

BBSI:
**NIH-NSF Bioengineering and
Bioinformatics Summer
Institutes Program**

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NIH-NSF BIOENGINEERING AND BIOINFORMATICS SUMMER INSTITUTES (BBSI)

*Our real
Focus*

- Agencies –
NIH: NIBIB and NHGRI
NSF: BIO, CISE, EHR, ENG, MPS Directorates
- **Description** – To provide students majoring in the biological sciences, computer sciences, engineering, mathematics, and physical sciences planned interdisciplinary bioengineering or bioinformatics research and education experiences; thereby **increasing the number of people considering careers in bioengineering and bioinformatics at the graduate level and beyond.**

Chronology- (The Story)

- **1999-2000- Informal chats** during monthly rides from NSF to BECON meeting.
- **Fall 2000-** Idea of **training and education in Bioengineering and Bioinformatics** germinated and presented at BECON
- **Fall 2000- Working groups** started NSF (appointed by OD) and NIH (via BECON). Regular meetings.
- **Dec 2000- NIBIB was signed into Law**
- **Winter/Spring 2001-** Plan Extramural Workshop
- **Summer 2001- Extramural Workshop**
- **Fall 2001-** Workshop into tangibles— **BBSI Program as First Step.**
- **Spring 2002-** developed, approved, and **Released PA**
- **Fall 2002- Awarded 9 BBSI Institutes.**

“Community of Practice”

The People

- **NIH**

Dick Swaja NIBIB (NIH
Coordinator)
Bettie Graham NHGRI
Mollie Sourwine NIBIB
Warren Jones NIGMS
Walter Schaffer NIH/OER
Meredith Temple-O'Connor NIBIB

Wendy Baldwin

Donna Dean

Rod Pettigrew

*Can't forget: It is the people
who make things happen*

- **NSF**

Sohi Rastegar, ENG (NSF
Coordinator)
Mary Poats, ENG
Lynn Preston, ENG
Bruce Hamilton, ENG
Leon Esterowitz, ENG
Rob Last, BIO
Jane Silverthorne, BIO
Sylvia Spengler, CISE
Wyn Jennings, EHR
Denise Caldwell, MPS

Joe Bordogna

Deborah Crawford

Esin Gulari

- Former Members:
Mita Desai CISE
Chris Cullis BIO
Roger Salters EHR

Year 1 Outcomes

- Nine BBSI's in operation
- **128 STUDENTS** (about 78% undergraduate and 22% graduate) benefited from BBSI. 35% of the students plan to return for 2nd year.
- **FACULTY-STUDENT RATIO:** ~ 1:1 .
- **UNDERREPRESENTED GROUPS:** 15% of participant
- **WOMEN:** 40% of participants
- **INTERDISCIPLINARY:** Faculty from an average of 7 different departments.
- **IMPACT BEYOND INSTITUTIONS.** More than half of the participants were from outside the sponsoring universities.

Issues/Challenges and Their Resolution

- **How to get started?** Intramural Group meeting (“community of practice”)
- How to make sure there is support at all levels? Involve **leadership at all agencies from inception**; get input from **extramural community**.
- Digesting Workshop recommendations into tangible. **Focus on one ‘small’ executable task.**
- Consensus of AD’s at NSF for 5-directorate activities. **Leadership of ENG AD- Keep her in the loop regularly..**
- **FISCAL DEADLINES AND FUNDS- when there’s a will... 😊**

Lessons Learned

- **BOTTOM-UP + TOP-BOTTOM:** Get buy-in from the beginning.
- **WORK TOGETHER FROM GET-GO:**
 - Idea → Develop/Implement → Results
- **MANY PERSPECTIVES-** Get as many perspectives as you can in formative stages
- **JUXTAPOSED INTERESTS-** Approach it from the point of view of benefit to both (all) agencies....
- **BOTTOM LINE** - Commitment and dedication- people involved have to really want to make it work. It will not work if focus is on parochial interests of one agency.