

OSU Biomedical Science Annual Report, 2009

SEPTEMBER 2009

BMS Major Graduates First Class!

Sunday, June 14, 2009 was graduation day for the first BMS class and a milestone for the Biomedical Science major. It was a day to celebrate. Graduates were headed for the graduate/professional



school of their choice. Seven of the graduates are doing their medical education at OSU. Other future physicians are at the University of Cincinnati and the University of Toledo. One student is attending graduate school at the University of Cincinnati, and one is a student in the MD/PhD program at the University of Texas-Southwestern in Dallas.

The celebration wasn't limited to Sunday. On Saturday afternoon, the students and their families joined faculty and staff for a Pre-Commencement Celebration at the Buckeye Hall of Fame. President Gee and Vice President Caroline Whiteacre joined in the festivities, and a good time was had by all.

Members of the Biomedical Science class of 2009 and their hometowns are:

Gina Aloisio (Chillicothe), Corey Beals (Centerville), Shannon Conneely (Massillon), Megan Conroy (Gaithersburg, Maryland), Matt Flanigan (Cincinnati), Ben Jones (Lebanon), Michael Marksz (Cleveland), John Reid (Cincinnati), Zach Rossfeld (Elida), Martin Peter Sayers, (Fayetteville, Georgia), Nathan Smith (Columbus), and Stephen Smith (Franklin.)

Members of the Biomedical Science class of 2009 and their hometowns are: Gina Aloisio

(Chillicothe), Corey Beals (Centerville), Shannon Conneely (Massillon), Megan Conroy (Gaithersburg, Maryland), Matt Flanigan (Cincinnati), Ben Jones (Lebanon), Michael Marksz (Cleveland), John Reid (Cincinnati), Zach Rossfeld (Elida), Martin Peter Sayers, (Fayetteville, Georgia), Nathan Smith (Columbus), and Stephen Smith (Franklin.)

Class of 2010 applying to Graduate and professional programs

The 20 students in the BMS Class of 2010 have diverse interests for their careers and education. Three students are applying to graduate biomedical science programs with the goals of one day having their own labs. Three students are applying to joint MD/PhD

programs. One student is interested in graduate programs in health administration, while another is interested in public health, followed by a stint in the Peace Corps. Ten students are planning to enter medical school. Three students will join the workforce during a planned

gap year before starting graduate studies. The diverse interests of the class have made them an interesting group, and it will be exciting to see where they go. Good luck Seniors!

WELCOME BMS CLASS OF 2013!

Rusty Bonneville
Bishop Ready HS

Nick Denton
Mentor HS

Mark Doles
Granville Christian Academy

Amie Draper
North Olmsted HS

Kristen Duckro
Beavercreek HS

Corey Fete
Fairfield HS

Alec Graham
Dublin Coffman HS

Nicholas Jarjour
Jarjour Home School Acad.

David Karp
Seven Hills HS

Monica Lachey
Archbishop Alter HS

Calvin Lam
Northside College Prep (IL)

Michael Ratti
Olentangy Liberty HS

Katherine Sarkisian
Homestead HS (IN)

Erica Schmenk
Kalida HS

Shrey Shaw
St. Ignatius HS

Ron Siebenaler
St. John's Jesuit HS

Sarah Swager
Mary D. Bradford HS (WI)

Alexis Wagner
Bethel-Tate HS

Stephanie Znosko
Newark Catholic HS

Matt Zuzolo
Tippecanoe HS

Olena Zyga
Highland HS

Biomedical Science Students: Beyond the Classroom

All work and no play makes for boring students! The 2008-09 school year was exciting for many BMS students, and some of the excitement happened outside of the classroom and the research lab. Some examples include:

Zach Rossfeld (Elida, OH), was the OSU Winter Quarter Intramural Racquetball Champ. Zach also graduated with 4 Big Ten championship rings thanks to his job filming practices and games for the football team.

Kara Zang (Gibsonia, PA), performed in Ohio State's second annual Valentine Day's performance of "A Memory, A Monologue, A Rant, and A Prayer", a play to raise awareness about violence against women.

Tyler Miller (Ottoville, OH), was invited by CBS News to be a member of

the Post-Presidential Debate panel with Katie Couric in New York City.

Tarangi Sutaria (Gaithersburg, MD), was elected President of DanceSport at OSU, a ballroom dance competition team. She also won numerous awards at Ballroom competitions at OSU, the University of Michigan, and the Arnold Sports Festival.

Michael Mbagwu (Yellow Springs, OH), helped create, advertise, award, and present a new scholarship for Franklin County minority students as part of the 31st annual OSU African-American Heritage Festival.

Shannon Conneely (Massillon, OH), was the Nationwide Children's Hospital Relations Chair for BuckeyeThon, a 14 hour dance marathon and fundraiser. BuckeyeThon raised \$82,000 for the

hospital this year.

