

Partnership for Research and Education in Materials



Howard University



Johns Hopkins University



Prince George's Community College

1 of 23

NSF PREM PI MEETING 4/26/10

PREM

Howard
Johns Hopkins
Prince George's CC

Partnership for Research and Education in Materials

Our Program Goals



Our modest goals:

- World class materials research
- Innovative materials education
- Train great materials scientists & engineers
- Expand opportunities for African Americans and all Americans.

Hopkins MRSEC support has been absolutely vital
PGCC leads our efforts in materials education

2 of 23

NSF PREM PI MEETING 4/26/10

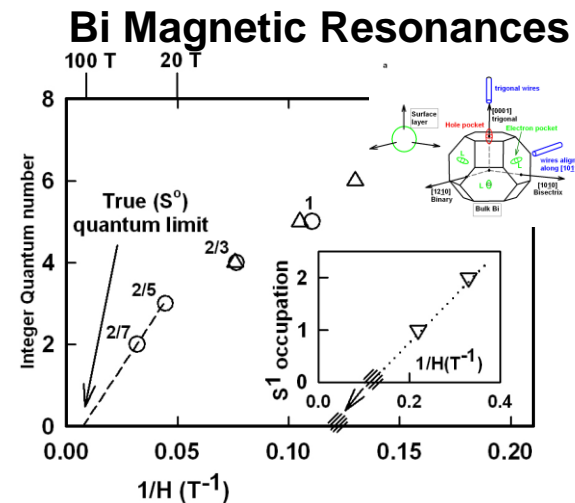
A One Slide Overview



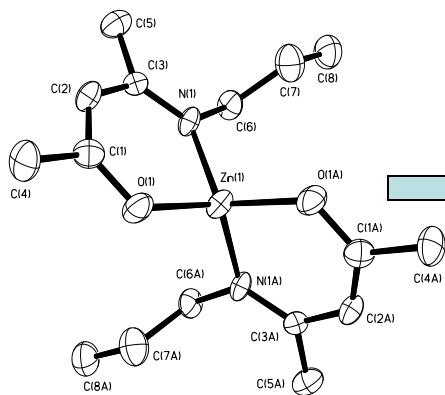
SiC nanowires



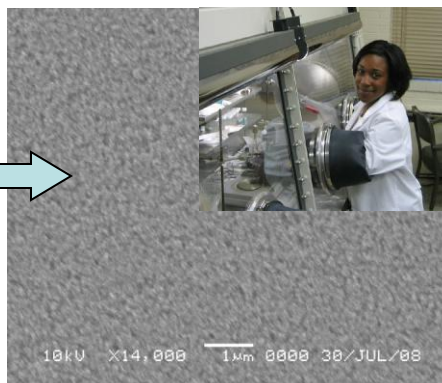
