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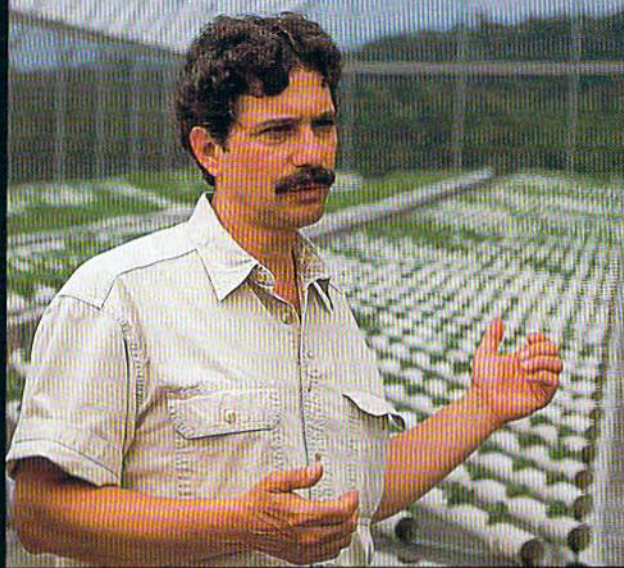
UNDER THE

BOW

Cook College students learn about
tropical agriculture and natural resources—
and themselves—in Puerto Rico

By Bill Glovin

Photography by Nick Romanenko



With his black, bushy mustache and boyish good looks, Tom Gianfagna could easily stand in for *Jeopardy!*'s Alex Trebek in his younger days. "Cleopatra mandarin," he announces, doing his best Trebek impression as he gazes into his pocket-sized notebook. No one minds waiting for the answer as Ray Valcich (CC'04) huddles briefly with three teammates. We're on a large, wooden deck lit by torchlight on a Caribbean beach. Waves are gently rolling in, palm trees are swaying against the night sky, and even though it's March, most everyone is wearing shorts and sandals. Valcich emerges from the huddle and says, "That's the name of the root stock in the citrus plants we saw today." Gianfagna, pausing a moment for dramatic effect, states: "That's correct!"

The *Jeopardy!* motif—loosely modeled after the real thing—is designed to bring some fun into the final nightly review session of a course that takes Rutgers students to Puerto Rico during spring break each year. The 3-credit Cook College junior- and senior-level colloquium, Tropical Agriculture and Natural Resource Management, has been offered since 1981 and is the result of a 50-year collaborative relationship between Rutgers and the University of Puerto Rico (UPR). University photographer Nick Romanenko and I meet up with class members at their

“I've been in Puerto Rico almost half my life, so I think you could safely say that the class I took at Cook had an enormous impact on me.”

hotel in Rincón, a three-hour drive southwest of San Juan with the best surfing beach on the island. Before the game begins, Gianfagna, a professor of plant biology and pathology, offers an incentive: The final letter grade for winning team members will be raised by one-half. After five rounds

and 45 minutes, the contest comes down to Gianfagna's final answer. "2.17 gallons!" "That would be the amount of water used in processing 100 pounds of coffee," environmental policy major Kathleen McDermott (CC'04) says triumphantly. As the winners high-five each other, two students playfully toss a classmate's leftover birthday cake at one another.

The frivolity—along with a sense of camaraderie and purpose—evolves over nine days through a tour of Old San Juan, hiking through El Yunque rainforest and snorkeling around coral reefs. The students sample pineapple and mango plucked fresh from the field, take their best shot at grafting a fruit tree, and witness the eerie, nighttime glow of luminescent organisms in water. They meet and talk to local farmers and businesspeople, as well as UPR faculty and students.

"Besides introducing students to tropical agriculture and ecology, the idea is to provide them with a cultural experience different from New Jersey," says Gianfagna. "In general, our students have a very narrow world view. I want them to begin to think more globally and to consider the employment opportunities in all fields that exist for people with an international perspective."

Earlier in the semester, Gianfagna tells his students that over the next 40 years the tropical world will see the

world's largest population growth, and its vast rainforests and coral reefs may hold the key to protecting the global environment as well as provide fertile ground

for new medical and agricultural products. While in Puerto Rico, he wants the students to focus on what is grown, consumed, and marketed, as well as the island's plans for meeting future demand and protecting its natural resources.



Ornamental plants—such as this red orchid—are a growth industry for the country, explains University of Puerto Rico horticulture professor Brian Bruner (*second from left, in black shirt*). Grad student Paulo Ribeiro (*center*) on the hunt for wildflowers. The Maricao Forest (*second from right*) has amazingly diverse plant life. In Mayagüez, professor emeritus Roger Locandro (*far right*) shows Celso Murillo the art of grafting avocado tissue onto a seedling.



Our next stop is Bruner's neighbor's farm for lunch, where an entire pig—roasting on a spit—is waiting for us. Gianfagna includes the pig roast in the itinerary to give students a sense of the way rural Puerto Rican families might spend a holiday or leisurely Sunday afternoon. What he hasn't counted on is that about half the students are vegetarians. They watch disdainfully as two men remove the pig from the spit and carry it up the hill and into the house. As the pig is carved, the students talk about having to cope in a world of mostly carnivores. All are relieved to find rice, beans, and tamales on the menu.

