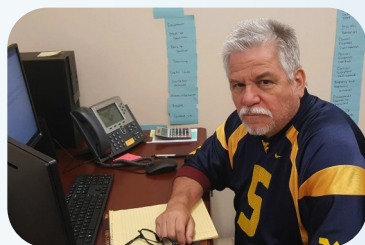


# The [CATALYST]



## [News & Announcements]

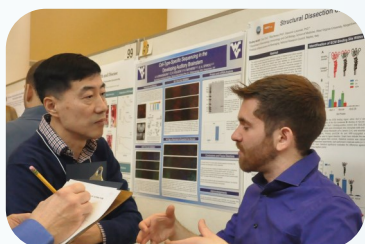
**Sherrie Rice** has started her position as Office Administrator in the department. We are very happy to have Sherrie on board. Stop by and say hello to Sherrie and welcome her to the department!



**Dave Fulaytar** has also joined the department. He will be working with Lana, who was promoted to Director HSC post-Award. His title is Grants Administrator. Their new offices will be in the Erma Byrd building. Welcome Dave!

.....

Join us in welcoming **Dr. Jun Liu**, Associate Professor to the Department of Biochemistry. He spent many years in the Physiology & Pharmacology Department here at WVU. His new office is located in room 217 BMRC Erma Byrd. We are very happy to have Dr. Liu join us.



Congratulations to **Stephanie Shumar**, Graduate Student from Dr. Roberta Leonardi's Lab. She won the award for her poster "Keeping CoA in Check : Characterization of Two Nudix Hydro-lases that Degrade CoA". She presented at the "Lipids, Molecular & Cellular Biology of" Gordon Research Conference in Waterville Valley New Hampshire.

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## Upcoming Birthdays

Artem Gorodetskii	Oct	1
Mike Schaller	Oct	1
Raymond Anderson	Oct	18
Valery Khramtsov	Oct	24
Bohye Jeong	Oct	24
Mary Wimmer	Oct	25
Jane Schupp	Oct	27
Steve Fritsch	Oct	30
Ashley Brandebura	Nov	2
Sriganesh Sharma	Nov	5
Aaron Snoberger	Nov	6
Abi Moye	Nov	7
Bill Wonderlin	Nov	10
Wentao Deng	Nov	13
Deborah Corbin	Nov	15
Brenen Papenberg	Nov	16
Steven Markwell	Nov	20
Lisa Salati	Nov	25
David Smith	Nov	25
V.M Rajendran	Dec	2
Andrey Bobko	Dec	11
Peter Stotlov	Dec	22
Jessica Allen	Dec	23
Marieta Gencheva	Dec	27
Oxana Tseytlin	Dec	28
Brad Hillgartner	Dec	29

*"The scientific man does not aim at an immediate result. He does not expect that his advanced ideas will be readily taken up. His work is like that of the planter - for the future. His duty is to lay the foundation for those who are to come, and point the way."*  
~ Nikola Tesla

## [Chair's Corner]

Welcome to the fall semester, which as always has arrived faster than anticipated. It has been an eventful spring and summer, and we are experiencing the most change in a short period of time since I arrived at WVU.

The office administrative structure has changed and new staff are quickly getting up to speed. Reorganization in other departments has resulted in the appointment of three faculty members to Biochemistry. The students in these labs are now part of our Biochemistry community, and I am happy to see them engaging in our activities.

We have also recently successfully completed a search for a new faculty member and I expect we will be welcoming Brad Webb from UCSF as a new Assistant Pro-

fessor of Biochemistry early in 2018. Thanks to the search committee for their efforts in screening ~200 applicants for the position.

With the recent arrival of new students, we have the largest first year class of BMS graduate students in quite a few years (28 students). This is a great group of engaged students, who I expect will be successful, and we can look forward to their engagement with Biochemistry labs.

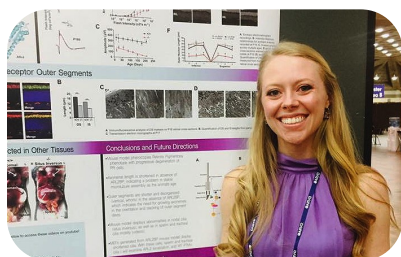
With all of these changes will come challenges, but also opportunities for new collaborations, new colleagues, new ideas and new friendships.

Collectively, the Department has established a very strong culture of collegiality and support, which will help us all meet



these challenges and make the most of these new opportunities.

## [News & Announcements Cont'd]



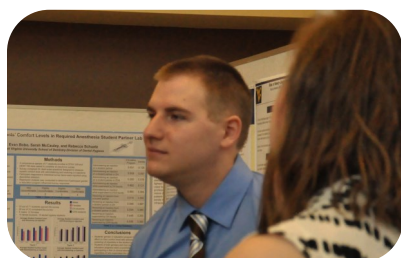
Congratulations to **Abi Hayes Moyer**! She was Selected for Podium Talk- FASEB cilia summer conference, Phoenix, AZ.