At Bayer Materials



UNH Grad. School



ZnO Precursor



ZnO film



Summer 08
NSF PREM PI MEETING 4/26/10

Building on the PREM Award



Our PREM goals must support and extend NSF's goals

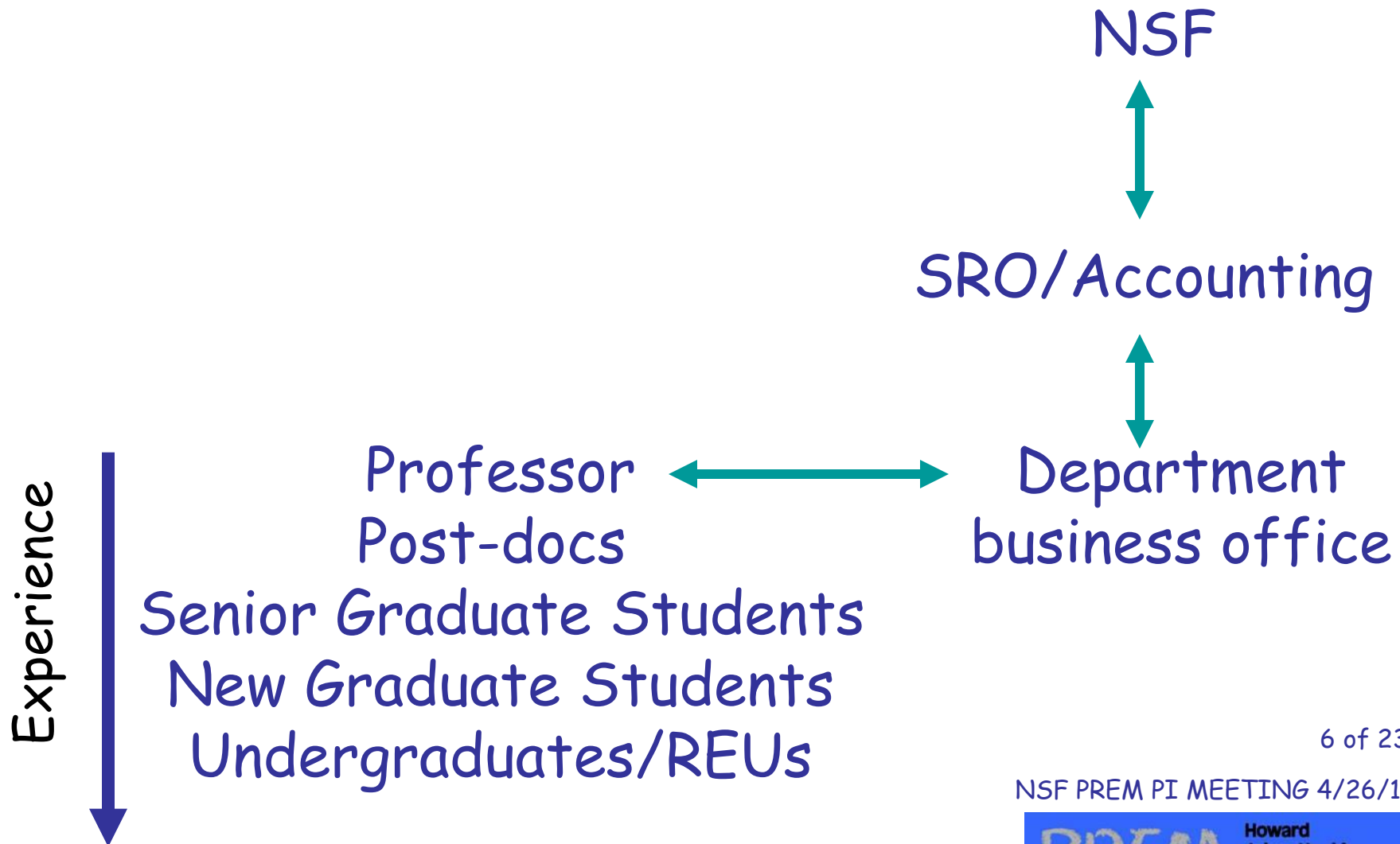
To enhance diversity in materials research and education by stimulating the development of formal, long-term, collaborative materials research and education partnerships between minority-serving institutions and MRSECs.

Research Intensive Universities



- Primary focus on research
- Prepares the next generation of faculty
- High levels of financial, technical and administrative support
- Faculty grants support students & postdocs
- Faculty have strong external links within their fields
- Faculty are involved in research management and policy at the national level

