Boot Camp for I/UCRC Planning Grantees

January 11, 2012

NSF I/UCRC Annual Meeting
Key Bridge Marriott
Arlington, VA

Welcome to the Industry / University Cooperative Research Centers
Boot Camp for I/UCRC Planning Grantees

OBJECTIVES

1. Fulfill the requirements of your Planning Grant Award
   • Each Center/Site PI must attend a boot camp prior to holding their planning meeting.

2. Maximize your potential for a submission of a successful Center proposal.

3. Maximize your potential for a successful center launch.
Agenda

Boot Camp for I/UCRC Planning Grantees

Kick-off & Introductions
I/UCRC Success & the Planning Process

Before the Planning Meeting:
Why an I/UCRC?
What I/UCRC Members Value

The Meeting and its Aftermath:
Planning Meeting Overview
Roundtable Discussions,
Report Out, Q&A
I/UCRC Planning Process

Purpose: Maximize the potential for a successful Center Proposal.

LOI, Planning Grant Pending or Awarded, what now?

Planning Meeting Approaching…

Getting the proposal ready to go!

LOI, Planning Grant Proposal

Pending or Awarded, what now?

Getting the proposal ready to go!

Planning Meeting Approaching…”

Events Pre Meeting

Events Occurring at the Meeting

Events Post Meeting

LOI

Planning Grant Proposal

Awarded

Planning Grant Meeting with University Partners, Students, Center Evaluator, Prospective Members and NSF I/UCRC Program Directors

1.5 Day Meeting

Day 1

Day 2

Successful Proposal & 1st IAB Meeting

Step 6

Step 6

Step 6

Step 6

Step 6
### Aggregate Cases

- Retrospective impacts total nearly $1.27B, with a net present value of $1.25B.
- Each dollar invested by NSF-I/UCRC generated an estimated 64.7 dollars in impacts.

<table>
<thead>
<tr>
<th>IUCRC investments &amp; Impacts</th>
<th>TOTAL</th>
<th>IMS</th>
<th>BSAC</th>
<th>IUCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated impacts (present value)</td>
<td>$1267.1M</td>
<td>$846,738,946</td>
<td>$410,727,849</td>
<td>$9,638,633</td>
</tr>
<tr>
<td>Total investments (present value)</td>
<td>$19.6M</td>
<td>$3,133,857</td>
<td>$13,250,712</td>
<td>$3,203,057</td>
</tr>
<tr>
<td>Benefit:Cost Ratio</td>
<td>64.7:1</td>
<td>270.2:1</td>
<td>31.2:1</td>
<td>3.0:1</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>$1247.5M</td>
<td>$843,605,090</td>
<td>$397,477,137</td>
<td>$6,435,577</td>
</tr>
</tbody>
</table>
Since beginning your role as IUCRC director, what positions were you recruited for or offered, and what positions did you accept?

Career Impacts on Former Directors and Current Directors with 5+ Years of Service in the Role (n=70)

- Recruited for or Offered
- Accepted & Held
A Few I/UCRC Success Stories
(Center Involvement)

• Accelerating Innovation Research (AIR) Awards; FY 2011:
  - Water and Environmental Technology (WET); Temple University
  - Next Generation Photovoltaics (NGPV); Colorado State University
  - Center for Child Injury Prevention Studies (CChIPS); Children’s Hospital of Philadelphia
  - Center for Biophotonic Sensors and Systems (CBSS); UC Davis*

• Innovation Corps Awards; FY 2012
  - Laser and Plasma for Advanced Manufacturing (LPAM); University of Virginia
  - Connection One (C1); Rensselaer Polytechnic Institute

• 25th Anniversaries celebrated by I/UCRCs
  - Berkeley Sensor & Actuator Center (BSAC)
  - Security and Software Engineering Research Center (S²ERC)
  - Center for Non-Destructive Evaluation (CNDE)

*Graduated STC, now an I/UCRC
A Few I/UCRC Success Stories

*(Center Involvement)*

- **I/UCRC International Sites; FY 2011:**
  - Center for Resource Recovery and Recycling (CR3); with Katholieke University (KU) Leuven in Belgium.
  - Center for Advanced Knowledge Enablement (CAKE); with Dubna International University in Russia

- **I/UCRC Technology Showcase Events**
  - CELDi (Virginia Tech) and Air Liquide
  - CChIPS with Britax Child Safety, Inc, State Farm, National Highway Transportation Research Center and Traffic Safety Administration
I/UCRC Planning Process

Purpose: Maximize the potential for a successful Center Proposal.

