CHEMICAL SCIENCES BUILDING

CAMPAIGN

For Students. For Science.
FOR THE FUTURE.

Clean energy solutions for a sustainable future – imagine them here.

New insights into how cancer spreads to inform treatment – imagine them now.

Innovative tools for disease detection, available at home.
We're working on those too.

Chemistry is the central science.

It's the foundation that unlocks the unknown and the bridge that connects disciplines.

In a new Chemical Sciences Building at the University of Washington, we will build a nexus of collaborative science.

An incubator beyond disciplines, where learners and experts ask questions together. Those questions will birth novel research, and that research will become the solutions that change our tomorrow.

Now is the time to build it.

A DESTINATION for Chemical Sciences

The story of discovery so often starts with chemistry.

Vaccines, new materials, sustainable agriculture, the technology that powers the screens we use – chemistry undergirds it all. It is the central science that bridges other disciplines, from biology to medicine to engineering to computer science.

The UW's College of Arts & Sciences is home to one of the largest undergraduate chemistry program in the nation with faculty at the top of their fields. Much like chemistry itself, the department has threads of impact woven across campus and our region. Thousands of UW undergraduate students take introductory courses in chemistry each year, and many participate in hands-on research alongside brilliant faculty, graduate students and postdocs. As a pipeline for high-demand careers in Washington State, our students go on to be leaders in healthcare, biotechnology, climate science and education. The Department of Chemistry also plays a leading role in several interdisciplinary research centers and institutes, spanning materials design, disease control and prevention, clean energy, and more.

Despite a growing need for chemistry education and research and a track record of excellence, UW Chemistry's aging facilities are holding us back.

To remain a research powerhouse and destination for top talent, we are launching an ambitious **Chemical Sciences Building (CSB) Campaign**, uniting State, university and donor investment to build a cutting-edge facility that will help shape the next 100 years of discovery.

MAJOR AND MINORS

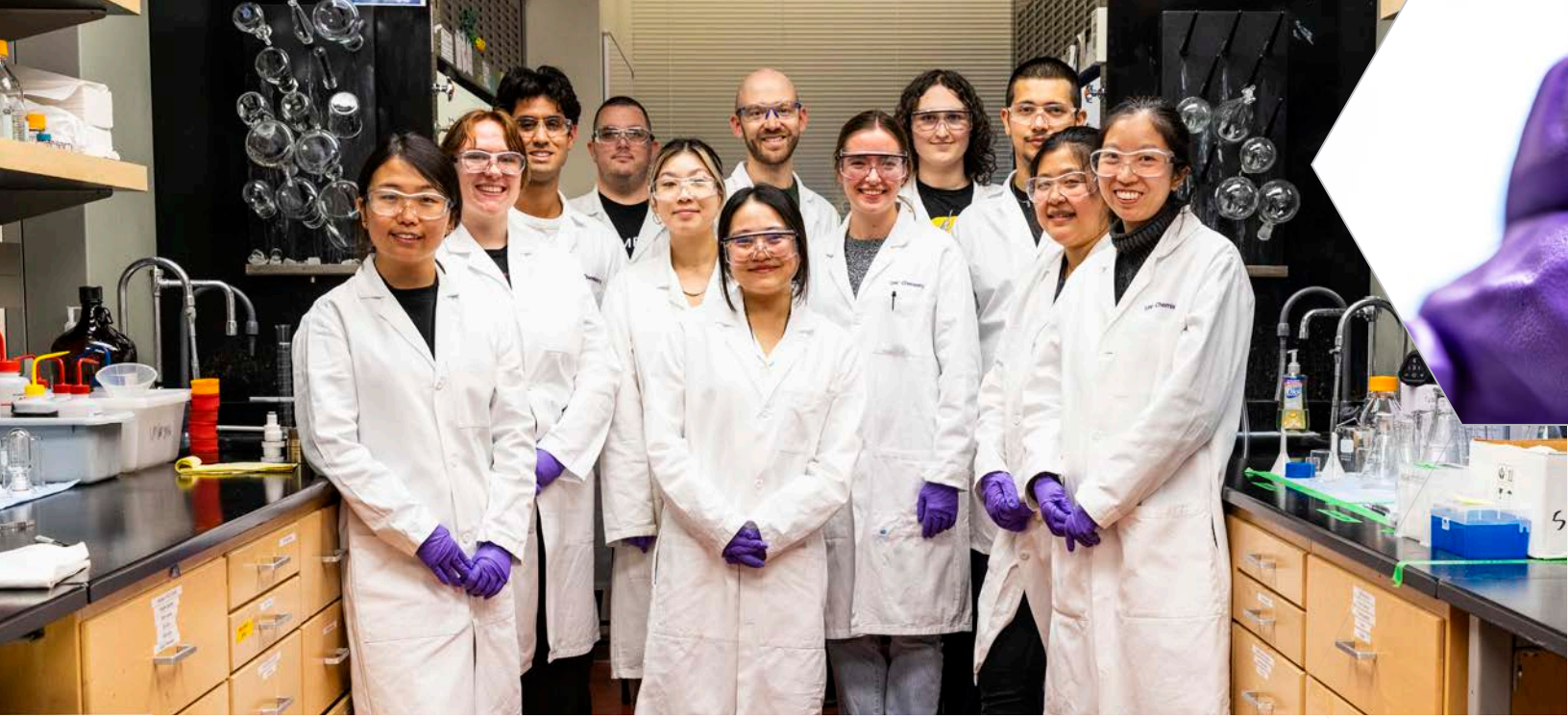
BA & BS in Chemistry
BA & BS in Biochemistry
MS in Applied Chemical Sciences & Technology
PhD in Chemistry
Minor in Chemistry