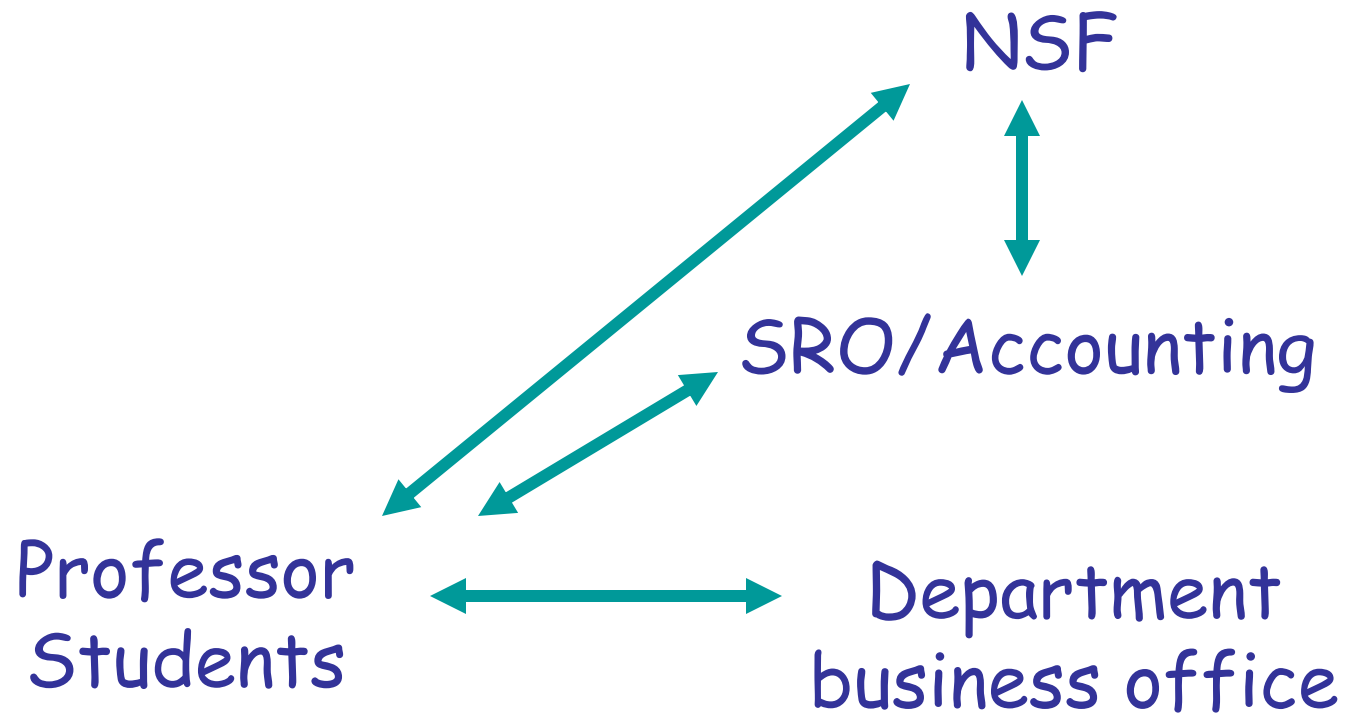
HRIU Group Structure



Non-Research Habituated Colleges and Universities (NRHCU)

- Primary focus on teaching
- Low level of financial, technical and administrative support
- Faculty are isolated within their fields
- Faculty who do research can be isolated in their departments

NRHCU Group Structure



Deans and > Deans



Know why you want research.

Good reasons:

- Intellectual excellence
- Student education & opportunities
- Recruiting (Students & Faculty)
- Prestige

Bad reasons:

- Money
- Research is very expensive

Space, time, administrative requirements

9 of 23

NSF PREM PI MEETING 4/26/10

Why PREM



- Provide research opportunities
- Improve materials education
- Diversify the technical workforce
- Opportunities to stay current and become visible

How does PREM help



- PREM offers us a chance to create
- PREM provides visibility & prestige in our institutions
- PREM provides a bridge to V&P outside
- PREM alone is not enough

What are the issues



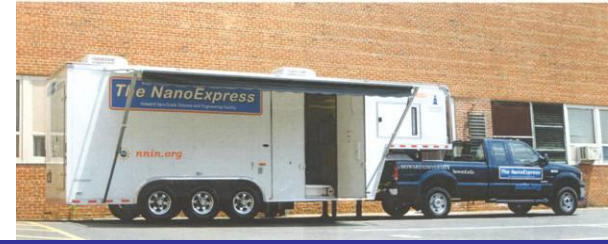
- Visibility
- Community
- Time
- Resources

External Visibility - MRSECs



- Identify skilled PREM members
- Include them in team proposals
- Advocate on their behalf
- Link your administration to theirs

Internal Visibility



- Signs



Internal Visibility



- Posters



Internal Visibility



- Displays



16 of 23

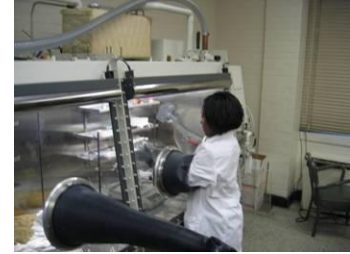
NSF PREM PI MEETING 4/26/10

Internal Visibility



- Seminars
- Use seminars to build external contacts
- Use seminars to build internal contacts

Nanotechnology Symposium



Howard University Nanotechnology Symposium

- Started in 2007
- A 2 day annual event

Distinguished external keynote speakers

- George Whitesides, Sandip Tiwari, Mark Wiesner
- Brings out Provost/President level HU representatives

Allows Howard faculty and funding agency program managers to interact

- Mihail Rocco, Lance Haworth, Lori Henderson, Altaf Karim, etc.

Showcases Howard nanoresearch

- A session featuring PREM speakers both years including Prof. Katz and Chien from the JHU MRSEC



Howard University Nanotechnology Symposium

Greatly increased second year attendance.

Increasing participation from other nearby universities and government labs including speakers and poster presentations.

