

## **Yehong Jiang**

10th grade

### **Hobbies**

Fencing, bel canto opera singing, billiards

### **Clubs**

physics research club, mathematical modeling club, OPho team member, Silicon Valley Fencing Club

### **Contest/Competition Experience or Honors**

IPHO Alternate (2021), USAAAO semifinalist (2023), USA Young Physicist Tournament champion (2023), International Mathematical Modeling Competition Finalist (2023), International Science Engineering Fair finalist (2023), AIME qualifier(2021-2023), American Protégé International Vocal Competition winner

### **Autobiography**

Unlike many of my fellow campers, my physics competition journey didn't start with math. Neither did it start with HRK.

Physics has always come naturally to me. I've liked asking "why?" ever since I was little, and my parents often talk about how I'd bombard them with questions, even as a toddler. One of their favorite anecdotes is how I—then two and a half—was once looking out the car window and spotted a school bus, and then asked why it was driving backwards. When they informed me that it wasn't, I was completely baffled by how the bus could *appear* to be moving backwards while it was really driving forwards. Then, when I was around 4, and was taught about gravity, I couldn't stop wondering what mysterious force was preventing the moon from crashing into Earth.

Later, things came to a head when my ski coach taught 5-year-old me how to carve. I distinctly remember him asking which spot had the highest speed and which had the highest acceleration (a question oddly similar to 2021 F=ma #13). I answered correctly, and he asked me how I figured it out. I said that *I could feel it*. Perhaps physics does shape the way I perceive the world.

In elementary school, I was full of dreams. I self-published my first picture book at the age of 6 (and planned to write 8 more sequels, in order to beat J.K. Rowling). I set the goal of solving cold fusion by the age of 10; I wanted to build my own cell service network to outcompete AT&T. The list goes on. But of course, most of them popped. Yet, when my school allowed me to take middle school physics as a 4th grader, my dreams started to get real.

After mastering the subject at a middle-school level, I naturally wanted to take on algebra-based high school physics. In 5th grade, I began my voyage of serious learning in Physics with AP Physics 1. I remember sitting there, just having finished Algebra 1 (not even trig!!), being surrounded by a room of high schoolers. Things were pretty rough in the beginning. But before I knew it, I was able to draw free-body-diagrams and fluently used vectors and trig functions. When I took AP Physics 2 the year after, concepts like “quantum physics” and special relativity felt like a breeze. In 7th grade, I managed to score a 5 on the AP Calculus BC test by simply following along an AP Physics C: Mechanics class. Soon, I was diving into more advanced math courses as well, like Multi-Variable Calculus in 8th grade and Linear Algebra and Differential Equations in 9th in order to pursue more advanced studies in physics.

Olympiad physics turned out to be totally different from the APs. I studied really hard for the  $F=ma$  in 6th grade, but didn't pass. Nonetheless, the training was invaluable for helping me better understand concepts and improving my problem-solving skills. In 7th grade, I passed  $F=ma$ , and in 8th grade, I made it onto the US Physics team, where I attended virtual camp throughout the summer. It was really awesome to meet with other kids as passionate about physics as me, and I particularly enjoyed competing to be the first to submit a solution to the problem of the day. I am incredibly excited to attend the camp again in June, where I'll be able to meet others (in person this time!) who share this passion for physics.

My journey into the world of physics would not be possible without my teachers. I owe a lot of my success in the subject to my high school physics teacher Dr. Mark Hurwitz, who has been inviting me to high school physics competitions since I was in 5th grade. I'm grateful for his encouragement and trust in me, such as making me a project lead for USAYPT 2023 as a freshman. I'd also like to thank the Nueva School for providing me with such a rich and flexible learning environment. Lastly, I want to share my school's motto of “learning by doing,” which inspires me to take on challenges even when I don't feel fully prepared for them.