

Office of Research
Research Development and Support Series
**Building your Team: Undergrads, Graduate Students, and
Postdocs**

Tuesday, October 30, 2018
University Hall, Room 454

Overview

Introductions

Our Experts

- **Chip Montrose**, Dean of Graduate School
- **James Mack**, Associate Dean of Graduate School
- **Megan Lamkin**, Director of Undergraduate Research Experiences
- **Teri Reed**, OoR Assistant VP Research Development

Office of Research Resources

Office of Research Web Site (research.uc.edu)

Office of Research How2 (researchhow2.uc.edu)

Research Directory (researchdirectory.uc.edu) – Ohio Department of Higher Education – Ohio Innovation Exchange (OIE)

SPIN (research.uc.edu/funding/spin)

Limited Submissions (via web portal (rsrch-webserver.uc.edu/)) Two types – faculty research nominations and research proposals;
Selection process dependent on type.

Office of Research Initiatives

Internal Funding Opportunities

Collaborative Research Advancement Grants Program

Track 1: Pilot Teams

Track 2: Strategic Teams

Faculty Bridge Program

Science Engineering + Art Design (SE+AD) Advancement Grant

Core Capability Development Grant Program

Core Equipment Grant Program

University Research Council

Creative & Performing Arts Cost Support Program

Humanities and Social Sciences Cost Support Program

Faculty Research Cost Support Awards Program

Graduate Student Stipend and Research Cost Awards for Faculty-Student Collaboration

Undergraduate Student Stipend and Research Cost Awards for Faculty-Student Collaboration



