Autobiography

May 23, 2018

My full name is Tuan Ngoc Pham, which is written Phạm Ngọc Tuân in Vietnamese. I was born in 1988 in Buon Ma Thuot City, Dak Lak Province, in the Central Highlands of Vietnam. My parents were from two different sides of the Vietnam War: my dad was from the South, my mom the North. They moved to Buon Ma Thuot City for jobs as bank officers in mid-1980s. There they met and got married. I have a sister who is 3 year younger than I am. When I was 15, we moved to Ho Chi Minh City in the south, where I attended Le Hong Phong High School from 2003 to 2006, and college from 2006 to 2010.

I was a member of my school's math team throughout my high school years, (math contests were held annually among schools and provinces at that time) and won the second and third prizes in the National Contest as a junior and senior. I have always been energized by logical thinking and problem solving. Moving forward to college education was not a question to me. However, the university system in Vietnam required that in order to apply for a university one must select a major and stay committed to the same major after admitted. I began to seriously examine my motivation of learning math. On the search for an answer, I started to invest more time on other subjects like physics, biology, history, and fell in love with each of them. However, I could not see myself truly committed to any career other than teaching and doing research in math, at which I already had a glimpse of profound challenges necessary for my personal development. I decided to be a math major.

While attending the University of Science in Ho Chi Minh City, I was excited to realize that math connects itself to other sciences, and also connects them to one another. I came to a beautiful compromise: I would study the math of as many fields of science as I could to become an applied mathematician. I earned a bachelor degree in Mathematics and Computer Science in October 2010. After graduating, I was hired by the university to be a teaching assistant for one year. I taught Basis of Calculus, which consists of an introduction to set theory, Calculus I, and the first half of Calculus II. I was awarded a master degree in Applied Mathematics by the University of Orleans in Orleans, France in July 2012. I spent the summer of 2011 as an intern at Ecole Polytechnique (Palaiseau, France) to work on my master thesis. During this time, I worked with Dr. Mathis Plapp of the Laboratory of Condensed Matter Physics on a new mathematical model for alloy solidification. A part of the work was to see whether the model would result in a faster convergence rate than the existing models. I came to the University of Minnesota–Twin Cities as a PhD student in the Fall of 2012. Here I worked as a teaching assistant and research assistant. I taught PreCalculus, Calculus I, II, III (Linear Algebra and Differential Equations), IV (Multivariable Calculus and Vector Analysis). I was also a grader for a few graduate-level courses: Geometry I, Mathematical Analysis of Biological Networks, and Theory of PDE. I like to see math as a social activity. Sharing and discussing ideas with others always give me greater insights even in the things I thought I knew well. My area of research is Partial Differential Equations, which provides analytical frameworks for many problems arising in fluid dynamics, physics, biology, and other sciences. My dissertation is on several regularity issues of the 3D Navier-Stokes equations in fluid dynamics, especially regularity at the boundaries. I expect to receive a PhD in Mathematics in July 2018.

I love spending time with friends, getting to know people, helping them move, playing soccer, volleyball and table tennis. I play the guitar when I am at home. I am a member of the Church of Jesus Christ of Latter-Day Saints. Service and social activities give me the spiritual boost I need in my professional life from time to time.