



DEPARTMENT OF Microbiology & Molecular Genetics



ISSUE 5
FALL 2016

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The Department of Microbiology and Molecular Genetics offers study in the areas of Biomedical Sciences, Clinical Laboratory Science, Microbial Ecology/ Environmental Microbiology, Molecular Genetics, and Microbial Pathogenesis.

- Department Head**
Dr. Tyrrell Conway
- Graduate Program Coordinator**
Dr. Wouter D. Hoff
- Undergraduate Academic Advisor**
Dana Hatter
- Administrative Staff**
Becky Hergenreder & Alice Bules

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Dr. Tyrrell Conway, MMG Department Head

Greetings from MMG

When I have a quiet moment in the afternoon, I realize that the OSU Alma Mater is floating in the background of my thoughts. Then I remember that the Alma Mater is played on the Library bells every day at noon. I wonder if all OSU students and alumni feel the same way I do: Oklahoma State is a great place to work and study.

The Spring semester is a fading memory and most of the undergraduate students have left for the summer. Midday walks across campus can be steamy, but traffic is nearly nonexistent. For the few undergraduates who remain on campus, summer school is in full swing. The faculty and graduate students are cloistered in their laboratories where they won't be disturbed. It's research time in Stillwater!

Looking back on the 2015-2016 academic year, it was excellent by every measure. Nearly 3,000 students sat in our classrooms. We now have 210 microbiology majors — an all-time high. An unprecedented 48 students graduated with their B.S. in Microbiology. We also graduated four M.S. and eight Ph.D. students. The faculty were joined in their research laboratories by 49 undergraduates and 33 graduate students. Collectively, we published 42 journal articles and book chapters and presented 75 invited seminars and abstracts at scientific conferences. We submitted 46 grant proposals and our total grant expenditures exceeded \$2.1M. Since the beginning of the year, the faculty in our department have received a half dozen new grant awards. These are the metrics of success in science.

Sway Pradhan, a graduate student in our program, won the **President's Fellows' Grand Three Minute Challenge**. Sway had previously won the **People's Choice Award** at the College of Arts & Sciences 3 Minute Thesis Competition. Not originally invited to participate in the 3MC competition, a last minute scratch in the lineup opened a spot for her. Sway had a mere 5 hours to prepare. Earlier that day, **Sheryl Tucker**, dean of the Graduate College, remarked that it would be ironic if the last minute substitute turned out to be the winner. Sway gave an absolutely flawless

continues



Dr. Tyrrell Conway,
Sharri and Chunk

presentation, entitled “[Fungi and Bacteria for Biofuels: Helps or Hurts?](#)” Clearly, she deserved to win. You can watch Sway’s 3MC presentation on OStateTV. Sway will complete her M.S. degree in December, 2016.

Recent graduate **Gretchan Moore**, our 2016 **Outstanding Senior in Microbiology**, was named a **Top 10 Senior of Significance** in the College of Arts and Sciences and **Top 10 Outstanding Senior** at Oklahoma State University. Gretchan will attend the OSU College of Osteopathic Medicine in the Fall. Another of our microbiology majors, **Andres Guerrero Criado** also won **Top 10 Senior of Significance** in the College of Arts and Sciences. Andres is applying to medical school. These students exemplify the best that OSU has to offer.

There are some changes of note to the faculty. **Dr. Mostafa Elshahed** was promoted to Full Professor. **Drs. Erika Lutter** and **Noha Youssef** were reappointed as Assistant Professors and are half-way along the tenure track. **Dr. Gilbert John** will be leaving OSU after 20 years to take a position as Assistant Dean of Research at the Colorado State Vet School. Gilbert is a CSU grad and excited about the new challenges ahead. For two decades, Gilbert championed student diversity in the department and across campus.

We will miss Gilbert. **Dr. Kim Burnham** has announced his retirement following the coming academic year. Kim recently published a book, “[Immunity and the Ten Commandments.](#)” His writing is highly intellectual and he is unafraid of deep topics. Kim looks forward to having more time to devote to his church and his writing projects. **Dr. Randy Morgenstein**, who currently works at Princeton University, will join the faculty this Fall. Randy is an expert on the E. coli cell envelope, with a focus on the cytoskeleton.

It is the way of the university for people to come and go. The departure of one person makes way for the arrival of another. We say goodbye to **Sallie Robinson** who served the department office for nearly two decades. She loyally supported the students and faculty in ways that are too numerous to list. Sallie will be greatly missed. We welcome our new Administrative Assistant, **Becky Hergenreder**. Becky has a giving spirit that enriches the student-centric culture of the department.

