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Giving to CIVS

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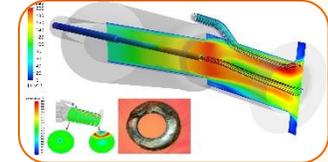
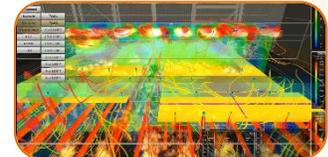


CIVS Wins "Gold" at Steel Tech Conference

The CIVS team and its industry collaborators won multiple awards at the premier technology conference for the iron and steel industry, AISTech 2017, held May 8-11 in Nashville, Tennessee, with over 6000 attendees from 42 countries. CIVS members received four major awards:

- The Hunt-Kelly Outstanding Paper Award—First Place; this is the highest award given to a technical paper.
- The Josef S. Kapitan Ironmaking Best Paper Award
- The Computer Applications Best Paper Award
- The Second-Place Award for Undergraduate Oral Presentation

CIVS members also presented six papers and four posters, and participated in one undergraduate competition, at AISTech 2017, which featured more than 500 technical presentations. [Read more...](#)



CIVS Hosts Semi-Annual SMSVC Meeting

CIVS hosted the semi-annual meeting of the Steel Manufacturing Simulation and Visualization Consortium (SMSVC) at the Purdue University Northwest Hammond campus on May 16 and 17, 2017. CIVS students, together with industry professionals, presented 7 technical projects and engaged in discussions on future research directions. Industry professionals were impressed with the students' participation and project progress and deemed the meeting "a phenomenal success." [Read more...](#)



Stelco Becomes Newest Member of Steel Consortium

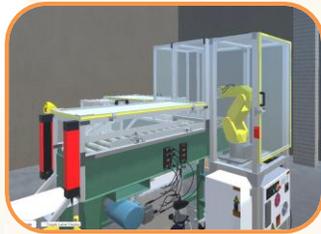
The Steel Manufacturing and Visualization Consortium (SMSVC) welcomes Stelco as the 12th member of the Consortium. Stelco representatives view SMSVC membership as consistent with a company that prides itself on reinvesting profits in skills and safety training and leading-edge technology. John D'Alessio, Director of Process Technology at Stelco, affirmed joining forces with SMSVC and CIVS as follows:

"A key CIVS strength is their ability to use advanced computer modeling techniques to simulate many facets of primary operations and thereby optimize processes, without resorting to in-plant trial and error—which can translate into multi-million-dollar savings." [Read more...](#)



Moreland Presents at HI-TEC 2017

CVIS Senior Research Scientist John Moreland gave a presentation at this year’s High Impact Technology Exchange Conference, held in Salt Lake City, Utah, on July 17-20. The presentation (“AMTEC and Purdue Technical Innovations: Advanced Troubleshooting Using a New AMTEC Virtual Simulator”) and its ongoing project, which virtually educates students in “real-world” safety and operations issues, have resulted in more than 70 troubleshooting scenarios currently in use at over 50 technical colleges. [Read more...](#)



Wind Project Displayed at ASEE Annual Conference

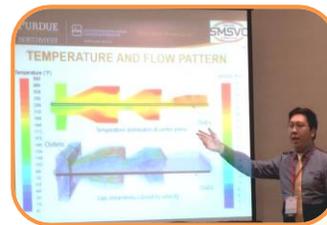
CVIS Research Engineer Mike Hoerter and Graduate Research Assistant Kyle Toth presented a poster at the 124th American Society for Engineering Education (ASEE) Annual Conference & Exposition, held in Columbus, Ohio on June 25-28. The poster showcased the NSF-ATE Wind Turbine Troubleshooting Simulator being developed at CVIS.

The current project unites a library of real-world scenarios with existing simulators to give students virtual hands-on experience with wind turbine technology and maintenance, and build problem-solving and critical-thinking skills. [Read more..](#)



CVIS Team Presents at ASME Summer Heat Transfer Conference

CVIS graduate students Xiang Liu and Haibo Ma gave technical presentations at the [2017 ASME Summer Heat Transfer Conference](#), held July 9-12 in Bellevue, Washington. Xiang Liu’s presentation was titled “Investigation of Operational Effects on Slab Heating Characteristics in a Pusher-type Reheat Furnace with Continuous Slab Motion,” and Haibo Ma presented the “Investigation of Heat Transfer Phenomena in Blast Furnace Tuyere/Blowpipe Region.” [Read more...](#)



Welcome to the Founding Director of the School of Engineering at PNW!



