

A WORKING-CLASS SCIENTIST

BY MARIAN DENNIS

Growing up in Barcelona, Spain, Israel Cañadas was fascinated by the world around him and dreamed of a career in science.

Cañadas, now an assistant professor in the Blood Cell Development and Function Program at Fox Chase Cancer Center, was the first member of his family to go into the sciences. His father was a carpenter and his mother worked at a large company before they eventually opened their own business together.

But when Cañadas started showing an interest in science, his parents eagerly supported him. “As a kid, my parents gave me a toy microscope as a gift. I remember taking samples of plants and insects from the forest to check under the microscope. It was just a toy, but that always stands out to me because I loved it,” said Cañadas.

He eventually graduated to a real microscope and carried that passion with him throughout his academic and professional career. He studied biology at Barcelona University before receiving a master’s degree in biomedical research in 2009 from Pompeu Fabra University, also in Barcelona, where he went on to earn a doctorate in biomedicine in 2013.

Cañadas became a postdoctoral

researcher at Hospital del Mar d’Investigaciones Mediques Institute in Barcelona before moving to the United States in 2015 as a postdoctoral fellow at the Dana-Farber Cancer Institute, where he studied cancer biology and cancer immunology.

Cañadas credits his wife, Noelia, whom he met while studying in

United States, Canada, and Europe. “We really like to experience and even live in different cultures. We’re always looking to try different foods and meet new people,” said Cañadas.

It was his experience at Dana-Farber that solidified his dream of running his own lab and doing his own research. That goal came

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Barcelona, with encouraging him to move to the states. “When I finished my PhD and was considering going outside the country, I wasn’t totally sure. She was very important in that decision because she told me, ‘Science is your passion, and you should be able to work in a different country and start your own lab someday,’” said Cañadas.

The couple have been together for 18 years and have traveled to a variety of destinations, including Vietnam, Cuba, Costa Rica, the

to fruition when he came to Fox Chase in November 2019. “I found that Fox Chase is a great place for me to be able to work in the middle of all these fields, in cancer biology and immunology in the lab, and to be close to the hospital, patients, and physicians to find applications for all the research I’m doing,” he said.

“Since I visited the center to do my interview, I found that the environment, the community is very nice. I feel a lot of support in



this environment and it feels like a kind of family,” Cañadas said.

His work focuses mainly on identifying how tumors resist immunotherapy and how to use existing immune signaling pathways to break that resistance and find new therapies. As part of this work, he is developing a technology that would allow researchers to use a microfluidic device to culture cancer cells, immune cells, and other cell types from the environment of a human tumor sample. The tool will allow researchers to conduct analyses of specimens on smaller scales, as well as doing them more quickly and cheaply.

“I’m interested in using this technology to treat fresh tumor samples from patients at Fox Chase with immunotherapy and then check how effective different therapies are. These could include experimental therapies or therapies I have conceived from my projects that would be interesting to test in tumors. My passion is to know the unknown, to make discoveries. That’s my dream,” Cañadas said.

“My philosophy in work is to really enjoy the moments. In science this is very important, because a lot of times you don’t find what you’re looking for. You can be wrong or you can find something that you were

not expecting, so I think it’s really important to have an optimistic outlook and never give up.”

Cañadas said his family’s support, along with dedication and hard work, have been paramount to a successful and rewarding career in science. “I come from a working-class family. It’s something I’m proud of, particularly because my parents continue to support my brother and me in our education. I’d like to encourage all kinds of social classes to pursue a path in science or biomedicine if it’s really their dream. Work hard, be positive, and you will finally reach what you really want.”