IBE Celebrates 25 years of Taking Research to Practice
When you stand back and consider the benefits that have come to IBE, the students, and the communities we have served since 1994, it’s rather remarkable. As CSU’s 2019 Spring Semester ended, we asked our 12 student research fellows and interns to present their big takeaways from the projects they are working on at IBE. If you could’ve heard each student’s revelations, you would have shared our awe at the impact that IBE is having on student learning. It’s a great formula – real project engagement, addressing real community and global issues, and each IBE student and staff member sees real solutions unfold through real collaboration. In the past 25 years, we’ve collaborated with thousands of students and professionals on over 200 projects in the built environment, allowing us to co-learn and grow along with them as we work together and each new project develops.

As you explore IBE’s annual Year In Review, keep in mind that your support of IBE, by connecting us with potential projects as well as donations to our student scholarship fund, allows IBE to advance the development of healthy, thriving built environments that benefit communities, our planet, and our students, who are the future leaders of regenerative built environments!

Brian Dunbar, Executive Director

The Institute for the Built Environment is based at Colorado State University.

We form interdisciplinary teams of faculty, students, and off-campus professionals to take research to practice.
Celebrating our first 25 years of taking research to practice.

Twenty-five years ago, Nancy Hartley became Dean of what was then known as the College of Applied Human Sciences and immediately encouraged interdisciplinary faculty to spend a summer week at Pingree Park (now CSU’s Mountain Campus), exploring the potential for interdisciplinary collaboration. A small group of faculty from Interior Design, Construction Management, and Historic Preservation worked together in hopes of brainstorming a successful grant proposal. The first two days were rather uncomfortable as we sorted through grant programs without focus, potential, or direction. On the second night, someone unveiled six packs of Zima, the clear malted beverage that Coors had just introduced. The ensuing synergistic discussions lead to the creation of the Institute for the Built Environment (IBE). Twenty-five years later, we give immense credit to Dean Hartley while jokingly giving a nod to the strange tasting beverage.

From its inception, IBE has been about interdisciplinary teamwork to advance sustainability in the built environment. More recently, we have been seeking to promote regenerative design and development; going beyond the idea of sustainability to imagine ways to generate increasing health and vitality in people, places, and the planet.

At IBE’s heart are our student interns. After gaining project experiences at IBE, our interns go on to have meaningful and impactful careers. For instance, our first intern, Katherine (Pettit) Wagenschutz is on the leadership team with the Washington, D.C.-based U.S. Green Building Council. Other former interns are leading sustainability efforts nationally and locally, from Chicago and Austin, to locations throughout Colorado, like New Belgium Brewing, and at CSU.

IBE has always been a shining example of a land-grant research center — we teach, facilitate project teams, and perform applied research that directly benefits communities and built environment professionals across Colorado and beyond.

Many deserve thanks for IBE’s first 25 years, including Gailmarie Kimmel (coordinator of our Green Building Certificate Program), Josie Plaut (intern turned Associate Director), our Advisory Boards (many of whom have contributed years of guidance and financial support), Larry Grosse (former head of the Department of Construction of Management) and Jeff McCubbin (retiring Dean of the College of Health and Human Sciences).

On the following page, you’ll see some fun facts about our first 25 years, but here are a few more we’d like to include.

- First directors: Brian Dunbar, Matt Syal, Linda Kiisk, and Jim Reidhead
- First employee: Gailmarie Kimmel
- First Green Building Certificate class: 2004, CSU Denver
- Number of professionals taught in courses: approximately 1,200
- First LEED project: Fossil Ridge High School (3rd certified high school in the U.S.)
- First International Project: Seacombe West, Victoria, Australia
- Longest serving board members: Carol Dollard (CSU Facilities Management Energy Engineer) and Steve Steinbicker (Principal Architect, Architecture West)
- Institute location: Routt Hall (SW corner of W Laurel St. & S. College Ave.; and one of CSU’s historic buildings). Routt Hall’s namesake, Eliza “Lila” Pickrell Routt, was first female serving on the State Board of Agriculture and the creator of CSU’s Domestic Economy program.

