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John Rapaglia, Sacred Heart University
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From left are Jocelyn Rivas, Alison Marchione, Matt Cole, Professor John Rapaglia, Sarah DeWolf and Christina Giglio on the Ponte degli Alpini in Bassano del Grappa, Italy.

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Five Sacred Heart University students gained extensive insight into the field of coastal management and were introduced to Geographical Information System software all while being immersed in the rich culture of two of Europe’s most unique cities last summer as part of “Cities By The Sea,” the university’s first marine science study abroad program.

The faculty-led program was conducted in July and highlighted by a 16-day visit to Venice, Italy, and a 11-day stay in Kiel, Germany. The students also had a chance to spend a night in Austria.

The course was designed and developed by John Rapaglia, an assistant professor of biology who lived and studied in both cities for several years, and was offered through the university’s Office of Global Affairs. The cost of the course for participants was partially offset by a group study visit award from the prestigious German Academic Exchange Service (DAAD). The five Sacred Heart students who participated in the inaugural trip included four undergraduates and one graduate student.

Sarah DeWolf ’15, a 19-year-old from Newington, a double-major in both biology and psychology, called the program “easily the most valuable and unforgettable experience I’ve ever had. The experience changed me in every way,” she said. “It taught me how to rely on myself, trust my instincts… I’ve become more confident, more adventurous, braver and more imaginative. It taught me a lot about the human experience and what it means to be a part of the world, rather than a bystander.”

DeWolf’s transformative summer began with the group’s arrival in Venice in early July. There, they were given access to laboratories and worked directly with Luca Zagat and his colleagues at the state-of-the-art National Research Council of Italy’s Marine Science Institute.
In Venice, a city composed of 118 small islands separated by canals and bridges, the students were given a comprehensive behind-the-scenes tour of the city’s colossal and controversial MOSE project by the project’s lead engineer, a level of access not readily available to most residents of the city.

The MOSE project, which is designed to help mitigate the city’s vulnerability to rising sea levels, involves a series of 78, 60 X 100-foot, submerged pneumatic gates that are engineered to rise from the ocean floor to literally separate the lagoon on which the city was built from the open sea when sea levels are expected to rise.

The project, which is entering its final stages of construction, is controversial because it will cost at least $5 billion Euros to complete and because “no one is 100 percent sure it will actually work, although the first test was a complete success,” Rapaglia said.

In Venice, students participated in scientific tours of the lagoon conducted by scientists from the marine science institute as part of an effort to gather samples and collect data on two important environmental research projects. One project involved measuring and assessing the impact of waves from ships and boats on the sediments in Venice’s canals, while the other involved the use of radioisotopes to quantify the input of groundwater into the Venice Lagoon. Meanwhile, Alison Marchione, a graduate student in SHU’s ESAM program collected samples to assess whether four reconstructed salt marshes have the same level of biodiversity as the region’s original salt marshes; these data were recently presented at an international scientific conference in Madison, Wis.

During their stay in Venice, students were also given the opportunity to tour the Venice Biennale, the city’s famed biennial contemporary arts festival, the restored church of San Sebastiano, the beautiful city of Bassano del Grappa and the high plains of Asiago.

Kiel, a city on the Baltic Sea in northern Germany situated about 50 miles north of Hamburg, is the home of Christian Albrechts University and GEOMAR, one of Europe’s premier marine research institutions. In Kiel, the students were given access to the university’s Geographic Information Systems software laboratory and other tools to help them analyze data and samples they had collected in Venice.

They also took bicycle tours of the Baltic Sea coastal municipality of Probstei and the North Sea island of Sylt, which included a visit to the island’s famous Uwe Dune and Red Cliffs.

“This program immersed me in a field I knew nothing about and made me confident in it,” DeWolf said. “Even though I am not going into any sort of hydrology, I feel this program was worthwhile simply because of the skills it reinforced—building presentations, learning experiment design, collaborating with foreign scientists, building efficiency in lab procedures, constructing lab reports and organizing and presenting the results of your hard work to outsiders—invaluable skills to any sort of student.”
“I’d like to think this program was a life-changing experience for the students who participated in it,” Rapaglia said. “I feel it offers a unique and rich blend of science and research opportunities coupled with an incredibly diverse and exciting cultural experience.”