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Preparing for a Career in Industrial Physics.

GREGORY MEISNER, GM Research and Development (Retired)

My career in physics has been extremely rewarding. My career path, however, was not what I imagined it would be when I started college. I thought I would be a math major and eventually a university math professor. A big challenge of my college and graduate school experience, aside from actually learning physics, was to find out what I was most passionate about and then to pursue that endeavor wherever it led. The graduate school part of my career path wound its way into experimental condensed matter physics, but I still expected that I would remain in academia. Along the way, I learned a lot from many people, worked hard to accomplish good results, and availed myself of unexpected opportunities for professional development and career advancement. One piece of advice that resonated with me was to always try to be learning something new, and I did manage to do that throughout my career: in graduate school and as a post doc I studied low temperature experimental physics and superconductivity, whereas my areas of research as an industrial physicist at GM R&D were permanent magnets, then hydrogen storage materials for fuel cell vehicle applications, and finally thermoelectric materials and devices for waste exhaust gas heat recovery. The best piece of advice, which has served me well along my career path and my life path in general, was in the remarks astronaut Katherine Sullivan gave at my PhD graduation ceremony at UCSD in 1982. Her advice was captured in the word “quality”. Specifically, always strive for the highest quality in everything you do. Another impactful word, which was a favorite of my thesis advisor, Bernd Matthias, is “serendipity”. Specifically, you need to know how to recognize and capitalize on unexpected or unusual occurrences – they may be the best stepping stones you will have along your career path. My presentation will discuss a few specifics of how I prepared myself for a career in industrial physics.