Integrating Undergrads

**What.
Why.
How.**

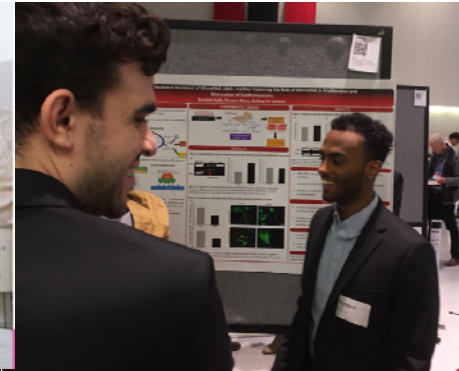
I. What

Research

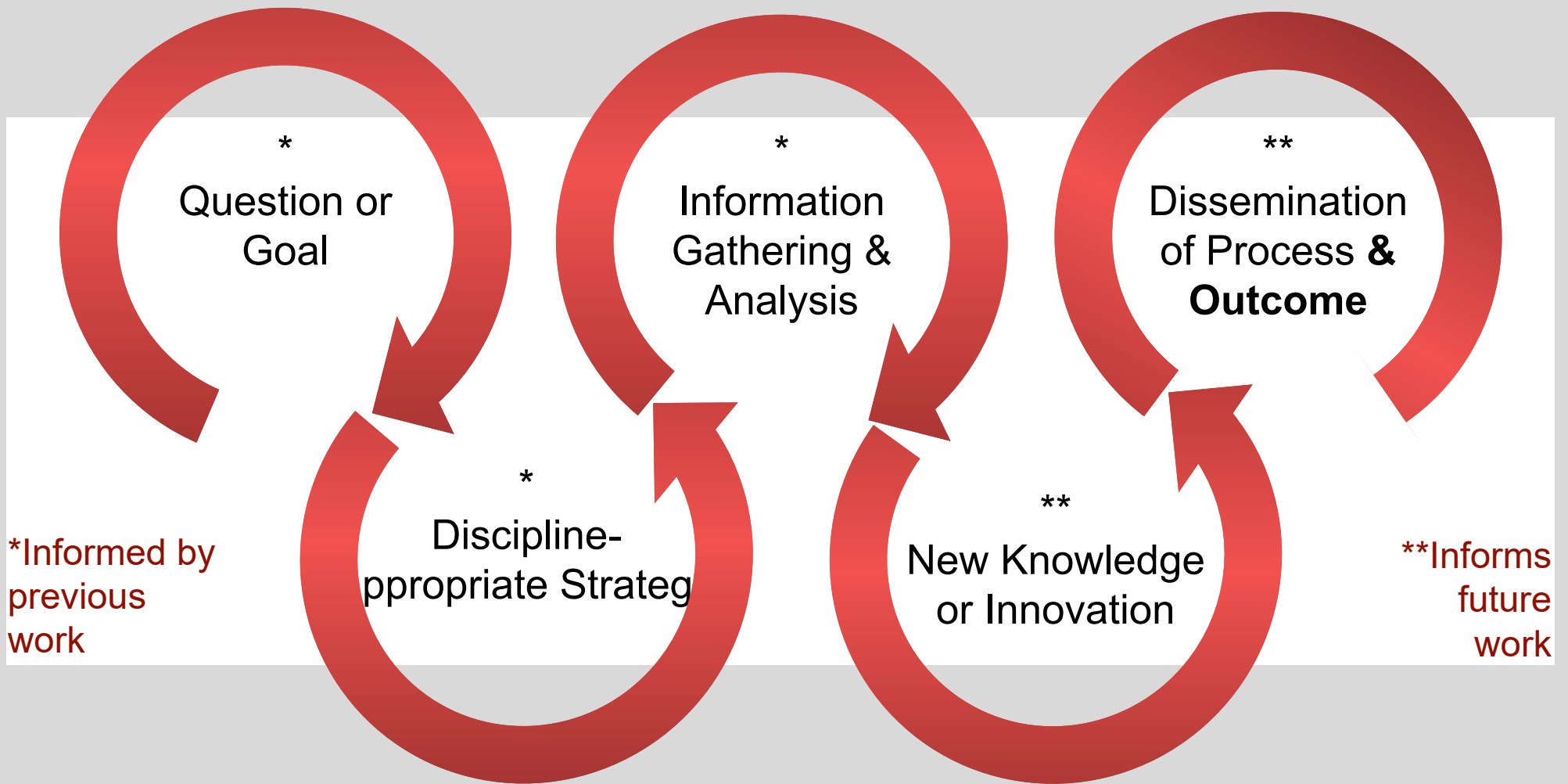
A deep study of a specific topic

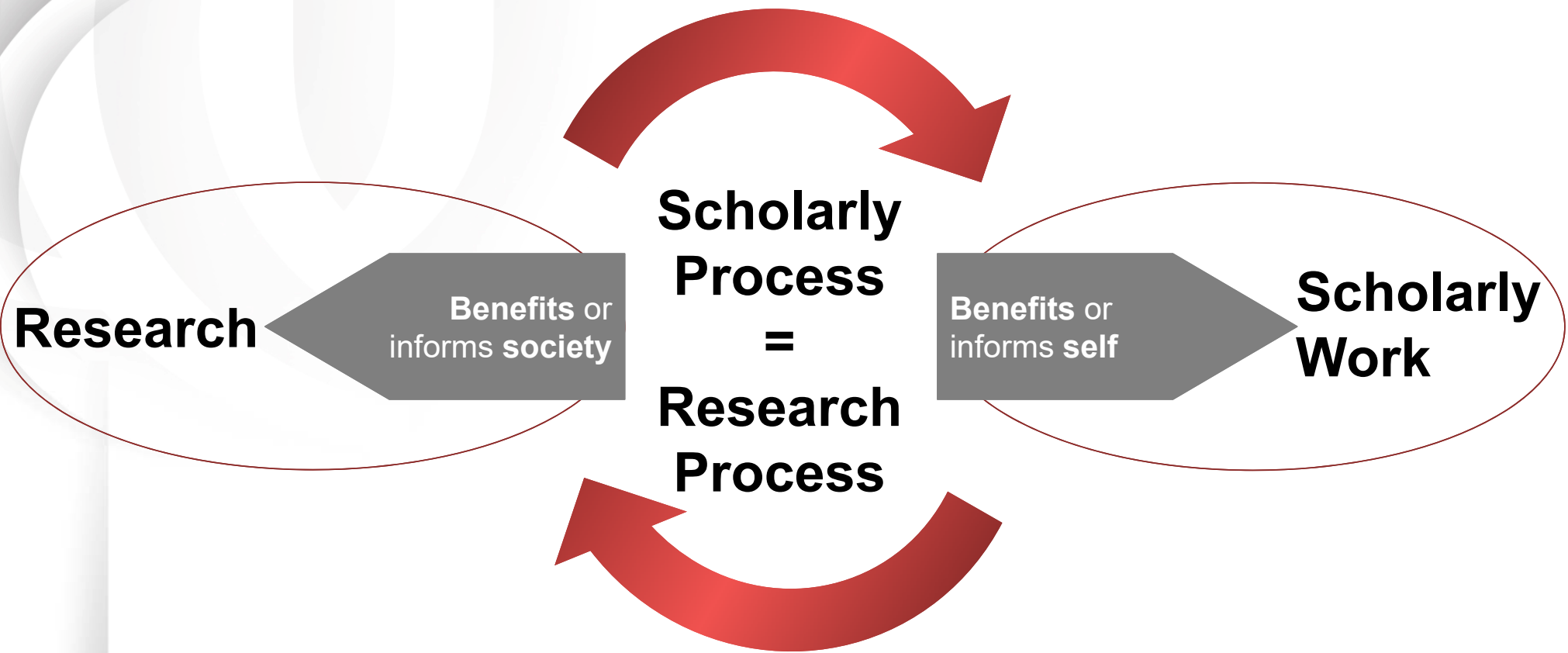
that
results in

an **original**
intellectual or creative
contribution to the discipline



Research Process





Research is always scholarly work; scholarly work is not always research.



II. Why

Giving back feels good

Master fundamentals

Increase productivity

Nurture intellectually
satisfying culture

Johns Hopkins
Michigan
Pennsylvania
UC San Francisco
Washington (Seattle)
Wisconsin-Madison
UC San Diego
Harvard
Stanford
Duke
North Carolina
UCLA
Cornell
MIT
Minnesota
Texas A&M
Pittsburgh
Yale
Texas
Columbia
Penn State
Ohio State
New York

Florida
Georgia Inst. Tech.
UC Berkeley
UC Davis
Washington (St. Louis)
Northwestern

Michigan State
Purdue
Arizona
Baylor (Medicine)
Mount Sinai (Medicine)
Maryland College Park

Iowa
Colorado Boulder
Colorado Denver
Texas SW Med. Center
CINCINNATI
Chicago
Georgia
Case Western
Virginia
Boston
Maryland Baltimore
SUNY Buffalo
California Inst. Tech.
Scripps Research Inst.
Miami
Utah
Kentucky
Brown
Rochester
UC Irvine
Chicago
Rockefeller
Washington State

Research-1
(#52 out of 4,660+)

...where undergrad
involvement relies on
student outreach to
faculty

Southern California
Vanderbilt
Rutgers
Illinois
Texas (Cancer)
Emory

Alabama
Virginia Polytech. Inst.
Arizona State
Indiana
South Florida
North Carolina State



III. How to help them find you

Flyers, Classes, Blackboard,
Department listserv

Local