[Dr. Dietmar Rempfer](#) joined PNW as the Founding Director of the School of Engineering in the College of Engineering and Sciences in July 2017. Dr. Rempfer will provide oversight responsibility to our Department of Mechanical and Civil Engineering and Department of Electrical and Computer Engineering. In addition to his distinguished background in higher education and administration, Dr. Rempfer brings an eminent record of innovation in research and design, with particular expertise in fluid mechanics, especially theoretical studies of transitional and turbulent shear flows in open systems, numerical fluid mechanics, coherent structures in turbulent flows, nonlinear dynamical systems, and wind turbine aerodynamics.

Dr. Rempfer had an appointment as Professor of Mechanical and Aerospace Engineering with a joint appointment as Professor of Applied Mathematics at Illinois Institute of Technology (IIT). He served as Associate Dean of IIT’s Armour College of Engineering from 2012 through 2015, and as Interim Chair of the Department of Mechanical, Materials and Aerospace Engineering from 2015 to 2016. He was also campus lead of the National Science Foundation’s National Center for Engineering Pathways to Innovation at IIT. In addition, Dr. Rempfer has generated more than \$2.7 million in external funding as a principal investigator and has been widely published in peer-reviewed journals; and in 1995, he was a recipient of the prestigious Heisenberg Grant. Among Dr. Rempfer’s professional affiliations are memberships in the American Institute of Aeronautics and Astronautics, the American Physical Society, and the New York Academy of Sciences. [Read more...](#)

CIVS Helps PNW/Enbridge Partnership to Cultivate Young Engineers

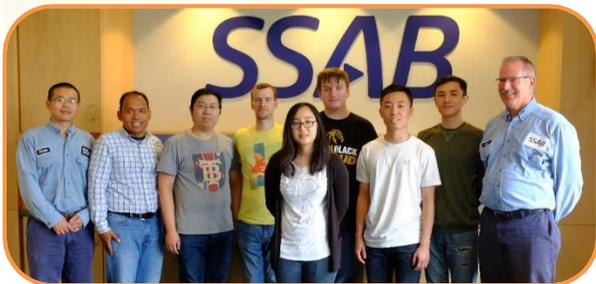
CIVS engineers Kyle Toth, Nick Walla, and Justina Lee helped a recently formed PNW/Enbridge educational partnership to “wow” junior and senior high school students at a pair of engineering camps held on June 5-9 and June 12-16, 2017, at the PNW campus in Hammond, Indiana.

PNW and Enbridge professionals rotated students through different engineering areas (civil, mechanical, electrical, computer), and CIVS members demonstrated virtual reality technology and walked students through problem-and-solution scenarios. [Read more ...](#)



SSAB Hosts CIVS Researchers

CIVS researchers Armin Silaen and Justina Lee, along with Kyle Toth, Bangju Chen, Matt Moore, Haibo Ma, and Xiang Liu, gathered data about reheating and casting processes during an informational tour of SSAB’s research facility in Montpelier, Iowa on August 15, 2017. [Read more ...](#)



CIVS Supports ASM Teachers’ Camp

Participants in an ASM Teacher Materials Camp, hosted by Dr. Harvey Abramowitz, Professor of Mechanical Engineering, visited CIVS on June 22, 2017. While at CIVS, teachers explored how immersive visualization can aid students in learning. [Read more ...](#)

REU Students Experience CIVS Immersion

On June 22, Prof. Shuhui (Grace) Yang took nine students from the 2017 PNW NSF Research Experience for Undergraduates (REU) program to visit CIVS, where the students learned how simulation and visualization tools could help research projects in wireless communications. [Read more ...](#)



Material Advantage Student Chapter Re-Opens

CIVS engineering students have re-opened a chapter of the Material Advantage program (a student program for materials science and engineering) at PNW, to advance academic and professional skills and increase opportunities for scholarships and conferences. Meetings will take place the 1st Friday of every month at CIVS (PWRS 123). President: Kyle Toth. Faculty Advisor: Chenn Zhou. Industrial Advisor: Kelly Dallas. For more information please email civs@pnw.edu.