Events Pre Meeting
- Cultivate interest in the Center among prospective members
- Solidify center concept and proposed projects
- Secure adequate prospect attendance for meeting
- Organize an effective meeting

Events Occurring at the Meeting

Events Post Meeting

Day 1

Day 2

1.5 Day Meeting
Events Planning Pre Meeting

Cultivate prospective member participation to support a successful planning meeting.

• It is essential to craft an effective message re your center that resonates with prospective members
• The message should convey the value of your center to prospective members in your sector.
  • Value to prospective members of your center forming as an I/UCRC.
  • Value of your center’s mission and vision in meaningful terms to a prospective member.

Questions will be numerous....
I/UCRC Program: Mission and Vision

Mission:

• To contribute to the nation’s research infrastructure base by developing long-term partnerships among industry, academe and government
• To leverage NSF funds with industry to support graduate students performing industrially relevant research

Vision:

• To expand the innovation capacity of our nation’s competitive workforce through partnerships between industries and universities

I/UCRC Bedrock: Trusted, long-term relationships between industry and academia based on shared value
Industry/University Cooperative Research Centers:
National Scope, Impact

Academic-Industry partnerships meeting industry sector research needs

59 Centers
172 I/UCRC Sites
Plus Participating International Sites
Over 760 Member Organizations (2010)
Active Centers and Sites By Year

Over 760 Members (2010 Survey)

43 ENG (124 SITES) & 16 CISE (48 SITES);
INCLUDES PHASE III & NCE CENTERS
The I/UCRC Model

- IUCRC model moves away from a one-on-one contracts

Disadvantages of Affiliates Model:
- sub-critical mass projects
- no sense of community
- value << sum of projects

Advantages of the I/UCRC Model:
- Conversation validates shared sector needs
- Research portfolio shaped, direction aligned with member needs
- Value across the portfolio Value >> sum of projects

Much more than collective ownership: **Collective Value**
The NSF’s Role in I/UCRCs

Facilitate a Center environment in which long-term relationships between industry and academia can thrive.

- Cooperative Agreement & Operational Framework
- Franchise of centers for collaboration
- Best practices based on decades of evaluation
- Funding Opportunities available to I/UCRCs
I/UCRC Nucleus: A Cooperatively Defined, Funded & Shared Research Portfolio

- Industry Advisory Board
- Pooled Member $’s
- Projects
- OH investment
- Center, Sites
- Universities

Shared Precompetitive Project Portfolio
- Cooperatively defined, selected
- Governed by NSF I/UCRC Agreement

Addresses precompetitive needs shared by IAB
Leverages & builds university strengths

Value derived from portfolio
What **value** does an I/UCRC offer?

Outcomes from a cooperatively defined and managed, shared portfolio of *precompetitive research*.

- Industry driven *research projects*
- *Investment leveraging* via cooperative
- Networking with industry peers and customers
- Access to *intellectual property*
- Pre-publication access to research
- World class researchers & facilities
- Access to students

- New research and education program dimensions
- **Leveraging of POC results** from IUCRC projects
- **Trusted relationships** with industry
- Ready partners for translation of discoveries
- Student recruitment, retention and placement
- Means to **achieve institutional mission** and meet constituency expectations.
The IUCRC Research Portfolio Cycle

The cooperative process rapidly aligns the Center’s Portfolio with Member Needs and University strengths.
I/UCRC Evaluation & Assessment

25+ year commitment to integrating evaluation with program planning, implementation and operation. *Local Evaluation – Global Assessment*

**CENTER INPUTS AND OUTPUTS ASSESSMENTS**

**TARGETED ASSESSMENTS AND RELATED WORK PRODUCTS**

**IUCRC GRADUATION STATUS**

Breakthrough Compendium

Gray & Walters Director’s Guide

Plus publication in open literature: > 80 publications in journals, national & international conferences: *Research Policy; AAAS; Journal of Technology Transfer; Sc. Public Policy; New Directions in Evaluation*
IUCRC Evaluation and Role of Evaluator

“This isn’t your father’s evaluation”