[Research Directory](#), web sites

University-wide

[Handshake](#), [PAL](#)

Co-ops/internships



How We Help

[Ready for Research](#)
Info Sessions

[Social Media](#)

[ReCON](#) **Research & Creative
Opportunities Network**

Grad-Undergrad Research
Connections

Coming spring
2019

How it (usually) works

A **student expresses interest** in your work & requests meeting to learn more.

You **meet the student** and enjoy the interaction. You then...

A. Invite student to participate in **paper discussion/teaching** meeting

Volunteer

B. Offer to **train** in research methods

Volunteer, Credit, or Pay

C. **Assign** a project under your guidance

Volunteer, Credit, or Pay



Funding

Research Supplement (you)

[University Research Council](#)

A&S STEM funds

[Summer Research Programs](#)

[Taft Research Center](#)

[Federal Work Study](#)

Coming soon: \$\$\$\$\$\$



How We Help

[Professional Development](#)

[Social Media](#)

[Scholarly Showcase](#)

[Summer Research Programs](#)

[Awards](#)

[Federal Work Study](#)

Coming soon: Mentor training, Showcase Proceedings, Undergraduate Research Journal



How you can help

support a university-wide culture of undergraduate research

Submit grant supplements

Advocate for Research Capstones

Talk to students about your work

Ask grad students to engage undergrads

Direct students to us

Require participation in Scholarly Showcase

Research Team Leadership: Focus on Graduate Students

Chip Montrose, Dean of the Graduate School

mhm@uc.edu

James Mack, Associate Dean of the Graduate School

James.mack@uc.edu

The winner is.....