Congratulations to **Gina Mazzetti**, who was awarded the 2017 Dean's Award for Support Staff of the Year. A ceremony and reception was held at the Pylons on Wednesday, August 30 2017.



We had a total of 6 Graduate Students officially accept their diplomas during the May 12, 2017 Commencement ceremony held here at the HSC.



Congratulations to **Trey Rottgen**, Graduate Student from Dr. Rajendran's Lab. He won the "Meritorious Research Award" from the American Physiological Society Epithelial Transport Group on April 25, 2017.

.....

The Department of Biochemistry & Molecular Biology hosted the 1st annual "**Meet The Mentor Social**". This fun event was held on Monday, August 28, 2017 at the Erickson Alumni Center. A slide presentation was shown by several Mentors that included trivia questions about the Department of Biochemistry Website. Food and drinks were provide as well as 2 great Prizes awarded to the New Grad Students.

**Daniel Vanderbilt**  
**Sriganesh Sharma**  
**Mark Farrugia**

Dr. Mike Ruppert, Mentor

**Helen Rodgers**

Dr. Peter Mathers, Mentor

**Kimberly Alonge**

Dr. Brad Hillgartner, Mentor

**Jessica Hall**

Dr. Michael Schaller, Mentor

A Big Congratulations and Best Wishes to all as they start the next chapter of their journey!

Go to the new **Department of Biochemistry Facebook page** and hit "like" to follow all the current news. You are encouraged to post any Biochemistry current events, news, accomplishments, etc.

*"Science is the search for truth, that is the effort to understand the world: it involves the rejection of bias, of dogma, of revelation, but not the rejection of morality."  
~ Linus Pauling*

## [ARVO Annual Meeting 2017]

The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting was held in Baltimore Maryland on May 7-11, 2017. **Congratulations to Dr. Ramamurthy's lab!**



Congratulations to **Abigail Hayes Moya**, Graduate Student in Dr. Vishy Ramamurthy's Lab. She won the best poster award at the Association for Research in Vision and Ophthalmology - Annual Meeting (ARVO) in Baltimore, MD.



Congratulations to **Tanya Dilan**, Graduate Student in Dr. Vishy Ramamurthy's Lab.

She was selected for a Podium Talk at the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Baltimore, MD.



Congratulations to **Jesse Sundar**, Graduate Student in Dr. Vishy Ramamurthy's Lab. He was also selected for Podium Talk as well as a Travel Award at the Association for Research in Vision and Ophthalmology



(ARVO) Annual Meeting, Baltimore, MD.

*We spent most of our days at the conference to meet new people and network with scientists in our subfields but two nights we went out to various local restaurants and Dr. Stoilov was kind enough to make us breakfast one morning!*

~ Jesse

*As far as anything interesting, we always rent an air-Bnb house that we can all stay in together. The girls that went (me, Tanya, Daniella, and Emily) built a girls fort upstairs and had a fantastically fun time together that week! We ate dinner together every night somewhere new, and it was very fun to get to see the city of Baltimore, especially to see the vibrant areas of downtown. We also get together with Vishy's old post-doc lab at every ARVO, which is a really unique experience to get to know other experts in the field and their graduate students. The most surprising and very fun activity we did was ate crepes freshly prepared by Dr. Stoilov! They were absolutely delicious.*

~ Abi



## [Recent Publications]

Poncelet M, Driesschaert B, **Bobko AA**, **Khrantsov VV**. "Triarylmethyl-based biradical as a superoxide probe." *Free Radic Res.* 645<sup>1</sup> Sep 4:1-7. doi: 10.1080/10715762.2017.1369058. [Epub ahead of print] PMID: 28817975

**Frisch SM**, Farris JC, Pifer PM. "Roles of Grainyhead-like transcription factors in cancer." *Oncogene.* 645<sup>1</sup> Jul 5<sup>1</sup>. doi: 10.1038/nco.2017.178. [Epub ahead of print] Review. PMID: 28714958

Alonge KM, Meares GP, **Hillgartner FB**. "Glucagon and Insulin Cooperatively Stimulate Fibroblast Growth Factor 21 Gene Transcription by Increasing the Expression of Activating Transcription Factor 4." *J Biol Chem.* 645<sup>1</sup> Mar 75;6<sup>3</sup> 6(57):967<sup>3</sup>-5252. doi: 10.1074/jbc.M116.762922. Epub 2017 Feb 10. PMID: 28188284

Hunsberger HC, **Konat GW**, Reed MN. "Peripheral viral challenge elevates extracellular glutamate in the hippocampus leading to seizure hypersusceptibility." *J Neurochem.* 645<sup>1</sup> May;585(7):785-346. doi: 10.1111/jnc.13999. Epub 2017 Mar 27. PMID: 28244106