IBE staff, interns, and directors have enjoyed many collaborative opportunities at conferences, annual retreats, group outings, and holiday parties. While we haven’t gravitated back to Zimas, IBE staff, interns, and partners can thank the strange beverage for its role in assisting in the formation of the institute. Cheers to another 25 years!!
IBE’S FIRST 25 YEARS

- Geographic Reach: 10 States & 4 Countries
- Interns and Fellows: 94
- Colleges & Departments: 8 & 30
- Staff Hired: 18
- Clients: 120
- Total Projects: over 225
- LEED Certifications: 55
- Whitepapers Published: 10
- Conferences and Proceedings: 150+
- Staff: 18
What we do

We advance the development of healthy, thriving built environments.

We provide research and services in five key areas that align teams, simplify sustainability, and create meaningful outcomes.

EDUCATION

Education, research, and service span across our key service areas. While almost all of our work involves some level of hands-on education for students, many of our projects also intertwine education with either research or professional service, and sometimes both.

At our core, IBE has always been about education. Whether educating students through the Sustainable Building Emphasis in the Construction Management program, leading overseas courses in the U.S. Virgin Islands and Costa Rica, educating 1,200 professionals through our Green Building Certificate Programs, or offering custom education programming, IBE has been a leader in green building education.

Over time, IBE has focused on a variety of research areas, moving with the industry and the interests of the faculty, staff, and students who have made up the organization. Foci over the years have included integrative design process, healthy buildings and indoor environmental quality, green schools and buildings that teach, community-based sustainable design, and life-cycle assessment. In 2016, CSU's Office of the Vice President for Research recognized IBE as a Program of Research and Scholarly Excellence.

At the heart of IBE’s mission and vision is advancing the development of healthy, thriving built environments and connecting research to practice. We now have 25 years of experience providing an unbiased service approach to all of our projects that connects our partners to cutting-edge research at CSU and positively impacting organizations and communities.
Students are the heart of what we do.

Students learn through hands-on experience working on projects through research and service to our clients. Our internship program has included nearly 125 interns from across the university system. In addition to our internship program, we have a thriving fellowship program in which our fellows help to push sustainability in the built environment forward through student-led research projects.

“IBE provided a solid foundation for my career in sustainability. At IBE I learned to speak about various components of sustainability to different stakeholders. My IBE internship was a great launching pad to my current role as a sustainability consultant.”

~ Melody Redburn, P.E., 2018 Masters in Global Social & Sustainable Enterprise, now a sustainability consultant at the Brendle Group.

“The IBE fellowship enabled me to apply skills developed in my academic program to a real-life project. It was an amazing learning opportunity and helped me to enter a network of professionals working toward a carbon-neutral future.”

~ Hazelle Tomlin, 2018 Masters in Greenhouse Gas Management & Accounting, now at the New Zealand Central Government.

Our student mentorship program is truly interdisciplinary.

IBE students represent almost every college at CSU. Our students learn from each other and from their projects. They graduate ready to impact the industry.

IBE has between eight and twelve student interns at any given time from programs across campus. In addition, through our Program of Research and Scholarly Excellence designation, we annually engage two interdisciplinary fellows.

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Green Building
We simplify the certification of high-performance buildings.

Third-party certification is essential for team accountability and for public trust of high-performance projects, but it can often be a cumbersome process. Our 25 years of experience managing certifications such as LEED has provided us with the skills to simplify the process and achieve the highest levels, while making it fun and inspiring for the project team.

Our core services in this area include administration and management of third-party certification projects, green building consulting and project management, as well as integrative design and charrette facilitation.

Green building education and third-party certification was one of the first services provided by IBE. Our first LEED certification project was Fossil Ridge High School for the Poudre School District. The challenge was to give students the best learning environment possible, with comfortable, healthy and productive classrooms. The building is nearly 300,000 square-feet and has energy bills that are 30% lower than typical high-schools of the same size in Colorado.

