



2017-2022 Strategic Plan

*Working Together to  
Advance Environmental  
Education and Research*

Duke

NICHOLAS SCHOOL OF THE  
ENVIRONMENT



forging a sustainable future





# Dean's Introduction

The Nicholas School's founding a quarter-century ago was a bold statement about environmental education, especially interdisciplinary training at the professional master's level. Since then, environmental schools and degree programs have proliferated, corroborating the basic model but diluting our novel position. During the same time, environmental issues have emerged as educational and research themes in other professional schools. At Duke, these interests are very much evident in Business, Engineering, Law, Medicine, Public Policy, and elsewhere. While this pervasive engagement on environmental issues is a positive development, it does invite – even demand – that we declare and define our own role in this arena.

## OUR POSITION AS A SCHOOL OF THE ENVIRONMENT IS DEFINED BY A FEW HALLMARKS:

- An intention to understand the earth and the environment, including humans, as an integrated whole, which is aided by our being the only environmental school with a trio of key assets: geosciences expertise, a marine lab, and a university forest
- An emphasis on fundamental physical, life, and social sciences, paired with applied tools, skills, and approaches needed to work effectively in environmental management and policy
- Interdisciplinary collaboration in both teaching and research, within the School and with partner schools and institutes at Duke and elsewhere
- A flexible and individualized approach to training and mentorship, with educational programs spanning pipeline programs for pre-college students, undergraduate majors and non-major engagement, professional master's programs including a distinctive program for working professionals, multiple PhD programs, executive education courses, and opportunities for alumni engagement
- An institutional commitment to diversity and inclusion in all aspects of School life.

## THREE ADJECTIVES CAPTURE MUCH OF WHAT WE ASPIRE TO, TODAY AND IN THE FUTURE:

**EXCELLENT:** We boast a world-class faculty, talented and dedicated staff, and high-achieving students. With staff support, our faculty and students conduct innovative, influential research. And as a school, not a government lab or contract research institute, we are committed to fully engaged and effective teaching and mentoring.

**RELEVANT:** Our research addresses the most compelling environmental challenges, which affect people – all people – at local, regional, and global scales. Our educational programs prepare students to address those challenges through the careers they want to pursue, in a variety of timely application areas and job sectors.

**PERSONALIZED:** In all our educational programs, we offer a curriculum, advising, and mentoring that can be customized to build on students' individual backgrounds and work experiences, while preparing them to meet their career goals.

We are proud of the School's accomplishments, including the nearly half-century of accomplishments by the Department of Geology, Marine Lab, and School of Forestry before they merged to form the Nicholas School. Yet, we can do better, and we must. Our faculty compete intensely for grant funding that has not grown as rapidly as the number of researchers chasing it, and our educational programs compete for top students with environmental programs at major research universities and leading liberal colleges across the country. Environmental degradation affects all people, and so we need to engage society broadly defined to address it; yet our current faculty, staff, and students represent only a narrow slice of the socioeconomic diversity of U.S. and global populations.

We will be more successful in facing these challenges if we confront them with a sense of common purpose, the belief that we are a single School despite the great range of our research and educational programs and our split location on campuses 200 miles apart, on Duke's main campus in Durham and at its Marine Lab in Beaufort. This plan presents the ideas our faculty and staff have formulated to build a stronger Nicholas School community and in other ways advance excellence in research and education. We combine the ambition of a relatively young school with the experience passed down to us from our predecessor institutions. Given those traits, I look forward to fast but sure-footed progress toward the goals articulated in this plan.

Jeffrey R. Vincent  
Stanback Dean, Nicholas School of the Environment



**Mission:** To create knowledge and global leaders of consequence for a sustainable future



We strive to fulfill this mission by:

**Creating knowledge** through basic, applied, and multidisciplinary research in the relevant physical, life, and social sciences designed to expand our understanding of the Earth and its environment.

**Creating global leaders** through

- An undergraduate academic program designed to spread understanding of the Earth and the environmental ethic to a new cadre of Duke graduates,
- A professional master's program that trains a new breed of environmental professionals working in the public, private, and non-profit sectors with the skills needed to devise and implement effective environmental policies and practices, and
- A PhD program dedicated to adding to a new generation of world-class scientists, researchers, and educators in the environment.

