

Microbiology & Infectious Disease

The MID Newsletter

Issue 8, Summer 2018

A Message from the Program Director:



It is a great honor to be the Microbiology and Infectious Diseases (MID) Program's program director. Overseeing and being responsible for the educational growth and training of our talented graduate students is a privilege as well as an important responsibility. I am very pleased to announce that this fall Dr. Nayun Kim will be joining the program leadership as co-director, taking over from Dr. Ambro van Hoof, who served as our program director for four years and co-director for one year. Please join me in thanking Ambro for his outstanding service. Ambro set the standard for program director excellence, characterized by his care of, and responsiveness to, the students, the faculty, and the graduate school. Ambro shepherded the MMG/MID program through a period of many changes that included

a complete restructuring of our curriculum and a name change. Additionally, Ambro was always available to counsel and advise students dealing with personal or laboratory related challenges as they arose. Thank you again, Ambro, for your exemplary service. I hope that Nayun and I can continue to emulate the high standards that you have set! I am very pleased to welcome Nayun on as our co-director and director elect. Dr. Nayun Kim is an assistant professor of Microbiology and Molecular Genetics and started her laboratory at UTHealth in 2013. Her role as a co-director will involve helping me in all aspects of program management, gaining the hands-on experience that will enable a smooth transition into program director as my successor. As you are aware, GSBS is in the final stages of reshaping the graduate school programs. As one of the final steps, the programs drafted new bylaws. The MID program's bylaws were recently approved and implemented (bylaws available online, URL on back page). I will highlight how MID program leadership will turnover going forward. GSBS will hold an election for the director, elected by the program faculty. The director-elect of the program will serve as co-director for two years and subsequently, upon election, as director for a single two-year term.

To get on track with these new bylaws, please note that Nayun will be serving as co-director for only one year, and is slated to be director starting in the fall of 2019. In addition to faculty leadership, the program consists of important student leadership positions. Anh Kim Trinh Nguyen serves as the head of the MID student advisory council along with Unekwu Yakubu and Laurel Thompson. These program representatives are here to serve you and I encourage you to contact them about matters relevant to the program. I also ask you to consider running for one of these elected positions. Details about these important roles can be found in the bylaws.

I will end by stating how much I look forward to continuing to serve the MID faculty and students as program director. Please do not hesitate to reach out if there is anything I can do to help you navigate the MID graduate program.

Danielle Garsin
MID Professor & Program Director



Congrats to **Chris Evans**, who designed the new logo for the MID program!

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A Spotlight from the MMG Department Chair: Footprints in the halls of MID

One day (and most students wish it to be sooner rather than later), all MID students reach the ultimate goal of earning a graduate degree. A signed thesis and subsequent diploma are the universal outcomes of graduate school. But what will be your true legacy after your time at the GSBS is finished? Your primary answer is likely to be “my scientific publications.” Your papers will most certainly be the everlasting evidence of the hard-earned discoveries and ideas that are to be attributed to you. Publications are the currency of science. Without publications, science stands still. A wise person once said, “Research unpublished is research not done.” But what else will be your graduate school legacy? What will you leave behind? How will you be remembered for the time you spent in this special place? And who exactly will remember you? The pages of this newsletter reflect the many and various ways that MIDers are making lasting footprints inside and outside the Texas Medical Center community. I am so very delighted to observe MID students making impactful contributions that go beyond the research bench. Our students are using their time and talent to educate and serve their community. Leadership and service on GSBS, Health Science Center, and Medical School committees contribute in tangible ways to our day-to-day business. Hosting community science nights and producing podcasts make use of your science education to spread your passion to broader communities. And perhaps most influential, mentoring the next generation of graduate students on the ways and nuances of our school can leave a lasting impression on your successors.



If you are already making footprints, keep walking. And if you have not yet gotten your feet muddy, give it a try. What will be your footprints when you leave graduate school? How will you be remembered? Make your graduate career the pursuit of success *and* significance. I can't think of a better launch pad for your post-Ph.D. life.