RESEARCH AREAS

Analytical Chemistry
Biophysics
Catalysis
Chemical Biology
Chemistry Education
Clean Energy
Inorganic Chemistry
Materials
Organic Chemistry
Physical Chemistry
Theory and Computation

The future health and vitality of our planet hinges on advances in the chemical sciences. The questions we ask in chemistry, the connections we make, and the collaborations they yield, have implications for climate health, disease prevention, energy innovations, and so much more. As a leader in chemical sciences research and education, our university has an opportunity to accelerate discovery through a new Chemical Sciences Building.

Xiaosong Li
Larry R. Dalton Endowed Chair in Chemistry
Associate Dean for Research, College of Arts & Sciences



A NEW BUILDING...

For the Future of Discovery

UW Chemistry is uniquely positioned to be a national model for interdisciplinary research and education in the chemical sciences.

Home to some of the best chemists working across emerging research areas. **Located on** a campus and in a region known for driving innovation. **Fostering an** educational community grounded in collaboration and opportunity.

Despite our national reputation as a destination for chemistry education and research, our capacity for growth and impact is limited by our physical spaces. The current buildings that house chemistry research and teaching – the 100-year-old Bagley Hall and the Chemistry Library Building – lack the **modern temperature-controlled laboratory spaces to house cutting-edge instruments and collaboration spaces essential for the research demands of today and the future.**

An investment in new, state-of-the-art facilities will parallel our national reputation as a destination for chemistry education and research.

WHAT

The 100,000 square foot research facility will enable a new mode of science where curiosity-driven chemical research can transform into real-world applications. The building will include wet labs, high-performance labs, research offices, collaboration spaces, general assignment classrooms and lab support spaces and will co-locate faculty, graduate students and undergraduate students to inspire idea sharing.

WHEN

Design of the building is expected to begin in January 2025 with construction projected to start in 2026.

The anticipated completion date is 2028.

WHERE

The CSB will be located on South Campus in the heart of UW's cluster of science buildings, including the Hans Rosling Center for Population Health, Life Sciences Building, Molecular Engineering and Sciences (MolES), and Health Sciences facilities. This co-location creates significant opportunities for research synergies among students and faculty in chemistry and related sciences.

