

GBS newsletter

Hello Readers,

We would like to introduce to you the new GBS Newsletter! This will be a regular publication intended for all students in Biosciences at UVA. In this inaugural issue, we are featuring the GBS Professional Survey results, an introduction to grant applications, and sharing informational interviews from individuals in a variety of fields (biopharmaceutical industry, clinical and translational research, and scientific writing), and providing opportunities for you to share your accomplishments with us to be featured in the next issue.

While some of you are just beginning your PhDs and others are looking to begin their careers, our goal is to collect and publish information useful for all. Although it seems like yesterday that we were starting our rotations and joining labs, our futures beyond UVA always seem to catch up more quickly than we expect. In recent months, many of you have indicated that you would like GBS to share information about career paths you are interested in, articles and information you may have missed, and provide information about future event opportunities at UVA. We encourage everyone to take ownership over your graduate experience, and we hope this newsletter is a small component to help you become informed about your future. We plan on having a rotating topic list (and are open to suggestions).

We hope that you find this issue useful. As we continue to develop and grow the Newsletter, your continued support and feedback is welcome. Feedback can be provided through a linked survey immediately below. If you are interested in and/or have questions about contributing to the newsletter in the future, feel free to email anyone currently involved in the GBS Newsletter (contact information on the final page).

Thank you and enjoy,

The GBS Newsletter Editors

Provide feedback here.

Tell us about your accomplishments!

Hey GBS! Did you get that paper published? A grant or fellowship funded? What about a travel award at a conference? We want to hear about all of your accomplishments! In each upcoming edition, we will update you on any new student accomplishments since the last edition. But we need your help in doing this! Please fill out the form below to share any accomplishments of your own or your friends/colleagues/lab mates. Don't worry, if a friend shares your accomplishments with us, we'll be sure to run them by you before adding them to the newsletter!

[Click here to submit your accomplishments.](#)

Professional Survey: what do GBS students think about their career?

