Nurturing (Academic) Research Collaborations

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Collaborate

“to work jointly with other or together esp. in an intellectual endeavor”

Webster’s
Types of Collaboration

- I’ll have my grad student talk to yours
- **Symbiotic** trading of pieces of IP
  - Exchanging knowledge, techniques, hardware blocks, tools, code, benchmarks
  - Can be one time or the beginning of a longer term relationship
  - Can be done long distance
- **Mind-melding collaboration**
  - Sharing ideas in progress, developing something from scratch
  - Long term
  - Can’t be started long distance; may be problematic to maintain long distance
Other Types

- Artificially or externally driven collaborations to compete for large $$
  » Often transparent to the reviewer (not a plus)
  » Sometimes they pan out and turn into real collaborations, but more often not
  » If the wedding is a problem, the marriage is going to be a big problem
  » To make it work, it’s best to show a track record of collaboration before writing the proposal
Upsides of Collaboration

- Leverages your work - the sum is greater than the whole of the parts
  - Visibility, impact, grantsmanship ($$$)
- Two sets of eyes
  - A built in (friendly) critic
  - Someone who picks up the ball when you’ve run out of ideas or hit a brickwall
- Reinforcing partnership to cheer one another on (commiserate) when things aren’t going so well
Downsides of Collaboration

● Perceptions of the community
  » Who gets the credit externally - especially if one member of the team is more senior, from a better known school, ...
  » Who gets the credit towards promotion and tenure - will it count for or against you?

● Ownership
  » Exposing your ideas to someone who might not continue the collaboration; will they use the ideas without credit to you (or claim them as their own)?
How to Get it Started

- Find people you are comfortable with
  - Individuals can bring different skills/talents/strength to the team
- Start slowly
- Be prepared to be exposed because a good collaboration is one where you are sharing unfinished (perhaps bogus) thoughts
- Even when it makes sense on paper, collaboration has to come naturally (it’s not just an academic partnership, but also an emotional one)
How to Make it Work

- Understand there are “proceeds” and come to an agreement early as to how those proceeds are going to be allocated.

1. If you’re successful, there will be money involved
   » Come to an agreement as to how the money will be split early on
      - Make sure your university bean counters endorse it (set up the accounting lines)
      - Make sure your university credit counters endorse it (for promotion and for overhead return)
How to Make it Work, Con’t

2. And there will be papers involved
   » Come to an agreement early on with respect to who gets first author credit, who will present papers, who else will be listed as co-authors
   » Balance authorship and acknowledgements

3. And there will be students involved
   » Come to an agreement early about who will be primary advisor; find out if co-advisorship is accepted by your University
   » Don’t give the students mixed messages and don’t let the students mom and pop you
Larger Issues

- Intermittent outside collaborations while maintaining your primary collaboration
  » Only works if its an orthogonal research effort
  » Make sure that your primary collaborator is informed

- Collaborations with more than two in the team
  » Be honest and open with all parties
  » Be prepared to accommodate others desires, needs

- Biggggg collaborations
  » May not be an honest collaboration
  » May become an administrative nightmare; typically requires a hero (e.g., managing partner)
When/How to Stop It

- If you find your taking too much time discussing who owns what, then it may be time to stop
- When your friends start congratulating you on papers that you didn’t know about

- Be honest with your collaborator(s) about your intentions and plans
- Come to an equitable agreement about the property settlement
  » If you figured this out before hand (prenupt), it’s easier
- It takes ~ three years to get out of a collaboration (flushing the joint ideas, money, and students)
Team Building

- Build a research team (ug & grad students, postdocs, other faculty)
  - build team spirit
  - weekly team meetings - keep track of deadlines and make sure each team member is working on a project leading to a paper submission
  - once a year off-site intensive retreat - invite industry collaborators to attend
  - ensure students have the necessary resources (e.g., office space, equipment, etc.) to do their work

Packaging is *important* - create a sexy web page to highlight your team’s work and keep it up-to-date!
Tracking Activity

- Hand out a spreadsheet at group mtgs
  - Accepted/papers in/yet to appear
    - JVLSISP mk,.. – instr sched for low power – final in 4/6/03; to appear ???
    - DSN’03 [www.dsn.org/](http://www.dsn.org/) Jun 22-25, San Francisco
    - wz,.. - ICR for reliability – [wzhang](mailto:wzhang) to present
  - Accepted/final papers in progress
    - gyc,.. heap compression techniques
  - Submitted papers
    - TACO wz,.. – compiler I$ leakage mgmt (xMICRO) – sub 2/03 (CA:mahmut)
    - SiPS [sips03.snu.ac.kr](http://sips03.snu.ac.kr) (May 16)[Jun 16] – Aug 27-29, Seoul, KOREA
    - hs,.. – exploiting value locality for secure energy-aware communication
  - In progress/planned papers
    - HPCA [www.ac.uma.es/hpca10](http://www.ac.uma.es/hpca10) July 14+7(Oct 6)[Nov 3] Feb 14-18, Madrid, Spain
    - ll,.. – noise aware interconnects
Tracking Activity, con’t

» Proposals funded
   NSF 0103583 - NGS:POWERful Software ($600k)(as,mk,vj,mji) - 9/01-7/04

» Proposals/WP submitted
   NSF/ITR/large (PI:LaPorta) – UMPIRE – sub 3/24/03

» Proposals/WP to be re/submitted
   NSF/NASA/HDCCSR – reliable, low power embedded sys - due 6/18/03

» Group infrastructure issues
   ALL AUTHORS of accepted papers - Put pdf on mdl with “This paper appeared in xxx, month 200x.” For papers in ACM outlets include footnote at bottom ©Copyright 2002 by ACM, Inc (link to info.acm.org/pubs/toc/CRnotice.html )
   ALL PRESENTERS – look for travel grants (e.g., www.sigda.org/programs/TravelGrant)
   Group mtg - Wed: 2:30 throughout the summer in 236 Pond

» Faculty and graduate student contact information
   (email addr., office, status)
   Wei Zhang (wzhang) 224 P - taking finals Sum03
   Greg Link (link) 226 P (orlith/bld) - pcand Spr03