Supporting PhD Transitions into the Workforce

Wojtek Chodzko-Zajko,

Dean, Graduate College, University of Illinois at Urbana-Champaign

Phillip Trella,

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Elizabeth Dolan,

Deputy Provost, Graduate Education, Lehigh University

Diversifying Career Pathways for Doctoral Students

Wojtek Chodzko-Zajko

Dean of the Graduate College University of Illinois at Urbana-Champaign



Council of Graduate Schools - December 6, 2019



Where Are They Now?: Keith Taylor

OCT 30, 2019 9:30 AM | 100 VIEWS

we catch up with one recent Graduate College alum and ask the question: "Where are they now?".

Growing up in the rural Midwest, Keith Taylor never thought that he would make a home near the sunny, sandy beaches of California. Keith earned his PhD in Human and Community Development in 2013 and now has his dream job as a Community Economic Development Specialist (another way of saying Extension Professor) at the University of California at Davis. In his position, the community is his classroom, and he works with community economic development stakeholders on research and development.



Where Are They Now?: Sarah Eckhardt SEP 30, 2019 9:15 AM | 180 VIEWS

Whether going to museums, taking classes, or creating her own pieces, Sarah Eckhardt was always fascinated with art. While working at the Krannert Art Museum as a graduate student in Art History (MA in 2003 and PhD in 2012) she discovered that art curation was the right career path for her. Now, she works at the Virginia Museum of Fine Arts as an Associate Curator of Modern & Contemporary Art. Working in a team, she chooses and interprets the works of art displayed at the museum.



Where Are They Now?: Fatimeh Pahlavan

IUL 6, 2019 1:45 PM | 535 VIEWS

Where can a graduate degree from the University of Illinois take you? <u>In this series</u>, we catch up with one recent Graduate College alum and ask the question: "Where are they now?".

Fatimeh Pahlavan lives at the intersection of law, business, and technology. She graduated from the University of Illinois Urbana-Champaign with a JD in 2016 after previously earning a BS in Biochemistry from the University of Illinois at Chicago. In 2018, she founded Legal Intelligence to Entrepreneurs LLC (LITE), a law firm devoted to providing proactive and holistic legal advice to early-stage entrepreneurs.

Learning Outcome

To provide an overview of some of the many ways that a <u>central</u> <u>campus</u> unit can promote career diversity in graduate education.

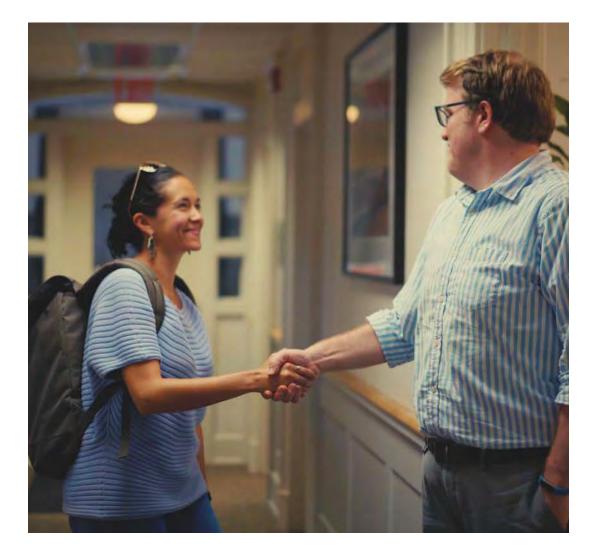
ILLINOIS GRADUATE COLLEGE



Why Promote Career Diversity for Doctoral Students

- Empower students to pursue fulfilling careers
- Recognize that doctoral graduates are employed in a wide range of fields
- Acknowledge that doctoral students have specific career development needs





How Graduate Colleges can Promote Career Development

- Increase awareness of diversity of career opportunities
- Consider structural factors for career preparation
- Provide student-focused programs and support



Our Approach Deliver central programming and resources





STICCE

for grad

students

Events and Signage



All Day 8/16/2019

Try It Out: Career Paths in Publishing

Are you interested in a career in publishing?



4:00 - 5:00 pm 8/27/2019

Industry Job Search: Career Fair Prep

Learn how to make the most of upcoming career fairs.



All Day 9/25/2019

Try It Out: Career Paths in Data Management

Are you interested in a career in data management?



11:00 am - 12:00 pm 10/18/2019

Coffee & Careers: Nonprofit Management

Want to know more about managing a nonprofit?

https://go.grad.illinois.edu/events









NOTICES FOR GRAD STUDENT

Announcements for the week of October 7, 2019

ANNO UNCEMENT AND DEADLINES

Fall 2019 Reg

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dis1er Now: Humanities Career Discovery GrouQ

Join a collaboratr.e group that will help you figure out what matters to you and offer support as you explore new path s. Open to grad students in any field whose '11011c in lio lves humanistic inquiry. Each sess10n will include a conv ersation with someo ne with a humanities degree doing interesting work, and one session will feature a site visit ta the Unive rsity of Illinois Press. Learn more and register al 1111 g grad il linois e du/HumanitiesCareers

October 29- December 3. 3--5 PM • El/e ry Tuesday (except 11/26) Admissions, Regr

c aree r oeve iop • Graduate c onege

Coffee & Careers Tectmology..Marulgement

Interested in learning more about careers al the inter..ectian of technology and science? Join us for an Informal conversation with Manana LencIna PhD, Associate Technology Manager far the Urnversity of Illinois Office of TechnolQov Management. Mariana received her PhD in Biochemistry from the University of I Illnals in August 2018 Her current portfolio focus in her role is healthca re and lite sciences Come with questions. Free coffee and snacks prol,id ed.