Fossil Ridge High School, Fort Collins CO

Today, IBE continues to provide green building and third-party certification management for teams throughout the design and construction of their buildings. IBE provided sustainability research, consulting, integrated design facilitation, and LEED management for the City of Fort Collins’ Utilities Administration Building, completed in 2016. The 37,000 square-foot building offers a collaborative environment that brings together City departments that were previously located in six different offices. The building was the first in Colorado to be certified Platinum under LEED v4 for New Construction, third in the U.S. and fourth in the world, and is an outstanding model for energy efficiency and occupant comfort. It was also the initial home to the first perennial outdoor living wall in northern Colorado, which will move to the Butterfly House at The Gardens on Spring Creek in summer of 2019.

City of Fort Collins Utilities Administration Building
Facilitation

We facilitate teams to make better decisions, faster.

Stakeholder engagement is essential to innovate projects. If you’re like most, you’ve probably found it hard to get alignment with so many people in a room. If so, your project could probably benefit from an external facilitator. Facilitators ensure your group doesn’t get lost in politics, power struggles, or lack of alignment on goals and strategies. At IBE, we facilitate design charrettes, community workshops, and strategic planning that push your team toward higher levels of innovation and success.

Our core facilitation services include team formation and vision workshops, community engagement, organization sustainability and strategic planning, and interdisciplinary research team facilitation.

Facilitating green building charrettes and integrative design for high performance green buildings is IBE’s longest standing service area. Starting in the 1990’s, IBE facilitated dozens of design charrettes for school districts, municipalities, universities, and private parties. Many of these projects went on to earn LEED certification, and they include some of the highest performing green buildings in the country.

Now

Today, we continue to provide time-tested and research-based facilitation across a growing number of project types and audiences. Recently, IBE became the primary charrette facilitator for the City of Fort Collins’ Utilities Integrated Design Assistance Program, helping local project teams set the groundwork for realizing high performance green buildings.

Expanding our work into policy and environmental justice, we facilitated a series of multi-stakeholder workshops focused on creating a just and equitable transition to a clean energy economy in Colorado. Representatives included labor groups, environmental non-profits, communities of color, and faith-based groups.
Organizational Sustainability

We help develop programs that enhance organizational sustainability performance.

Organizations have a great opportunity to lower operating costs and to improve the quality of their buildings and occupant behavior through sustainable practices, but it can be difficult to know where to start. We provide a proven process for defining organizational strategies, program design and management, sustainability reporting, behavior engagement, assessment of existing building performance, and assessment of building occupant comfort and wellness.

IBE began our organizational sustainability work almost by accident. In 2011, local community members suggested that we work with a national student housing developer, Campus Crest, to help them green their proposed project. Before committing to working with them, we stated a number of conditions, including company-wide sustainability education, which led to full scale corporate sustainability initiatives and reporting.

Human-centric organizational sustainability is now one of the largest service areas at IBE. We specialize in program development and program management across a diversity of client and project types. From strategy to corporate education to content-based social marketing, we help companies, municipalities, and non-profits identify and realize their sustainability goals. In 2018, we began working with BranchPattern, a building engineering consultancy and design firm, to help develop and implement its new company-wide design thinking initiative. We were also recently designated by the International WELL Building Institute as one of only six pre-approved WELL v2 survey providers globally.
Community Vitality
We guide the design & enhancement of urban environments to improve the health of communities.

Many of our greatest problems and opportunities in the built environment are at the urban scale. We use our skills in community facilitation and program development to support municipalities and community coalitions to make a meaningful impact on the health and vitality of urban environments. Our work includes city programs and policy, community-based design and engagement, and research.

Our work in community vitality began through a catalytic grant from the CSU Office of the Vice President for Research. As a result, we have been able to develop programs and services around multi-sector engagement focused on co-creating district scale solutions for health and equity in the built environment. The district scale is at a sweet spot for scope: it’s large enough to require a systems approach, yet small enough to manage and affect change.

