

Adaptive Materials, Inc. Aaron Crumm

Background:

Adaptive Materials Inc. (AMI) is an innovator in the development of portable power created from solid oxide fuel cell technology. Unlike the hydrogen powered fuel cell technology that people are typically familiar with, AMI's products use readily-available fuels such as propane and empower organizations and individuals with clean, compact, long-lasting portable power. AMI's fuel cells have been field tested by the military and could soon replace batteries in many portable power applications.

Prior to founding AMI, Dr. Aaron Crumm gained insight into electric power generation as a nuclear engineer. He earned his Bachelor of Science degree in nuclear engineering from Purdue University and a Ph.D. in materials science from the University of Michigan. His doctoral research led to innovations which ultimately enabled the manufacturing of the fuel cell tubes used in AMI's products.

At UDM, this case study is intended for integration into the Materials Science course which all mechanical engineering undergrads take. The focus is on ceramics and solid oxide fuel cells.

More information on AMI can be found at www.adaptivematerials.com. A nice Comcast interview with Aaron Crumm can be found there to get a quick overview of AMI's products.

Outline:

1. Technical Discussion
 - a. Introduction to AMI..... (1:35)
 - b. Product Successes..... (3:34)
 - c. Fuel Cell Technology (6:40)
 - d. Making a Robust Product..... (3:36)
 - e. Guy Kawasaki on Unintended Uses (an STVP video) (2:15)
2. Business Discussion
 - a. Starting a Business..... (5:03)
 - b. Intellectual Property..... (1:47)
 - c. Traits of an Entrepreneur..... (0:47)
 - d. What Future Engineers/Entrepreneurs Should Know (2:10)