Hall JE, **Schaller MD**. "Phospholipid binding to the FAK catalytic domain impacts function." *PLoS One.* 645<sup>1</sup> Feb 65;56(6):e45<sup>1</sup>657<sup>0</sup>. doi: 10.1371/journal.pone.0172136. eCollection 2017. PMID: 28222177 Free PMC Article

Hendrix MJ, Kandela I, Mazar AP, Seftor EA, **Seftor RE**, Margaryan NV, Strizzi L, Murphy GF, Long GV, Scolyer RA. "Targeting melanoma with front-line therapy does not abrogate Nodal-expressing tumor cells." *Lab Invest.* 645<sup>1</sup> Feb;3<sup>1</sup> 6(6):5<sup>10</sup>-186. doi: 10.1038/labinvest.2016.107. Epub 2016 Oct 24. PMID: 27775691

**Tseytlin M**. "Concept of Phase Cycling in Pulsed Magnetic Resonance Using Sinusoidal Magnetic Field Modulation." *Z Phys Chem (N F).* 2017 Mar;231(3):689-703. doi: 10.1515/zpch-2016-0843. Epub 2016 Nov 9. PMID: 28751814

**Tseytlin M**. "Full cycle rapid scan EPR deconvolution algorithm." *J Magn Reson.* 645<sup>1</sup> Aug;6<sup>2</sup> 5:6<sup>1</sup> 6-278. doi: 10.1016/j.jmr.2017.06.008. Epub 2017 Jun 11. PMID: 28666168

Möser J, Lips K, **Tseytlin M**, Eaton GR, Eaton SS, Schnegg A. "Using rapid-scan EPR to improve the detection limit of quantitative EPR by more than one order of magnitude." *J Magn Reson.* 645<sup>1</sup> Aug;6<sup>2</sup> 5:5<sup>1</sup>-25. doi: 10.1016/j.jmr.2017.04.003. Epub 2017 Apr 17. PMID: 28500917

## The [Spotlight]

### 14 Things you didn't know about:

*David M. Smith*

#### The Basics

Title: Associate Professor

Office/Lab: 3130F



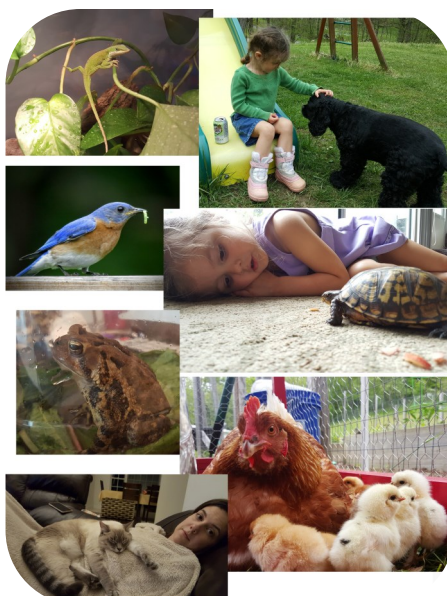
#### 1. What was your very first job

A. I started a small lawn mowing business when I was 12. I had around a dozen lawns that I mowed in one particular community in Sebring, Florida, where I spent most of my years growing up. My mom would drop me off in the morning; I would stuff the weed whacker in the grass catcher of my grandpa's ride on lawn mower and tie the push-behind Mower to the back, and ride from house to house mowing lawns. I could make ~\$150 bucks that day if I hustled. When I got to high school, I started working on a golf course picking-up range-balls and cleaning go-carts. I also played countless hours of golf (I was a scratch golfer back then). In college, I worked construction (mostly destruction) during the summer because they would let us work 80-100hr workweeks. We would bring our sleeping bags and just stay at the homes we were renovating. I could make enough money that way that I did not have to work while taking classes during the

Fall and Spring semesters. Those were some hot summers in Florida, and I still hate home renovation work today!

#### 2. Weirdest food you've ever eaten?

A. Well I grew up in Florida, so I ate lots of stuff that might sound weird to some. They were perfectly normal to me at the time, especially since my dad is an avid big game hunter e.g. Alligator tail, Frog legs (that we would gig ourselves off of air boats), armadillo, coon, wild hog, lots of venison, elk (not from Florida), rabbit, squirrel, and about every variety of fish that swims in fresh- or salt-water in and around Florida.



#### 3. If you had to do it all over again, what would you study in school?

A. If I had to do it all over again I would have majored in Chemical Hygiene & Safety, I just looked it up and that's actually a major at West Virginia Wesleyan College! {Notice tongue in cheek} In all seriousness I wouldn't have changed a thing, I love Biochemistry! But I probably would have taken a few more advanced physics courses.... Physics hold a special place in my heart, I

love stuff that makes sense.