**Forging a sustainable future** by strategically focusing the intellectual resources and capital amassed in research and education to address three of the most challenging environmental issues confronting society.

- Climate and energy
- Terrestrial and marine ecosystems
- Human health and the environment.





# Strategic Planning Process

Our strategic planning process began in fall 2015, when Dean Alan Townsend appointed a small faculty committee to lead preparatory activities. The committee conducted interviews with school constituencies, administered a survey, and met with divisional faculties. Based on their work, in spring 2016 Dean Townsend defined focal areas for the subsequent strategic planning effort, including diversity & inclusion, undergraduate programs, professional master's programs, PhD programs, research, and structure (organization of the School's faculty).

The structure committee met during the summer of 2016, conducting additional interviews and administering an additional survey. Interim Dean Jeffrey Vincent convened a school-wide faculty-staff retreat in September 2016 to discuss the structure committee's report and launch the work of the other committees. Committee work continued through the fall, with open meetings and focus groups, meetings with divisional faculties and staff groups, and additional surveys. The committees delivered their reports at the end of 2016.

The committee reports were made available to faculty and staff for review and comment in early 2017. They were discussed at a series of meetings of the School's Executive Leadership Council (the Dean, two Senior Associate Deans, and three Division Chairs). Dean Vincent presented highlights of the reports at two plenary meetings in the spring. Discussion of the organization of the School's faculty continued through the spring.



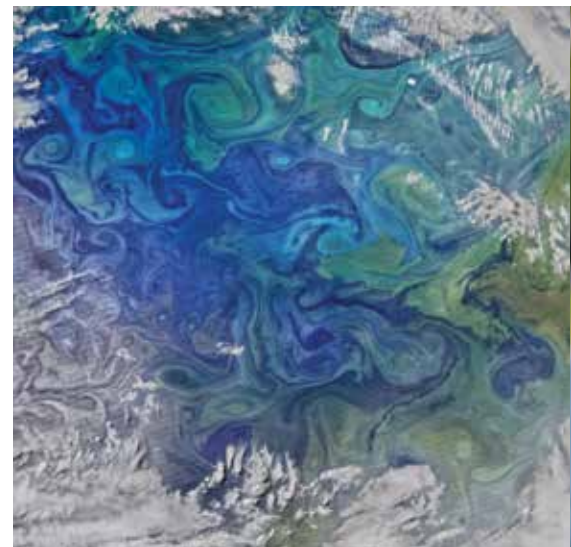




# Guiding Principles

## OUR STRATEGIC PLANNING WAS GUIDED BY SIX PRINCIPLES:

1. We value a distinct identity as an environmental school, one that embraces a School-wide community, a commitment to interdisciplinarity, and a deliberate mix of applied problem-solving and fundamental research in the physical, life, and social sciences.
2. We train students at undergraduate, professional master's, PhD, and executive education levels to make a difference in confronting society's grand environmental challenges, and we connect students across all of those levels.
3. We value and will help lead Duke's increasing efforts in environmental education and research all across campus.
4. We foster efforts to link science to action, via sustained engagement between practitioners and stakeholders on both domestic and international fronts.
5. We seek to make this a School where anyone of talent can attend, work, or contribute, regardless of background.
6. We embrace – and seek to improve – a diversity of backgrounds, cultures, and ideas in our workforce and students alike. This Includes a deliberate focus on strong international connections.





# Strategic Focus Areas



## **DIVERSITY & INCLUSION**

Increase diversity within all segments of the School, and create an inclusive, school-wide community

## **UNDERGRADUATE PROGRAMS**

Strengthen and grow our programs and our connections to non-majors

## **PROFESSIONAL MASTER'S PROGRAMS**

Efficiently deliver the content and skills that students need for successful careers as environmental professionals

## **PHD PROGRAMS**

Improve coordination across our programs, and develop a greater sense of a school-wide PhD student community

## **RESEARCH**

Build on our current core areas of excellence to take advantage of emerging trends and opportunities related to innovative and interdisciplinary research

## **FACULTY STRUCTURE**

Foster a school-wide faculty community based on understanding, equity, and respect