Read on to learn more about the many accomplishments of our faculty and students. They epitomize the intellect, dedication, and hard work for which Microbiology has long been recognized. It is a pleasure to serve as head of this fine department.

Sincerely,

D. Tyrrell Conway,
Professor and
Department Head



Get a “Chunk” of Lovin’

Microbiology and Molecular Genetics is the only science department at OSU with a therapy dog! “**Chunk**” is a very energetic four-year old Blue Heeler-mix who joined the department following her Barklaureate in May, 2016. Chunk is a rescue dog who came to live with Tyrrell and Sharri Conway, her co-handlers, in the fall of 2015. She had never been to the vet, did not have room to run, and was not well socialized — with other animals or humans.

Since her rescue, Chunk has met several hundred people through Oklahoma State University events, gone on several hundred walks (and counting), been to the vet for all her necessary appointments (she LOVES to go to the vet), and has retrieved countless balls, bones, stuffed toys, etc. during playtime. She has a routine of re-locating all of her toys and bones each morning. She enjoys having “jobs” to do. Since taking her new job, Chunk has become remarkably sweet and empathetic.

Chunk is an AKC Canine Good Citizen, registered with the Alliance of Therapy Dogs and a member of the **2016 class of Pete’s Pet Posse**. The Conway family wanted Chunk to be in the program because they believe in the benefits of dog therapy.

Each dog and handler team undergoes intensive training in partnership with the OSU College of Veterinary Medicine and must be certified to wear the Pete’s Pet Posse orange therapy dog vest imprinted with “Ask to pet me, I’m friendly.” Chunk and her owner (who happens to be the department head) can’t wait for the students to return for the Fall semester. She has so many new friends to meet!

Look for Chunk the next time you are on the 3rd floor of Life Science East.



Our Newest Faculty Member

Randy Morgenstein was born in Los Angeles, California, where he grew up with his two older sisters. His father is an infectious disease doctor, which instilled an interest in science in him at an early age. As a child, he excelled academically, especially at math and science. Randy also enjoyed playing sports, and he played baseball through high school.

Randy moved north for college to attend UC Berkeley, where he completed degrees in Classical Civilizations and Microbial Biology. While at Cal, Randy performed honors research in the lab of Dr. Louise Glass. There, he developed an interest in microscopy and cell biology while studying the dynamics of microtubules in different mutants of the fungus *Neurospora crassa*.

Interested in exploring our country, Randy was determined to leave California for graduate school and moved to Atlanta to join the Microbiology and Molecular Genetics program at Emory University. In the lab of Dr. Phil Rather, Randy worked on bacterial motility and signal transduction, and he discovered a novel mechanism for surface sensing in the Gram-negative bacterium *Proteus mirabilis*. While in grad school, Randy met his wife, **Dr. Elizabeth Ohneck**.

Moving even farther from home, Randy decided to do his postdoc at Princeton University in the lab of Dr. Zemer Gitai, while his wife did a post doc at the NYU Medical Center before becoming a medical writer. Randy combined his interests in microscopy, cell

biology, and microbiology and began studying how the bacterial cytoskeleton influences cells shape. At Princeton, Randy also got back into sports and began to run 5Ks and play on the departmental softball team.

Moving back toward California, Randy comes to OSU with his wife, two cats and a turtle, to start his own lab in the Microbiology department. He will continue to build off of the work he started during his post-doc, further exploring how the bacterial cytoskeleton contributes to cell shape, as well as combining interests from his graduate work such as bacterial motility. New projects in his lab involve understanding how chemotaxis is influenced by the cytoskeleton and determining how the cytoskeleton is involved in bacterial cell development.



“ALTHOUGH I COULD HANDLE MATH, IT WAS NOT ENJOYABLE, SO SECOND SEMESTER I WAS BACK IN BIOLOGY AND EVENTUALLY MICROBIOLOGY.”

My Professional Experiences

Dr. John G. Whitney, our 2016 Distinguished Alum

After graduating from St. Mary’s High School in Ponca City Okla., I started what would be a ten-year university stay by enrolling at Northern Oklahoma College in September of 1957.