October 13--19 October 15, 5--6 PM • Coble Hall 304130B

Career OevelopIIIsil.t . Graduate College

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What can you ask for and ho w do you ask for ii? After you receive a job offer. you have a short period of Ume to evaluate the oner. negotiate and mal-e your decision. In this worl-shop. you Wili prepare oy recog nizin g commo n ele ments of a job offer, identifying rese arch tools, and prioritizing your preferences _ You will learn how to develop a strategy to help you know when and how to n egotiate e ffective_ly Can't make it in person? This wor kshop will be simultaneously broadcast online at I:iII a arad illios edu/evenIs0ace

October 8, 4-5 PM • Grego ry Hall 223

Career Deve 10p...IU.eill . Graduate College

9 This opportunity is available online

Facult'.i Job Search: CamRUS In terviews

What is a campus interview actually like? What are the typical components of a campus ¥isit? Who will I meet with (and what do I say to them)? What do I include in a research topic during an interview? In this interactive workshop, you'll get answers to tnese questions and more as you learn strategies ror tne campus interview. Call, m ake it in person? This worl<shop will be simultaneously broadcas t onHne at <u>thukk (aQ. a ra d</u> illi n o i s ed1.//e ven)s™

October 9, 4-5 PM · Bevier Hall 16B

Career DeveloOm en t • Graduate College

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December 1, 2019

Th newsle tter from the Graduate Coltege feah. Jtes notable opportunities for Univer sity or lfiffioi!!. grad uale !!.iudents and posldodoral sdlolars to deW!lop ski s engage with employers and learn more MJOIrt meannight careef opportunt.tlles. For advice on networking 1 ng lorjob., and more, chect,; oul our <u>oolir, 11 rde velopmen</u>t re'JOW"Ce'3

Tip of ch e Week

Advance your skillt. with LinkedIn Learning, g (previously Lynda.com) offers a wide range of seH-directed online courses and is free for llinois studen Explore the exlen !We training.g avail11ble in ca tegories ooll-eringbus IrleM technology. 11M crea tive skills Leam a New moorarmmoo bingu g become i- better menlor, or just brush up oo the b3Sics rial MS. Office

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Making the Most of Winter Break

Th urMlay, Dec em ber 1 2: 3:30 - 5:00 pm; Cob Ha ll 304/308

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Graduate Summer Opportunity to Advance Research

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Handshake Job Postings

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NOTICES FOR GRAD FACULT

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Grad MENTOR 1S a publication Of the Gradu te Colle 11e de5 igned to provide you With resources as you work with and me ntor gra d uate stu de nts a nd po::;t d ocs .

Tools for Supporting Yow- Students' Career Development

The Gra du ate Colleg e is here tos up port fa culty as they prepare their g rad u.11te s t ude nstfor :!".LJc c ess i'lt Illino is and be vond.

For m-a ny gra d uate st ude nts , s.um m er 1s a pe n od of ch a nge a nd transition. FOi"-other... It offers more b me and flexiblity as the v m.i ke progress: toward their go als.. And for oil of them, it can be a time wtien the ys tart as king questions about where they want to go and tiow to get th ere.

The Gr..i d uate College is committed to help mg you an:s wert hose

questions. To do t tiat, our C<Jn: er De ve lopm ent team hils collect ed

summer events, posts from our Gleid Life block and s om e external

resources you clin f.tiare with your grild uates tudf nts when questions

WORKSHOPS

" What can I do w ith my degree ?"

Att en d : Th e <u>Career Exploration Group</u> (July 11 - July 25) offers: a guided, collaborative space for graduate s tu d e nts lo explore t he ir c..i n: er o p t ions.

Read: The Graduate College's Direct or Of career Developmentoutlines a practical strategy for iden b-fymg po t e nt iail cair eer p ait hs 1 n ng JOb Ads for Cairee r TE x T

Gimline career exploration and individuol developm fil t plan tools like Imag incP_hD (which the Graduate Colleg:, spon.sor.s) and MY.IIIB, wtiicharedes igned specifically for gr.iduatesludenls. Sludenls. can m.ike a c.tiree r 111d Ifi In (1.P. 120) intment t o d is us.s r esu Its with Gra du a te Colle g e car e e r deve lo pm e nt st a ff.

"How should I prepare for a facuity job search?"

Attend: Ourllinn ual Y. Job Search Retreat (this year on JLJ1y 31) is a hailf-day event feat uring hands- on act Mt ies and ,11 p nel Of file uly fn n a wide range of mstitut rons.

Rea d ; w tia : We Learn ed at the famility Job S earch Ret rt"nt offers t akea wa ys from a panel ab out the search.

Explore : The Ccad mc Job sea rate Handbook by Julie Miller Vick and Jen nifer S, Furlong, IS IIIn in -dept h 9 ulde to .a comp lex and oft en confu sm g pro cess .

"W hat do I need to be successful on an indust ry or nonprofit job search?"

Att en d : Th is sum m e r, the Gr.i du </te>te College will offer works ho ps on Resume & Colter Letters. [Jun e 11], Interview Stoll ce (June 18), and GEtting Read v for ill Indubry bb Sargh (Augufit 5) tha! will as swer that question from different angles.

Read: Illn 0:5 ? hD Kristin Divis (now at Sandia Nallona | Lab orato ry) des m bes how n internshipset her up for c .. ir e e r s uc cess in ae •he Dire ctmn of Your Caree

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Schedul e a Profess i on al or Care er Deve lop m ent Workshop for Your Stude nts

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https://grad.illinois.edu





You have lhe oppmtuniy advance your res.earc:h, your job s ea rch or your oroade r c:aree r goa Is In Itus worts.hop gel advice and strategies to help 1100 relax wMe accomp1 g what you need to ::LJCcood Yoo Will leave IIIe workstlop wilh a concrele plan for achieving a major goal you have for break.

