Dear Nicholas School Supporter,

As we enter our third year for the Nicholas School’s Environmental Innovation & Entrepreneurship (EI&E) Program, we have made it through our infancy and are now gaining firm footing. I feel like a proud parent — and I hope you do, too!

While we continue to fine-tune our curricular structure for the Certificate in Environmental Innovation & Entrepreneurship, overall we are very pleased with our progress, our outcomes and the caliber of students we are attracting. The projects and potential businesses our students are working on are nothing short of extraordinary.

Our EI&E faculty team has also been getting rave reviews from our students. Martin Doyle, Nicholas School professor of river science and policy, is providing a novel perspective and expertise as he leads our popular Environmental MegaTrends course; teacher-mentors Rick Scott (finance, strategic development, operations) and Karl von Gunten (marketing) provide a level of real-world experience and guidance that most business schools, let alone environment schools, would be eager to have. Furthermore, our EI&E classes are now being held in the beautiful new Environment Hall. The Nicholas School’s new home brings students and faculty together, creating an environment that is tremendously conducive to collaboration and innovation.

On behalf of my colleagues at the Nicholas School and Duke and all of the students who are benefiting from our EI&E program, Thank You again for your leadership support. Many of the greatest business opportunities over the next few decades lie in the environmental arena. With your help, we are giving Nicholas students the know-how to capitalize on these opportunities in innovative ways, for the benefit of our planet and humankind.

With gratitude,

Jesko von Windheim
Director, Environmental Innovation & Entrepreneurship Center
Professor of the Practice of Environmental Innovation and Entrepreneurship
Nicholas School of the Environment

P.S. To keep up with our EI&E Program, visit sites.nicholas.duke.edu/innovate/
Two student teams win business plan awards

Two Nicholas School student teams made great showings at the 2014 Duke Start-Up Challenge, a year-long entrepreneurship competition with an entry pool of over 100 Duke student teams. TRUfish (TRUfish.co), a start-up that uses DNA testing to improve the accuracy of seafood species labeling and prevent seafood fraud within restaurants, retailers and distributors, made it through several judging rounds; Rangeland Solutions, an innovative social business that trains African pastoralists in livestock management to improve their livelihoods and the environment, was one of six finalists for the Grand Prize and received the $10,000 Environmental Prize for the startup that shows the greatest promise in addressing environmental issues and promoting more sustainable use of Earth's resources.

Gabriella Anhalzer and Roxanne Nanninga, both 2014 MEM graduates in our Certificate program, launched TRUfish while in our MegaTrends course and are now devoted to it fulltime. The fast-growing company was recently accepted into the Groundwork Labs business accelerator program here in Durham. Taylor Tully, an Entrepreneurial Experience student and 2014 MEM grad, has moved to Kenya to focus on Rangeland Solutions full time. Read more about Taylor’s work in the summer grants section of this report.

Nicholas School participates in campus-wide Entrepreneurship Week

On September 15-19, Duke’s new campus-wide Innovation & Entrepreneurship Initiative held Entrepreneurship Week — five days of guest speakers, panel discussions, opportunities for students to learn about entrepreneurial programs on campus, and... the grand finale of the 2014 Duke Start-Up Challenge*. This was a great opportunity to make Duke students, faculty and staff aware of the Nicholas School's E&E Certificate and our student-run DukeENVENT organization. Several of our Certificate students manned our table at the Entrepreneurship Fair to talk about their experiences and the value of our program. This new initiative is part of the Duke Forward campaign, and we are hopeful that our early philanthropic success might pave the way for future expansion of the E&E program at the Nicholas School.

*Let’s Be Well RED, a social venture that aims to combat the widespread prevalence of iron deficiency anemia in India through the manufacture of iron-rich nutritional bars, won the $50,000 grand prize.
**Training rural entrepreneurs**

Two of our stellar PhD students, Joe Lemeris and Alexandra Sutton, are working to ensure that communities living in some of the most biologically rich regions on Earth get a larger share of the economic opportunities offered by tourism. Their start-up, Kedge (kedgeconservation.com), aims to provide six-week business skills training courses to small-scale entrepreneurs in rural communities of Eastern and Southern Africa.

This summer, the student team used their EI&E grant to pilot a three-week proof-of-concept training program with Maasai communities living near the Maasai Mara National Reserve in Kenya. Twelve Maasai entrepreneurs attended the program, held in June inside the local chief’s office. The pilot curriculum covered topics in business management, accounting, marketing and sales; wildlife identification and binocular use, wilderness first-aid and introductory ecology; and responsibility and accountability, business etiquette and ethics.

“Our summer with Kedge in Kenya went wonderfully! High demand for participation led us to admit two additional students to our first Kedge class, exceeding our original goal of ten students.

The EI&E program was instrumental in making this happen. The seed funding that we were awarded formed the base from which we were able to raise an additional $5,000 of matching funds from crowdfunding and other Duke sources, which made us incredibly well-positioned to run Kedge in Kenya and create a really meaningful pilot program. And we’re still getting support: Joe and I are now taking the Entrepreneurial Experience course, and the amount of guidance and help we’ve received through that has been awesome.