I had an interest in biology so that was my direction of study for about two weeks, at which time Russia started the space race by launching the first orbiting satellite. The next morning, my chemistry prof lectured the entire period on how America was falling behind in math and engineering because our students avoided the “hard classes.” I and several others quickly joined the rush to math, physics, and engineering. Although I could handle math, it was not enjoyable, so second semester I was back in biology and eventually microbiology. Two years at Northern were followed by two years at OSU where I majored in microbiology. It was during this time that I developed a relationship with Professor **Ed Grula**. His mentoring, which included a fellowship for graduate study, helped me establish my career in science

Doc Grula had an interest in Gram + cell walls and suggested I pursue this research because of the important nature of that structure in the infection cycle, as the target of the very effective beta-lactam antibiotics. Our studies showed that the chemical composition and structure could change depending on the chemicals in the growth medium. This change could possibly impact the efficacy of cell wall antibiotics depending on the growth medium. One of the tools I used was the electron microscope which Grula obtained; first one on campus. I would later be a part of the first time acquisition of a new technology at Lilly; our first super computer from Cray. In addition to my thesis, our work provided me with my first scientific publications.

With the completion of my graduate studies, once again, Prof Grula offered help in my selecting a career direction. One of his former classmates at Purdue was head of Fermentation Products Research at Eli Lilly and Company, where they had an opening in the fermentation research area. I joined

Lilly in 1967 and spent four years working in the lab, producing two patents and several publications.

The search for unique bioactive compounds in fermentations is a team effort starting with a screening lab, which develops a test or screen that can be used not only to detect the desired activity in a fermentation but can also be used as a quantitative assay to support isolation work and other development efforts requiring quantitative analysis.

Once a desired activity is found the project moves to a fermentation lab where studies begin to increase the yield of the compound in the fermentation and understand the biosynthetic pathway for its synthesis. This was my area of responsibility. This effort is closely associated with a chemistry lab doing the isolation and determination of chemical structure. The latter info is very helpful to the work on biosynthesis. During my lab days I worked on several such compounds, one of which, monensin, which made it to market, as an anti-coccidial, for poultry.

Lilly has a unique expectation for their PhD scientists in that you were encouraged to establish two research programs. One on a high priority corporate issue, usually as part of a team, and another one of your choosing, which was human or animal health care oriented. It was anticipated that you would apply expertise you brought as a result of your graduate research. In my case that was microbial cell surface expertise.

The consideration of regular use antibiotic containing toothpaste or mouthwash had always carried the concern for resistance development. It was known that certain Gram + bacteria, which produced polysaccharide material, were involved in tooth decay, ie. caries formation. We proposed developing a screen to look for compounds that were not antibiotics that would block production of the capsular material. Would such a compound reduce decay? We were successful in developing a phage base screen and discovering an active compound from fermentation samples. We isolated it, determined it's structure, and filed a composition of matter patent Then two things happened; I was promoted into management and Lilly terminated work on retail, over the counter products.

I enjoyed my lab work and was totally committed to the lab when I was offered a management position as Head of the department. Tough decision because Lilly required scientists moving into management to terminate their hands on lab operations; a policy I originally was not pleased with but which I grew to support. I accepted the job and was very stimulated by the challenges of scientific management. Lilly assisted my transition by sending me to a management training program at the Kelly School of Business at Indiana University.

I soon was transferred to a position in product development, my first foray outside of discovery research, where I was confronted with new science, goals, and objectives. It was my first challenge in managing an area of science where I was not one of the experts. Learning this style of management is essential as you move up the organizational ladder and your sphere of responsibility expands. Over the next few years I was given additional responsibilities in animal health, toxicology, organic chemical development, and computational and analytical chemistry. During this time I was promoted to **Executive Director.**

In the mid seventies, Lilly and many of the other large pharmaceutical companies, began a diversification program driven by the strength of their scientific expertise. For Lilly this took us, through acquisitions, into cosmetics and medical instrument systems [bedside hospital equipment, pacemakers, and defibrillators]. I was asked to manage the coordination of the R&D components of these companies with Lilly R&D, looking for the synergy that would add value all around. This was the most challenging but rewarding period of my career.

As the pharmaceutical industry in Japan grew in both economic and scientific stature, U.S. companies began building both marketing and scientific joint ventures. Lilly established an R&D venture with Shionogi & Company driven by a decades old marketing agreement already in place. Once again I was asked to coordinate the R&D efforts between the two companies, providing me a chance to learn first hand a very interesting culture.

I ended my career at Lilly as Vice President of the Lilly Research Labs. With family members we now operate several retail businesses. My wife Sherry and I live on a horse farm in Indiana.