Workshops and Events

The Graduate College at Illinois Published by Annie F Adams I? October 29 **0**

Lot's of good stuff this week. 1'

10/29 Humanities Caree r Discovery Gro up 10/29 Thesis Formatting & Deposit Join remote ly 10/30 GradMAP: Time Management Strategies... See More



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Grad College Illinoi, @GradCollege IL · Sep 30 Ge1 the details CJ g 0.g rad.illinois.edu/w orkshops

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for grad students











Three Liberal Arts & Sciences at Illinois departments have been selected to rethink doctoral education and make career pathways more divisible valued and visible.



 $\ensuremath{\mathsf{LAS}.\mathsf{ILLINOIS.EDU}}$ III ino is selected to help rethink doctoral educatio n and career pathways

537 Peopl e Reached

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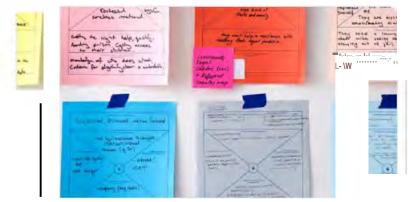
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Grad College Illinois @GradCollege IL • Nov 14 Job Sea rch Essentials ,,,. Fri . 11/ 1 5, 9 AM - 4 PM

Tak e o n e wo rkshop or all five! ${f D}$ bit.ly/ 2NvQo Nu

These warm in do o r act iviti es includ es f REE coffee⁶ & snacks. Join in perso n or remotely.



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THE GRADUATE STUDENT EXPERIENCE

Sort by Title Date - Populari

HOME CREATE POST ARCHIVE Q

Read Next

Cher. Definitely, Cher: LLM Student Wins First Place at Illinois Global Talent Show

Where Are They Now?: Keith Taylor

Grad School 101: Sustainability and the Productive

Where Are They Now?: Sarah Eckhardt

What's It Like to Compete in Research Live? Hear from a few pros.

Categories

ABROAD ANA CAITLIN CAREER DAY IN THE LIFE DEREK DONZELL EEP EMILY FELLOWSHIPS GRAD SCHOOL 101 MEET OUR FELLOWS NEWS POSTCARDS FROM THE FIELD RESEARCH SAGE STUDENT THESIS WELLNESS WHERE ARE THEY NOW? WOJTEK

Contributors



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1918

41 27

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Creative and Collaborative: Trying out Careers in Publishing JUN 17, 2019 12:00 PM | 242 VIEWS

recently had the opportunity to participate in a "Try-It-Out Experience" through the Grad College Career Development Office and the University of Illinois Press. This one-day professional development opportunity provides graduate students with a focused goal-setting session, industry connections, and the chance to explore new-018 ANNUAL REPORT to-them career paths.

Lessons From a Grad Student Job Search Support Group IUN 4, 2019 1:45 PM | 682 VIEWS

This Spring, Mike Firmand started the first-ever job search support group for graduate students at the University of Illinois. Over four weeks, around 12 master's and Ph.D. students from across disciplines came together for weekly, 90-minute meetings focused on one component of the job search: assessing fit from a job ad, crafting application materials, interviewing strategies, networking and so forth. I planned for the sessions to be highly interactive, with most of the time designated for participants to tell stories, ask questions and reflect on their job search experiences together. Here's what Mike learned from listening to them and leading the group. Read the original post on Inside Higher Education.



Making the Most of Summer: Developing Skills Employers Want

MAY 9, 2019 11:45 AM | 781 VIEWS

As you move into your first summer as a graduate student at Illinois, now is a perfect milestone to take time to reflect on your progress as a student and scholar.

Multiple Delivery Channels

- Offerings adaptable to different schedules and needs
- Included in messages from recruitment through graduation





GradCareers: Answering Interview Qu...

The thought of answering interview questions is often a source of great anxiety for job seekers. Having a successful interview experience is predicated on your ability...

From Charlotte Bauer on 12/3/2018

GradCareers: "Tell Me About Yourself"

"Tell me about yourself." This is likely to be the first question you hear at a networking event or interview. And while it's your first and most ...

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Department-level



Next Steps

- Career Outcomes & Alumni Tracking
- Culture
- Curricular Alignment





PhD Plus: Enhancing PhD Student Experience Phil Trella

December 9, 2019



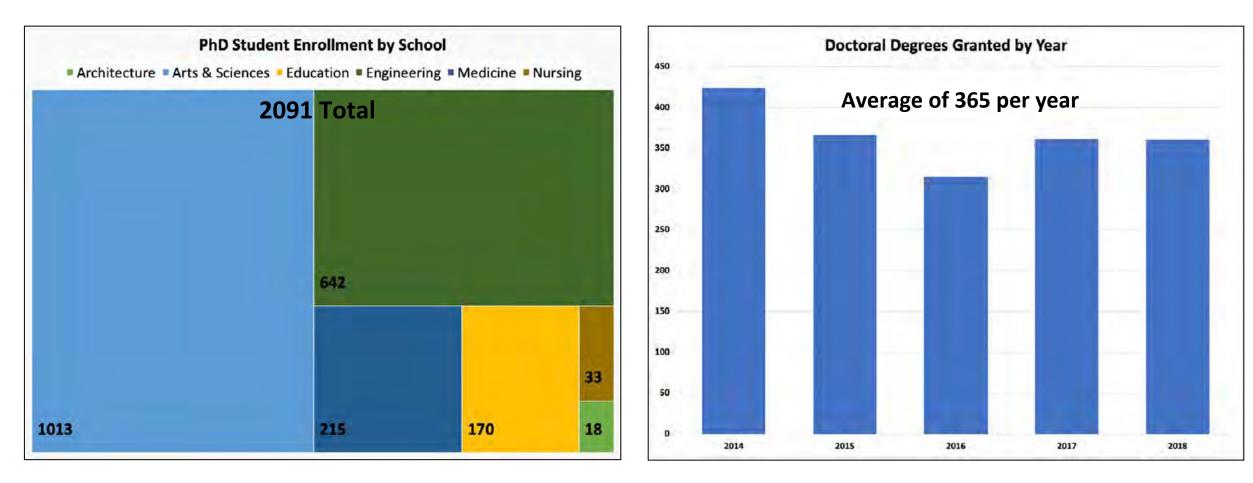


Learning Outcome

How to create strategic partnerships across the university and beyond to build an ecosystem in support of diverse careers



UVA PhD Student Data Overview





UVA PhD Employment Outcomes

Examination of UVA PhD Graduates from 2008-2009 indicates that while Research Universities are the most prevalent employer for PhD alums, more than 50% of UVA PhDs engage in long-term employment outside of traditional academic roles.