# Diversity and Inclusion

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Enhancing diversity and inclusion (D&I) at NSOE is central to achieving our mission of creating knowledge and leaders of consequence for a sustainable future. Diversity—the range of human identities represented in the composition of the students, staff, faculty, and leadership at the School—promotes diversity of cognition. We do a better job of identifying and building knowledge about environmental problems, developing novel research tactics to confront them, and teaching about them when we bring more diverse perspectives into the School. Better representation of underrepresented minorities (URM) in our student body avoids sacrificing talent in the environmental management and research fields, and more diverse faculty and staff help attract and retain more diverse students. An inclusive culture—one that recognizes the value of all members of the School community and fosters a sense of belonging—improves leadership training, enhances teamwork, bolsters recruitment and retention, and enables the far-reaching benefits of diversity to flourish. We will increase diversity within all segments of the School and create an inclusive school-wide community.

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## **GOAL 1: ELEVATE D&I LEADERSHIP**

We will prioritize D&I efforts in the selection of the NSOE dean and appoint a faculty member who can initiate and lead large-scale pipeline programs aimed at diversifying our student body and the pools of eligible candidates for faculty and research staff positions in environmental fields.

## **GOAL 2: INCREASE STUDENT DIVERSITY**

We will review the admissions and enrollment process for bias, clarity, and efficiency; work to understand what draws students from diverse backgrounds to NSOE; and improve outreach. We will build relationships and increase exposure with diverse educational institutions; develop more effective recruiting outreach to URM students, with specific recruitment and retention goals; develop safe spaces, mentorship opportunities, and off-campus retreats to support URM students; incorporate more diversity into the curriculum; and develop and expand pipeline programs.

## **GOAL 3: INCREASE FACULTY DIVERSITY**

We will improve mentorship and hold leadership accountable for minority faculty recruiting and strategic efforts toward a diverse faculty. We will develop a cluster hire, a visitor/sabbatical host program, a prestigious postdoctoral fellows program, and build strong pipeline programs.

## **GOAL 4: INCREASE STAFF DIVERSITY**

We will collect better data about staff diversity and create a comprehensive NSOE D&I Online Toolkit with a compilation of resources and best hiring practices. We will evaluate and improve practices that support the success and retention of a diverse staff.

## **GOAL 5: IMPROVE INCLUSIVITY**

We will present findings from the inclusion survey at plenary and divisional faculty meetings; require bias training for school leadership, faculty, and staff; clarify and disseminate information about the process of reporting concerns about harassment; provide support for D&I-related student groups; complete an analysis of gender, rank, and track of faculty within each unit of the school's structure; clarify guidelines and establish a committee on regular-rank non-tenure-track faculty; encourage faculty and staff professional and social interactions. We will provide financial support for assistant professors to build networks with other academics and practitioners internal and external to NSOE, and we will provide staff support for D&I efforts.



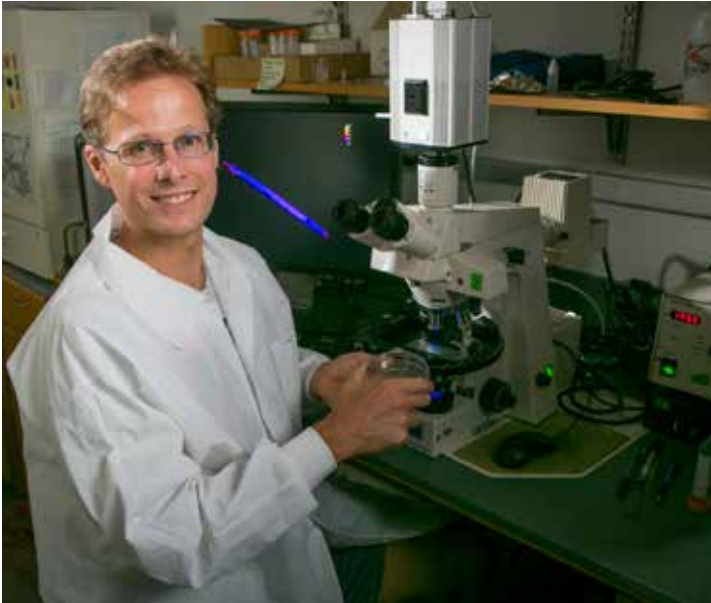








# Undergraduate Programs



## GOAL 1: ENHANCE ACADEMICS AND SCHOOL SUPPORT

We will increase support for undergraduates in terms of advising, curriculum, and integration into research in the school; foster community by providing communal spaces (e.g., in Environment Hall) and an enhanced web presence; and renew and strengthen our commitment to outdoor education.