#### 4. Biggest pet peeve?

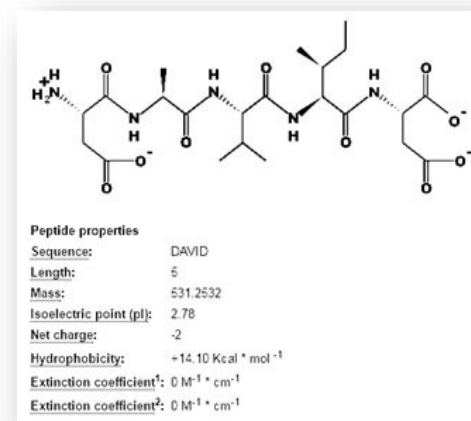
A. Critical thinking or whatever the opposite of that is.

#### 5. Any phobias?

A. No phobias. My dad served in the Army and he drilled "mind over matter" into me from a young age. If I ever came across something that I was afraid of, I always felt compelled to tackle it and overcome it. I could never be satisfied with myself to fear something; instead, I saw it as a challenge to overcome.

#### 6. Ever tried to spell your name in amino acid structures? (feel free to hand-draw this one...!)

A. Hand-drawing takes too much time, turns out that pepdraw.com can do it for you!



#### 7. Have you ever broken the law? (Speeding/parking tickets excluded)

A. Let's be honest how could I possibly know the answer this, it's illegal to throw confetti in Mobile, Alabama. In Iowa, it's illegal for a man with a mustache to kiss a woman in public. In Oregon it's illegal to "talk dirty". In Pennsylvania, it is illegal to tie a dollar bill to a string on the ground and pull it away when someone tries to

*"True wisdom comes to each of us when we realize how little we understand about life, ourselves, and the world around us."  
~Socrates*

## The [Spotlight] Cont'd

pick it up. In Florida, it's illegal to fart in a public place after 6pm on a Thursday (I'm sure I'm guilty of this one). With so many laws in our country, I'm convinced we all break laws every day in way or another. This used to drive me crazy when I was a kid. Until one day my Dad explained that the "the letter of law and the intent of the law" are different things. I slept better after that. So broken laws-yes! Convicted-no. But seriously, check Massachusetts it has some wing-dingers...

<https://goo.gl/YcYmMf>



**8. What are the first 3 songs that come up when you hit shuffle on your playlist?**

**A.** Radiohead, Smashing Pumpkins, and Twenty One Pilots.

**9. Favorite guilty-pleasure TV show?**

**A.** We cut the cable 4-5 years ago, and I haven't missed it. My wife and I will still sit together after the kids are finally down and watch a Netflix show, but after 15min

I usually pick up my computer and starting working, it's just more interesting, and I don't like feeling unproductive.

**10. Favorite vacation spot and why?**

**A.** Amalfi coast, Italy. I had the opportunity to tour Italy while a postdoc, and my wife and I fell in Love with the Amalfi Coast. It's just breath taking. I love the Italian culture, very laid back, easy going and relaxing; such a huge contrast to our American culture. I'm convinced that boredom is the ultimate creator of innovation. New ideas come when we have the luxury to just sit and ponder the mysteries of the world. Of course, if you don't have inspirations to ponder this can also be a bad thing!

**11. What's your favorite season and why?**

**A.** All of them, but mostly Fall. Growing up in Florida, I never got to experience changing seasons... there just 9 months of sweat-drenched clothes and 3 months of "this is nice". I've lived "Up North" (anything North of the Fl/Ga line) for 15 years now, and every time the seasons change I am just in awe. Literally. It amazes me 4 times a year! But I especially love the Fall, when it works out, I try to pick the day when I think color is at its peak, lighting/weather is just right and I take the day off. I try to get that perfect photograph... recently It's been with home-built drones.



**12. If you have a Facebook page, where was your profile picture taken?**

**A.** Camping in Massachusetts with my 4 year-old son (who is now eleven). Might be time to update it.

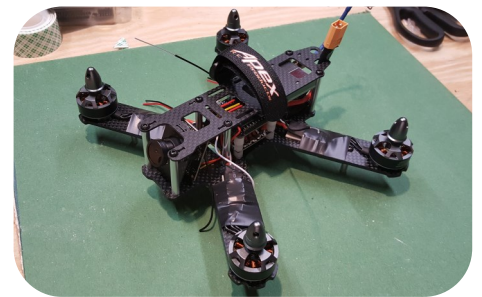


**13. What do you think people would be most surprised to know about you?**

**A.** People are always shocked when I tell them we have 4 kids, does that count?

**14. Any hobbies people might be surprised to know about?**

**A.** I build and fly many different types of RC quadcopters and model planes. Most of them I fly FPV (First Person View, with immersive video goggles), some of them are very fast (e.g. 210mm racing drones can do up to 80mph) and they can discharge 2 AmpHours of energy in just 2-3 minutes; nothing gets adrenalin pumping so hard with your feet still on the ground!



