JHU Department of Biophysics 
Undergraduate Newsletter

Senior Profiles

The Spring issue each year highlights our graduating seniors. We had a Marshal Scholar, PURA and DURA Awardees, peer-reviewed publications authored by majors, and Phi Beta Kappa members. Congratulations to the Biophysics class of 2016!

Alex Crits-Christoph

Alex Crits-Christoph is a Biophysics major from Pennsylvania. He is a triplet and has a brother and sister who go to Penn and Brown. Alex joined the Biophysics major during sophomore year after a process of elimination that rejected other majors such as Biology, Computer Science, and Earth and Planetary Sciences. He endorses the Biophysics major to new JHU students, especially those interested in biology.

While at Hopkins, Alex has been researching extremophile microbiota and viruses with Professor Jocelyne DiRuggiero in the JHU Dept. of Biology. His favorite class at Hopkins was Introduction to Space, Science, and Technology, because space is a very interesting place. And his favorite biophysics course was Dr. Garcia-Moreno’s Advanced Seminar on Structural Biology because it was the first time he was able to begin to understand how molecular machines and proteins work.

After graduation Alex will be interning at the biotech startup company Caribou Bio and then starting his PhD in Microbiology at UC Berkeley in the fall, where he hopes to do a little of what E.O. Wilson would call “real biology”.

Mina Farag

Mina is from State College, Pennsylvania, but was originally born in Egypt, where his family is from.

He came into Hopkins as a biophysics major with no idea what this meant but knew that it sounded like a nice combination of two of his favorite subjects from high school.

To his surprise, the biophysics program was actually the perfect fit. It didn’t simply throw a list of facts and equations his way to memorize; it taught him how to learn, to appreciate nature, to always ask why and to challenge dogmatic statements.

His favorite class was Biophysical Chemistry, taught by Dr. Doug Barrick, where he finally grasped the underlying thermodynamics of chemistry that he was expected to learn years ago and understood why protein folding was so cool. Coincidentally, his research has also been under Dr. Barrick wherein Mina used calorimetry to show that imidazole, a chemical commonly used in protein purifications, strongly destabilizes proteins in solution.

His advice for incoming students is to find a major that you find interesting and to go out of your way to make the most of it. If that major happens to be biophysics, then be prepared for a challenging, yet rewarding program with supportive faculty and a tight-knit group of students.

Mina is currently applying to M.D./Ph.D. programs with the hope to matriculate in 2017 after taking a gap year to work in a lab and travel.

Will Shuman

Will is from Detroit, MI. An interesting fact about him is that he has been teaching himself to play guitar since freshman year.

He learned about the biophysics major when he saw it in the list of all provided majors at Hopkins. He had just taken AP Biology and AP Physics in high school and really enjoyed both of them. He never knew you could combine the two, but chose the major and never looked back.
His favorite class was Dr. Garcia-Moreno’s *Advanced Seminar in Virology*. Not only did it teach him so much that he didn’t know before about biophysical applications in cellular functions and in research, it also challenged what he assumed he knew about the bases of biology and life in the first place.

Will recently started working in Dr. Sua Myong’s lab in the Jenkins Department of Biophysics studying the localization of RNA introns during mitosis using FISH imaging. He arranged his work in her lab because he learned about single-molecule experiments in Dr. Garcia-Moreno’s class and saw that Dr. Myong’s lab did single-molecule research. The topic fascinated him, so he wanted to learn more about it in a hands-on way.

Will’s favorite part of Baltimore is that it is truly a big city made of many small neighborhoods. Visiting the different parts of the city and experiencing what each one has to offer has been really enjoyable.

His advice for future majors is to talk to the professors and the TAs. The course load is rigorous, but also incredibly manageable due to the amount work the faculty puts in to the curriculum. Right off the bat, he could tell that the professors care about the students and that they have a lot of interesting things to say about courses and life in general. They are incredibly helpful and enjoyable.

Will’s plans for next year are to work full-time in Dr. Sua Myong’s lab for a year while applying to medical school.

**Quenton Bubb**

Quenton was born and raised in Brooklyn, New York. His interest in biophysics actually began in high school, where he fell in love with the sci-fi TV show, Fringe. Even though he did not know much about biophysics, he knew that it was a perspective that would give him a suitable analytical perspective of biological systems.