The winner is.....



The winner is.....



The winner is.....

Sir J. Fraser
Stoddart



Jean-Pierre Sauvage



Bernard L. Feringa

"for the design and synthesis of molecular machines"

Nobel Prize in Chemistry 2016

Who might be on your team?

You

Other faculty (*here at UC or elsewhere*)

Staff (*departmental or in your group*)

Undergraduate students

Graduate students

Post-doctoral fellows

We would like to help you think about how to deal with this heterogenous group

What are the minimal characteristics of a good team?

- Everyone knows their role and responsibilities
- The group meets regularly to share information
- Everyone is professional (courteous and considerate)
 - E.g. No one slows anyone else down by leaving a mess in the lab

What are the desired characteristics of a good team?

- Everyone is invested in success
- Everyone is engaged
- Communications among team members occur spontaneously and frequently
- Constructive criticism is expected and welcomed
- Personalities and ambitions synergize to make a fun environment

What does the team leader need to do to support the team?

- Empower and inform those on the team
- Be inclusive in discussing new ideas and approaches
- Keep everyone in their lanes (*avoid mixing/diluting responsibilities*)
- Keep expectations on track
- Keep everyone equally accountable (*no favorites*)
- Learn what motivates each individual on the team

What attitudes should the team leader emphasize?

It depends on the strengths and weaknesses of your team, and their motivational basis

- **Excellence?**
- **Speed?**
- **Fame?**

You might have to emphasize different themes to optimize progress, so here are some examples....

What attitudes should the team leader emphasize?

These could be of higher importance when the motivator is “speed” and you have to combat the sloppiness that comes with rushing...

- Safety is more important than progress
- Thinking saves time
- Progress requires careful notes, proven reproducibility, and systematic advancement
- Mistakes are fine, but you must learn from them and move on

What attitudes should the team leader emphasize?

Or if the motivator is “fame” or “excellence”...

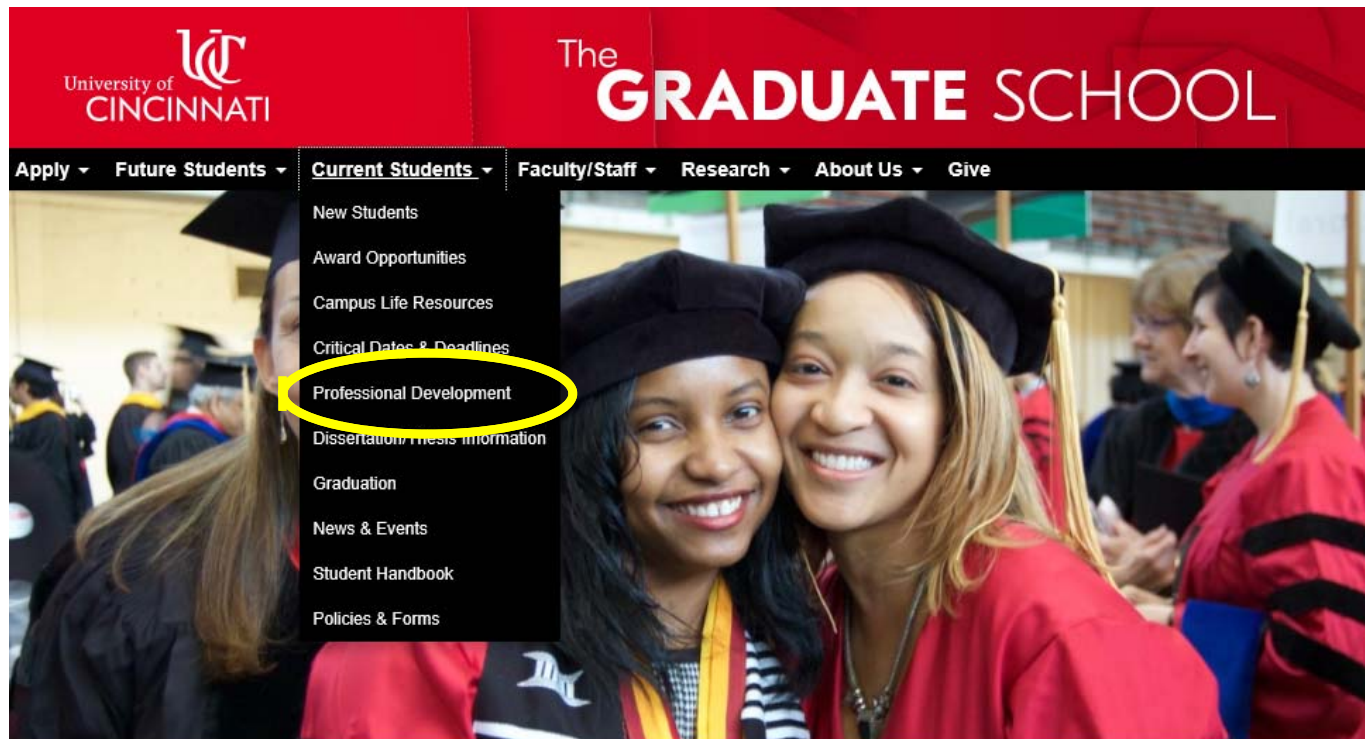
- Everything should be shared among team members (data, equipment, ideas, credit)
- Sharing your results with other team members is the best way to think through the meaning of outcomes and get new ideas
- High expectations should be more exciting than stressful
- Imperfect experimental outcomes are the tool that leads to better experimental design

