

Observations and Recommendations (2011)

- **Since joining NSF >60**
 - Completed ~~28 center~~ Site visits since October 2010
 - Logged Over ~~40,000~~ miles and counting... >100,000
 - Experienced the diversity of I/UCRCs and sectors served
- **IUCRCs are all about trusted relationships and the value derived from those relationships**
 - Trust grounded (1) in technical capability, (2) the ability to define and deliver value drawing on that capability
 - 1st is necessary but alone is insufficient w/o 2nd
- **Cooperative operation builds trusted relationships**
 - Different flavors based on sector, but same characteristics
 - Cooperation at all levels – universities and IAB
 - Respect for needs of those in the relationship, with regular opportunities to show it
 - Structured, consistent business processes so all parties can regularly contribute and reap value from the relationship
 - Best practice adoption/adaptation & continuous use



Recommendations/Best Practices 2012

- **Emphasis on Formative Stage of Center Development**
 - Planning Meetings
 - First IAB Meeting
 - First Year Project Cycle
- **Promote Early Organization and Engagement of IAB**



Recommendations/Best Practices 2012

- **Planning Meeting**
 - Teleconference (email stinks)
 - Use Agenda Draft as trigger
 - At least one month out from meeting
 - Participants: NSF, Evaluator, center leadership, managing director or operations personnel
 - Key elements
 - Review purpose of meeting, flow
 - Roles of Director, site directors.
 - Assessment of preparations
 - Numbers attending
 - Materials provided to Attendees
 - Project number, presentation format
 - One Center: Project organization by area rather than school
 - Industry Workshop – Means to ID precompetitive project space
 - 2nd Day: LIFE Review, Closed Session, Schedule
 - 2nd Telecon as needed with 2nd Draft



Recommendations/Best Practices 2012

- **First IAB Meeting**
 - Telecon as with Planning Meeting
 - Allow IAB to meet on Day 1
 - After all projects are presented, after afternoon break
 - Directors announce evening and 2nd day activities, then move to closed session with IAB, NSF and evaluator
 - “IAB Formative Organizational Meeting”
 - Discussion of meeting thus far
 - Heads up on project selection process to be used
 - Election of Chair, Chair-Elect
 - Initial discussion of items IAB wants to emphasize during report out on 2nd day
 - Sector Member Recruitment
 - Look ahead to project kickoff, reporting – requirements?
 - 2nd Day: LIFE, IAB Meeting, Action Items
 - IAB Report out of recommendations – projects and otherwise



IAB Meeting (example)

- **Proposed Agenda**
 - Financial Report from Center (Director)
 - Introductions
 - Impressions of 1st Day
 - Who isn't here that should be?
 - General questions of NSF, Evaluator
 - Nominations, election of IAB chair
 - Discussion of items for 2nd day
 - LIFE Discussion
 - IAB Meeting Project Voting, discussion, recommendations, mentors assigned.
 - In-kind members voting
 - Report-Out to Center
 - Feedback, Requests to Center during Report-Out
 - **Premeeting:** Adequate information re projects with which to gather input?
 - **Meeting** organization/agenda?
 - Operations, presentations - Requirements?
 - **Post Meeting:** Project Kick-off meetings - Requirements?
 - **Next Meeting:** Draft reporting format for next meeting?
 - Discussion of research plan and bylaws consideration



CenTiRE IAB Meeting

June 4, 2012

Key Points:

- IAB Organization:
 - Rod Bailey Michelin Americas - Chair
 - Hans Dorfi Bridgestone Americas - Chair Elect
- Others Not Present who may be interested:
 - Other Off Road Equipment Mfg. (Volvo, Komatsu)
 - Raw Material Suppliers i.e. upstream
 - Commercial Trucks Mfg.
 - Software/Modeling Companies
 - Testers (STL, Smithers) *”challenge to differentiate Centire with what they do”
 - Test Equipment Producers
 - Clarification Tire Test Center (how is it different?)