John G. Whitney, P.h.D.
June 2016



In Loving Memory

We mourn the passing **Dr. Lavon Preston Richardson** on June 8th of this year. Dr. Richardson served with distinction as a faculty member in our department, specializing in Parasitology, for many years, retiring in 1988 as a Full Professor. He received recognition from the American Society for Microbiology in 2007 for having been a member of that institution for 50 years.

He had a significant influence on his chosen field, his students and his peers. And will be greatly missed.



From our Advisor

This year will mark my fourth year as the MCMB advisor. This will make May graduation extra special. I have had these freshmen since the beginning of their academic career.

As I look back on these four short years, I am in awe of the department and students! If I had to hold up one example of our growth which stood symbolically as a representative of our department, it would be our website. I encourage you to look through it. There you will see my “work children” and even more special to me, it was made by my work children! Every photo, article, video, and font was created by a team of our students.

Nick Means worked tirelessly as our webmaster before starting his graduate program at OU. The creativity and willingness to learn something new inspires me.

When OSU set up a video production lab in the library, they never expected the **Microbiology Club** to be the first to sign up and learn the technology! Our students saw this as a way to reach out and make an impact for our department. They quickly became experts on video production, lighting, graphics, and sound all while excelling in their classes.

Creative thinking and work ethic will lead to our breakthroughs in science. I am excited to have a front row seat to watch these students make those breakthroughs.

Dana Hatter
Undergraduate
Academic Advisor



Graduate Coordinator's Report

In the period August 2015 to May 2016, 33 students have actively participated in our graduate program (25 Ph.D., 8 M.S.). During this period one student received their PhD degree, and eight additions students are about to receive their graduate degrees from our graduate program.

During this period our graduate students were co-authors of ten publications in respected peer-reviewed international scientific journals, including *Journal of Bacteriology*, *Microbiology*, *Angewandte Chemie International Edition*, *Anaerobe*, and *Plos One*.

These publications reported original contributions to a wide range of important topics, including bacterial calcium homeostasis, anaerobic fungi, bacterial azoreductases, protein Raman spectroscopy, novel bacterial candidate Phyla, and novel bacterial genomes. Our graduate students continue to publish approximately 0.6 papers per year, for a total of three papers for Ph.D. students in an average Ph.D. completion time of five years.

Students in our graduate program continue to be very active in attending and presenting at scientific conferences. On average, each graduate student in our program is involved in close to scientific presentations per year, with one-fifth of these presentations occurring at major national and international meetings.

For Fall 2016 we are expecting three new Ph.D. students and four accelerated M.S. students to join our program.

Wouter Hoff, Ph.D.
Graduate Student
Coordinator



Graduate Student Association President's Report

This last academic year, the **Microbiology and Molecular Genetics Graduate Student Association (MMGGSA)** participated in many fundraising events, presentations at numerous conferences and most importantly, the MMGGSA self-funded 7th Annual Microbiology and Molecular Genetics Symposium at Oklahoma State University on April 1st, 2016.

Showcased in this year's symposium event with a seminar entitled, "*The Family Tree of Brewer's Yeast*," was **Dr. Karen Fortmann**. The former postdoctoral research scientist, who focuses on numerous applications and needs involving brewer's yeast, is now the first **Senior Research Scientist** of the Cell Biology Lab at White Labs, based in San Diego, California.

Dr. Fortmann's seminar detailed the vast history and now, present industrial applications of yeast. She also highlighted the products and services that White Labs offers, including: testing kits, laboratory supplies, yeast propagation supplies, viability testing, fermentation, and even yeast banking. The seminar was especially useful to students that wished to further their understanding in the industrial application as a possible career goal.

Graduate students kicked off the academic year with a newly created BBQ event where networking and fun were on the agenda. Students also teamed together for nearly six months to fundraise. Specifically, students held a booth at the 2015 **OSU Homecoming Walk Around**, which was a successful outreach opportunity targeted towards educating the public about health and hand washing during the flu season. Students also had fundraising ice cream and dinner nights and designed and sold microbiology based t-shirts.

Graduate students are also proud of participating in a number of outreach events during the year. **Michelle King** served as the coordinator for outreach events and under her direction, graduate students had the privilege of participating in the Fall 2015 **Women in Science Conference** in Tulsa, OK as well as the **8th Grade Discovery Day** at Meridian Technology Center in Stillwater, OK (see photo). Through both of these events, middle school students were shown a highlight of what a microbiologist might do. Graduate students considered this to be a great way to give back to the community by intriguing the future scientists of America.

