

PURDUE UNIVERSITY®

Discovery Park



**TODAY'S CONNECTIONS,
TOMORROW'S GLOBAL
SOLUTIONS**



PURDUE
UNIVERSITY®

OFFICE OF RESEARCH AND PARTNERSHIPS



PURDUE UNIVERSITY®

Discovery Park

EXPLORE PURDUE'S UNIQUE interdisciplinary facilities, cutting-edge equipment and shared spaces for collaborative projects in life and health sciences; drug discovery and development; energy, climate change, water, the environment and food security; information technology, homeland security, and simulation and modeling new materials; nanotechnology, bionanotechnology and nanomedicine; science, technology, engineering and mathematics (STEM) learning; and other areas.

THE FACILITIES ATTRACT researchers and students from all 11 West Lafayette colleges and schools, Purdue's regional campuses, Purdue Research Park locations throughout Indiana, Indiana University and the Indiana University School of Medicine. We are also working on projects with countries such as Australia, Azerbaijan, Bangladesh, Cameroon, China, Colombia, Costa Rica, Ethiopia, India, Kenya, Laos, Morocco, Nigeria, Russia, Rwanda, Senegal, South Korea, South Sudan, Tanzania, Uganda and Zimbabwe.

DISCOVERY PARK sits on 40 acres on the southwest edge of campus, near the Purdue University Airport. Its location fosters collaboration with researchers in the nearby Martin C. Jischke Hall of Biomedical Engineering, Ray W. Herrick Laboratories and the Wayne T. and Mary T. Hockmeyer Hall. The affiliated Discovery Park Partners Facility, about a quarter-mile west of campus, provides office and co-working space to support early-stage startups.

THE LILLY ENDOWMENT provided generous initial funding for the centers and programs in Discovery Park, recognizing the potential of Purdue's commitment to advancing its interdisciplinary research and translational capabilities to a new level of excellence and impact.

LAUNCHED 2001

**BUILDINGS, EQUIPMENT AND GRANTS
\$1 BILLION**

PURDUE UNIVERSITY®

Discovery Park

UNIQUE FEATURES: All facilities are shared. Highly collaborative, interdisciplinary projects are connected throughout Purdue and Purdue Research Park locations. Technology commercialization is facilitated through the Burton D. Morgan Center for Entrepreneurship, an ecosystem on campus conducive to invention and entrepreneurship from the newest undergraduate to the most senior researcher, and the University's strong partnership with the Purdue Research Park.

ECONOMIC IMPACT

EXTERNAL SPONSORED RESEARCH
\$847 MILLION

PRIVATE DONATIONS
\$141 MILLION

NEW EQUIPMENT
\$36 MILLION

LABORATORY SPACE
147,502 SQ. FT.

OFFICE, MEETING SPACE
107,299 SQ. FT.



BIRCK NANOTECHNOLOGY CENTER

OPENED: 2005 COST: \$58 MILLION

MAJOR FUNDING: Michael J. and Katherine R. (Kay) Birck, Don and Carol Scifres, William B. and Mary Jane Elmore, and Kevin G. Hall

SPACE: 105,000 assignable square feet, including 25,000 square feet of a class 1-10-100 nanofabrication cleanroom, the Scifres Nanofabrication Laboratory. A portion of the cleanroom is configured as a biological/pharmaceutical cleanroom to facilitate bionanotechnology research in collaboration with Bindley Bioscience Center. Key facilities such as surface analysis, nanometrology, electron microscopy, molecular beam and atomic layer deposition, nanoelectronics, nanophotonics, bionanotechnology cleanroom, and femtosecond laser characterization support a wide variety of research.

PROGRAMS: Birck provides support for the Network for Computational Nanotechnology (NCN) as well as its nanoHUB website. The center provides capabilities in nanoscale metrology; materials growth and deposition; nanoelectronics and microelectronics; microelectromechanical and nanoelectromechanical systems; energy conversion; nanofabrication; electronic and physical characterization; nanophotonics; bionanotechnology; nanochemistry; and theory and computation.

UNIQUE FEATURES: Birck's highly collaborative atmosphere is supported by functionally designated labs, including space for industry partners and companies. The facility includes the fabrication-teaching lab in Scifres Nanofabrication Laboratory for advanced undergraduate students. Birck offers the opportunity for external companies to access laboratory space and expertise. Mihail Roco of the National Science Foundation called Birck "the epitome of a university-based research facility focusing on the growing discipline of nanotechnology."



BINDLEY BIOSCIENCE CENTER

OPENED: 2005 **COST:** \$15 MILLION

MAJOR FUNDING: William E. Bindley

SPACE: 30,000 assignable square feet, including 20,000 square feet of lab space, to foster multidisciplinary team-based research. Large, open and flexible labs offer several core research capabilities: biological mass spectrometry with metabolomic and proteomic applications; computational life sciences and informatics; biophysical analysis; biomolecular screening and drug discovery core; flow cytometry and cell sorting; bioscience imaging; translational pharmacology and bionanotechnology.

