CMEC NEWSLETTER

**WELCOME BACK + HAPPY FALL, ALL! WE HOPE ALL IS GOING WELL!
PLEASE ENJOY THIS DOUBLE ISSUE OF OUR CMEC NEWSLETTER.**

CMEC ICC-Accredited Testing Laboratory

CMEC has a long history of structural testing for both academic research and industry partners. In 2002 we received our first certificate of accreditation with a scope that included a physical/structural testing of panels and wood products, plastics, nails, structural bamboo, deck boards, guardrail systems, friction testing and metal plate connections. Becoming a qualified ISO-17025:2017 Test Laboratory was very arduous and had many hurdles and it also opened our lab to scrutiny from a third-party assessment agency – but this ultimately propelled CMEC's structural testing capability and quality forward in a way that most university testing labs don't experience.

Over the years, we have worked with many industry partners in testing a wide variety of specimens, everything from fasteners, to floor diaphragms, to full-size shear walls, to scaled down bridge columns. CMEC structures lab has established a great reputation through ongoing relationships with many companies in the private and public sectors. Today, our scope of accreditation has expanded to seismic wall testing, joist hangers, hold downs, and Cross-Laminated Timber (CLT) members. We continue to seek new partners who need structural testing and welcome a video call or onsite visits to tour the facilities.

Chris Motter and Pouria Bahmani are now serving as Director and Deputy Director of the lab. For more information and who to contact, go to: https://cmec.wsu.edu/icc-accredited-testing-laboratory/.

Faculty Focus + CMEC in the News!

Modular Mass Timber Hybrid Construction for Affordable Housing in the United States

Led by Dr. Pouria Bahmani, a new project funded by a $230K grant from the Department of Housing and Urban Development (HUD) is exploring the use of modular mass timber hybrid construction to address the growing shortage of affordable housing in the United States. This innovative approach combines the efficiency of modular construction with the sustainability and affordability of mass timber construction. The project aims to develop a design guide for practitioners, making it easier and faster to build high-quality, sustainable, and affordable housing units. This will not only increase housing supply but also promote equity by providing more opportunities for underserved communities to live in sustainable housing. The project tackles key challenges like transportation costs and repurposing of modules, paving the way for a more efficient and cost-effective way to build homes in the United States.

Pouria Bahmani was selected as a Founding Board Member of the Greater Seattle Mass Timber Network (GSMTN)

Dr. Pouria Bahmani has been selected to the Founding Board of the Greater Seattle Mass Timber Network (GSMTN). This innovative non-profit organization is dedicated to promoting the sustainable use of mass timber in construction throughout the Greater Seattle region. The GSMTN's aims to reduce the built environment's carbon footprint, foster inclusive economic development, and ensure the health of our regional forests as a sustainable source for mass timber construction. Pouria Bahmani will collaborate with the board and fellow members to achieve these goals. Through this collaboration, solutions will be explored to streamline mass timber use for developers, grow the regional economy, cultivate a diverse workforce, and promote healthy forest ecosystems through sustainable building practices.

Hongtao Dang received a grant to develop a training program to improve psychological safety for people in the construction industry

Dang recently received a grant to develop a training program to improve psychological safety for people in the construction industry. Funding and support for the project has been provided by the State of Washington, Department of Labor & Industries, Safety & Health Investment Projects. The grant builds upon his previous work on diversity, equity, and inclusion training for construction site safety management training case studies. Read more here: https://news.wsu.edu/news/2023/05/08/grant-will-develop-psychological-safety-training-for-construction-workers/

CMEC ANNOUNCEMENTS & CONGRATULATIONS!

Pouria received the WSU New Faculty Seed Grant. This project aims to close practical gaps in the implementation of Timber-Concrete Composite (TCC) floors by investigating composite actions, and eventually, develop a design guideline for practitioners in the U.S.

Ji Yun Lee receives NSF CAREER award for community resilience research! Congratulations!

Avishek Chanda was recently promoted to Assistant Research Professor. Congrats!

Welcome Dr. Kim Pickering!!

CMEC's Michael . Wolcott and Vik Yadama are hosting a short term visiting scholar, Dr. Kim Pickering, professor in Materials and Science from The University of Waikato, New Zealand. Professor Pickering has been involved in materials related research for over 30 years, specializing in composite materials.

Professor Pickering is the director of the Waikato Centre for Advanced Materials and Manufacture and has been leader of the Polymers and Composites Research Group, University of Waikato since 2000. https://profiles.waikato.ac.nz/kim.pickering. If you see her around campus, please say hi and connect before she heads back home to New Zealand.

Fun Fact Feature

Did you know that trees help remove both methane gas and CO_2 from the atmosphere?

One study found that "carbon sinks have increased in temperate (+30 ± 5%) and tropical regrowth (+29 ± 8%) forests owing to increases in forest area, but they decreased in boreal (−36 ± 6%) and tropical intact (−31 ± 7%) forests, as a result of intensified disturbances and losses in intact forest area, respectively." Researchers say that "land management policies are needed to limit deforestation, promote forest restoration and improve timber-harvesting practices1" to protect this natural carbon sink. See https://www.nature.com/articles/s41586-024-07602-x.