IN MR. LEVY’S EVALUATION, MITCH LEARNS THAT HE IS NOT "THE BRIGHTEST BULB IN THE CHANDELIER"
IUCRC Evaluation Model: Improvement-Oriented

Philosophy

“... when program evaluation is used only for external accountability purposes and does not help managers improve their programs, the results are often not worth the cost of the evaluation” (Wholey, 1994)

Improvement Evaluation¹:

- form of evaluation that stresses making things better
- involves “using monitoring systems and data collection procedures over time to provide feedback for refining a well-established program”
- “gathering varieties of data about strengths and weaknesses with the expectation that both will be found and each can be used to inform an ongoing cycle of reflection and innovation” (Patton, 1997, p. 69).

Evaluation Goals, Roles and Tasks

**Goals**

1. To help NSF and local centers objectively evaluate their impact by documenting IUCRC outcomes and accomplishments.
2. To promote continuous improvement by giving actionable, timely, data-based (formally collected and observational) feedback, analysis and advice to NSF and local centers.
3. To identify and communicate information about I/UCRC best practices to NSF and local centers.

**Evaluator’s Role**

- Member of Center Team
- Collect Outcome and Process Data & Provide Feedback
- Serve as an advisor on operations and strategy

**Activities**

- Facilitate Project Level Feedback: LIFE Forms
- Facilitate Center Level Feedback: Process/Outcome Questionnaires
- Prepare Evaluation Report: Submitted with Annual Renewal

[www.ncsu.edu/iucrc](http://www.ncsu.edu/iucrc)
LIFE Form Feedback

• Formalized mechanism for providing feedback on center projects
  
  Which proposals are members most interested in?
  
  How can proposals be modified to make them more relevant?
  
  How can the projects be adjusted to make them more relevant to my needs?
  
  Project selection happens separately
Center for LIFE Learning

Level of Interest and Feedback Evaluation (LIFE) Form

Project Name: Project 1
Project ID: 1337
Project PI: Some Guy

To facilitate a dialogue between Center Faculty and Member Organizations, each representative is asked to indicate his/her organization's level of interest in each project. (One form per organization, please.)

Level of Interest

☐ Very Interested
☐ Interested
☐ Interested with Change
☐ Not Interested
☐ Abstain

Comments: Please give your opinions about the progress since the last report, level of effort, offers to help and support, quality of research, scientific merit, suggested changes, pre-competitive applications, benefits to industry, and/or other comments here:

(Enter comments here)

Note: This information will not be divulged during the review

Your Name:

Your Organization:

Submit  Clear
Project Level: LIFE Feedback

- **Project A**
  - Interested: 9
  - Interested with change: 2
  - Not interested: 2
  - Comments:
    - Great project would like to follow closely
    - Very close to our interests; suggest looks at work by Schwarzkopf et al

- **Project B**
  - Interested: 5
  - Interested with change: 4
  - Not interested: 2
  - Comments:
    - Interesting project but need to broaden temperature range
    - Conditions do not reflect industrial parameters need to move from simulation to real experimental test
Why Evaluators are Valuable to Center Startups

- Feedback from members, faculty and other stakeholders on how to make center successful
- Independent documentation of center outcomes and impacts
- Have been involved in multiple center start ups
- Have many years experience working with successful centers
- Planning grants have support in budget to pay for evaluators involvement in planning grant meeting

Need an evaluator: Talk to Babu!

Bill we’ve decided to send you back to the minors for a while so you can brush up on your delegating
I/UCRC Planning Process

Purpose: Maximize the potential for a successful Center Proposal.

Events Pre Meeting
- Cultivate interest in the Center among prospective members
- Solidify center concept and proposed projects
- Secure adequate prospect attendance for meeting
- Organize an effective meeting

Events Occurring at the Meeting
Day 1
Day 2

1.5 Day Meeting

Events Post Meeting

Successful Proposal & 1st IAB Meeting
Purpose of the Planning Meeting?

Demonstrate that the Center
- Has capabilities that industry (member) needs,
- Will provide an effective deliverable-driven interface to academic research based on established NSF best practices, and
- Will cooperate with industry in the definition of industry-relevant research projects.