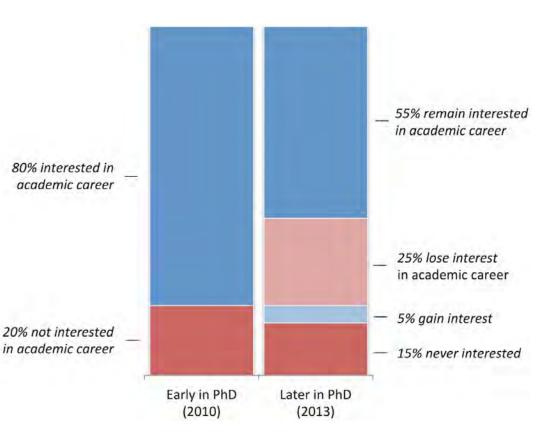
These data are consistent with current national studies conducted at other research universities.

Employment Sector	Number	Percent
Research University	79	33
Master's / Regional University	23	9
Liberal Arts College	17	7
Community or Two-year College	2	1
College or University System	1	Less than 1%
Preschool, Elementary, Middle, Secondary School or System	16	7
US Federal Government (Including Military)	13	5
US State or Local Government	4	2
Non-US Government	2	1
Not-For-Profit Organization or NGO	19	8
Business/For-Profit Company	67	28
Total	243	



PhD Student Career Interests Change Over Time

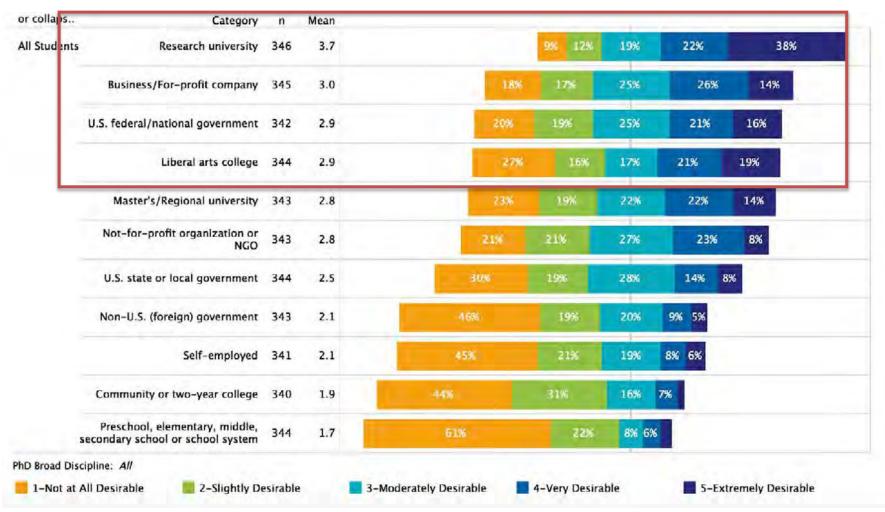
- Asking STEM students over the course of their PhD about their career preferences tells us that many students lose interest in an academic career the closer they get to graduation.
- Those who lose interest in an academic career are no more or less fearful of the academic job market, but they may not enjoy research as much



Roach M, Sauermann H (2017) The declining interest in an academic career. PLOS ONE 12(9): e0184130. https://doi.org/10.1371/journal.pone.0184130



UVA PhD Student Desired Employment Sectors



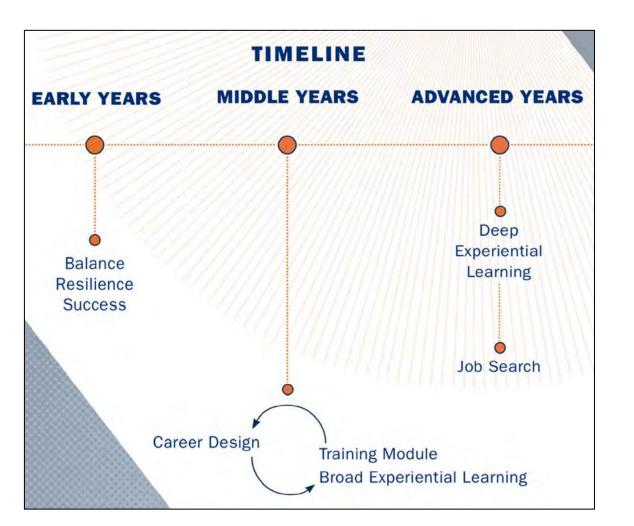


UVA PhD Alums Job Preparation by Broad Sector

PhD Alums in Academic Roles by Graduation Year PhD Alums in **Non-Academic Roles** by Graduation Year How well did your PhD from UVA prepare you for your How well did your PhD from UVA prepare you for your current job? current job? expand (+) expand (+) or collapse.. Cohort n or collapse.. Cohort n 2001-.. 64 45% 42% 57% 2001-.. 21 24% 14% All Respond All Respond 2008-.. 80 36% 51% 23% 49% 26% 2008-.. 35 ents ents 19% 39% 37% 2013-.. 104 25% 17% 38% 2013-.. 60 Broad Discipline: All | Current Job Sector: Academic Broad Discipline: All | Current Job Sector: Non-academic Poorly Very well Extremely w.. Fairly well Well Very well Poorly Fairly well Well Extremely w..