WHY

The new CSB will ensure the continued growth and impact of the Department of Chemistry by empowering:

- **Enhanced program excellence & reputation** through recruitment and retention of excellent grad students and faculty
- **Increased grant funding** and new interdisciplinary discovery through a more efficient, collocated environment
- **Sustainable space usage** through implementation of efficiencies, modernization, and economies of scale
- **Innovative curriculum and teaching approaches** to bridge gaps between research and the classroom.

PROJECT OVERVIEW

100,000 SQ. FT. of laboratory spaces, meeting rooms, office spaces for faculty and students, and common spaces for collaboration

15% GAIN in efficiency by moving from current aging facilities into new, energy-efficient building

Flexible and **STATE-OF-THE-ART** environment to grow faculty, student and industry interactions

Space for **HANDS-ON INDEPENDENT** research projects and the development of modern interdisciplinary courses

Will house all the Chemistry **RESEARCH LABS** currently in Bagley Hall and the Chemistry Library

By replacing the Chemistry Library, the project will **REDUCE** deferred maintenance cost and remove a very energy-inefficient building

A PLAN FOR EXISTING SPACES

The CSB project is part of a larger, multi-phased plan that includes the new building construction and partial renovation of existing facilities in Bagley Hall. By relocating critical chemistry research to the new CSB, a significant portion of Bagley Hall will be able to be re-purposed for other uses such as classrooms, teaching labs and office space.

A NEW BUILDING...

For the Husky Experience

The UW Department of Chemistry is a laboratory for student innovation and major STEM degree producer in WA State. We provide hands-on learning opportunities and marketable skills to thousands of UW students each year — many of whom become the next generation of Washington State health care professionals, tech employees and educators.

As the largest instructional lab program at the university, the largest chemistry undergraduate program in the nation, and one of the top natural sciences degree producers on campus, the Department of Chemistry is instrumental in delivering on the UW's teaching mission. The results speak for themselves: our alumni go on to work for Microsoft, Seattle Children's Hospital, Intel, Dow Chemical, Virginia Mason Medical and so many others supporting world-changing research and development.

It all starts with hands-on research in UW Chemistry. Each year, numerous undergraduate and graduate students work alongside chemistry faculty and postdocs, tackling real-world research challenges. They work in Professor Ashleigh Theberge's lab, supporting the development of bioanalytical chemistry tools to improve healthcare. They work with Dianne Xiao on new materials to make chemical reactions that are compatible with renewable energy sources. In Alshakim Nelson's lab, they develop skills in 3D printing of bio-inspired and bio-interfacing materials to address challenges in human health and sustainability.

UW Chemistry has a long history of involving students in meaningful research, and we know we can be more effective with facilities optimized for modern, collaborative science.

In the new CSB, we are committed to building a more accessible, inclusive, and future-focused Husky Experience in UW Chemistry. We aim to increase student opportunities in research, while expanding the type of research our students engage in through recruiting new faculty and postdocs to the department and providing world-class instruments and facilities to catalyze breakthroughs.

EDUCATING THE UW

14,000
UW student enrollments annually in chemistry courses

20% of UW's natural sciences degrees are granted by UW Chemistry

84% of UW Chemistry alumni (with known/reported employment data) work for Washington State employers

