SCIENCE + TECHNOLOGY
We design for scientific discovery.

Scientific advancements and technological breakthroughs are the driving forces behind almost every industry on the planet. As populations grow, natural resources diminish, disease prevention and treatment become more complex, climates continue to change, and evolutionary and universal mysteries continue to be explored, science and technology will remain essential to expanding human knowledge and solving the challenges of the 21st century.
Crossing geographies and industries, our Science + Technology practice collaborates with teaching and research institutions across the globe. We create physical environments that act as a catalyst for cultural, organizational and process change — spaces where researchers can do their best work.

We’ve designed laboratories for developing life-saving cancer treatments, handling life-threatening pathogens, exploring autonomous transportation, fostering industry partnerships, and enhancing diagnostics and treatment for traumatic brain injuries. We’ve reimagined the scientific workplace, introduced new models for interdisciplinary education and helped change the paradigm of scientific research most critical to national security.

But the key to scientific progress is looking beyond what’s already been done. And that’s what our designers and planners do best — create future-focused spaces that incubate genius, lead to new scientific discoveries and push progress forward.
Our understanding of what it takes to design for scientific discovery is rooted in understanding the challenges our clients face.

**Recruiting & Retaining Talent**

The war for research talent is more aggressive now than ever and most organizations are actively trying to attract, develop, retain and leverage their workforce.

**What we’re doing about it:**
We developed the New Scientific Workplace model to create research environments that cultivate employee interests, increase their well-being, foster successful teams, strengthen loyalty and funnel employee enthusiasm into innovation and productivity.

**Compliance Requirements**

Institutions are increasingly subject to government regulations and guidelines that impose financial and administrative requirements.

**What we’re doing about it:**
We mitigate risk by having a rigorous quality control process that ensures guidelines for laboratory safety, animal care and use of hazardous materials are met — allowing researchers more time to conduct their work and less time spent on confirming compliance.

**Rapidly Evolving Technologies**

In fundamental ways, technology is changing how science is done, and thus, how scientific environments are configured and operated. Technology can and should improve scientific practices, but so often, it creates malignant complexity, and make things worse.

**What we’re doing about it:**
We embrace these technological challenges of the New Scientific Workplace, and can help make them simpler, friendlier and more effective.
Complexity of Collaboration

Although the science industry is awash with data, it struggles to encourage and enable the sharing of information among researchers. Most institutions acknowledge that interdisciplinary and transdisciplinary research is paramount to future scientific success, but bringing people together and spurring productive collaboration is complex.

What we’re doing about it:
We are on the cutting-edge of workplace strategy where our experts study behaviors, survey users and analyze data to create the most productive, efficient and enjoyable work environment for interdisciplinary teams.

Increased Funding Competition

Institutions are tasked with securing public funding from an ever-shrinking grant pool to sustain ongoing research and development. As a result, they have increased collaboration with the private sector to continue innovating and developing products for market.

What we’re doing about it:
We are at the forefront of this new model — creating environments that encourage and enhance industry collaboration where ground-breaking research and development can flourish.

Communication Hurdles

It is a well-known fact that a wide communication gap exists between the scientific and the non-scientific community, which has led to divided opinions and a lack of informed decision-making on science-related policies.

What we’re doing about it:
We create team-based learning and research environments that support interdisciplinary teams including scientific and non-scientific members in academia, corporate and government sectors to foster appreciation and understanding.
A LOOK AT TRANSFORM POWER
Blurring the boundaries between discovery and commercialization and transforming the notion of what a scientific workplace can be.

- Named 2018’s Laboratory of the Year by R&D Magazine
- New headquarters for CJ Corporation, one of Korea’s largest companies
- Includes nearly 50 different types of spaces that respond to researchers’ needs
- 700,000 sf of biotechnology, food and pharmaceutical research space
- 1.2 million sf
Creating design efficiencies to increase the production of ground-breaking cancer gene therapies.

- 2017 ISPE Facility of the Year Honorable Mention
- Increased programming efficiency by 25%
- Strategic layout reduces time to develop patient therapies by 50%
- cGMP facility in a high-rise building
- 30,000 sf
Capitalizing on a university’s strengths in science, engineering and health for an interdisciplinary approach to sports medicine and research.

- Will house research focused on neuroimaging, genomics, biomechanics and traumatic brain injury
- An orthopedics clinic will take advances from the labs to the broader community
- 40,000 sf of research and clinical space
- 340,000 sf
JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY, BUILDING 201
Laurel, Maryland

Optimizing the work environment for 500 of the nation’s top scientists.

- 200+ users surveyed during programming process
- 100% open workstations
- 50+ different collaboration environments
- 20+ different laboratory environments
- 263,000 sf
Facilitating a major paradigm shift in research culture by prioritizing interaction, visibility, and multiplicity of work venues.

- 2017 Laboratory of the Year Special Recognition for Innovative Systems
- Shared equipment affords more space for light lab or non-lab functions
- The coordinated design creates large open bays free of columns for ultimate flexibility
- High-performance curtainwall, automated building controls and an 80,000-gallon rainwater cistern contributed to its LEED Gold Certification
- 350,000 sf of laboratories
- 840,000 sf
Creating a global destination where customers work alongside scientists and engineers to solve the greatest challenges in life science.

- Serves as a global customer destination
- Highly branded experience with bold colors, fixtures and furniture
- 15,000 sf M Lab provides a non-GMP environment for hands-on training, customer experiments and troubleshooting
- 60,000 sf of specialty laboratory space
- 350,000 sf
YALE UNIVERSITY
STERLING CHEMISTRY LAB RENOVATION
New Haven, Connecticut

Preserving a historical building’s exterior while inserting state-of-the-art chemistry and biology labs into a challenging interior space.