Special concerns for trainees on the team

- Less confident and less experienced
- More likely to get stuck in between two conflicting opinions/ideas/people
- Need help/advice on navigating between team members
- Need advice on hierarchy and communications

Professional Development for all trainees

<http://grad.uc.edu/>



The Graduate School

Professional Development for all trainees

<http://grad.uc.edu/student-life/grow.html>

Individual Development Plan

A strategic tool to guide students through career and professional development.

Donuts and Development

This yearly event is a one-stop shop to visit various professional development groups, offices and courses across the university.

Campus Resources

Offices across campus provide professional development opportunities for graduate students such as writing assistance, teaching guidance, job search help, and more!

Preparing Future Faculty

A graduate certificate program in modern teaching and learning; offers rich mentoring experiences to strengthen career skills!

Graduate Student Expo

A yearly event that showcases graduate student research, scholarship and creative works.

Workshops

Workshops supplement a students academic training by providing brief, specific skill-building sessions on professional and personal development.

Support for graduate students

<http://www.uc.edu/cetl/gate.html> **GATE** = Graduate Association of Teaching Excellence. Student-run group providing teaching advice and workshops.

<http://www.uc.edu/aess/lac/writingcenter/grad.html>
Graduate Writing Center. Get help with writing challenges faced by all young professionals.

<https://www.uc.edu/gsga.html> **GSGA** = Graduate Student Governance Association. Travel awards! Fellowships! Peers!

Leading original research projects of graduate students

- To lead a dissertation (PhD) or thesis (Masters) project, you need to be a member of the graduate faculty.
- If your Department/Division is home to a graduate program, talk with the graduate program director who runs the program about being nominated to join the graduate faculty.
- Graduate faculty are full-time faculty who have an active research program as part of their position (primarily tenure-track faculty).

Other options for involvement with graduate students

If your Department/Division is **NOT** home to a graduate program, investigate the multi-department programs that intersect with your academic interests. They can also nominate you to join the graduate faculty.

You do **NOT** need to be graduate faculty to

- be a **member** of a dissertation/thesis committee
- to **teach** in graduate courses
- to lead a **capstone** project.

How do I support a student?

- The Graduate School annually distributes about \$40M in tuition scholarships and \$20M in stipend to colleges, and colleges decide how to distribute the funds within their graduate programs. GS funds are supplemented by college/dept funds, and grant and contract funds.
- Most PhD students get full tuition scholarships and a stipend, but the stipend amount and duration of support from the graduate program varies widely.
- In general, Masters student support is less lush. Most commonly students get no, or minimal, scholarship. Stipends are unusual for these students, except in departments that lack a doctoral program.

