

KENAN S. DIAB

School Address

290 Massachusetts Ave, #433
Cambridge, MA 02139
(440) 503-1351

Home Address

29261 Grande Court
Westlake, OH 44145
(440) 835-4712

Education

Massachusetts Institute of Technology, candidate for B.S. in Physics and B.S. in Mathematics in 2011.

Hawken School, Graduated cum laude, May 2007

Relevant Experience

UROP 3/08-present

MIT - Quanta Research Group - Cambridge, MA

Worked in Prof. Isaac Chuang's lab on an experiment about elliptical planar ion traps. Conducted simulations and calculations describing the structure/phase transitions of trapped ion crystals, coupling rates between pairs of trapped ions, and the effects of micromotion. Built electronic devices necessary for use in the experiment, including a number of high-Q helical resonators. Expecting to obtain sufficient experimental data to submit a paper regarding my findings in early February 2009.

Intern 6/06-8/06

Cleveland Medical Devices - Cleveland, OH

Assisted with the development and testing of a portable, low-power electroencephalogram (EEG) machine. Conducted tests to ensure that the electrical properties of the components of the device (e.g. cross-talk, linearity, common-mode rejection) were up to specification. Helped conduct clinical trials of the device at the main branch of the Cleveland Clinic hospital in University Circle.

Intern 6/05-8/05

Case Western Reserve University Ultrafast Optics Lab - Cleveland, OH

Worked in a laboratory investigating the nonlinear optical properties of cadmium selenide quantum dots. Probed samples of quantum dots using photospectrometers, CCD sensors, and terahertz-frequency lasers, and processed the resultant data. The project culminated in a talk given to the optics research groups at Case Western.

Skills

Programming: Proficient in Mathematica, MATLAB, \LaTeX , and shell programming (bash). Familiar with Python, C++, and Java.

Mathematics: Vector calculus, ODE's/dynamical systems, linear/abstract/commutative algebra, real/complex analysis, point-set/algebraic topology, classical complexity theory.

Physics: Mechanics, electrodynamics, waves and oscillations, statistical physics, quantum mechanics (three terms), special relativity, computational physics, junior laboratory.

Awards and Honors

US Physics Team 2006, 2007

One of 24 students selected nationwide to attend a training camp where a team is selected to represent the United States in international competition.

International Physics Olympiad 2007

Was selected as one of five students in the country to represent the United States in international competition. Won a silver medal, placing in the top 15 percent of competitors in the world.

Activities

Educational Studies Program - Currently teaching AP Physics C to high school students. Have previously taught a 10 week class in modern physics and multiple one-day classes in physics and mathematics.

US Physics Team - Grading and testing screening exams used to select students for the training camp.

Art of Problem Solving/USAMTS - Grading exams and proofreading materials used in the Art of Problem Solving online mathematics classes and the USAMTS mathematics contest.

mitBEEF - President of MIT's ASA-recognized beef enthusiasts' club.