1046 Undergraduate majors

48 Masters in Applied Chemical Science (ACST) students

220 PhD students

55 Postdoctoral scholars

335 Bachelor's degrees awarded

12 MS ACST degrees awarded

39 PhD degrees awarded

**NUMBERS AS OF AUTUMN, 2023*

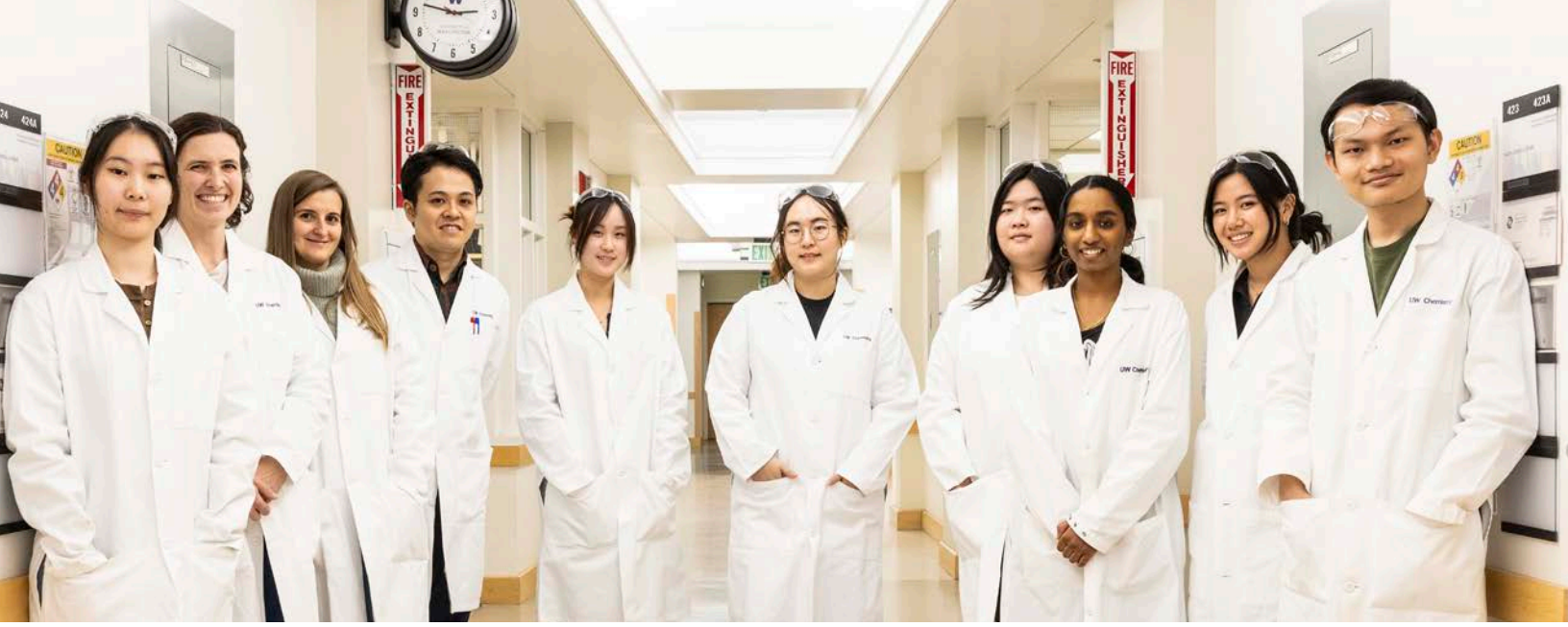
A CULTURE OF RESEARCH INCLUSION

THE THEBERGE LAB

If you walk into Ashleigh Theberge's lab, you might be struck by how many students you encounter. At any given time, nearly half of Theberge's lab is composed of undergraduate students, working in collaboration with grad students, postdocs and Theberge herself. They're exploring the chemical mechanisms underlying asthma, allergy, infectious diseases, urologic conditions, kidney disease, rheumatic conditions, transgender health, environmental exposures and more.

As an award-winning chemist whose research sits at the intersection of analytical chemistry, chemical biology and human health, Theberge believes that great ideas can come from anywhere. "We're not just taking students under our wing and teaching them," says Theberge. "They show us a lot too. An undergrad can be just as creative or productive as a principal investigator. We've had undergrads be first author on papers based on ideas they had. They've been a big part of our research from day one."

Her students come from all backgrounds and enter with varying levels of job and research experience, and Theberge likes it that way. The Theberge Group lab is an example of the type of research communities that we envision building throughout the CSB.



A NEW BUILDING...
For the Brilliant and Bold

For many years, UW Chemistry has attracted internationally renowned chemists who have built a reputation for teaching and research excellence. These scientists have contributed to a steady increase in federal research funding, placing UW within the top three federally funded chemistry departments at public institutions.