Quenton loved his time as a biophysics major at Hopkins. The department size, faculty, and camaraderie among the undergraduates made it a rich learning environment that allowed him to deeply consider the kinds of problems that excite him. His favorite course was *Biophysical Chemistry*, where he learned how to interpret and analyze fundamental thermodynamic properties of protein systems.

In the summer after his freshman year, Quenton participated in the Summer Course in Biophysics at UNC-Chapel Hill, which contained a survey course and mentored research. There, he studied the inhibition kinetics of LipY, a lipase in *Mycobacterium tuberculosis* (Mtbc) thought to be a key player in its pathogenicity. This program exposed Quenton to scientific research, inspiring him to pursue a career as an MD/PhD. The summer after his freshman year, he joined the lab of Dr. Karen Fleming in the Jenkins Department of Biophysics, where he investigated the temperature dependent activity of a heat-shock chaperone involved in outer membrane protein biogenesis. Getting started on that exciting project was as easy as sending an email and sitting down with Dr. Fleming. For anyone considering majoring in biophysics, Quenton encourages them to speak to the professors about things that excite them!

Outside of academics, Quenton is an avid listener of live and recorded jazz music. Meeting some of his idols (and discovering new ones) was his favorite part about living in Baltimore.

After graduation, Quenton will be attending the University of Cambridge as a Marshall Scholar to receive an MPhil in Chemistry under Dr. Jane Clarke where he will study the biophysics of intrinsically disordered proteins. He hopes to eventually pursue an MD/PhD.

**Pei (Patrick) Xue**

Patrick Xue grew up in Skillman, New Jersey, just thirty minutes from Princeton. An interesting fact about Patrick is that he was born in China and moved to the U.S. when he was 4. Patrick chose to study biophysics because he was unable to decide whether he enjoyed physics, chemistry, or biology the most, and biophysics provided a nice balance of the three subjects.

Patrick’s favorite aspect about biophysics is the amount of passion and genuine interest that everyone in the department shows. The people are very friendly and have very engaging conversations about their interests.

Patrick’s favorite class was *Molecular Biophysics Laboratory*, taught by Dr. Carolyn Fitch. He enjoyed this class because it felt like a culmination of the
knowledge he had learned in the biophysics classes. This advanced laboratory uses a combination of spectroscopy, biophysical chemistry, and biochemistry.

Patrick’s advice for people interested in the major is to get to know any of the wonderful faculty members, as they can easily persuade anyone on the fence about joining the major.

Patrick worked on a research project with Dr. Margaret Johnson in the Biophysics department. The project involved analyzing protein interface interaction networks, such as the clathrin mediated endocytosis signaling network in yeast and the ErbB signaling network in humans.

After graduating, Patrick plans to take a year off before medical school. He will be working a full time job at the Johns Hopkins School of Medicine while applying for schools.

Noor Khalil

Noor Khalil grew up in Alexandria, Egypt and came to the US his Freshman year.

His hobbies include magic, taekwondo, and Stand-Up Comedy (Google “Noor’s Set” to see his first time in front of ~700 people. He later TA’ed the class).

Noor chose biophysics because he liked learning how biology works. His favorite thing about Biophysics is the small class size and getting to know everyone in this newsletter. One of his favorite classes was Introduction to Computing. The class never quizzes you, you are allowed to Google any resource and play with your code until it works. He says the class is what you would expect to face in real life, and it has really prepared him for jumping into Dr. Elijah Robert’s lab to run a molecular dynamics simulation from start to finish over the summer despite having no other relevant experience.

Noor thinks that the best part about living in Baltimore is the sense of community. He recommends volunteering with whatever organization that appeals to you.

As for advice relating to being a Biophysics major, he strongly advises everyone to talk to the professors. Ask them about the material in class you don’t get, ask them in-depth questions about the material you do get, show them your Homestuck typing quirk converter, invite them to lunch with the class, and sing karaoke at the Christmas party (no matter how terrible of a singing voice you have, it will not negatively impact your grade).

After graduation Noor is taking two gap years to do research after graduation before applying to MD/PhD programs. He still does not know where he’ll be working, so wish him luck on his job search!

