



Annual Report 2019-2020



VANDERBILT®
SCHOOL OF MEDICINE

Biomedical Research Education and Training Office of Career Development

Table of Contents

Career Exploration and Decision-Making

Page 8
Appendix 1-3

Annual Career Symposium
PhD Career Stories
ASPIRE Internships
Beyond the Lab Videos and Podcasts
Individual Advising
Online Resources and E-Newsletter
Career Development Lending Library

ASPIRE Modules
ASPIRE Cafe for Postdoctoral Fellows
Professional Headshot Days
CV/Resume Drop-in Clinic
Lab to Lunch

Trainee Professional Development

Page 14
Appendix 4-10

National Career Development Research and Best Practices

Page 18
Appendix 11-15

National Leadership
Invited Talks & Presentations
Publications
Awards

Alumni Programmatic Participation
Results & Discussion Newsletter
Alumni Outcome Database

Alumni Relations, Outcomes, and Development

Page 22

Employer Relations and Workforce Development

Page 26
Appendix 17-20

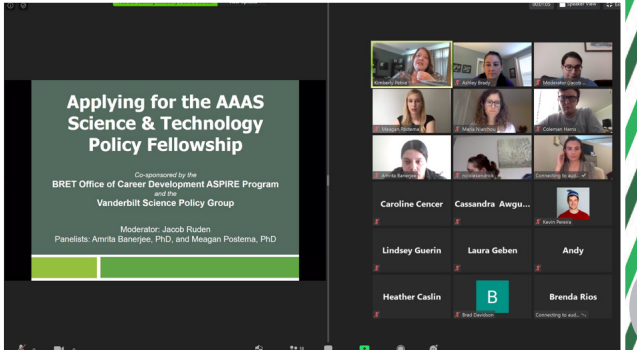
Employer Information Sessions
Internship & Externship Partnerships
Mock Interview Day

Invited Campus Talks
New Faculty Orientations
Lunches with Postdoc Faculty Mentors
IMPACT Presentations

Campus Partnerships and Faculty Outreach

Page 30
Appendix 21-22

Quick Glance





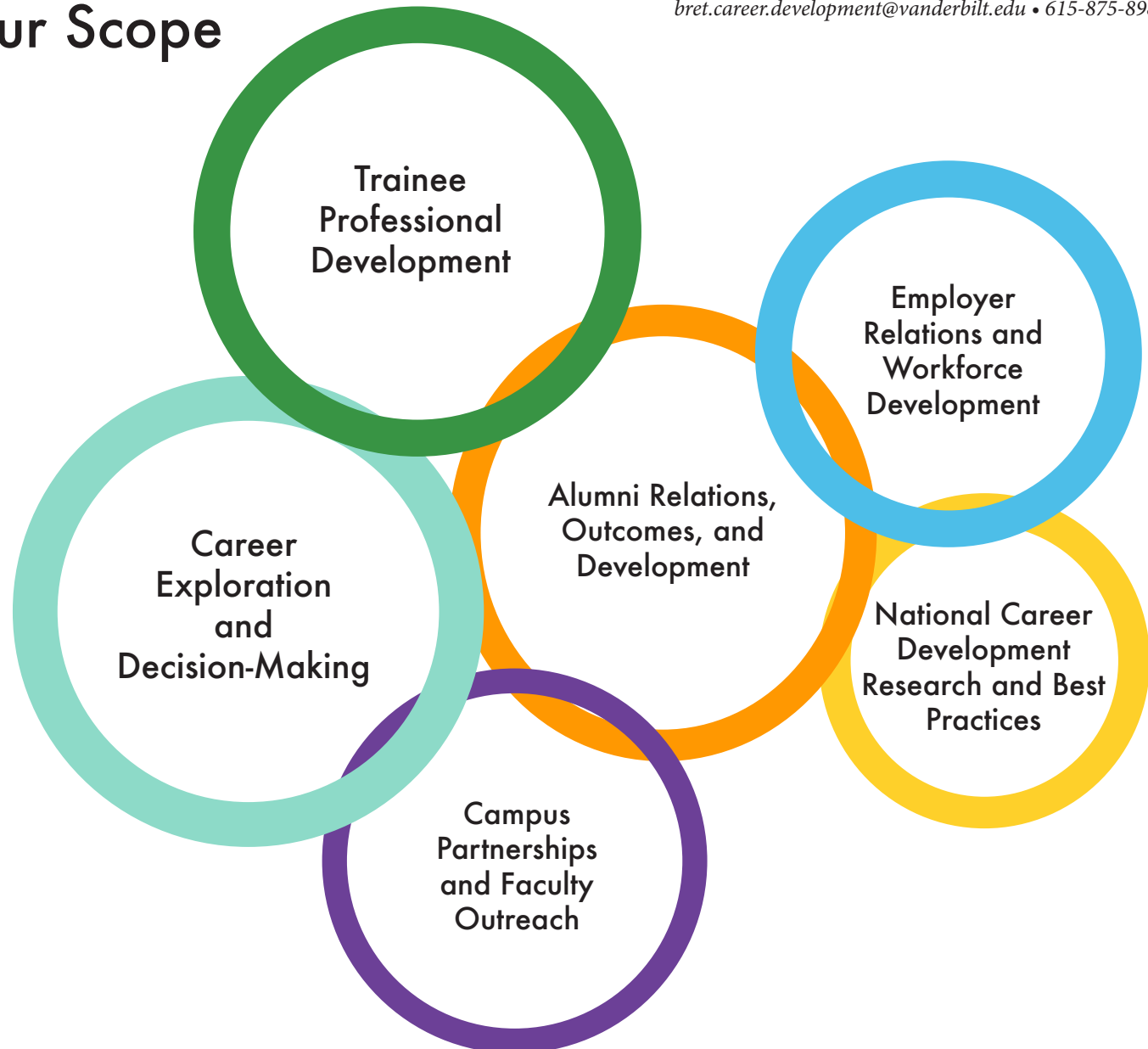
Our Summary

Established in 2005, the Biomedical Research Education and Training (BRET) Office of Career Development provides career and professional development enrichment activities for Vanderbilt University School of Medicine and Vanderbilt University Medical Center graduate students and postdoctoral fellows. The office was recognized in 2013 for its commitment to career development for biomedical sciences PhD students and postdocs through a BEST award, a \$1.2 million, 5-year grant from the NIH Common Fund.

Dr. Kathy Gould oversees the Office of Career Development ASPIRE Program, Dr. Kim Petrie is Assistant Dean of Biomedical Career Development, Dr. Ashley Brady is Assistant Dean of Biomedical Career Engagement and Strategic Partnerships, Kate Stuart is Assistant Director focusing on communications and special initiatives, and Angela Zito is Program Manager of professional development opportunities. Dr. Roger Chalkley oversees evaluation efforts and research training, including diversity initiatives, and spearheaded the BEST Consortium. Dr. Abigail Brown conducts outcomes evaluation and research with the project efforts of Dr. Janani Varadarajan and Lindsay Meyers.

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Our Scope



Trainees We Serve

The ASPIRE Program serves PhD students and postdoctoral fellows in the biomedical sciences. Although our events are open to the Vanderbilt community, ASPIRE activities and individual advising are tailored for BRET PhD graduate students and postdocs.

639
Graduate
Students

86%
US Citizens/
Permanent Residents

1,078
Total

439
Postdoctoral
Fellows

51%
US Citizens/
Permanent Residents

POSTDOCTORAL DEPARTMENTS SERVED

- Allergy, Pulmonary, and Critical Care
- Anesthesiology
- Biochemistry
- Biomedical Informatics
- Biostatistics
- Cardiac and Thoracic Surgery
- Cardiovascular Medicine
- Cell and Developmental Biology
- Clinical Pharmacology
- Dermatology
- Diabetes, Endocrinology, and Metabolism
- Endocrinology and Diabetes
- Epidemiology
- Gastroenterology
- General Internal Medicine
- Genetic Medicine
- Geriatrics
- Health Policy
- Hearing and Speech Sciences
- Hematology/Oncology
- Infectious Disease
- Kennedy Center
- Molecular Physiology and Biophysics
- Nephrology
- Neurology
- Obstetrics & Gynecology
- Ophthalmology & Visual Sciences
- Orthopaedic Surgery and Rehabilitation
- Otolaryngology
- Pathology, Microbiology, and Immunology
- Pediatric Cardiology, Endocrinology, Gastroenterology, Infectious Disease, and Nephrology
- Pharmacology
- Psychiatry
- Radiology & Radiological Sciences
- Reproductive & Development Biology
- Rheumatology & Immunology
- Section of Surgical Sciences

PHD PROGRAMS SERVED

- Biochemistry
- Biological Sciences
- Biomedical Informatics
- Biostatistics
- Cancer Biology
- Cell & Developmental Biology
- Chemical & Physical Biology
- Epidemiology
- Hearing & Speech Sciences
- Human Genetics
- Interdisciplinary Graduate Program (IGP)
- Microbe-Host Interactions
- Molecular Pathology & Immunology
- Molecular Physiology & Biophysics
- Neuroscience
- Pharmacology
- Quantitative & Chemical Biology Program (QCB)

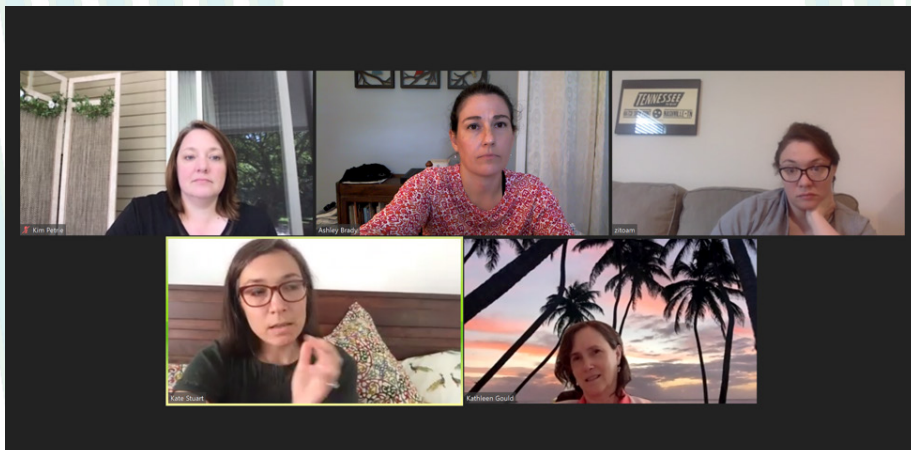
Zooming Through the End of the Year

By Ashley Brady, PhD,
Assistant Dean of
Biomedical Career
Engagement and
Strategic Partnerships

Like many organizations across the country, Vanderbilt University instituted rapid and unprecedented measures this spring for faculty, staff and trainees to limit the spread of COVID-19 across campus and our Nashville community. Starting March 16, our team began working from home and trying to find a new normal in a decidedly not-normal world. The week leading up to the work-from-home order was a frantic series of cancellations, postponements, and moving meetings to phone calls. We had to modify or cancel a number of activities that we had been planning for months, or even a year out, since so much of our ASPIRE programming revolves around in-person meetings, seminars, workshops, and face-to-face networking.