## GOAL 2: GROW OUR UNDERGRADUATE COMMUNITY

The increasing relevance of environmental challenges provides an opportunity to increase substantially the number of majors and minors in the School, both by recruiting more undergraduates with environmental interests to Duke and by increasing the number of majors and minor among matriculated students. To facilitate this, we will revisit the structure of our undergraduate programs and curriculum.

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We offer majors in Earth & Ocean Sciences and Environmental Sciences/ Environmental Science & Policy, a concentration in Marine Science Conservation, and certificates in Energy & Environment, Marine Science & Conservation Leadership, and Sustainability Engagement. We will strengthen and grow these programs and our connections to non-majors.

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## GOAL 3: BECOME THE LEADER OF ENVIRONMENTAL CITIZENSHIP THROUGHOUT THE DUKE UNDERGRADUATE COMMUNITY

As environmental issues affect all citizens, we will connect to all Duke undergraduates, not only our majors. This will include active engagement with the new Trinity undergraduate curriculum as it is developed and implemented, and encouraging faculty to connect their materials with non-NSOE courses.

# Professional Master's Programs

We offer two professional master's degrees, the Master of Environmental Management (MEM) and the Master of Forestry (MF); a distance-learning program for the MEM degree (DEL-MEM); and non-degree executive education courses for working professionals. We will efficiently deliver the content and skills that students need for successful careers as environmental professionals.

## GOAL 1: IMPROVE PROGRAM ADMINISTRATION

We will conduct regular curriculum reviews of our MEM/MF programs and form MEM/MF advisory committees of working professionals – many of them alumni – to assist with the reviews.

## GOAL 2: IMPROVE PROGRAM DELIVERY

We will increase faculty engagement in DEL-MEM teaching; develop clear standards for Master's Projects for students and faculty advisors and improve the process of identifying and administering the projects; offer on-line prerequisite courses; increase the availability of video-linked courses between Beaufort and Durham; harmonize the structure of MEM concentrations by creating a standard format of broadly similar course categories across concentrations; develop a 4+1 program with select Duke undergraduates; and, for concentrations where it works, consider implementing a modular curriculum in which a larger, more general course leads to choice among a set of smaller, more specialized sequels.

## GOAL 3: IMPROVE PROGRAM CONTENT

We will improve training in practical management skills, including by offering management modules taught by alumni practitioners or executives in residence, and we will develop and offer a certificate in environmental data analysis.







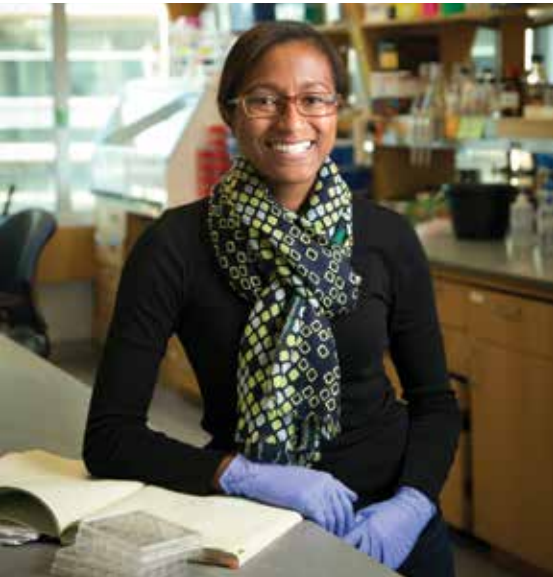






# PhD Programs

The School participates in six PhD programs – three within the School (Earth & Ocean Sciences, Environment, Marine Science & Conservation) and three in collaboration with other schools (Ecology, Environmental Policy, Integrated Toxicology & Environmental Health). We have introduced a consistent, School-level approach to funding the programs, and we will continue to work to increase School funding for PhD students. We will improve coordination across our programs and work toward developing a greater sense of a school-wide PhD student community.