Key Points:

- Follow up for this IAB
 - Proposed By laws for center from Director in 3 months, finalize at next IAB (Issues IP, Invention disclosures, software....)
 - Kick off meeting for each project
 - PI and Industrial Mentors
 - Reporting/Status Meeting minimum quarterly
 - Project Costs ... Excess funds
 - More info on what is being leverage as part 35 K
 - Report on the 90 K\$ quarterly on how it is being used.
 - Access to Documents/Presentations Electronically to share internally in IAB company.

Key Points:

- Next IAB Meeting:
 - When where
 - New Proposal – would like 1 month in advance
 - Process/Template for Proposals and for Reporting
 - Include Budget Information
 - Project Plan with Deliverables
 - More details on what is being leveraged, (35K\$ proposals)
 - IAB will work on some RFP for topic of interest to solicit faculty members
 - IAB would like to see more collaborative proposal from several faculty, even from the 2 different universities.
 - IAB visit to facilities ... U Akron fall 2012, VT spring 2013
 - Do a SWOT of CenTiRe to identify improvements

Best Practices Update

- **First year Anniversary/3rd Meeting**
 - Completion of first project cycle
 - Implement process IAB and Center has developed through first year for
 - New project idea cultivation
 - Selection of projects for presentation at IAB meeting
 - All projects compete for existing funding
 - Multi-year projects re-compete annually
 - IAB Meeting at close of first day
 - Discussion of first year, projects, etc.
 - Refinement of practices to meet IAB needs
 - Topics for report-out 2nd Day
 - 2nd Day – LIFE, IAB Meeting
 - Voting, finalize day 1 discussion
 - Report out recommendations



Center for Biophotonic Sensors & Systems

Industrial Advisory Board
Feedback – 1st day
4/30/12

Disclaimer: Ian owns this ... and was tired

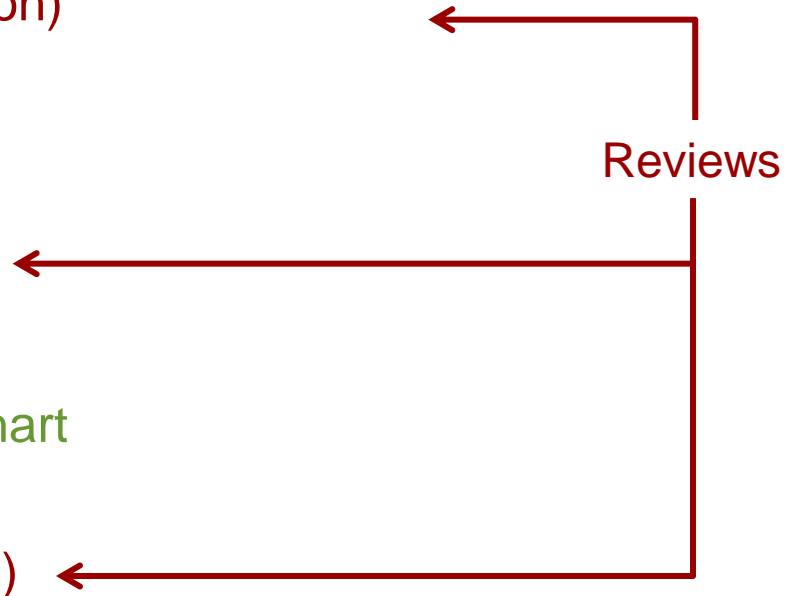
A Perspective of an IAB Member...

- \$50K/year investment
 - Capital equipment
 - Partial post-doc
 - Time
- Need to report earned value – reviewed yearly
 - Collaborative network / new ideas
 - Potential future employees – students / post-docs
 - Intellectual property (not the sole item)
- Required to help allocated limited resources
 - Identify projects with maximum value
 - Trace effective use of funding

Vote for high-potential, well-managed projects

Project Management Needs

- Scope
 - The work to be done...
 - What is NOT covered
 - What is promised (deliverables)
 - What was delivered (comparison)
- Cost
 - Budget estimates
 - Actual costs (comparison)
- Time
 - Work plan structure – Gantt Chart
 - Milestones
 - Actual milestones (comparison)