Pivoting to a new mode of service delivery

We slipped in our last in-person event on Monday, March 9-- our first ever Mock Interview Day, which involved hosting 20 alumni and 9 Vanderbilt faculty on campus to interview 24 graduate student and postdoctoral participants. While this event felt nearly normal, elbow bumps were substituted for traditional handshakes in an effort to observe safety precautions. Little did we realize just how much more our world was about to change by the end of that week.



The ASPIRE Team Annual Summer Retreat held via Zoom, June 2020.

As a bold statement of our resilience, we and our trainees quickly acclimated ourselves to a virtual existence and embraced Zoom. We built a new webpage devoted to highlighting what was happening with all of our current and ongoing programming so that trainees could easily determine what was canceled, postponed, or continuing on in a virtual format. We developed an online request form for trainees to sign up if they wanted to use this time to focus on their professional development goals

through individual one-on-one advising and review of their professional documents. As a team, we fielded 45 individual advising appointments via Zoom or email between March 16 and the end of June.

We helped trainees who were in the midst of their job search navigate the new challenges of doing this virtually during a time when many companies were focusing on things other than hiring. We were seeing a slowing economy and a lot of uncertainty in the job market, including hiring freezes in some sectors, especially in academia. Trainees who were invited to interview had to quickly shift to a virtual format which requires different preparation and we adapted to support them.

In the midst of the unprecedented events, we wanted to make sure that the students and postdocs knew we were here to support them while they were adjusting to the significant changes in their lives.

Programming changes

We were in the midst of wrapping up our second iteration of the ASPIRE Module, Data Science Essentials, which culminates in a series of site visits with local data science companies. Our plan for the coming month had been to meet with data scientists at DeCode Health, XSOLIS, and Nashville General Hospital, and to welcome alumnus, Tim Shaver, PhD., back to campus to hear about his work at Inscripta, Inc. in Boulder, Colorado. We quickly canceled these events, not envisioning how we might replicate a site visit virtually on such short notice. The ASPIRE Module, Business and Management Principles for Scientists, led by Joe Rando, MBA, continued seamlessly through the spring, converting to a remote format nearly overnight for both didactic lectures and then small group project work. The

module wrapped up on time and culminated in outstanding virtual group presentations complete with a judge's panel.

Sadly, we had to cancel our ASPIRE on the Road trip and alumni happy hour in Boston which was scheduled for the last week of April. We had 12 graduate students and postdocs all set to visit 5 biopharma companies in Cambridge. The plans had been in the works for over 6 months.

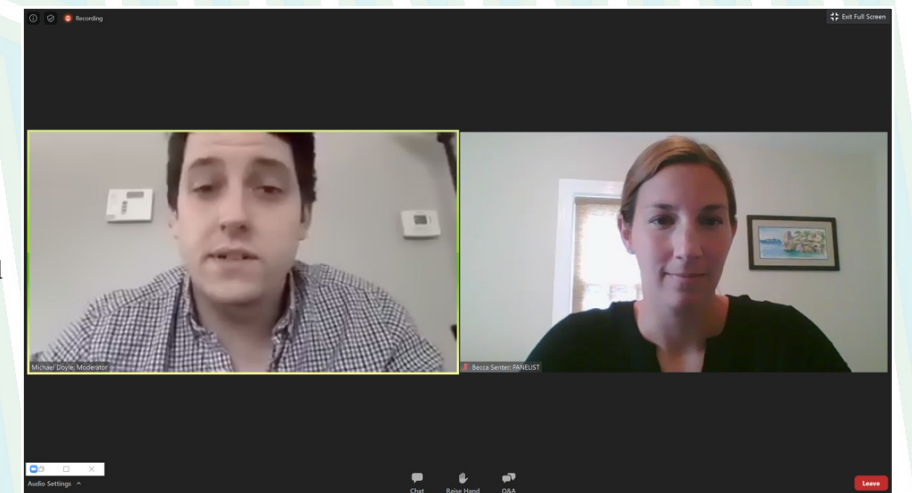
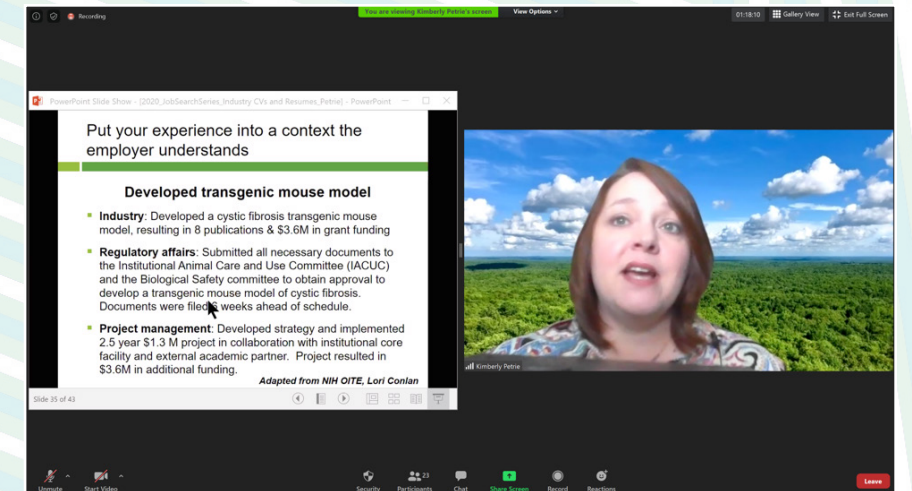
We also quickly adapted our regularly scheduled career development series sessions from the ASPIRE Bistro, ASPIRE Café for Postdoctoral Fellows and the ASPIRE Job Search Series to a virtual format and found attendance on par with what we have seen for in-person sessions in the past.

The Annual Career Symposium, scheduled for May 29th, was efficiently converted to a remote format and was a huge success with over 250 attendees tuning in to the Zoom webinar to hear from 9 different invited speakers. This year's event focused on *Exploring Careers in Industry* and attendees heard about effective job searching from our keynote speaker, Lauren Celano, MBA, from Propel Careers and then from two separate afternoon panels of four speakers representing various roles in the biotech and pharmaceutical industry from research & development to clinical research management, intellectual property and regulatory affairs.

All of these changes gave us an exciting opportunity to reinvent the way we deliver support to our trainees, to learn new technologies, to create new content to address current concerns, and to reimagine the ways in which we do our work.

Zooming ahead

The ASPIRE team will continue to work remotely from home for the foreseeable future and is committed to continuing to serve all of our PhD graduate student and postdoctoral fellows with the same level of quality and attention as we always have. As we plan for the next year, we intend to offer all of our programming virtually. With broad support from all of our campus and community partners and alumni, we are adjusting our ASPIRE Module syllabi and the delivery of our seminars and workshops, planning a full calendar of PhD Career Stories seminars from guest speakers visiting us virtually, and exploring all the new ways we can meet the needs of our trainees.



Top, Kim Petrie, PhD, conducts a Job Search Series seminar via Zoom. Above, graduate student Michael Doyle introduces annual career symposium panelist Becca Senter, PhD.

Career Exploration and Decision-Making

- Practice Area**
- Prosecution—getting a patent from the USPTO
 - Client Counseling
 - Opinion work (e.g., Freedom to Operate, Patentability, Infringement)
 - Licensing
 - Whatever the client needs
 - Litigation
 - PTAB—post-grant proceedings at the USPTO
 - District Court—trial
 - Federal Circuit—appeal



Drs. Seth Ogden and Mark Kilgore speak at the PhD Career Stories seminar about careers in patent law.

Career Exploration and Decision-Making

Providing opportunities to explore careers is paramount to the ASPIRE Program. Many of the foundational activities of the office are aimed at instilling confidence and facilitating career decision-making among graduate students and postdoctoral fellows.

672

Attendees at Career Exploration Programs

267

Individual Advising Appointments
165 PhD Students • 83 Postdocs • 19 Alumni

359

Blog Posts

1,900

E-Newsletter Subscribers

87

Beyond the Lab Videos

48,708

Beyond the Lab Video Views

67

Beyond the Lab Podcast Episodes

18,030

Beyond the Lab Podcast Downloads

479

Followers of @VUbretASPIRE

586

Followers of @VUBRETPhDJobs



Pre-doc Exit Survey Feedback

"The ASPIRE Program is fantastic. It provides a more in depth view of possible careers in biomedical science, especially outside of academia. I figured out what I wanted to do next by going to the PhD Career Stories seminars."

"The ASPIRE Program was very useful in guiding me toward my current career goal. I took advantage of both the ASPIRE on the Road program and the Biomedical Research and the Media communication module, and these experiences helped me to see that I really enjoyed writing/communication/project management."

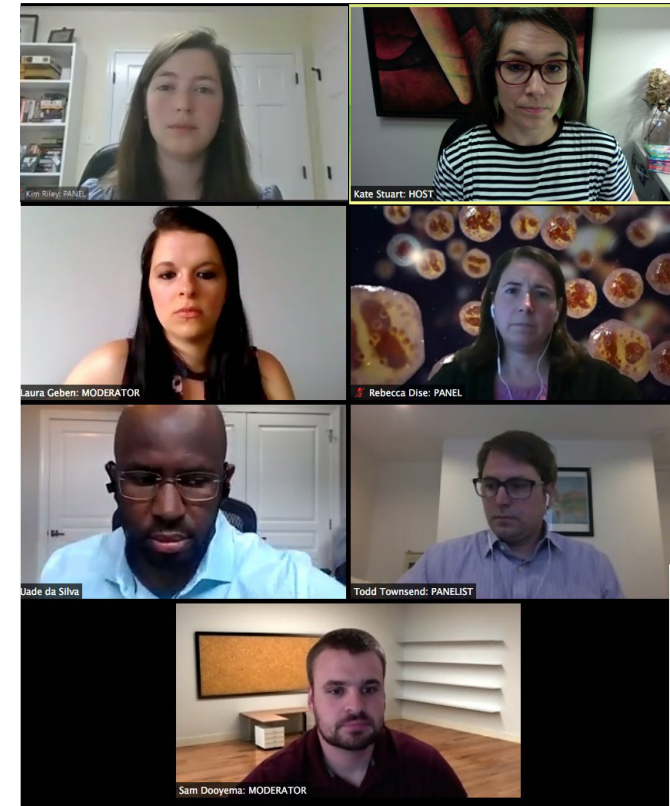
"ASPIRE provided a great framework for me to explore my career interests early in graduate school. I did not have a clear career goal when I began graduate school but hearing the first-hand experiences of people in diverse careers helped clarify my interests."