OUTCOMES For Prospective Members:
- Build confidence that the center will provide value
- Provide content to justify membership commitment

OUTCOMES for Universities:
- Vetted projects that form the nucleus of your center proposal
- Understanding of industry needs – research and its deliverables
 Recommendations

Read the congratulatory email from the Program Director CAREFULLY and THOROUGHLY

CONTACT your NSF PD and designated center evaluator,

CULTIVATE your prospective members and your center faculty

COMMUNICATE frequently and stay on message

SET DATE and VENUE for meeting

DISTRIBUTE registration, logistical and travel information re the meeting.

Do not underestimate the importance of proper meeting logistics and preparations – be detail oriented
Get the Message Out about your Planned Center

Send in your CENTER FACT SHEET
- See www.nsf.gov/eng/iip/iucrc/directory/index.jsp for examples and
  www.nsf.gov/eng/iip/iucrc/directory/instructions.jsp for instructions

- Open an effective web site for your new center with a public side and a private side for your members.

- Publish effective marketing materials (your recruiting efforts will help you hone “effective”)
Draft the Agenda & Establish the Center’s Membership Agreement

- Prepare **DRAFT PLANNING MTG AGENDA** using template at [www.nsf.gov/eng/iip/iucrc/planningGrantAgenda.jsp](http://www.nsf.gov/eng/iip/iucrc/planningGrantAgenda.jsp)
  - Work with NSF and evaluator
  - Must receive NSF approval to finalize

- **Establish the Membership Agreement** to be used by the center
  - Start from sample at [www.nsf.gov/eng/iip/iucrc/sample_agreement_form.jsp](http://www.nsf.gov/eng/iip/iucrc/sample_agreement_form.jsp)
  - Receive concurrence of all schools
  - **ONE** center; therefore, **ONE** membership agreement
Membership Agreement: Key Features

- **Parties to Agreement, University and Center**
- **Membership fee structure**
- Patent rights held by university, with royalty free, non-exclusive rights to center members
- Companies wishing to exercise rights to a royalty-free license pay for the costs of patent application
- If only one company seeks a license, that COMPANY may obtain an exclusive fee-bearing license
- **March-in Rights**
- **Publication delay policy**
- **Industrial Advisory Board** – one representative from each company per membership
- **Indemnification**
In the Weeks Prior to the Planning Meeting

Take the steps to make sure your prospective members view your planned center as Deliverable Driven Operation or another Academic Exercise.

- Pay **ATTENTION TO DETAIL**
- Confirm that those **INDUSTRY/AGENCY PARTICIPANTS** invited are truly coming
- Confirm that all research project presentations follow the **SAME FORMAT/TEMPLATE** – see [www.nsf.gov/eng/iip/iucrc/pgrant_first_meeting_slide.ppt](http://www.nsf.gov/eng/iip/iucrc/pgrant_first_meeting_slide.ppt)
- Make sure an **EXECUTIVE SUMMARY FORM** exists for each of the research projects to be presented – see [www.nsf.gov/eng/iip/iucrc/exec_summary_portfolios.jsp](http://www.nsf.gov/eng/iip/iucrc/exec_summary_portfolios.jsp)
### Executive Summary Form

**PROJECT OVERVIEW**

<table>
<thead>
<tr>
<th>PROJECT NAME:</th>
<th>PROPOSAL:</th>
</tr>
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<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT MANAGER:</th>
<th>PROGRAM NAME:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NEW</td>
</tr>
<tr>
<td></td>
<td>CONT.</td>
</tr>
</tbody>
</table>

**DESCRIPTION:**

**EXPERIMENTAL PLAN:**

**RELATED WORK ELSEWHERE:**

**HOW OURS IS DIFFERENT:**

**RELATED WORK WITHIN THE CENTER:**

**MILESTONES:**

**DELIVERABLES:**

**BUDGET:**

**POTENTIAL MEMBER COMPANY BENEFITS:**

- I/UCRC tools help guide industrial relevant research
- Centers provide industry with the right information to guide project selection including:
  - Project description
  - Research analysis
  - Project duration
  - Project cost
  - 1st Year Deliverables
  - Milestones
Two Weeks to 10 Days Prior to the Planning Meeting

- Distribute Executive Summaries and NSF vetted Agenda in advance of the meeting to all prospective member attendees.

- For each ATTENDEE, prepare a professional packet with a copy of the AGENDA, MISSION and VISION statement of the center, CAPABILITIES of each site, copies of EXECUTIVE SUMMARIES, PRESENTATIONS & LIFE forms, and the MEMBERSHIP AGREEMENT to be used by the site/center.

