

Two homework

George H. Heilmeier



- 1950's: Ph.D. in solid state materials and electronics from Princeton University
- 1960's: Led the team that created liquid crystal displays (LCD's) at RCA
- 1970's: Director of Defense Advanced Research Projects Agency (DARPA), developing artificial intelligence, space lasers, and stealth aviation
- 1980's: CTO of Texas Instruments
- IEEE Medal of Honor (1997), Kyoto Prize (2005)

Heilmeier's Catechism

- Nine questions Heilmeier insisted that every proposal to DARPA answer
- Answer these questions in any preparation of a presentation, paper or project proposal
- Help to focus on the essentials

Heilmeier's Catechism

1. What are you trying to do? Articulate your objectives using absolutely no jargon.
2. How is it done today, and what are the limits of current practice?
3. What's new in your approach and why do you think it will be successful?
4. Who cares? If you're successful, what difference will it make?
5. If you're successful, what difference will it make? What impact will success have? How will it be measured?
6. What are the risks and the payoffs?
7. How much will it cost?
8. How long will it take?
9. What are the midterm and final "exams" to check for success?

Homework

1. Apply Heilmeier's Catechism to your current work/paper: http://www.design.caltech.edu/erik/Misc/Heilmeier_Questions.html
2. Read Richard Hamming's article "You and Your Research" (available online) on principles for doing great science: <http://www.cs.virginia.edu/~robins/YouAndYourResearch.html>