The Department of Biological Chemistry and Molecular Pharmacology (BCMP) is a community of creative scholars, talented scientists and dedicated staff focused on advancing the research, teaching, and service missions of Harvard Medical School. The focus of research in BCMP lies in the elucidation of molecular mechanisms in biology and disease, emphasizing molecular, structural, and chemical approaches to understanding form and function in biology.

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BCMP Trainees
Faculty Interview: Sun Hur

Interview: Emily Low and Monika Stamberg

Where are you from, and how did you end up in Harvard’s BCMP department?
I am originally from South Korea, and joined Harvard in 2008 as an assistant professor.

Tell us a little about the current work going on in your lab.
For the last 10 years, we have been interested in molecules involved in the antiviral innate immune response. These include receptors that recognize viral RNAs and downstream molecules that activate antiviral signaling pathways. Recently, we became interested in transcription factors involved in the development of the vertebrate adaptive immune system.

What are some of the open questions in vertebrate immunology? What do you see as the strengths of a molecular approach to answering these questions?
In both the innate immune and adaptive immune systems we have been studying, we found that ordered protein aggregation represents a new functional state for either cytosolic signal amplification or transcriptional regulation. I think that there is a lot to be learned about how protein aggregation confers their functions in various biological contexts, and how cells distinguish between functional and non-functional aggregates (such as mis-folded protein aggregates). These are the key questions that I am interested in working on in the next few years.

Are there any milestones you would like to accomplish in your lab within the coming year (2018)?
In fact, we have a few new exciting findings on this very topic of the role of protein aggregation in both innate immune signaling pathway and adaptive immune transcription factors. We found an E3 ligase playing a crucial role in innate immune receptor clustering, and a transcription factor utilizing its aggregation property for chromatin recognition. We are currently preparing manuscripts on these topics.

Why did you choose to pursue science?
I always thought that I would be a scientist (I assume this answer is not very helpful). I loved drawing and painting, and have once seriously considered this option, but this felt right as a hobby. Within science, however, my passion has evolved over time. I originally thought I would be a physicist, but eventually became more and more attracted to biological science. I think that my science is still evolving in the same direction, from biophysical to cellular approaches, and I really like that aspect of my job – the ability to change your approach or field as your interest evolves.

What advice would you give to a new graduate student or post-doc thinking of pursuing academia?
I know many people interested in academia think quite a lot about the “what if” question - i.e. what if it does not work out? I think a little bit of this kind of thinking could be helpful. But often times, if you spend a lot of time thinking about the “back-up plans”, you are essentially aiming for the failure for your major goal. Starting my lab was tough, and I also had this question of “what if”. And I still do, to be honest. But I came to the conclusion that I will have more regrets if I don't succeed because I didn't go all in, rather than not having a back-up plan.
Alumnus Interview: Elizabeth Boehm

Previously a Walter lab Post-Doc; Interview: Emily Low

Tell us a little bit about where you’re from.
I’m from a small town in north-central Illinois, but lived all over the Midwest before moving to Boston.

Describe your current job for us.
I am a patent agent in the technology specialist program at Wolf Greenfield, an intellectual property law firm in Boston. I work with more senior associates and shareholders to draft and prosecute patent applications on behalf of our clients.

How does patent law work?
Broadly speaking, inventors (either individuals or larger entities) seek patents to protect others from infringing on their intellectual property.

How did you find your current position?
I worked with James Gould in the Post-doc Office at Harvard because I knew that I was interested in intellectual property law. He mentioned Wolf Greenfield as a firm with an excellent reputation.

What aspects of your PhD and post-doc training did you find were most helpful in training for a job in patent law?
First and foremost, written and verbal communication skills. The ability to efficiently read, digest, and translate complex scientific information is critical. Also, learning to work effectively as part of a team and independently.

