

# NC STATE Design

## 2021-2022 Annual Report

Dean Mark Elison Hoversten, Ph.D., FASLA, FCELA, Assoc. AIA, AICP

*The College of Design serves the citizens of North Carolina by providing outstanding, accessible, public design education while raising the college and university profile.*

**Mission:** We transform the world through design education and research.

**Vision:** The College of Design will be the leading public interdisciplinary design college.

### Brief Program Rankings:

- #22, 2022 Best Colleges for Design in America, Niche, 2022
- #30, Art + Design Schools in the U.S., QS Rankings, 2022
- #7, Art + Design Public Schools in the U.S., QS Rankings, 2022
- #2, Best Environmental Design Bachelor's Degree Schools, College Factual, 2022
- #10, Top Animation Master's Programs in the U.S., Animation Career Review, 2022
- #12, Top 25 Public Augmented and Virtual Reality Colleges in the U.S., Animation Career Review, 2022
- #1, Top 50 Public Graphic Design Schools in the U.S., Animation Career Review, 2022
- #22, Top 50 Best Value Bachelor of Industrial Design Degrees, Value Colleges
- #9, Most Hired from Landscape Architecture Schools (1-35 graduates), Design Intelligence

### Empower Students for a Lifetime of Success and Impact

- Architecture and Landscape Architecture students participated in a two-week collaborative design exploration with MASS Design Group, the 2022 AIA National Firm of the Year. Working with MASS, students conducted research on memorials and racial justice. Student teams created hypothetical design schemes for sites in Raleigh, Wilmington, and Durham.
- Eastman has a longstanding partnership with the Industrial Design Program. Students are gaining real-world experience while reducing waste by designing environmentally friendly food packaging using new compostable material that looks and acts like single-use plastic containers often used by the restaurant industry. Students are involved in several Eastman-sponsored studios, including one focused on using sustainable plastics like Tritan™ Renew to innovate kitchen appliances and other household items, and one studio focused on using Tritan™, Cristal™ or Cristal™ One to reimagine cosmetics packaging.

- The DDes program is focused on the development of transdisciplinary research design skills and professional development strategies for practicing mid-career designers; mature design professionals are able to complete their studies and dissertation online and part-time while continuing to advance full-time life and careers. The program is enrolling five new students for FY23, bringing the total number of active students to 28. In AY 21-22, five DDes students reached ABD status: completing preliminary exam requirements for their degree.
- 16 Architecture students had their work selected for the *Say It Loud* exhibition at the NC Center for Architecture and Design. The exhibition features work by women and BIPOC designers.

### **Ensure Preeminence in Research, Scholarship, Innovation and Collaboration**

- Matthew Peterson is Co-PI on a \$1.3M NSF grant, along with PI Karen Chen from the College of Engineering and Co-PI Cesar Delgado in the College of Education. The grant, *Virtual Reality to Improve Students' Understanding of the Extremes of Scale in STEM further develops Scale Worlds*, a virtual environment that allows students to seemingly scale themselves up or down by powers of ten, using an interface that enhances number sense (numeracy) in standard and scientific notation.
- School of Architecture Head David Hill worked with a team of scholars at NC State to recreate the sights and sounds of St. Paul's Cathedral and its environs in 17th century London, funded by grants from the National Endowment for the Humanities. The Virtual St. Paul's Cathedral Project featured visual models from both current School of Architecture graduate students and alumni. The project has been added to the London Metropolitan Archives, which is the chief repository of historical materials relating to the history of London.
- Carolina Gill and Kelly Umstead's NIH-funded \$3M Research project was invited to exhibit at the Smithsonian National Museum of American History during the ACCelerate Creativity and Innovation Festival. ACCelerate is programmed by Virginia Tech's Institute for Creativity, Arts, and Technology and the Smithsonian Institution's Lemelson Center for the Study of Invention and Innovation. Creative exploration and innovative research happening at the intersection of science, engineering, arts, and design from across the Atlantic Coast Conference (ACC) and the Smithsonian Institution are displayed during the festival.
- Associate Professor of Architecture Dana Gulling received \$50,000 over the past two years from the National Concrete Masonry Association to offer a third-year studio that examined innovative applications of concrete masonry units in building design. Thirty-eight students participated in a design project with studio instructors and industry representatives. The connection between studio and industry emphasizes student success in technical education related to building

materials and construction and reinforces real-world learning. Students from the studio have been recognized for design excellence in competitions.