*"Science, my lad, is made up of mistakes, but they are mistakes which it is useful to make, because they lead little by little to the truth."*

*~Jules Verne*

## [Meet Our Students]



*Jessica Allen*

Pittsburgh Steelers. I also enjoy volunteering at science outreach events and am very passionate and involved in Relay for Life.



*Steve Markwell*

My name is Jessica Allen; I am entering the fourth year of my graduate career and am a member of Dr. Scott Weed's lab. Our lab focuses on mechanisms of invasion and metastasis in head and neck cancer. My research focuses on the role of the actin binding protein coronin 1B in invasive processes.

I am a West Virginia native, originally from Mt. Nebo, a small town near Summersville. I attended Concord University where I received my BS in Biology. I was originally introduced to research through the WV-INBRE program, where I had the privilege of working with Drs. Linda Vona-Davis and Mark Olfert on a project focusing on exercise capacity in adipose-specific VEGF knockout mice. My summer lab experience attracted me to research and influenced my decision to attend WVU.

Outside of the lab, I enjoy exploring my home state, going to concerts, attending WVU football games, and cheering on the

I'm the senior-most student in Dr. Scott Weed's lab and part of the Cancer Cell Biology program. The Weed lab focuses on mechanisms of invasion and metastasis in

head and neck cancer. Specifically, my dissertation seeks to understand regulating actin cytoskeletal dynamics that initiate the metastatic cascade. Historically the lab centers around the scaffolding protein cortactin and its various binding interactions. As the cancer research field puts more focus on clinical-translational, it became necessary to explore upstreaming signaling molecules that regulate cortactin's interactions since a scaffolding protein isn't an easily druggable target. My project is unraveling the role of Casein Kinase II (or CK2) mediated phosphorylation of cortactin's C-terminus and those effects on actin dynamics. We have found promising evidence that utilization of the selective CK2 inhibitor Sunitinib (aka CX-4945) attenuate the pro-invasive phenotype in both 2D and 3D in vivo invasion models.

I hail from the Western suburbs of Chicago where my parents still reside. My undergraduate studies at University of Illinois in Urbana-Champaign were in Chemistry as well as Molecular and Cellular Biology. While there I worked in the analytically



*"We must all suffer one of two things: the pain of discipline or the pain of regret or disappointment."  
~ Jim Rohn*

## [Meet Our Students Cont'd]

chemistry laboratory of Dr. Alexander Scheeline designing nano-sensor technology to study noise-induced hearing loss. Dr. Scheeline introduced me to basic science research and showed me how to utilize molecular biology techniques to understand physiological conundrums, launching me into our current program.

If you find yourself over on the first floor of the Cancer Center you're likely to find me in one of two states, I'll either be rocking out to Pandora in the lab or listening to an audiobook with my headphones in. Outside of avidly reading science fiction and fantasy novels, I'm a devoted Chicago sports fan. In my "free time" I enjoy running on the rail trail, hitting the weight room, the occasional video game and crafting my own beers, any of which topics I'm happy to talk way too much about.



**Tiffany Petrisko**

I am a Neuroscience Ph.D. candidate entering my fourth year in Dr. Konat's lab. Our research focuses on understanding the mechanisms by which peripheral viral infections alter the brain and result in exacerbations of a variety of neurological con-

ditions, including seizures (our primary model), multiple sclerosis, Alzheimer's disease, and stroke.

While my family is originally from Pittsburgh, I grew up in Cary, NC (also known as the Containment Area of Retired Yankees) and completed my B.S. degree in Neuroscience and Behavioral Biology at Emory University in Atlanta, GA.

Outside of school I love to travel, read, watch the Pittsburgh Penguins, and play soccer!



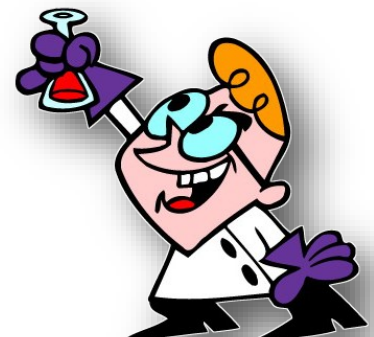
**Brenen Papenberg**

I am a student in Dr. Scott Weed's lab and part of the Cancer Cell Biology graduate program. Our lab mainly focuses on the mechanisms of nodal metastasis in head and neck squamous cell carcinoma (HNSCC). My dissertation consists of two separate projects. The first project investigates a novel health disparity for Appalachian metastatic HNSCC patients that is leading to a worse overall survival com-

pared to Non-Appalachian patients and attempting to determine if there is a genetic or other molecular explanation to this disparity. The second project looks at a potentially functional role for the highly overexpressed CCND1 mRNA in HNSCC in that it could be functioning as a competing endogenous RNA for microRNA or mRNA binding proteins. This overexpression and sponging these binding partners could play a role in the dysregulation of tumor suppression.