Portfolio Review

- Technical impact
 - End value to customer (differentiators)
 - Risk
 - Reward
- Project management
 - Scope
 - Cost
 - Timeline
- Ranking
 - Comparison
 - Strategy



Equal Weighting

IAB

Initial Feedback

- Clear statement of milestones from previous year and status
 - Larry's presentation was good example -- check marks
- Budget -- what was planned vs actual
- Gantt chart -- timeline and milestones needed
- Penta-graph not particularly useful - see previous needs
 - Technical merits (differentiators)
 - Scope, cost, timeline
- Need formal process for discussing change in scope or direction
- Need written final report on projects -- annual and final
 - Example: Super-resolution Microscopy – S. Lane
- Mix presentation order of BU and UCD

Intellectual Property

- IP status — need to be VERY CLEAR about current status
- CBSS funds non-competitive research
- IAB has first right to IP

Projects which have potential IP conflicts should not be funded

Additional Pre-Meeting Items

- Post-doc / student mixer – funded by IAB to provide additional access / networking
- Updated communications – IAB website for exchanging current information
- Clarity on when a project ends
- Clarity on when a project becomes public
- Assign champions/mentors from the IAB to provide more frequent project feedback

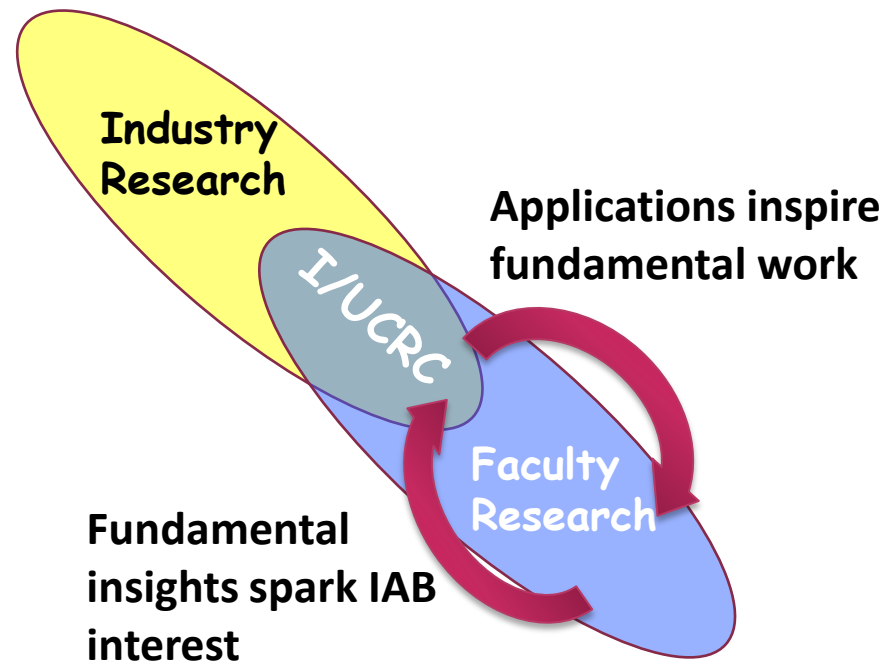
Briefing and Q&A Part II



I/UCRCs: Linking Industry to Fundamental Research

Annual evaluation results indicate that Center Faculty consistently state they are most likely to bring their best research ideas to the Center