Theresa M. Koehler, Ph.D.
MID Professor & MMG Department Chair

ASM-TMC PODCAST

The American Society for Microbiology Texas Medical Center branch has provided students and postdoctoral fellows from universities throughout the Texas Medical Center with opportunities to network and volunteer in the community since 2008. This year, MID students **Naomi Bier**, **Celso Catumbela**, **Ayesha Khan**, **Belkys Sanchez**, along with Alex Kang from Rice University, are producing a podcast called @MicroCast, available on iTunes and Soundcloud. This podcast aims to educate a wide audience of non-scientists and scientists alike on challenges facing, and new discoveries in, the microbiology and infectious disease field. Topics have included antimicrobial resistance and fecal matter transplants, with guest experts Dr. Cesar Arias and Dr. Herbert DuPont weighing in. Future topics will explore the history of microbiology, the human microbiome, genetically modified organisms, and bioterrorism. Suggestions for topics and experts to be featured are welcome. You can send your recommendations to Celso Catumbela, Celso.Catumbela@uth.tmc.edu, or Ayesha Khan, Ayesha.Khan@uth.tmc.edu.

Award Winning MID Students & Postdocs

The achievements of MID students are frequently recognized by the Graduate School (<https://gsbs.uth.edu/current-students/awards-and-funding-opportunities/>) and external funding sources.

Naomi Bier:	2nd Place Poster at GSEC Research Poster Competition
Yasmin Chebaro.:	Travel Award, ASM Candida and Candidiasis Conference
Ozgun Karkuzu:	1st Place Postdoc Poster, MBID Retreat
Ayesha Khan:	2nd Place Poster at GSEC Research Poster Competition
Minseon Kim:	3rd Place Poster at GSEC Research Poster Competition
Kara Schoenemann:	John and Rebekah Harper Fellowship in Biomedical Sciences
Sara Siegel:	Inaugural Dr. John J. Kopchick Fellow
Natalie Sirisaengtaksin:	1st Place Poster, ASM TX Branch Meeting
Laurel Thompson:	Gigli Family Endowed Scholarship recipient
Elisa Vesely:	Inaugural Dr. John J Kopchick Fellow League of City Women's Clubs Scholarship Millicent and Eugene Goldschmidt Graduate Student Award 1st Place Student Poster, MBID Retreat
Robert Williams:	Molecular Basis of Infectious Disease Fellowship Trainee Travel Award, ASM Candida and Candidiasis Conference

Dean's Research Award

Three MID students were awarded the Dean's Research Award on September 12th in a ceremony sponsored by the Graduate Student Education Committee. This is the highest award given by the Medical School to students.

(from left): Tanya Baldwin, George Edwards, **Jaeil Han (van Hoof lab)**, Matthew Howe, Dean Barbara Stoll, **Jillian Losh (van Hoof lab)**, Meagan Roy-O'Reilly and **Sara Siegel (Ton That lab)**. Congratulations to everyone! MID is proud of the recognition our students receive for their hard work!



MIDers Attend Prestigious Conferences and Workshops

MID students and postdocs have opportunities to attend many national and international conferences and workshops throughout the year. **Sara Peffer** and **Amy Ford** attended the Gordon Research Conference on Stress Proteins in Growth, Development, and Disease in July in Newry, Maine. **Yasmin Chebaro**, **Pedro Miramón Martínez**, **Elisa Vesely**, and **Robert Williams** traveled to Providence, Rhode Island for the 14th ASM Conference on Candida and Candidiasis in April. **Elisa Vesely** also attended the Gordon Research Conference in Cellular and Molecular Fungal Biology in June in New Hampshire. Many MID students participated in local retreats as well, including the Molecular Basis of Infectious Disease Retreat in March.



2018 Poster Award recipients at the MBID Retreat. (from left): Dr. Heidi B. Kaplan, Poster Award recipients Ozgur Karkuzu, Elisa Vesely, Anubama Rajan, Dr. Theresa M. Koehler, Dr. Steven J. Norris



Natalie Sirisaengtaksin, Laurel Thompson, and Diana Vaz at the ASM 2017 Texas Branch meeting in College Station, TX.



Danielle Garsin and Armand Brown hitting the slopes while at the Enterococcus Meeting in Chamonix, France.

MID Volunteers



Each year, many MID students donate their time to enrich their community. The GSBS Outreach Council hosted a Community Science Night in January. **Celso Catumbela**, **Chris Evans**, **Amy Ford**, **Jennifer Hurtig**, **Sarah Lach**, **Kara Schoenemann**, and **Sara Siegel** introduced kids and their families to the fascinating world of microbiology. Attendees used microscopes to view microbes in pond water and cheek cells, colored their own microbe, and tested their hand-washing technique. Many thanks to **Unekwu Yakubu** for organizing all of the volunteers and events for Science Night. MID students took action following the devastation from Hurricane Harvey. **Naomi Bier**, **Ayesha Kahn**, **Jill Losh**, **April Nguyen**, and **Sara Siegel** collected women's toiletries and hygiene products donations for displaced members of the Houston community at NRG Stadium. Thanks to all the MID students for their time volunteering and assisting those in need!