"The ASPIRE Program has been highly valuable in my career exploration. The workshops and symposia have allowed me to meet and talk to people in various career paths and has exposed me to career options that I never would have known about without this program."

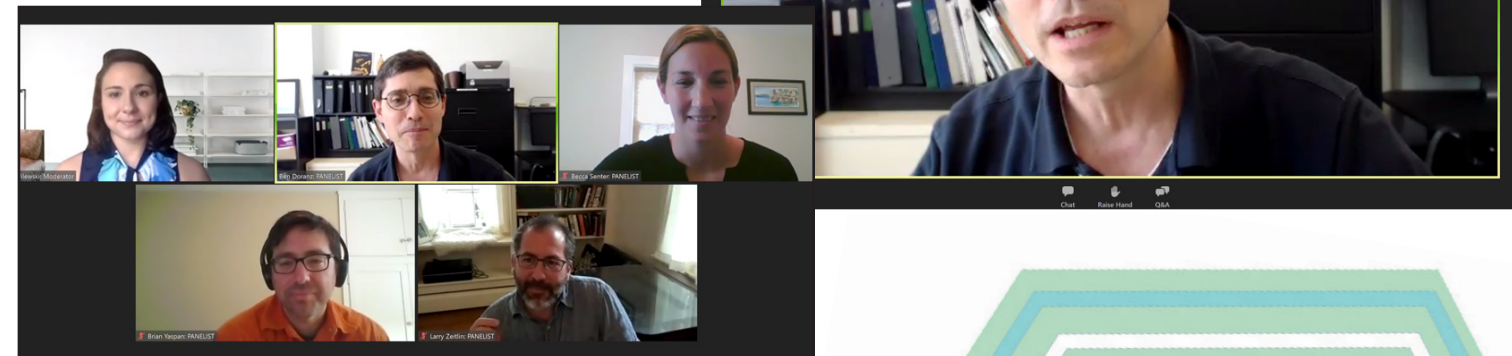
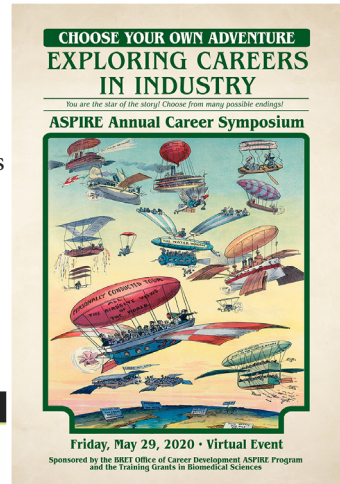
"Leaders of the ASPIRE program provided a number of opportunities, which I attended, that were very helpful for me figuring out and navigating what career choices I plan on pursuing following graduate school."

Annual Career Symposium Goes Virtual

Choose Your Own Adventure: Exploring Careers in Industry



The Annual Career Symposium is our flagship event that was first held in 1998. With the help of the graduate student and postdoctoral fellow-led organizing committee, the ASPIRE team quickly pivoted during the coronavirus stay-at-home order to make the Annual Career Symposium a successful virtual experience. This year's event, themed "Choose Your Own Adventure: Exploring Careers in Industry," continued as planned on May 29th with a few changes from the original schedule, and showcased nine speakers excited to tell their stories and share their advice about careers in the biotech and pharmaceutical industry. The virtual event was well-attended and received strong, positive feedback despite the format change.



Above, Panel 1 discussed their roles at the bench in various pharmaceutical and biotech companies with graduate student Kelsey Pilewski moderating. Top, Panel 2 focused on industry careers in regulatory, intellectual property, clinical development, medical affairs, and more, moderated by graduate students Laura Geben and Sam Dooyema. Right, Dr. Ben Doranz spends time discussing his daily activities in his role.

Annual Career Symposium

- 253 Zoom Webinar Attendees
- 9 Speakers
- 72 Average active online minutes for each 90 minute session



Trainee Professional Development

Kim Petrie, PhD, Kate Stuart, Ashley Brady, PhD, and Angela Zito present the new branding for four of the regularly scheduled seminars of 2019-2020.

Trainee Professional Development

Skill-building, networking, negotiation, and managing a professional image are important aspects of a trainee's professional development. Our workshops, seminars, modules, and informal cafés help equip trainees for the next step in their career path.



Lab to Lunch provides an opportunity to learn business and dining etiquette.



Above, and below, the Business Module Retreat speaker Elizabeth Ann Stringer, PhD, discusses her role at startups. Left, International Student and Scholar Services visits the EQ + IQ=Career Success Module. Bottom, Mock Interview Day paired employers with trainees.



1,269 Attendees at Professional Development Programs

123 Participants in 9 Different Modules

143 Professional Photos Captured at 4 Headshot Days

90 CV/Resume Drop-in Clinic In-Person Visits

372 Attendees at ASPIRE Job Search Series

245 Attendees at ASPIRE Bistro for Graduate Students

294 Attendees at ASPIRE Cafe for Postdoctoral Fellows



Pre-doc Exit Survey Feedback

"ASPIRE has been instrumental in improving my soft skills, such as resume/CV writing, interviewing, LinkedIn use, etc. They have also really helped me to explore many different types of careers that I never would have known about. Furthermore they gave me confidence and techniques for building a network. I cannot recommend the ASPIRE Program enough."

"I have continuously used this program. They have provided amazing resources! It has prepared me for how and where to network, what job types exist, CV and resume building, connections to others outside of academia to start my career search. So grateful for what they do!"

"The ASPIRE Program helped me narrow my career path by providing opportunities to explore many different types of careers. The ASPIRE program was also crucial in helping me expand my professional network. I also benefited from the ASPIRE workshops and modules which helped me acquire many valuable professional skills."

"[The ASPIRE Program] helped me develop professional skills and got me thinking about career development early, which means that I now have a well-rounded skillset."

"I always knew I wanted to do a postdoctoral fellowship after graduate school. The ASPIRE Program helped me stay on track in terms of when I should start applying for postdoc opportunities and what I needed to do prior to that."

ASPIRE Introduces Two New Professional Development Series

By Ashley Brady, PhD, Assistant Dean of Biomedical Career Engagement and Strategic Partnerships



When the ASPIRE Program was rolled out in the fall of 2014, one of the first programs we developed was the *ASPIRE Café for Postdoctoral Fellows*, a twice-monthly seminar series exploring topics in career development and professionalism, exclusively targeted to postdoctoral fellows. In this series, we featured topics such as *Converting your CV Into a Powerful Résumé*, *Writing a Winning Cover Letter*, *Informational Interviewing*, *Grant Resources at Vanderbilt*, *Preparing for a Teaching Demo*, and *What to Expect in a Faculty Interview or Chalk Talk*.

Since its inception, we have seen great success with this series, welcoming between 300-400 postdoctoral fellows to about 20 sessions each year and engaging faculty and campus partners to deliver sessions on topics in which their expertise and experience is invaluable. Postdoctoral fellows weren't the only ones who saw the value in this series, and we often received requests from student organizations and graduate programs to deliver similar content to graduate student groups.



As a result of this interest and our commitment to providing valuable and timely information to trainees, the ASPIRE team decided to reimagine the way we organize and deliver this important content. In the fall of 2019, we launched two new series that complement the *ASPIRE Café for Postdoctoral Fellows*: the *ASPIRE Bistro for PhD Students* and the *ASPIRE Job Search Series*.

The *ASPIRE Bistro for PhD Students* was developed as a sister program to the *ASPIRE Café for Postdoctoral Fellows*, but with topics tailored specifically to our graduate student trainees' needs. These sessions are delivered primarily by members of the ASPIRE team and include such topics as *The Next Step: Applying for Your Postdoc or Your Post-Grad Job*, *Maximizing Your Research Efforts*, *How to Review A Paper*, and *Applying for Fellowships and NRSAs*. In its first year, this series welcomed nearly 250 graduate students to eight sessions, including two that switched to virtual format this spring. And, we have received generous positive feedback from participants on the value of the sessions.



The *ASPIRE Job Search Series* was born out of the recognition that a number of professionalism topics and skills transcend training stage. In fact, any trainee who is planning to go on the job market in any career sector would benefit from mastering the skills covered in these sessions. Like the *ASPIRE Bistro* series, the *ASPIRE Job Search Series* proved to be very successful over the course of its first year. We hosted nearly 400 graduate student and postdoctoral fellow trainees at eleven sessions that covered topics such as *Resumes and Industry CVs*, *Leveraging LinkedIn*, *Informational Interviewing*, *Interviewing 101* and *Behavioral Interviewing*.

The *ASPIRE Café for Postdoctoral Fellows* continued for its sixth year and hosted nearly 300 attendees at twelve sessions. Some topics that we had covered in the past were redirected to the *ASPIRE Job Search Series* so that they would be accessible to graduate student trainees as well. This reorganization left space in the schedule to add additional topics of interest to postdoctoral fellows such as *Exploring the Non-Tenure Faculty Track* and *Developing Your Mentoring Style*.

Following on the successes of last year, we plan to continue to offer these three seminar series again for the 2020-2021 academic year in much the same form, but with an emphasis in many sessions on skills needed for success in a virtual world, including tips for networking virtually, preparing for virtual interviews, and starting a new job in a remote setting.

Data Science Training Program Lands AAMC Education Award

by Bill Snyder, Public Relations Specialist, VUMC Office of News and Communications

A course that provides biomedical scientists-in-training at Vanderbilt University School of Medicine with the essentials of data science has won second place in the 2019 Innovations in Research and Research Education Award program sponsored by the American Association of Medical Colleges (AAMC).

Data Science Essentials is a module of the Biomedical Research Education and Training (BRET) Office of Career Development's ASPIRE Program. It was developed by Ashley Brady, PhD, Kim Petrie, PhD, and Kathy Gould, PhD, with support from a Burroughs Wellcome Fund Career Guidance for Trainees Award.

Launched in 2018, the module includes a didactic eight-week introduction to data science in partnership with the Nashville Software School, a nine-week section to build communication and networking skills, and a series of career case sessions led by professional data scientists and hosted on site at their organization. A second round of the module began last week.

"The demand for well-trained data scientists continues to expand as companies increasingly rely on the mining and interpretation of vast amounts of data to drive discovery and innovation," Brady, Petrie and Gould wrote in their award abstract.

Brady is assistant dean of Biomedical Career Engagement and Strategic Partnerships in the BRET Office of Career Development. Petrie is assistant dean for Biomedical Career Development, and Gould is associate dean for Biomedical Sciences, director of Graduate Student Support and the Louise B. McGavock Professor of Cell and Developmental Biology.