GRADUATE BIOSCIENCES SOCIETY

**2016
PROFESSIONAL
SURVEY
RESULTS**

ACADEMIC · PROFESSIONAL · SERVICE · OUTREACH

45 PERCENT

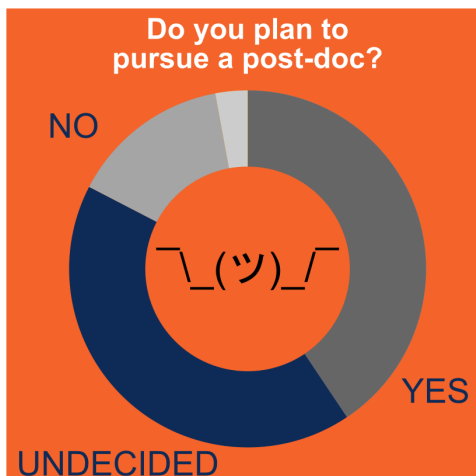
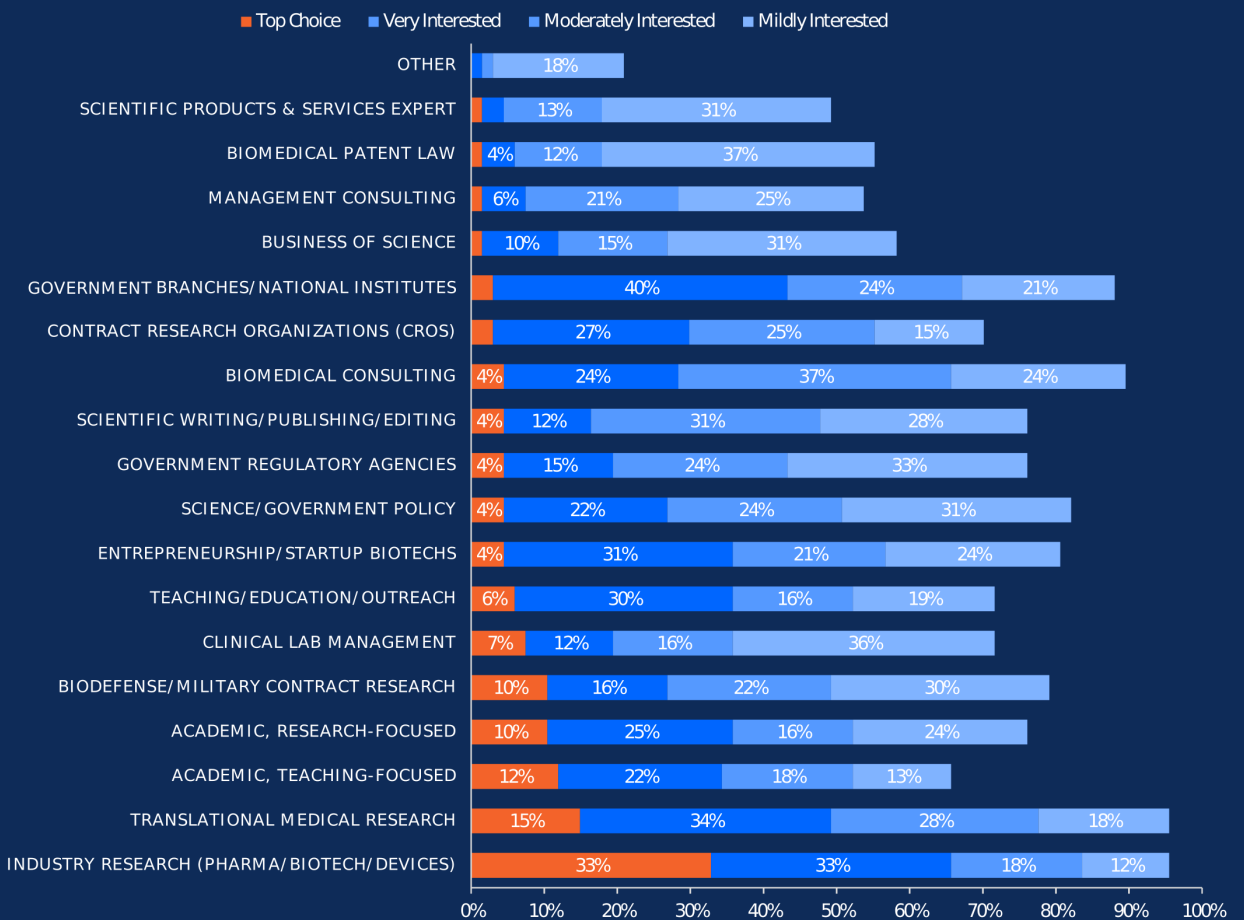
Use LinkedIn regularly

*18x more likely to be found by LinkedIn searches when your profile is up to date**

87%

Do not feel **EXTREMELY KNOWLEDGEABLE** about their career of interest

What career paths are you interested in?



90 PERCENT

5.00

Ft
FUTURE

Think about their **5 year plan** regularly

42 PERCENT

20.00

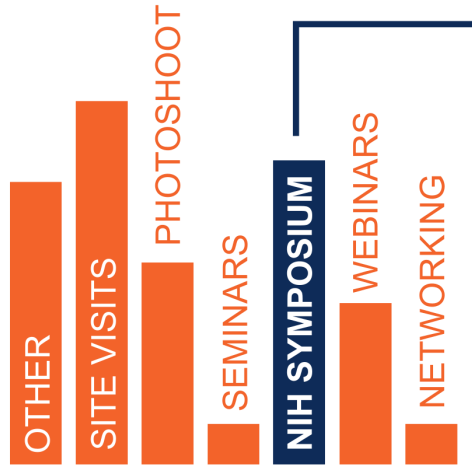
Ft
FUTURE

Have not thought about their **20 year plan** since starting graduate school

PROFESSIONAL EVENTS

Over 70 students participated in our 2016 survey. We hope to use these results to guide future events that are most useful to YOU.