PhD Plus: Program Design



Early Years: Balance, Resilience, Success

- First-Year Foundation Series, Example Topics
 - Leveraging Strengths
 - Effective Communication
- Career Design for 2nd Year Students

Middle Years: Tiered Training Modules for Careers

- Example Modules
 - Science Policy Initiative
 - Graduate Consulting Club
- Tier One: Career Exploration
- Tier Two: Skills Acquisition

Advanced Years

• Tier Three Experiential Learning Opportunities



PhD Plus Launch Event: *Shaping the Future of Graduate Education*. January 17, 2019







PhD Plus Project Partners

- The University Career Center
- The Center for Teaching Excellence
- The Batten Institute for Entrepreneurship and Innovation
- The Scholars' Lab
- The Science Policy Initiative
- The UVA Library Research Data Services & Sciences
- Contemplative Sciences Center at UVA
- Office of Undergraduate Research
- Center for Survey Research

- The UVA Licensing and Ventures Group
- Weldon Cooper Center for Public Service
- Graduate Consulting Club
- The C'ville Biohub
- Data Science and Analytics Club
- Office of Vice Provost for Academic Outreach
- School of Data Science
- Environmental Resilience Institute



PHD + CORE MODULES

PhD + Core Modules are dynamic extra-curricular training experiences designed to provide students with an enhanced suite of skills and competencies necessary for success across all careers paths. Additional modules will be added as the program develops, so please check back soon.



Foundations Series



Career Design



Communicating Research



Community Impact



Consulting



Data Literacy



Digital Humanities: Praxis Program



Entrepreneurship & Commercialization



Future Faculty



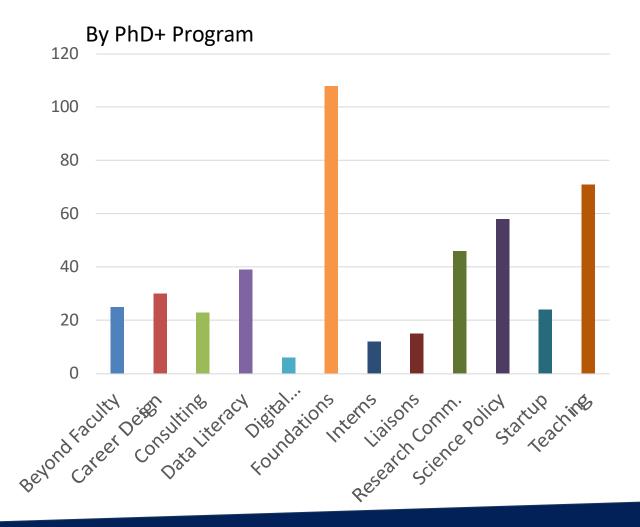
Science Policy



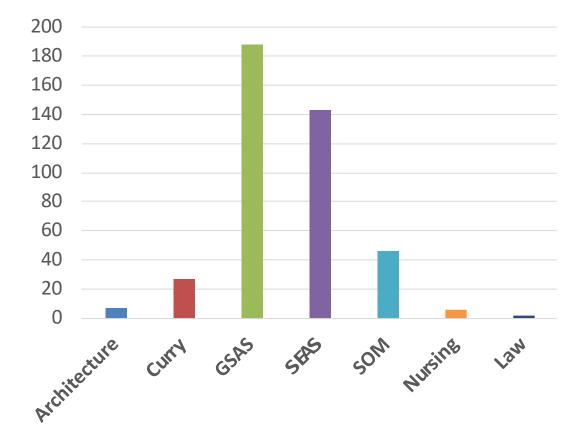
Teaching



PhD Plus: Participation is at about 20% of overall Enrollment



By School of Enrollment







Redesigning the Doctorate to Increase Career Opportunities: Two Programs

> *Elizabeth A. Dolan Deputy Provost for Graduate Education*

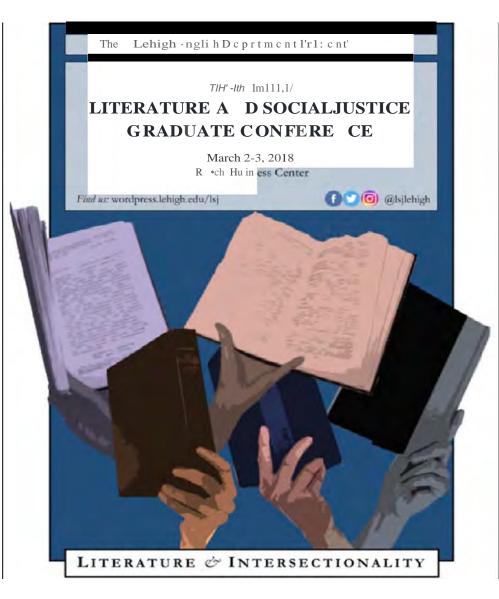
Learning Outcome

To identify common elements in the processes two faculty groups used to redesign doctoral education in their fields.

Both began with the goal of increasing and broadening career opportunities for students.

English





PASTEUR PHD PARTNERS FELLOWSHIP

Blazing a New Trail in STEM PhD

Pasteur PhD Partners Fellowship

Blaz ing a New Trail for STEM PhDs



With <u>.s.,vpport from the National Science Foundation</u>, Lehigh University 's inno vative Pasteur PhD Partners (P₃) Fellowship provides fresh thinking and a new approach to the ecosystem of support and resources around t alented young minds pursuing doct oral degrees in science, technology, engineering, and math {STEM},

Named after LouisPasteur- a researcher driven to solve urgent cha'llenges in the here and now - the P_3 Fellowship provides four years of financial support for qualified prospective docto ral cand idates.