Graduate students Mabel Seto (Pharmacology) and Iliza Butera (Neuroscience) participated in the first module with 18 other PhD students and postdoctoral fellows.

"The module was extremely helpful in giving me insight into what data science is like as a career," said Seto. "I'm definitely interested in pursuing it, and I don't think I would have known that without taking the module."

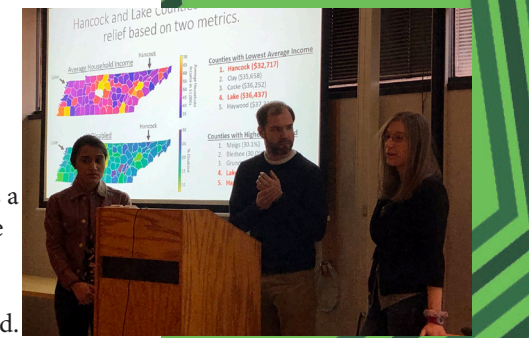
"This program really helped to reinforce my interest in data visualizations," Butera added. "This will be particularly helpful as I transition from neuroscience to join a music tech company called Artiphon.

"My next goal is to find new ways to analyze and visualize music data so that players can see trends in their own playing style and skill development," she said.

This is the second time in three years that a course developed through the BRET Office of Career Development has won an AAMC Innovations in Research Education Award. A previous module, "Management and Business Principles for Scientists," won second place in 2016.

Developing innovative approaches to broaden graduate and postdoctoral training is a major focus of the BRET Office of Career Development. The ASPIRE program was launched in 2013 with a National Institutes of Health BEST Award.

Originally published in the VUMC Reporter: <https://news.vumc.org/2019/09/12/data-science-training-program-lands-aamc-education-award/>



National Career Development Research and Best Practices

Building the technology infrastructure to store and visualize our doctoral alumni outcomes

VANDERBILT UNIVERSITY

Brown AM*, Meyers LC*, Petrie KA*, Varadarajan J, Cartailier JP, Chalkley R, Gould KL

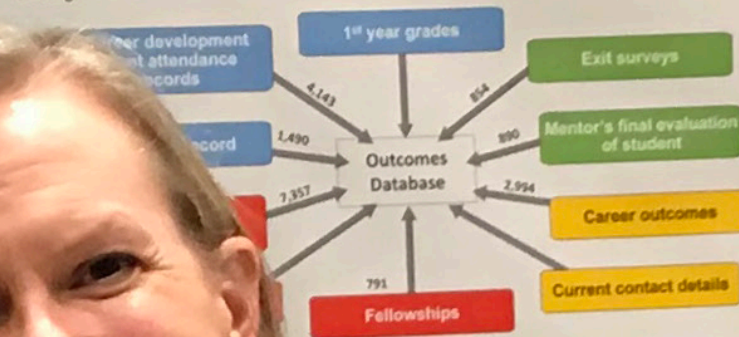
Vanderbilt University School of Medicine Basic Sciences

Abstract

At Vanderbilt, we had 25 years of static data (student records, exit surveys, mentor evaluations, event attendance) and dynamic employment outcomes of our alumni which were housed in information silos. To enable us to conduct outcomes analysis, we developed a relational database to organize all static and dynamic data about our graduates. The database receives automatic publication updates from PubMed and stores post-PhD employment and contact information. We use commercially available software, Aqua Data Studio, to visualize the data. The development of the outcomes database was a significant advancement in our ability to analyze program and employment outcomes which have local and national implications.

Defining our Cohort and Data Sources

We chose to restrict our cohort of records to include only doctoral graduates of our basic biomedical science graduate programs. Specifically, we did not include Masters' graduates or those who did not complete a doctoral degree at VU. As of August 2019, we have 19 different data sources, called tables, which store information about 1,490 PhD graduates.



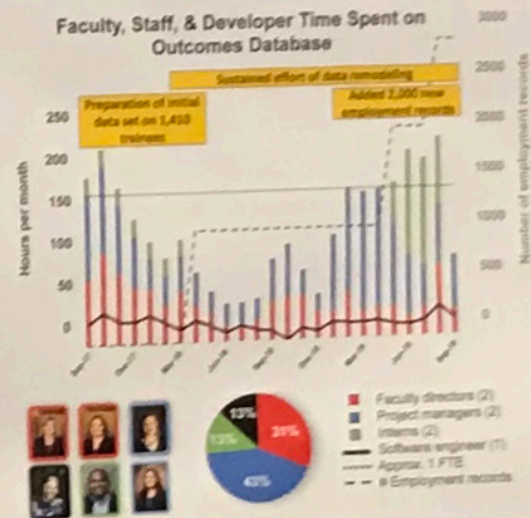
Using Technology Solutions

Tools for storing and connecting our data sources (Excel, etc.) were not capable of meeting all of our needs (security, integrity, robust reporting and visualization). Thus, we developed a relational database solution. This database was deployed onto our servers and allowed us to meet our need for dynamic data and continual updates from PubMed. The selected solution will allow any future data to be added without a lapse in service.

Project Timeline and FTE Commitment

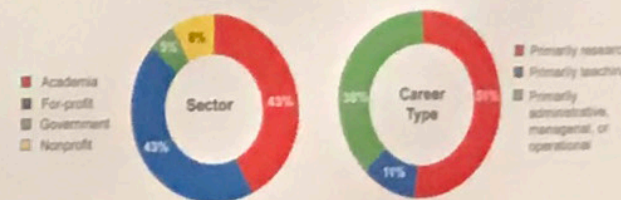
- The program team meets weekly for two hours to discuss ongoing data remodeling, data requests, and updates on individual tasks.
- The software engineer meets with the program team every other week to discuss data remodeling needs, loads of new data sources, and documentation of all changes in the database.
- Having an experienced engineer is critical but our program staff and faculty also contribute a significant amount of time for data preparation and clean-up, ongoing data remodeling, data exploration, analysis, and reporting.
- All meeting notes, project progress, database revision history, and process documentation is stored in Confluence, a collaboration software tool.

Faculty, Staff, & Developer Time Spent on Outcomes Database

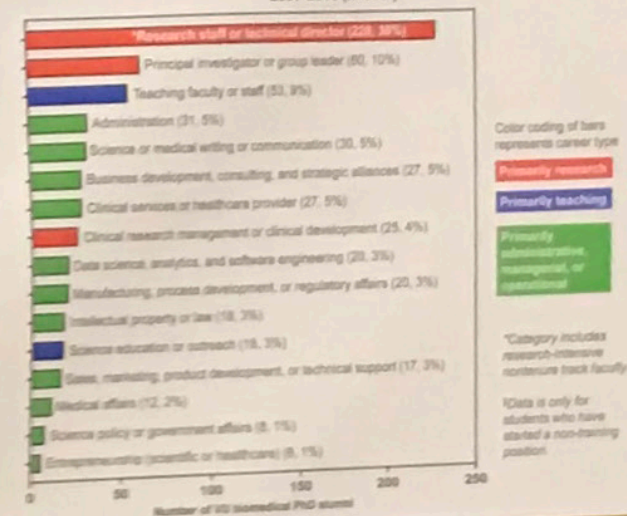


New Capacity for Analysis (continued)

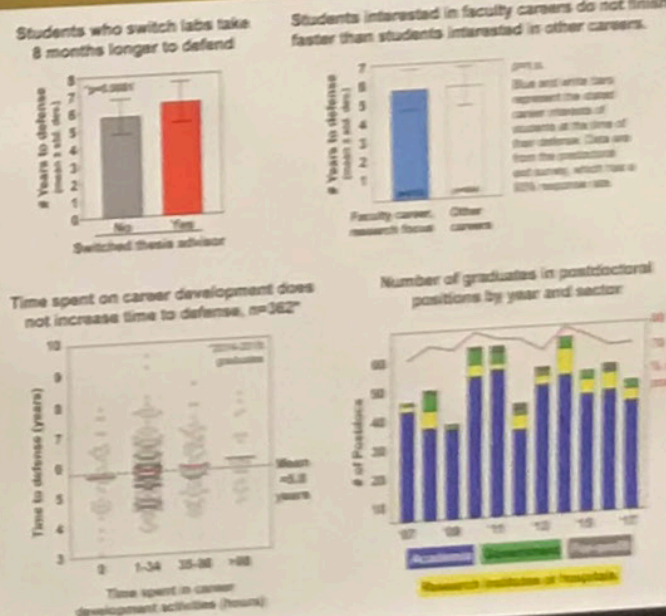
Sector (left) and career type (right) of first non-training position of biomedical PhD alumni who graduated 2007-2018 (n=603)



Job function of first non-training position of biomedical PhD alumni who graduated 2007-2018 (n=603)



New Capacity for Analysis



Lessons Learned

- Choose your cohort carefully. It is important to define and possibly limit your cohort early.
- Think of data sources you have already at your fingertips.
- Prioritization of data needs to be driven by your institution's greatest research needs.
- If you are missing a key source, such as outcomes or exit survey, plan for how you will store, extract, and eventually add these data to your database.

Resources for Classifying Alumni Records

- CA-Statist, PD Brandt, AM Brown, T Hubb, RL Layton, KA Petrie, EN Flores-Kin, CG Peña, CN Futerman, GC Munsavie. Applying Inter-rater Reliability to Improve Consistency in Classifying PhD Career Outcomes <https://doi.org/10.1101/2019.03.13.291793> (Preprint available in BioRxiv)
- VU BRET outcomes website: <https://medschool.vanderbilt.edu/bret/outcomes/>

Acknowledgments

- Alberta B. Kischner MEd, Thigman S, Varnus H. Rescuing US biomedical research from its systemic flaws. Proc Natl Acad Sci USA. 2014;111:5773-5777. doi: 10.1073/pnas.1404402111. 2014.
- BRET Career Office (Angela Zho and Kate Sharr) for event & contact data
- Four summer interns (finding alumni-employment data)
- Program records, NIH BEST OPT0019423, Vanderbilt Institute for Clinical Translational Research, NIH RePORTER, Vanderbilt Sponsored Programs Office, Vanderbilt Center for Technology Transfer & Commercialization, Published, Dr. Joey Barnett (KVA fellowship data)

Kim Petrie, PhD, and Abby Brown, PhD, present their poster together on the Outcomes Database during the AACM-GREAT Group meeting in September.

National Career Development Research and Best Practices

Career and professional development trends and best practices are constantly changing. To continue to provide outstanding services and remain at the forefront of graduate and postdoctoral career development, we cultivate partnerships and engage in professional organizations to share our work.



