
CREATING INSPIRED SOLUTIONS THAT IMPROVE LIVES





We create inspired solutions that improve lives

Since 1975, BSA LifeStructures has dedicated itself to bringing facilities to life, creating facilities that support and enhance the practices of healing, learning and discovery as well as the people dedicated to them. With a balanced blend of inspired creativity, evidence-based design and 45 years of experience, BSA LifeStructures has created facilities for some of the nation's top healthcare, higher education and research institutions.

The architects, engineers, planners and interior designers take a coordinated approach to deliver solutions that create effective and efficient facilities. Design solutions serve as a bridge between the built environment and successful outcomes in healthcare, education and research. The Team at BSA LifeStructures takes pride in its ability to unite the strengths of outcomes based design to provide a comprehensive interdisciplinary approach to designing life enhancing structures.

MARKET TYPE EXPERTISE

- Academic & Medical Research
- Academic Science
- Administrative Offices
- Business Incubators
- Community College
- Community Hospitals
- Corporate Research
- Engineering / Technology
- Health Education
- Inpatient & Replacement Hospitals
- Oncology / Orthopedic / Cardiology
- Outpatient / Medical Office

NOTABLE CLIENTS

- Children's Mercy Kansas City
- Dow AgroSciences
- Duke University Health System
- Eli Lilly
- Indiana University
- Indiana University Health
- Indianapolis Airport Authority
- PolarityTE
- Purdue University
- UCHealth
- University of Notre Dame

The following pages showcase some of our more recent significant LifeStructures. The icons on each page denote a Healing, Learning, or Discovery project.

 Healing

 Learning

 Discovery

Studio Locations

BSA's robust list of clients provides the foundation of design leadership and expertise in the healing, learning and discovery practices.



Facilitating Discovery through Design

The labs we design produce superior outcomes. We realize that every research program is unique, and therefore the design solutions we develop are tailored to the objectives of the investigation performed while optimizing key characteristics of the discovery process.

Our planners and designers speak the language of the researcher. We know the equipment they use, the procedures they perform, and the elements they maneuver. Through our unprecedented experience, expertise and client satisfaction, we offer alternatives that enhance the process and challenge the status quo.

The approach we take to sustainability and resource conservation is to focus on results that address the research needs of today, while easily permitting adaptation for the science of tomorrow. We incorporate the latest technology in concert with proven methodologies that reduce energy consumption while maintaining operational simplicity.

We specialize in creating places that support the entrepreneurial spirit that leads to groundbreaking and life-enhancing discoveries.



6
REGIONAL STUDIOS
AUSTIN | DENVER |
INDIANAPOLIS | RALEIGH |
ST. LOUIS | TAMPA



200
EMPLOYEES
ACROSS MULTIPLE
DISCIPLINES



BSA IS REGISTERED
TO PROVIDE DESIGN
SERVICES IN
49
STATES

FACILITY TYPE EXPERTISE

BSL1, BSL2, BSL3 Labs
Business Incubators
Gene Vector Production
Robotic Sample Analysis
Flow Cytometry
Materials Characterization
Cell Repository
Optics Repository
Proton Therapy
Clean Rooms

Vivarium
Life, Plant, and Earth Sciences
Laboratories
Chemistry Laboratories
cGMP Facilities
Clinical Laboratories
Public Health Laboratories
Core Equipment Facilities
Federal Government Research
Interdisciplinary Research

NOTABLE CLIENTS

Bayer
BP
Corteva Agriscience
Covance
Lilly
Indiana Biosciences Research Institute
Indiana University School of Medicine
Purdue University

Together with our clients,
we are changing the way
discoveries are made.



Children's Mercy Research Institute

CHILDREN'S MERCY KANSAS CITY | KANSAS CITY, MISSOURI



The new Children's Mercy Research Institute transforms the field of pediatric research, integrating a translational model within a learning health system. Clinicians and scientists will work side by side in the collaborative space to benefit the smallest of patients.

This research tower is a nine-story vertical expansion atop an existing parking garage on the north end of the Adele Hall Campus for Children's Mercy Hospital in Kansas City. The research institute includes a new auditorium to serve both hospital and public needs, a discovery portal for community engagement, a conference center to serve hospital and research departments, a café, and several floors of research for dry and wet lab space.

Current pillar programs include genomics, therapeutic innovation, health outcomes and bioinformatics. The new facility provides space for new research programs, such as metabolomics and metagenomics, in addition to supporting the growth of emerging programs in systems biology, epigenetics, and molecular biology.

KEY FEATURES

- "B" occupancy facility
- Nine-story vertical expansion atop existing parking garage
- Office and research space
- Conference rooms, classrooms, and lecture halls
- Programs include genomics, bioinformatics, metabolomics, metagenomics, and molecular biology
- 400+ person auditorium designed to accommodate a multitude of presentation platforms

PROJECT DETAILS

SIZE	400,000 SF
COST	Withheld by owner
DATE	October 2020



Sciences Complex Addition & Expansion

BUTLER UNIVERSITY | INDIANAPOLIS, INDIANA



As academic trends and teaching methods evolve, Butler University wants to ensure their science facilities support today's and future needs by creating spaces that encourage interdisciplinary and collaborative learning and research. This project will incorporate adaptability and flexibility for changing curricula and pedagogy. The facility will embody principles of stewardship of natural and university resources.

Gallahue Hall and Holcomb Building were designed in an international style modern language in the 1970s to serve the sciences and business. The intent is to retain and enhance existing architectural character. The building master plan proposes a more efficient use of space. Academic and research space will be connected and grouped by department. Connectivity will be enhanced by placement of active learning classrooms and the reinvented library. Modular lab layouts will enhance flexibility and future adaptability. Research space will be open and shared.