What aspects of your current position do you enjoy the most?
I love that I get to learn about cutting-edge science from a wide variety of fields that fall under the biotechnology umbrella. Every project is different and involves a new breakthrough. I get a lot of satisfaction knowing that I am working to bring breakthroughs generated in the lab into the public.

What resources would you recommend for any grad students or post-docs on the job hunt?
I utilized a lot of resources at Harvard, including the post-doc office, various networking events, and other colleagues with outside connections. An effective LinkedIn profile is also critical and seems to have become the new version of your resume.

What are some of the best places in the Boston area to relax?
Those who know me know that I’m a dog person. My favorite place to relax is at the dog park where my dogs can run and play. I also really enjoy Friday evenings at the MFA with friends. I am also a very active person and I relax by swimming, walking my dogs, and have recently gotten very into barre.

Any last words of wisdom?
If you have decided on a non-academic career, networking is key. Figure out what you would might like to do first; I utilized the MyIDP tool on eCommons to start my search. Then identify companies or organizations where you think you would really like to work. Then start to build a network around those goals.
Grad Student Interview: Jaeho Paek

Interview: Assaf Alon

Where are you from?
I am from South Korea.

What are your scientific interests?
I am interested in understanding mechanisms of signal transduction through transmembrane receptors by structural biology approaches.

What do you like to do to relax outside of lab?
I am interested in several things. One of my favorites these days is watching rabbits feeding on grass right outside my apartment. They are much more pleasant to watch than the diabetic squirrels scavenging on half-eaten pizza from trash can that I saw when I was back in California.

Any recommendations for a quick bite around the campus or where you live?
I recently tried a place called “Happy Lamb Hot Pot” near central square T station. Didn’t have high expectation before but turned out to be a surprisingly good hot pot. Their broth is very good.

(Bonus question) When a Nobel prize will be awarded for CRISPR, who will be the recipients? Why?
It would have to be Jennifer Doudna, because I can’t figure out anyone else in my mind.
Molecular Mechanistic Biology

Annual Symposium

Cannon Room
Monday, May 21st 2018
1 – 5 pm

Keynote Speaker:
Chris Miller, Brandeis University

“Ancient biological challenge met by weird proteins: Fluoride exporters in microbes”

HMS Speakers
Sara Buhrlage | Dan Finley | Susan Shao
Inwha Baek (Buratowski lab) | Hayden Schmidt (Kruse Lab)

Open to the public – All are welcome!

The Molecular Mechanistic Biology (MMB) concentration is an interdisciplinary graduate student community united by a desire to understand biochemical, biophysical, and cellular mechanisms at the molecular level. The MMB community is excited to host its first symposium featuring student and faculty talks from an array of scientific backgrounds spanning the community’s interdisciplinary interests.
Subscribe to the LAB HELP listserve!

You can now subscribe to the BCMP_LABHELP listserv! All subscribers to this mailing list can send lab-related requests (e.g. small aliquots of reagents, materials to borrow, protocol advice) to all other subscribers, and we of course encourage everyone to help out your colleagues when you can. Let’s build some good karma! This system works really well in other institutes to speed up projects and making connections with (more distant) colleagues.

Please subscribe and please spread the word!
Follow the link here to subscribe:
https://listserv.med.harvard.edu/scripts/wa.exe?SUBED1=BCMP_LABHELPv

Or scan the QR Code on your phone!

If you have any questions, please do not hesitate to contact Hanneke Vlaming (Hanneke_Vlaming@hms.harvard.edu) for help and more information.

SAVE THE DATE!
BCMP FALL RETREAT 2018
OCTOBER 24th- 26th

Mountain View Grand Resort
Whitefield, New Hampshire
Photo Gallery
Meet the BCMP Trainee Committee

About the BCMP Trainee Committee:
The Biological Chemistry and Molecular Pharmacology Trainee Committee is responsible for addressing the needs of the graduate students and post-doctoral fellows in the department. This committee is charged with identifying ways to create a sense of community for students and fellows and to increase interactions between trainees and the faculty. Current initiatives of the committee include the publication of the department newsletter and selecting and hosting a seminar speaker. The Committee meets regularly with faculty and departmental administration to suggest and implement improvements for students and fellows. If you have any concerns or suggestions please contact one of the committee members.

