MAR12-2011-004976

Abstract for an Invited Paper
for the MAR12 Meeting of
the American Physical Society

An entrepreneurial physics method and its experimental test[1]

ROBERT BROWN, Case Western Reserve University

As faculty in a master's program for entrepreneurial physics and in an applied physics PhD program, I have advised upwards of 40 master and doctoral theses in industrial physics. I have been closely involved with four robust start-up manufacturing companies focused on physics high-technology and I have spent 30 years collaborating with industrial physicists on research and development. Thus I am in a position to reflect on many articles and advice columns centered on entrepreneurship. What about the goals, strategies, resources, skills, and the 10,000 hours needed to be an entrepreneur? What about business plans, partners, financing, patents, networking, salesmanship and regulatory affairs? What about learning new technology, how to solve problems and, in fact, learning innovation itself? At this point, I have my own method to propose to physicists in academia for incorporating entrepreneurship into their research lives. With this method, we do not start with a major invention or discovery, or even with a search for one. The method is based on the training we have, and the teaching we do (even quantum electrodynamics!), as physicists. It is based on the networking we build by 1) providing courses of continuing education for people working in industry and 2) through our undergraduate as well as graduate students who have gone on to work in industry. In fact, if we were to be limited to two words to describe the method, they are "former students." Data from local and international medical imaging manufacturing industry are presented.

[1]I am grateful for research support from more than a dozen high-tech industrial companies.