

Nano Technology provide the means to fabricate new materials and create new technologies, and sometimes finds application in serendipitous ways. I will discuss some examples of nano technology and nano-fabricated materials that are replacing or extending conventional technologies, how nano-fabrication is providing new materials and some instances in which there have been (or may be) spin offs or applications that were not the original intent of the research. Many of the challenges that we face in nano technology relate to providing measurement and fabrication tools that ranges in scale and scope from a single-investigator bench-top measurement on up to interdisciplinary multiple institution collaborations. I will discuss National Science Foundation programs that support instrumentation needs over that range of complexity and give some statistics and examples on trends we see in our programs that seem to be driven by nano materials research.