



## **Strategic Plan Draft 2021-2026**

### **Overview and Strategic Direction**

The Delaware Environmental Institute (DENIN) at the University of Delaware (UD) was founded in 2009 as a university-wide environmental research and education institute. The DENIN Strategic Plan was carefully aligned with the University of Delaware strategic plan, *Forward and Forever*, which emphasizes student access and success, social justice, interdisciplinarity and innovation. Furthermore, work by the DENIN community advances desired progress in the UD plan toward innovations in sustainability and deeper responses to environmental challenges in the face of climate change.

The strategic plan has been developed reflecting the vision of DENIN director Dr. Holly Michael, who was selected to serve a five-year term as DENIN director, effective in September 2021. Dr. Michael succeeds DENIN's founding director, Dr. Donald L. Sparks, who had served as director since 2009. Dr. Michael's prior engagement with DENIN established a strong foundation; over several years prior to becoming director Dr. Michael served as Associate Director, Environmental Initiatives, since 2017, and as interim director during Dr. Spark's sabbatical in 2019 and 2020. Dr. Michael is a hydrogeologist, with appointments in the UD Departments of Earth Sciences and Civil & Environmental Engineering.

In the fall of 2021, as Dr. Michael began the directorship, DENIN surveyed institute affiliates, seeking input on their ideas for DENIN in the future, their past experiences and level of engagement. Several specific questions sought out suggestions for new DENIN faculty fellows and for a new DENIN faculty associate director to consider for the future. This input helped to shape the strategic plan outlined below.

This document outlines three core strategic directives for DENIN: 1) To grow value both within the UD community, as well as beyond; 2) To enhance UD's and DENIN's global reputation through excellence in research and academic programs; and 3) To become financially sustainable through diversified funding sources.

This document summarizes the key components of the draft strategic plan, led by DENIN and its partners including new initiatives and priorities that will carry forward into the future, aligned with the Institute's and the University's strategic objectives. Throughout the plan, we highlight areas of work that advance UD's Strategic Pillars, as laid out in the 2022 strategic plan.

### **DENIN Mission, Vision and Values**

**Mission:** Enable interdisciplinary environmental discovery and innovation by supporting inclusive research collaboration, stakeholder partnerships, and educational initiatives.

**Vision:** Be a globally recognized resource that catalyzes inspired, diverse interdisciplinary teams and leaders to ensure a just and healthy environment

**Values:** Collaboration, innovation, equity, interdisciplinarity, excellence, empowerment, sustainability, environmental education, openness

## DENIN Strategic Directions

### Strategic Direction 1. Grow Value:

Expand the value that DENIN brings to the vibrant environmental community at UD, the state of Delaware, and beyond by broadening participation, expanding communication, and strengthening partnerships. We seek to create an open environment in DENIN in which all members of the community feel supported and welcomed. We will actively recruit new affiliates and faculty fellows from diverse backgrounds. We will support faculty by facilitating mentoring opportunities that will help them navigate across disciplines and will create new opportunities for leadership and engagement. We will build on DENIN’s recent leadership in enhancing diversity, equity, and inclusion (DEI) in the geosciences by providing new tools to faculty and programs. We will also strengthen current relationships with stakeholders and other partners and will reach out to make new connections.

<b>Objective 1</b>	<b>Increase awareness of the value that DENIN brings by supporting researchers and communicating our successes</b>	
	Outcome	Metrics
	Research teams will work with DENIN to prepare interdisciplinary environmental proposals, and successes will be communicated internally and externally.	<ul style="list-style-type: none"> <li>✓ By 2026, five large (&gt;~10M) interdisciplinary team proposals will be submitted, and each successful proposal will have one internal and one external media piece.</li> <li>✓ By 2026, DENIN will manage &gt;5M in annual funding.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities:                             <ul style="list-style-type: none"> <li>• Carry out research that transcends disciplinary boundaries.</li> </ul> </li> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship                             <ul style="list-style-type: none"> <li>• Grow sponsored research expenditures in alignment with our aspirations as a top-research university</li> </ul> </li> </ul>	

<b>Objective 2</b>	<b>Expand affiliates and encourage broader and deeper participation</b>	
	Outcome	Metrics
	DENIN will have a larger group of affiliates, including faculty at UD and partner institutions, as well as non-academic partners.	<ul style="list-style-type: none"> <li>✓ By 2026, DENIN will have 350 affiliates reflecting broad environmental sectors.</li> <li>✓ By 2026, engage 20 new PIs or Co-PIs in DENIN-managed grants</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities:                             <ul style="list-style-type: none"> <li>• Unify interdisciplinary efforts, as shared themes for scholarship, engagement &amp; impact.</li> </ul> </li> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship:                             <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> </ul> </li> </ul>	