Helen Zhao

Helen is from Reisterstown, MD. She attended high school in Towson, a stone’s throw away from Michael Phelps’ high school.

An interesting fact about Helen is that she enjoys eating her kiwis like apples-furry skin and all.

Helen chose to major in biophysics at the end of her freshman fall semester. She can’t remember her reasons, suggesting they were fairly superficial. She does know why she stayed in the major, however. She liked the fact that classes were small, that the professors made an effort to get to know their students, that students were encouraged to ask deep questions, viz. through question-cards in Cellular & Molecular Physiology.

She loves that her fellow biophysics majors are a motley crew of students, all unique in their interests and aspirations. She feels like this is no coincidence and that the major attracts and helps to cultivate independent thinkers, which is one of her favorite things about it.

Her favorite class was Biophysical Chemistry. She really enjoyed learning about and using mathematical equations to explain and unify observations of protein folding. Thermodynamics, she would also argue, is the coolest topic in science, and there was certainly a lot of that.

Helen conducted research under Dr. Dan Leahy at JHMI on the activation of a receptor tyrosine kinase called IGF1R. It is implicated in diabetes and cancer. She arranged for the research by emailing him.

Helen’s glad to have lived in Baltimore. This experience opened her eyes to the endemic injustice in the country and helped her to become more aware of
her own prejudices, limitations, and privilege.

Next year, she will be studying for an MPhil in History and Philosophy of Science and Medicine at the University of Cambridge. This summer, she is doing research with a professor at George Washington University on the metaphysical and ethical implications of artificial intelligence.

**Andrea Theodoru**

Andrea was born in New Jersey, but grew up in western Maryland and Romania, from where her family originates.

Before transferring to Johns Hopkins from community college, Andrea chose to major in biophysics because of its distinctive integration of the basic sciences with math and computation, allowing for great variety in coursework and a unique understanding of biological systems. It was a pleasure to be part of such a close community of undergraduates, who support each other's success. Biophysics has imparted a new perspective on biology and physiology which will be indispensable to her future goal of becoming a healthcare practitioner, and allowed her to delve into topics which she would have missed out on otherwise.

Her favorite class of all time was *Introduction to Computing*, because taking it as a senior in a class dominated by freshman made her feel young again. *Advanced Seminar in Virology*, taught by Dr. García-Moreno E., also makes the top of her list for its unique, small group discussion style and captivating subject material. The opportunity to exchange ideas in order to deepen understanding made participants better communicators and thinkers, and the deductive reasoning method Dr. García-Moreno introduced added a fun aspect to the course.

During sophomore year, Andrea began research on the electrostatic forces in the dehydrated protein interior in the García-Moreno E. Laboratory. Research gave her many unique opportunities, for example, allowing her to travel to the midwest for the first time to participate in the Gibbs Conference on Biothermodynamics. As part of the BGME lab for nearly three years, research has proved to be a vital part of her education and she is especially grateful to Dr. García-Moreno, Dr. Aaron Robinson, and Jaime Sorenson for being such amazing mentors and friends! This position was obtained after emailing professors, whose information was found on the molecular biophysics department website.

Her advice to those new to the biophysics major is to manage their time well and maintain interests outside of the major in order to have a balanced student experience. Biophysics is a fascinating and challenging field, and it is best explored when not sleep deprived.

An interesting fact about Andrea is that, while she was in elementary school, her family adopted three pet ducklings; they went on to become neighborhood celebrities.

Living in Baltimore has been an interesting culinary experience for Andrea, as she has worked her way from Afghan to Spanish cuisine, and everything in between. Volunteering for the Thread mentoring organization has also allowed her to get to know many people outside of Hopkins and has deepened her appreciation for Baltimore's diversity and character.

This summer, Andrea plans to do as much traveling as possible before starting medical school in the fall.

**Jackie Dillon**

Jackie Dillon was born in New Jersey, but grew up in East Stroudsburg, Pennsylvania. She transferred to Johns Hopkins after studying at West Chester University for her freshman year and decided to major in biophysics because of her interests in both biology and physics out of high school. Looking back, she really was not sure what she was getting into, but it sounded like an interesting major.