- Five faculty recently authored or received contracts for books:
  - Helen Armstrong, “Big Data, Big Design: Why Designers Should Care About Machine Learning,” Princeton Architectural Press, 2021.
  - Dr. Traci Rose Rider, “Building for Well-Being: Exploring Health-Focused Rating Systems for Design and Construction Professionals,” co-author Margaret van Bakergem, Taylor and Francis, 2021.
  - Lesley Ann Noel, “The Black Experience in Design: Identity, Reflection & Expression,” Allworth, 2022.
  - Jarrett Fuller, “1, 10, 100 Years of Form, Typography and Interaction at Parsons,” Oro Editions, 2022.
  - Jianxin Hu, new edition, “Building Environmental Control Systems,” Cognella, 2022.
  - Dana Gulling has received a contract from Routledge and is working on a new book with the working title of “Custom Components in Architecture.”
- Burak Erdim served as a guest editor for the Summer 2021 issue of *Southern Cultures*, Vol. 27, no. 2: *Built/Unbuilt*.

### **Expand and Advance our Engagement with and Service to North Carolina and Beyond, Defining the Standard for a 21st Century Land-Grant University**

- Three projects from NC State students in Landscape Architecture and Environmental Planning were featured as part of the Green New Deal Superstudio sponsored by the Landscape Architecture Foundation. This program translates the Green New Deal into actual projects by landscape architecture programs in higher education, as well as professionals.
- School of Architecture students designed and built a new gathering pavilion for the Penny Lane Farm as part of their Summer Design + Build program with Professors of Practice Randy Lanou, Erik Mehlman, and Ruby Reeves. The Summer Design + Build Studio takes projects from inception to completion in just eleven weeks. Students experience client relationships, site planning, schematic design, design development, construction documentation, permitting and approvals, budgeting, site preparation and development, construction and detailing, vendor and trade partner management, project closeout and delivery.
- Ten students in the Department of Landscape Architecture and Environmental Planning engaged in a Design + Build program at Princeville Elementary School to build shade structures, seating, desks and planters for the courtyard with Associate Professor Carla Delcambre.

- A collaboration between the College of Design and the Duke University Center for Advanced Hindsight (CAH) recently brought home one of the coveted 2021 GDUSA Health + Wellness Awards™ for their work promoting COVID-19 vaccination in rural North Carolina counties. The team was composed of faculty, students and alumni from the College of Design Department of Graphic and industrial Design, as well as 12 behavioral scientists from CAH, with the mission of improving vaccination rates in Cabarrus, Catawba, Gaston, Haywood and Union counties. Over the course of six months, the team developed a research strategy which included the input of 1,896 residents, health workers and government officials to identify attitudes, knowledge and myths surrounding vaccinations.

### **Champion a Culture of Equity, Diversity, Inclusion, Belonging and Well-Being in All We Do**

- The DEI Subcommittee addresses college DEI concerns and initiatives, and engaged in an initial Office for Institutional Equity and Diversity (OIED) Credential DEI Audit of the college, which included tool refinement and survey development. Planned for curriculum-based audit of each department.
- In spring 2022, industrial design juniors participated in a sponsored project with Lenovo to create product concepts for people with visual impairment and the elderly. Master of Industrial Design students collaborated with the Wilson College of Textiles and NC Spinal Cord Injury Association to design accessory and wearable products for people with spinal cord injuries.
- The Freshman Advancement Seminar (USC 110) taught by Tameka Whitaker provides an opportunity for a diverse student population to explore the question of race and cultural differences in a global society. The course represents an opportunity to have a positive impact on the matriculation and graduation rate of diverse student populations through positive reinforcement, affirmation of cultural heritage and background.
- Assistant Professor of Art + Design Dr. Lesley-Ann Noel brings underrepresented voices into everyday design education through social innovation, inclusive community-led research and public health solutions. By creating tools such as the Designer’s Critical Alphabet and the “Who Am I” Positionality Wheel, she is making conversations around race and bias more common in classrooms and workplaces.

### **Improve University Effectiveness Through Transformative Technologies, Cutting-Edge Processes and Actionable Data**

- The college added a Ceramic 3D printing lab, additional VR/AR and digital fabrication hardware, and a new makerspace at 111 Lampe Drive.