KEY FEATURES

- 12 active learning classrooms each holding 24 - 100 students
- Science library
- Teaching and research laboratories
- Connection between two buildings for a unified science complex
- Programs served: biology, chemistry, molecular science, psychology, physics/astronomy, neuroscience, engineering
- International style modern character to be maintained and enhanced

PROJECT DETAILS

SIZE	Gallahue Hall: 121,000 gsf (reno.) Holcomb Building: 84,000 gsf (reno.) Levinson Family Hall: 60,000 gsf (new)
COST	\$84.7 M
DATE	August 2021

Advanced Research & Innovation Facility

INDIANA BIOSCIENCES RESEARCH INSTITUTE | INDIANAPOLIS, INDIANA



Indiana Biosciences Research Institute (IBRI) is applying bioscience to solve big problems, spark innovation through collaboration and achieve it's Mission, Discovery with Purpose. BSA designed and engineered IBRI's new headquarters and research laboratories, a tenant in the first building of the emerging 16 Tech urban innovation district just northwest of downtown Indianapolis.

Understanding, embracing, and supporting IBRI's mission, BSA worked intentionally with the research institute from conception through construction and occupancy. The result is a cutting-edge, collaborative, hub where researchers, innovators, and entrepreneurs within the life sciences ecosystem drive advances in diabetes care, nutrition, regenerative medicine, and new diagnostic technologies.

BSA's overall design of the building's lab spaces affords its client enormous flexibility to be able to change layouts and operations as cutting-edge applied research trends and methodologies dictate without requiring major space renovations.

KEY FEATURES

- Conference rooms outfitted with cloaking technology film, allowing the person passing by to see activity in the room while protecting the sensitive materials on monitors
- Research teams workstations adjacent to the lab
- Vertical opening above the second-floor reception desk is accented by a cantilevering, floating conference room surrounded by wood slat wall and glass
- Research labs are semi-transparent with decorative glass patterns that let light filter through while obscuring the research teams and their work
- Aircuity® system to optimize ventilation and increase occupants' productivity, which offers IBRI nearly \$30,000 in yearly energy cost savings



Strategic Facility Master Plan

MRIGLOBAL | KANSAS CITY, MISSOURI



The challenge behind this strategic master plan was to identify and accommodate the programmatic needs to support the company's business goals in a ten-year period of time. The strategic master plan was completed in 4 phases: facility assessment, information gathering, idea generation, and implementation strategy.

The client decided to expand the scope of the strategic plan to include two additional sites they thought might be better leveraged to meet the company's growth projections and subsequent space needs. The team then adapted to begin information gathering on the two additional sites while advancing the strategic master plan for the primary site.

The overall planning effort provided the best path forward for adapting and growing their existing facility to meet the company's growth plan.

KEY FEATURES

- Evaluate existing use of space and efficiency to provided the best path forward for adapting and growing
- Creation of a data-driven gap analysis of where the company is today vs. where they are projected to be in a 3- and 10-year time frame
- Sensitive Compartmented Information Facility (SCIF)
- Multiple lab typologies: chemistry, biology, diagnostic, analytical, surety, engineering, vivarium

PROJECT DETAILS

SIZE	250,000 SF
COST	N/A
DATE	2021

Laboratory Consolidation

PATHGROUP | BRENTWOOD, TENNESSEE



PathGroup is a privately held company headquartered in Nashville, providing comprehensive anatomic, clinical and molecular pathology services. The company's laboratory functions and supporting corporate management areas have been located across several buildings within a single office park, creating disconnected work functions and laboratory operations for the organization.

The primary goal of this project was to consolidate all laboratory functions within one building on a single floor. PathGroup wanted to provide collaborative spaces to meet employee and corporate needs while also providing functional flexibility for future expansion. The new laboratories incorporate a mix of fixed and modular design and respect the relationship of offices, restrooms and work spaces to research spaces. The design promotes collaboration and interaction among all users of the laboratory facility and provides convenient, aesthetically-pleasing and secured research space.

In addition to the 100,000 SF of laboratory space for this project, over 40,000 SF of supporting office space for research functions is provided, maximizing efficiencies between management and lab testing production.

KEY FEATURES

- Consolidates lab functions
- Flexible, collaborative space
- One of the nation's largest clinical automation lines
- Consolidation adds 200 jobs to the Nashville area

PROJECT DETAILS

SIZE	144,000 SF
COST	\$18.1 M
DATE	January 2019



Barnes Science Hall

FRANKLIN COLLEGE | FRANKLIN, INDIANA



The expansion and renovation of Barnes Hall Science Building supports Franklin College's growing and increasingly nimble science curriculum that focuses on undergraduate research. The new spaces feature flexible lab space and large research labs that are visible and proximate to other student resources to encourage collaboration.

The expansion and renovation enables Franklin to accommodate a continuum of student learning styles and puts science on display to engage science majors and other students. The building's layout facilitates group learning, informal collaboration and new instruction methods. The combination of the new curriculum and expanded space should help the science program sustain team-based learning, increase emphasis on undergraduate research and prepare students for the demands of the marketplace.