YOUR FAVORITE PROFESSIONAL GBS EVENT



NIH CAREER SYMPOSIUM



Would like to attend in 2017

STUDENTS



9 OUT OF 10

Want to learn about new fields and related topics through interviews

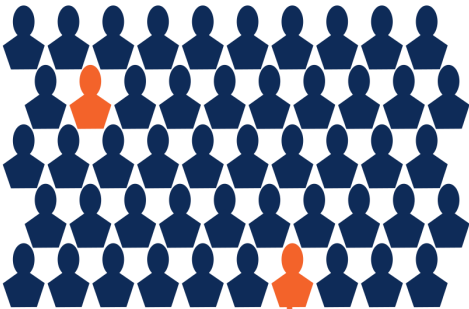
88 PERCENT

Are interested in future site visits

2016 SITE VISITS



GBS CAREER PANEL



96%

Of attendees found the 2016 GBS Career Panel beneficial to them

GRADUATE BIOSCIENCES SOCIETY



ACADEMIC PROFESSIONAL SERVICE OUTREACH

OVER

95%

Are interested in virtual interactions with UVA alumni and other professions

WEBINARS



ONLY

16%

Have conducted an informational interview with a non-personal contact

Informational Interviews:

Biopharmaceutical Industrial Research

To kick off the professional interviews section of this year's GBS Newsletter, we are re-publishing three interviews that were published previously in the "Hoo's Going To Be Successful" series. This month's interviews highlight Biopharmaceutical Industrial Research, Clinical/Translational Research Management, and Scientific Writing as potential career options.

Dr. Mark Axelrod, PhD, BIMS-MIC Alumnus (2012) Research Scientist I, Gilead Sciences

(Interview by Jeffrey Teoh, originally published in the October 2014 GBS Newsletter)

Mark recently started working with Gilead Sciences in the Division of Oncology and Inflammation Biology. As a Research Scientist I (RSI), he screens and evaluates drug candidates that interfere with defined cell pathways, specifically in cancer cells. On a typical day, his time is split between analyzing data from previous studies, setting up and/or performing experiments, writing up reports, and attending meetings to discuss the progress of the overall project. His position allows him to still spend time at the bench, but it's always a balance between performing wet-work and knowing when to delegate tasks to a team of tech scientists. Although unique in comparison to academic research since the objectives of his work are more goal and end-point oriented, the work itself is still very hypothesis driven and provides opportunity for scientific exploration. Through successful work as an RSI, he hopes to be promoted to an RSII, which will increase his responsibilities and expand his team of technologists reporting to him. RSII's can potentially advance to directors or project managers, at which point, the position focuses more on data analysis, direction, and management rather than day-to-day bench work.

So how did he get this industry position?

While networking and informational interviews generally boost one's exposure and self-promotion to recruiters and hiring managers, Mark exemplifies one of the rare instances where his resume was selected from a stack of applications. As he put it, 'it was fortuitous that the project they wanted me to work on [not described in the position opening] just happened to use the same screening model I employed during my post-doc.' This highlights a key point that Mark revisited several times – he would not have been hired without his years of post-doctoral work and the experiences he gained that were unique to his pre-doctoral training. During his post-doc, Mark published three primary author articles, expanded his technical skill set, and importantly, he learned to collaborate with a diverse team of basic and clinical researchers.

'During your interviews and on your resume, you'll want to highlight instances of collaboration or teamwork, even if it's not directly related to your thesis project. They want to know that you can take the initiative to seek out partnerships and can function well in a team environment.' With regard to skill sets, diversifying your expertise with different methods and/or models will certainly make one more marketable – but also look for ways to apply skills you already have to new problems. Mark noted, 'Technically, my position description asked for someone with a strong immunology background, which, as a cancer biologist, I really didn't have; but I did use flow cytometry to characterize primary cancer cell populations based on their CD markers. As I described my work to them, I made it clear that while my background was pure cancer biology, I knew how to apply the skills I had already had to an immunology centric project.'

