

Rotary Scholarship to Carry Anna Cerf and Her Research to Germany

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Anna Cerf's interest in the environment first led her toward civil and environmental engineering at the University of Virginia. Now she is going to continue her education in Germany as a Rotary Scholar.

Cerf, of Edina, Minnesota, is a Rotary Global Grant Scholar, an award that will fund a two-year master's program in water resource engineering and management at the University of Stuttgart. Rotary Global Grant Scholarships fund graduate-level study outside the United States, as well as community service projects related to one or more of Rotary's seven areas of focus: peacebuilding and conflict prevention; disease prevention and treatment; water, sanitation and hygiene; maternal and child health; basic education and literacy; community economic development; and the environment.

Cerf first was sponsored by the Charlotteville Rotary last year, but the scholarship was postponed because of the pandemic. This year she is sponsored by the Arlington Rotary Club.

"I will research advanced water treatment of emerging contaminants, such as microplastics, pharmaceuticals or industrial chemicals," she said. "Emerging contaminants are pollutants with undefined health risks and few or no regulations. Research of the transport and treatment of such contaminants is crucial to protecting freshwater resources for humans and the environment."

Cerf, who graduated from UVA in 2020 with a degree in civil engineering and a minor in urban and environmental planning, said the course work for her program will cover three fundamental disciplines: sanitary engineering, groundwater remediation and hydraulic engineering.

"The University of Stuttgart has top-of-the-line water research facilities," Cerf said. "It is also home to the Institute of Sanitary Engineering, Water Quality and Solid Waste Management. ISWA

focuses on research in urban water management, waste management, hydrochemistry and environmental microbiology.

“With the support of ISWA professors and access to University of Stuttgart’s premier research facilities, I will research the transport and treatment of emerging contaminants for my master’s thesis.’

Cerf said having a master’s in water resource engineering and management will further her career at the intersection of environmental issues and public health.

“By the end of the program, I will be able to anticipate, understand and evaluate water management-related issues,” Cerf said. “As climate change exacerbates existing water scarcity issues and environmental degradation damages water quality, these skills become increasingly important.”

Cerf conducted research with Craig Benson, former dean of the School of Engineering.

“Anna worked on my research team for about 18 months and authored the definitive report on odor management for the Environmental Research and Education Foundation,” he said.

“Anna is one of the brightest, hardest-working and articulate undergraduates I have met. She has a remarkable work ethic, is highly professional and just plain nice to be around.

“When Anna contacted me about the Rotary and Stuttgart, I could not have been happier.”

Cerf said her interest in water management and sanitation began as a first-year student, when she received a Community Based Research Grant with four other UVA students.

“We performed a follow-up study regarding the implementation of point-of-use ceramic filters in Tadzana, Nicaragua,” she said. “The project revealed the importance of sound technical knowledge and community engagement in water sanitation projects. This experience, coupled with a burgeoning concern for environmental issues, led me to civil and environmental engineering.”

And it launched Cerf in a direction of working with water resource

“For my undergraduate capstone, under the advisement of Lisa Colosi-Peterson, I worked with a team of students to investigate the transport of antibiotic-resistant bacteria from hospital sinks to the local wastewater treatment plant and finally into the environment,” Cerf said. “In my current position as a staff engineer at SCS Engineers, I support projects to prevent and mitigate water and air contamination near landfills. Solid waste and water issues are interconnected.”

Colosi-Peterson, an associate professor in the Department of Engineering Systems and Environment who helped launch a successful program testing for COVID-19 in wastewater (<https://news.virginia.edu/content/inside-science-testing-wastewater-uva-evidence-covid-19>) from UVA dormitories, said she was impressed with Cerf’s capstone work.

“I had the privilege of teaching Anna in an upper-level elective and supervising her fourth-year thesis,” she said. “She was fantastic to work with in both venues. She was the also the recipient of UVA Engineering’s Outstanding Student Award and she was one of our brightest stars in recent memory.”

Dana M. Elzey, an associate professor in the Department of Engineering and Society, director of UVA’s Rodman Scholars

program and an alumna of the University of Stuttgart, knows Cerf as a student and a Rodman Scholar. Elzey also taught her in two first-year classes.

“This is where I first saw the conscientious dedication to scholarship and deeply ingrained passion for environmental causes that are her signature,” Elzey said, noting that Cerf and her team led a composting project in their residence halls. “I was very impressed with her level of organization, professionalism and initiative. As a leader, she is optimistic, respectful and energetic; she seems always to have the end goal in mind. I have never experienced a situation in which I saw any indication of her own ego. As a citizen, she is caring, compassionate and engaged; her work with the Society of Women Engineers at UVA, reaching out to middle/high school girls to encourage them to consider technical career paths, is a great example.”

Elzey also worked with Cerf on her study-abroad project to assess water quality and access in Nicaragua.

“Anna was instrumental in planning and carrying out the project and in securing funding through a \$20,000 University Public Service Grant,” Elzey said. “I have encountered very few students with her combination of independent initiative, organizational and leadership ability and passion for problem solving at the intersection of community and the environment.”

Chris Elliott, an assistant dean in the McIntire School of Commerce and a Rotary representative, said Cerf exemplifies a perfect alignment with her academic interest in water treatment and sanitation and Rotary’s longstanding commitments around clean water.

“While Anna was a student at UVA, she pursued several undergraduate research opportunities with UVA faculty to study wastewater, emerging contaminants and water treatment interventions,” Elliott said “This graduate program is a perfect chance for Anna to expand her knowledge base, to pursue research with a clear and pressing environmental impact, and to collaborate with German engineers and faculty on research that makes a difference in the treatment and utilization of one of the Earth’s most important natural resources.”

“Anna’s professional experience and aspiration align well with the Water and Sanitation focus area,” said Ted Hussar, a Rotary official in Arlington, who said Cerf is a good fit for the scholarship program.

“We believe Anna’s values align well with Rotary International’s goals and her commitment to solving water and sanitation issues is clear,” he said. “Anna’s professors speak highly of her work ethic and passion for her field of study. I am confident Anna will thrive during her master’s program at the University of Stuttgart and continue to have a long-term impact in the water resources field.”

A Peter and Crisler Quick Jefferson Scholar and a Rodman Scholar, Cerf was president of the Society of Women Engineers and a member of the Engineering Student Council, UVA American Society of Civil Engineers Student Chapter and the Raven Society. She was a student employee at the UVA Office for Sustainability and a civil engineering teaching assistant. She received UVA Engineering’s Outstanding Student Award, a Louis T. Rader Civil Engineering Award, an Edgar F. Shannon Award and a Community Based Undergraduate Research Grant.

A Lawn resident, Cerf conducted research at the Environmental Research and Education Foundation; had an internship at the Environmental Defense Fund; and is working for SCS Engineers, a Long Beach, California-based environmental consulting and contracting firm.

Rotary Global Grant Scholarships, funded by the members of a Rotary District, are matched with Global Grant funds from Rotary International. Charlottesville is a part of Rotary District 7610, which administers the scholarship contribution and selection process each year for students who live or study in the Central and Northern Virginia area.

Several local Rotarians who also work at the University have recently formed a UVA-Rotary affiliate group. Joan Gore, a retired UVA faculty member and founding director of UVA Education Abroad, leads the nomination process through the UVA-Rotary Affiliate group.

“We have had the privilege of meeting and sending forward outstanding candidates,” Elliott said. “In just the past five years we are thrilled that nine UVA students have received this scholarship to pursue graduate study outside of the U.S., for a total of \$400,000.”

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