This past year, numerous MMGGSA students made monumental strides in representing our department: **Swetchcha Pradhan** was the winner of the **President's 3 Minute Thesis challenge** and recipient of the **Durham Graduate Fellowship**; **Nick Kuburich** was the recipient of the prestigious **Eduard R. Grula Fellowship**; **Sharmily Khanam** recipient of the **Cox Fellowship for Research in Genetics**.

Furthermore, several MMGGSA students represented the department with pride receiving awards in various conferences and competitions. Some of these conferences include the 2016 **Regional ASM Missouri Valley Branch Meeting**, **ASM National Meeting**, **3 Minute Thesis presentation** of OSU, 2015 **Great Plains Infectious Disease Conference**, 12th **Workshop on Cyanobacteria** in Arizona, **Oklahoma Academy of Science Meeting**, 28th **Meeting of the American Society for Rickettsiology**, and the **Oklahoma Center for Respiratory and Infectious Disease Retreat** and several others.

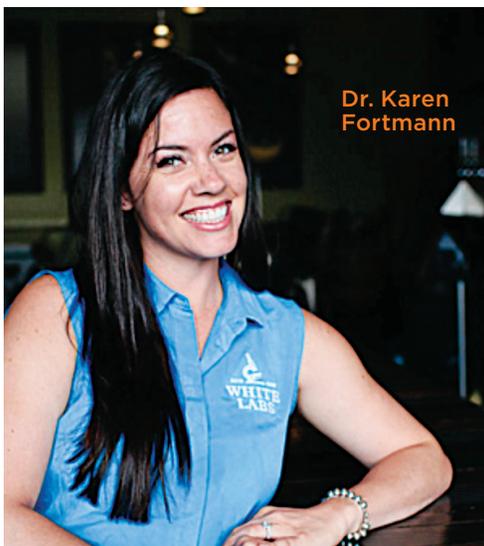
MMGGSA students are happy to announce this year's report and look forward to the new academic year welcoming bigger and better goals of enhancing knowledge and networking.

Amanda Behar,
2016 MMGGSA President

MMGGSA 7th Annual Research Symposium April 1st, 2016

Following keynote speaker: **Dr. Karen Fortmann** from **White Labs** in San Diego, Calif., the Research Symposium consisted of undergraduate and graduate student poster sessions. Awards were presented for the top posters in each category. See the section on student awards in this newsletter for the winners.

The event was hosted by Microbiology & Molecular Genetics Graduate Student Association and was sponsored by Microbiology Department (OSU) & OSU Foundation.





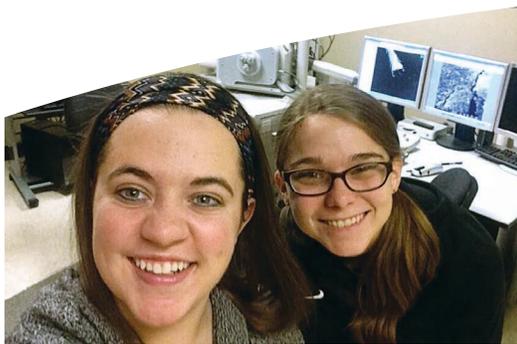
Microbiology Association

The Microbiology Club had a very successful year. Some of our activities included touring Stillwater's winery, co-hosting a meeting with the Tri-Beta chapter discussing scholarship opportunities available to life-science students, study nights, and a session discussing how to handle stress. We also participated in National Lab Day, where we discussed microbiology issues with high school students and also gave them hands on experience in a lab setting. One of the most exciting events we held this year was the departmental undergraduate research symposium. This year was the first year that the undergraduates

had their own poster session. It showcased our brilliant undergraduate students and all of the amazing research they do. We hope to grow the event for next year and to have even more participants.

The upcoming school year promises to be even more successful for the club. We have several new officers, including our new president Tanner Onstine, who all have fresh and exciting ideas to bring to the club. Their goals for next year include more involvement in the department as well as finding more ways to aid our undergraduate students.

Kristina Baker



Kyla Blackshare and Kristina Baker at the Microcopy Lab Tour



Woodland Winery Tour, Manita Guragain, Michelle King and Dr. Marianna Patrauchan



The Microbiology Association Events

The MMG Microbiology Club now called the Microbiology Association

This association is an officially recognized OSU Campus organization. It is comprised of OSU undergraduate students interested in Microbiology (they do not need to be Microbiology majors).