342

CAS

College of Education 466 1775 Graduate Students

College of Business 257

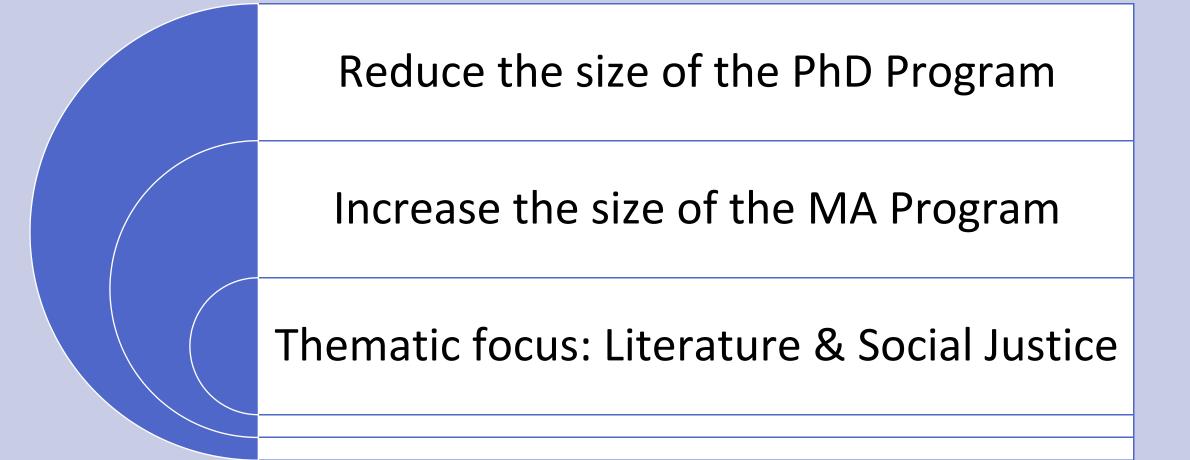
College of Engineering 672



Lehigh English Doctoral Program: Literature & Social Justice

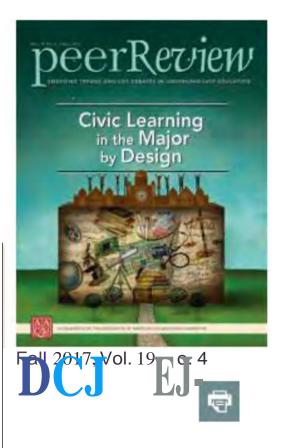
Department innovations led by Jenna Lay, Job Placement Officer (2013-15), Director of Graduate Studies (2015-19)

Three Initial Decisions





Home > P rre- ew > 2017 > CMc Leam ing in the Major by De-s n



Li erat re and Socia Justice

By: Set Moglen, Dawn Keetley and ,Kae Crassons

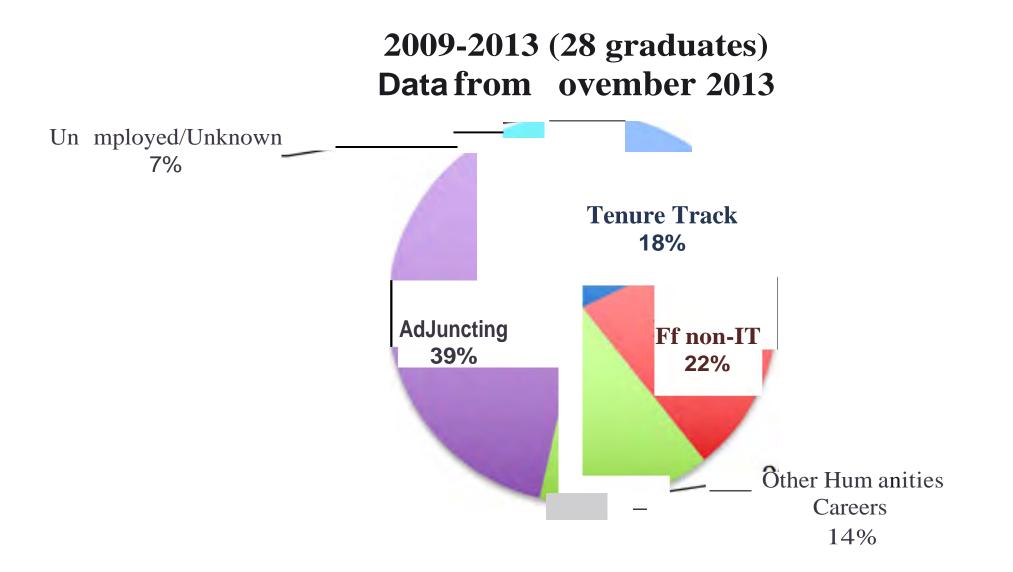
Almo st a decade ago, t e Lehigh University E g I ish Departmen made a commit ment to Ut e a urea d social justi ce (LSJ) as the ce ntral intell ec ual emphasis of our departmen . Through his focus, we expl ore how literary ex s make distinctive contribu- ons to urgent eth ical, social, and po liti cal questio s t at cros.s discipli nar y and historical bou nda ries. This commitmen has influenced all our facu Ity hires over the last eig t yea s, it has systemati cally resh,aped our gradua e program, and in a range of ways it .is now influencing our undergrad uat e major. Our depa men has wen y-two enured

or enure- rack facul y, thirt y..fourr g radu at e stude ts, and oughly forty- ve E g ish majors. We are also esponsi bl e for ad minis ering a d s affing the two semest er wrri tfng program required forr i n com ing Lehigh students.