Jackie’s favorite aspects of the biophysics major are the small class sizes and many opportunities to interact with biophysics professors. Her favorite course in the major has been Dr. Pat Fleming’s *Bioinformatics*, due to the broad spectrum of information covered—from coding to bioethics and everything in-between.
Because she has always been interested in engineering, Jackie decided to venture outside of the biophysics department in her research. She worked in the Department of Chemical and Biomolecular Engineering with Dr. Michael Betenbaugh. Her first project involved algae-based biofuels, and she studied sustainable methods of growing high-density lipid micro-algae. Currently, Jackie is working on a project investigating the Chinese Hamster proteome using mass spectroscopy and bioinformatics methods. Outside of the lab, Jackie also works on a clinical cancer research study at the Bloomberg School of Public Health.

Living in Baltimore has been quite a change from her quiet hometown, and above all, Jackie has enjoyed the quirky food and music festivals that seem to happen every weekend.

For anyone considering biophysics, make sure you are ready to commit to a difficult, but very rewarding major, where you will form lasting connections with peers and professors!

Next year, Jackie will be attending graduate school and traveling. She also hopes to go to medical school in 2018.

Andrew Dizenzo

Andrew is from Boca Raton, Florida. An interesting fact about him is that he was an extra in the Netflix show House of Cards (Season 3).

He decided to major in biophysics because he has always been interested in physics but wanted to stay on a pre-med track. His favorite aspects of biophysics are the small class sizes, and kind and personable faculty. His favorite classes have been the Protein Engineering and Biochemistry and Molecular Biophysics Laboratories because the classes are small and also because the new undergraduate teaching labs are swank.

Andrew did his undergraduate research in Dr. Cone’s mucosal protection laboratory. His favorite aspect of living in Baltimore was seeing snow for the first time. Andrew’s advice for those considering the major is to go to the professor’s office hours. Those are a great way to clarify material in the course. Every professor in the biophysics department is willing to help you and genuinely cares for the students.

In the immediate future, Andrew will be spending a gap year in the Department of Biomedical Engineering at the JHU school of medicine conducting research to understand how the brain integrates information about rewards to motivate performance and how neural and behavioral processing breaks down during neurological and neuropsychiatric disorders. Combines methods from cognitive neuroscience and experimental economics.

In the future, he plans to apply to medical school.

Cyrus Zhou

Cyrus Zhou was born in Flushing, New York and spent the majority of his childhood in and around New York City. He attended Great Neck South High School and was named an Intel Semifinalist in his senior year. Cyrus also has a massive addiction to chocolate muffins.

Cyrus arrived at Hopkins as an undecided science major. While trying to decide between biology, chemistry, and physics, he discovered biophysics - a combination of all three fields. He majored in biophysics because of its small class size. Cyrus also found that the biophysics major offered much companionship among fellow classmates and covered a wide array of interesting biological topics. He deeply appreciates how much the biophysics faculty cares about their undergraduates (which can be seen by the quantity and quality of food that the biophysics department provide for their undergraduates).

Cyrus’s favorite biophysics class is Introduction to Bioinformatics, taught by Dr. Patrick Fleming, in which he learned how to create and build evolutionary trees - demonstrating how all of life is interconnected with one another. Cyrus also enjoyed classes such as Biological Physics, in which he learned how to model bacterial motion and neuronal action potentials, and Biophysical Chemistry, in which he learned that Dr. Doug Barrick owns about 100 different dice.

Cyrus worked in the lab of Dr. Robert Johnston studying and modeling retina development. There,
he performed population genetics and molecular cloning to tackle the question of how the fruit fly retina determines its fate. He is currently working on two manuscripts, one of which is in review and the other in progress.

Cyrus’s favorite aspect about living in Baltimore is the food. Baltimore is home to some of the best seafood in the US, especially the crab cake.

For any incoming freshman or undergraduates deciding on a major, Cyrus’s only piece of advice is that they should absolutely major in biophysics. The biophysics professors, students, and staff are all incredibly friendly. The low number of biophysics majors means that each biophysics undergraduate receives far more individual attention than the typical biology undergraduate. Majoring in biophysics was an incredibly fulfilling experience and cannot be recommended higher.

Cyrus is currently working as a research technician in the lab of Robert Johnston and applying to various MD/PhD programs.

Shawn Costello

Shawn hails from Cutler Bay, FL, which is less than an hour outside of Miami.