2019 ASPIRE Advisory Committee

National Leadership

Kim Petrie served on the Governance Committee of the Graduate Career Consortium, a national organization of PhD and postdoc career advisors from universities across the US and Canada

External Partners

The ASPIRE Program maintains many relationships with external partners at the local and national level:

The Graduate Career Consortium
Burroughs Wellcome Fund
Life Science Tennessee

Awards

2019 AAMC Innovations in Research Education Award

Data Science Essentials
Ashley Brady, Kathy Gould, Kim Petrie

Papers

Applying Inter-rater Reliability to Improve Consistency in Classifying PhD Career Outcomes.

Stayart CA, Brandt PD, Brown AM, Dahl T, Layton RL, Petrie KA, et al. F1000 Research (2020)

Institutional Training Opportunities for PhD Students in Laboratory Medicine: An Unmet Career Development Need?

Colby JM, Wheeler FC, Petrie KA, Gould KL, Schmitz JE. J Appl Lab Med. (2020)

Experiential Learning to Career Development Training for Biomedical Graduate Students and Postdocs: Perspectives on Program Development and Design.

Audra Van Wart, Theresa C. O'Brien, Susi Varvayanis, Janet Alder, Jennifer Greenier, Rebekah L. Layton, C. Abigail Stayart, Inge Wefes, Ashley E. Brady. CBE-Life Sciences Education (In press)

Institutional Training Opportunities for PhD Students in Laboratory Medicine: An Unmet Career Development Need?

Colby JM, Wheeler FC, Petrie KA, Gould KL, Schmitz JE. J Appl Lab Med. (2020)

National Presentations



Outcomes and Mentoring

AAMC-GREAT Group Annual Meeting Seattle, WA September, 2019

Roger Chalkley and Abby Brown

Data Science Essentials: A Career Exploration Program for Biomedical PhDs

AAMC-GREAT Group Annual Meeting Seattle, WA September, 2019 Kim Petrie

Building the Technology Infrastructure to Store and Visualize our Doctoral Alumni Outcomes

AAMC-GREAT Group Annual Meeting Seattle, WA September, 2019 Abby Brown

The Final Chapter: BEST Book Published

This fall, the story of the NIH BEST Consortium was finally complete. All 17 institutions gathered tales of their success, and Vanderbilt served as the main facilitator and author of this compendium.

BEST: Implementing Career Development Activities for Biomedical Research Trainees provides an instructional guide for institutions wanting to create, supplement, or improve their career and professional development offerings. Each chapter provides an exclusive perspective from an administrator from the 17 Broadening Experiences in Scientific Training (BEST) institutions. The book can aid institutions who train graduate students in a variety of careers by teaching faculty and staff how to create and implement career development programming, how to highlight the effectiveness of offerings, how to demonstrate that creating a program from scratch is doable, and how to inform faculty and staff on getting institutional buy-in.

Roger Chalkley, Laura Daniel, and Lorena Infante Lara served as editors of the collaboration. Roger Chalkley also wrote the introduction. Kathy Gould, Kim Petrie, Ashley Brady, and Kate Stuart co-wrote the ASPIRE chapter, "Vanderbilt's ASPIRE Program: Building on a Strong Career Development Foundation to Change the PhD-training culture."



BEST Collaborations Continue: A Multi-institutional Perspective on Experiential Learning in Career Development

By Ashley Brady, PhD, Assistant Dean of Biomedical Career Engagement and Strategic Partnerships

NIH BEST funding ended at Vanderbilt University in September 2018 and for those BEST institutions who were part of the second cohort, funding ended the following fall. Nevertheless, collaborations and the sharing of lessons learned from the programming developed during the BEST years continue to be fruitful.

This spring, nine different institutions, including Vanderbilt University, had a collaborative manuscript accepted for publication in CBE--Life Sciences Education titled *Applying Experiential Learning to Career Development Training for Biomedical Graduate Students and Postdocs: Perspectives on Program Development and Design*.

In this manuscript, the authors provided a cross-consortium comparison of the implementation and effectiveness of expanding experiential learning tools into a career development setting. They provided an overview of the four types of experiential learning approaches that their nine institutions have incorporated into programming for both PhD graduate students and postdoctoral fellows: 1) Job Simulations 2) Employer Site Visits 3) Job Shadowing and 4) Internships. They compared learning objectives and evaluation strategies employed for executing each type of experiential learning. The authors also highlighted key factors for other institutions to consider if seeking to implement experiential learning activities into their trainees' career development initiatives, including tapping into local expertise, geographic location, available staff time, alumni participation, faculty advocacy, and ineligible populations. The participating institutions concluded that experiential learning can vary greatly

in size and scope of format as well as trainee time commitment and still remain effective. Yet, it is key to provide components of practical engagement and reflection to each activity, and to carefully evaluate their effectiveness. The overall goal of the publication is that by describing their experiences, these BEST institutions will have provided a framework to support others in the successful design and implementation of experiential learning programs for biomedical graduate students and postdoctoral fellows at institutions with a variety of needs and constraints.

Audra Van Wart, Theresa C. O'Brien, Susi Varvayanis, Janet Alder, Jennifer Greenier, Rebekah L. Layton, C. Abigail Stayart, Inge Wefes, and Ashley E. Brady. *Applying Experiential Learning to Career Development Training for Biomedical Graduate Students and Postdocs: Perspectives on Program Development and Design*. CBE--Life Sciences Education. In press, 2020.



Alumni Relations, Outcomes, and Development



*Alumni serve on the PhD Career Stories
Medical Science Liaison panel in September.*

Alumni Relations, Outcomes, and Development

The Office of Career Development engages biomedical PhD and postdoctoral alumni once they complete their training. Beyond asking alumni to volunteer their time at career exploration or professional development events, the office facilitates connections to current trainees. Furthermore, our alumni network helps us better understand career outcomes, informs our career programming, and shapes our advice to current trainees.

1,582 Number of Alumni Tracked in Outcomes Database

1,108 LinkedIn Group Members
Vanderbilt University Biomedical Research Graduate and Postdoctoral Trainees & Alumni

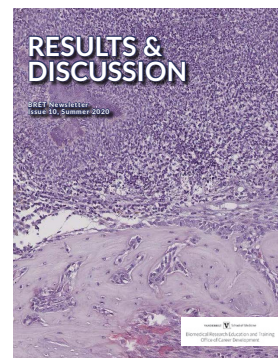
1,031 PhD Student Exit Surveys Administered to Date (2007 start)

54 Number of Alumni Participating in Programming



Results & Discussion Newsletter

- Written by current trainees
- Features trainees, faculty, and alumni
- Distributed to alumni and Vanderbilt community



Above and top right, alumni serve as interviewers for the inaugural Mock Interview Day. Left, Outcomes intern Rian Djita M.Ed. presented his poster after his internship with the BRET Office.

ASPIRE Endowed Fund

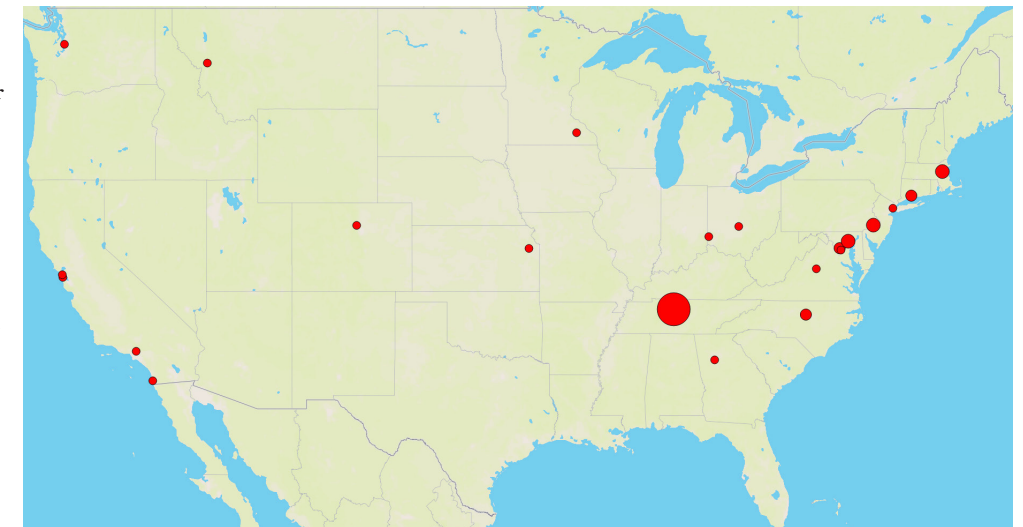
The ASPIRE Scholar Fund provides support for exceptional PhD graduate students and postdoctoral fellows to pursue experiential learning opportunities that further their career and professional development. This fund has recently been endowed, and the ASPIRE Team can now continue to provide further travel opportunities for ASPIRE Scholars.

Outcomes Outlook

Employment Location and Sectors of Biomedical PhD Graduates

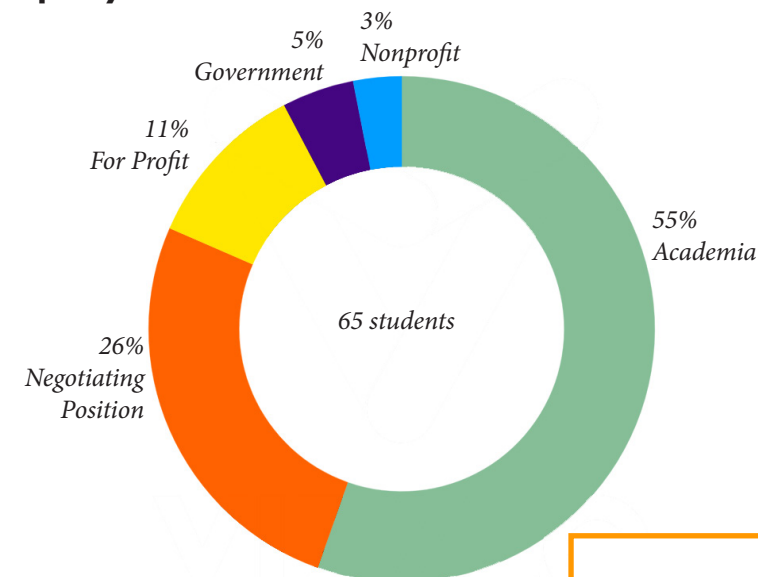
July 2019-June 2020 Defense Dates

Location of first position of biomedical PhD alumni who defended between July 2019 and June 2020. Alumni of our programs conduct postdoctoral fellowships and seek employment throughout the country and around the world.