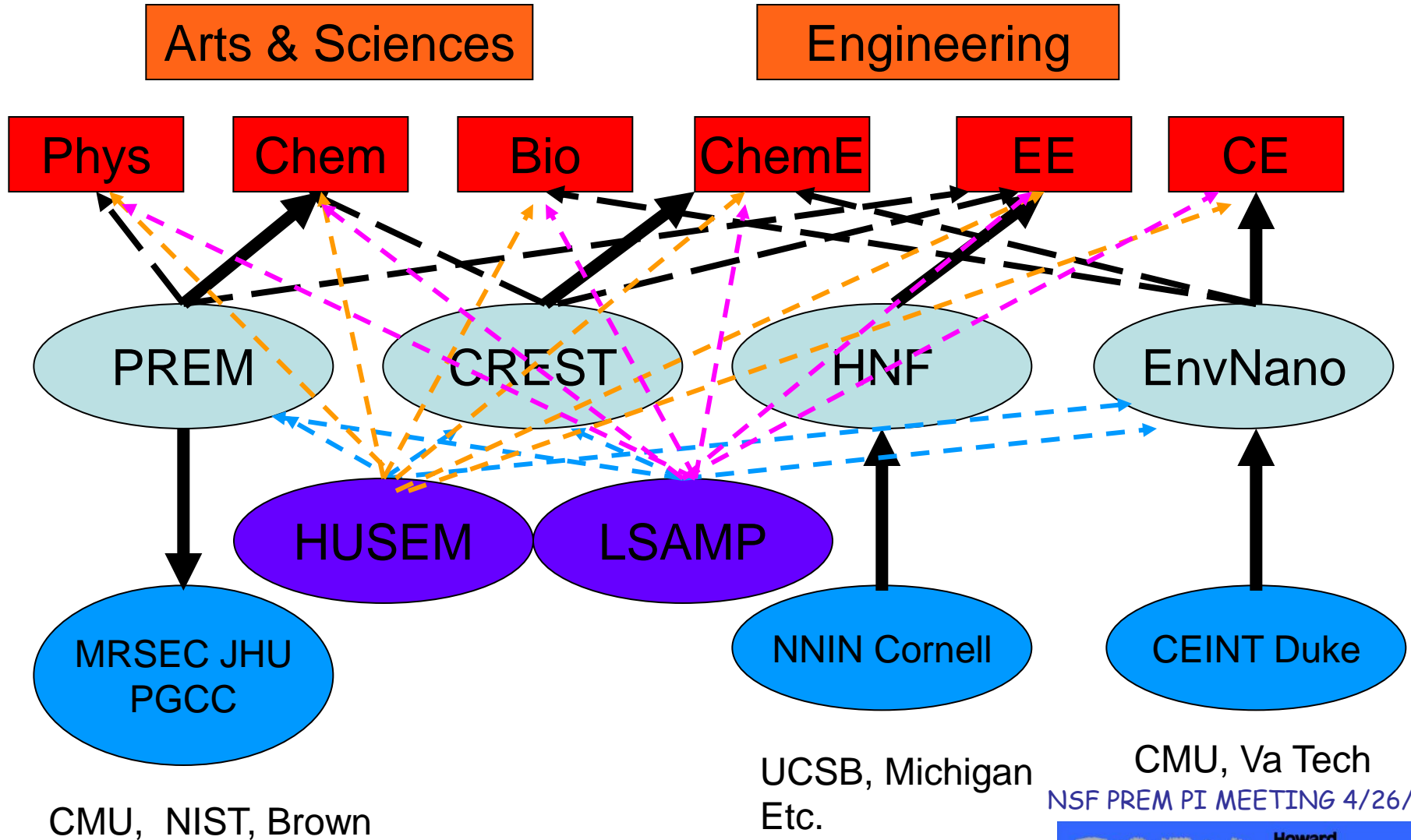
Web site: <http://www.howard.edu/nanotech/>

Builds community

Community effort



Howard Nanotechnology Community



Howard Nanotechnology Community



Four nanotechnology research programs

PREM, CREST, HNF, CEINT

CREST – Center for Nanomaterials Characterization Science and Processing
Technology – James Mitchell

HNF – NNIN Howard Nanoscale Science & Engineering Facility – Gary Harris

CEINT – Center for Environmental Implications of NanoTechnology – Kim Jones

Interactions with HBCU-UPS (HUSEM) & LSAMP Programs

All extend across universities, schools and departments

Shared instrumentation – key is the HNF (NNIN)

Annual Howard Nanotechnology Symposium

Howard Nanotechnology Initiative

> \$2M – 2008/10

Five year plan

21 of 23

NSF PREM PI MEETING 4/26/10

Howard University Program for Expansion of Research and Education in Nanotechnology