When he first transferred to Hopkins and was looking for a lab to work in all of the labs that he was interested in were biophysics labs. He realized if he was that interested in the research he should probably look into the major, and he declared biophysics at the beginning of his first semester.

His favorite thing about the biophysics major is the really amazing courses. He says he hasn’t taken a course taught in the department that he hasn’t enjoyed. All of the professors are friendly and incredibly helpful. The major is small and the students get along well and are very collaborative.

His favorite class was Biophysical Chemistry. It’s a really fun course with an amazing professor and cool subject material. Learning how to apply physical chemistry to biological problems is part of what makes biophysics so great.

For his research project Shawn created a kinetic model of outer membrane protein biogenesis in gram-negative bacteria while working in the lab of Dr. Karen Fleming in the Biophysics Department.

About Baltimore, Shawn says that it is great to live in a city during undergrad years. There is plenty to do and it is easy to get around. As far as cities go Baltimore is small enough to be manageable and it is much cheaper than other cities.

His advice for new majors is not to be intimidated by any subject material that seems difficult. Everyone struggles with the toughest courses but you will always have help from classmates and the professors. Also, biophysics has many sub-disciplines and you do not have to be interested in them all. You have the freedom to take courses that give you more exposure to any aspect of biophysics that you are more interested in.

Next year Shawn is joining the UC Berkeley as an NSF Fellow to pursue a PhD in Biophysics.

Pablo Palacios

Although he was born in Guayaquil, Ecuador, Pablo is from Huntington Station, New York. He decided to become a biophysics major during his sophomore year when two of his freshman year friends convinced him to join. The major allowed Pablo to approach science differently by analytically integrating disciplines beyond just physics and biology—so don’t worry chemistry lovers, the major doesn’t leave out chemistry.

Some of the features of the major that Pablo enjoyed most were the diverse topics available and best of all, the small class sizes. He really enjoys that the major attracts brilliant individuals from different backgrounds, all of whom are delighted to discuss topics from simple class problems to the most perplexing questions you can imagine! Pablo highly advises that all students interact with their peers, as well as their professors early on to get the best experience from the major.

Pablo’s favorite class was Biochemistry taught by Dr. Patrick Fleming. Pablo enjoyed Dr. Fleming’s ability to take complex information and translate it in a way that is not only understandable but also enjoyable. Thankfully Dr. Fleming offers three potential courses for the future biophysics students!

Pablo participated in research at the School of
Medicine. He joined the Harhaj Lab in the summer of his junior year to research HTLV-1 proteins and the activation of the transcription pathway, NF-kB. After his junior year, Pablo moved to the Canto-Soler Lab, which quickly has become his favorite. He researched a three-dimensional retinal tissue model with functional photoreceptors to mimic key in vivo structural and functional features.

An interesting fact about Pablo is that he founded the triathlon club at Johns Hopkins. He encourages all athletes that want to look for a new, fun sport to join! Pablo has also enjoyed the city of Baltimore, noting that it is a great city for running, riding a bike, and - even better - eating. The restaurants in Baltimore have been an important and delicious experience for Pablo.

This upcoming summer Pablo will be pursuing a Masters of Biomedical Sciences at the Duke School of Medicine. He hopes to be able to attend medical school in the future in pursuit of a MD/MBA.

Kushan Ratnayake

Kushan Ratnayake was born in Sri Lanka but grew up in Rockville, MD. He has played the piano for 11 years and can also play guitar and violin. In his spare time he likes to play chess online.

Kushan originally came into Johns Hopkins intending to major in physics until he was eventually convinced by his roommate to switch to biophysics. He was convinced he made the right decision once he got to know all of the amazing professors and students. The major proved to be exciting, stimulating and immensely satisfying.

Kushan’s favorite aspect of the major was the willingness of the students to work together. The professors encouraged students to be collaborative rather than competitive. While the major was challenging, there was always someone willing to help out and offer support. Kushan’s favorite class was Advanced Seminar in Virology taught by Dr. Bertrand Garcia-Moreno, because of the discussion oriented style of the class that forces students to apply their knowledge of biophysics and think creatively. He also enjoyed Introduction to Computing taught by Dr. Carolyn Fitch so much that it convinced him to pursue a minor in Computer Science.