Currently a thriving community of 45 faculty, 55 postdocs and 268 grad students, the Department of Chemistry is pushing the boundaries of chemical sciences research—and pushing the envelope of what's possible in our current spaces. Our brilliant researchers find ways around building and instrument limitations to advance basic and applied research every day. **What would be possible if space limitations were removed?**

In a new CSB, our spaces will be a nexus for new methods and creative solutions, not a barrier to work around. Over the next years, chemistry will play a vital role in quantum information technology, artificial intelligence, machine learning, and automation of chemical processes. These areas require specialized instruments, vibration isolation, advanced computer hardware, modern temperature controls and flexible space.

We have leading scientists to work in these and other critical areas, and a plan to recruit others. Without the modern spaces to support their groundbreaking work, we are at risk of losing top talent to peer institutions with better suited facilities. **We will only be able to sustain and grow our reputation for research and teaching excellence in a new CSB designed with the future in mind.**

CHEMISTRY RESEARCH IN ACTION

- Development of assays to detect treatable genetic diseases in newborns
- Developing photo-responsive magnetic quantum materials
- Using polymer chemistry to 3D print sustainable materials for construction
- Development of data analysis software for biofuels, forensics, food safety and industrial feed stocks
- Developing at-home blood sampling technologies to understand the human body's response to wildfire smoke
- Discovering how the first cells formed four billion years ago on Earth

FACULTY AWARDS & HONORS

The Department of Chemistry has 45 faculty who have received numerous awards from a wide variety of organizations, including:

ACS NATIONAL AWARDS

BECKMAN YOUNG INVESTIGATOR AWARD

NSF CAREER AWARDS

PACKARD FELLOWSHIPS

SLOAN FELLOWSHIPS

WASHINGTON STATE ACADEMY OF SCIENCES

A new CSB will be a magnet for brilliant and bold scientists and a hub of collaborative research. It will accelerate the work already being done and enable chemistry we can't even imagine.

Munira Khalil
Leon C. Johnson Professor of Chemistry
Chair, Department of Chemistry

STORIES OF IMPACT

FACULTY, POSTDOCS AND GRAD STUDENTS IN UW CHEMISTRY ARE LEADERS IN THEIR FIELDS, ACCELERATING VITAL RESEARCH ACROSS CAMPUS.

Emily Rabe

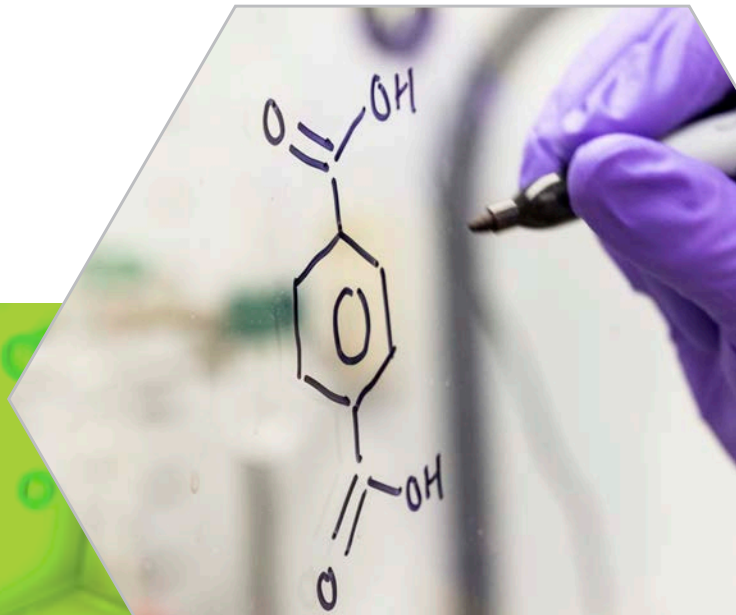
Director or Product Development at Membrion, Inc.

UW Chemistry PhD alum, '20

Former Clean Energy Institute Fellow, Pacific Northwest National Lab Fellow

EMILY RABE HAS ALWAYS LOVED PUZZLES.