- College diversity review: evaluating faculty salaries for pay equity, tenure track positions filled by underrepresented minorities, and promotion of URM faculty through the ranks and into administration. This resulted in one equity-based salary adjustment.
- ISA data was used to inform both enrollment growth funding allocations as well as the DEI audit undertaken by the college.
- Continued use of zoom for college leadership and committee meetings and for student critiques and reviews. This afforded flexibility in attendance increasing participation of faculty and staff as well as diversifying collaborations with external constituents.
- The college manages a program that provides additionally-discounted Adobe Creative Cloud licenses to students. Students save almost \$100 per year through the discount.

### **Lead in Developing Innovative Partnerships, Entrepreneurial Thinking and Applied Problem-Solving**

- Design Lab's field trip program is often considered a first step into design professions for many students in North Carolina. Students are exposed to more development opportunities through its Design Camp and its complementary program, the Digital Design Lab. Over the course of the summer Design Lab opened their Digital Design Camp. Students completed discipline-specific projects, participated in team-oriented design challenges and built a greater understanding of the design process. By the end of the program, each student curated their work into an online gallery exhibition for an end-of-week virtual reception with their families.
- Students in graphic design participated in sponsored studios for The Laboratory for Analytic Sciences, SAS Analytics, and Red Hat. Students were asked to consider real-world problems related to interface design, machine learning and data ethics.

### **Elevate the National and Global Reputation and Visibility of NC State**

- Faculty continue to be engaged with external media outlets, including *The Architect's Newspaper*, *Architect Magazine*, *INDY Week*, *Triangle Business Journal*, the *London Metropolitan Archive*, the *News & Observer*, and others.
- GD students worked with the NC State Licensing office and designed an NC State wine that was successfully launched and commercialized.

### **Changes to Service Environment**

- New faculty community & development sessions were designed to provide support to untenured, tenure-track faculty. Monthly meetings were held. Panels were organized around the

following topics: Mentorship; RPT; Understanding the college and university organizational structures; and Creating your workflow with RPT in mind.

- The college held three retreats: a fall faculty retreat, winter staff retreat, and all college spring retreat. These retreats included content on return to campus, work life balance (presented by author and consultant Jennifer Peavey) and microaggression (presented by Dr. Stephanie Helms Pickett, Associate Vice Provost, Office of Institutional Equity and Diversity (OIED)).
- Staff in most units are working 1-2 days remotely. Our operations unit has no staff members working remotely.

### Instructional Program Advances

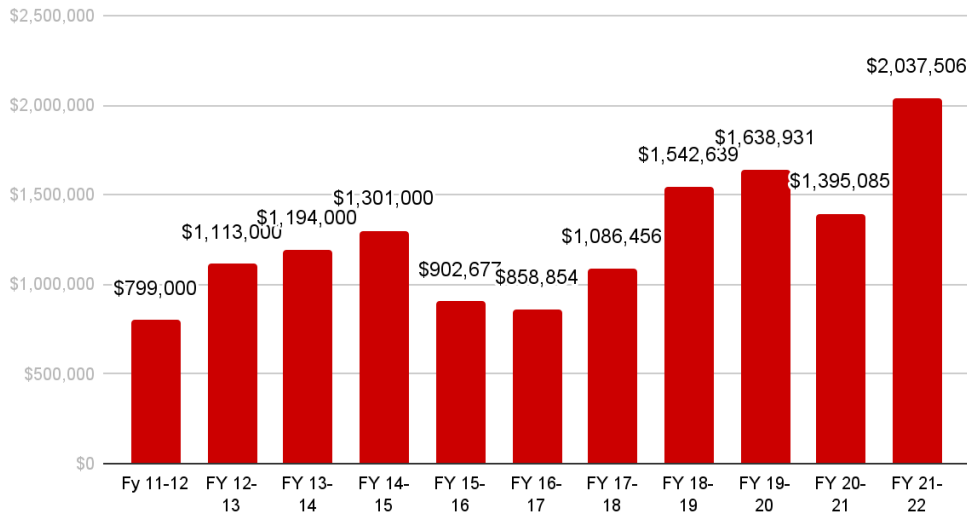
- Degree name changes sought: 1) Change from Bachelors of Graphic Design to Bachelors of Graphic and Experience Design and 2) from Masters of Graphic Design to Masters of Graphic and Experience Design.
- The School of Architecture has launched a new post-professional degree program: the Master of Advanced Architectural Studies (MAAS).
- The following programs underwent successful accreditation reviews or external reviews, with accrediting bodies or review groups in parentheses: Landscape Architecture (Landscape Architectural Accreditation Board); Industrial Design and Graphic Design (National Association of Schools of Art and Design); Art + Design (NC State Graduate School and DASA); and the PhD in Design and Doctor of Design programs (The Graduate School).