Size of the circle represents the number of graduates employed in that location (n=50)

Employment Sector

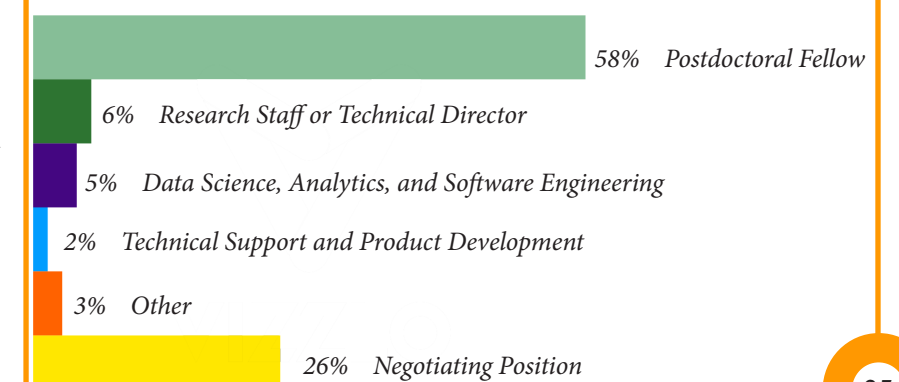


The majority of our 2019-2020 graduates went on to postdoctoral fellowships, most of which occurred in the academic sector of the economy.

Employment Role

65 students

Data about first position after graduation is collected from our predoctoral exit survey. This year, 15 students were still negotiating their first position at the time they took the exit survey.



Employer Relations and Workforce Development

Mock Interview Day, March 2020





Employer Relations & Workforce Development

Partnerships with companies and organizations lead to exciting company visits, internships, and externships for our trainees. Employer Relations and Workforce Development also includes:

- Meetings with potential and current employer contacts
- Hosting employer information sessions
- Speaking at conferences and giving invited talks
- Serving on committees to represent Vanderbilt biomedical trainees

Above, Pfizer's Larry Thompson, PhD, spoke with trainees about his career after his seminar. Below, Networking Pacing Module participants attend the Life Science-Tennessee annual conference LST-Con.

50 Employer Partner Meetings

7 Employer Hosts for Externships

8 Trainees Participating in Externships

16 Employer Hosts for Internships

34 Trainees Participating in Internships



Internship Hosts at a Glance

Adventure Science Center • Alzheimer's Association
 • American Heart Association of Middle Tennessee •
 Belmont University • Benchfly •
 Doris Duke Charitable Foundation •
 Fisk University • Harrow Health •
 Health Research Alliance • iQuity •
 Life Science Tennessee • Nashville Biosciences •
 Sarnoff Cardiovascular Research Foundation •
 Tuberous Sclerosis Alliance

Since the Internship Program inception in Fall 2015, the ASPIRE Program has had a total of 244 applicants (159 Graduate Students and 85 Postdocs) and had 125 trainees participate as interns (83 graduate students, 42 postdocs). Over this time, we have worked in partnership with a total of 33 different companies and non-profits who have hosted our trainees as interns.



Look & Act the Part: Inaugural Mock Interview Day a Big Success

This March, on the cusp of university shutdowns surrounding the Coronavirus pandemic, the BRET Office of Career Development ASPIRE Program executed the first ever Mock Interview Day. Registered graduate students and postdoctoral fellows were matched based on career interests for four rotations with alumni and Vanderbilt faculty volunteers. For 25 minutes, the interviewer asked questions and recorded their evaluations in a rubric, measuring their first impressions, the trainees' oral responses to CV/resume-based questions, and how they described their research experience, communication skills, and readiness. There was a brief time of feedback before the interviewees rotated to a different interviewer. Overall, the event was a huge success and one that the ASPIRE Program hopes to repeat in the future.

28 interviewers
 19 alumni interviewers
 9 VU faculty interviewers

8 postdoc interviewees

16 grad student interviewees

4 rotations
 25 minutes of practice
 5 minutes of feedback

"I thought this event was absolutely fantastic! I received helpful and constructive feedback that helped me improve my interview skills. This exercise also provided me a confidence boost that was very helpful in the real interviews I had later."

"A few of my interviews turned into more of a networking opportunity. They suggested other people I should reach out to!"

"Getting feedback from interviewers for the particular position was invaluable. This never happens in a real interview, and they were particularly keen to do this since it was arranged that way. This was much better than a mock interview with a friend or colleague who may be an expert in something but not necessarily for the type of job you are applying for."



Associate Dean Kathy Gould, PhD, presents at the ASPIRE Cafe for Postdoctoral Fellows on preparing for faculty careers.

1.C. Start-up funds

- Lump sum?
- Funded exactly from your submitted detailed list?
- Is your salary included in the package or separate?
- Typically 4 categories: reagents, equipment, staff, research support

Campus Partnerships
& Faculty Outreach

Campus Partnerships

The BRET Office of Career Development strives to maintain partnerships with departments and programs across campus. Speaking opportunities, serving on university committees, and providing resources are the many ways we partner.

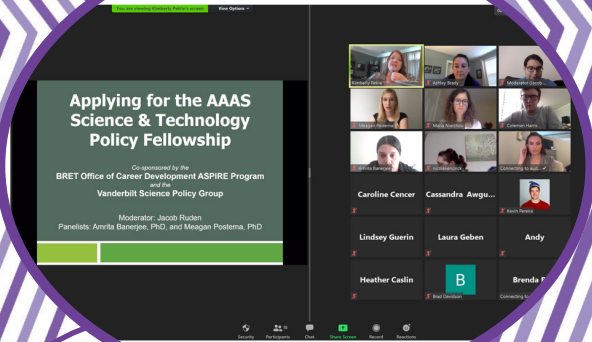
28 Invited Campus Talks and Presentations

26 Training Grant Sponsors for the 2020 Annual Career Symposium

17 Presentations to IMPACT Groups



e12 Seminar Speaker Kayla Graff, MBA, (center) meets with current trainees during an ASPIRE lunch.



Additional Campus Roles

The ASPIRE Team served as Faculty or Staff Advisors to a number of campus organizations and initiatives:

- Vanderbilt University Advanced Degree Consulting Club
- Life Science Tennessee Academic Alliance
- Vanderbilt Science Policy Group
- Dean's Advisory Council for Mental Health and Wellness
- Cancer Education Advisory Committee, Vanderbilt Ingram Cancer Center
- Provost's Women's Initiative Subcommittee on Family Friendly Policies, Parental Leave, and Childcare at Vanderbilt

Campus Partners

- Vanderbilt School of Medicine Basic Sciences
- Vanderbilt University Medical Center
- Vanderbilt Graduate School
- Training Grants in the Biomedical and Biological Sciences
- Vanderbilt Center for Science Outreach
- Vanderbilt Center for Teaching
- Vanderbilt Center for Tech Transfer & Commercialization
- Vanderbilt Corporate & Foundation Relations
- Vanderbilt Creative Services
- Vanderbilt Development & Alumni Relations
- Vanderbilt Graduate Development Network
- Vanderbilt International Student and Scholar Services
- Vanderbilt Managerial Studies Program
- Vanderbilt Office of Federal Relations
- Vanderbilt Office of Public Affairs
- Vanderbilt Office of Postdoctoral Affairs
- Vanderbilt Postdoctoral Association
- Vanderbilt Research Cores and Shared Resources
- Enabling Innovation Initiative
- Vanderbilt School of Engineering
- Vanderbilt University Advanced Degree Consulting Club
- Vanderbilt Science Policy Group
- Vanderbilt University Psychological & Counseling Center
- Vanderbilt Writing Studio



Highlighting ASPIRE Makes the Difference in Recruiting

By Elizabeth Bowman, Ph.D., Assistant Director, Graduate Programs in Biomedical Sciences

IGP and QCB recruitment is a time for the Vanderbilt biomedical community to come together to showcase our strengths in graduate training. This extends beyond the strength of our research and curriculum to also include our nationally-leading ASPIRE program and team. Savvy prospective students understand that graduate school is just one step in their training and now look for support in planning, preparing, and gaining experience for their next step. We have one of the best career development programs in the country and are excited to show these mature candidates that we, too, are invested in their future.

“The career development opportunities tipped the balance for me selecting Vanderbilt.”
-- new recruit feedback

In previous recruiting seasons, we have briefly described our ASPIRE program. However, this year, we were thrilled to host a leader from the ASPIRE team to present the program explicitly. It has become increasingly clear that providing the specifics of the opportunities would complement the remainder of our recruiting emphasis on dual strengths of research and personal development at Vanderbilt.

The feedback we received confirmed the impact of including the ASPIRE team on recruitment:

- “From the very first interaction with Vanderbilt, I felt like the experience was personal and it spurred a connection right away. I was blown away with the amount of resources for career opportunities ... I felt like they had a genuine interest in me!”
- “Vanderbilt and the IGP stood out to me due to the abundant career development opportunities, kind and accommodating faculty ... and helpful graduate students.”
- “The career development opportunities tipped the balance for me selecting Vanderbilt.”

IGP and QCB students benefit from ASPIRE, and emphasizing this program clearly enhances our recruiting efforts! We are excited to continue partnering together to strengthen the Vanderbilt community.



Given to all recruits in their welcome packet, the ASPIRE brochure includes links and information on the Beyond the Lab video series.

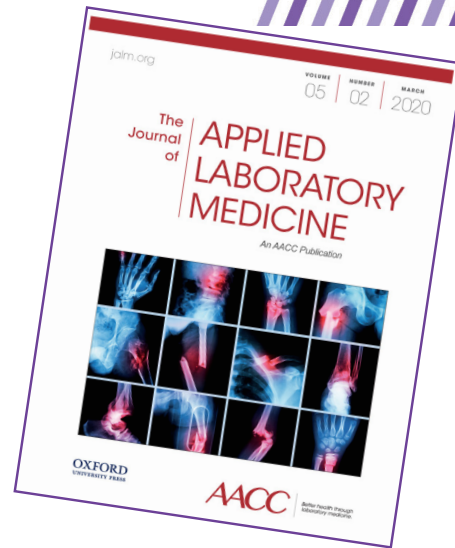
Collaborative Effort Between Drs. Schmitz, Gould, Petrie, and Wheeler Results in Module, Paper, Fellowships, and Funding

By Kate Stuart, Assistant Director, ASPIRE

The credentialing of PhD-scientists as medical directors of clinical laboratories is driven by formal postdoctoral training programs. Prior to acceptance in one these accredited fellowships, however, a trainee's exposure to the field can be far less standardized, with significant ramifications for their awareness of this career field and their competitiveness for it. The ASPIRE Program partnered with Drs. Jonathan Schmitz and Ferrin Wheeler to create the Clinical Laboratory Medicine module which combines both didactic and shadowing experiences for 6 trainees annually. For two hours a week for five weeks, trainees' participation involves shadowing the diagnostic management teams who consult with physicians.

Launched initially in 2015, the module has been wildly successful, with many module alumni now employed in clinical lab medicine sectors including Sarah Cannon Research Institute, Kalsec, and Vertex. Six out of the 24 who have participated in the module have been accepted into the small number of available clinical laboratory fellowships across the nation.