PROGRAMS: Bindley is home to the Center for Global Research and Intervention in Infectious Diseases, the Center for Direct Catalytic Conversion of Biomass to Biofuels (C3Bio), and plays a central role for supporting the Indiana Clinical and Translational Science Institute. Research core activity in metabolomics, proteomics and cytometry supports dozens of academic and corporate projects. In addition, the biomolecular screening and drug discovery core combines diverse robotic technologies for automated analyses of druglike compounds, microbial diversity and biomolecular interactions. The Physiological Sensing Facility develops and implements innovative multimodal sensors in biological systems. Bindley's Center for Analytical Instrumentation Development (CAID), supported by National Science Foundation, Transportation Security Administration and National Institutes of Health, is developing point-of-need devices for use in drug discovery, clinical diagnostics, environmental monitoring, and the fight against chemical and biological terrorism.

UNIQUE FEATURES: Building on the deep expertise of the center's senior researchers, the facility's equipment and state-of-the-art labs have sparked translational life science and engineering research collaborations with state, regional, national and international industry partners. The skywalk connecting Bindley to Birck Nanotechnology Center facilitates intercenter bionanotechnology research.

MULTIDISCIPLINARY CANCER RESEARCH FACILITY

OPENED: 2014 **COST:** \$15.9 MILLION

SPACE: More than 15,000 assignable square feet, including 11,000 square feet for lab space.

PROGRAMS: The Multidisciplinary Cancer Research Facility (MCRF) within the Bindley Bioscience Center houses collaborative teams working on several different types of cancers including prostate, pancreatic and lung, among others. The facility is designed to enhance drug discovery and disease research capabilities on campus, integrating scientific expertise from the molecular level through disease modeling. The facility is home to several investigators from the National Cancer Institute-designated Purdue University Center for Cancer Research, working on innovative models of disease and development of new therapeutics and diagnostics.

UNIQUE FEATURES: This expansion of the Bindley Bioscience Center is designed to provide modern and flexible laboratory space with open floor plans to accommodate groups of scientists from any discipline. The facility contains state-of-the-art imaging areas with microscopy systems for cell-based imaging and whole organism imaging platforms. In connection with the Purdue Magnetic Resonance Imaging Facility, a 7-Tesla MRI scanner dedicated to research models is located within the MCRF. With Bindley's close link to the Birck Nanotechnology Center, the new wing also broadens Purdue's excellence in nanomedicine, which uses nanotechnology for advancing diagnoses and treatments of cancer, among other diseases. The facility also is designed to achieve silver level Leadership in Energy and Environmental Design (LEED) certification.



GERALD D. AND EDNA E. MANN HALL

OPENED: 2007 **COST:** \$12.4 MILLION

MAJOR FUNDING: Gerald D. and Edna E. Mann

SPACE: 25,000 assignable square feet of space for offices, conferences and research.

PROGRAMS: This facility is home to the Regenstrief Center for Healthcare Engineering, the Center for Regional Development and the Purdue Homeland Security Institute. The facility also houses Purdue's Global Sustainability Institute (GSI), which includes Purdue's Energy Center, Center for the Environment, Purdue Water Community, Center for Global Food Security and the Purdue Climate Change Research Center. GSI leads research in biofuels, solar, wind, clean coal, nuclear, batteries, water and hydrogen, as well as biodiversity, climate change, the carbon cycle, hydroclimatology, weather extremes and food security issues. Energy Center efforts include Purdue's Green Building Initiative, the Center for Coal Technology Research and the Advanced Ground-Vehicle Power project. The Center for the Environment leads the Species Naming and Conservation Initiative, the Sensory Landscapes and Intelligent Monitoring (SLIM) project and the Living Laboratory on the Wabash River (LLOW) preservation project. The facility also is home to the U.S.-China Ecopartnership for Environmental Sustainability and the Center for Global Soundscapes.

UNIQUE FEATURES: The building's architect and interior designer are from the first women-owned firm to design a Purdue facility. Design features include a flexible layout for new projects and contemporary, open spaces to foster collaboration. Mann Hall has videoconferencing capabilities in meeting rooms.



HALL FOR DISCOVERY AND LEARNING RESEARCH

OPENED: 2009 **COST:** \$25 MILLION

MAJOR FUNDING: Susan Bulkeley Butler, Sally and Ken Mason

SPACE: More than 56,000 assignable square feet, including 38,400 square feet for labs, offices, conferences and meetings.

PROGRAMS: This building is home to the Discovery Learning Research Center (DLRC), which focuses on science and engineering learning research. Experts in academia, industry and K-12 education converge to perform educational research and innovation to revolutionize learning in STEM fields — science, technology, engineering and math. The DLRC organizes and studies undergraduate student research internships. The building also houses the headquarters for the George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES), the Center for Predictive Materials and Devices (c-PRIMED), the Network for Computational Nanotechnology (NCN), and IMPACT, which is Purdue's academic course transformation project.