First it was jigsaw puzzles, then crosswords, then complex research puzzles with a focus on sustainability. While pursuing her PhD in Chemistry at UW, Rabe worked in Cody Schlenker's lab, using puzzle pieces of a different sort – hundreds of data files and journal articles – to better understand the potential of sunlight as an energy source. She found support and community as a Clean Energy Institute Graduate Fellow and recipient of the UW Chemistry graduate fellowship. After graduating, Rabe took her research puzzle acumen to her role at Membrion, a manufacturing company that makes filtration systems for wastewater treatment. As the Director of Product Development of Membrion, Rabe continues to leverage her chemistry training to drive progress in sustainable technology.

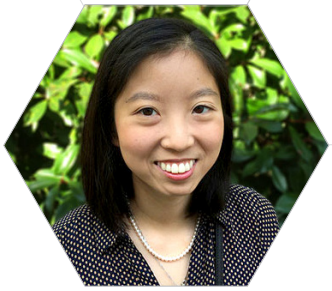


Alshakim Nelson

Professor of Chemistry
Nist Faculty Fellow

Associate Chair, PhD Studies

WHAT IF OUR BUILDINGS WERE ENDOWED WITH LIVING TRAITS that could help protect them against the elements? What if building materials could transport fluid through capillaries for self-renewal? Alshakim Nelson leads an interdisciplinary, multi-university project addressing these and other questions. Nelson and team are driving progress in the field of Engineered Living Systems, using 3D printing and cell engineering. With $2M of funding from the National Science Foundation supporting their work, Nelson and team are poised to transform construction technology through development of self-renewing and self-sustaining building materials. Beyond its implications for construction materials, Nelson's research and use of 3D printing extends to medicine, robotics and sustainability—exemplifying chemistry's role at the heart of scientific inquiry.



Dianne Xiao

Assistant Professor of Chemistry
Klaus and Mary Ann Saegebarth
Endowed Faculty Fellow

DIANNE XIAO AND HER TEAM OF RESEARCHERS ARE PAVING THE WAY FOR A MORE SUSTAINABLE FUTURE. Xiao's research group has only been in action at UW since 2019 and they've already made a splash, with Xiao garnering funding and awards, including a Packard Fellowship, Beckman Young Investigator Award, NSF CAREER Award, and DOE Early Career Award. One of Xiao's research projects focuses on developing new porous conductors that could help the chemical industry switch to renewable energy sources. Her research group is also developing catalytic materials that can convert sustainable materials, such as biomass, into desired chemicals. The innovative approaches Xiao and colleagues have devised are helping to shift the chemical industry away from using petroleum as its primary raw material.

A NEW BUILDING...

For Washington. For the World.

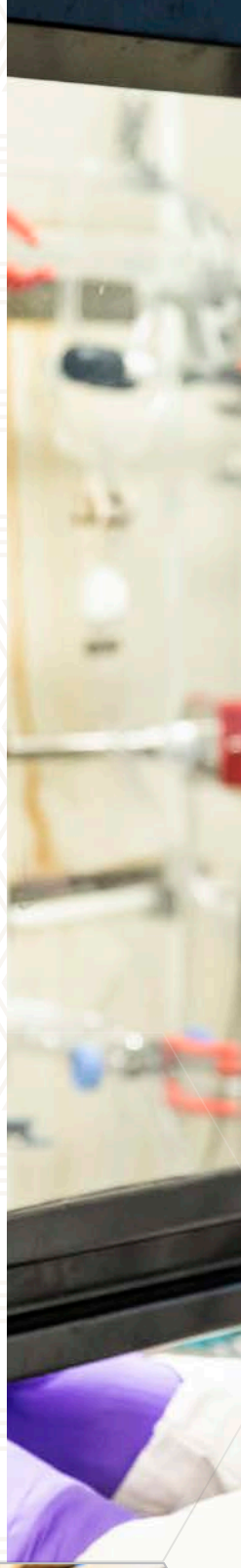
Solutions through Collaboration

Many of the world's most complex challenges will be addressed through interdisciplinary research in the chemical sciences. **From advances in clean energy to quantum information technology to healthcare, chemistry is at the heart of innovation, discovery and economic growth in our region and beyond.**

UW Chemistry has a long history as a collaborative hub on campus. Many of our faculty hold joint appointments and play leading roles in research centers like the UW Molecular Engineering and Sciences Institute, the joint UW/PNNL materials institute, the NSF funded UW Molecular Engineering Materials Center, the Washington Clean Energy Institute and others.