## **GOAL 1: IMPROVE OVERSIGHT AND STRATEGIC MANAGEMENT**

We will establish a standing PhD programs committee, and we will determine which program requirements and administrative functions should be shared across programs (and which should be differentiated) and the appropriate administrative home for each function.

## **GOAL 2: IMPROVE INFORMATION INFRASTRUCTURE AND ACCESS**

We will develop a database to track students through their programs and a centralized portal for current and prospective students, staff, and faculty to access and compare program information; institute regular surveys of PhD students to track changes in perceived quality and equity of programs and resources for non-academic careers; and increase administrative staff support for PhD programs.

## **GOAL 3: SUPPORT AND EMPOWER STUDENT GOVERNANCE AND INITIATIVES**

We will formalize support of PhD-led student orientation; support intellectual interactions among PhD students in different programs through regular seminars and an annual symposium; increase opportunities for PhD students to mentor professional masters and undergraduate students; and support interdisciplinary collaborations among students through small grants and summer salary support.

## **GOAL 4: INCREASE SUPPORT FOR STUDENTS ACROSS CAREER PATHS**

We will expand support for existing internship programs for PhD students interested in non-academic career paths; provide support to improve the quality and rate of PhD students' research/funding proposals; and increase the visibility and role of PhD programs in fundraising efforts, including for student fellowships and research-related travel.

# Research

We have research strengths in several societally important topical areas, including climate change; coastal and marine science; environmental health; energy; biodiversity conservation and ecosystem services; terrestrial and freshwater systems; and environmental policy, governance, and economics. We will build on these current core areas of excellence in order to take advantage of emerging trends and opportunities related to innovative and interdisciplinary research.

## **GOAL 1: IMPROVE RESEARCH COORDINATION AND FACILITATION**

We will create a Research & Engagement Council to better understand and decide on best actions to take advantage of emerging research areas, along with ad hoc committees to provide expert input on new opportunities. The division chairs will provide additional leadership coordinating research within divisions, and the Senior Associate Dean for Academic Initiatives will provide additional leadership coordinating research across the School.

## **GOAL 2: IDENTIFY AND FOSTER STRATEGIC OPPORTUNITIES FOR RESEARCH ENGAGEMENT INSIDE AND OUTSIDE DUKE**

We will cultivate stronger relationships within Duke with faculty in other schools and with the University's offices of Foundation Relations, Corporate Relations, and Government Relations, along with stronger relationships externally with government funding agencies, foundations, and corporate partners.

## **GOAL 3: SUPPORT AND INCENTIVIZE NEW RESEARCH ENDEAVORS**

We will provide early-career mentoring for faculty and small pockets of internal funding for promising research opportunities, and we will develop a system of internal peer review and support for proposal development.