Kyla Blackshare at the Microscopy Lab Tour

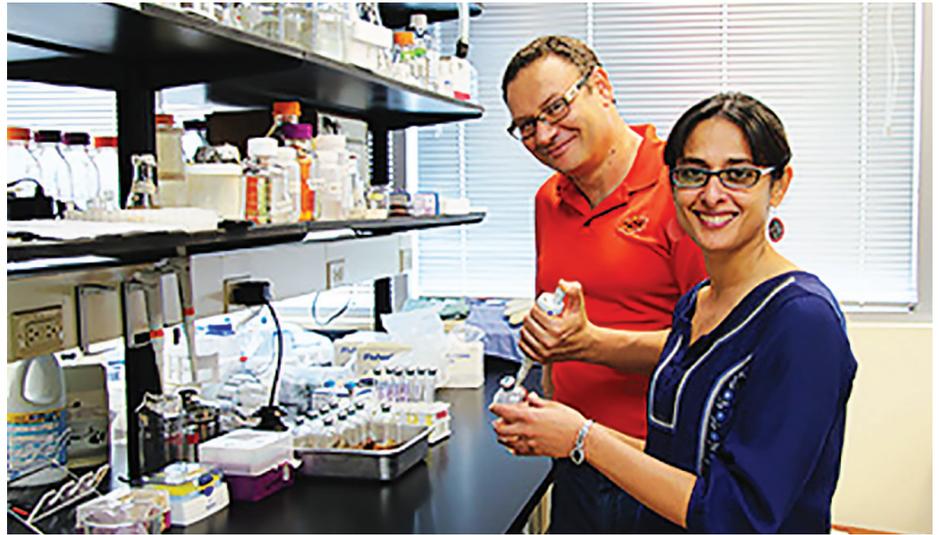
"We aim to provide Undergraduate Microbiology students with a network of students and faculty members in the same discipline, to provide students with information and resources on employment after graduation, and to enhance learning outside the classroom."



Farewell and Best Wishes

Dr. Gilbert John came to OSU in 1995 as a new Assistant Professor. He devoted much of his active research program to studies of azoreductase enzymes in enteric bacteria. He also made major contributions to minority student development at OSU as director of our Native Americans in Biological Science (NABS) program, as director of the OSU NSF funded SLOAN PhD fellowship program and through working with our local chapter of the Society for the Advancement of Chicano and Native American Students in Science (SACNAS). Dr. John is leaving us to accept a position at Colorado State University as Assistant Dean for Research in the College of Veterinary Medicine and Biomedical Sciences. This is like going home for Dr. John since he performed his graduate work there.

We congratulate Dr. John on this prestigious position and wish him well in his future career.



NSF Grants announced

MMG faculty **Mostafa Elshahed** and **Noha Youssef** recently received two NSF grants for, “Elucidation of the structure of glomalin protein produced by root-associated soil fungi” (Mostafa is PI and Noha co-PI), \$143,693; and for: “Phylogenomics and evolutionary history of the anaerobic fungal group, Neocallimastigomycota” (Noha PI, Mostafa Co-PI in collaboration with U of California Riverside (Jason Stajich)), \$392,602 (OSU amount).



By any “Means,” unforgettable

Nick Means leaves for graduate school in the Fall, having left an indelible mark on this department. His cheerful attitude, creativity, and willingness to serve will be sorely missed. For the past year Nick served as Web Master for the department. He single-handedly revamped our website, and in the process engaged everyone in the department.

To tell the story of our program, he organized an untold number of photos and video shoots of students, faculty and staff. He created recruiting posters and collected the artwork that now decorates our office walls. We look forward to hearing of Nick’s accomplishments in science and wish him the very best that life has to offer.

There was never a greater champion of our department than Nick Means.