<b>Objective 3</b>	<b>Become a leader in promoting DEI</b>	
	<b>Outcome</b>	<b>Metrics</b>
	DENIN will be a resource and partner in advancing diversity, equity and inclusion both within and outside UD.	<ul style="list-style-type: none"> <li>✓ By 2026, one working group and one new course will be developed</li> <li>✓ One high-level guest speaker event will be hosted</li> <li>✓ Two interdisciplinary funding proposals will be submitted to enhance DEI.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Building a Social Justice Foundation to Support a Diverse, Inclusive &amp; Intercultural Campus               <ul style="list-style-type: none"> <li>• Review and revise the academic curriculum in response to faculty needs to integrate diversity, equity and inclusion concepts, where appropriate, and provide pedagogical support to help faculty develop related material for their courses, consistent with evolving practices of peer institutions.</li> <li>• Provide faculty with ongoing training and resources to ensure individuals speak the same language and understand diversity, equity and social justice concepts to help facilitate open and productive dialogue in their classes.</li> <li>• Continue to strengthen the UD community’s understanding of social justice principles through experiential learning, ongoing education and open dialogue among all stakeholders, including University leadership and the Board of Trustees</li> </ul> </li> </ul>	

<b>Objective 4</b>	<b>Grow leaders</b>	
	<b>Outcome</b>	<b>Metrics</b>
	DENIN affiliates, staff and students will have the opportunity to lead environmental initiatives with DENIN support.	<ul style="list-style-type: none"> <li>✓ By 2026, 25 affiliates, staff and students will have had the opportunity to lead environmental initiatives (e.g., lead proposals, organize events).</li> <li>✓ Engage undergraduate and graduate students in DENIN activities from 5 new departments by 2026</li> <li>✓ Engage 4 new faculty fellows by 2023; engage 8 new faculty fellows by 2026</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Student Access &amp; Success               <ul style="list-style-type: none"> <li>• Enhance scholarship and fellowship support for graduate students to enable greater contributions to the creation and dissemination of knowledge</li> <li>• Enable flexibility in academic programming that facilitates students’ interdisciplinary interests and goals and more effectively prepares them for post-graduation success in an evolving workplace.</li> <li>• Complement the interdisciplinary academic core with a robust system of support services and high-impact co-curricular experiences for students at all academic levels.</li> </ul> </li> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship               <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> </ul> </li> </ul>	

<b>Objective 5</b>	<b>Strengthen partnerships with external organizations</b>	
	<b>Outcome</b>	<b>Metrics</b>
	DENIN will expand and strengthen its partnerships within UD and with external partners in academia, government and the private sector.	✓ By 2026, DENIN will have 6 new partnerships in research and education.
	<b>UD Strategic Pillar Alignment</b>	
	➤ Redefining Creativity, Innovation & Entrepreneurship <ul style="list-style-type: none"> <li>• Work in close partnership with the public, private and nonprofit sectors, especially U.S. national laboratories, to advance our capacity for cutting-edge research and impactful scholarship</li> <li>• Partner with public, private and nonprofit entities to leverage greater opportunities in academics, research, financing and community engagement</li> </ul>	

## Strategic Direction 2. Enhance our Global Reputation:

Raise the profile of DENIN affiliates and the University of Delaware by engaging institutes with similar missions and engaging leading scholars across the nation and the globe, and by becoming recognized in key areas of research strength. Among DENIN’s affiliates are world renowned researchers, and by assembling strong teams around emerging research topics through a coupled natural-human systems approach, DENIN can lead the way in tackling complex problems critical to society.

In a state that is uniquely vulnerable to coastal hazards, a priority area is research around coastal resilience. Other areas of interest include environmental justice, fate and transport of emerging contaminants in the environment, and the unsustainable effects of fast fashion. We will work with our affiliates to explore these topics, identify new core environmental research areas in which DENIN can become known, and cultivate leaders to grow capabilities and create visibility. By emerging as an innovator and creating new connections, DENIN can become a hub that connects, attracts, and retains top researchers and students, and facilitates the interdisciplinary environmental work that will benefit coastal communities and environmental stakeholders in Delaware and across the globe.