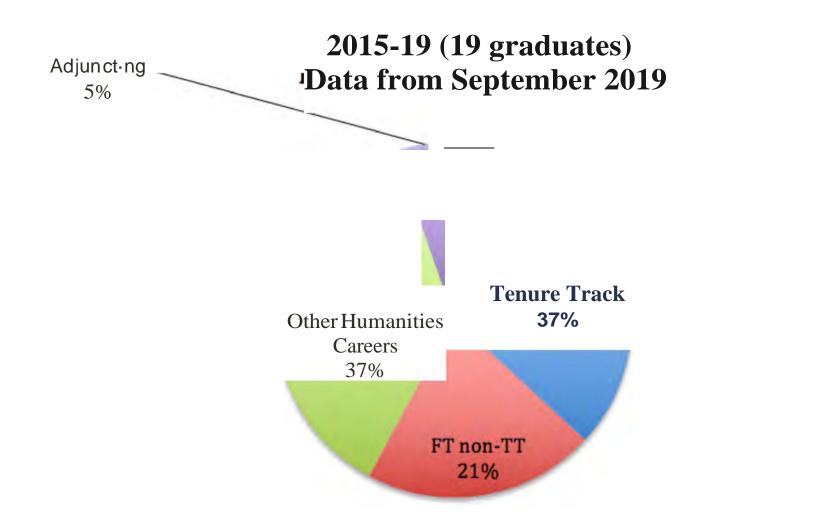


Previous Issues

Lehigh English Ph.D. Career Tracking, 2013

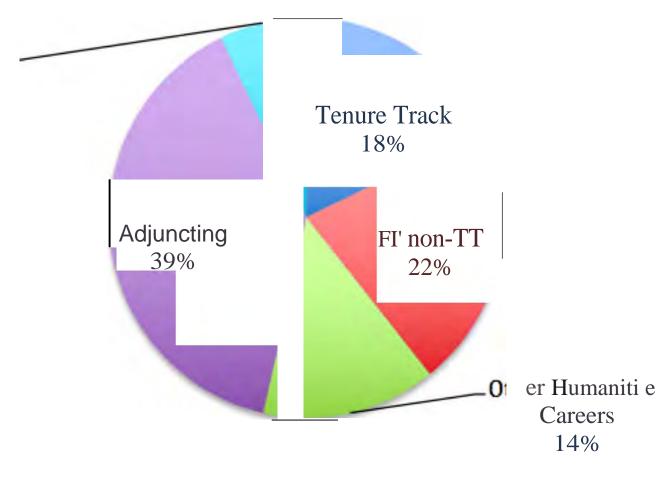


Lehigh English Ph.D. Career Tracking, 2019

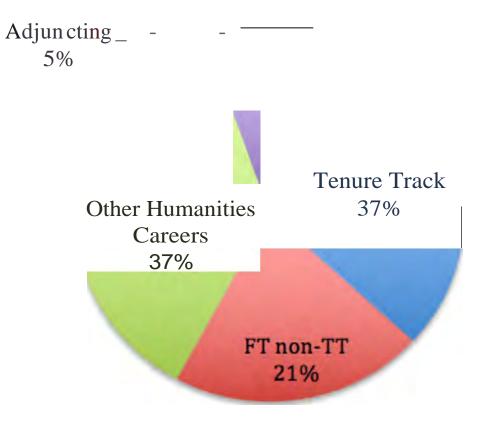


Five-Year Doctoral Placement Comparison

2009-2013 (28 gradua tes) Data from ovember 2013



2015-19 (19 graduates) Data from September 2019



How did we do it?

Identify the Challenge

• Students are not getting the jobs for which we are training them.

Involve Stakeholders and Allies

• Alumni; current students; career and professional development offices; Ph.D.s working in other offices on campus.

Gather Data and Narratives

• National data and trends from MLA, AAUP, CGS, etc.; career narratives from students and alumni.

Recognize Fears and Anxieties

• Offer opportunities for faculty and students to express trepidation about potential pitfalls or unintended consequences before trying to implement specific changes.

Articulate Shared Values

 What do we hold in common when it comes to graduate education? What does earning a Ph.D. at Lehigh allow students to learn? To do? How can we build on those shared values?

Identify a Positive (Aspirational) Outcome

• Our students will find meaningful, fulfilling careers after their graduate program

What changes did we make?

Culture

Curriculum & Structure

- 1) Job Placement Officer
- 2) Alumni Career Tracking
- 3) Alumni Engagement
- 4) Reading Groups on Humanities Jobs
- 5) Workshops on Career and Professional Development
- 6) Recognition and Celebration
- 7) Mentoring

 Visiting Assistant Professorships
Certificate in Composition & Rhetoric (integrative rather than additive)
Annual Review Process

NEH Next Gen Hums Grant (2016) (in collaboration with History Dept)

- Introduction to Graduate Studies
- 2) Public Humanities Course
- 3) Revised Dissertation Guidelines
- 4) Co-Curricular Funding Opportunities



EM

Funded by an NSF— Innovations in Graduate Education Grant

Principal Investigator Himanshu Jain, Professor of Materials Science and Engineering *Co Principal Investigators* Anand Jagota, Professor of Bioengineering Volkmar Dierolf, Distinguished Professor of Physics H. Lynn Columba, Associate Professor of Instructional Tech and Teacher Ed Daniel J Vaughn, Corning Glass and Incubator Works

Motivating Factors

75% of Engineering PhDs from Lehigh go into industry

Industry research leaders report that graduating PhDs don't understand industrial context

Students from underrepresented groups in STEM are more likely to enter industry directly, rather than pursue graduate education