These collaborations allow us to make progress where siloed research would not, as we leverage the superpowers of multiple disciplines to tackle intractable issues.

The new Chemical Sciences Building will expand on existing research synergies, create more capacity for cross-pollination, attract more interdisciplinary research funding, and enable us to incubate and translate new technologies from the laboratory to the marketplace.

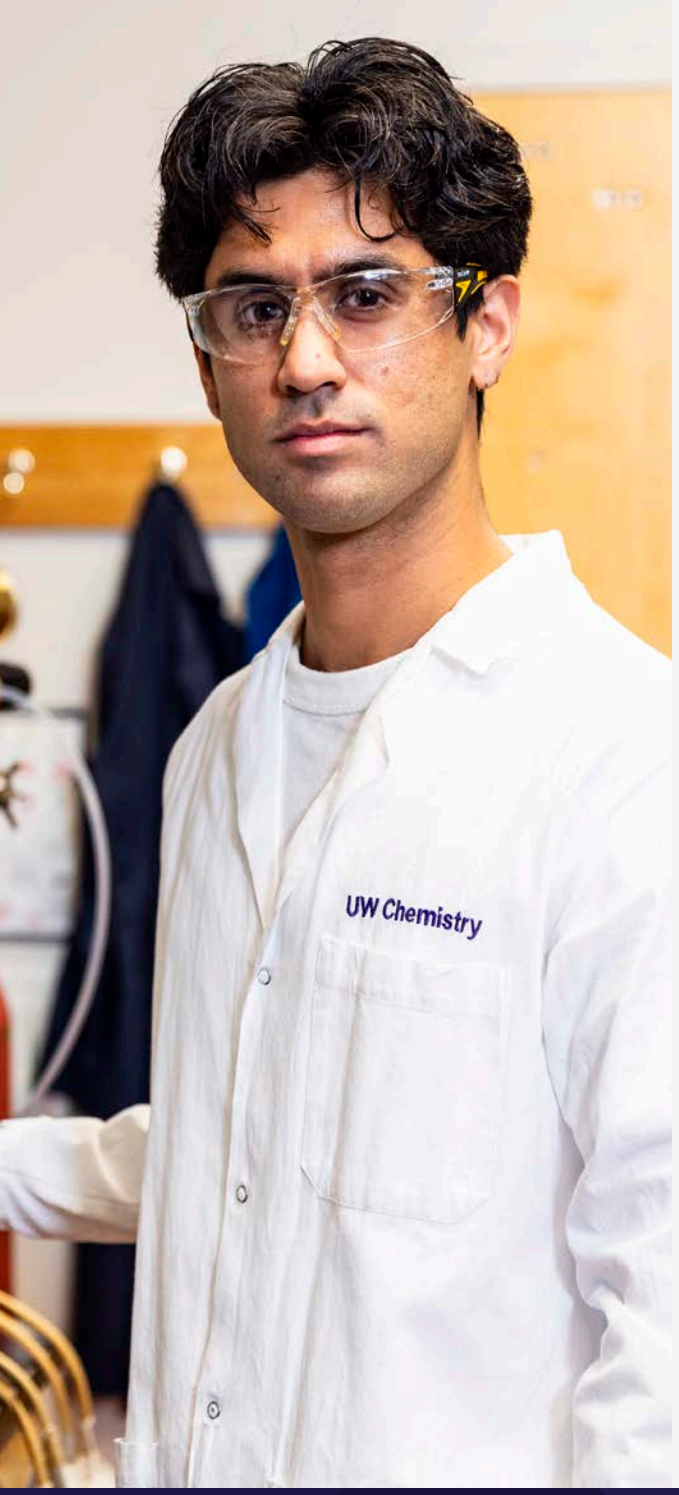


A PATHWAY TO THE WASHINGTON STATE WORKFORCE

The CSB will be more than a University of Washington building. It will be a talent pipeline for Washington industries and a boon to the state's economy.

