

Council for
Chemical
Research



CTO Roundtable

Focus: Graduate Education
December 13, 2010



Background

- CCR convenes occasional series of CTO Roundtables on various topics
- Roundtable in 01/2010 on innovation suggested next topic be graduate education
 - Chaired by Mark Wrighton and Gary Calabrese
 - Held in 12/2010
 - ~25 attendees with leadership roles in all sectors
 - Report available at www.ccrhq.org



Organization

- Sent framing questions to attendees
- Had one “respondent” per question
- Moderated discussion
- Final session focused on identifying concrete recommendations
- Chatham House Rules applied



Question 1 summary

- What subject matter competencies are needed for the future?
 - Deep dive still critical
 - Industry and Government labs would like to see additional exposure to other areas
 - Finance/business/entrepreneurship
 - Transdisciplinarity and teams
 - Non-academic environments
 - Safety Safety Safety



Question 2 summary

- What Behavioral Competencies Are Needed for the Future?
 - Communication
 - Globalization
 - Teamwork
 - Professionalism
 - Safety Safety Safety



Recommendations

- Develop a new NSF program of 5 year fellowships with input on requirements from industry and government labs.
- Path forward: workshop proposal to NSF to frame how such a program would work
- CCR's Graduate Education Action Network is moving forward



Recommendations

- Professor of Practice –leverage retirees and other interested industry and government lab staff in graduate education
- Possible path forward: companies identify interested participants and provide information to CCR
- CCR act as a broker/matchmaker



R e c o m m e n d a t i o n s

- Require or at least strongly encourage internships as part of Ph.D.
- One of the most contentious; general agreement that internships can be valuable to the students/faculty if done well
- Path forward as yet uncertain



Recommendations

- Share industry/government lab non-proprietary training curricula on IP, ethics, safety, etc.
- Possible path forward: CCR gather materials and distribute via website



Summary

- Lively discussion; important topic
- Other input and ideas welcome
- Rudy Baum feels that 5 years may not be enough time to do all we suggest (March 28 editorial in *C&E News*) – what do you think?