Throughout his coursework Kushan gained an appreciation for the importance of protein structures and became interested in X-ray crystallography. Instead of working in a wet lab, Kushan joined a robotics lab in the Mechanical Engineering department that is developing new computational methods to solve the so-called ‘phase problem’ in X-ray crystallography. Here he was able to take a truly interdisciplinary approach towards a problem in biology, which is what biophysics is all about.

Kushan’s favorite part of living in Baltimore was being exposed to so many important issues within the community and the country. Kushan believes that students at Hopkins have a unique opportunity, and a responsibility, to become involved in their community. The best place to start is by venturing outside of the Hopkins bubble and getting to know the city.

Kushan advises students to take full advantage of the very approachable professors. They are all extremely eager to help students. The small class sizes makes it easy to develop close relationships with the biophysics students and professors. He also advises students to take a variety of different classes inside and outside of the major, since undergraduate studies is all about exploring and figuring out what your passions are.

After graduation, Kushan will remain at Hopkins to pursue a PhD in Mechanical Engineering where he will continue his research in structural biology.

Siqi Chen

Siqi is from Frederick, MD, which is only about an hour drive from JHU. He was born in Shenzhen, China and moved to the US at the age of four. Siqi made the decision to major in Biophysics after attending a Biophysics open house during SOHOP, as he was already attracted to the major’s multidisciplinary approach of combining his favorite school subjects: computer science, physics, and biology. As Siqi progressed through the program he was particularly impressed by the small class sizes and the availability of the faculty. He became confident that the faculty were really invested in the student’s success.

His favorite class is Molecular Biophysics Laboratory, taught by Dr Carolyn Fitch. He believes that this class represented all the best aspects of the Biophysics major: small class size and a committed professor. He was particularly impressed by the determination of the professor to ensure the smooth
running of the class, sometimes even staying on campus past midnight.

Siqi’s research was in Dr. Elijah Robert’s lab. His project involved designing microfluidic devices and developing image processing software for the purpose of analyzing reproductive patterns of budding yeast. During the summer semesters, Siqi also worked in an immunology lab at the NIH, where he investigated immune processes associated with the development of Age Related Macular Degeneration.

Siqi’s advice for newcomers to the major is to not be shy. Students should seek out the professors for help whenever they need to. The professors are readily available even outside of official office hours and are happy to assist anybody who needs help fully understanding the material. The real benefit of a small class size is the ability of the professor to dedicate more time for each student.

In terms of future plans, Siqi has accepted a position at the NIH as a post-bac fellow and will be working there for 1 or 2 years. He acknowledges the role that the Biophysics program played in helping him receive this offer, as the PI was specifically looking for somebody with background in both immunology research and computational work. His long term plan is to go on to medical school.

**Isabella “Bea” So**

Isabella (Bea) So is from Dallas, Texas. A fun fact about Bea is that she plays the ukulele, guitar, piano, and kazoo, and plans on recording a small album in a professional studio with her friend in May 2016.

Bea did not expect to choose Biophysics, but one time her friend introduced her to Mike Yamakawa (Biophysics ’14), and within a 20-minute conversation over coffee, was convinced that the major was for her. Bea had been briefly introduced to a biophysics class in her final semester of high school, but was completely sold when she attended her first biophysics end-of-the-year poster session, where the small department welcomed her warmly.

Her favorite thing about the biophysics major is the availability of resources and guidance from the department. Professors, graduate students, and undergraduate peers are always ready to support her when it comes to advice, networking, and homework help (even when they might not be in or teaching the class!).

Her favorite class required for the major was *Biological Physics* with Dr. Mark Robbins, because it tied together all the different classes she had taken over the years into one gigantic mathematical look into biological processes, complete with hands-on labs every few weeks.

For her research project, Bea worked at the medical campus under Dr. Subroto Chatterjee. She primarily used using mass spectrometry to analyze lipid contents of treated mice to learn more about atherosclerosis treatment. Her favorite part was utilizing her knowledge from *Intro to Computing* to create MATLAB code that expedited her analyses used.

The best part of living in Baltimore for Bea has to be the music and arts scene. In her upperclassmen years, Bea went to concerts almost every other weekend. Whether she was seeing big-name bands come into the DMV area or appreciating local artists, she loved how integrated music was in the Baltimore culture. She will miss this the most next year.