Then

NOW

Today, our work in community vitality continues to provide a meaningful platform for IBE students and staff to engage important questions about community health. We work on topics such as active living, food systems, and transportation equity, as well as civic engagement and education through community based participatory design. The Urban Lab, which is an initiative within our community vitality work, has brought a broad and dynamic set of contributors together for over six years to provide a platform for the public to play a role in design conversations that they would otherwise not have access to. Through this platform, we engage with, educate, and learn from our community about what makes Fort Collins great.
Regenerative Development

We guide teams to move beyond minimizing harm, toward ongoing value and benefit creation.

Teams often feel like they spend a lot of time on sustainability only to make incremental change. What if we shifted our approach and focused more on creating benefit? Through regenerative development practices, we cultivate capacity in people, communities, and natural systems to renew, evolve, and thrive.

In 2007, a small group of IBE staff and students sought to explore and redefine the potential for truly local, benefit-producing built environments. What started as a napkin sketch evolved into LENSES (Living Environments in Natural, Social, and Economic Systems). With a little funding and a lot of determination, we engaged over 400 professionals, students, and community members to advance the core framework and develop the LENSES rubrics.

To advance the work of LENSES, in 2011, IBE worked with CSU Ventures to trademark the LENSES Framework and start the non-profit organization CLEAR (Center for Living Environments and Regeneration). CLEAR has developed extensive educational offerings based on the LENSES Framework, engaging professionals and practitioners from around the world in building their capacity for regenerative design and development. In 2018, IBE partnered with CLEAR to write and publish the white paper *Becoming a Regenerative Practitioner: A Field Guide*, which is proving to be a popular resource in the growing field of regenerative practice.
2018 | Colorado Lifelong Homes: A Review of Barriers and Solutions for Aging in Place

By Raina Benford, Stephanie Barr, Nichole Kain & Elicia Ratajczyk

Colorado’s aging population is growing, yet our housing options are not evolving to support this population. This paper summarizes key research and industry trends related to lifelong homes, the barriers in the marketplace, and key qualities of lifelong homes.

2018 | A Story of Place: Fort Collins, Colorado

By Josette M. Plaut, Beatrice Ungard, & Ben Haggard, with contributions from Diane Jones, Callahan Seltzer & Colin Day

Fort Collins anticipates 100,000 new community members in the next 15 years. Concerns about this accelerated development ring true for many Front Range towns and cities and raise important questions. This paper explores what makes this city unique to help inform our direction and who we become in the face of change.

2018 | Urban River Restoration: Bringing Nature Back to Cities

By Roderick W. Lammers & Colin Day

IBE fellow Rod Lammers and staff member Colin Day provide an overview of urban river restoration and its benefits, exploring the concepts by analyzing a planned urban river restoration project on the South Platte River in Denver, CO.

2018 | Becoming a Regenerative Practitioner: A Field Guide

By Josette M. Plaut & Emily Amedee

The journey to becoming a regenerative practitioner necessitates both conscious and continuous commitment to five practice areas: Systems Actualizing, Framework Thinking, Self-Actualizing, Developmental Facilitating and Living Systems Understanding. This paper offers the first stepping stones toward a life-long journey of regenerative practice.
Leadership & Staff

Our staff come from a diversity of educational and research backgrounds, which enables us to engage across a broad spectrum of built environment applications. Our professional backgrounds and education include design and architecture, social science, systems thinking, adult education, business, strategic facilitation, regenerative development, and biology. These diverse skills converge in a shared approach to the work we do. We are proud to work together, to serve CSU and to be driven by the land-grant mission to support our Colorado communities.