## **GOAL 4: INCREASE AND IMPROVE COMMUNICATION INTERNALLY AND EXTERNALLY**

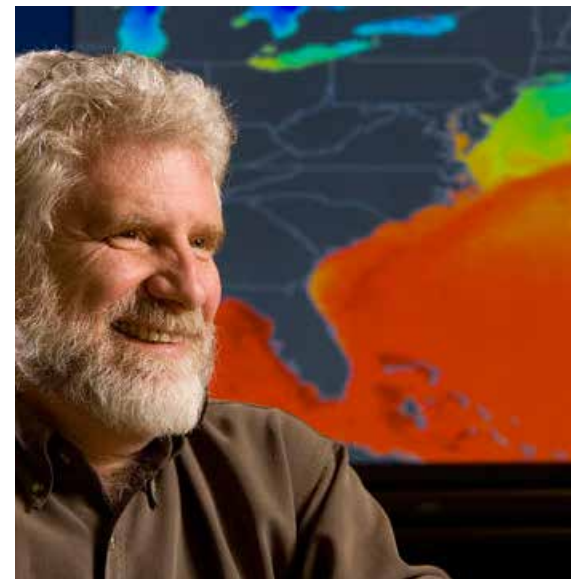
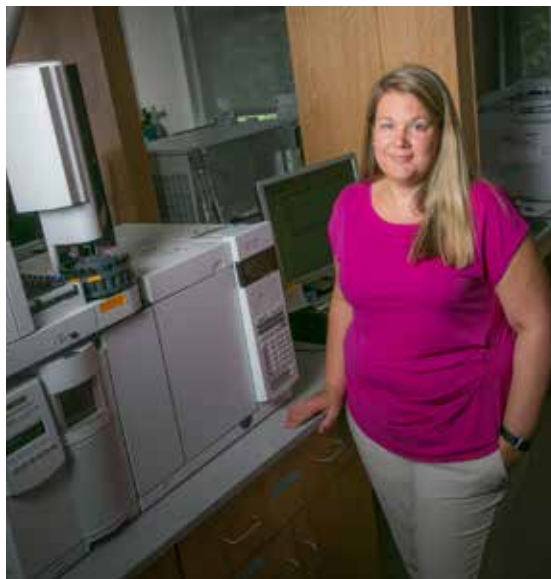
We will promote cross-pollination internally through weekly seminars and other events, and we will promote research through such means as a monthly newsletter, a "Research" tab on our website, and an annual research fair.

## **GOAL 5: STREAMLINE RESEARCH DEVELOPMENT AND RESEARCH ADMINISTRATION**

We will streamline processes for proposal development and submission, evaluate staffing of the research enterprise, support proactive rather than reactive research development, create a proposal-support database, and track and report on research targets.

## **GOAL 6: MAINTAIN AND IMPROVE PHYSICAL INFRASTRUCTURE**

We will evaluate our physical infrastructure needs for research, including by implementing a more transparent process for space allocation, and evaluate and invest in data processing infrastructure.











# Faculty Structure

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## OUR FACULTY ARE ORGANIZED INTO THREE DIVISIONS: EARTH & OCEAN SCIENCES, ENVIRONMENTAL SCIENCES & POLICY, AND MARINE SCIENCE & CONSERVATION.

This structure reflects our creation by the union of Duke's Department of Geology, School of Forestry & Environmental Studies, and Marine Lab. The Structure Committee was asked to "look ahead and ask what structural alignment is best suited to advance the mission of NSOE over the next 10+ years."

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The committee developed several alternative models for organizing our faculty:

- a divisionless (unified) structure,
- discipline-based divisions/departments, and
- theme-based divisions/departments.

It evaluated them against seven objectives:

1. Advance the School's mission, to create knowledge and global leaders of consequence for a sustainable future
2. Enhance interdisciplinary, basic, and applied research
3. Advance the School's educational mission, including coordination at the school level
4. Improve equity in faculty teaching efforts
5. Enhance mentoring of junior faculty
6. Increase faculty interactions
7. Improve the functionality of the primary faculty structures.

The faculty will continue to consider alternative organizational models and will decide, collectively, if a change from the current divisional structure is warranted.

Even before that decision is made, the School will enact measures to make progress toward the objectives listed above, including:

- instituting a school-wide mechanism for assigning teaching responsibilities
- instituting a mentoring system for junior faculty members
- convening regular school-wide faculty meetings
- convening an annual school-wide faculty-staff retreat and an annual school-wide PhD symposium
- instituting a transparent, participatory process for determining faculty hiring priorities.

Through these and other measures, we will foster a school-wide faculty community that is based on an understanding of how we all contribute to the School, an equitable sharing of common responsibilities, and respect across the lines of gender, track, and rank.

# Implementation & Evaluation

Committees will develop annual implementation plans that outline steps needed for continued progress toward the goals listed in our strategic focal areas. The committees will review and evaluate recommended actions included in the strategic planning committee reports, identify actions that are already underway and those requiring significant new resources for successful implementation, determine appropriate timelines for implementation, and develop measures that can be used to track implementation progress. The Dean's Office will consult the division chairs while reviewing the proposed implementation plans. The approved plans will inform annual goals for the School's administrative leadership team and staff workplans.