Less widely known are the methane eating bacteria found in tree bark. While tree stems *produce* methane, researchers have also found that "methane-oxidising bacteria (MOB) are known to act as methane sinks in soil and water by utilizing methane as an energy source". See https://www.nature.com/articles/s42003-021-02264-1 for more info!

CMEC's Scott Lewis was inducted into the Quarter Century Club on Oct. 1 for his 25 years of service at WSU. Thank you, Scott, for everything you do for CMEC. We appreciate you!!!

Student Shoutouts

Student Shoutouts

Congratulations to all of the CMEC students who graduated in Spring or Summer 2024! We are all proud of you and thank you for all of your hard work while at WSU!

Modupe Akinnuoye
PI: Vikram Yadama Master of Science in Civil Engineering
thesis link

Lin Shao
PI: Jinwen Zhang PhD in Mechanical and Materials Engineering: dissertation link

Zach Colligan
PI: Julia Day
Master of Architecture

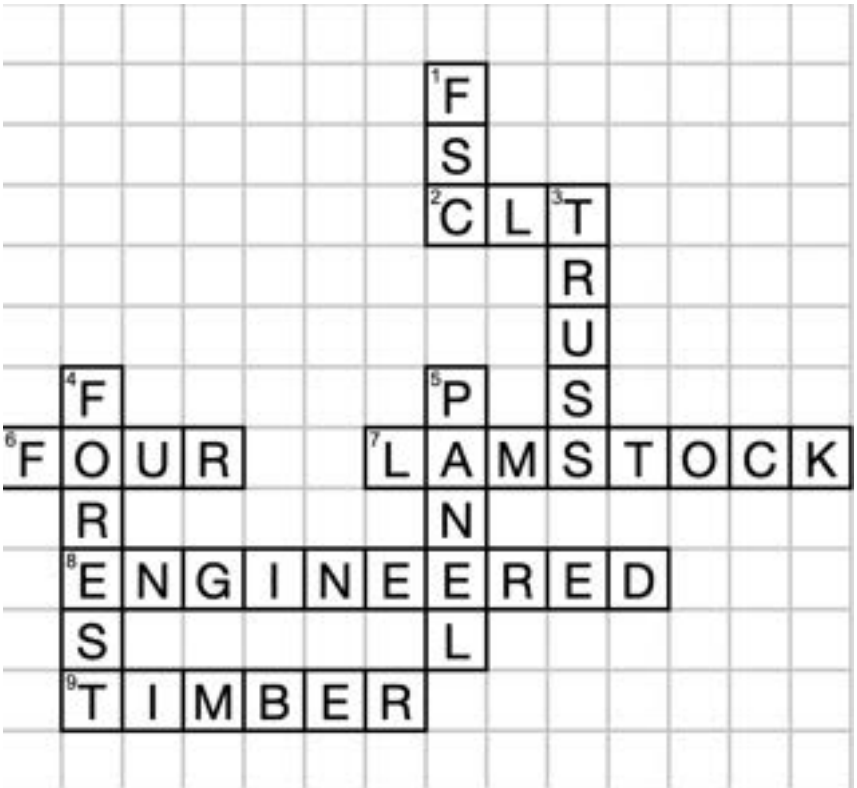
Sierra Wilson
PI: Julia Day
Master of Arts in Interior Design

Last chance to register for the 2024 Simpson Strong Tie Symposium!!

Please join us for Annual SST Symposium! More info here: https://vcea.wsu.edu/simpson-strong-tie-symposium/

Saturday, October 12, 2024
9 a.m. to 2 p.m.
PACCAR Environmental Technology Building
2nd Floor, Town Square

Answer Key for Last Issue's Timber Crossword Puzzle



Credit: Definitions from https://livingbuilding.kendedafund.org/2018/11/14/glossary-structural-timber-construction/index.html

Composite Materials and Engineering Center

WASHINGTON STATE UNIVERSITY

cmec.wsu.edu

+150 Advanced Degrees Earned

by students under CMEC faculty guidance in the last 25 years

"Not only are the facilities geared towards making a real difference, you are surrounded by other students and faculty working towards a better future. I would recommend CMEC to anyone ready to make a difference in the world."

Kyleigh Rhodes
CMEC M.S. Alumna

WHAT IS CMEC?

The Composite Materials and Engineering Center (CMEC) is an interdisciplinary research organization focused on developing sustainable materials and manufacturing technologies from recycled and renewable resources.

CMEC also develops innovative structural systems and designs methods to effectively utilize new materials, improve building and construction efficiency, and create healthier buildings for everyone.

LEARN MORE ABOUT PULLMAN, WASHINGTON

Pullman is a vibrant town surrounded by rolling hills and fields of wheat and has been recognized for its safety, diversity, schools, and technology. It is part of the Palouse region of Eastern Washington, which is called "The Tuscany of America."

Scan this code to learn more about Pullman WA!

Find us @ PACCAR Clean Technology Building

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