I grew up in a small town in central Iowa that is just outside of Ames and my family still resides there. I received my Bachelors degree in Microbiology and Genetics from Iowa State University and my research there involved the study of biofilm formation and maize rhizosphere colonization of *Pseudomonas putida* with Dr. Larry Halverson. I joined the Biomedical Sciences program at WVU in 2013 where I started in a microbiology lab that had a cancer relevant project, which is one reason why I am now in a lab that studies cancer.

In my off time I enjoy being adventurous which often includes trying different cuisines, outdoor activities, and weekend road trips. I also deem myself to be a computer nerd and enjoy graphic design (which is relevant when making figures for lab!), coding, and gaming. I also enjoy finding and enjoying craft beers and have tried over 250 different ones to date.



***"The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy."***

***~Martin Luther King, Jr.***

## [EPR 2017 Conference]

The International Conference on Electron Paramagnetic Resonance Spectroscopy and Imaging of Biological Systems (EPR-2017) was held at the Lakeview Golf Resort & Spa, situated on the banks of scenic Cheat Lake in Morgantown, WV on July 16th through July 22, 2017.



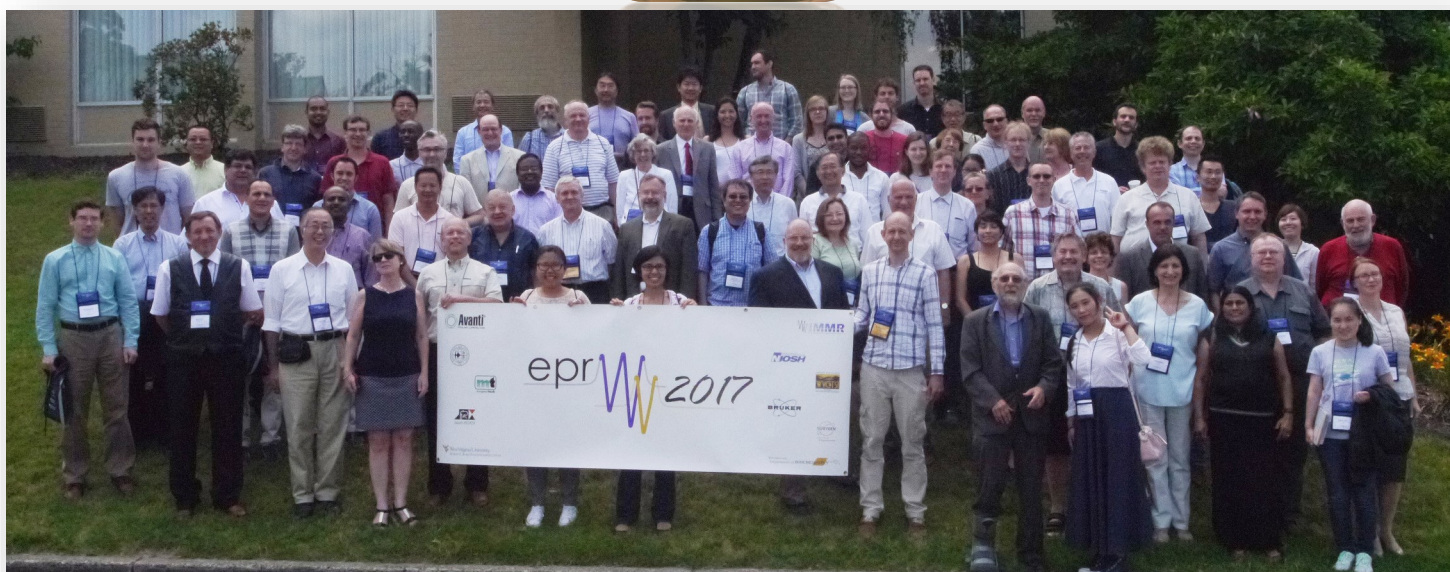
This conference was a combined meeting of the "16th Annual In Vivo EPR Spectroscopy and Imaging" and the "13th Annual Spin Trapping/Spin Labeling" conferences organized with the support of the In vivo Multifunctional Magnetic Resonance Center, The Health Sciences Center, and Department of Biochemistry, School of Medicine, at West Virginia University.

Meeting discussions maximized a cross-fertilization of ideas and allowed experts in each area to exchange information, catalyze rapid advances, and disseminate these concepts to current and potential EPR users and young investigators.

The program included traditional plenary lectures, invited speakers, selected oral presentations, and poster sessions along with educational workshops by the Mountaineer EPR School and a Young Scientist Award ceremony.

We would like to thank each and every participant for taking part in this groundbreaking event.