John Reid (Cincinnati, OH), was deemed the "Architect of Fun" by the OSU student newspaper *The Lantern* for his leadership role with the carnOVAL, a new May Week event. John was also the Marketing Director for the OSU Homecoming Parade.

Sarada Eleswarpu (West Chester, OH), was the youth event leader for the Mazaa Carnival Cruise, a theme-based cruise focusing on the traditions of the Telugu people. Sarada also choreographed and trained a dance troupe and performed a dance solo as part of the entertainment.

Jason Pradarelli (Muskego, WI), was on the runner up intramural basketball championship team and on the intramural championship baseball team.

Where in the World are Biomedical Science Students?

The BMS major requires all students to be on campus during the regular school year, as their major classes are only offered once a year. However, this does not stop the students from traveling the country and the world! Examples of academic, clinical, service or research experiences that occurred outside of Ohio State in the year are diverse, and some are highlighted here.

Summer Research internships at the Massachusetts Institute of Technology, Harvard, the University of Cincinnati,

the National Institutes of Health, Mayo Clinic, Chile, and Germany.

Additionally, students have attended **research conferences** in Denver, Houston, San Antonio, San Diego, and Scotland.

For **foreign travel**, one member of the Class of 2010 has spent part of every summer in Tanzania. Initially she went for a three week medical service project, and this past summer she spent most of her summer in Africa collecting data for her Senior Honors thesis.

Two students took trips to Peru with the OSU Chapter of the Foundation for International Medical Relief of Children.

Three students used the summer of 2009 to **study abroad**. One student did an English study abroad in London, one did a pre-Law program in London, and a third did a Chinese language program in China.

Students also completed short term study abroad trips during breaks from school to London and Egypt.

What it means to be a physician

Each summer Dr. Michael Grever accepts six BMS students into a summer internship experience. Dr. Grever, who is the Chair of Internal Medicine at the Ohio State University Medical Center (OSUMC), gives students the opportunity to shadow physicians as they go on patient rounds, attend lectures, and conduct procedures on patients. For eight weeks, students split their days between the hospital and their research lab in the hopes of better understanding the translational relationship between patient care and research. The goal of the internship is not to show students which

specialty they should pursue, but rather to help students determine if they would enjoy working with patients and their families. By the end of the internship, students are better prepared and more confident about their future career path, whether it is for medicine, research, or something else.

During the 2008-09 school year, the OSUMC Center for Minimally Invasive Surgery started their own shadowing program for BMS students. Each month two students spend Wednesday mornings watching surgeries and talking to the surgeons about the procedures.



Dr. Michael Grever with the 2009 Summer Interns

Research Awards for Biomedical Science students

It was another rewarding year for BMS students and their research mentors. Class of 2010 student Kristin Reeve, who does research on *Salmonella* under the mentorship of Dr. John Gunn, was selected to be the undergraduate speaker at the 2009 OSU Medical Center Research Day. Kristin then won first place for all undergraduates who showed a poster. She is using her winnings to attend a *Salmonella* conference in France!

At the OSU Denman Undergraduate Research Forum, BMS had three big winners. Abby Short, Class of 2010 and MD/PhD candidate, won first place in the category "Biological Sciences". Abby's research is on Multiple Sclerosis and her mentor is Dr. Caroline Whitacre. In the category "Health Professions-Laboratory/Cellular", future PhD

and Class of 2010 student Alex Jaeger won first place. Alex worked in the lab of Dr. Laura Bohn, Dept. of Pharmacology, for two years and then joined the lab of Dr. Dennis McKay.

In the same category, Class of 2009 student Ben Jones won third place. Ben worked in the lab of Dr. Jonathan Davis, and is now a medical student at Ohio State.

Class of 2010 student Tyler Miller, who does research

on breast cancer under the mentorship of Dr. Samson Jacob and Dr. Sarmila Majumder, received two big awards this past year. First, Tyler was one of five

OSU students selected to go to Brazil for a week to share his research at various universities there. Second, he also won a Thomas Barodos award, giving him funds to attend the Annual Association of Cancer Researchers for two years.



Denman winners Abby Short, Ben Jones, and Alex Jaeger with Vice President for Research, Dr. Caroline Whitacre.