More money stuff about students

- Grad students are less expensive than postdocs in both salary and fringe benefits.
- Graduate Assistants (Research or Teaching) are eligible for a subsidy of their student health insurance from the Grad School.
- In some disciplines/programs, it is expected that the primary mentor will support their student after a certain point. Make sure you know local expectations.
- Always look for external funding opportunities, and many of you will have included support for trainees in your startup funds request. There are some college specific funds.

Remember trainees are more than cogs in the team

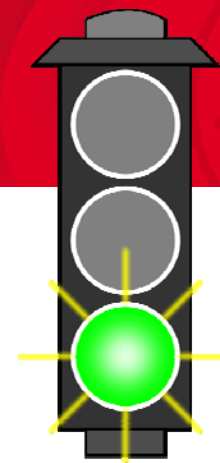
The U.S. Council of Graduate Schools studied what employers value in graduate students.

They are:

- Advanced content **knowledge**
- **Ability to analyze** and synthesize data or information
- High-level skills to examine & **solve complex problems**
- **Creative intellect** to inspire innovation and drive discovery

You have to foster these talents by working closely, and sometimes things don't always go as planned. What to do then?

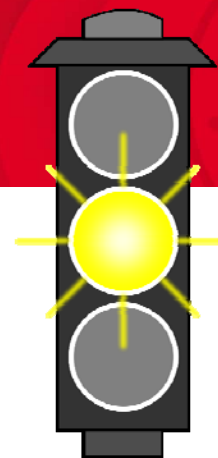
Managing a deficit



No one is perfect

Identifying the deficit **EARLY** gives everyone time to adjust and compensate while minimal damage has been done and communications lines stay open

- Realign a project to suit everyone better and invest time
- Meet regularly and talk frankly about challenges
- Work hard and smart to restore enthusiasm and optimism
- Share/review things in writing so no one forgets or misunderstands (selective hearing loss)

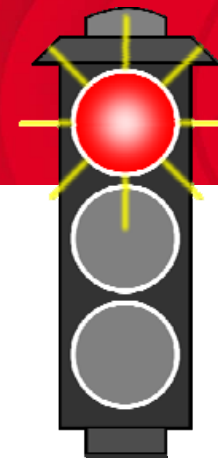


Consistent concerns

Identifying the deficit **LATE** means adding some more ways of compensation to balance deeper concerns and strained communications

- Get help if you need it to bridge the gap (mediators, alternate mentors)
- Salvage what you can from the investment you have made (smaller papers, lowered ambitions)

Managing a deficit



It is the centerpiece of the relationship

A deficit is **TERMINAL** when it degrades performance and every communication is problematic

- Always keep it professional: be fair, calm, and constructive
- Get advice on how to handle situations
- Develop an exit strategy and timeline that meets everyone's needs

A roadmap to avoid potholes with any team member

Be aware, open, and talk



- Clarify **expectations** of how time is invested
- Set up **regular meetings** and expect robust, challenging discussion
- Come to meetings **prepared**, with talking points (data/ideas, questions)
- Make it easy to get and give formative **feedback**
- Share one **personal** item in each meeting. Help the other person understand you and your goals

Enough Advice....

The advice I would give to someone
is to not take anyone's advice.
Eddie Murphy

Good advice is something a man gives
when he is too old to set a bad example.
Francois de La Rochefoucauld

Lets work on situations

Wise men don't need
advice. Fools won't take it.
Benjamin Franklin

Remember this, folks - I am a Hillbilly, and I
don't always bet the same way I talk. Good
advice is one thing, but smart gambling is
quite another.
Hunter S. Thompson

I hate to advocate drugs, alcohol, violence, or insanity
to anyone, but they've always worked for me.
Hunter S. Thompson

Enough Advice....

- A paper is planned which will include data from Teri and Peter. The leader insisting he should be first author. Everybody is getting testy.
- Your team has divided up the work on a project throughout the weekend, and can barely handle all the things that need to get done. Then one of the members announces that their relatives will not let them work on a day that weekend, and the rest of the team now wants to bail out of the weekend work. It will cost the project \$900 and 3 weeks delay.
- Both Chip and James want to attend a meeting to go on the job market for a so only James can justify going to the meeting. James is bragging about it.

Thank you!

Questions?

