

Establishing and Nurturing Research Collaborations

The Industry Perspective

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Industry Research Collaboration

- Internal
 - Peer-to-peer: team projects
 - Collaboration with visiting professors
 - Supervising student interns
- External
 - Joint research project with academia (typically through grants)
 - Often external collaboration grows out of preceding internal collaboration (with students or visiting professors)
 - Joint research project with other company (rare and a legal nightmare)

Why Internal Research Collaboration is a MUST

- Industry problems tend to be large-scale requiring significant infrastructure support - You cannot solve these problems alone!
- Leverage expertise and breadth available in a large organization
- Increase your visibility, have more impact
- Build your career - one collaboration may lead to other opportunities
- Have more fun - it's very isolating to work alone

External Academic Research Collaborations

Collaborations between industry and academia can take on various forms:

- Research grant with periodic reports
 - (you will always find happy takers here...)
- Active collaborative team effort
 - frequent and possibly prolonged mutual visits
 - Much harder to establish
 - Typically grow out of an internal collaboration through a prolonged research visit (student internship or sabbatical visit)

External Academic Research Collaborations

You can view an external collaboration as a negotiation

- Every side has something to offer, every side would like to get something out of it.
- Aim to establish a win-win collaboration

What academia brings to the collaboration:

- Intellectual property - can afford to work on more esoteric problems and beyond the industry's expertise and time frame.
- Recruiting potential - exposure to students, visibility

What industry has to offer:

- Grant money
- Real-life problems and infrastructures
- Internships and jobs for students

Make sure you understand what you give and what you'll get

What are the Issues & Challenges in Establishing and Nurturing Collaboration?

Size of the team (small = 2-3 people, large \geq 15 people)

- The more people are involved the more knowledge and expertise you have
- But the harder it will be to
 - organize and structure the team effort
 - make everybody feel engaged and in charge

Issues & Challenges (cont.)

Leadership and individual contribution

- Can vary dramatically
 - In larger teams some members may only take on a consulting role, others may do all the ground work.
- Multiple and varying leadership
 - You may have intellectual leaders that set the research vision, others lead the implementation effort

Issues & Challenges (cont.)

Credit - Can be a very touchy subject!

- Often the outside world associates a project with its most senior member. This usually happens unintentionally but can be frustrating for a junior member

There are different types of credit:

- Credit to the intellectual leaders who contribute the research vision and design - without them the project would have not been conceived.
- Credit to the implementers who feel they put in many more hard hours - without them the research would never have seen the light of day

Who should get more credit???

Issues & Challenges (cont.)

Credit

- Always set a good example: Be generous and inclusive
 - the author list better be too long than too small.
 - people will not work with you again if they felt their contribution was not acknowledged
- Be assertive about claiming credit
 - If you feel overlooked - speak up – it may be an unintentional oversight

How to Establish Collaboration?

- Build your credibility first
 - Make your work known
 - Promote yourself
 - Publish and conferences
 - Sometimes the best way to create internal recognition is to go external first...
- Be pro-active
 - Have a research plan
 - Approach people that can bring in the expertise you need
 - Be explicit about looking for collaborators
- Always be open to share your results