KEY FEATURES

- Learning spaces designed for experiential learning
- 80-seat collaboratorium features student and community learning opportunities
- "Grizzly paw" lab layout emphasizes collaboration and flexibility
- 40% increase in labs
- Maximizing daylighting and campus views
- Distributed faculty offices
- Dedicated student research labs
- Animal research space
- Collaborative science courtyard

PROJECT DETAILS

SIZE	22,000 SF (new) 28,000 SF (renovated)
COST	\$14.5 M
DATE	January 2019



2019 - IIDA Indiana Interior Design Excellence Award, Higher Education, Remodel



Innovation Development Center

CONFIDENTIAL CLIENT | MIDWEST



This global healthcare leader's facility is the first step in expanding their research and development (R&D) complex. The new building is part of continued growth of its Indianapolis footprint and will be the company's first full-scale facility that utilizes an entirely open approach.

The goal of this new collaborative and flexible space model is to collocate previously separated groups into a new research campus, specifically stressing collaboration, innovation, and speed-to-market of new therapies. The key to success will be flexible laboratories that can adapt as research and technology needs evolve, as well as open, interactive meeting spaces that are meant to spark creativity and multi-disciplinary problem-solving.

The design included implementing innovative spins on the classic fume hood. The client's design is unusual in that the company estimates that no more than 50 percent of its researchers will be operating their hoods at any given time and hoods are not dedicated to the individual, but are allotted based on specific projects. This design lowers energy consumption and operating cost.

KEY FEATURES

- Collaboration-centric workspace
- Flexible laboratories that can adapt
- Delivered via Integrated Project Delivery Model
- Pre-assembled modules (PAMs) that accommodate ever-changing utility requirements
- Using pre-assembled MEP infrastructure saved over 3,000 hours of site labor and conservatively over \$70,000 of the initial cost/budget

PROJECT DETAILS

SIZE	130,000 SF
COST	\$70 M
DATE	February 2018



2020 - IPSE Facility of the Year Award: Operational Excellence

2020 - Lab Manager Design Excellence Award: Innovation



Innovation Center For Medical Research & Development

COOK REGENTEC | INDIANAPOLIS, INDIANA

To grow Cook Medical's presence in Indianapolis, be a leader in the biologics revolution that is transforming medicine and attract world leading scientists to the local ecosystem, a change needed to be made to the facility built in 2012. The Cook Regentec project is an interior renovation of an existing warehouse which is home to the General BioTechnology and Regentec divisions. BSA studied the site and determined to create the space by expanding the existing building not by constructing a new, adjacent building.

After BSA performed the master plan, Phase 1 consisted of a new 2-story mezzanine area and renovation of existing first floor space for office use. During Phase 1, portions of the existing exterior walls on the northeast and southeast facades were removed and replaced with an aluminum and glass curtain wall. Phase 2 of this project involved more extensive renovations of the exterior building envelope as well as site and landscape modifications.

KEY FEATURES

- Located on the campus of 16 Tech - Indianapolis' innovation community (60 acres of creative space – makerspace, co-working space and research and wet labs, generous greenspace and event space)
- Partnership with the IU School of Medicine via INCITE allowing the opportunity to collaborate in attracting world leading scientists
- Addition of office and lab space to the facility, as well as exterior envelope renovation



PROJECT DETAILS

SIZE	Warehouse: 14,140 SF (reno) 8,371 SF (new) Exterior Skin: 45,165 SF (reno)
COST	\$7.3 M
DATE	January 2017



2018 - Monumental Awards:
Honor Award in Innovative
Reuse

Dudley Hall & Lambertus Hall

PURDUE UNIVERSITY | WEST LAFAYETTE, INDIANA



With Purdue's engineering and polytechnic programs expanding at a remarkable pace, the university needed space that could be a gateway to student success, enabling the future of engineering and polytechnic education, with an emphasis on to-scale experiential learning and real-world engagement in labs that are able to flex and pivot along with evolving marketplace needs and demands. The university wanted a building that could serve as a new gateway for the campus, welcoming people as they arrive from the east, complementing the campus' natural flow and serving as the first of a cluster of buildings in a newly defined campus district.

The first facility in what will be Purdue University's new Engineering and Polytechnic Gateway Complex, Dudley Hall and Lambertus Hall is one of the largest complexes on campus. The building will house interdisciplinary instructional space, design studios for senior and capstone projects, collaborative space supporting active learning and administrative office space. Built for flexibility, the building will include massive lab spaces that can support to-scale learning experiences ranging from manufacturing production lines to home and commercial construction projects, and from powertrain technology development to human integration processes.

KEY FEATURES

- New entry point or gateway to campus
- Lab spaces for to-scale manufacturing, engineering and construction
- Specialized interdisciplinary hubs (project based teaching labs, instructional labs, research labs, and virtual labs)
- Replacement for buildings on confined site, increasing usable space on site by 2.3 times
- Offices and administrative space

PROJECT DETAILS

SIZE	255,000 SF
COST	\$110 M
DATE	Est. January 2023



Technical Center Expansion

ICL PERFORMANCE PRODUCTS | ST. LOUIS, MISSOURI



ICL Performance Products, a global leader in developing products for food and industrial applications, required expansion of its technical support facilities housed in a St. Louis research park complex. BSA Lifestructures provided Lab Planning, Architectural, Interiors and MEP Criteria and Design Development for Design Build and final project delivery for the expansion which doubled the size of ICL's technical center applications.

This expansion provides increased space for the Food Specialties division at ICL, specifically in analytical laboratory spaces, bake pilots and test kitchen areas. Spaces include an enlarged bakery pilot plant, a test kitchen, a protein synergies laboratory, sensory evaluation facilities and technology for dairy, beverage and meat processing applications.

Additionally, a new main entry provides a welcoming arrival for the public and common areas. Office space was developed in close proximity to pilot functions for meat and dairy as well as the newly developed bakery pilot plant.