Student & Postdoc Leaders

MID students and postdocs obtain leadership roles in a number of committees and organizations throughout GSBS, the UTHealth System, and the Texas Medical Center.

Naomi Bier:	ASM-TMC - Treasurer ASM-TMC - Podcast Committee Chair Institutional Biosafety Committee - Student Member	Pedro Miramón Martínez:	UTHealth Postdoctoral Association - Chair Emeritus LGBT Alliance - Co-Chair
Rachel Bosserman:	UTHealth Postdoctoral Association - Secretary Dean's Award Committee - Co-chair	Belkys Sanchez:	ASM-TMC - Secretary
Steven Distelhorst:	Travel Awards Committee - Co-chair Coffee & Career Series - Co-chair	Kara Schoenemann:	GSBS Graduate Student Association - Vice President MID Program - Student Representative
Martha Camacho Hernandez:	Coffee & Career Series- Co-chair	Sara Siegel:	ASM-TMC - Outreach Coordinator
Karan Kaval:	UTHealth Postdoctoral Association - Social Media Chair	Natalie Sirisaengtaksin:	Annual Postdoctoral Career Symposium - Planning Committee Member Dean's Award Committee - Co-chair
Yi Liu:	Consulting Club at TMC - Assistant Vice President Association for Women in Science Gulf Coast - Public Relations Chair	Robert Williams:	GSBS Graduate Student Association - Treasurer

MID Graduation Corner

This year, five MID students graduated in May. **Carrie Graham** is at University of California San Francisco as a postdoctoral fellow, **Jill Losh** is working in regulatory affairs and project development in the Office of Strategic Research Initiatives at the Houston Methodist Hospital, **Jaeil Han** has a postdoctoral position at the UT Southwestern Medical Center in Dallas, TX, **Alex Marshall** is currently in Denver, CO, and **Malik Raynor** is working with the government in the General Dynamics Information Technology Office as a Research Scientist in Silver Spring, MD. Congrats to all!



(from left): **Carrie Graham**, Dr. Michael C. Lorenz, Dr. Theresa M. Koehler, Dr. Danielle A. Garsin, **Jill Losh**, **Jaeil Han**, Dr. Ambro van Hoof, **Alex Marshall**, **Malik Raynor**.

Faculty Awards & Distinctions

In addition to many grants awarded and renewed for several faculty members this year as well as many promotions within the department, listed below are those who have received additional distinctions. Congratulations to all recipients!

- Danielle A. Garsin, Ph.D.:** Microbiology and Infectious Diseases Program Director
Dean's Teaching Excellence Award
- Heidi B. Kaplan, Ph.D.:** Dean's Teaching Excellence Award
- Nayun Kim, Ph.D.:** Women Faculty Forum 2018 Excellence Award
- Lanny Ling, Ph.D.:** Dean's Teaching Excellence Award
- Michael C. Lorenz, Ph.D.:** Elected Fellow of the American Academy of Microbiology
President-Elect of the GSBS Faculty
- Chris Mackenzie, Ph.D.:** Dean's Teaching Excellence Award

Goodbyes and Hellos in MID



MID is sad to say goodbye to **Vicci Sanders** who retired after serving as an administrative coordinator for 15 years. Vicci organized many of the MID program activities, including the fun holiday events. We wish her the best and will miss seeing her around!



The MID program welcomes our 2 new staff members **Joyce Brown** and **AlySha Wilrdge**! As part of the new GSBS program structure, Joyce is the first program coordinator for MID. She organizes program activities like the MID Retreat and Journal Clubs. **AlySha Wilrdge** is taking over Vicci's position as the new administrative coordinator, helping students and faculty with supply ordering, fellowship and award applications, and conference travel.



MID would like to welcome the new class of graduate students!