Mark's final bit of advice to doctoral students was to show your passion and energy for science and the position for which you're applying. 'It's our default as bench researchers to see the guy behind the desk and immediately clam up as if you need to show them that you're a serious candidate. But a lot of times, these companies are looking for youthful scientists to bring in new ideas, perspectives, and energy to the company. You should be excited for the career that you're about to begin.'

Informational Interviews: Clinical and Translational Research

Dr. Jessica Pritchard, PhD, BIMS-Microbiology Alumnus (2011)
Clinical Trial Coordinator at UVA Clinical Trials Research Office in
Department of Pediatrics, Hematology/Oncology Division

(Interview by Sydney Webb Strickland, originally published in the December 2014 GBS Newsletter)

Could you describe a typical workday? What tasks are involved in being a CRC?

There isn't really a typical day or a typical hour really, but some of the tasks involved in being a clinical research coordinator (CRC) are reviewing submitted clinical trial protocols, creating and managing budgets, and monitoring patients currently involved in clinical trials. This position requires a lot of organizational skills to manage large amounts of trial data as well as being able to identify a problem (with a proposed trial for example) and being able to determine a viable solution, much like what graduate students do every day in the lab in troubleshooting experiments.

How did you find your current position?

Jessica started out her career by shadowing (volunteering) through the Office of Clinical Trials here at UVA. She learned a lot about clinical trial management and was even hired occasionally in a temporary position in the office she shadowed in. She did this for about 6 months before she was hired in the Department of Pediatrics. During her job search she continually heard she was either overqualified or underqualified for the desired position. She eventually used that to catch the attention of the Hem/Onc Division by stating in her cover letter that she realized that she was both over and underqualified for the position she was applying for but continued on to describe that while having her PhD was an over qualification, the critical thinking skills she acquired during it allowed her to make up for her under qualification in clinical experience and quickly learn to evaluate and supervise clinical trials. She was also able to win over the hiring committee with her dedication to her craft. When asked was she willing to work late or come in on weekends or holidays, she responded she once snow-shoed in to lab because an experiment needed to be done during her grad school years. She said that "Graduate students are a dedicated and driven lot, by definition and that's something employers want and are looking for in potential."

What do you find most rewarding and/or challenging about your current position and/or career track?

The most rewarding aspect is going through a clinical trial proposal and thinking through all the proposed experiments to identify all the potential pitfalls and the solutions to those in order to create an even better clinical trial. Through years in the research lab of planning an experiment, having it fail, and then repeating the experiment and attempting to fix the problem, Jessica learned how to identify problems preemptively, which comes in handy in the planning steps of a clinical trial. "The concepts of research are universal", as a trained PhD you know the questions to ask and where to go to try and find the answers and potential solutions to problems that arise in the planning stages of a clinical trial.

Would you be able to speak to how your current company evaluates applicants? What does UVA look for in applicants? Is there anything in CVs or resumes that would jump out to an interviewer when interviewing for a position like yours?

As graduate students or recent graduates, we tend to promote what techniques we have mastered on our resumes. However, the better way to describe our skills is by making a list of Notable Strengths that list our abilities, for example being able to present complex ideas to a very general audience, able to teach yourself computer programs and various tasks (suggests you are trainable), preemptively stop problems from arising and proficient in computer skills such as Excel and Word. Be honest in the cover letter when describing your skills. We often sell ourselves short (as grad students) when really we all do our jobs very well (researching) because we are able to find information through reading journals, internet searches, or library references to solve problems.

Informational Interviews: Clinical and Translational Research

What are the most important skills and personal characteristics that make you successful in your field? Did you learn any of these skills during graduate school?

