ABSTRACT: 2017 ELAM Institutional Action Project Symposium

Project Title: *Leap Year* – A yearlong program to increase collaboration among faculty in Biomedical Informatics, Computer Science and Information Science

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Collaborators: Bruce Childers, PhD (Department of Computer Science), Martin Weiss, PhD (School of Information Science) and Liz Lyons, PhD (School of Information Science)

Background, Challenge or Opportunity: Building academic, educational, and operational strengths in Data Science, Informatics and Computing is an important strategic goal for many academic health centers, including ours. For example, use of predictive analytics and machine learning in healthcare, development of precision medicine programs, and implementation of population health approaches all require sophisticated new methods, expertise, and workforces that span multiple disciplines. Success in advancing this strategic goal can be enhanced by creating collaborative bridges from Schools of Medicine to Departments and Schools of Computer Science and Information Science. At University of Pittsburgh, a new School of Computing and Information (SCI) will be founded in July 2017, combining two academic units – a school of information science and a department of computer science. An important theme for SCI is "Connected Life, Health, and Medicine", requiring deep collaboration between SCI and a third academic unit - the Department of Biomedical Informatics in the School of Medicine. Collaborative connections among these three academic units have been limited to date. In the year leading up to the founding of SCI, we sought to substantially increase interaction among faculty, foster new collaborations, and create a connected research community.

Purpose/Objectives: The goal of the Leap Year Program is to deepen our understanding of domains and strengths of in SCI and DBMI, to catalyze new, meaningful collaboration in Computing and Biomedicine, and to launch partnerships that produce sustained impact on our fields, students, institution and community.

Methods/Approach: We developed a program of 6 half-day workshops (approximately one every 6-8 weeks) which drew faculty and students from all three academic units. Some workshops engaged faculty to learn about each other, and to identify common research touchpoints. Other workshops addressed specific potential collaborative areas, such as workforce development and education. Activities were designed to engage faculty in conversation across the units, using Liberating Structures to foster disruptive innovation.

Outcomes and Evaluation Strategy: Our evaluation approach includes participation, satisfaction, change in knowledge and behavior, and change in organization and culture. We measured participation in Leap Year events among faculty from all three units, using both participant and events as units of analyses. We also measured satisfaction, knowledge and behavior change near the conclusion of the program using a survey instrument. Finally, we expect to measure change in organization and culture by tracking collaborative projects, grant submissions, co-publications, and new programs in the two years following the program.

Impact: Leap Year will create an engaged and collaborative research community in biomedical computing and information, to help realize the larger institutional goal of leading in this area.

Leap Year – A year-long program to increase collaboration among faculty in Biomedical Informatics, Computer Science and Information Science

Rebecca Jacobson, MD, MS with Liz Lyon PhD, Martin Weiss PhD, and Bruce Childers PhD
University of Pittsburgh School of Medicine and School of Computing and Information

Background/Significance

Building academic, educational, and operational strengths in Data Science, Informatics and Computing is an important strategic goal for many academic health centers, including ours. For example, use of predictive analytics and machine learning in healthcare, development of precision medicine programs, and implementation of population health approaches all require sophisticated new methods, expertise, and workforces that span multiple disciplines. At University of Pittsburgh, a new School of Computing and Information (SCI) will be founded in July 2017, combining two academic units – a school of information science and a department of computer science. An important theme for SCI is "***Connected Life, Health, and Medicine***", requiring deep collaboration between SCI and a third academic unit - the Department of Biomedical Informatics in the School of Medicine. Collaborative connections among these three academic units have been limited to date. In the year leading up to the founding of SCI, we sought to substantially increase interaction among faculty, foster new collaborations, and create a connected research community.

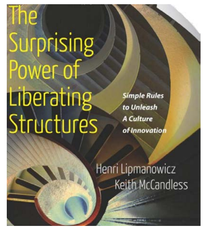
Objective

Collaborative Mission Statement: The goal of the Leap Year Program is to deepen our understanding of domains and strengths in SCI and DBMI, to catalyze new, meaningful collaboration in Computing and Biomedicine, and to launch partnerships that produce sustained impact on our institution and communities.

Approach

Six (6) half-day sessions including:

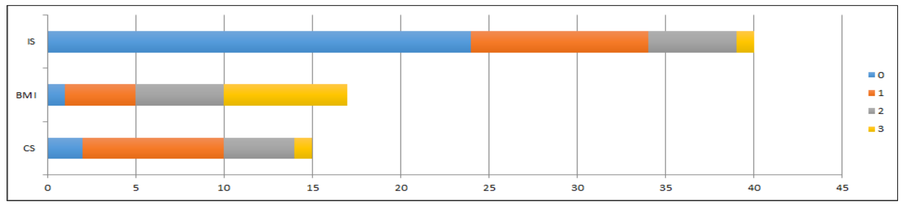
- Collaborative vision, mission, goal setting
- Transdisciplinary research discussion
- Brainstorming on research ideas
- Five minute flash talks
- Workforce development planning
- Social events and lectures



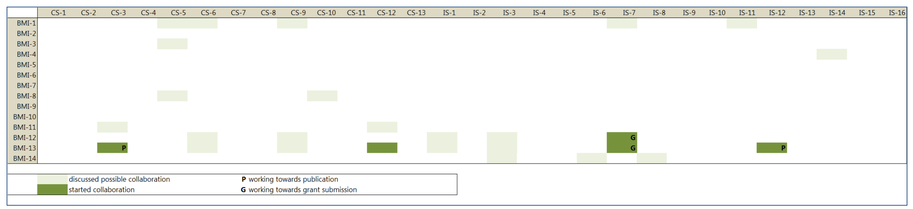
Many events included one or more activities based on liberating structures to foster disruptive innovation.

We tracked participation, and administered a survey following the final Leap Year session. The survey collected information about interactions among faculty that developed as a result of Leap Year, and also about satisfaction, change in knowledge and behavior.

Participation:



Interactions and new collaborations:



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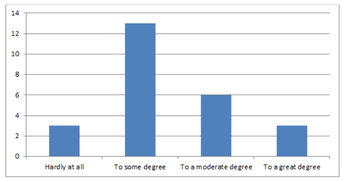
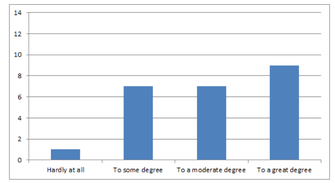
Satisfaction:



To what extent did Leap Year help catalyze collaboration?



To what extent did Leap Year help in learning about other faculty?

- "There is more interest in data science than I realized previously."
- "I gained a better understanding of the culture in both IS and DBMI."
- "There was much more common ground…than I had initially thought"
- "Now I have a better feel whom to avoid and with whom it could be potentially enjoyable and productive to work."
- "It's a great program to catalyze research collaborations and brainstorm ideas for future grant proposals."
- "Truthfully, I generally have a low expectation of meetings that attempt to get people from different communities together….I thought it went much deeper and was more meaningful than other similar workshops I've been to."
- "I have got a few new ideas, but most importantly, better understanding of potential collaborators will expand (the) grants that I can apply to."

Impact/Conclusions

Initial results confirm that Leap Year was well attended, and was considered to be helpful in breaking down barriers to collaboration. Several new collaborations were formed. The Leap Year model will be repeated with additional units as the new School of Computing and Information is launched at University of Pittsburgh.

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