- Alec Santiago** (Morano Lab)
Celso Catumbela (Darkoh Lab)
Erika Flores (Krachler Lab)
Anh Trinh Nguyen (Krachler Lab)
Sarah Lach (Konovalova Lab)
Jennifer Hurtig (van Hoof Lab)

Perspectives on Mentorship

Last summer, officers in the Graduate Student Association implemented the new GSBS Mentor/Mentee Program, which paired older students with incoming first-years based on similar backgrounds and research interests. Several MID students served as mentors for the new students, which included those who joined MID and those in other programs. We asked several students who participated as mentors or mentees about their experience:

The GSBS Graduate Student Association initiated a new program for incoming students called the Mentor/Mentee Program. Senior students are paired with first-year students based on common research interests, backgrounds, and hobbies. Several lunches are hosted throughout the year for mentors and mentees to socialize. First-year students can opt-in to the program, which begins before they even arrive in Houston. **Sara Peffer**, a graduate student in the Morano lab, first contacted her mentee **Alec Santiago** before he began the fall semester, an aspect of the program he found invaluable: “The program as a whole is very important because many students like myself do not have a clear view of our direction and have not developed the skills we need to succeed when we arrive at graduate school.” **Anh Trinh Nguyen**, a first-year student, also appreciated the early start, noting that “the program was helpful in making my transition to Houston and graduate school smoother and easier than it might have been on my own.”



Alec Santiago with his mentor **Sara Peffer**, **Anh Trinh Nguyen** with her mentor **Amy Ford** reflect on their experiences in the new mentorship program

The program has benefited the students who participated as mentors as well. **Amy Ford** described her unique experience in the mentoring program: “It allowed me to mentor new students on their experiences outside of the lab, which was totally different from mentoring a rotation student. The focus of the program's mentor/mentee relationship was more on the overall graduate school experience.”

MID students who served as mentors:

Chris Evans, Amy Ford, Jill Losh, Norah Owiti, Sara Peffer, Belkys Sanchez, and Kara Schoenemann

More MID students are participating as mentors for the next class of students. They hope that regardless of program choice, they'll be able to make a positive impact on their mentees. **Robert Williams** said, “The students I mentored ultimately did not join the MID program, but that didn't mean that the advice I gave to them was irrelevant. Our research interests differed, and I may not be able to give them tips on their experiments, but the graduate school experience is universal.”

Annual MID Retreat

Each year, the MID program organizes a 2-day retreat at Camp Allen in Navasota, TX for program members and faculty. Thanks to **Anne-Marie Krachler** and **Joyce Brown**, this year's retreat was the best yet! In years past, individual students and postdocs from each lab would present their project. This year, MID adopted a new research presentation format, where each lab presents their research together in a joint 25-minute talk. Every student, postdoc, and faculty member had the opportunity to share their work with the entire program. The keynote address was given by **Dr. Robert Wheeler** from The University of Maine. Dr. Wheeler showed fascinating videos of *Candida albicans* colonizing the model organism zebrafish during his talk on host-pathogen interactions. The first-year students traditionally organize a fun activity for the program following the keynote. This year, they cleverly devised a series of riddles and puzzles for teams to solve in an Escape Room-style game. The second-year students hosted a fun gathering at the clubhouse for everyone to unwind and have fun. This year's winning T-shirt design was submitted by **Sara Peffer** and **Amy Ford** in the Morano lab. **Thanks to everyone for making the retreat fabulous!**



Kara Schoenman and Malik Raynor working hard to crack the code during the Escape Room activity planned by the first-year students



Taking the lab presentation to heart, the Lorenz lab adopted Mike's style for a team uniform. Pedro Miramón Martínez, Yasmin Chebaro, Mike Lorenz, Elisa Vesely, Robert Williams



The Garsin lab playing dress-up at the party! Ozgur Karakuzu, Karan Kaval, Danielle Garsin, Clara Sinel, Yi Lui



Small but mighty! The van Hoof lab enjoying themselves at the party. Minseon Kim, Ambro van Hoof, Jennifer Hurtig

Life in the MID program:

MID students excel not only in research, but in their creative pursuits as well! They celebrated their 6th consecutive victory in the GSBS group costume contest in October. Students choose a theme each year and construct their own costumes and props. All of the winning themes are shown below.

Congrats students!



2012 - Alice in Wonderland



2014 - Lego



2016 - Super Mario Bros.



2013 - Outer Space



2015 - Under the Sea



2017 - The Lion King



Makayla Wells (left) created new trophies for the winning dishes at the MID Thanksgiving potluck



MID members show off their ugly holiday sweaters at the GSBS Graduate Student Association Holiday Friday Afternoon Club



The Koehler Lab celebrated at the MID Holiday Lunch



Ali Berroyer and her advisor Dr. Nayun Kim at the GSBS White Coat Ceremony in September

**Want your photos to be included in the next MID newsletter?
Email them to one of our newsletter editors!**

MID Faculty, Staff, & Students



Cesar Arias, M.D., Ph.D.