The Dean's Office will have lead responsibility for implementing actions related to D&I, working with the School's D&I action committee (the D&I Actionators) and other relevant faculty, staff, and student groups. For academically focused actions related to our educational

programs and research, implementation will be led by appropriate faculty and staff groups. For example, implementation of actions related to educational programs will be led by the faculty heads of our various programs (undergraduate, professional master's, PhD) and corresponding staff leaders, particularly in Student Services, with overall coordination provided by the Education Committee. Implementation of school-wide actions related to research will be led by the Senior Associate Dean for Academic Initiatives, working with the division chairs, who will lead implementation of actions specific to their divisions.

Progress will be monitored by tracking performance according to the measures included in the annual implementation plans. Each fall, in conjunction with the Dean's plenary address and the faculty-staff retreat, the Dean will report to the School community on progress toward the planning goals during the prior year and the actions that will be emphasized during the coming academic year.





# Strategic Planning Committees

## PREPARATORY PHASE

LISA CAMPBELL  
MARTIN DOYLE  
LINCOLN PRATSON

## UNDERGRADUATE PROGRAMS

ALEXANDER GLASS (CO-CHAIR)  
JOEL MEYER (CO-CHAIR)  
EMILY BLANCHARD  
CHARLOTTE CLARK  
GARY DWYER  
TOM SCHULTZ  
REBECCA VIDRA  
KATIE WOOD

## PROFESSIONAL MASTER'S PROGRAMS

DEB GALLAGHER (CO-CHAIR)  
DEAN URBAN (CO-CHAIR)  
COURTNEY EDWARDS  
TIM JOHNSON  
RANDY KRAMER  
GRANT MURRAY  
SHERRI NEVIUS

## PHD PROGRAMS

LISA CAMPBELL (CO-CHAIR)  
JIM HEFFERNAN (CO-CHAIR)  
NICOLAS CASSAR  
RACHEL LOPICOLO  
ANNA WADE  
DANIELLE WIGGINS  
DEB WOJCIK

## RESEARCH

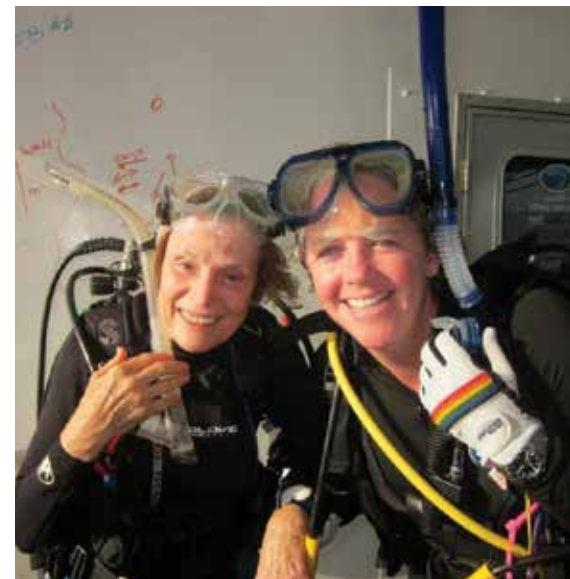
DOUGLAS NOWACEK (CO-CHAIR)  
ELIZABETH SHAPIRO-GARZA (CO-CHAIR)  
CHRIS ERLIEN  
JAY GOLDEN  
KEVIN MCCARTHY  
BRAD MURRAY  
HEATHER STAPLETON

## DIVERSITY & INCLUSION

GABY KATUL (CO-CHAIR)  
MEGAN MULLIN (CO-CHAIR)  
BETSY ALBRIGHT  
CHRIS ERLIEN  
KATY HANSEN  
NANCY KELLY  
GLENDA LEE  
WENHONG LI  
STEPHANIE MARTINEK  
ANDY READ

## STRUCTURE

EMILY KLEIN (CO-CHAIR)  
BRIAN SILLIMAN (CO-CHAIR)  
XAVIER BASURTO  
JIM CLARK  
NICOLAS CASSAR  
RICH DI GIULIO  
MEGAN MULLIN  
CHARLOTTE NUNEZ-WOLFF  
LINCOLN PRATSON  
ANDY READ  
DEAN URBAN  
JEFF VINCENT





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