The EPR 2017 Conference focused on innovation, developments and applications



*"Education is the most powerful weapon which you can use to change the world."  
~ Nelson Mandela*



## [Alumni Spotlight]

# Sushant Bhatnagar, Ph.D.

### WVU Graduate Advisor:

Dr. Brad Hillgartner

### Degree Received/Graduation Year:

December 2009

### Current Position/Title/Location:

Assistant Professor of Medicine, Division of Endocrinology, Diabetes and Metabolism, Univ. of Alabama, Birmingham, AL



### 1. What have you been up to since you left WVU? (Career, family, other life events that you would like to share.)

In 2015, we were blessed with the birth of our son, Arjun. He is almost two years old now. He is now talking, running, and figuring out how to get away with things that mom and dad tell him not to do. It is a joy to watch him grow. Professionally, after completing my Ph.D. from the Department of Biochemistry at WVU, I went to the laboratory of Alan Attie at the Department of Biochemistry at the University of Wisconsin at Madison for my post-doctoral training. During my postdoc, I acquired experience in the area of genetics of type 2 diabetes. In 2015, I started my independent laboratory working on understanding

mechanisms of insulin secretion in type 2 diabetes. We are located in the Comprehensive Diabetes Center at the University of Alabama at Birmingham.

### 2. What do you enjoy most about your current position, field of study, or your current life endeavors?

Love spending time with family and play with Arjun. On the work front, I enjoy daily interactions with my lab members to help solve and/or discuss scientific problems. Also, having the freedom to be able to pursue scientific project ideas is one of the perks of my job.



### 3. What advice would you give to current or incoming graduate students here at WVU?

Work hard and pay emphasis on the conceptual understanding of theory and experimental procedures. Have fun working in the lab and listen to your mentors. It will help you in the long run!!

### 4. How did your experience at WVU contribute to your professional career?

I love Morgantown and still follow Mountaineer sports. Personally, I enjoyed my tenure in Morgantown as a Ph.D. student. Made good friends with whom I still stay in touch. Professionally, I believe working in the Hillgartner lab was an incredible experience. He is a great mentor. In his laboratory, I acquired an ability to be an independent scientist, i.e., be able to plan, design, and perform experiments. Having these skills, helped me focus later during



postdoc to able to acquire much needed skills to become independent research investigator.

### 5. What advice do you have for students getting ready to graduate during these difficult economic times?

If you want to start your independent laboratory, don't be intimidated to pursue your aspirations. Talk to your mentors and pick a challenging postdoc lab. Honestly, work very hard and try to stay on course to get papers, post-doc funding, and then transition award within 5-6 years. Accomplish this, and you should be a good candidate for a faculty position. If you don't want to go for postdoc training, then there are several career options such as management consulting or industry.

### 6. Any additional comments you'd like to include?

WVU was instrumental in helping me secure a faculty position. If any of you want to reach me for any questions or just a chit-chat, drop me an email: at:

[sushantbhatnagar@uabmc.edu](mailto:sushantbhatnagar@uabmc.edu)

*"The will to win, the desire to succeed, the urge to reach your full potential... these are the keys that will unlock the door to personal excellence."*

*~Confucius*

# Biology, Cells

O	Y	V	C	E	N	T	R	I	O	L	E	S	S
E	L	O	U	C	A	V	R	C	I	B	T	M	C
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T	L	L	C	O	C	E	W	L	R	T	Y	T	T
C	I	L	I	A	H	U	S	L	O	S	S	O	O
T	L	O	N	K	R	K	S	M	K	A	O	C	P
L	S	D	U	I	O	A	E	E	A	L	S	H	L
L	N	T	C	K	M	R	M	M	R	P	O	O	A
A	L	T	L	O	A	Y	O	B	Y	O	M	N	S
W	U	U	E	H	T	O	S	R	O	R	E	D	M
L	R	S	O	S	I	T	O	A	T	O	S	R	M
L	W	S	L	E	N	E	B	N	E	L	I	I	A
E	Y	B	U	Y	L	S	I	E	S	H	Y	A	O
C	O	A	S	R	O	S	R	A	T	C	S	I	S

NUCLEOLUS  
 RIBOSOMES  
 CYTOPLASM  
 CELL MEMBRANE  
 LYSOSOMES  
 CENTRIOLES  
 MITOCHONDRIA

CHROMATIN  
 CILIA  
 PROKARYOTES  
 VACUOLE  
 EUKARYOTES  
 CELL WALL  
 CHLOROPLAST

# [Crossword Puzzle]

## Across

- 1 "Li'l Abner" cartoonist
- 5 "Sweet" stream, to Burns
- 10 Culinary artiste
- 14 Autumnal birthstone
- 15 Rolls-\_\_\_
- 16 Incarnation of Vishnu
- 17 Actress Merrill
- 18 Home on the range
- 19 Ardent
- 20 1999 US Open champ
- 22 Senior citizens
- 24 Beefy bovine
- 26 Adds zest to
- 27 Mar
- 29 Black eye
- 31 Powwow
- 33 Naval rank
- 37 Wire service inits.
- 38 Minor quarrels
- 40 Aussie hopper
- 41 Pour wine into another container
- 44 Vacation mailing
- 47 Least common
- 49 Erato and her sisters
- 50 "I, Robot" author
- 52 Fatty acid
- 54 Made numb
- 56 Improve
- 59 Hybrid fruit
- 60 "It's the end of \_\_\_!"
- 62 With competence
- 63 Jazzman Jackson
- 64 Exhaust
- 65 Shut noisily
- 66 Hunted animals