With our bellies bursting, we begin the long descent to sea level and the Tropical Agriculture Research Station (TARS) on the UPR campus in Mayagüez. We take sanctuary from a tropical storm in a greenhouse, where a TARS graduate student shows how live tissue can be grafted from one plant to another. The advantage: grafted trees bear fruit two years earlier than trees grown from seed. Jennifeur Wilson (CC'06), a student whose goal is to teach agriculture at a vocational high school, tries her hand at grafting avocado tissue from a shoot onto an avocado seedling. "It was very hard to negotiate the cut on the grafting stem," she says. "If you go in too deep, you hit a second layer and you've blown it."

Our day winds down at UPR's Celebration of the Land—an event much like Cook's annual Ag Field Day. The sun is suddenly shining again, and students head out for tents filled with arts and crafts and livestock. The occasion turns out to be a great opportunity to buy souvenirs and keepsakes. Maria Melachrinis (CC'04), a dark-haired geology major, eyes a jar of honey bought by Celso Murillo (CC'05), a teddy-bear type who pokes fun at his classmates through his caricatures. "You don't

need it, cause you're so sweet already!" says Melachrinis, poking his belly. The students begin to laugh themselves silly and are back to high-fiving one another again.

H heading back to our beachfront hotel late one afternoon, I hear a student grump: "We only had one day off and it rained." Two classmates nod in agreement while the rest sleep. We pull into the parking lot and the students groggily exit the vans. The pounding of the nearby surf reminds them that while many of their Rutgers classmates are frolicking on Daytona Beach or in Cancún, they missed another day of fun in the sun.

Gianfagna senses the dissatisfaction but shrugs it off. He knows from past classes that many of the students will look back on the trip as a phenomenal learning experience. He's pleased that this class has developed a sense of camaraderie, which he feels is crucial. "We spend so much time together that the barriers that normally exist in a classroom or lab setting break down," says Gianfagna. "When students and their professors can both relax and develop more of a personal relationship, an exceptional amount of learning can take place."

The 13 students are a multicultural, multidisciplinary mix. About half are interested in some form of plant physiology; the rest study geography, journalism, and marine science. Two students of Puerto Rican descent, Murillo and Armando Mendez (CC'04), are here to get an up close and personal view of their ancestral homeland. Mendez has family in the Rincón area, and he meets his great-grandmother for the first time. Two Brazilian graduate students who study plant physiology, Paulo Ribeiro and Fabio Chaves, are along to compare agriculture in Puerto Rico and Brazil.

Ribeiro's energy and passion for learning are contagious and the students—despite their grumpiness—take their cues from him. Though his English is less than perfect, Ribeiro repeatedly uses his charm to convince



the van drivers to pull over so he can leap out and clip a wildflower or examine a mangrove or tulip tree. His discoveries are routinely discussed at the nightly review sessions.

After a tour of a pineapple farm in Manatí, we're ready to roll to our next destination when we hear a familiar refrain: "Where's Paulo?" Merritt spots him wandering through a field in the distance. At our next stop, a coffee

areas, which helps the beans retain their flavor and aroma. Now please, no more questions until the presentation is over," he wisecracks.

Murillo and Mendez make a presentation on El Yunque rainforest. Mendez points out that rainforest covers 60 percent of the island and absorbs an average of 240 inches of rainfall a year—about 25 percent of the island's drinking water. When one of their slides shows

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farm in the Cordillera Central, more rain showers keep Ribeiro under a roof, giving me a chance to corner him. "Puerto Rico has been an incredible journey for me; I think we are all learning so much," he says. "I'm a little homesick for Brazil, but this place has been such a joy."

At the final class session back in New Brunswick, the students greet me as Guillermo, the name they assigned me once they got comfortable with the idea that I was eavesdropping on their conversations. Merritt and Locandro are also present for this final session.

Adrienne Steinwender (CC'05) and Ray Valcich start things off with their presentation on coffee—complete with hazelnut coffee they've brought in from Dunkin' Donuts as a prop. Steinwender says that coffee has replaced sugar cane as Puerto Rico's number one crop; everyone recalls passing abandoned sugar cane mills there. Gianfagna asks why mountain-grown beans taste richer. Valcich doesn't hesitate in answering: "That's because the seeds grow more slowly in cooler

a waterfall the students hiked to, a smattering of applause breaks out. Mention of the Puerto Rican parrot—prominent on the federal endangered species list—sparks a discussion about U.S. military bases in Puerto Rico. Merritt mentions that parrots began to disappear when tests of the effects of Agent Orange began in the rainforest in 1962 and continued when U.S. drug enforcement officials sprayed chemicals on what they suspected were fields of marijuana.

Class officially ends when the pizza deliveryman shows up. Gianfagna is treating. The next half hour is spent talking about summer plans and reminiscing about the trip. The issue of insufficient beach time seems long forgotten. As the students begin to drift out, I feel a tap on my shoulder. "Remember when I said that we had seen everything in Puerto Rico except a rainbow," says McDermott. "Well, we finally saw one on our way to the airport." □

Senior editor Bill Glovin is considering ending his writing career to become a surfer in Rincón.