As we plan for future Kedge events, we’d like to spend more time guiding graduates toward next steps for growing their business or continuing their training. We are working to build partnerships with microloan, microfinance and advanced business education programs to help ensure our graduates have maximum opportunities available to them.

We’ve made it our mission to support 100 new entrepreneurs and reach three countries by 2017. Each of these better-trained business owners can create cascades of change in their communities, potentially impacting thousands of rural East Africans and encouraging a new generation of entrepreneurs.”

Alexandra E. Sutton
Doctoral Student, University Program in Ecology Kedge Founder and CEO
Pastoralism, continued...

In last year’s EI&E progress report, we introduced you to Taylor Tully MEM’14, who received a 2013 summer grant that enabled him to travel to Kenya to conduct a feasibility study of his business model in a country where the livestock sector plays a vital and complex economic, environmental and social role. Since then, Taylor has made extraordinary strides in moving this venture forward, including working with a team of fellow Nicholas students in our Entrepreneurial Experience class. As noted above, Rangeland Solutions (rangelandsolutions.wordpress.com) was one of six finalists for the Duke Start-Up Challenge’s 2014 Grand Prize, and was awarded the $10,000 Environmental Prize.

This summer, even though Taylor graduated in May, Rangeland Solutions’ progress and potential to help pastoralists better manage agricultural resources led to continued funding. Taylor used the funds to return to Kenya to continue a pilot project in the village of Olekimunke, establish a program to measure and analyze the social, economic and environmental impact of Rangeland Solutions’ work, and collect baseline data prior to the launch of several new projects this fall. Taylor has now moved full time to Kenya to oversee the organization’s operations.

Gauging river water discharge

The key to effective management and valuation of water resources for cities, agriculture and the environment is reliable data. While water sensing technology has evolved quickly over the past decade, methods to measure discharge and contaminants in headwater streams – data critical to our ability to understand how water moves across landscapes and how pollution enters our water bodies – are still labor intensive and inefficient.

Nicholas School PhD students Joanna Blaszczak, Richard Marinos and Matthew Ross and Research Associate Joseph Delesantro are working together to design, build and test an automated discharge gauging mechanism to rapidly, efficiently and accurately measure discharge in rivers and the headwater streams they depend on. The student team used their EI&E summer grant to develop and test a mobile mechanism that can measure the concentration of a tracer injected upstream to determine its dilution downstream. From the tracer’s rate of travel and concentration, water flow can then be calculated.

See story on our Environmental MegaTrends course on the next page to learn about our fourth EI&E summer grant recipient.

“Jesko does a very good job bringing in experts. He has Karl von Gunten do marketing, Rick Scott do finance, and he focuses on business development as his expertise. Having been an entrepreneur himself, Jesko is very open about his failures and successes as a way for us to not make the same mistakes. Whether dilution of shares or other issues that you don’t realize going into a company, he taught us a lot of that. Even in the smaller negotiations I’m doing for our start-up right now, I’m a lot more aware of what companies are proposing and how that would affect our start-up.”

Sidharth Sharma, MEM’14
Concentration in Energy & Environment
Certificate in Environmental Innovation & Entrepreneurship
CFO and Co-Founder of Mobtown Fermentation LLC
Environmental MegaTrends course to become case study prototype

With exciting new developments in online education, EI&E is looking at innovative ways to leverage the tremendous environmental intellectual capital available at the Nicholas School to reach a broader audience on a more scalable level, in ways that benefit the School, the faculty and Duke University.

One direction we are pursuing is case study-based learning modules around key environmental concepts. To start, EI&E has developed our popular Environmental MegaTrends course as a modular case study prototype in the quest to create an enduring platform for content.

Over the summer, an EI&E grant enabled second-year MEM student Neil Matouka, working closely with Jesko, to make great progress on developing the MegaTrends prototype, which includes case studies and teaching notes on TRUfish and a Nicholas School master’s project in which students developed ethanol cooking stoves, as well as support materials and classroom videos.

To see what we’ve put together for this course so far, visit the following link: nicholas.duke.edu/envstrategy.

Our goal is to make the entire module available to our alumni in spring 2015.

We are exploring the potential to use these case study-based learning modules for a variety of audiences, reaching beyond the Nicholas School classroom to other educational institutions, corporate entities, alumni and consumers as a potential revenue stream for the School. Stay tuned as things develop.

sites.nicholas.duke.edu/innovate/

Entrepreneurs always need to be looking on the horizon for opportunities, so the goal of MegaTrends is to bring in leading thinkers across a span of environmental topics to share what the landscape looks like in their fields. It’s sort of a cram course for our students, but even for me it’s really fun because of the range of topics.

“I also really enjoy working with our EI&E students because they’re so driven. They’re a different breed: they want to do things faster, more efficiently and more aggressively than students in the past, and they want to jump right in and attack problems. Those are exactly the traits needed to come up with, and follow through on, the big ideas that will drive environmental management in the future.”

For Nicholas School Professor of River Science and Policy Martin Doyle, the opportunity to work with EI&E students has been tremendously gratifying. Martin has teamed up with Jesko to run the Environmental MegaTrends course. The pairing – Martin brings scientific expertise and experience, Jesko brings entrepreneurial know-how – has been an unqualified success, creating a course that is now drawing fully one-fifth of our first-year MEM class, as well as others at the Nicholas School and other Duke programs.