> \$1M/yr in 2008/9 – 2009/10

Brings together PREM, CREST, HNF CEINT
Bio, Chem, Phys, ChemE, CE, EE +
Grad School COAS CEACS Medicine

Emphases

New shared nanotechnology labs and instrumentation
Research Fellows
Nanotechnology Education Facilitator
Grant Administrative Support
Post Doctoral Fellows
Graduate Student Support
Partnership with School of Business

22 of 23

NSF PREM PI MEETING 4/26/10

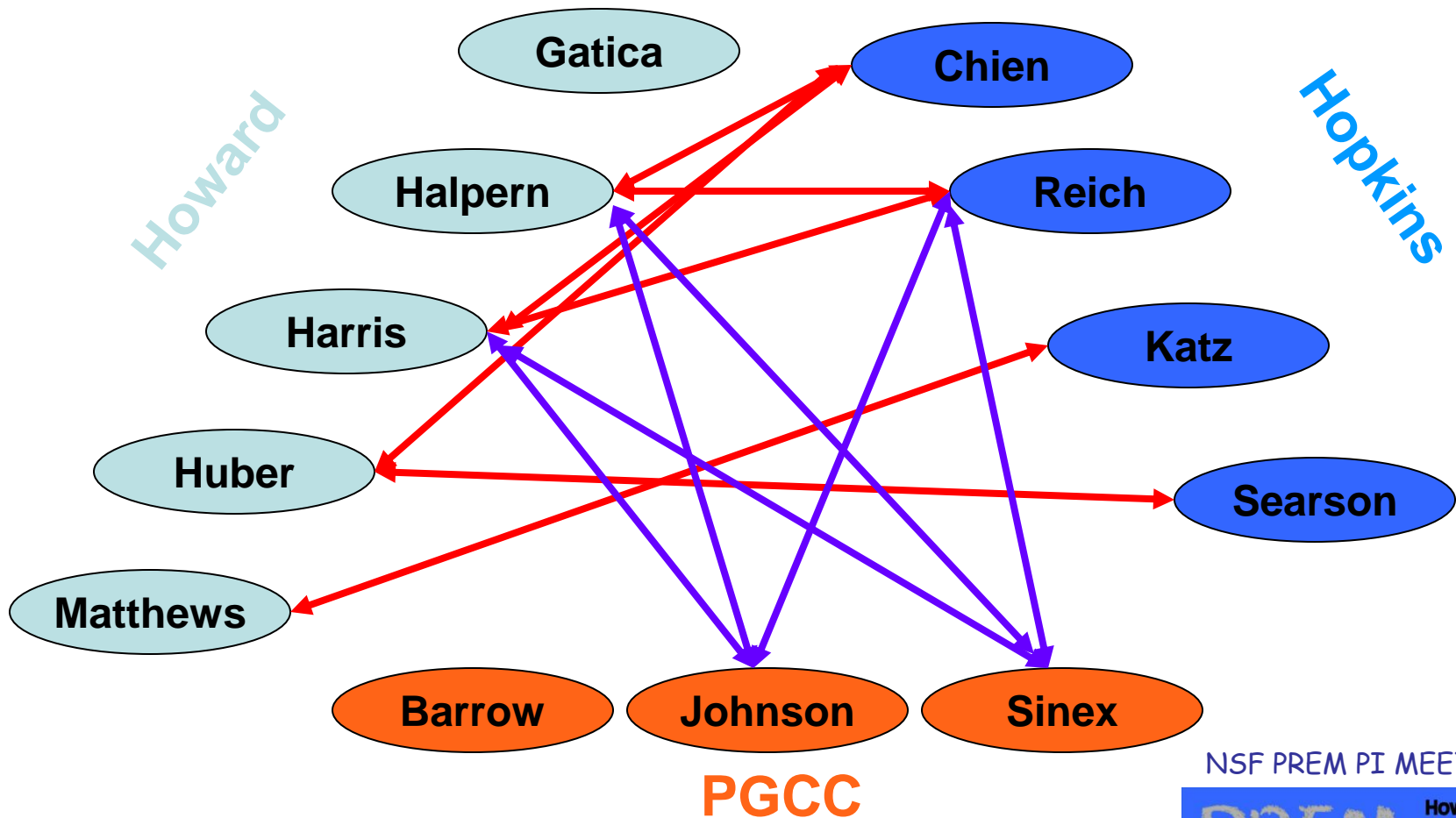


Thank you for listening

23 of 23

NSF PREM PI MEETING 4/26/10

Collaborations



NSF PREM PI MEETING 4/26/10