<b>Objective 1</b>	<b>Facilitate leading-edge interdisciplinary environmental research focusing on key areas of excellence.</b>	
	Outcome	Metrics
	New research teams carry out research leading to innovative solutions and educational opportunity.	<ul style="list-style-type: none"> <li>✓ By 2026, five large interdisciplinary team proposals will be submitted.</li> <li>✓ Establish new working groups, 3 by 2023, &amp; 6 by 2026</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities                             <ul style="list-style-type: none"> <li>• Continue to identify and develop opportunities for interdisciplinary cluster hiring of faculty members to strengthen our collaborative culture and resources</li> <li>• Identify and address the cultural and disciplinary barriers to developing more flexible and interdisciplinary academic programs at the undergraduate and graduate levels</li> </ul> </li> <li>➤ UD Strategic Pillar: Redefining Creativity, Innovation &amp; Entrepreneurship                             <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> <li>• Create streamlined processes and incentives for members of the UD community and external partners to exchange ideas, including leveraging software solutions to facilitate connections among faculty and with potential external partners to identify expertise, discover opportunities and leverage resources</li> </ul> </li> </ul>	

<b>Objective 2</b>	<b>Create new interdisciplinary academic programs that can compete with the best in the world.</b>	
	Outcome	Metrics
	UD’s environmentally related academic programs are enhanced, attracting excellent faculty and students, and enhancing the reputation of the University.	<ul style="list-style-type: none"> <li>✓ By 2026, one new interdisciplinary environmentally related academic program will be launched with support from DENIN.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities                             <ul style="list-style-type: none"> <li>• Continue to identify and develop opportunities for interdisciplinary cluster hiring of faculty members to strengthen our collaborative culture and resources</li> <li>• Identify and address the cultural and disciplinary barriers to developing more flexible and interdisciplinary academic programs at the undergraduate and graduate levels</li> </ul> </li> </ul>	

<b>Objective 3</b>	<b>Engage influential board members</b>	
	Outcome	Metrics
	The expanded External Advisory Board (EAB) promotes and pursues new opportunities for DENIN and the University of Delaware.	<ul style="list-style-type: none"> <li>✓ By 2023 EAB gap analysis will be completed, and gaps filled by 2024</li> <li>✓ By 2026, the board will make four connections for DENIN, leading to enhanced global reputation and support.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship <ul style="list-style-type: none"> <li>• Work in close partnership with the public, private and nonprofit sectors, especially U.S. national laboratories, to advance our capacity for cutting-edge research and impactful scholarship</li> <li>• Partner with public, private and nonprofit entities to leverage greater opportunities in academics, research, financing and community engagement.</li> </ul> </li> </ul>	

<b>Objective 4</b>	<b>Create new national and global partnerships</b>	
	Outcome	Metrics
	New national and global partnerships enhance DENIN's and UD's capability to engage more in research and education at the national and international level.	<ul style="list-style-type: none"> <li>✓ By 2026, 2 new national and 2 new international partnerships will be launched.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship <ul style="list-style-type: none"> <li>• Work in close partnership with the public, private and nonprofit sectors, especially U.S. national laboratories, to advance our capacity for cutting-edge research and impactful scholarship</li> <li>• Partner with public, private and nonprofit entities to leverage greater opportunities in academics, research, financing and community engagement</li> </ul> </li> </ul>	

<b>Objective 5</b>	<b>Invite high-profile speakers to enhance visibility of our research and programs.</b>	
	Outcome	Metrics
	High profile speakers enhance visibility both through the audience they attract and through their own awareness of our research and programs.	<ul style="list-style-type: none"> <li>✓ By 2026, DENIN hosts three high-profile speaker events, attracting a broad audience.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities <ul style="list-style-type: none"> <li>• Deeply engaged with the international community through collaboration and partnership, resulting in global recognition for our academic and research excellence.</li> </ul> </li> </ul>	

### Strategic Direction 3. Become Financially Sustainable:

Ensure DENIN’s financial sustainability by diversifying its sources of funding. DENIN has a strong record of obtaining large grants that fund faculty research and infrastructure across campus and support DENIN activities and staff salaries. A major component of this funding has been a series of three NSF EPSCoR Track 1 projects totaling ~\$73M. We will seek to replace this source of support, in part, through federal research grants. Through their experience and successes with NSF EPSCoR and other large grants, DENIN staff have developed a strong and recognized ability to support large proposals through planning, writing, submission, management, evaluation and reporting. This is a critical function of institutes that is not duplicated in the colleges. In addition to federal grants, we will work with UD’s Corporate and Foundation Relations team to explore alternate sources of funding from foundations and private sources. Perhaps most importantly, we will work closely with UD’s Office of Development to build DENIN’s portfolio of philanthropic funding. Our goal is to build an endowment that will ensure sustainability and support DENIN’s efforts beyond those that can be funded through grants.