Chip Montrose, James Mack, The Graduate School,
mhm@uc.edu, james.mack@uc.edu

Postdoc Mentoring and Considerations

- ❖ UC averages around 150 Postdocs and 50 Visiting Scholars.
- ❖ Currently, no formal required programming. There is a proposal from the Research Advisory Board to the VPR to change this.
- ❖ Renewed our membership to the National Postdoc Association for fall 2018.
- ❖ Fall survey to all current Postdocs and Visiting Scholars (sometimes called VAPs) to complete a Needs Assessment.
- ❖ NSF requires a mentoring plan for all proposals that fund Postdocs who are not included as Senior Personnel on the grant.
- ❖ The NSF mentoring plan must be no more than one page and can include activities such as:
 - Career counseling
 - Training in preparation of grant proposals, publications, and presentations
 - Guidance on ways to improve teaching and mentoring skills
 - Guidance on how to effectively collaborate with researchers from diverse backgrounds and disciplinary areas
 - Training in responsible professional practices

Postdocs

- Office of Research's Research Advisory Board special committee on Postdoctoral Affairs
- Renew membership to the National Postdoctoral Association
- Fall survey to do a Needs Assessment
- Next steps informed by Needs Assessment

National Postdoctoral Association

- University of Cincinnati is once again a Sustaining Member.
- Free Affiliate Memberships for our postdocs, faculty, and staff.
- Step 1: Go to <https://www.nationalpostdoc.org/> and click on "Join" in the upper right corner.
- Step 2: Select your member type:
 - Affiliate Graduate Student Free individual membership for graduate students at Sustaining Member institutions
 - Affiliate Postdoc Free individual membership for postdocs at Sustaining Member institutions
 - Affiliate Nonpostdoc/Other Free membership for nonpostdocs or nongraduate students at Sustaining Member institutions
- Step 3: Enter your username (your institutional email address), along with your first and last name. To receive a free Affiliate membership, you must use your institutional email address.



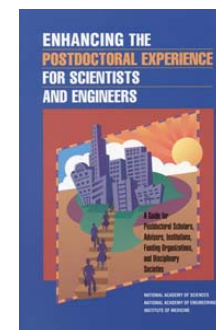
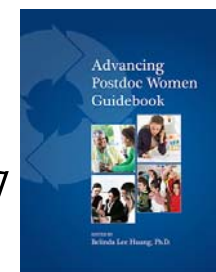
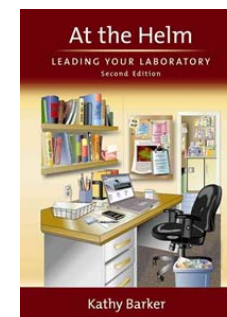
— NATIONAL —
POSTDOCTORAL
— ASSOCIATION —

Resources

Barker, K. 2010. *At the Helm: Leading Your Laboratory*, 2nd Edition. Cold Spring Harbor, New York: Cold Spring Harbor Laboratory Press.

National Postdoctoral Association, <http://www.nationalpostdoc.org/> (recommends Individual Development Plan and Research Roadmaps)

Institute of Medicine, National Academy of Sciences, and National Academy of Engineering. 2000. *Enhancing the Postdoctoral Experience for Scientists and Engineers: A Guide for Postdoctoral Scholars, Advisers, Institutions, Funding Organizations, and Disciplinary Societies*. <https://doi.org/10.17226/9831>.
(Free to download from NAE site)



Research Development and Support Series

Title	Date/Time/Location
Building your Team: Undergrads, Graduate Students, and Postdocs	Tuesday, October 30, UHall 454, 3:30 to 5:00 PM
Research Support – UC Infrastructure (R)	Thursday, November 1, TUC Room 427, 9:00 to 10:30 AM
How to Navigate the IRB doing SBER	Thursday, November 8, TUC 400A, 10:30 AM to 12:00 PM
Working with Industry/Foundations	Wednesday, November 14, UHall 454, 1:00 PM to 2:30 PM
How to Work with Local and State Governments	Friday, November 30, TUC 425, 10:30 AM to 12:00 Pm
Arts & Humanities in the Age of Impact	Monday, December 10, DAAP 8220, 11:30 AM to 1:00 PM

Help us improve!

<https://www.surveymonkey.com/r/BYRTFall2018>