Brian Dunbar
Executive Director

Josie Plaut
Associate Director

Jeni Cross
Director of Research

Jen Schill
Senior Project Manager

Colin Day
Project Manager

Elicia Ratajczyk
Project Manager & Researcher

Tamara Martin
Office Manager

Advisory Board Members

IBE asks its board members to commit time, talent, and treasury. Board members have a diversity of talents that they bring to the institute. Talent is cumulative, and we believe that collective talents generate the best solutions. Members work with IBE to help assure financial stability and health. They also promote IBE to potential project partners and donors, and to consider contributing resources to advance the Institute’s work. We are proud to have worked with the following board members over the past ten years.

Annette Stelmack,
Founding Principal, Inspirit

Annie Lilyblade,
President, Salt Design

Carol Dollard,
Energy Engineer, CSU Facilities Management

Doug Dohn,
Owner, Dohn Construction

Dr. Angela Loder,
VP Research, International WELL Building Institute

Dr. Jeff McCubbin,
Dean, CSU College of Health and Human Sciences

Dr. John Fitch,
Ecologist, Educator, and Author

Jane Choi,
Associate Professor, CSU Dept. of Horticulture and Landscape Architecture

Dr. Katherine Leigh,
Strategic Planner, Architecture Domain

Dr. Stephen Reynolds,
Professor and Associate Department Head,
Greg D. Fisher, Architect

Judy Dorsey, President, Brendle Group

Steve Lapos, Principal, Alvarez & Marsal

Susan McFadden, CFO, Solaris Energy

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Dr. Jeff McCubbin, Dean, CSU College of Health and Human Sciences

Dr. John Fitch, Ecologist, Educator, and Author

Jane Choi, Associate Professor, CSU Dept. of Horticulture and Landscape Architecture

John Phelan, Energy Services Manager, City of Fort Collins

Kevin Brinkman, CEO, Brinkman

Laura Mallink, Director, Nancy Richardson Design Center

Peter Backlund, Associate Director, CSU School of Global Environmental Sustainability

Rodolfo Valdes-Vasquez, Associate Professor, CSU Dept. of Construction Management

Steve Steinbicker, Principal Architect, Architecture West

Tom Hootman, Associate Principal, Integral Group
Private donations support graduate students in advancing IBE’s strategic initiatives in ways that our project work cannot - by translating research to practice that helps guide the entire green building movement forward. Your gift will support students through scholarships, stipends, and student workspace improvements, making it possible for IBE to create white papers, trainings, and other tools free to the public. We are deeply grateful to the following contributors.

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Workplace Resource Inc.
Xcel Energy

Looking to the future

As we move toward an increasingly uncertain and seemingly precarious future, our work at IBE is more important than ever. We believe that humans already have the technology and knowledge necessary to create a healthy and thriving future for all. The questions we seek to address at IBE have less to do with technology per se, and more to do with awakening the will to put that technology and our collective intelligence to work for the benefit of current and future generations. Our aim is to advance the development of healthy, thriving built environments by cultivating and equipping project teams, companies, municipalities, and students to do meaningful and impactful work together.

We see four frontiers that will shape the built environment industry over the next decade:

Wellness. Global megatrends focused on health and wellness are showing up in every aspect of life, including our built environments. From research to technology, biophilia to microbiomes, we will continue to see increasing focus on health in the built environments.

Resilience. The effects of climate change locally, nationally, and globally demand that we reconsider how we conceive, design, and adapt our built environments.

Equity. Growing awareness around equity, social justice and inclusion, especially around the issues like social determinants of health, gentrification, and access to opportunities, are reshaping the way we think of urban renewal, urban/rural connectivity, building design, and beyond.

Regenerative Development: Regeneration offers us a pathway to re-imagine the role of humans contributing to increasing place-based health and wellbeing. Through whole systems thinking, accounting for uniqueness, and developing human potential, we can realize our role and responsibility for becoming positive contributors in our social and ecological systems.

Looking 25 years into the future seems almost impossible. But two things are certain: we will get there together and we are so grateful to have you all as partners and co-conspirators along the way!

Josie Plaut, Associate Director
INSTITUTE FOR THE BUILT ENVIRONMENT
COLORADO STATE UNIVERSITY

25 years of advancing the development of healthy, thriving built environments