Come join us!
We’re always looking for additional members within the BCMP Department to join our Trainee Committee. If you would be interested in partaking in the committee, please feel free to come to our next meeting by contacting Kristen Parker at Kristen_Parker@hms.harvard.edu

Members of the BCMP Trainee Committee:
Emily Low & Monika Stamberg – Co-Chairs
Assaf Alon
Brendan Gillis
Jessica Lawler
Hanneke Vlaming
Hyeongjun Kim
Jason Heustis
Kristen Parker
Mabel Duyao
Madhvi Venkatesh
Nathan Schauer
Olga Kochenova
Phong Lee
Ravindra Amunugama
Rosio Fernandez
Tito Adhikary
Antonieta Salguerro
Antonio Ferreira
Joshua David

Newsletter Layout Staff
Nathan Schauer
Tito Adhikary
Monika Stamberg
Emily Low
Admin Office

Yolima, Gregory and Abby welcomed baby David on April 5th, 7:14pm. He weighs 8 lbs and 1 oz and measures 20.5”.

Melanie Hill (grant manager) and her husband, Marc, and oldest son, Miles, welcomed Mason Bradley Simmons on December 27th at 9:43am. He weighed 7 lbs 9 oz and measured 19.5 inches.

Adelman Lab

Congratulations to both Eileen and Hanneke for receiving highly competitive fellowships! Eileen was awarded a fellowship from the NSF Graduate Research Fellowship Program. Hanneke was awarded 3 fellowships and will be an EMBO fellow for half a year before starting on a fellowship from the Human Frontier Science Program.

Emily Egan from the Adelman and Blacklow labs has welcomed her second baby girl. Congratulations Emily, and welcome Zoe!

Brown Lab

The Brown lab welcomes two new members: Sandeep Singh, a postdoc from Purdue University, and Adrian Koh, a postdoc from the National University of Singapore.

Buratowski Lab

Louis Soares, a postdoc in the lab, moved to Foghorn Therapeutics in December.
Devlin Lab

Welcome to four new members: Arijit (Ari) Adhikari, a postdoc from the University of Syracuse, Lina Yao, a postdoc from the National University of Singapore, Snehal Chaudhari, a postdoc from the University of Georgia, and Sula Ndousse-Fetter, a research assistant from Harvard University.

Sloan was named a Karin Grunebaum Cancer Research Foundation Fellow in support of the lab’s work studying the connection between human gut bacteria and colon cancer.

Gray Lab

Welcome to our newest lab members: Brian Groendyke, a new postdoc from Bloomington, Indiana; Jie Jian, a new postdoc from Xiamen, China; Zhengnian Li, a new postdoc from Dalian, China; Inchul You, a new graduate student from Seattle, Washington; and Yina Li, a new research technician from Zhejiang, China.

Farewell to Calla Olson, a postdoc who is now Group Leader of Chemical Biology at the Therapeutic Innovation Center (THINC) at Baylor College of Medicine in Houston, Texas.

Congratulations to Benika Pinch and Chelsea Powell for receiving NIH predoctoral (F31) fellowships.

Chou Lab

Welcome to Dr. Linlin Zhao, who is a new postdoctoral fellow that just joined the lab. Dr. Zhao received her Ph.D. from the Shanghai Institute of Biochemistry and Cell Biology at the Chinese Academy of Science.

Farewell to Jyoti Dev, a Ph.D. student in the Harvard Virology program, who departed on August 1st for a job in a consulting firm in Boston.
Congratulations to Lara Genchijian, a graduate student who defended her thesis on April 2nd, 2018, and Dennis Dobrovolsky, a graduate student who will defend on May 11th, 2018.