Molecular mechanisms of antibiotic resistance in Gram-positive pathogens

Ayesha Khan
April Nguyen

Peter Christie, Ph.D.

Macromolecular transport during pathogenesis

Charles Darkoh, Ph.D.

Roles of bacterial metabolites in enteric infectious diseases

Celso Catumbela

Nick DeLay, Ph.D.

Regulation of bacterial gene expression by small RNAs

William Dowhan, Ph.D.

Cell membrane structure, function, & assembly

Danielle Garsin, Ph.D.

Graduate Program Director
*Understanding the genetics of bacterial infection using *C. elegans**
Yi Liu

Barrett Harvey, Ph.D.

Design & development of recombinant antibodies & biologics

Magnus Höök, Ph.D.

Biology of extracellular matrix, adhesion, & microbial virulence

Heidi Kaplan, Ph.D.

Cell-cell interactions required for multicellular development & biofilms

Nayun Kim, Ph.D.

Factors involved in instability within eukaryotic genomes

Alexandra Berroyer
Norah Owiti

Theresa Koehler, Ph.D.

Department Chair
*Molecular basis of *B. anthracis* pathogenicity*

Naomi Bier
Ileana Corsi

Anne-Marie Krachler, Ph.D.

Bacterial adhesion & colonization upon host infection

Laurel Thompson
Anh Trinh Nguyen
Erika Flores

Anna Konovalova, Ph.D.

Surface-exposed lipoproteins & envelope stress response in Gram-negative bacteria

Sarah Lach

Ziying Li, Ph.D.

*Cell cycle control & ubiquitin pathways in *T. brucei**

Jiqiang "Lanny" Ling, Ph.D.

Connections between protein synthesis & microbial stress responses

Chris Evans
Kalyan Weiss

Michael Lorenz, Ph.D.

Molecular basis of fungal infections

Elisa Vesely

Robert Williams

William Margolin, Ph.D.

Bacterial cell division

Kara Schoenemann

Kevin Morano, Ph.D.

Protein chaperones & stress response

Amy Ford
Sara Pepper
Alec Santiago
Unekwu Yakubu

Barbara Murray, M.D.

Enterococcal virulence & antibiotic resistance in human infections

Steven Norris, Ph.D.

Molecular genetics of pathogenic bacteria

Samuel Shelburne, M.D., Ph.D.

Streptococcus virulence

John Spudich, Ph.D.

Roles of photoactive membrane proteins in light-triggered signal transduction

Hung Ton-That, Ph.D.

Pilus assembly of Gram-positive pathogens

Belkys Sanchez
Matt Scheible
Sara Siegel

Ambro van Hoof, Ph.D.

RNA degradation in eukaryotes

Jennifer Hurtig
Minseon Kim

Yi Xu, Ph.D.

Bacterial pathogens & host interactions

MMG Research Faculty

Chris Mackenzie, Ph.D.

Chenggang Wu, Ph.D.

MMG Staff

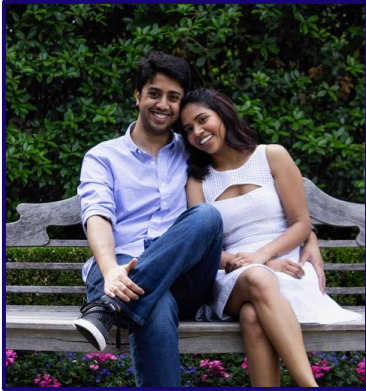
Diana Campos

Lyz Culpepper

Linda Fields

Joyce Brown

Life outside MID:



Karan Kaval proposed to his wife Purvi Shah and married in June!



Jill Losh married her husband Matthew Ojeda in November!



Sara Siegel, Belkys Sanchez, and Elisa Vesely participated in the Houston Half-Marathon in October.



Various devices were constructed and used by MID members to enjoy the solar eclipse



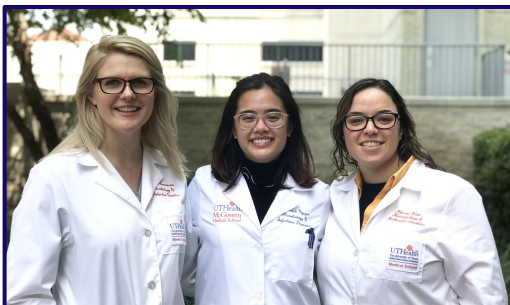
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MID Newsletter Editors



Do you have questions, comments, or suggestions? Please contact us at the emails provided below.

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