The most important skills were the soft skills which are translatable to the clinic, such as troubleshooting, planning/time management, being proficient in web and database searches in order to find needed information from journals, organization, and teaching large, often mixed, groups of people. All of these skills are talents graduate students practice every day (we just don't realize). Giving a talk in RIP or at a department seminar is an opportunity to practice teaching, while that troublesome experiment is just sharpening your troubleshooting skills that come in handy for Jessica when she is reviewing clinical trial proposals for potential flaws in the experimental design.

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Informational Interviews: Scientific Writing

Dr. Anne Knowlton, Ph.D. BMG Alumnus
Associate Editor at Current Biology

(Interview by Sarah Gray, originally published in the March 2015 GBS Newsletter)

Dr. Knowlton achieved her PhD in 2009 in Dr. Todd Stukenberg's laboratory in the department of Biochemistry and Molecular Genetics at UVA. She then spent about two years as a post-doc working with Dr. Trisha Davis at the University of Washington. Since then, Dr. Knowlton has moved up the editorial ranks at Current Biology.

What is your education and experience background? (i.e. what degrees do you have and how was the progression to your current position?)

I attended Clemson University as an undergraduate, and received a BS in Biological Sciences. While at Clemson, I worked in several labs, studying nodulation in legume roots, evolution and sexual selection in fish, and disease resistance in pathogenic fungi. From there, I went to UVA for my PhD work, in the Biochemistry and Molecular Genetics department (through BIMS), and worked with Todd Stukenberg. I studied a class of kinesins that depolymerize microtubules, and how their activity is regulated during mitotic spindle assembly. After I completed my PhD, I did a post-doc at the University of Washington in Seattle with Trisha Davis, studying how the proteins in the kinetochore transduce force from the mitotic spindle to the chromosomes during mitosis. After about two years of postdoc work, I applied for the position at Cell Press, and was hired as a scientific editor for the journals *Developmental Cell* and *Current Biology*. After three years of working for both journals, I decided to focus my efforts on only one journal, and now I work at Cell Press as an Associate Editor for *Current Biology*.

Could you describe one of your typical workdays? (What is your typical day like/hours/responsibilities)

Current Biology is unique from a lot of research journals, in that roughly half of the journal is review material, and the other half research articles. So, my job is basically divided into two parts along those lines. Firstly, I spend a lot of my day evaluating the papers and pre-submission enquiries that are submitted to the journal. I read over these submissions, look at the relevant literature in the field, and then I send my evaluation of whether or not we should consider the paper to the rest of my team. Once we reach a consensus, I either reject the paper, or send it out for peer review. Secondly, the other half of my day is spent curating the review material for the journal – so, thinking of ideas for new review pieces (we have many different formats at *Current Biology*, which makes the journal really interesting!), then commissioning appropriate authors to write the articles, and then editing them once they come in. In addition to these daily activities, I also work on bigger projects within Cell Press, like planning conferences. Finally, as editors we travel to a few conferences a year, and also visit universities – this helps us stay informed of what the interesting new discoveries are in the different fields that we publish, and allows us to have in-person conversations with scientists about their work.

Informational Interviews: Scientific Writing

What specifically helped or hindered your success at getting a job after graduate school?

This job was just the right fit for me. As you might have noticed earlier when I was talking about my experience, I have always had a broad interest in all of biology, which is a good trait for an editor to have. As an editor, you don't get to focus on your direct specialty anymore, but you have to think about everything that fits into the scope of the journal. So you have to have a passion for science and the communication of science, not just for one specific field. I also published both of my papers from graduate school in *Current Biology*, so I was already devoted to the journal from the beginning!

How did you find out about your current position?

Honestly, I just saw the job posting online, and applied! I had always thought being an editor would suit my personality and my interests, and I was right! It's really my dream job.

What do you find most rewarding and/or challenging about your current position and/or career track?

To me, being an editor is the best of all worlds. I get to read about interesting science all the time, I still get to travel to conferences and engage with scientists about their work. I think it's really rewarding to help scientists communicate their findings to the world, and to be a part of such an interesting journal!

What is the next step in your career path? What are the future career opportunities for someone in your position?

