A Home for Molecular Engineering & Sciences
Research at the University of Washington

The Molecular Engineering and Sciences (MolES) Institute brings together faculty
teams from across the University of Washington to develop solutions for major
societal challenges in the areas of CleanTechnology and BioTechnology. The
Institute was founded in 2011 with the goal of catalyzing translational molecular-level
research and creating and coordinating interdisciplinary education programs that
teach undergraduate and graduate students the fundamental aspects of molecular
engineering through core courses and top-notch research opportunities.

Housed in the Molecular Engineering and Sciences Building since its completion in
June 2012, the Institute provides dedicated space for shared instrumentation and
collaboratories where new interdisciplinary teams can come together to explore
and develop new approaches and ideas. Specially sited and designed to minimize
vibration and electromagnetic interference, the building is also home to a state-of-
the-art Nano & Molecular Analysis Facility that gathers sensitive characterization,
nanofabrication, and surface analysis instrumentation for the shared use of the
Seattle research community.

Research at the Institute is made possible by the support of the College of Arts
& Sciences, the College of Engineering, and the UW Provost, as well as the Life
Sciences Discovery Fund, the National Science Foundation, and the National
Institutes of Health.
The Molecular Engineering & Sciences Building

The Molecular Engineering & Sciences Building was designed to accommodate sophisticated molecular-level engineering research. It was specially sited to minimize vibration and electromagnetic interference, and its design maximizes the ground contact lab space to fully exploit this location. The Institute's Molecular Analysis Facility located on the ground floor provides state-of-the-art characterization, nanofabrication, and surface analysis instrumentation for the use of UW researchers as well as the larger non-profit and tech communities in Seattle.

The upper floors are designed to enable easy reconfiguration to accommodate the evolving research landscape. The open layout of the research space promotes interaction and collaboration, helping create a fertile and creative environment for research and discovery.

The MolES Building is the permanent home of UW faculty David Baker, James Carothers, Dave Castner, Hugh Hillhouse, Eric Klavins, Christine Luscombe, Georg Seelig, and their groups, as well as the following institutes and centers:

- Center for Intracellular Delivery of Biologics (CIDB) & Analytical Biopharmacy Core
- Clean Energy Institute
- Institute for Protein Design
- Molecular Analysis Facility
- National ESCA and Surface Analysis Center for Biomedical Problems (NESAC/BIO)

“"The MolES Institute will be flexible and responsive – it will align its efforts with the most creative molecular engineering and sciences research wherever it is occurring.”

– Patrick Stayton, MolES Director

Featured Research: David Baker

Professor Baker’s research aims to predict the structures of naturally occurring biomolecules and interactions and to design new molecules with new and useful functions. To carry out the required calculations Baker and his group developed the computer program Rosetta, as well as the distributed computing projects Foldit and Rosetta@Home. Building on initial computational designs, Baker uses experiment to better understand the principles underlying catalysis and binding in order to design novel proteins and enzymes. More info » www.bakerlab.org

Featured Research: Christine Luscombe

Research in the Luscombe Group focuses on the design, synthesis, and applications of functional macromolecules. Polymeric materials are a more lightweight, flexible, and cost-effective alternative to conventional materials such as silicon. Professor Luscombe’s research aims to develop new methods for making semiconducting polymers and to create new polymers with improved light absorption, charge transport, and stability. More info » faculty.washington.edu/luscombe