KEY FEATURES

- Food and industrial laboratory space
- Expansion of research facilities
- Bake pilot and testing kitchen areas
- New office space and meeting rooms
- New main entrance

PROJECT DETAILS

SIZE	15,000 SF
COST	\$5.0 M
DATE	January 2016

Neuroscience Research Building

INDIANA UNIVERSITY | INDIANAPOLIS, INDIANA



Positioned within a tight urban campus, the Neuroscience Research Building became a significant link for connecting leading research to clinical care. Design innovations expedite discoveries into practical application as well as achieve high sustainability ratings.

The facility's numerous connections for bringing research to people makes it exceptionally purposeful and elevates its level of sustainability. The structure links directly with the Neuroscience Center to easily offer collaborative research through technical support and centralized analytical facilities. It is connected to a People Mover system, which increases public access and alternative transportation. Positioned near other healing facilities, it connects research to care by expediting the translation of discoveries to practical applications. And it connects with its urban community by transforming a parking lot into a modern expression with windows, native landscapes and stunning views of the Indianapolis skyline.

KEY FEATURES

- Connection to outpatient neurosciences clinic
- Vertical vivarium
- Business incubator
- Interdisciplinary teams of researchers with disease-oriented focus
- Academic medical research
- Behavioral studies / neuropharmacology/ electrophysiology / electrochemistry / molecular / genetics / cell biology / functional imaging / biochemistry / proteomics / computational neuroscience / clinical neuroscience

PROJECT DETAILS

SIZE	140,700 SF
COST	\$37.3 M
DATE	February 2014



2015 - Monumental Awards: Merit Award in Architecture



Swain Hall Renovation

INDIANA UNIVERSITY | BLOOMINGTON, INDIANA



The Swain Hall East and West complex renovation offers a new environment for students and faculty while remaining true to the historic Bloomington campus. The facility houses physics and astronomy departments and will provide an distinguishable main entrance to the building while connecting the building to the campus and the University's iconic 20-acre Dunns Woods.

Due to multiple past additions, students, faculty and visitors have not been utilizing the building as much as the University would like. BSA Lifestructures' renovation plan entails multiple phases allowing the facility to remain in operation while under construction. The proposed solution will trim the structure so that historic buildings are revealed. An easily identifiable main entrance will also be added; leading guests into internal commons and building center. The exterior walls, windows and roof will also undergo restoration or replacement all while retaining the existing historical character of the building.

KEY FEATURES

- Building in use throughout construction
- Enhanced front entry
- Complete MEP systems updates
- New internal commons and building center
- Interactive environment for students and faculty
- Updates to academic and research spaces
- Repurpose of departmental library
- Restoration of exterior structure

PROJECT DETAILS

SIZE	183,162 SF
COST	\$36.0 M
DATE	August 2018

Hughes & Pearson Halls Renovation

MIAMI UNIVERSITY | OXFORD, OHIO



Built in a time when biological sciences labs tended to be closed-in spaces where students and researchers worked in isolation and classrooms were rigid and formal spaces. Not only had the prevailing approaches to research and teaching shifted toward more openness and collaboration, but the equipment needed to conduct research had changed in the 30-plus years since the Hall opened.

To address these needs, Miami University planned a major renovation. To allow programs to continue operating during renovations of Pearson Hall, appropriate "swing space" was first developed in Hughes Hall, and science programs were temporarily relocated in the multi-purpose labs.

Hughes Hall renovation consisted of 37,000 square feet of renovated space which includes multidisciplinary, flex-lab space on the second floor; a computer lab and a 60-person classroom on the third floor; and specialized learning spaces for the Engineering Department on the fourth floor. One key consideration in the renovation project was the use of utilities during and after the renovation – a challenge that was increased by the fixed, low floor-to-floor heights. The creation of lab spaces in areas that had not previously been utilized for this purpose required a careful assessment so the use of systems to deliver electricity, water, and gases could be done efficiently and effectively.

Pearson Hall renovation consisted of 173,441 square feet of existing space into classrooms and common areas promote conversation and the sharing of ideas and discoveries. The new labs include extended, movable workbenches and desks with multiple functions and modular spaces. Another feature of the renovation is the energy efficiency of the facility. Chilled beam system, redesigned airflows, and other improvements collaborated to reduce Pearson Hall's energy footprint by 50 percent – a result that contributed to the attainment of the LEED Gold certification.

PROJECT DETAILS

SIZE	210,441 SF
COST	\$63.9 M
DATE	Hughes Hall - June 2017 Pearson Hall - August 2020

KEY FEATURES

- Occupied multi-phased renovation
- Renovation of 1985 facility
- New labs include extended, movable workbenches and desks with multiple functions and modular spaces
- Reduced Pearson Hall's energy footprint by 50 percent
- LEED Gold certification



Martin C. Jischke Hall Of Biomedical Engineering & Innovation Wing



PURDUE UNIVERSITY | WEST LAFAYETTE, INDIANA

One of the world's top engineering schools has a freestanding building for its graduate and its first undergraduate biomedical engineering program. It houses the new Weldon School of Biomedical Engineering and its design was created hand-in-hand with the new program's curriculum. The space adapts to the interdisciplinary and ever-changing nature of science and research. It accommodates a threefold increase in faculty and serves as a gateway to Purdue's new Discovery Park.

BSA designed the current facility in 2006 in a way to allow a seamless future expansion which is being realized today. The Innovation Wing addition promotes increased interdisciplinary synergies across campus and strong working partnerships with medical device companies, fostering regional economic growth and the creation of new jobs.