- Prepare an ATTENDANCE LIST (name, email address, phone, etc) and include it in each attendee packet. Provide an updated list by the end of the meeting.

- CONFIRM that the meeting room has FREE INTERNET ACCESS. Do the attendees need log-in information and passwords? Please have those ready.
The LIFE Form process is an I/UCRC essential!

To make sure things run smoothly at the meeting:

- Go through the TUTORIAL for Level of Interest Forms (LIFE)
- Work with the center evaluator, and complete the ADMIN registration
  See - www.nsf.gov/eng/iip/iucrc/operational_tools.jsp
- ENSURE that all projects to be presented by all schools have been ENTERED
- On the day of the meeting, those with access to laptops can easily fill out the web LIFE forms. Those without will fill out hard copies.
At the Planning Meeting: Expectations

- **DISTRIBUTE** meeting materials to all in attendance
- **ASSURE** technology, LIFE forms, and others function
- **STAY** on time, avoid “seminar” mode presentations
- **PROMOTE** discussion and feedback
- **MAKE** succinct, “deliverable” oriented presentations with uniform slide format and clear center branding
At the Planning Meeting

Day One

• Registration & Breakfast
• Welcome (Center Directors, University Admin)
• Center Vision (Center Director and Site Director(s))
  - Mission, sector need that center will address
  - Capabilities of academic sites
  - Value proposition
• NSF I/UCRC Program (NSF Program Director)
• Center Evaluation (Center Evaluator)
• Project Presentations: First set, 5 projects max (Center Faculty)
  - Remember – one center, multiple sites
  - Organize by thrust area, not school
  - LIFE form filled out after each
• Lunch
• Project Presentations: Second set, 5 projects max (Center Faculty)
• Industry Workshop: (NSF Program Director) What have prospective members not heard in the projects?
• Social & Poster Session, Dinner
At the Planning Meeting

Day Two

• LIFE Review and Discussion (Center Evaluator)

• Center Response to Feedback from industry session (NSF Program Director)
  - Center leadership presents plans to better align proposed centers projects to prospective member needs.
  - Based on prospective member feedback, plan includes
    - Adaptation of projects that were presented
    - Crafting of new projects

• NSF Closed Door Session (Prospective Members and NSF Program Director)
  - Answer remaining questions
  - Gauge interest
  - Determine what they need in hand to garner support for membership

• Next Steps/Action Items
  - Set schedule for providing materials to prospective members
    - modified/new project executive summaries & ranking sheet
    - marketing materials
    - other materials requested to support organizational decision for center membership

• Closing & Boxed Lunches to Go

OUTCOMES For Prospective Members:
• Build confidence that the center will provide value
• Provide content to justify membership commitment
**I/UCRC Planning Process**

**Purpose:** Maximize the potential for a successful Center Proposal.

1. **LOI**
2. **Planning Grant Proposal**
3. **Planning Grant Meeting with University Partners, Students, Center Evaluator, Prospective Members and NSF I/UCRC Program Directors**
4. **Full Center Proposal**

**Events Pre Meeting**
- Cultivate interest in the Center among prospective members
- Solidify center concept and proposed projects
- Secure adequate prospect attendance for meeting
- Organize an effective meeting

**1.5 Day Meeting**

**Events Occurring at the Meeting**

**Day 1**

**Day 2**

**Events Post Meeting**
- Complete initial vetted project set
- Effective Marketing
- Commitments for membership
- Final vetted project set for proposal

**Successful Proposal & 1st IAB Meeting**
Planning Meeting Outcomes – Post Meeting Efforts

Key outcomes from the planning grant meeting

- Based on prospective member feedback, presented projects are adapted and new projects outlined to meet shared needs of the industry group.

- PIs send a list of titles of all potential industry relevant research projects including executive summaries to all potential sponsors of the center.

- Each prospective member organization prioritizes the list of research projects showing that particular organization’s interest.

- Each company sends back the prioritized list of research projects to the PIs.

- PIs sort through and identify the research projects of most shared interest to the prospective members.

- PIs report back the titles of these research projects to NSF and all potential members.
The Planning Meeting is Over… Now What?