Student Awards

RETURNING UNDERGRADUATES

Brienna Milleson

Biochemical Markers Fellowship with the CDC in Atlanta, Georgia

Kelly Burch

Lew Wentz Semester Research Grant

Ryan Yang

Life Science Freshman Research Scholarship (Youssef)

Colton Wrape

Life Science Freshman Research Scholarship (Burnap)

Jordan Fleming

Lew Wentz Semester Research Grant
Undergraduate 3-Minute Thesis Finalist
Oklahoma Louis Stokes Alliance for Minority Participation Scholarship

Rachel McAllister

Lew Wentz Semester Research Grant
Patrick, Margaret and R.A. Ward Endowed Scholarship

Matt Smith

Lew Wentz Semester Research Grant

Sydni Smith

Howard Hughes Medical Institute 2016 Exceptional Research Opportunities program Fellowship

Jay Moore

Life Science Freshman Research Scholarship (Youssef)
UC San Diego 2016 Research Experiences for Undergraduates Invitee

Ashley Kendrick

Life Science Freshman Research Scholarship (Hoff)

Morgan Williams

Life Science Freshman Research Scholarship (Fishbein)

Riley Smith

Howard Hughes Medical Institute Life Science Freshman Research Scholar
Medical Cowboy Scholarship

Kassidy Ford

Life Science Freshman Research Scholarship (John)

Kayla Kifer

OSU Freshman Research Scholarship

Savannah Martin

OSU Freshman Research Scholarship

Chelsea Murphy

Runner up for Outstanding Undergraduate researcher in MMG

GRADUATING SENIORS

Olivia Smith

Runner Up for Outstanding Senior in MMG

Kaitlyn Loper

Runner Up for Outstanding Senior in MMG

Megan Sitzman

Runner Up for Top 10 Senior: MMG

Nicole Elledge

Best Undergraduate Paper in Microbiology Award at Oklahoma Academy of Science

Hannah Wendelbo

Lew Wentz Semester Grant

Carlie Goekeler

Homecoming Queen
Runner up Outstanding Senior

Gretchan Moore

Top 10 Senior: Microbiology
Top 10 Senior: Oklahoma State university

Brooke Romine

Lew Wentz Semester Grant
Louis Stokes Midwest Center of Excellence Scholarship
Oklahoma Louis Stokes Alliance for Minority Participation Scholarship
Outstanding Undergraduate Researcher

Andres Guerrero Criado

Top 10 Senior: Arts and Sciences and the College of Agricultural Sciences and Natural Resources
Oklahoma Louis Stokes Alliance for Minority Participation Scholarship

Wade Arthur

Lew Wentz Semester Grant
Student Employee of the year nomination

Kristina Baker

Kidd, Ferrell and Sims Scholarship
Outstanding undergraduate Researcher Finalist



Kristina Baker, left, and Dr. Noha Youssef

GRADUATE STUDENTS

Nick Kuburich

Recipient of the Gula Fellowship
1st place graduate presentation at Oklahoma
Academy of Sciences Technical Meeting
Best in Eukaryotic Microbial Genetics at MMG Symposium

Ibrahim Farag

OSU Foundation Distinguished Graduate
Fellowship Recipient

Sway Pradhan

2nd place and People's choice at Graduate
Student 3-Minute Thesis
Best oral Presentation at Missouri Valley
American Society for Microbiology Meeting
Overall winner at MMG Symposium
Winner of the President's 3-minute thesis
competition for graduate students
Recipient of Inaugural Norman Durham
Endowed Graduate Fellowship



Neil Miller

Best in General Microbiology at MMG symposium

Radwa Hanafy

Best in environmental microbiology at MMG symposium

Sharmily Khanam

Best in medical microbiology at MMG symposium
Robberson Summer Dissertation Fellowship
Cox Fellowship for Research in Genetics
3rd place poster at third annual OCRID Research Retreat

Farzaneh Moghadam

Best presentation at OSU Biochemistry/
Molecular biology symposium

Melissa Brewer

Outstanding graduate student teaching
assistant nomination



Dr. Norman Durham and Dean Sheryl Tucker, of the Graduate College, present Sway Pradhan, center, with the inaugural Durham Fellowship in Microbiology

Amanda Behar

Outstanding Graduate Student Teaching
Assistant Nomination
Graduate Student 3-minute thesis finalist

Michelle King

Walter Kob Scholarship
Best presentation in Medical Microbiology at the Missouri
Valley American Society for Microbiology Meeting
Best in prokaryotic microbial genetics at MMG symposium

Annual MMG Awards Banquet

The 2016 MMG Awards Banquet was held April 15th at the OSU Murray Hall Parlor. Awards were presented to 25 of Undergraduate students and then to 12 of our Graduate Students by Dr. Terrell Conway. Awards presentations were followed by a dinner catered by Bad Brad's Barbecue.