Gregory Lab

In October 2017, Qi Liu, Ph.D., joined our lab as a post-doctoral fellow. Qi earned his Ph.D. in Forestry Bioinformatics from the Research Institute of Forestry at the Chinese Academy of Forestry.

Harrison Lab

Welcome to two new members, Jacob Zahm and Robert Osei-Bonsu.

Congratulations to Yoana Dimitrova, who accepted a new position at Genentech. She also gave birth to her son, Winslow Morin, on March 13th.

Congratulations to Aaron Schmidt, who accepted a faculty position in the Department of Microbiology and Immunobiology and will start his laboratory at the Ragon Institute.

Hogle Lab

Farewell to Ming Lye, now a Scientist at LifeMine Therapeutics, Cambridge, MA.

Hur Lab

Welcome to new lab member Kazuki Kato from Japan.
Best wishes to Fangwei Leung who got married recently.
Congratulations to Cristhian Cadena on receiving a 2018 Ryan fellowship.

Kruse Lab

The Kruse lab welcomes Benjamin Elon Burri.
Congratulations to Sarah Erlandson on receiving the F31 fellowship.
Loparo Lab

Congratulations to Andrew Moreno for receiving the American Cancer Society Fellowship.

Farewell to HyeongJun Kim, who left to start a faculty position at the University of Texas, Rio Grande Valley, and to Sankalp Gupta, who left to start a position at Xyleco.

Springer Lab

The Spring lab welcomes Jordan Anderson from the University of Washington

Farewell to Ying Li, who moved back to China.

Wagner Lab

Wagner lab welcomes several new lab members:
Graduate Student Intern Jonas Tholen from the University of Tuebingen, who will be in Wagner Lab until June.
Postdoc Matt Preimesberger from Johns Hopkins, who recently has joined Wagner Lab.
Harvard Medical Student Jacob Anderson, who is doing a 6 month rotation at Wagner Lab.
Wagner Lab collaborator, Hari Arthanari welcomes Postdoc Thibault Viennet to his Lab.
Wagner Lab collaborator, Melissa Leger-Abraham welcomes Postdoc Annissa Belfetmi to her Lab.

Lab members who have moved on:
Professor Hee Chan Sao’s sabbatical has ended and he returned to the University of Bergen.
Intern Jonas Miehling has returned to Technical University of Munich.
Postdoc Rodrigo dos Santos has returned to Brazil.

Personal milestones:
Mahmoud Nasr and his family welcomed their daughter, Salma Nasr on December 28th.
Walter Lab

Congratulations to Post-doc Alex Wu on receiving the American Cancer Society Postdoctoral Fellowship 2018-2020, and to Johannes Walter on receiving the American Cancer Society Research Professor Award 2018-2023

Congratulations to Post-doc Gheorghe Chistol and Liem, who welcomed their baby boy Henry Huynh Chistol on 1/14/18

Former post-doc Elizabeth Boehm is now a patent agent at Wolf Greenfield.

Wu Lab

The Wu lab is happy to welcome Jingxia Zhao, who joined the lab in October 2017 as a post-doctoral fellow, from China.

Congratulations to Yang Li, a former instructor, who is starting a new position as an assistant professor in the UT Southwestern Medical Center.
Adelman Lab


Buhrlage Lab


Buratowski Lab

Hannah Mischo, Yujin chun, Kevin Harlen, Brendan Smalec, Somdutta Dhir, L. Stirling Churchman, Stephen Buratowski, Cell-Cycle Modulation of Transcription Termination


Chou Lab


Gray Lab


Harrison Lab


Hur Lab

Ahmad S*, Mu X*, Yang F*, Greenwald E, Park JW, Jacob E, Zhang C-Z and Hur S,


**Kruse Lab**


**Loparo Lab**

Springer Lab


Wagner Lab


Wu lab


Zhang L, Wu H (2018). Bad germs are trapped. Cell Res. 28(2):141-142