There are various promotions you can get as an editor, as you become more senior and take on more responsibility at the journal. Also, Cell Press journals are part of the larger publishing house Elsevier, which has many opportunities in lots of different areas of scientific publishing.

What are the most important skills and personal characteristics that make someone successful in your field?

Most successful editors I have come across really like to think broadly across many areas of science. To be passionate about this job, you can't really stick to the area you were trained in, but you have to be able to see what's interesting across many fields (especially in a journal as broad as the one I work for). In addition, the workload can be quite high at times, and the deadlines are strict, so you have to be good at managing your time!

What skills that you learned in graduate school were essential to you for acquiring your current position? What are some skills that you use now that were less emphasized or developed during your graduate career?

In grad school, by the end I had really become the de facto editor for the lab, and was looking over everyone's papers and my boss's grants before they went out. I think I just had a natural knack for editing, and having all the practice in grad school has definitely helped me in my career! I also took advantage of all the seminars in the different departments around campus, which helped keep me up-to-date in fields where I wasn't working.

Informational Interviews: Scientific Writing

Is doing a post-doc advantageous for your current position and/or career track?

I know a lot of fantastic editors who did not do postdocs, but I did one, and most of the newly hired editors I see today did postdocs as well. There is no 'rule' about it per se, but having a postdoc probably helps in getting an editorial position.

Do you have any recommendations for organizations that current graduate students can join to learn more about or get experience in your current career path? What professional journals or organizations pertaining to your field should I be aware of?

I don't think there are any specific organizations to look out for here, but be on the lookout for editors at conferences you attend, and ask as many questions as you can! Many of us also participate in career fairs at universities, which can be a great way to make contacts, and to get more information about the profession.

What advice would you give a graduate student interested in pursuing your career path?

Enjoy yourself right now! Publish some good papers, read some good papers, and go to as many wacky and interesting seminars as you have time for. Network within your field. Go to a lot of conferences, and make good friends. Stay excited about science – not only your project, but all of it!



Let's do some networking...

Do you have any previous lab mates, friends, collaborators, neighbors, or family members working in science? They probably have valuable insight to provide graduate students here at UVA. If you think they would be interested in participating in future career panels, newsletter interviews, or other professional events, please let us know! We are always looking for new careers, perspectives, and insights to provide during our GBS Professional events.

Submit contact information here!

Grant Application Tools

There are multiple benefits to applying for grants. In addition to funding projects and travel, applying to a grant or fellowship introduces graduate students and trainees to skills that are transferrable to other aspects of their career. This month, we've spend some time compiling resources to help with your grant application.

Grant Search Tools

Fogarty International Center

Large collections of grants searchable by career stage and funding body

GBS-curated list

Consolidated list of non-NIH grants for graduate students adapted from BME

SPIN

Huge data base of grants searchable by various criteria. Access requires UVA IP address or Netbadge.

Application Guides

NIH Grant application guide

Extensive suggestions for applying for grants. While this guide primarily focuses on NIH grants, it is relevant for any application

Vanderbilt presentation

Practical guide to applying for the American heart association, NSF, UNCF Merck, US department of Veteran Affairs, and the Department of Defense.

Featured Grants



Paul and Daisy Soros New American Fellows

Supports graduate educations of New Americans (first or second generation immigrants) in their first or second year of schooling. November deadline. Up to two years of stipend and tuition support.

The National Defense Science and Engineering Graduate Fellowship Program

Doctoral students at the beginning of their studies are eligible to receive full tuition and required fees, and \$30,500 stipend.

American Heart Association Fellowships

Fellowships available for multiple training stages and subjects covering a broad range of topics. 2017 dates and application materials have not yet been finalized.

Acknowledgements

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Mike Schappe (ms9xb)

Jeremy Shaw (jjs3ge)

Feel free to reach out to [Tori Osinski \(vo3sc\)](#) or anyone on this list if you would like to help with upcoming issues of the newsletter!