Based on the ASPIRE module, the collaborators published an article in The Journal of Applied Laboratory Medicine describing the "experiences in developing local, institution-based immersion opportunities for PhD experiences in the subdisciplines of laboratory medicine (clinical microbiology, clinical chemistry, and molecular genetics/genomics)." Both the exposure to this career field as well as the shadowing experience of the module creates an opportunity that is both in-depth and mentor-facilitated. Alumna Allison Eberly, PhD, who participated in the Clinical Laboratory Medicine module, was accepted into the Clinical Microbiology Fellowship at the Mayo Clinic and was highlighted in the most recent issue of Results & Discussion. These collaborative efforts will soon provide an internship with Vanderbilt's Clinical Laboratory Medicine team as part of Trans-Institutional Programs (TIPS) through the Vanderbilt University Office of the Provost.



Alumna Allison Eberly, PhD, now at the Mayo Clinic.



ASPIRE Postdoctoral Cafe panel session about Faculty Careers

Postdoc Mentor Lunches held with VU and VUMC Faculty

Drs. Kathy Gould, PhD, and Roger Chalkley, D Phil, took advantage of their monthly Friday lunch hour to meet with faculty mentors of newly appointed postdoctoral fellows to share information about resources available to support them. Over the course of the academic year, Drs. Gould and Chalkley met with 39 faculty at nine different lunches, including one lunch held virtually, to talk about the Office of Postdoctoral Affairs, the Vanderbilt Postdoctoral Association, writing training plans for fellowship applications, ASPIRE and other career development resources, and the importance of Individual Development Plans for postdocs. Both VU and VUMC faculty mentors are invited to participate following the appointment of their new biomedical postdoctoral fellow by the School of Medicine's BRET Office. These meetings have proved to be a very welcome addition to the onboarding of new postdocs.

Meet the Team



KATHY GOULD, PHD

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Director, Graduate Student Support
Louise B. McGavock Professor
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Outcomes Team

The ASPIRE Team works closely with the BRET Office of Outcomes Research to understand our alumni outcomes and disseminate our research.



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Appendix

A1 Annual Career Symposium

Choose Your Own Adventure: Exploring Careers in Industry**	
Keynote	
Lauren Celano, Co-founder and CEO of Propel Careers	“Navigating Career Opportunities and Optimizing Your Career Search”
Panel 1	
Ben Doranz, PhD	Managing Partner, Versant Learning Solutions
Becca Senter, PhD	Senior Scientist, Pharmacyclics (an AbbVie company)
Brian Yaspan, PhD	Senior Scientist and Innovation Advisor, Biological Technologies, Defense Advanced Research Projects Agency (DARPA)
Larry Zeitlin, PhD	Director of Technology Development, Affinergy
Panel 2	
Uade da Silva, MBA, PhD	Associate Director, Global Regulatory Affairs, Merck
Kim Riley, PhD	Senior Clinical Research Associate, PPD
Todd Townsend, PhD	Regional Medical Scientific Director, Merck
Rebecca Dise, PhD	Head of IP Operations Strategy and Manager Docketing, AstraZeneca

**Virtual

A2 Other Career Exploration Events

Date	Topic	Attendance	Speaker
September 13, 2019	Coffee Chat with Alumna	19	Abby Olena, PhD, freelance science writer
November 2019, February 2020	eI2 Lunches	4/each	Gary Nabel, PhD; Kayla Graff, PhD
October 14, 2019	Role of an Editor: A Career Path Talk	42	Manuel Breuer, PhD, Journal of Cell Science
February 26, 2020	PhD & Masters Virtual Career Fair	N/A	In partnership with the Graduate Career Consortium
May 15, 2020	Applying to the AAAS Science & Technology Fellowship**	33	Amrita Banerjee, PhD, and Meagan Postema, PhD, recent VU PhD graduates

**Virtual

A3 PhD Career Stories

Month	Topic	Attendance	Speaker
August 23, 2019	Grant and Research Management	39	Jami Scheib, PhD, Science Officer, Ripple Effect, supporting the Congressionally Directed Medical Research Programs (CDMRP), USAMRMC
	Networking Lunch with Dr. Scheib	4	
September 6, 2019	Medical Science Liaison	65	Joseph Conrad, PhD, Regional Medical Scientific Director, Merck Dawn Stults, PhD, Medical Science Liaison, Genentech Oliver Vranjkovic, PhD, Medical Science Liaison, Myriad
October 18, 2019	Industry Research	72	Larry Thompson, PhD, Senior Principal Scientist, Pfizer
	Lunch with Dr. Thompson	4	
November 8, 2019	Patent Law	34	Seth Ogden, PhD, Shareholder, and Mark Kilgore, PhD, Associate, Patterson Intellectual Property Law
December 13, 2019	Academic Research	30	Anthony J. (A.J.) Baucum II, PhD, Assistant Professor, Department of Biology, Indiana University-Purdue University Indianapolis
	Lunch with Initiatives for Maximizing Student Diversity Training Grant	8	
January 24, 2020	Nonprofit/Fundraising	19	Janice Ascano, PhD, Director of Corporate and Foundation Relations for Scientific Research, Vanderbilt University
February 7, 2020	Defense and Intelligence	38	Jennifer Sparks, PhD, Deputy, Advanced and Emerging Threats Division, Chemical and Biological Technologies Department, Defense Threat Reduction Agency
	Networking Lunch with Dr. Sparks	4	

A4 Lab to Lunch

December 3, 2019	Lab to Lunch: Business Savvy for Scientists	Malika Williams, Founder of Excuse Me, Please Etiquette	60 (capped)
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A5 Headshot Day

Headshot Day for:	Participants	Date
Graduate Students	32	August 1, 2019
Postdoctoral Fellows	28	October 4, 2019
Graduate Students	34	December 4, 2019
Postdoctoral Fellows	32	March 5, 2020

A6 Modules

Enhanced Career Exploration

Course Title	Director	Participants	Frequency and Dates
Data Science Essentials	Mary van Valkenburg, <i>Analytics and Data Science Program Manager, Instructor, Nashville Software School</i>	15	August 2019-March 2020
	Ashley Brady, PhD, <i>Assistant Dean for Biomedical Career Engagement and Strategic Partnerships (Kate Stuart also assisted with sessions)</i>		
Introduction to the Principles and Practice of Clinical Research (IPPCR)	NIH Clinical Center (VU BRET Office served as a registered remote site)	35	October, 2019-August 2020
Biomedical Research and the Media	Wayne Wood, MLAS, <i>Executive Director of New Media Productions, VUMC News and Public Affairs</i>	6 (capped)	8 sessions Sept 19-Nov 13, 2019
Clinical Microbiology: Applying Your PhD to Patient Care	Jonathan Schmitz, MD, PhD, <i>Assistant Professor, Pathology, Microbiology, and Immunology, VUMC</i>	6 (capped)	Individual Rotations Winter 2019
	Ferrin Wheeler, PhD, <i>Medical Director, Cytogenetics, VUMC</i>		
Management and Business Principles for Scientists	Joe Rando, MBA, <i>Associate Professor of the Practice, Managerial Studies, Vanderbilt University</i>	24	2 hours/week, 10 weeks Jan 15-Apr 15, 2020

Essential Skill Building

Creating Effective Scientific Talks and Delivering Them with Confidence	Kathy Gould, PhD, <i>Associate Dean, Biomedical Sciences</i>	20 (Fall session)	3 sessions Sept 16-30, 2019
		12 (Spring session)	3 sessions Jan 21-Feb 4, 2019
EQ + IQ = Career Success	Kate Stuart, <i>Assistant Director, BRET Office of Career Development</i>	13	6 sessions November 7-December 12, 2019
Networking Pacing	Ashley Brady, PhD, <i>Assistant Dean for Biomedical Career Engagement and Strategic Partnerships</i>	13	6 sessions September 24-November 19, 2019
Practical Strategies for Strong Writing	Beth Estes, PhD, <i>Academic Support Coordinator, The Writing Studio, Vanderbilt University</i>	14	3 sessions January 21, 28, and February 4, 2020

A7 Trainee Professional Development Additional Events

Date	Topic	Attendance	Speaker
February 27, 2020	Making the Most of Your Presentation	25 (capped)	Jean-luc Doumont, PhD, <i>founding partner, Principae</i>
March 9, 2020	Mock Interview Day	24	Various alumni, employers, and faculty

A8 ASPIRE Cafe for Postdoctoral Fellows

Date	Topic	Presenter	Attendance
8/28/19	Orientation to BRET Career Development Resources for Postdocs	Ashley Brady, PhD	15
9/11/19	Preparing a Faculty Position Application Package	John Karjolic, PhD; Richard O'Brien, PhD; Rebecca Ihrie, PhD	38
9/25/19	Grant Resources at Vanderbilt	Abby Brown, PhD	23
10/9/19	K Awards: Which One is Right for You?	Abby Brown, PhD	35
10/23/19	What to Expect from a Faculty Interview	Nancy Carrasco, MD; Katherine L. Friedman, PhD; Ian Macara, PhD	23
11/13/19	How to Give a Chalk Talk	Katherine L. Friedman, PhD; Borden Lacy, PhD; Chris Wright, D. Phil.	26
1/8/20	Negotiating Your Faculty Compensation and Start-Up Package	Kathy Gould, PhD	14
1/22/20	Orientation to BRET Career Development Resources for Postdocs	Ashley Brady, PhD	8
2/12/20	Exploring the Nontenure Faculty Track	Alyssa Hasty, PhD, and panelists: Kimberly Dahlman, PhD, Lourdes Estrada, PhD, Jeffrey Franklin, PhD	35
2/26/20	A Fair Look: How to Review A Paper	Kathy Gould, PhD	20
4/8/20	Exploring and Preparing for Faculty Careers**	Kathy Gould, PhD	23
5/13/20	Fellowships and F32 NRSAs**	Kim Petrie, PhD	34

**Virtual

A9 ASPIRE Job Search Series

Date	Topic	Presenter	Attendance
9/18/19	Preparing for a Teaching Demo	Cynthia Brame, PhD, <i>Center for Teaching</i>	26
10/16/19	Resumes/Industry CVs	Kim Petrie, PhD	42
10/30/19	Writing a Better Cover Letter	Kate Stuart	37
11/20/19	Leveraging LinkedIn	Ashley Brady, PhD	35
12/18/19	Informational Interviews	Ashley Brady, PhD	20
1/15/20	Interviewing 101	Ashley Brady, PhD	45
1/29/20	CVs/Resume Review (preparation for Mock Interview Day)	Kim Petrie, PhD	9
2/19/20	Behavioral Interviewing	Kim Petrie, PhD	38
4/15/20	Writing a Better Cover Letter **	Kate Stuart	47
5/20/20	Resumes/Industry CVs **	Kim Petrie, PhD	42
6/17/20	Informational Interviews **	Kate Stuart	31

**Virtual

A10 ASPIRE Bistro for PhD Students

Date	Topic	Presenter	Attendance
9/4/19	Maximizing Your Research Efforts	Kathy Gould, PhD	16
10/2/19	The Next Step: Applying for a Post-Grad Job	Kathy Gould, PhD	40
11/6/19	Applying for Fellowships & NRSA's	Kim Petrie, PhD, and Melissa Krasnove, MEd	28
12/4/19	Savvy Science: Professionalism Strategies for Success	Kate Stuart	12
2/5/20	Exploring and Preparing for Faculty Careers	Kathy Gould, PhD	30
3/5/20	Building Your Biosketch	Ashley Brady, PhD	16
5/27/20	A Fair Look: How to Review a Paper**	Kathy Gould, PhD	38
6/10/20	Preparing to Mentor**	Beth Bowman, PhD, and Kathy Gould, PhD	65

**Virtual

A11 ASPIRE Advisory Committee

The ASPIRE Program Advisory Committee consists of external advisors from various industries, as well as Vanderbilt faculty and trainees. The annual meeting serves as an opportunity to seek input, celebrate milestones, and learn from our partners. The Advisory Committee met on September 20, 2019.