KEY FEATURES

- 85-person lecture hall
- Academic gateway to Discovery Park
- Animal care suites / 5,200 SF vivarium
- Biomedical engineering / life sciences
- Consolidated all graduate programs in one location
- Flexible projects labs
- Formal and informal collaboration spaces throughout building
- Graduate and undergraduate research programs
- Optics labs, microscope rooms and tissue culture labs
- Wet and dry instructional labs

PROJECT DETAILS

SIZE	Original: 92,890 SF Addition: 30,405 SF
COST	Original: \$20.2 M Addition: \$14 M
DATE	Original: May 2006 Addition: July 2019



2009 - AIA Indianapolis Excellence in Architecture Awards: Merit Award, New Construction Over \$5 Million

2007 - International Interior Design Association, Indiana Chapter, Interior Design Excellence Awards: Best Idea Award (1st Place) in Education

2006 - Midwest Construction Best of 2006 Awards: Award of Merit, Research Category

Hobart and Russell Creighton Hall of Animal Sciences and the Land O'Lakes Center for Experiential Learning Complex



PURDUE UNIVERSITY | WEST LAFAYETTE, INDIANA

This new agricultural facility will provide a transformative environment which encourages collaboration and engagement among peers with diverse interests. Research within this department spans food production to human health as well as serving the Indiana community and the world; allowing this collaboration to occur will provide for solutions.

The new facility will contain state of the art research and teaching labs, USDA inspected meat lab, live animal spaces, offices and classrooms and USDA and State supported spaces.

KEY FEATURES

- More space to support rapidly growing undergraduate and graduate enrollment
- Technology-rich teaching and learning environments
- Animal sciences teaching laboratories and certified meat lab
- Space for state agencies and international collaborators
- Flexible boundaries in research laboratories and adaptable furnishings to allow for easy reassignment
- Vivarium to accommodate large range of species and housing types
- Research laboratory facilities to support computational, molecular science and interdisciplinary needs

PROJECT DETAILS

SIZE	123,000 SF
COST	\$60.0 M
DATE	September 2017



2019 - IIDA Indiana Interior Design Excellence Award, Higher Education New Construction



Health Science Building

CHATTAHOOCHEE TECHNICAL COLLEGE | ATLANTA, GEORGIA



Chattahoochee Technical College was in need of a brand new building that would allow for expansion of their sciences program as well as support new courses added to the college.

The Health Science Building is a three story health education facility built to support the Technical College System of Georgia.

The new facility is connected to the existing C1 building by a bridge on the second floor, giving students and faculty easy access between both structures. The new addition consists of preparation and storage space along with laboratory and health education space. The laboratory supports anatomy, chemistry, physics, microbiology, and biology courses. The expansion allows for the college to house new programs for the technical college such as Electroneurodiagnostic Technology and Dental Assisting.

KEY FEATURES

- Practical Nursing
- Dental Assistant Program
- Medical Assisting
- Occupational Therapy
- Medical Sonography
- Electroneurodiagnostic Technology
- Respiratory Care
- Chemistry, Biology and Physics Labs

PROJECT DETAILS

SIZE	79,145 SF
COST	\$19.3 M
DATE	January 2020

Center For Vector-Borne and Infectious Disease

COLORADO STATE UNIVERSITY, FOOTHILLS CAMPUS | FORT COLLINS, COLORADO



BSA designed a new lab facility on the CSU Foothills Campus to house the Microbiology, Immunology and Pathology Department faculty and researchers who were located previously in two different existing buildings. This project consolidates current space into a newly renovated, state-of-the-art facility with a functional research laboratory, insectary, and office space.

The ability to collaborate was a key design element in the development of the renovated facility. The new open office space allows for researchers to readily interact with their peers and share resources. Adjacent huddle spaces create semi-private areas for meetings and group work. Private meeting rooms are used for confidential conversations and focused work.

The building is designed to fit in with the existing campus, utilizing a material palette complementary to the surrounding buildings while staying true to the CSU campus aesthetic standards.

KEY FEATURES

- Open BSL-2 laboratory space allocating benches to research groups in an expansive area
- Convenient access to tissue culture suites and insectaries
- Opportunity for research staff and students to interact and grow, and to strengthen existing collaborations
- Seeking LEED Silver

PROJECT DETAILS

SIZE	38,000 SF
COST	\$18 M
DATE	October 2020



Drug Discovery Building

PURDUE UNIVERSITY | WEST LAFAYETTE, INDIANA



Purdue University's scientists are making drug discovery breakthroughs at the atomic and molecular levels. The new Drug Discovery Building provides the environmentally-controlled spaces needed to successfully develop new drugs, in particular, control of temperature, humidity and growth of molds. It is designed to encourage interdisciplinary collaboration and ground-breaking research in chemistry and biochemistry.

A research laboratory core is surrounded by offices and support spaces. This separates the lab zone from the office zone while still maximizing convenience, comfort and safety for the users. Windows into the labs maintain a visual connection among areas and enhance daylighting. All of the labs are designed so they can either be continuous and connected or separated into smaller clusters, creating flexibility and adaptability. Spaces also include an imaging center (NMR) with support space for animal housing, microscopy and tissue culture research.

KEY FEATURES

- Lab core surrounded by offices maximizing convenience and safety
- All labs are designed so they can be continuous and connected or separated into smaller clusters, creating flexibility and adaptability
- Animal housing, microscopy, tissue culture
- Biochemistry and chemistry laboratories
- Imaging center (NMR)
- Infill site, part of a new three building complex
- Seeking Green Globe Certification
- Windows into labs maintain a visual connection and enhance day lighting

PROJECT DETAILS

SIZE	65,400 SF
COST	\$21.0 M
DATE	March 2014

Lyles-Porter Hall

PURDUE UNIVERSITY | WEST LAFAYETTE, INDIANA



Lyles-Porter Hall blends academic, research and clinic space in an interdisciplinary facility that promotes inter-professional collaboration. The neighborhood design concept seamlessly blends six previously isolated programs providing unique identities while improving joint-synergies and operational efficiencies.

