Education Activities
CRA’s Mission

Strengthen research and education in the computing fields by

- working to influence policy that impacts computing research
- encouraging the development of human resources
- contributing to the cohesiveness of the professional community
- collecting and disseminating information about the importance and the state of computing research
CRA World Headquarters

(with a thank you to Jim Foley)
CCC Goals

• Create more audacious thinking within the computing research community
• Bring computing research community together to discuss, prioritize and envision our future research needs and thrusts
• See ideas developed become funded research programs and/or instruments
• Communicate these challenges, needs, and thrusts to the broader national community
• Increase the excitement within computing research
• Use that excitement to attract students who are representative of our diversity into computing research careers
• Example educational activity - GROE
CRA - Education

• The Education of Future Computing Researchers
• CRA-E Committee -

  Andy van Dam, Brown University, chair
  Jim Foley, Georgia Tech
  John Guttag, MIT
  Pat Hanrahan, Stanford
  Chris Johnson, U. of Utah
  Randy Katz, U.C. Berkeley
  Henry Kelly, Federation of American Scientists
  Maria Klawe, Harvey Mudd College
  Peter Lee, CMU
  David Shaw, D. E. Shaw Research
Why a CRA-E?

- Enrollment issues
- Intellectual outsourcing issues
- Stodgy academic departments
- Centrality of computational thinking issues to all fields
What is CRA-E Trying To Do?

... our charter is to make specific recommendations to improve educational programs to better prepare graduates to make innovative contributions to industry, academia, and government.

Our focus is on educational content as well as on pedagogical methods and tools in the educational process. ...

Our goal is to provide substantive guidance to our target audience, i.e., faculty, administration, policy makers, and funding agencies.
What Does CRA Bring to the Issue?

- Reputation
- Emphasis on research activities
- Connections to thought leaders
- Connections to research leaders
- Not interested in duplicating other efforts
- Not interested in doing what others can do better
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<th>Research Education Dimensions</th>
<th>Sub-committee Areas</th>
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<td><strong>Foundations</strong></td>
<td>Is there a set of core/foundational principles/skills that all CS graduates must know?</td>
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<td>Foundation + Tracks model: refactoring content</td>
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<td>Design under constraints, mastery content</td>
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<td><strong>Environment - institutional</strong></td>
<td>Introductory courses and attraction to computational thinking</td>
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<td><strong>Environment - online</strong></td>
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<td><strong>Strategies</strong></td>
<td>Attracting best and brightest to grad school</td>
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Where Are We?

Not very far (yet)

- Preliminary meeting at Snowbird 2008
- O’Hare Hilton meeting November 2008
- O’Hare Hilton meeting April 2009

Target - New Years Day 2010

- White paper
- Something more active
“... if we stay complacent and stick to our comfortable rut, and are satisfied with 'well, of course, you're going to have cycles in enrollment, and there will be good times again in the future; outsourcing really not happening for the creative jobs', then we will have MUCH more serious problems. We can't be complacent; we have to say 'Yes, there are problems that need to be tackled and not necessarily with purely evolutionary thinking.'”

Committee Chair - Andy van Dam