The Future of Networked Research and Education

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www.sercuarc.org
Collaborative Research

• Much technical research is already conducted in a team environment
  — Lead PI
  — Multiple researchers
  — Usually in one institution (financial, collegial, proximity issues)

• SERC expands the envelope by facilitating collaboration across institutions
  — Still with the lead PI concept
  — Infrastructure to deal with the financial issues
  — Teambuilding to deal with the collegial issues
  — Technology and F2F meetings to deal with proximity

• Good examples of both low capital and high capital projects
  — BKCAS and HADRON, e.g.
Collaborative Doctoral Education

• Degrees still awarded by one school
  — Awarding campus policies govern
  — Seeing more evidence of cross-university doctoral committees
  — Even local committees can have dysfunctional behavior; jury is out on the efficacy of cross-university committees.
  — Much external collaboration occurs in campuses with small tenured faculty

• While many campuses have large research lines that support multiple doctoral students, we have not seen that so much across institutions.

• Relationship between doctoral advisor and candidate is essentially one-to-one.
  — Dissertation is an individual product
  — Advisor plays key role
  — Still highly unusual for advisor to be from another institution
Conclusion

• Collaborative research is farther advanced than collaborative doctoral education.

• Technology is not the barrier; the nature of the advisor-candidate relationship is.

• Tipping point depends on new understanding of that relationship.
Networked Research and Education

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Networked Research and Education

• Background – Ed tech
  — MOOC
  — Flip
  — Learning R&D
  — Curriculum

• Background – People, roles
  — Bathtub
  — Depots
  — STEs
  — Falling behind

• Opportunity – Delivery
  — Hybrid curricular
  — Intensive executive

• Opportunity – SE Content
  — Well lopsided
  — Software domain

• Opportunity – Modalities
  — Bring to users
  — Networked