The skills and experiences our students gain here are essential for success in growing industries critical to Washington State's economy, including aerospace, microelectronics, healthcare and quantum information technology. Yet, our current buildings and facilities are ill-equipped to enable training in these exciting fields.

The CSB will nurture a permeability between disciplines and areas, spaces for idea sharing, and the development of interdisciplinary courses for training the next generation of chemical scientists in the state of Washington.



TOP EMPLOYERS OF UW CHEMISTRY ALUMNI

University of Washington
The Boeing Company
Fred Hutch Cancer Center
Microsoft Corporation
Swedish Medical Center
United States Army
Intel Corporation
Amazon.com, Inc.
Virginia Mason Medical Center
Seattle Children's Hospital
United States Air Force
University of California
Weyerhaeuser Company
Seagen Inc.
Amgen
University of Michigan
United States Navy
Kaiser Permanente
Washington State University
UW Medicine
Oregon Health & Science University
Harvard University
Dow Chemical Company

IMPACT OF CHEMICAL SCIENCES IN WA STATE

8,980
chemistry-related jobs in WA State

$324M
wages paid to WA State employees

RESEARCH CENTERS & PARTNERSHIPS

IMOD

CENTER FOR INTEGRATION OF MODERN OPTOELECTRONIC MATERIALS ON DEMAND (IMOD)

UW MEM·C

UW MOLECULAR ENGINEERING MATERIALS CENTER (MEM-C)

CLEAN ENERGY INSTITUTE
UNIVERSITY of WASHINGTON

UW CLEAN ENERGY INSTITUTE (CEI)

Molecular Engineering & Sciences Institute

UW MOLECULAR ENGINEERING & SCIENCES INSTITUTE (MOLES)

SOUTH ASIA INTERNATIONAL CENTER OF EXCELLENCE FOR MALARIA RESEARCH

JOINT UW-PNNL NORTHWEST INSTITUTE FOR MATERIALS PHYSICS, CHEMISTRY AND TECHNOLOGY (NW IMPACT)

$36M
generated in state taxes

25%
of U.S. GDP supported by chemistry-related industries

$809M
in products shipped around the world

7,880
additional jobs generated in plastics and rubber products

COMPLETING THE

Chemical Sciences Building Will Take All of Us

As we seek to maintain and grow our reputation as a vital hub of chemical sciences research and teaching in the nation, the need for a new CSB is clear.

The College of Arts & Sciences sees the critical importance of the project and is dedicating significant resources to support it, and University leadership has identified CSB as its main capital request for the Washington State Legislature. While we believe the state sees the pressing need for a new CSB, we know the legislature is more likely to fund projects when there is demonstrated institutional and community investment.

We are looking to our community of friends and donors to invest $20M as the College provides $40M of foundational funding.

These pillars of institutional and private funding will signal to legislators that this project is both critical and viable.

Together, we can create a new home for novel science. We can empower more students to launch meaningful and impactful careers. We can bring together new ideas, new methods, new experts committed to building a healthier and more sustainable world.

Join us and invest in the future of chemistry on our campus and in our region.

CHEMICAL SCIENCES BUILDING

PROJECT FUNDING

$125M	pending request for WA State contribution
$5M	allocated by WA State for pre-design phase
$40M	foundational funding from the College of Arts & Sciences
$20M	from private support
$190M	**TOTAL CSB PROJECT COST**

The College is committed to providing a world-class education to its students while fostering leading-edge research across our units. The new Chemical Sciences Building will be a vital hub for interdisciplinary sciences and education that positively impacts our campus and region. We invite our community of donors to invest in this project alongside the College and help us lay the foundation for the next generation of learning and discovery.

Dianne Harris
Dean, College of Arts & Sciences


UW Chemistry

INVEST IN THE FUTURE OF CHEMISTRY

FOR MORE INFORMATION ABOUT THE CHEMICAL SCIENCES BUILDING OR TO MAKE A GIFT, PLEASE REACH OUT TO US:

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COLLEGE OF ARTS & SCIENCES | UNIVERSITY *of* WASHINGTON

For Students. For Science.
FOR THE FUTURE.