UNIQUE FEATURES: Flexible experimental learning environments in the DLRC foster multidisciplinary research collaboration. The large learning research space accommodates 100 seats; smaller research spaces seat up to 36 students. Cameras, microphones, projection screens, TV monitors and programmable lights can be mounted on an open grid ceiling structure to support innovation in teaching. Large science and project labs provide research environments to support wet and dry labs and technology-intensive learning. In addition to DLRC facilities, the building houses an instrumentation lab, which is administered by Purdue's Center for Analytical Instrumentation Development (CAID). The lab develops technologies for use in research in drug discovery, clinical diagnostics, environmental monitoring, and combating chemical and biological terrorism.



BURTON D. MORGAN CENTER FOR ENTREPRENEURSHIP

OPENED: 2004 **COST:** \$7 MILLION

MAJOR FUNDING: Burton D. Morgan Foundation

SPACE: 16,000 assignable square feet, including space for offices, meetings and conferences.

PROGRAMS: The Burton D. Morgan Center for Entrepreneurship programs are housed here. New to the building's second floor is the Purdue Foundry, a commercialization hub launched in 2013 by the Purdue Research Foundation for expanding the University's robust entrepreneurial ecosystem that involves every Purdue college, school and department. The Foundry provides entrepreneur-in-residence and legal and business expertise for new ventures. Burton Morgan also provides space for the Certificate for Entrepreneurship and Innovation Program, and the Small Business Development Office. In addition, it offers central meeting places for workshops, seminars and classes, working in conjunction with Discovery Park centers and the Purdue Research Foundation. The Purdue Research Foundation also coordinates Discovery Park Partners, a 10,000-square-foot facility located nearby at 1601 State St. DP Partners provides office and co-working space at a nominal cost to support early-stage startups and to foster industry partnerships.

UNIQUE FEATURES: The facility includes the Venture Café, a central meeting place for faculty, staff and students to network and for more formal events and workshops in Discovery Park. An outdoor patio, overlooking the scenic Discovery Park Fountain in McGinley Plaza, provides a comfortable spot for interaction and informal meetings. The 80-seat lecture hall in Room 121 is open to campus for presentations, workshops, business-plan competition presentations and other activities. The facility won the Boston Society of Architects' 2005 Design Excellence Honor Award.



DRUG DISCOVERY FACILITY

OPENED: 2014 **COST:** \$28 MILLION

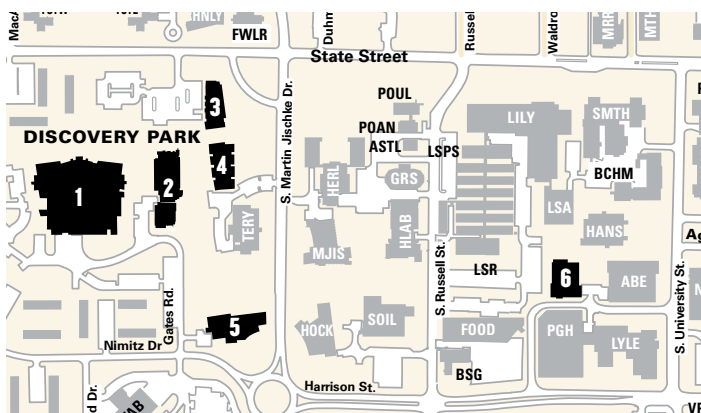
SPACE: More than 32,000 assignable square feet, including 24,000 square feet for labs, offices, conferences and meetings.

PROGRAMS: The three-story Drug Discovery Facility is designed to promote the discovery, design and development of new drugs through an innovative architecture that encourages collaborations in chemistry, medicinal chemistry and biology. The facility houses the Purdue Center for Drug Discovery, and accommodates more than 100 multidisciplinary researchers with nine faculty offices. Meeting rooms and common areas on each floor facilitate interaction and collaboration. The building provides facilities for organic synthesis, including over 80 fume hoods, as well as cell culture, analytical chemistry, molecule purification, biochemistry and molecular biology, and fluorescent imaging.

UNIQUE FEATURES: The lab design allows undergraduate and graduate students to observe experiments from outside through glass barriers, watching senior researchers perform experiments without having to knock on a door. While a part of Discovery Park, the facility is located on the main campus in the University's Life and Health Sciences Park, providing state-of-the-art space for synergistic, innovative research and training in the discovery, design and development of new drugs. More than 30 drug compounds developed by Purdue researchers, often in collaboration with pharmaceutical companies or federal agencies, are undergoing preclinical development and 13 molecules are in human clinical trials. The design of the new Drug Discovery Facility fosters greater collaboration, creating new types of spaces for research and learning.

PURDUE UNIVERSITY®

Discovery Park



- 1 Birck Nanotechnology Center
- 2 Bindley Bioscience Center: Multidisciplinary Cancer Research Facility
- 3 Burton D. Morgan Center for Entrepreneurship
- 4 Gerald D. and Edna E. Mann Hall
- 5 Hall for Discovery and Learning Research
- 6 Drug Discovery Facility

CONTACT INFORMATION

DISCOVERY PARK OFFICE OF ENGAGEMENT

Burton D. Morgan Center for Entrepreneurship

1201 W. State St. • West Lafayette, IN 47907-2057

Phone: 765-494-3662 • Fax: 765-494-9870

www.purdue.edu/dp • Email: dpengagement@purdue.edu

PURDUE
UNIVERSITY®