simulator and education modules for community college students pursuing careers as wind turbine technicians. Collaborators on the project include EDF-Renewable Energy, Kalamazoo Valley Community College, Ivy Tech Community College, and Riverland Community College. [Read more...](#)

Dr. Zhou Speaks at National HPC4Mfg

Dr. Chenn Zhou was invited to speak at the 2017 HPC4Mfg Industry Engagement Day: Spurring Innovation in U.S. Manufacturing through Advanced Computing, on behalf of the Lawrence Livermore National Laboratory and the Department of Energy’s Advanced Manufacturing Office. Dr. Zhou participated on the “HPC4Mfg Project Status and Impact” panel and spoke about the Blast Furnace HPC4Mfg project and the impacts it will have on energy efficiency, clean energy technology, and innovation for members of the Steel industry. [Read more...](#)

CAIC Tours CIVS



On April 19, PNW’s Commercialization and Manufacturing Excellence Center (CMEC) and the Center for Innovation through Visualization & Simulation (CIVS) partnered together for the PNW “Manufacturing Innovation Event”. Approximately 40 members of the Calumet Area Industrial Commission (CAIC) attended. [Read more...](#)

Student Success Story: Sotiri Hovardas



Sotiri Hovardas is a 2016 graduate of Purdue Northwest with a BS degree in Mechanical Engineering. As a senior, under the supervision of Professor Zhou and CIVS, Sotiri’s senior design group developed a simulation to evaluate the gas stirring of a ladle used in steel manufacturing. He says his senior design project, research with CIVS, and internship experience are what helped him determine the field he would pursue. Sotiri is continuing his education at Syracuse University in pursuit of a masters of science degree in mechanical and aerospace engineering. With the opportunity provided by CIVS, he was exposed to CFD research and will continue in this area while applying it to aerospace engineering.

CIVS Activities at AISTech 2017

May 8-11, 2017 in Nashville, Tenn., USA Music City Center

- 1) **Exhibition Booth:** Visit us at Booth #1213
- 2) **Awards**
 - **Hunt-Kelly Outstanding Paper Award** – CIVS will receive the award at the President’s Award Breakfast: Tuesday, May 9 at 8:00-9:45am in the Karl F. Dean Grand Ballroom
 - **Kapitan Award** – CIVS will receive the award at the Ironmaking Technology Committee Meeting: Monday, May 8 at 12:00 to 1:30pm, Room 104D
 - **CATC Best Paper Award** – CIVS will receive the award at the Computer Applications Technology Committee Meeting: Monday, May 8 at 12:00 to 1:30 pm, Room 110
- 3) **Technical Papers**
 - Monday, May 8th
 - 2:30pm (Room 204): Freeboard Combustion Simulation in an Electric Arc Furnace With a Flat Bath
 - 3:00pm (Room 207C): Effects of Blast Furnace Auxiliary Fuel Injection Conditions and Design Parameters on Combustion Characteristics and Injection Lance Wear
 - 4:00pm (Room 204): CFD Modeling of a Pusher Type Reheat Furnace
 - Tuesday, May 9th
 - 11:00am (Room 205B): Investigation of the Effects of Bubble Initial Diameter and Gas Flow Rate on the Performance of a Steel Ladle with Bottom Plug
 - 2:30pm (Room 204): Development of a Caster Scheduling Model for Process Optimization
 - Wednesday, May 10th
 - 8:00am (Room 201A): Development of a Safety Training Simulator for Fall Protection
- 4) **Graduate Poster Presentation**
 - Monday, May 8th at 9:30-5:00pm
 - Development of a Caster Scheduling Model for Process Optimization
 - Comprehensive CFD Modeling of EAF for Process Optimization
 - Development of a Collaborative Safety Simulator for Continuous Casting
 - Investigation of Operational Effects on Slab Heating in Pusher-type Reheat Furnace
- 5) **Undergraduate Oral Presentation**
 - Monday, May 8th at 9:30am
 - Design and Evaluation of Reheat Furnace Using Simulation and Visualization

SMSVC UPDATES

- **SMSVC Semi-Annual May 16-17, 2017**
For more information contact Doreen Gaboyan at gaboyand@pnw.edu.
- **SMSVC Accepting New Members**
SMSVC is accepting new members. If interested in becoming a member contact Doreen Gaboyan at gaboyand@pnw.edu. For information on the consortium visit steelconsortium.org.



Facts and Impact (Since 2009)

- \$40+ million savings for companies
- \$15,620,702 in external grants and contracts
- 110 external organizations collaborated with CIVS 310 projects
- 308 national and local news
- 1,308 students employed and mentored
- 8,919 students used CIVS for virtual labs
- 100 Purdue Northwest faculty and staff collaborators
- 72 student awards locally and globally (since 2011)
- 27,000+ local and global visitors

Office of Institutional Advancement – Giving to CIVS



It begins with an opportunity to GIVE something back to a University you care about. It ends with the realization that you helped that University GROW into something even more worthwhile than before. Are you ready to be a leader and INSPIRE others? Make a gift today by visiting us at centers.pnw.edu/civs and clicking the “Give to CIVS” button. Specify “Center for Innovation through Visualization and Simulation”. For more information please contact: Danielle Haydell, Coordinator of Annual Giving Programs, 219.989.4155, advance@pnw.edu