

MAR14-2013-003228

Abstract for an Invited Paper
for the MAR14 Meeting of
the American Physical Society

David Adler Lectureship Award: A Chance to Grow¹

PAUL CANFIELD, Ames Laboratory and Dept. of Physics, Iowa State University

Having a chance to grow has been a vital, key, aspect to my research career. A successful condensed matter, new materials group thrives when it can have multiple make-measure-think cycles running in parallel and series. The ability to explore phase space and design, discover and grow new compounds is the starting point for many research projects and, sometimes, new fields. In this talk I want to provide an overview of several of the motivations that can lead to sample growth and also provide some examples of how new materials can lead to the intellectual / technical growth of a group as well. Examples will be drawn, as time allows, from work on magnetic, non-magnetic, low-T_c, and high T_c superconductors as well as heavy Fermions, spin-glasses and quasicrystals.

¹Much of this work was supported by the US DOE, Office of Basic Energy Science, Division of Materials Sciences and Engineering, under Contract No. DE-AC02-07CH11358.