Strong Partnerships: A new paradigm for collaborative research

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An Ancient Paradigm

Universities
• Fundamentals
• Disciplines
• Public benefit

Industry
• Applications
• Problems
• Commercial profit
The 21st Century: A World of Wicked Problems

- Complexity: reductionist approaches fail
- Interdisciplinary approaches are required
- Dynamic situations and relationships evolve
- Unintended consequences proliferate
- No easy solutions!
A New Paradigm for Research

- Integrated multidisciplinary teams
- Entrepreneurship and innovation
- Long-term relationships
- Meeting the grand challenges of our age
Actually – not entirely new

- Thomas Edison – Menlo Park (NJ)
- George Westinghouse - Pittsburgh
- Alfred Lee Loomis – MIT Rad Lab
- Bob Taylor – Xerox PARC
- Steven Jobs - Apple
- Craig Venter – TIGR,Celera
Characteristics of Problem-driven R&D:

- Connected research across all levels
- Small, flat organizations
- Ideas are owned by people, not organizations
- Face-to-face relationships are key
- Sunset – the end of each project is The End
- Shared Need, Complementary Capability, and Passion!
A New Paradigm for Education: Connected Learning

- Interns and co-ops: Experience, recruiting
- Team experiences: Co-learning, leadership
- Continuing education: Life-long learning
Strong Partnerships have Joint Stakeholders

- Industrial partners and consortia
- Academia and research institutes
- State and federal agencies
- Legislators and policy advocates
- Environmental and other NGOs
- Students, alumni, customers, citizens