Bea’s advice for those considering the major is to go to the end-of-the-year poster session, grab some Thai food, meet one or two professors, and you’ll know you belong.

Next year, Bea will be working her way towards a medical degree at Wake Forest’s School of Medicine in Winston-Salem, North Carolina.

**Matthew Liu**

Matthew is from Nashville, Tennessee, though he was originally born in Baton Rouge, Louisiana.

In college, Matthew joined the Hopkins Breakdancers more or less on a whim. However since then, it has become an integral part of his life, performing in several shows every semester.

Looking through the list of majors at Hopkins, Matthew decided upon Biophysics because it sounded like an interesting combination of his favorite subjects, physics and biology. After taking a few classes across other majors, he decided that his favorite was indeed Biophysics.
His favorite class has been *Cellular and Molecular Physiology* taught by Dr. Richard Cone. It wasn’t just another science class. To him, it was a class that added a lot more perspective on life and showed how life was more dynamic that he previously thought. Diffusion is a pretty cool topic.

For his research project, Matthew worked under Yunhua Zhu at the Neurology/Institute for Cell Engineering on the medical campus. He used primarily bioinformatics to organize data and to identify characteristics and mechanisms regulating structural and functional plasticity in the mature mammalian center nervous system.

Matthew will be taking a gap year between graduation and medical school. In the mean time, he will continue his volunteer work at the Baltimore Rescue Mission, and hopefully find some more clinically related experiences.

**Kudos!**

Quenton Bubb won a Marshall Scholarship to study in Cambridge, UK next year.

Cyrus Zhou won a Fulbright to study in Vancouver, Canada.

Shawn Costello was awarded an NSF Graduate Research Fellowship.

Shawn Costello, Mina Farag, Will Shuman and Cyrus Zhou were elected to Phi Beta Kappa in 2016.

Vikas Daggubati was awarded a Goldwater scholarship!

Alfred Chin and Camila Villasante received PURA Awards, and Vikas Daggubati received a 2016 DURA Award.

**Alumni News**

**Deepak Atri, MD, Biophysics ’10** is now an intern at Johns Hopkins hospital in internal medicine after doing 5 years at Yale, part of which was a basic science research fellowship in vascular developmental biology, funded by HHMI.

**Nick Frame, Biophysics ’14** is now in his second year at Boston University School of Medicine pursuing his PhD in Biophysics. He is in the lab of Olga Gursky and was recently accepted to the Training Program in Cardiovascular Biology.

**Leah Sibener, Biophysics ’13** joined Chris Garcia’s lab at Stanford where she uses protein engineering, structural biology, and bioinformatics to understand T cell receptor recognition of pMHC ligands. Recently the parts of the lab (including her project) will be part of the Parker Institute for Cancer Immunotherapy. Additionally, she has been doing part time consulting for local-biotech companies. Leah keeps in touch with a number of biophysics alumni including **Leanna Owen ’12, Josh Riback ’13, Gabe Salzmann ’12, and Vince Luca ’05**, who is actually one of her lab mates!

**Jeffrey Granja, Biophysics ’15** will be joining the Stanford PhD in Biophysics at Stanford this fall.

**Heather Merchut, Biophysics ’13** is finishing her first year at DO school at Touro University in California. She comments that they recently studied the renal system/thermodynamics, and when all her classmates were scratching their heads about low Reynolds number,

“I was like my old friend!”

**JHU BiPhi φφ Group on Facebook**

Current and prospective majors and alumni: Be sure to add yourself to the BiPhi φφ Facebook page, where you can see first hand the fourier transform of a cat. [https://www.facebook.com/groups/220752411311415/](https://www.facebook.com/groups/220752411311415/)

**Spring Party and Poster Session**

Wednesday, Apr 27, 2019 4:30-6:00 PM, Levering Lower Level. Thai food will be served; we will welcome our newly declared majors, and we will recognize our seniors!

**Graduation Reception/Lunch for Seniors & Their Families**

Wednesday, May 18, 2015 11:30 AM-2:00 PM, UTL Atrium. Biophysics Lunch Reception for seniors and their families. Student accomplishments will be recognized, and awards will be conferred.