Research Mentors for BMS Students, 2008-09

The Biomedical Science major is very grateful to all the faculty who voluntarily mentor our students. Following are those who mentored students during the 2008-09 school year:

Bioinformatics

Dan Janies

Hematology /Oncology

Robert Baiocchi

Internal Medicine

Jesse Kwiek
Larry Schlesinger

Medical Technology

Huey-Jen Lin

Molecular and Cellular

Biochemistry

Dan Battle
Kalpana Ghoshal
Tsowin Hai
Samson Jacob
Stephen Kolb
Sarmila Majumder

Michael Ostrowski
Jill Rafael-Fortney

Molecular Virology, Immunology and Medical Genetics

John Gunn
Denis Guttridge
Gustavo Leone
Ginny Sanders
Amanda Toland
Caroline Whitacre

Neurological Surgery

E. Antonio Chiocca
Balveen Kaur
Mariano Viapiano

Neurology

Maria Kataki

Neuroscience

Candice Askwith
Tony Brown
Andy Fischer
Phil Popovich

OB/GYN

William Ackerman

Optometry

Mark Bullimore

Orthopaedics

Ajit Chaudhari

Pathology

Tatiana Oberszyn

Pediatrics

Chris Bartlett
Jeff Bartlett

Pharmacology

Kirk Mykytyn

Pharmacy

Dennis McKay

Physical Therapy

Jill Heathcock

Physiology and Cell Biology

Jonathan Davis
Sissy Jhiang
Mark Ziolo



Amanda Harper (BMS Class of 2010) with President Gee. Amanda works in the Pathology lab of Dr. Tatiana Oberszyn.

Public Health

Amy Ferketich
Kim Kelly

Surgery

Ginny Bumgardner
William Carson
Jill Buss
Amer Rajab

Veterinary Biosciences

Prosper Boyaka

Class-by-Class Highlights for 2008-09

OSU Biomedical Science Major

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***Know a student who
would be a good fit for the
Biomedical Science
Major?***

***See website for details
about visiting and
applying for the major.
Priority deadline for
applications is December
1st of each year.***

Please keep up to date with
the Biomedical Science
major by visiting our
website regularly,

<http://biomed.osu.edu/bms/>

Biomedical Science by the Numbers

Average ACT: 32

Average SAT: 1400

Incoming class size: ~20

Average GPA at end of freshman
year: 3.58

Average GPA at end of sophomore
year: 3.69

Average GPA at end of junior year:
3.69

Average GPA at end of senior year:
3.73

Average MCAT score: 32.6

Average GRE (verbal and quantitative) score: 1380

Class of 2009 Highlights:

Graduated!

100% Placement for those who applied to graduate/professional school

Megan Conroy and Stephen Smith received OSU Outstanding Senior Awards

Peter Sayers had a journal article published in *The American Society of Gene and Cell Therapy*

Gina Aloisio inducted into The Phi Beta Kappa Society

Class of 2010 Highlights:

Abby Short and Tyler Miller received travel awards to attend the Symposium on Translational Research & MD/PhD Career Development Workshop in Dallas

Tyler Miller was selected to be an Amgen Scholar at MIT for summer 2009

Jenn Chao and Allyn Checovich were selected for the Mortar Board Honorary

Eric Hill, Maddie Driskill, and Alex Jaeger received grants for summer research projects through the OSU Digital Union

Adrienne Strong was a finalist for the Truman Scholarship and Tyler Miller was a finalist for the Goldwater Scholarship

Class of 2011 Highlights:

Michael Mbagwu was selected to do research at Harvard for summer 2009

Katherina Timmer spend her fifth summer working in Dr. Tony Fauci's lab at the National Institutes of Health

Sarada Eleswarpu was selected for the SURF program at the University of Cincinnati and won an award at the end of summer poster symposium

Class of 2012 Highlights:

Tom Kaffenberger received an OSU Outstanding Freshman award

Katie Bingmer marched for The Best Damn Band In The Land

Kelsey Gray and Jackie Bakalarski were selected for the OSU Honors Collegium

Major expands the number of teaching faculty

Six new senior year classes were introduced during the 2008-09 school year, and these classes brought new faculty to the major.

In the fall, Dan Clinchot, MD taught a class on Dr./patient communication. The students had the opportunity to practice what they learned in the class by using the standardized patients at our Clinical Skills lab. Also in the fall, Ginny Sanders, PhD and John Gunn, PhD taught a course on Immunology and Infectious Diseases. In this course, students learned more about Tuberculosis and HIV, including topics such as epidemiology, vaccines, etc.

In the winter, Andy Thomas, MD, MBA taught the seniors about healthcare organizations and finance. The class finished the quarter with a lively debate on which health care system is



Dr. Andy Thomas teaching leadership to BMS Seniors

superior. Candice Askwith, PhD and Kirk Mykytyn, PhD taught a course on Neurological and Genetics conditions where the students learned more about autism, Alzheimer's and other conditions.

In the spring, Dr. Thomas once again taught the seniors, but this time the topic was Leadership in Healthcare. Various leaders from the OSU College of Medicine and Medical Center spoke to the students about

leadership during the quarter. Pierluigi Porcu, MD taught the students about the biologic and humanistic sides of Cancer.

Also new for 2008-09, Jill Rafael-Fortney, PhD revamped the Lab Techniques course taken by the BMS sophomores. In this class, students learn a variety of lab techniques to supplement what they are learning and using in their research labs.