Student Success Story: Haibo Ma



CIVS Research Assistant Haibo Ma is a 2017 graduate with dual master's degrees in Mechanical Engineering from PNW and Engineering Thermophysics from Central South University, China. For his thesis research, Haibo used computational fluid dynamics to study both raceway combustion in a blast furnace with pulverized coal injection, and chemical reactions during a copper electrorefining process. Haibo is continuing his research at CIVS and pursuing his Ph.D. in Mechanical Engineering at Purdue West Lafayette under the supervision of Prof. Chenn Zhou. The unique research experiences at CIVS have helped him expand his own horizons. "Go-Above the expectation, and Beyond the schedule, and then you will definitely Enjoy yourself."

CVIS Seminars Scheduled for Fridays, 2-3 pm

Speakers include CIVS staff, students, and external collaborators such as Carnegie Mellon professors.

[Read more...](#)



Recent CIVS Papers Published in Journals

- Tang G, Wu B, Bai D, Wang Y, Bodnar R, Zhou CQ. Modeling of the slab heating process in a walking beam reheating furnace for process optimization. *Int J Heat Mass Transf.* 2017; 113:1142-1151.
- Okosun T, Street SJ, Zhao J, Wu B, Zhou CQ. Influence of conveyance methods for pulverized coal injection in a blast furnace. *Ironmaking & Steelmaking.* 2017; 44:513-525.
- Tang, G, Silaen AK, Wu B, et al. Numerical study of a fluid catalytic cracking regenerator hydrodynamics. *Powder Technol.* 2017; 305:662-672.
- Fu D, Tang G, Zhao Y, D'Alessio J, Zhou CQ. Modeling of iron ore reactions in blast furnace. *Int J Heat Mass Transf.* 2016; 103:77-86.

Dr. Zhou Addresses International Conferences

CVIS Director Dr. Chenn Zhou recently gave two keynote speeches at the 7th International Conference on Modelling and Simulation of Metallurgical Processes, held August 16-18 in Qingdao, China, and two technical presentations at the 3rd European Steel Technology & Application Days (ESTAD) Conference, held June 26-29 in Vienna, Austria. [Read more...](#)

CVIS & Collaborator Receive AIST Grants

CVIS Senior Research Scientist John Moreland has received a AIST Don B. Daily Safety Grant (“Virtual Root-Cause Analysis for Encouraging Safety Culture and Future Incident Prevention”). Other investigators are Prof. Chenn Zhou and Michelle Block.

Prof. Don Gray received an AIST Electrical Engineering Grant (“Advanced Modeling to Optimize and Visualize Strip Flatness”). He will work with CIVS to conduct student projects and promote the steel industry. [Read more ...](#)

CVIS Participates in NSA Cybersecurity Grant

Dr. Michael Tu, Director, Center of Excellence for Cyber Security & Infrastructure Protection at PNW, has received an NSA Cybersecurity Workforce Education Grant: “An Innovative Immersive Learning Pedagogical Method Development for Cybersecurity Education.”

Other project members include Ge Jin, Chenn Zhou, and Staci Trekles. CIVS will create 3D virtual reality (VR) learning materials that will simulate real-world cyber hacking scenarios.

[Read more ...](#)

SMSVC UPDATES

- **SMSVC Annual Meeting :**
Nov 15-16, 2017
For more information contact us at civs@pnw.edu
- **SMSVC Accepting New Members**
SMSVC is accepting new members. If interested in becoming a member, contact Ana Jovanovich at ajovano@pnw.edu. For information on the Consortium visit steelconsortium.org.



Facts and Impact (Since 2009)

- \$40+ million savings for companies
- \$16,039,800+ in external grants and contracts
- 110+ external organizations collaborated with CIVS
- 330+ projects
- 340+ national and local news
- 1,480+ students employed and mentored
- 9,650+ students used CIVS for virtual labs
- 105 Purdue Northwest faculty and staff collaborators
- 78 student awards locally and globally (since 2011)
- 28,800+ 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:

Jamie F. Manahan, Development Officer, 219.989.4155, advance@pnw.edu