The MMG Annual Awards Banquet



Ibrahim Farag

Dr. Tyrrell Conway and Andres Criado

Jordan Fleming

Nick Kuburich



Tyrrell and Sharri Conway

Juliana Artier and Raid Al Zaher

Michelle King and Dr. Erika Lutter



Dr. Babu Fathepure and Sway Pradhan

Awards Banquet group photo

Our Graduate Students



Amanda Behar and Julianna Artier



Melissa Brewer, Amanda Behar and Rawan Eleshy



Sway Pradhan presenting at the 3-Minute Thesis Competition



Jorge Lightfoot, Biraj Kayastha and Michelle King



Prakash Sah and Amanda Behar



Discovery Day at Meridian Technology Center
(Radwa Hanafy, Juliana Artier and Michelle King)



Homecoming Walk Around
(Neil Miller, Nick Kiuburich and Rawan Hadafy)



EPSCOR Women in Science
(Julia Conneywerdy, Rachel Staats and Michelle King)

Annual MMG Research Symposium



MMG Symposium Poster Session

Graduate Students at the MMG Symposium

The Microbiology Student Lab

PHOTOS BY UNIVERSITY MARKETING SERVICES



Development Corner

It was a stellar year for donations to the department of Microbiology and Molecular Genetics!

As a result, the department has a new **Graduate Fellowship** endowed by **Dr. Norman Durham**, a former faculty member and Dean of the Graduate College, who now runs a local ranch with his wife **Jane**. The department received its first undergraduate scholarship, the **Kidd-Ferrell-Conway (KFC) Endowed Scholarship in Microbiology**. Also, the department received a pledge of \$50,000 from OSU alumnus **Dr. Gregory Schultz** to endow additional scholarships. The **Microbiology fund** reached its highest level in recent history, bolstered by \$5,000 gifts from our **Distinguished Alumna, Mary Jane Wooten**, as well as from **Norman and Jane Durham**. We are grateful for the support and expect to set a record in 2016 for giving to the department.

The generosity of several donors made it possible to support undergraduate **Microbiology Club** events and establish the **Microbiology Ambassadors program**, a select group of students dedicated to enhancing the image of the program and attracting students to Microbiology. The departmental seminar series got a tremendous lift from donations to the Microbiology fund. Invited speakers included **Kelli Palmer** from the University of Texas at Dallas, **Thomas Waldschmidt** from the University of Iowa, **Diana Northup** from the University of New Mexico, **Doug Reed** from the University of Pittsburg, **Vanessa Sperandio**, from the University of Texas Southwestern Medical Center, **David Stone**



Members of the newly established Microbiology Ambassadors program

from the University of Illinois at Chicago, and **Alain Stintzi** from the University of Ottawa. Excellent lecturers create a buzz in the department and have a long lasting effect on creativity and productivity.

Several of **Dr. Ed Grula's** former students are recent donors to the **Gula Lectureship**. A departmental priority is to see that fund fully endowed. (Dr. Grula was the department head when he passed away unexpectedly in 1983.) The Grula lecture series would bring in top scientists to enlighten students and faculty. Invited lecturers provide an intellectual spark by bringing exciting new ideas to campus. They open up opportunities for research collaboration with our faculty and more importantly, their scientific discoveries inspire graduate and undergraduate students alike.

The department reaches out to alumni through this newsletter and electronic updates at the end of every semester, highlighting recent accomplishments of our students, faculty, and staff. These updates have prompted many letters and emails from alumni. One of those who wrote is **Dr. John Whitney**, whose message is highlighted in this issue. John was selected as the **2016 Distinguished Alum**. Dr. Whitney, by the way, was one of Dr. Grula's first PhD students and he helped to endow the Gula Fellowship when it was established. Building new relationships and re-kindling old friendships is the greatest benefit of philanthropy on behalf of the department.

Sallie Robinson Appreciation Day



Sallie Robinson, *fourth from the left*, our senior administrative support specialist has retired after 18 years of service to the department. She was recently honored by a special celebration in her honor. Thank you Sallie for everything you did for our students, the staff and faculty over the years.

We hope you enjoy a long and fulfilling retirement.



DEPARTMENT OF
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Our alumni and friends have the unique opportunity to partner with us in the important work we are doing in Microbiology & Molecular Genetics. As one of the region's best Microbiology programs, we impact the world through our students and our research.

Gifts to the Department of Microbiology & Molecular Genetics help make the OSU experience more affordable and more enriching for our students.

As a donor to the Department, you will make a world of difference for students who, in turn, make a difference in the world.

MAKE A DIFFERENCE WITH A GIFT TODAY!



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