ADOPT-A-PHYSICIST CLASS GROUPS

Class Name: Period 5

Group 1 *Dr. Bruce Voris* Other Industry (R&D) : Orbital Sciences (Orbital) Scientist for Orbital Sciences, where I work on flight software for satellites. It is not unusual to see colleagues with little formal training in computer science performing successfully as software engineers. The most important aspect in being successful is to be flexible enough to learn new things, on a regular basis. It's not clear that formal education can do a good job with this, except to instill a sense of curiosity and wonder for the world around us.	1. 2. 3. 4. 5.
Group 2 *Dr Charles Clark* Private/ Government Funded Research Lab : National Institute of Standards and Technology (NIST) I have a great job: managing a research, development and service team at the National Institute of Standards and Technology. NIST, an agency of the US Department of Commerce, is responsible for maintaining the Nation's measurement infrastructure, that is, the national systems of measurement that are required for manufacturing (guaranteeing standard parts), trade and commerce (fair weights and measures), telecommunications (precise timing), medicine (radiation dosimetry), electronics, space exploration, national defense, and pretty much everything else. Right now is a particularly exciting time to be engaged in measurement science, since there are new demands associated with the development of nanotechnology - creating the new tools that will be needed to measure electronic, magnetic, mechanical and optical properties of nanoscale systems - and new applications and opportunities for quantum devices, systems which are governed in a fundamental way by the laws of quantum mechanics and hold promise for revolutionary new ways of processing and transmitting information. Exploring the concept of absolute measurements at a fundamental level is a fascinating intellectual exercise; developing tools to extend the state of the art of measurement is a huge challenge; engagement of these two activities with national needs can be tremendously rewarding. I received a Ph.D. in theoretical physics. Most of my graduate school classmates went into academia (i.e. became college or university professors), and some went into industry or the national laboratories. I'd say that what I do is not typical of people with Ph.D. degrees in physics; however, many of the people with whom I work at NIST have backgrounds similar to mine. Working in the Federal Civil Service as a scientist has a lot of advantages at the junior level. One can become involved with projects of national importance and quickly attain a position of considerable responsibility and visibility.	1. 2. 3. 4. 5.

Group 3 *Clare Bernard* College or University : Boston University I'm from the Boston area and although I have liked math for a very long time, I first got interested in physics in high school. After high school I went to Johns Hopkins University where I majored in both math and physics but I decided ultimately that I wanted to go to graduate school in physics. I participated in two different research projects while I was an undergraduate student: one was in the field of soft condensed matter experiment, and the other was in high energy theory. I hope to continue studying high energy theory in graduate school. My senior year in college I was the president of my chapter of SPS (society of physics students) and I planned a group trip to CERN for spring break where some of the Johns Hopkins graduate students took us down to see the CMS detector (shown in my picture). It was so cool! This is my first year in graduate school so I have just started taking graduate classes, teaching discussion sessions, preparing for qualifying exams, and searching for a professor I would like to work with.	1. 2. 3. 4. 5.
Group 4 *Dr. Jeffrey Hunt* Other Industry (R&D) : The Boeing Company I have always liked building projects. I had an erector set and trains as a kid. I have also liked playing with light. I saw my first laser when I was in junior high school and I decided that I wanted to build them and work with them. My work at The Boeing Company comprises all manner of lasers. These include high power systems like the Airborne Laser, low power systems like communications lines, and illumination systems in between. I cannot discuss the details of most of the work that I do. But, I do a lot of work with advanced optical sources, detectors and optics. These days, everything involves some kind of advanced condensed matter physics. Right now, the nanotechnology advancements are making the largest impact on my work, so there is a great deal of activity in that area. There are many people in my area of the company that have advanced physics degrees. When I recruit at MIT and UC Berkeley, the two universities that I attended, many students are not aware that the work we do is quite advanced. But as a government contractor, I constantly have to push the forefronts of science. The educational preparation that I had at university was absolutely essential for my work. At university I learned how to work HARD and to push myself. I also learned that failure is part of the learning process. You have to expect it, but also you have to learn from it so that I do not make the same mistakes. As more and more technology moves into the solid state arena, the basic science that I learned in college and graduate school has been absolutely KEY to my being able to stay at the cutting edge of research.	1. 2. 3. 4. 5.
Group 5 *Prof. Monroe Rabin* University of Massachusetts (UMASS) I am a professor and Associate Department Head of the physics department at the University of Massachusetts in Amherst, Massachusetts. My job involves university teaching, research and some administration. This type of work is done almost exclusively by people with my education. The research experience I have had has also helped me in my teaching. I teach physics courses at all levels, from freshman physics to graduate-level physics.	1. 2. 3. 4. 5.