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- 67 Burial places
- 68 Stitched

## Down

- 1 Closing notes
- 2 \_\_\_ in a poke
- 3 Sony rival
- 4 Credit cards
- 5 Bandleader Shaw
- 6 Adversary
- 7 Printing error
- 8 Eyelike spots
- 9 Indigence
- 10 Lunar features

- 11 Place of refuge
- 12 Islamic chiefs
- 13 Crazes
- 21 Bear's advice
- 23 Cinematographer Nykvist
- 25 Letters to answer?
- 27 Desert Storm missile
- 28 "The Dunciad" poet
- 30 Lots
- 32 Space traveler
- 34 Testy
- 35 Author Vidal
- 36 Agrees quietly
- 39 1939 movie dog

- 42 Dryness
- 43 Appellation
- 45 Certain Feds
- 46 Breastplate
- 48 Be that as it may
- 50 Norse sea god
- 51 Room, in Rouen
- 53 Jumps
- 54 Place for trash
- 55 Consider
- 57 Cat's scratcher
- 58 Religious song
- 61 Cause friction

[Coffee Break]

Crossword Puzzle answers located on the back page [No L<sup>OO</sup>KING...]

## [Upcoming Events]

### WVU and Morgantown Upcoming Events (September 2017 - December 2017)

9/9/2017	Mountaineer Football vs East Carolina	TBA	Milan Puskar Stadium
9/9/2017	Rick Springfield & Richard Marx	7:30 om	WVU Creative Arts Center
9/16/2017	Mountaineer Football vs Delaware State	TBA	Milan Puskar Stadium
9/19/2017	Fall 2017 Seminar: Christopher Lengner	12-1 pm	WVU Eye Institute Auditorium
9/22/2017	WVU Jazz Band and World Music Ensemble	6 - 8 pm	Riverfront Park, Morgantown, WV
9/22 - 9/24/17	WVU Fall Family Weekend	All day	Morgantown, WV
9/23 -9/24/17	WV Wine & Jazz Festival	All day	Camp Muffly
9/30 - 10/1/17	Oktoberfest Weekend	11 - 5 pm	Seven Springs Mountain Resort, Seven Springs, PA
9/29 - 10/1/2017	76th Annual Buckwheat Festival	8 - 10 pm	Kingwood, WV
10/1 - 31/2017	Rich's Fright Farm - <a href="http://frightfarm.com/">http://frightfarm.com/</a>	6 pm - 10 pm	Smithfield, PA
10/4/2017	Stephen Stills and Judy Collins	7:30 PM	WVU Creative Arts Center
10/7/2017	Runnin' for Research 5K Run/Walk	8:00 AM	Cheat Lake Park, Cheat Lake WV
10/13/2017	WVU Homecoming Parade	6:30 PM	High Street, Morgantown WV
10/14/2017	WVU Football vs. Texas Tech	TBA	Milan Puskar Stadium
10/16/2017	Pittsburgh Symphony Orchestra	7:30 PM	WVU Creative Arts Center
10/20 - 22/2017	Mountaineer Week Craft Fair	TBA	WVU Mountainlair
10/20, 21, 22/2017	PA Arts and Crafts Christmas Festival	10 am - 6 pm	Washington, PA, County Fairgrounds & Expo Center
10/21/2017	Family Fun Day	Noon - 3 pm	WVU Mountainlair
10/28/2017	WVU Football vs Oklahoma State	TBA	Milan Puskar Stadium
11/4/2017	WVU Football vs Iowa State	TBA	Milan Puskar Stadium
11/5/2017	Festival of American Arts and Crafts	10 am - 4:30pm	Park Inn by Radisson, Uniontown, PA
11/12/2017	Elf the Musical	6:00 PM	WVU Creative Arts Center
11/18/2017	WVU Football vs. Texas	TBA	Milan Puskar Stadium
11/25/2017	Small Business Saturday	10 am - 4 pm	High Street, Morgantown WV
12/1/2017	Moscow Ballet's "Great Russian Nutcracker"	7:30 PM	WVU Creative Arts Center
12/15 - 16/2017	The Nutcracker Ballet	7:00 PM	State Theatre Center for the Arts, Uniontown, PA
12/16/2017	WVU Graduation - December 2017	TBA	WVU Coliseum
12/16/2017	Landau Eugene Murphy Jr. Holiday Concert	7:30 PM	Metropolitan Theatre, Morgantown WV



Check out the  
Biochemistry Website

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