<b>Objective 1</b>	<b>Engage people with resources who share our vision.</b>	
	<b>Outcome</b>	<b>Metrics</b>
	DENIN will be supported by a broader donor base to advance research and education initiatives.	✓ By 2026, DENIN will have engaged 30 new donors.
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Student Access &amp; Success           <ul style="list-style-type: none"> <li>• Offer robust co-curricular and support systems that are readily accessible and deeply integrated into the growth experience of every student.</li> <li>• Lead our graduates to meaningful and fulfilling careers that help them develop core competencies that increase their resilience and prepare them to succeed in an ever-changing environment.</li> <li>• Develop UD’s extensive alumni network to expand collaboration, connection, professional experiences, mentorship and guidance to promote student success and increase alumni engagement.</li> </ul> </li> </ul>	

<b>Objective 2</b>	<b>Obtain new large Center-type grants</b>	
	<b>Outcome</b>	<b>Metrics</b>
	DENIN will lead federally funded environmental research at a large scale.	<ul style="list-style-type: none"> <li>✓ By 2023, DENIN will have submitted two center-type (i.e., \$10M+) grant proposals or planning proposals.</li> <li>✓ By 2026, DENIN will have two Center-type grants.</li> </ul>
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Expanding Interdisciplinary &amp; Global Opportunities           <ul style="list-style-type: none"> <li>• Continue to identify and develop opportunities for interdisciplinary cluster hiring of faculty members to strengthen our collaborative culture and resources</li> <li>• Identify and address the cultural and disciplinary barriers to developing more flexible and interdisciplinary academic programs at the undergraduate and graduate levels.</li> </ul> </li> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship           <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> <li>• Grow sponsored research expenditures in alignment with our aspirations as a top-research university</li> </ul> </li> </ul>	

<b>Objective 3</b>	<b>Expand portfolio of research funders (e.g., Department of Energy (DoE), Department of Defense (DoD), foundations and industry)</b>	
	Outcome	Metrics
	DENIN will have funding from more diversified sources.	✓ By 2026, DENIN will have funding streams from 5 federal, foundation or industry sources.
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> <li>• Grow sponsored research expenditures in alignment with our aspirations as a top-research university</li> </ul> </li> </ul>	

<b>Objective 4</b>	<b>Establish an endowment</b>	
	Outcome	Metrics
	The DENIN endowment will fund key programs while growing as an invested asset.	✓ By 2026, DENIN will have an endowment of \$500,000.
	<b>UD Strategic Pillar Alignment</b>	
	<ul style="list-style-type: none"> <li>➤ Redefining Creativity, Innovation &amp; Entrepreneurship <ul style="list-style-type: none"> <li>• Cultivate an immersive and experiential academic culture that stimulates creative expression at the boundaries of expertise, encourages novel approaches to complex challenges, and values an entrepreneurial mindset.</li> </ul> </li> <li>➤ Expanding Student Access &amp; Success <ul style="list-style-type: none"> <li>• Offer robust co-curricular and support systems that are readily accessible and deeply integrated into the growth experience of every student.</li> <li>• Lead our graduates to meaningful and fulfilling careers that help them develop core competencies that increase their resilience and prepare them to succeed in an ever-changing environment.</li> <li>• Develop UD’s extensive alumni network to expand collaboration, connection, professional experiences, mentorship and guidance to promote student success and increase alumni engagement.</li> </ul> </li> </ul>	

## DENIN's Strengths, Weaknesses, Opportunities and Threats (SWOT)

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>● Leadership, staff experience, grants experience</li> <li>● Growing interest in the environment generally</li> <li>● Potential of working groups</li> <li>● Excellent faculty with strong global reputations</li> </ul>	<ul style="list-style-type: none"> <li>● Staff is small (excellent, but small)</li> <li>● Perception of DENIN as a competitor/Redundancy across campus</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>● Development with Dan Sarkissian, Scott Mangieri</li> <li>● Matching grants opportunity</li> <li>● Enthusiastic working groups and new proposal opportunities</li> <li>● Expansion of funding source portfolio</li> </ul>	<ul style="list-style-type: none"> <li>● Financial arrangements (F&amp;A)</li> <li>● Redundancy across campus</li> <li>● Restrictions on spending reserves</li> <li>● Restrictions on hiring (e.g., communications mgr.)</li> <li>● Reserves not secure</li> <li>● Changes in UD leadership (provost, RO)</li> <li>● Perception of DENIN as a competitor/not inclusive</li> </ul>