Science "UnSummit" 2010
Shifting the Effort:Reward Ratio in Science

"Applying Organizational Change Strategies from other Sectors and Industries
To Create a New Path for How We ***Do*** Science"

October 23 -25th, 2010
Washington DC

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The 1980's–2000's saw an entire suite of tools being developed to address organizational efficiency and to lead the way on innovation and creativity. These tools were applied to fields ranging from software engineering and technology to business and leadership. However, they were never applied to science. Currently our field has all the hallmarks of an inefficient organizational system:

At the system level:

- 5 proposals to 1 funded (NIH)[1]
- 10 students declaring STEM (science, technology, engineering, math) as a college major, but only 4 graduating with any kind of STEM degree[2]
- 3 post-docs for every faculty opening[3]
- An average age of 42 years for first-time grant awardees (Biosciences)[4]
- Over $140B/year in federal R&D funding, but no cure for cancer and no personal jet packs[5]
- 5th in per-pupil spending on secondary education[6], but below 29 other countries on international standardized math tests[7]
- A hub for policy discussions on innovation...but slipping on all innovation indicators[8]

At the individual level:

- 20 years of education – but still no job
- A prestigious post-doc job – but a salary that cannot support a family
- 60+ hour work weeks in academia – but still no "life"
- Colleagues – but for many, still no community
- Hard work – but little exposure to or understanding of that work from the public
- 10 graduate students – but 3 of the best ones left the field
- The dream of making a difference, replaced by a conscious struggle for career survival

This conference brings together diverse individuals who have successfully introduced organization and system change to sectors outside of science. They will join others who have studied and written on the "system of science," and scientists themselves, to create a vision of how practices developed elsewhere might be applied to restructure the scientific enterprise. The fact that many other industries and fields have not just talked about change, but *made* the change, argues that science need not remain the way it is today.

Our hands-on event will begin with a three-panel discussion series that outlines the current situation in science, presents successfully implemented solution-oriented strategies in other fields and introduces new possibilities that present alternative ways of engaging the scientific community.

Portions of this meeting will be facilitated in the highly interactive *Open Space** format. To encourage openness among participants and a "sleeves-up" approach to developing a national blueprint for science, a book of proceedings of this initial meeting will be prepared and issued onsite.

We hope you will join us for this unique event which brings together scientists and others who care deeply about the practice and future of science. Please contact Kennan Kellaris Salinero for an invitation.

** Suzanne Daigle, of NuFocus, describes an 'Open Space' meeting (a technique created by Harrison Owen more than 25 yrs ago) as a tool to facilitate effective group focus and decision making when there are substantial issues to debate, high levels of conflict, high levels of diversity (in all aspects of the group, such as age, function, opinions, etc.), with an urgency of getting something done 'yesterday.'*

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[1] Research Project Success Rates by NIH Institute for 2009
http://report.nih.gov/award/success/Success_ByIC.cfm

[2] U.S. Department of Education, 2009
http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009161

[3] Into the Eye of the Storm, B. Lindsay Lowell, Harold Salzman, 2007
http://www.urban.org/publications/411562.html

[4] NIH Office of Extramural Research, 2008
http://report.nih.gov/NIH_Investment/PPT_sectionwise/NIH_Extramural_Data_Book/NEDB%20SPECIAL%20TOPIC-AVERAGE_AGE.ppt

[5] AAAS Guide to R&D Funding Data - Historical Data, 2009
http://www.aaas.org/spp/rd/guihist.shtml

[6] U.S. Department of Education, 2006
http://nces.ed.gov/programs/coe/2010/section4/table-ifn-1.asp

[7] U.S. Department of Education, Highlights from PISA 2006
http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008016

[8] Blueprint for American Prosperity, Robert Atkinson, Howard Wial, 2008
http://www.itif.org/files/NIF.pdf