### Research

**Table 1: 2021-2022 College of Design Research Activity Dashboard**

Research Activity Dashboard			
	FY 21-22 (Jul '21- Jun '22)	FY 20-21 (Jul '20 - Jun '22)	% Change
<b>Number of New Proposals Submitted</b>	53	54	<b>-2%</b>
<b>Dollar of New Proposals Submitted</b>	\$16,941,808	\$18,303,554	<b>-7%</b>
<b>Number of New Awards Received</b>	42	30	<b>40%</b>
<b>Dollar of New Awards Received</b>	\$2,676,659	\$1,843,187	<b>45%</b>
<b>Research Expenditures</b>	\$2,037,506	\$1,395,085	<b>46%</b>
<b>Direct Cost</b>	\$1,600,783	\$1,138,230	<b>40%</b>
<b>Facilities and Administration (F&amp;A)</b>	\$426,825	\$256,855	<b>66%</b>
<b>Effective F&amp;A Rate</b>	27%	23%	<b>17%</b>

## Research Expenditure Trend - Contracts and Grants



- College of Design received 2021-22 F&A funds (\$78,601) from the Office of Research and Innovation on Aug. 18, 2021.
- 46% of the returned F&A funds (\$36,091) were returned to the Dean's Office.
- 19% of the returned F&A funds (\$15,000) were managed by the College's Office of Research and Extension in support of cost-shares/required matching funds for grants (including FRPD seed grant), college-level memberships to research associations, facilitation of faculty development activities, research administrative fees, and research admin staff continuing education.
- 35% of the returned F&A funds (\$27,510) were reallocated to PIs in support of expanding scholarship/research programs/operations, specifically to acquire or create resources; attend conferences etc.

### Key Research Activity:

- Matthew Peterson is Co-PI on a \$1.3M NSF grant, along with PI Karen Chen from the College of Engineering and Co-PI Cesar Delgado in the College of Education. The grant, *Virtual Reality to Improve Students' Understanding of the Extremes of Scale in STEM further develops Scale Worlds*, a virtual environment that allows students to seemingly scale themselves up or down by powers of ten, using an interface that enhances number sense (numeracy) in standard and scientific notation.

- Deepti Adlakha recently received a grant from Prince Sattam bin Abdulaziz University for a project titled “Physical Activity and Neighborhood Design for Adolescents in Saudi Arabia (PANDA - Saudi Arabia).”

### Extension

- PhD student Ashley Anderson led a 3-hour professional development workshop for teachers at Bugg Magnet Elementary School on design-based instruction for non-design classes. Ashley Davis, director of the Design Lab for K-12 Education, organized and advised on the workshop, and Associate Professor Matthew Peterson presented along with Anderson.
- Department Head of Graphic and Industrial Design Lu Liu and IBM professionals led students in Design It Forward, a Special Topics Design Course (ID 492) in which students work with local non-profits to understand and solve problems the non-profits face. In the Spring of 2022, students partnered with an Interfaith Prison Ministry for Women, Foster Families Alliance of North Carolina, and are collaborating with the North Carolina Judicial Branch on an initiative to promote virtual court hearings.
- Traci Rose Rider (PI) and J. Aaron Hipp (Co-PI, College of Natural Resources) worked on a \$350,000 research project funded by the Robert Wood Johnson Foundation titled "Built Environment and Community Health." This interdisciplinary research project began in 2019 to evaluate the impact architectural design can have on community health. The hybrid design of the school incorporates both an elementary school and a YMCA. This school also exists on a larger campus which includes income-based housing, meditation spaces, community gardens, and other areas designed to promote wellness in vulnerable populations.