- FOLLOW through ON SCHEDULE with the ACTION ITEMS from the end of the planning meeting
- STAY engaged with NSF & PROSPECTIVE MEMBERS

- PREPARE for a FULL CENTER PROPOSAL:
  - Recruit members (meet the minimum criteria as per the solicitation)
  - Obtain unambiguous and unqualified commitment letters (language!)
  - Compile the top 5 vetted projects from the planning meeting (adjusted based on which industries commit to join) and include in the full center proposal (executive summaries preferred).
  - Make sure the membership agreement is agreed to by all institutions and the NSF.

PREPARE PROPOSAL PER SOLICITATION!

If a center is awarded, the vetted research projects make up the nucleus of projects presented at the 1st IAB Meeting. From these, the IAB votes and selects the center’s first cooperative defined, shared research portfolio.
I/UCRC Planning Process

Purpose: Maximize the potential for a successful Center Proposal.

Step 6

LOI → Planning Grant Proposal → Awarded → Full Center Proposal

Planning Grant Meeting with University Partners, Students, Center Evaluator, Prospective Members and NSF I/UCRC Program Directors

1.5 Day Meeting

Day 1

Day 2

Events Pre Meeting
• Cultivate interest in the Center among prospective members
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Events Occurring at the Meeting

Events Post Meeting
• Complete initial vetted project set
• Effective Marketing
• Commitments for membership
• Final vetted project set for proposal

What is the value of your center to a prospective member??
Honing and Articulating your Center’s Value to your Prospective Members

What Center Directors and Members Think is Important

Denis Gray
PI NSF IUCRC Evaluation Project
NC State University
Recruiting

• IUCRC recruiting presents unique marketing situation
  – Join a “research club” (that includes your competitors) with an emergent agenda and partial influence
    » Almost no knowledge base

Resources

• Other directors: tacit knowledge
• Purple book (See Chapter 4)
• Evaluator research on IUCRC
Recruiting: Key to Successful Planning Grant

• Recruiting Research Project (Gray and Rivers)
  – Directors Perspective
    » What do you do? What works?
  – Members Perspective
    » How did you go about deciding to join?
    » Why did you join?
    » Why didn’t you join?
Identifying potential members (2)

1) Consider how your center/site identifies potential industry members. How effective have you found the following activities in generating leads for new members?
Recruiting approaches

6) For those organizations interested in learning more about your center/site, how effective have you found the following approaches at securing new members?

<table>
<thead>
<tr>
<th>ITEM TEXT</th>
<th>% use</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Visiting the organization</td>
<td>97%</td>
<td>3.54</td>
</tr>
<tr>
<td>c) Hosting organization representatives at your site during non-IAB meeting times</td>
<td>93%</td>
<td>3.44</td>
</tr>
<tr>
<td>f) Holding conference calls with organization representatives</td>
<td>79%</td>
<td>2.30</td>
</tr>
<tr>
<td>b) Visiting the organization with some of your scientists</td>
<td>76%</td>
<td>3.32</td>
</tr>
<tr>
<td>d) Hosting organization representatives at your site during an IAB meeting</td>
<td>76%</td>
<td>3.00</td>
</tr>
<tr>
<td>e) Meeting with organization representatives at a neutral location (e.g., breakfast, lunch venue)</td>
<td>76%</td>
<td>2.55</td>
</tr>
</tbody>
</table>

Scale
4= highly eff.
3= Moderately eff.
2= Somewhat eff.
1= Not at all eff.
0= Do not use
Recruiting Success Rates

- **Lead generation**
  - On average, centers generate about 11 new leads over a 12 month period.
  - About 7 in every 10 new leads for membership emerge from existing relationships.

- **New member commitments**
  - On average, for every 10 firms actively pursued by centers:
    » 3 will join
    » 2 will decline
    » 5 will be undecided

“Not now” is an invitation to pursue later.
## Center Marketing Study - Reported decision factors

### Factors that directors believe account for joining:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Selected as a Top 3 reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance of research to organization needs</td>
<td>78.7%</td>
</tr>
<tr>
<td>High probability of future knowledge and technology transfer benefits</td>
<td>61.7%</td>
</tr>
<tr>
<td>Success of past Center/PI research accomplishments</td>
<td>40.4%</td>
</tr>
<tr>
<td>Quantity and/or quality of graduate students to recruit</td>
<td>21.3%</td>
</tr>
<tr>
<td>High financial leveraging provided by your center/site</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