Students are more likely to pursue doctorates if they see a clear career path

Survey of Lehigh Engineering PhDs in Industry

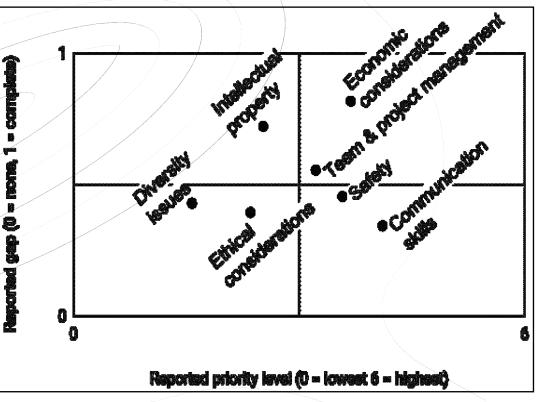
Survey of 85 PhDs from 1999-2017

Particularly strong need

- **Team & project management:** includes interpersonal relations, conflict resolution
- Economic considerations in R&Ddecisions: includes financial analysis; understanding the global marketplace

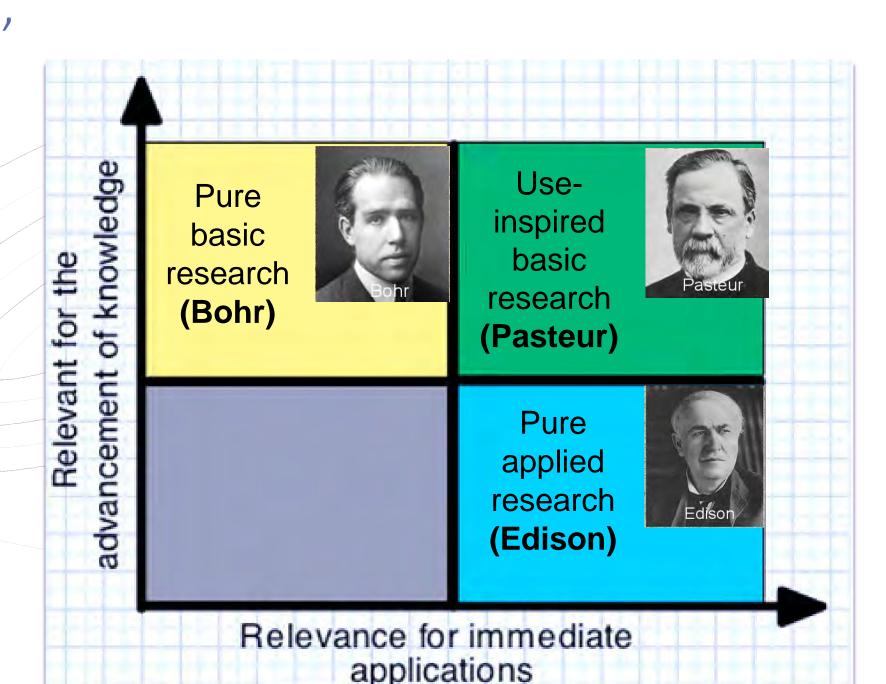
Strong need

- Communication skills
- Safety
- Intellectual property constraints



Scatterplot of gap vs. level of priority for selected topics in Lehigh STEM doctoral curriculum.

Donald Stokes' description of the nature of research (1997)**Use-inspired basic** research requires university/industry collaboration.



Two models of STEM Doctoral Education

Traditional—

Curiosity-Driven Research

Doctoral Student enters PI's lab with funded research underway.

The Pl's curiosity drives the research.

Pasteur PhD-Use-Inspired Research

Doctoral Student creates a research project inspired by collaboration with industry.

Partnership between student, industry, and doctoral advisor drives the research.

Use-Inspired Doctoral Programs

In the United States

- A few industry and discipline specific PhDs (generally engineering and business collaborations).
- Two that provide research experiences in industry settings—University of Michigan (auto industry), Texas A & M (petroleum engineering)

In Europe

- EPSRC-Funded Centers in UK (Industrial Doctorate)
- CNRS-University partnerships in France
- Doktoringenieur (Dr.-Ing.) German doctorate is use-inspired and industry driven doctorate, greatly facilitated by Institutes of Fraunhofer-Gesellschaft

Workshop on the Role of Industry-University Partnerships in Graduate Education

Goal

To discuss the current model of graduate education, including gaps between training and placement in industry.

Participants

- Leaders (CEO/CTO) of key industries (manufacturing, chemical, IT, healthcare).
- Representatives of international funding agencies, where Pasteur-like programs have succeeded and served industry's needs well.

• Thought leaders in graduate education. YOU!

March 19-20, 2020

Washington DC

https://wordpress.lehigh.edu/inphd/

Key Elements of the Pasteur PhD Partners Program



4-5 years fully funded

Pre-program summer internship

222

Co-advisors—Lehigh professor and industry researcher



Modular professional development courses



Industry residency (as in medical school)

Funding



Industry Partners contribute \$50,000 per year for four years for each student (tuition + stipend)



Lehigh University reduces tuition rate 50%

Modular Courses Team and Project-Based Learning Intellectual Property Constraints Economic Considerations and the Global Marketplace Ethical Considerations Diversity and Cultural Competence Creativity and Innovation Techniques

**1-2 credit hours each, students take 6 credit hours total, Available to ALL science and engineering students at Lehigh

Assessment

- How successful are the elements of the program in closing gaps identified by survey of graduates going into industry?
- Does the program recruit a higher number of underrepresented students than a traditional doctorate?
- Do Pasteur PhD Fellows conceptualize, design or execute research differently than students in traditional doctoral programs?
- What impact does the program have on new or existing partnerships between Lehigh and industry?

Similarities in Process

Identified a gap between field-specific doctoral training and job opportunities

Made decisions based on evidence

Established collaborative relationships

Sought external funding at key moments

Committed to continuous assessment

Discussion Question

Who are the key stakeholders on your campus with respect to the promotion of career diversity across graduate education?

Discussion Question

Does the Graduate College have a role and/or responsibility to assess the degree to which curriculum aligns with changes in career outcomes?

Discussion Question

What is your campus doing to collect and disseminate information about graduate alumni career outcomes?