

From One Potsdam to Another - A Personal Career Journey Through the Physical Sciences –

Paul Michael Grant, '60

In the hope of providing a career decision resource for present and future Clarkson Honors students to reflect upon, this talk will outline my personal journey in physics and engineering which began even before my admission to “Tech” in 1956. I will (hopefully briefly) reprise my long career in IBM and later EPRI (Electric Power Research Institute), and involvement with a wide variety of additional scientific endeavors, both basic and applied. As examples: Applications of magneto-resistivity phenomena which began with my Clarkson senior thesis and ended with my founding the group at IBM Research which led to the read head used in every hard drive on the planet today; Basic research, both experimental and computational, on exotic organic conductors...and superconductors...; and later on managing the high temperature superconductivity effort at the IBM Almaden Research Center, including as a co-inventor on its international patent. At EPRI, I directed a \$5M annual program on power applications of superconductivity alongside IBEW union linemen, funded research on “wide bandgap” IV-IV, III-V and II-VI semiconductor devices for “smart grid” deployment, and advanced nuclear fusion. From 1993 to 2008, I was advisor/reviewer of the DOE superconductivity support effort.

Besides these adventures, I had brief escapades in academia, as a visiting professor at the National University of Mexico and scholar at Stanford, “lobbying” the Senate (Pete Domenici) on funding power apps of superconductivity, and “appearances” on CBS Good Morning American, NOVA, the BBC, television networks in the EU from Finland to Italy, and lecturing at the University of Havana.

Today as a “hobby,” I pursue density functional computations on the fundamental mechanisms of high temperature superconductivity, and writing opinion/commentary for the journals Nature and Physics World.

In summary, as pointed to above, I hope to offer the Clarkson Honors Program and its students, advice deriving from my most brilliant accomplishments...as well as from my most egregiously stupid mistakes!...toward their enablement of a Sustainable Earth. The “Another Potsdam” will be disclosed on summation!