### Factors that directors believe account for NOT joining:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Selected as a Top 3 reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of membership fee</td>
<td>51.1%</td>
</tr>
<tr>
<td>Lack of relevance of research to organization needs</td>
<td>38.3%</td>
</tr>
<tr>
<td>Concerns about IP and licensing rights</td>
<td>38.3%</td>
</tr>
<tr>
<td>Organization research priorities are very short term</td>
<td>34.0%</td>
</tr>
<tr>
<td>Organization rep did not have access to real decision makers</td>
<td>29.8%</td>
</tr>
</tbody>
</table>
Firm Perspective
Why do firms join/not join CRCs?

• Strategic analysis of anticipated benefits versus possible risks
  – CRCs present a diverse portfolio of both benefits and risks
  – The calculus for doing this assessment can vary widely from firm to firm
    » Firm A join for benefit Y - research
    » Firm B join for benefit Z – access to students
  – No one mentioned corporate goodwill or charity
Why do firms join/not join CRCs?

• Strategic Research Relevance (or lack thereof)
  
  – Research related to firm’s core competency
    » Strategic fundamental research (non-duplicative) that supports firm’s technology road map. Nearer-term research that provides “cost avoidance” or research leveraging
  
  – Research related to emerging or competitive technologies
    » Provides an efficient means for monitoring and exploring promising new technological avenues
Strategic Research Relevance

Why they joined

• “We don’t do in house very much theoretical work to advance the state of the art. However, sometimes we get right at the edge of or beyond our ability to do certain kinds of calculations or certain kinds of analyses. Its good to have an internationally recognized entity that you can go to get support in these kinds of situations.” (large construction)

Did not Join:

• “…We already had a program in place [in a very critical area] and all the mock ups; there really wasn’t much they could contribute to that really. They were behind us in this particular area. Some of the projects they do weren’t really that relevant exactly to what we were doing” (manufacturing company)
Lessons from Firm Study

- Firms join/not join for different reasons
  - Join: Strategic research relevance; leveraging; students; strategic alliances
  - Not join: Lack of strategic research relevance; IP; lack of absorptive capacity

- “Champion’s” recommendation carries a lot of weight but decision is influenced by multiple people at different levels (mean=4)
  - Firms also have membership antagonists
    » Need to arm champion with data and information to overcome objections others will raise

- Timing matters: it is a lot easier to join if the money for it is in the budget than if it has to be found in a set budget
  - Budgets get set before calendar year
Parting words of wisdom from directors

• “Only a dedicated and active effort produces positive results.”

• “The most important factor in recruiting membership is the one-on-one interaction with potential members -especially at conferences and symposia”

• “For a multi-university site such as ours - coordination between existing sites to avoid overlapping contact was essential - we presented a unified program which showed how membership at one university was really a membership at all universities -- we split the potential members into targeted groups for each site university that were then actively pursued.”

• “If one wants to sell shoes you must have the best shoes in the world. We have to have something to sell. We have always recruited PIs from all over the country-the best science and the best PIs!-that is what sells!”
**PEER BREAKOUT GROUPS**

- **Objective:** Exchange key learning points with your peers

- **Peer Breakout Groups - by Phase of Planning Process:**
  - Planning LOI / Award, Now What? = **Start-up Issues**
  - Pre-Planning Meeting = **Planning Meeting Mechanics**
  - Post-Planning Meeting Proposal = **Proposal Process**
  - Post I/UCRC Award = **Holding a Successful IAB Meeting**

- **In Your Peer-Group:**
  - Roles: Quickly choose, Facilitator, Scribe, Reporter
  - RESOURCES: Useful from today? ...Brainstorm & top 3
  - REMINDERS: Remember what? ...Brainstorm & top 3

- **Report out:** Top 3 Resources for where we are in planning
Resources re the NSF I/UCRC Planning and Operation

• I/UCRC Evaluation Project Home Page
  • NCSU  http://www.ncsu.edu/iucrc/
  • The purple book: *Managing the I/UCRC*, Gray and Walters
  • CFSP: *Case Study for Managing a Multi-Site I/UCRC*

• NSF I/UCRC Home Page
  • Compendium of Technology Breakthroughs
  • Membership agreement
  • Links for industry members

• Other Centers
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Note: The best way to contact us is via e-mail. Many are on the road frequently