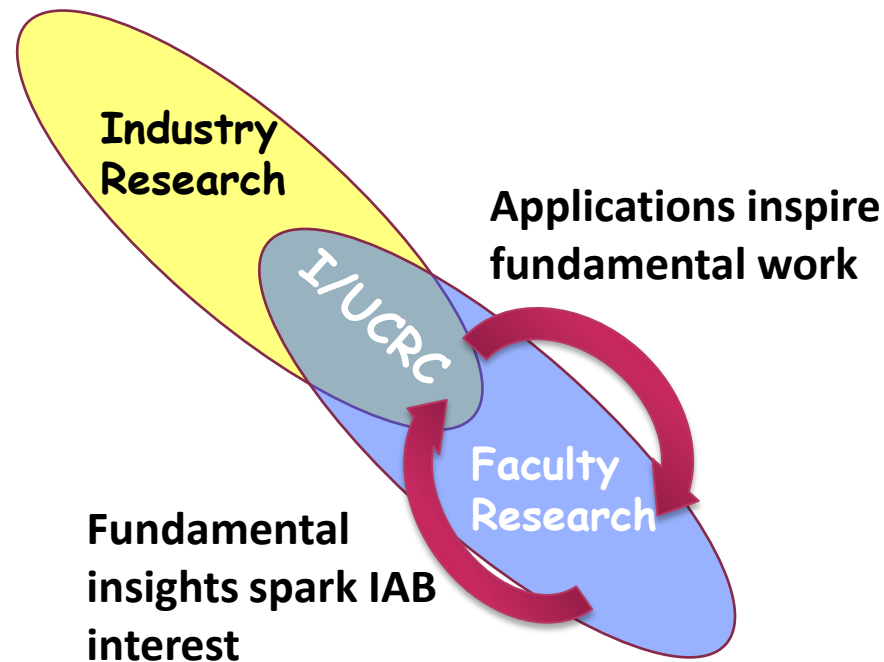
- What is the Lineage of Center Activity?
 - Does it draw on insights/results funded by NSF
 - Do I/UCRCs serve to connect industry to NSF basic research?



I/UCRCs: Linking Industry to Fundamental Research

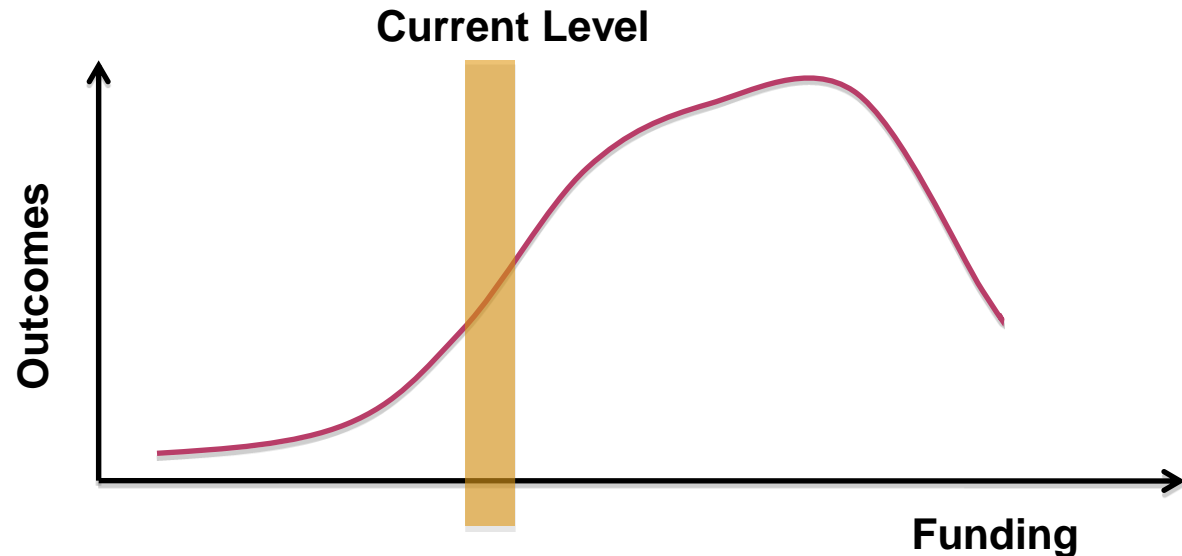
I/UCRCs as a mechanism for linking NSF discoveries with industry to advance US innovation capacity.

- What is the nature of Center Research?
 - Center names, survey categories belie what lies beneath...
 - Does center research, at its core, track current research topics in NSF, Emerging Frontiers Research, etc.?



Observations and Recommendations

- What is optimum Center funding from NSF?
- How would this funding best be used to impact center performance such that US Innovation capacity is even further advanced?



After D. Gray's Napkin, 2011