### Faculty

Select faculty honors, awards, and recognition:

- Robin Moore won the 2021 Joe L. Frost Award for Distinguished Research.
- Meg Calkins was recently inducted into the Council of Educators in Landscape Architecture (CELA) Academy of Fellows. CELA only has 70 fellows throughout North America, and the organization comprises over 120 institutions and 11 regions that cover North America, Australian, New Zealand, Europe and the Pacific Rim.
- The College of Design named Kofi Boone as the Joseph D. Moore Distinguished Professor.
- The College of Design named Wayne Place as the Goodnight Distinguished Professor in Architecture.
- Matt Griffith was named the twentieth recipient of the Kamphoefner Prize.
- Matthew Peterson was awarded the Outstanding Teacher Award by NC State University.



- Director of the Natural Learning Initiative Deepti Adlakha, along with her colleagues, has received a UGPN award for her project titled “Less Netflix, More Nature! Unlocking the Potential of Green Social Prescriptions to Reduce Health Inequity and Strengthen Environmental Sustainability.”
- The Coastal Dynamics Design Lab was selected to win this year's Opal Mann Green Engagement and Scholarship Award from the NC State Office of Outreach and Engagement.

## Students

Select student honors, awards, and recognition:

- Architecture students took first place in the Fentress Global Challenge design competition for airports. This is an international competition.
- Two students representing Art + Design and Graphic Design won scholarships from the AIGA Worldstudio Scholarship program. 23 students were selected out of over 200 applicants.
- Industrial design student Lindsey Dotson is part of a winning team that designed an in-home mold detection device to help people maintain healthy homes. Students from the College of Design’s industrial design program and from Boston College won third place in the 2021-2022 Stanford Center on Longevity’s Design Challenge competition. Over 120 groups entered from 33 countries.
- Landscape Architecture student Stephanie Kelly was chosen as a member of the 10th cohort of Global Change Fellows.
- Landscape Architecture student Brian Vaughn was accepted into the inaugural cohort of the KIETS Climate Leaders Program.
- Doctor of Design student practitioner Chris Mismash recently gave a talk as part of TEDxNCState.
- Doctor of Design student practitioner AJ Polanco was invited to be a member of the World Wide Web Consortium’s working group for Child Accessibility.

## Fundraising

- The College of Design raised a total of \$23.2M during the Think and Do the Extraordinary Campaign, surpassing our original \$13M goal and \$20M aspirational/stretch goal.
- \$2.8M raised in FY 2022 (as of 6/30/22).
- Notable major gifts (\$50,000+) secured this year included:
  - Second distinguished professorship for the College of Design, directed to the Industrial Design program, committed as a planned gift.

- 9 major gifts (outright and planned) and \$905,000 secured for new and existing College of Design scholarship funds.
- \*Over \$50,000 raised from more than 30 donors to the Roger Clark Architecture Speaker Support Endowment, to host guest speakers to the School of Architecture.
- Additional naming gift for the Design Center at 111 Lampe Drive, the Industrial Design program's new facility.
- Second Extraordinary Opportunity Scholarship Initiative (EOSI) scholarship endowment funded.
- The College of Design had another record-setting Day of Giving in 2022, raising \$474,885 from 373 gifts, exceeding last year's 309 gifts by 21%.

### **Administration**

- Reorganized Dean's Office: Hired associate dean position of research, doctoral programs, and global engagement to raise the profile of research and coordinate doctoral programs.
- Reorganized college extension to improve college-wide engagement and work more closely with university extension.

### **Recommendations and Concerns for the Future**

- Faculty and staff retention continues to be the biggest challenge facing the college: Salaries are not competitive with peer institutions.
- Amount of space presents a challenge: Despite the addition of 15,000 SF at the Design Center at Lampe Drive, the college does not offer the full amount of university recommended space per student for studio.
- Aging facilities present a challenge:
  - The environment (regrowth of mold in and on duct work as well as musty carpets) in the Matsumoto wing of Brooks Hall remains a problem. The HVAC system was to be replaced this summer (2022); however, bids were three times the anticipated, budgeted amount. As a result the system upgrade has been pushed off and the problems persist.
  - College facilities are not accessible. Safety and permeability (by non-university individuals) remain an issue.
  - Digital and additive making facilities are situated in spaces that were not designed for current use. This has created a challenging workflow, limits access, and does not highlight our capabilities well to external constituents.