Cancer Biology Ph.D. Program Draws World-Class Students

You could say research is Shonagh Russell’s calling.

Growing up in Aberdeen, Scotland, Russell had several friends and family members diagnosed with cancer. It fueled her desire to make a difference as a cancer researcher. The first in her family to attend university, Russell was still a University of St. Andrews undergraduate when she began researching educational opportunities and reading papers on new cancer developments.

~ Mathematical oncology papers by Drs. Robert Gillies and Robert Gatenby of Moffitt Cancer Center.

~ News about HPV vaccine clinical trials, with principal investigator Anna Giuliano, Ph.D., of Moffitt Cancer Center.

~ A listing for a Cancer Biology Ph.D. program at Moffitt Cancer Center.

“I couldn’t wait to apply,” Russell recalls. Currently in the third year of her five-year Ph.D. studies, Russell now calls Dr. Gillies her mentor. She appreciates the rigor of completing her Ph.D in an NCI-designated Comprehensive Cancer Center where students are immersed in cutting-edge research from the start.

“You see these renowned scientists using the latest technology,” she explains. “And you think – I’m not a student, I’m a scientist first and foremost.”

Moffitt’s Cancer Biology Ph.D. program, in conjunction with the University of South Florida, admits 5-10 students per year. More than 100 applicants vie for those slots, according to Program Director and Vice-Chair of Moffitt’s Immunology Department Kenneth Wright, Ph.D. “All the applicants are very gifted academically – that’s not the issue. What I look for when recruiting students is that passion – wanting to do this so much that they’re willing to put in the hours necessary.”

MAKE NO MISTAKE. IT’S A LOT OF WORK.

The first year is spent in half-day lectures on all aspects of biology – everything from biochemistry to immunology – but
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specifically how that relates to cancer. They spend the rest of their days in ten-week rotations through different Moffitt labs, to forge a match with a researcher who will mentor them for the remainder of the program. It’s hands-on lab work on how to be scientist.

“They’re the lifeblood of the lab,” says Dr. Wright, “the ones who are here day-in, day-out, doing experiments, training to be independent scientists and producing data that hopefully will lead to the next breakthrough. They’re the ones you hope will be coming up with new ideas as well, to push the research forward.”

Graduation is contingent on publishing a primary research paper on some aspect of cancer biology – as its first author. Since accepting its first class in 2003, the Ph.D. program here has graduated more than 50 scientists. And their papers have appeared in many high profile journals.

Russell has already been part of a study published in Cancer Research. It centered on solid tumors’ characteristically acidic microenvironment and its potential impact on new immunotherapy treatments. “Hopefully, we can find ways to improve and deliver immunotherapy against cancer in this hostile acidic environment,” says Russell.

Back home in Scotland, Russell’s family members typically scratch their heads when she offers such explanations. But they’re proud of her, and of her devotion to the mission statement that greets her on the wall outside of Moffitt’s Stable Research Building.

To contribute to the prevention and cure of cancer:

“It’s a great daily reminder of your chance to make a difference,” she says.