The Health and Human Sciences Building brings together the Speech, Language and Hearing Sciences Department, School of Nursing and the Indiana University School of Medicine-Lafayette in one interdisciplinary facility. The combination of academic, research and clinic space encourages interprofessional collaboration and reflects current healthcare practice with a team-based approach to wellness.

KEY FEATURES

- Analytical, biochemistry, audiology labs
- First building in new Life Sciences Quad
- Interdisciplinary academic, research and clinic space
- Organized by need for public accessibility - with public classrooms and clinics on first floor and restricted research spaces on third floor
- Psychological sciences, nutrition science, health kinesiology, medical education
- School of Nursing and School of Medicine
- Speech, Language and Hearing Sciences

PROJECT DETAILS

SIZE	112,000 SF (new)
COST	\$31 M
DATE	April 2014



Fred Pirkle Engineering Technology Center

SAM HOUSTON STATE UNIVERSITY | HUNTSVILLE, TEXAS



This building will be the gateway building at the main entry of campus in honor of Fred Pirkle. It will consolidate the Department of Agriculture and Industrial Sciences into one building for the first time to allow for maximum collaboration among different programs.

BSA LifeStructures has partnered with the Lawrence Group on the design of this engineering technology center. The facility provides space for inventing, prototyping, testing, manufacturing and marketing of new engineered products. Instructional places with mobile tables maximize flexibility including Electronics and Robotics lab, Wildlife / Physiology lab, and Horticulture Design Lab. All department faculty will be officed in this building which increases availability to the students.

The building itself will be transparent to the students by providing an energy dashboard to display current energy use of the building systems.

KEY FEATURES

- Industrial capabilities for production
- Multipurpose classrooms with moveable walls for flexible space
- Energy Systems and Sustainability lab including a wind tunnel for testing and access to outdoor space for solar panel studies
- Display / exhibition space throughout to display Fred Pirkle's inventions as well as student projects
- Outdoor terrace teaching space
- Agribusiness seminar rooms

PROJECT DETAILS

SIZE	56,500 SF
COST	\$16.6 M
DATE	September 2016

Everitt Lab Renovation

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN | URBANA, ILLINOIS



This complex renovation transforms the historic four-story Everitt Electrical and Computing Engineering Laboratory into the new home of the Department of Bioengineering. This is the first engineering-based medical school in the country.

Everitt Laboratory houses seven active learning classrooms and six classroom labs for undergraduate and graduate students. The facility as space to support the research efforts of 14 investigative teams and six computational teams. Office space is provided for departmental administration, all departmental faculty and teaching staff. Office space is also included for postdoctoral and graduate students associated with the 20 investigative and computational teams located in the building, along with conference and support spaces to facilitate interaction and collaboration.

KEY FEATURES

- Seven active learning classrooms (ALC)
- Teaching classroom and lab space
- Renovation of historic building and rooftop expansion
- Flexible space for multiple types of research
- Research laboratories
- Vivarium
- Administrative space
- Jump Simulation Center to train medical professionals
- LEED Gold

PROJECT DETAILS

SIZE	123, 711 SF (renovated) 13,052 SF (new)
COST	\$39 M
DATE	June 2018



McCourtney Hall of Molecular Science & Engineering

UNIVERSITY OF NOTRE DAME | NOTRE DAME, INDIANA

The new Multidisciplinary Research Building brings together the College of Science and College of Engineering in an open and collaborative lab environment with a focus on Drug Discovery.

In addition to anchoring the new quads the building will begin the formation of an internal courtyard shared by future research buildings. Clustering offices and research centers in the knuckle fosters a collaborative neighborhood of interdisciplinary teams. The research labs are modular and adaptable to accommodate evolving science and changing team sizes. Labs zones accommodate hood intensive or less hood intensive research. The lab diagram consists of two bays of modular benches and hoods. An adjacent bay of flex zone can accommodate lab, support, or team space. Team space is adjacent to the flex zone and is adaptable to varied team sizes.

KEY FEATURES

- Supports collaboration between the College of Science's Department of Chemistry and Biochemistry and the College of Chemical and Biomolecular Engineering
- Key programs include Drug Discovery, Biomolecular Research and Biochemistry Research
- Key core facilities include an NMR facility with four NMRs, a SEM facility and a Mass spectrometry facility
- The corner "knuckle" houses public entry and gathering, researcher offices and meeting areas
- The north wing and east wing house research labs at all levels
- Seeking LEED Silver certification



PROJECT DETAILS

SIZE	220,000 SF (New)
COST	\$60 M
DATE	August 2016



2017 - International Interior Design Association - Indiana Chapter, Interior Design Excellence Awards: Nominated in Higher Education New Construction

2016 - Architectural Precast Association (APA): Award for Excellence

Anna Hiss Robotics Institute

THE UNIVERSITY OF TEXAS AT AUSTIN | AUSTIN, TEXAS

The existing gymnasium building had been vacant for some time and during this time many departments have tried to find uses for the building. The two-story structure was built in 1930 and is in amazingly good condition, however the exterior needed to be stabilized and aging roof and windows replaced. The building originally housed women's athletics and is viewed as one of the historical buildings on campus with the original blended camel exterior brick and red Spanish tile roof matching the original campus buildings.

