Kai-Mei Fu very nearly quit academia. As an undergraduate, Fu fell in love with quantum physics after a brief introduction to the topic in an engineering class. She went on to devour physics courses, but an unpleasant undergraduate research experience left her questioning whether her future lay in the field or somewhere else. Taking a year off to explore her options—she spent the time teaching math in Singapore—Fu found herself seeking out physics conferences and researchers and decided to give physics a second chance. (She advises any undergraduate with a sub-par research experience to reconsider their research topic or group environment before ditching research entirely.)

Now a professor at the University of Washington in Seattle, Fu creates defects in crystal lattices—by removing an atom from the crystal or by adding one in. She then studies the defects’ quantum properties. She jokingly calls her research “defective physics,” a name she admits doesn’t look great on funding applications. Physics spoke to Fu to find out more about her quantum crystal defects, their potential uses, and why she thinks researchers in her field could benefit from more collaborative efforts.

–Katherine Wright

Read her interview at APS Physics.