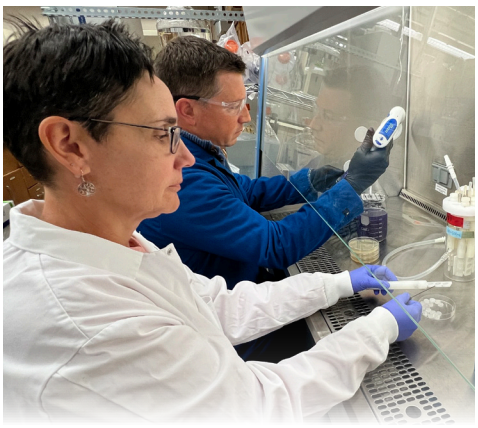
CENTER FOR BIOFILM CBE ENGINEERING

Member Benefits

The Center for Biofilm Engineering is the world's first, largest, and best-known biofilm research center



Members Receive

- Discounted testing projects with priority scheduling and personalized consultation
- 16 hours of complimentary consultation with CBE biofilm experts
- Access to state-of-the-art tools for biofilm analyses
- Free attendance to our annual Methods Workshop
- Option to schedule a site visit
- Access to emerging research with potential for industrial applications
- Opportunities for sponsored research, including support for a student or post-doctoral researcher
- Connection with leading biofilm researchers and Fortune 500 companies at our semi-annual biofilm meetings
- Recruitment opportunities with highly trained students in biofilm science

Targeted Workshops & Seminars

Members enjoy complimentary access to our annual biofilm methods workshop for hands-on training in the latest analytical techniques. Need something more specific? We also provide customized workshops and tailored seminars—delivered in-person or virtually—to meet your company's unique needs.

Testing Projects

For over 35 years, Industrial Associates have trusted the CBE to solve their biofilm challenges. Our track record speaks for itself: in the last five years, 84% of our projects were sponsored by repeat customers. We offer our members customized work at a reduced rate, combining proven methodologies with the world's most powerful biofilm-specific microscopy equipment. With ongoing facility upgrades, we ensure our capabilities evolve ahead of industry needs.

Biofilm Meetings & Networking

Partnering with the CBE gives you direct access to emerging advances in biofilm science and technology. We host two key conferences each year. Our **Regulatory Pathways Meeting** facilitates dialogue between industry and government about biofilm claims, while the **Montana Biofilm Meeting** showcases the latest biofilm research and innovation. We invite you to attend these events and discover how to leverage our expertise for impactful, cost-saving results.

"The networking event in the evening was a fantastic opportunity."

"The insights offered by FDA and EPA were very valuable."

"The presenters were all outstanding. And it was great to see the student presentations."

"I'm here to network, which is always very fruitful here."

ANTI-BIOFILM TECHNOLOGIES PATHWAYS TO PRODUCT DEVELOPMENT
Washington D.C.

MONTANA BIOFILM MEETING
Bozeman, MT

We have conducted more than **1,500 projects** for over **300 companies**

ASTM has approved **7 biofilm methods** developed by CBE researchers

We developed the **only method used by the EPA** for biofilm claims

We co-created the **5 biofilm reactors** used in biofilm labs around the globe

Our **in-house biostatistician** transforms complex data into informed decisions

LET'S SOLVE YOUR BIOFILM CHALLENGE!

Contact Darla Goeres
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The CBE at MSU leads the world in researching deadly, costly biofilms

The Center for Biofilm Engineering leads the world in discovering how biofilms – microbial communities protected by a self-produced slime – function. Every day we learn more about how to mitigate the many ways these biofilms wreak havoc on human health, infrastructure, industry, and Earth's ecology. Until recently, scientists only knew microbes to exist as planktonic, or free-floating, beings. However, scientists around the world are discovering what we at the CBE have known for decades: There are more microbes living in biofilms — than living planktonically. Disinfectants and other mitigation methods that work well fighting planktonic bacteria are far less effective combatting those living within biofilms. This new fundamental understanding of microbes' preferred living condition is critical to reducing their destructive impact on our world.

3 REASONS WE ARE THE GLOBAL LEADER

We created the field of biofilm research

Biofilm research did not exist as a field of scientific inquiry until 1990, when the Center for Biofilm Engineering was established at Montana State University.

We lead the world in publications & citations

Our researchers publish more biofilm-related publications than any other biofilm research center in the world. We are also the global leader in citations.

Females have been leaders since Day 1

The CBE has championed female leaders long before "Women in STEM" became a hashtag. Today, 65% of our students are female, as are half of our faculty.

EXAMPLES OF BIOFILMS AFFECTING OUR LIVES

Healthcare

Biofilms contribute heavily to hospital-acquired infections. One in 25 hospital patients will experience an infection caused by their medical care, and 1 in 9 of those patients will die during their stay. The direct and indirect costs from HAIs in the US are estimated to be $118 million PER DAY!

Industrial Interests

From biocorrosion that caused $500 billion in damage worldwide in 2015, to municipalities' costly struggle to keep our drinking water clean, biofilms are viscious foes in industrial settings. These and dozens of other concerns are why companies from a broad swath of sectors and government entities pay up to $35,000 each year to participate in our highly successful Industrial Associates program.

Surfaces

Destructive biofilms live just about everywhere there is moisture, including your home, plumbing devices, and artificial joints and implants. Even the International Space Station! And they are notoriously hard to kill or remove. We are working to change this.

Regulatory Leadership

The CBE developed a biofilm-testing method approved by the US EPA that products must pass before they can make a biofilm-removal claim about their product.

Greenhouse Gasses

Concrete and its production contributes a staggering 8% of all greenhouse gasses in our atmosphere. Thus, we are upcycling discarded plastic with calcifying biofilms to create an eco-concrete without sacrificing strength. We also recognize that fossil fuels are leading sources of harmful greenhouse gasses contributing to climate change. That's why the CBE is actively developing promising new technologies to make biofuels an eco-friendly alternative to oil and its byproducts.

COLLABORATING ACROSS SECTORS TO SOLVE COMPLEX BIOFILM CHALLENGES

Thanks to our highly successful Industrial Associates program, our postdocs and students have the opportunity to work with Fortune 500 companies and small businesses alike. When they graduate or finish a project, they have potential employers they know will be happy to provide references—and possibly a job.

Kylie Bodle and Ghazal Vahidi, postdoctoral researchers at the CBE, are part of a team tackling a critical challenge: protecting military vehicles from destructive biofilms. As recent Ph.D. graduates from MSU, they collaborate with the military and industry to develop next-generation antimicrobial coatings. Their work shows the power of combining academia's innovation, industry's application, and government's mission needs. "We're all coming from different backgrounds and, in a way, speaking different languages—but that's also what makes the collaboration so valuable," says Ghazal. The team is creating new test methods to accelerate solutions for defense and enable companies to design more effective coatings for real-world environments.

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www.biofilm.montana.edu

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MONTANA STATE UNIVERSITY

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