The University selected BSA to convert the building into a robotics laboratory. The vision was to pull the growing robotics program together on campus form the three schools and multiple building and campus locations into one space where a collaborative environment could be provided. This renovation provided a state-of-the-art facility that met all the modern technological needs of the research while maintaining the historic fabric of the Anna Hiss Gymnasium. One-of-a-kind research is now able to take place in a one-of-a-kind building.

KEY FEATURES

- Modern and flexible learning environment
- Adaptive reuse of a historical building
- Massive infrastructure upgrades leading to better energy efficiency
- Power and data redistribution to accommodate robotics labs
- Supports programs for aerospace and engineering mechanics, robotics, computer science, electrical and computer engineering, mechanical engineering, and fine arts
- Supports the University's partnership with the U. S. Army's modernization initiatives



PROJECT DETAILS

SIZE	55,240 SF
COST	\$23.4 M
DATE	June 2021



2022 - Associated General Contractors, Texas Building Branch: Outstanding Construction Best of Build

2022 - Learning by Design: Renovation / Multiuse Building Honorable Mention

2021 - Associated General Contractors, Austin Chapter: Outstanding Construction

2021 - Construction Owners Association of America: National Gold Medal

2021 - CODAwards: Landscape Design Merit Award



Painter Hall 2nd Floor Renovation

THE UNIVERSITY OF TEXAS AT AUSTIN | AUSTIN, TEXAS



The Freshman Research Initiative (FRI), started in the College of Natural Science (CNS) ten years ago, and has become a national model for science education. This experience with FRI led the University of Texas at Austin to establish experiential learning as the central theme of undergraduate education in CNS. The program prepares the next generation of scientists and citizens, and promotes innovation and shapes the future of science.

BSA LifeStructures was hired to complete the second floor renovation which greatly expands the FRI capacity. Approximately half of the research lab space requires major renovations including demolition, new casework, lighting, and rework / replacement of the mechanical, electrical and lab utilities. The remaining lab space requires minor renovation including refurbishing of casework, paint, lighting and minor mechanical, electrical and plumbing work.

KEY FEATURES

- 4 new Freshman Research Initiative (FRI) teaching laboratories
- 8 new research streams
- Supports an additional 280 students
- Project advances the mission of the college as it touches on three of the four major themes identified in the CNS 2013 Strategic Plan

PROJECT DETAILS

SIZE	9,038 SF (renovation)
COST	\$1.8 M
DATE	September 2018

Corporate Headquarters Office & Laboratory Renovation

VISIONFIRST | INDIANAPOLIS, INDIANA



When VisionFirst, the largest eye bank in Indiana, needed a new corporate office and lab spaces to support their growing business model, BSA committed to streamline our design and documentation to facilitate a faster process.

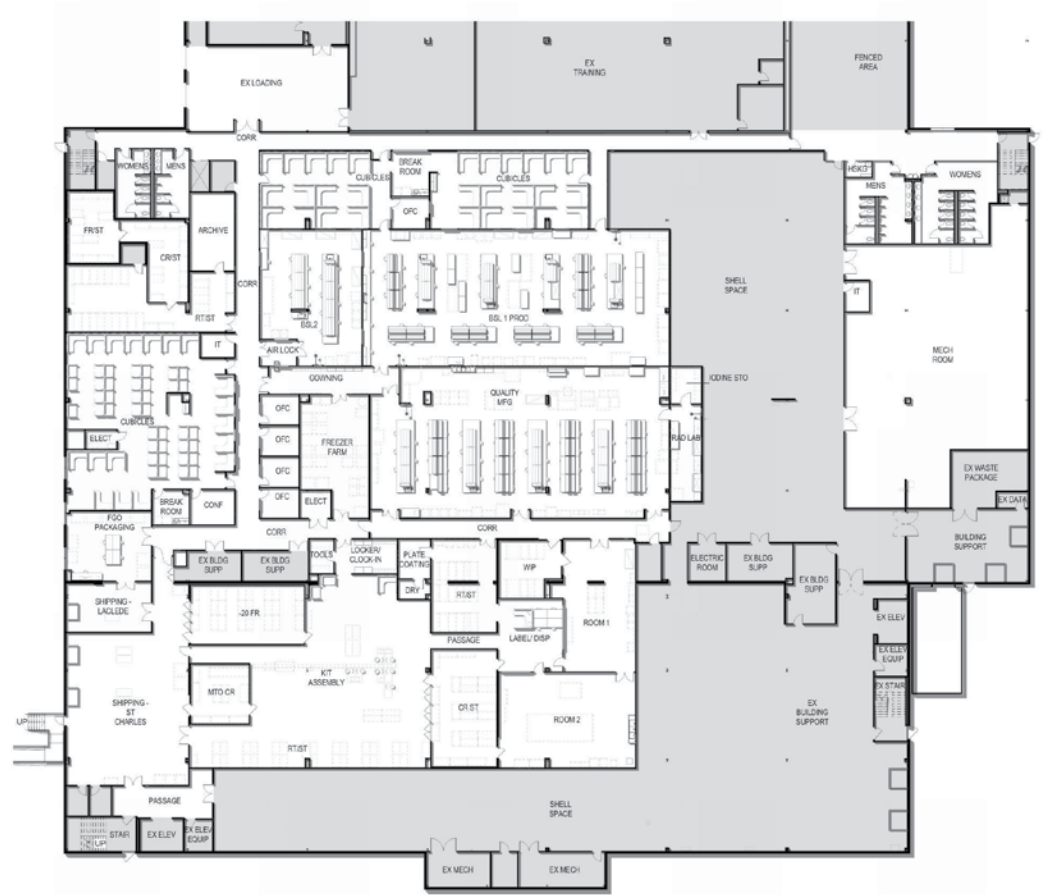
The collaborative design process resulted in bright, colorful open spaces for staff to work cohesively and efficiently on one floor and adequate space to house their laboratory activities. Not only do they now have clean room space for expanded procurement activities, the design provides a new training room for surgeons. The new ISO 6 laboratory has full-height glass windows so visitors can tour the facility without impeding on the clean room space. The new lobby and entry area the space openly displays and celebrates the exciting history and story of VisionFirst.