- MEP designed to strategically fit in plenum areas within existing 11'-6” floor-to-floor height
- Sustainable lighting, energy recovery systems and chilled beams contribute to its LEED Gold Certification
- 24,656 sf of additional program area created on third floor
- 4,290 sf of outdoor space reclaimed
- 93,000 sf
Rethinking the future of transportation in an R&D hub dedicated to self-driving technologies, mapping and vehicle safety.

- Every work area has room for toolboxes, carts and prototypes
- Includes fully functional machine shop where autonomous cars are engineered, built and tested
- 80,000 sf
Supporting the development of emerging academic needs and other programmatic evolutions during the life of the building.

- Maximize integration between teaching and research
- Promotes a wide range of opportunities and research experiences
- Designed to meet the university’s green building standards (LEED Silver anticipated) including features like high-performance HVAC systems, water-efficient fixtures, recycling areas and environmentally sensitive landscaping
- 316,000 sf
Fostering strategic industry partnerships in an environment that cultivates collaboration, fosters entrepreneurship, accelerates commercialization and fuels future research.

- Dedicated laboratories for corporate partnerships
- Vibration-sensitive labs
- Large scale visualization labs for climate science
- Roof houses a weather observation room
- 243,000 sf
UNIVERSITY OF KANSAS
EARTH, ENERGY AND ENVIRONMENT CENTER
Lawrence, Kansas

Inspiring the next generation of energy and environmental leadership by creating dynamic environments to bridge institution and industry.

- Adaptable research labs are focused on unconventional research within the fields of geology and engineering
- Shared-use research platforms and transparency enable team-based research and develop new connections to industry
- 127,000 sf
WEBSTER UNIVERSITY
BROWNING HALL, INTERDISCIPLINARY SCIENCE BUILDING
Webster Groves, Missouri

Exponentially expanding a university’s interdisciplinary science programs.

- Triples the number of science labs on campus
- Interdisciplinary health sciences facility
- Simulation labs prepare students to enter the contemporary workplace
- Design encourages interdisciplinary collaboration as well as student and faculty collaboration
- 88,000 sf
Stacking a translational research building over a clinical vascular institute where clinicians and researchers meet in dynamic situations to move science from the bench to the bedside.

- Over a dozen design awards won
- Integration of a clinical vascular institute, academic research center and entrepreneurial institute in one program
- Houses the "Jacobs Institute" in the collaborative core to foster entrepreneurial discoveries
- Delivered two years ahead of schedule with $20 million of savings over traditional procurement
- 476,500 sf
TEXAS CHILDREN’S HOSPITAL
FEIGIN RESEARCH CENTER
Houston, Texas

Allowing researchers to intensify life-saving pediatric research while bringing discoveries directly into patient care.

- 2010 Laboratory of the Year Honorable Mention
- Full floor of GMP space for gene therapies
- Expanded vivarium and new animal imaging center
- First pediatric clinical simulation lab in the U.S.
- Phase I – 151,000 sf renovation from clinical to research building
- Phase II – 222,172 sf vertical expansion to the existing 12-floor research building
Real-world settings facilitate student education, research and treatment.

- Rebrands a micro-campus for the College of Health and Human Services
- Unites occupational therapy, nursing, nurse anesthesia and physician assistant studies departments
- Flexible classrooms, specialized skills labs and simulation labs support team-based learning
- Outpatient clinic open to public provides real-world experience for students
- Community space flows throughout, enabling informal collaborations among undergraduates, graduate students and faculty
- 58,000 sf
MIT LINCOLN LAB
ADVANCED COMPOUND SEMICONDUCTOR LABORATORY (CSL) / MICROELECTRONICS INTEGRATION FACILITY (MIF)
Lexington, Massachusetts

**Updating, consolidating and enhancing facilities that develop solutions to challenges critical to national security.**

- Building design to provide highly sensitive vibration control
- Collaborative office space and high-hazard laboratory spaces
- Supports more than 40 different programs critical to national security
- Careful selection of exterior assemblies and mechanical equipment enhanced energy performance by 30% and contribute to the LEED Silver rating
- 35,000 sf class 10/100/1000 clean room
- 160,000 sf
Employing advanced sustainable strategies for an energy efficiencies research laboratory.

- Flexible, high bay test chamber
- 90% of regularly occupied areas have direct line of sight to outdoor views
- LEED Gold
- 17,800 sf
CannonDesign is an integrated global design firm that unites a dynamic team of architects, engineers, industry experts and builders driven by a singular goal — to help solve our clients’ and society’s greatest challenges. Our more than 1,000 employees partner with clients across a multitude of industries, including commercial, healthcare, education, science, civic and sports. In 2017, Fast Company named CannonDesign one of the 10 most innovative architecture companies in the world.

#9
U.S. Science & Technology Firm
World Architecture

350+
science and technology projects completed

500+
design awards won

$5.1B
of laboratories completed

25M
sf of science and technology facilities designed

3
Laboratory of the Year Award distinctions
Our integrated services span the full lifecycle of an organization’s transformation — allowing us to help clients develop new strategies for their future, and design and build the solutions to get there.

Architecture
Consulting & Planning
  Change Management
  Equipment Planning & Procurement
  Experiential Design
  Master Planning
  Operations Design
  Predictive Analytics
  Space Programming
  Transition Planning
  Workplace Strategy
Construction Delivery Services
  Construction Management
  Cost Estimating
  In-house Design-Build
  Modular Design and Construction
  Pre-construction Services
  Program Management
  Public-private Partnerships
Engineering
  Commissioning
  Electrical
  Mechanical
  Structural
  Plumbing
  Technology
Environmental Graphics
Facility Optimization
Interior Design
Lighting Design
Sustainable & Resilient Design

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