ROB CARNAHAN, PHD (Vanderbilt University)

MANNY ASCANO, PHD (Vanderbilt University)

SAM DOOYEMA (Vanderbilt University)

DALE EDGAR, PHD (Eli Lilly, retired)

EFRAIN GARCIA, PHD (Health & Human Services)

BRIAN LADEN, PHD (TriStar Technology Ventures)

LORENA INFANTE LARA, PHD (Vanderbilt University)

INES MACIAS-PEREZ, PHD (Cumberland Pharmaceuticals)

ALAN MARNETT, PHD (Benchfly)

RICHARD O'BRIEN, PHD (Vanderbilt University)

MICHAEL R. OTTO, PHD (Quidel)

MARGARET READ, PHD (Vanderbilt University)

STEVE ROBERDS, PHD (Tuberous Sclerosis Alliance)

DEBORAH ROBY, PHD (Vanderbilt University)

ABBY TROTTER (Life Science Tennessee)

LAURIE VANDERVEEN, PHD (Nektar Therapeutics)

CHRIS WRIGHT, D.PHIL (Vanderbilt University)

A12 In the Press

"Finding example F30, F31, and F32 NIH NRSA applications" Kim Petrie ASPIRE Blog (2020)	"Tips for international postdocs on finding funding for your research." Kim Petrie ASPIRE Blog (2020)
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A13 Conference Poster Presentations

2019 "Data Science Essentials: A Career Exploration Program for Biomedical PhDs" Ashley Brady, Kim Petrie, Abigail Brown, John Wark, Mary van Valkenburg, and Kathy Gould. AAMC-GREAT Group Annual Conference, Seattle, WA, September 2019	2019 "Building the technology infrastructure to store and visualize our doctoral alumni outcomes." Abby Brown, Lindsay Meyers, Kim Petrie, Jan Varadarajan, JP Cartailier, Roger Chalkley, Kathy Gould. AAMC-GREAT Group Annual Conference, Seattle, WA, September 2019
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A14 Invited National and Regional Talks and Participation

09 2019 September, 2019 "Rapid Fire: Innovations and Best Practices in Training" AAMC-GREAT group Annual Meeting Seattle, WA Abby Brown	02 2020 February 4, 2020 "Career Resources at Vanderbilt University" Fisk to Vanderbilt Master's to PhD Bridge Professional Skills Forum Ashley Brady and Ruth Schemmer
September, 2019 "The Relationship between Mentoring and Graduate Student Outcomes" AAMC-GREAT group Annual Meeting Seattle, WA Abby Brown and Roger Chalkley	February 12, 2020 "Resumes and CVs for Industry, Academia, and Every Job in Between" American Heart Association Annual Conference, Strategically Focused Research Network Nashville, TN Ashley Brady
10 2019 October 21, 2019 Panelist "2019 Research and Research Training Innovation Award Exhibit, featuring Data Science Essentials" Association of American Medical Colleges Webinar Ashley Brady	03 2020 March 7, 2020 "Career Options for Scientists: Navigating Your Own Path" Biomedical Sciences Graduate Student Association Career Symposium 2020 Orlando, FL Ashley Brady

A15 Peer-Reviewed Publications and Books

Petrie KA, Brady AE, Stuart KFZ, Brown AM, Gould KL. <i>Vanderbilt's ASPIRE program: building a strong career development foundation to change the Ph.D.-training culture.</i> In: Infante Lara L, Daniel L, and Chalkley R, (eds). BEST: Implementing Career Development Activities for Biomedical Research Trainees. San Diego: Academic Press, 2020: 199-213.	Van Wart A, O'Brien TC, Varvayanis S, Alder J, Greenier J, Layton RL, Stayart CA, Wefes I, Brady AE. <i>Applying Experiential Learning to Career Development Training for Biomedical Graduate Students and Postdocs: Perspectives on Program Development and Design.</i> CBE-Life Sciences Education. In press. 2020.
Stayart CA, Brandt PD, Brown AM, Dahl T, Layton RL, Petrie KA, Flores-Kim EN, Pena CG, Fuhrmann CN, and Monsalve GC. <i>Applying inter-rater reliability to improve consistency in classifying PhD career outcomes</i> [version 2; peer review: 2 approved]. F1000Research 2020, 9:8 (https://doi.org/10.12688/f1000research.21046.2)	Colby JM, Wheeler FC, Petrie KA, Gould KL, Schmitz JE. <i>Institutional Training Opportunities for PhD Students in Laboratory Medicine: An Unmet Career Development Need?</i> J Appl Lab Med. 2020 Mar 3/1/2020; 5(2): 412-6. PMID: 32445389, PII: 5762644, DOI: 10.1093/jalm/jfz028, ISSN: 2576-9456.

A16 Annual Report Contributors

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A17 Data Science Essentials Employer Case Sessions

Date	Company	Attendance	Speaker/Host
January 22, 2020	Data Science Nashville Meetup	11	Data Science Nashville

**Four additional employer case sessions were scheduled for March and April 2020, but were canceled due to the pandemic. iQuity/DeCode Health, XSOLIS, Nashville General Hospital, and Inscripta case sessions will be rescheduled for a future date.

A18 Employer Information Sessions

Date	Company/Event	Attendees	Speaker
October 26, 2019	Biocentury Employer Info Session	53	Karen Bernstein, PhD, and David Flores, MBA co-founders
February 19, 2020	MedPace Recruiting Event	6	N/A
March 12, 2020	McKinsey Employer Info Session**	95	Laura Terry, PhD (alumna), Melinda Sweeney (recruiter) McKinsey and Company

**Virtual

A19 Externships

Externships give trainees short-term, on-site job shadowing opportunities. ASPIRE travel scholarships help offset travel expenses that are associated with participating in an externship.

Externship Opportunity	Recipients
AAAS Annual Meeting (Washington, DC)	1 Graduate Student
Amgen Postdoc Day (Boston, MA)	1 Graduate Student
From Academia to Industry: An Amgen Perspective (Cambridge, MA)	2 Graduate Students
Health Research Alliance Members Meeting	1 Graduate Student

**Three additional externships were scheduled but cancelled due to Coronavirus.

A20 Internships

ASPIRE internships provide hands-on experience with a project in a professional work environment. Internships are part-time. ASPIRE travel scholarships help offset travel expenses that are associated with participating in an internship.

Internship Opportunity	Role/Title
Adventure Science Center	2 TWISTER Interns
Alzheimer's Association	2 Advocacy Ambassador Interns
American Heart Association of Middle Tennessee	2 Health Strategies Interns
Belmont University	2 Teaching Interns, Anatomy and General Biology
Benchfly	1 Research Management Intern
BioCentury, Inc.	3 Data Analyst Interns
Doris Duke Charitable Foundation	1 Scientific Peer Review Management Intern
Fisk University	2 Teaching Intern, Biochemistry I and General Biology Lab
Harrow Health	4 Pharmaceutical Sciences Interns
Health Research Alliance	3 Program Coordinator Interns, HRA Members' Meeting (1), Biomedical Nonprofits' Professional Meeting (1), NFRI Partnership (1)
iQuity	4 Research Interns, Bioinformatics and Data Science
Life Science Tennessee	1 Programming and Policy Intern
Nashville Biosciences	3 Interns, Business Development (1), Bioinformatics (1), Scientific (1)
Objective GI	2 Clinical Registry and Data Science Interns
Sarnoff Cardiovascular Research Foundation	1 Meeting Program Coordinator
Tuberous Sclerosis Alliance	1 Academy Project Intern

A21 Invited Internal Presentations

08
2019

August 30, 2020
"BRET Office of Career Development & ASPIRE"
Simple Beginnings PhD Ceremony
Kim Petrie

January 31, 2020
"Career Options for Scientists"
Center for Science Outreach Postdoc Meeting
Ashley Brady

10
2019

October 17, December 4, 11, January 16,
February 6, 2020
"CVs"
IMPACT (5 sessions)
Kim Petrie

02
2020

February 18, 2020
"Maximizing Your IDP"
Biochemistry Colloquium
Kim Petrie

12
2019

December 4, 11, March 26, April 2, 9, 15, 16**
"Career Planning"
IMPACT (7 sessions)
Kim Petrie

04
2020

April 10, 2020
"Women in the Academy" Panel**
Vanderbilt Margaret Cuninggim Women's Center
Kim Petrie and University partners

01
2020

January 14, 2020
"NRSAs to Fund Your Research Training"
Pharmacology Department
Kim Petrie

April 23, 2020
"Understanding Your Strengths"***
BRET Staff Meeting
Kate Stuart

January 16, 2020
"NRSAs and Fellowships to Fund Your Research Training"
Neuroscience Department
Kim Petrie

April 29, 2020
"Informatics Industry Job Search in COVID-19 Times"***
Bioinformatics Students and Postdocs
Ashley Brady, Kim Petrie, and Bioinformatics Faculty

January 21, 2020
"Behind the Curtain: An Inside Look at Peer Review"
Pharmacology Department
Kim Petrie

06
2020

June 26, 2020
"Putting Your Best Face Forward: Writing a Compelling CV or Resume"***
Vanderbilt Summer Science Academy
Kim Petrie

January 23, 30, February 13, 20, April 1**
"Biosketches"
IMPACT (5 sessions)
Ashley Brady

**Virtual

A22 New Postdoctoral Mentor Lunches

Lunches with Kathy Gould and Roger Chalkley		
June 26, 2019	November 8, 2019	January 31, 2020
September 6, 2019	December 13, 2019	February 21, 2020
September 13, 2019	January 17, 2020	May 22, 2020**

**Virtual