KEY FEATURES

- ISO 6 & ISO 7 clean rooms
- Labs with large windows for viewing
- Surgeon's training room
- Open concept office with collaborations spaces
- New branding opportunities
- History wall to celebrate firm development
- Room for future growth

PROJECT DETAILS

SIZE	21,000 SF
COST	\$1.75 M
DATE	June 2019



Whitaker Hall Biorobotics Lab

WASHINGTON UNIVERSITY IN ST. LOUIS | ST. LOUIS, MISSOURI



The main goal for the renovation was to develop a new laboratory and showroom, along with supporting spaces, to showcase the Cyborg BioRobotics researching currently being conducted on locust.

The renovated space showcases to the public, students, fellow researchers, and potential donors the important work being conducted while displaying the synergy between the biomedical engineering and biology departments. Focal points of the room are permanent locust habitats, training tables, flight-simulation wind tunnel, surgery center, and temporary holding spaces for the locust during demonstrations.

Form and function take on a special meaning with this project. The space is highly functional, with needed MEP upgrades and space for research. Glass and natural colors keep the focus on the work but allow for transparency. Dynamic lighting and splashes of color offer a feel of “futuristic”, inviting on-lookers a chance to see important research being conducted while keeping with the university’s color pallet.

KEY FEATURES

- On-stage display
- Conference room
- Vibration tables for insect surgery
- Flight-simulation wind tunnel
- Overnight habitat

PROJECT DETAILS

SIZE	1,200 SF
COST	\$505,000
DATE	September 2019

Gateway - Spruce Renovation

MILLIPORESIGMA (PREVIOUSLY SIGMA-ALDRICH) | ST. LOUIS, MISSOURI



MilliporeSigma’s Gateway Spruce Renovation converts unused space into research laboratories, production areas, and office space. The renovation allowed their groups around the St. Louis area to consolidate under one facility.

The design was delivered by providing a plan which showcased the possibility of bringing both office space and laboratory space together under one facility. BSA LifeStructures worked with the users to develop a design that would accommodate the flow and necessary separation of activities within the building.

The renovation includes the conversion of unused storage, refrigeration, and loading space into research laboratories and production areas, the separation of operation departments, individual laboratory systems, and integrated office space which aids work between laboratory and office.

KEY FEATURES

- Renovation of laboratory, refrigeration, and storage space
- Modification of existing structural walls
- Individual laboratory systems
- Emergency power system for critical operations
- Connected office space to laboratories
- Specialized ceiling to reduce noise levels

PROJECT DETAILS

SIZE	44,000 SF
COST	\$8.5 M
DATE	January 2017



Manufacturing Expansion

MO-SCI CORPORATION | ROLLA, MISSOURI

MO-SCI Corporation is a world leader in high quality precision glass technology. The MO-SCI team engaged BSA LifeStructures to design an expanded manufacturing space to address space needs and provide flexible environments adaptable to changes in manufacturing technology. The project consists of adding 66,000 SF of new space to the north side of an existing 43,000 SF facility. The existing warehouse area will be modified to be broken into a new material staging area for material to be received from the glass tube manufacturing facility, a private storage area with a motorized overhead door and a facility maintenance area. A new pedestrian connection will be provided to connect the new office and lab area to the existing office and lab spaces. The design includes an underground shelter for the storage of important materials and back-up machinery. Through this new design, MO-Sci's manufacturing process is improved by providing space for materials to systematically flow from raw material to finished product. The design adds office space, labs and storage to the existing facility, as well as a wellness area for employees.

KEY FEATURES

- 7 new offices
- Additional space for enlarged bathrooms and locker rooms
- Added space for an employee fitness center
- Over 3K space in additional laboratory area
- Over 18K in warehouse space



PROJECT DETAILS

SIZE	65,700 SF
COST	Confidential
DATE	October 2014

B-12 Vegetable Seeds Building

CONFIDENTIAL: GLOBAL LIFE SCIENCES COMPANY | WOODLAND, CALIFORNIA

This 90,000 sf seed research facility features an abundance of cutting-edge laboratories, including a HTL / Chippers lab, mycology lab, DNA lab, bacteriology lab and a diagnostics lab. The facility will improve the seed's ability to fight off diseases and provide consumers better vegetables and healthier oils. The new facility consolidates research efforts into a common structure that promotes efficiency and improves worker morale by giving them a common home. The unified space also allows the client to give tours of the groundbreaking research occurring in their labs. By using a back-of-house and front-of-house design approach, operational procedures are kept out of public spaces, thus improving efficiency and keeping corridors and visitor spaces clean.

KEY FEATURES

- Achieved LEED Certification
- Research space focused on flexibility
- Separate public and private corridors for touring



PROJECT DETAILS

SIZE	90,000 SF
COST	Confidential
DATE	May 2013

Creating inspired solutions that improve lives

bsalifestructures.com
800.565.4855

© 2023 BSA LifeStructures

