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Building for the Long Term: Pollard focuses on plant/metal relationship

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JEREMY FLEMING (2)

Pollard focuses on plant/metal relationship

JOE POLLARD HAS TRAVELED to a variety of locales as part of his research into the interaction between plants and metals in soil. He's visited England, Spain and Puerto Rico, collecting samples to study why and how plants absorb metals — and the potential effect that hyperaccumulation of metals in plants could have on entire ecosystems.

But while he's working on the international samples he's collected, he's also pursuing a project that requires him to take only a few steps from his office in Plyler Hall of Townes Center for Science.

Just across Furman Mall, between Daniel Chapel and Paladin Stadium, lies an ample supply of pokeweed, a native North American plant semi-immortalized in Tony Joe White's late 1960s pop tune "Poke Salad Annie." Pokeweed seems to have a particular affinity for manganese, so this fall Pollard's research and analysis class is collecting samples and examining the intricacies of the pokeweed-manganese connection.

"Pokeweed is a model system to study," says Pollard. "It grows big and fast, it's easy to harvest, and not many animals eat it."

"It's sort of like kudzu in reverse. Kudzu originated in the Far East and is now everywhere, while pokeweed is native to North America but is now found in many other countries."

Pollard, who has taught biology at Furman since 1988, believes his research into the plant/metal connection could eventually be used to battle pollution. One possible application: Superfund sites, the nation's worst areas of hazardous waste. He says, "You could plant a crop that absorbs a specific metal at a contaminated site. Once you harvest the crop, you'd have clean soil — and you could perhaps recycle the metals taken from the soil."

A Duke graduate, Pollard, who received a Churchill Scholarship to study for his Ph.D. at England's Cambridge University, is the Rose Forgione Professor of Biology. The chair was established by the estates of Rose and Louis Forgione, science majors who graduated from Furman in the late 1940s and died in the late '90s.



Pollard used some of the allowance provided by the Forgione Chair to travel to Spain last summer to collect more samples for a study he began earlier this decade. In addition, he's been able to purchase equipment for his lab and to provide support for student assistants.

The professorship, he says, serves as a kind of "protection" from the grant process. "When you apply for grants," he says, "there's always the uncertainty factor. Will it be funded? With an endowed chair, you know you'll have some funding, so it relieves some of the uncertainty."

He admits, however, that during the past few years he has not been as focused on his research as he might have liked. But the trade-off was worth it: as chair of the biology department since 2000, he was on the front lines of the planning, development and construction of the Townes Center for Science.

"This facility now gives us the space not just to pursue research, but to keep it going at all times," Pollard says proudly. "Our faculty have their own individual labs in which they can continue their research throughout the year. Before, we'd conduct summer research in teaching labs; now we can maintain our personal labs as needed."

He says the center itself, with its sustainability systems, serves as both a teaching tool and a statement to students about energy conservation. The facility's design also fosters interdisciplinary collaboration, and its informal, interactive spaces make it an inviting place to work and visit.

He hopes to see it become even more inviting in the near future. He has a vision for "something like a natural history museum," with a wide range of displays that will catch the eye and educate at the same time. "With our display spaces and technological capabilities," he says, "we have a great opportunity to take science out of the classroom and laboratory and into the public arena."

— JIM STEWART