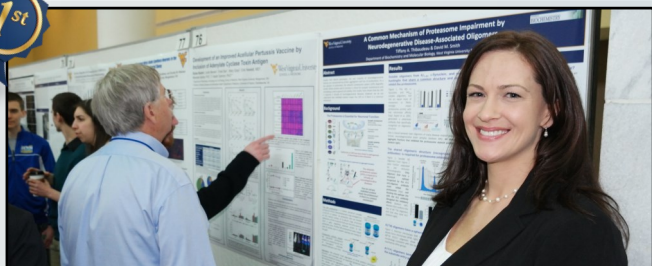


The [CATALYST]



[News & Announcements]

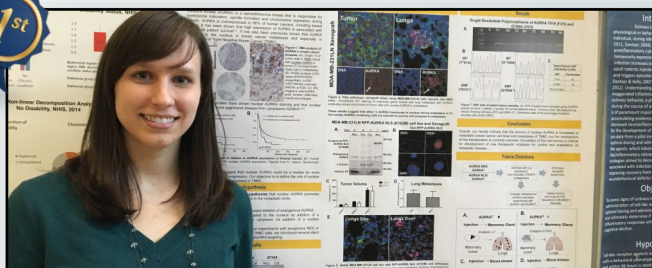
Congratulations to our 2016 Van Liere Convocation Research Day Poster Presentation Winners!



Tiffany Thibeaudeau - First place, 2nd year "*A Common Mechanism of Proteasome Impairment by Neurodegenerative Disease-Associated Oligomers*"



Brandon Jones - First place, Basic Science Yr 5+, "*Dual Targeting of the Mesenchymal and Amoeboid Pathways via NEDD9 and ROCK Inhibition Hinders Breast Cancer Invasion and Metastasis*".



Kristina Marinak - First Place, Basic Science 2/2 "*Aurora-A Kinase: a nuclear driver of metastasis*"



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Upcoming Birthdays

Dan Murphy	April	7
Josh Farris	April	5
Heimo Riedel	May	7
Kristina Marinak	May	11
Thamaraiselvi S.	May	11
Roberta Leonardi	May	15
Lana Yoho	May	24
Mike Gunther	May	26
Mark Farrugia	May	27
Qiang Ma	May	31
Skye Hickling	June	4
Elena Pugacheva	June	5
Saravanan Kolandavelu	June	10
Tiffany Thibeaudeau	June	14
Michael McKinstry	June	20
David McDonnell	June	23
Knox VanDyke	June	23
Elisha Martin	June	24

"There is a single light of science, and to brighten it anywhere is to brighten it everywhere."
~ Isaac Asimov

[News & Announcements cont'd]

Travel grants awarded to attend national meetings!

Abby Hayes & Tanya Dilan won travel grants to attend the Associate for Research in Vision and Ophthalmology Annual Meeting in Seattle, WA!

Aaron Snoberger & Andrew Nickerson both won travel grants to attend the Experimental Biology meeting in San Diego, CA! **Great job!**

.....

Kim Alonge was selected for a WVU Foundation Distinguished Doctoral Scholarship! This is an extremely competitive scholarship which attracts many qualified applicants. Kim's outstanding application materials earned her this prestigious scholarship. **Congratulations Kim!**

.....

Dr. Rajendran was inducted as a Fellow by the American Gastroenterological Association (AGA)! The AGA is the nation's oldest medical society and is dedicated to disorders of the gastrointestinal (GI) tract. Through the fellowship program, the AGA honors superior professional achievement in clinical private or academic practice and

in basic or clinical research. Fellowships are awarded to AGA members whose accomplishments and contributions demonstrate personal commitment to the field of gastroenterology. **Congratulations Raj!!**



Dan Murphy completed his dissertation on 1/26/16. The title of his presentation was "The Regulation of Alternative Pre-mRNA Splicing in Photoreceptor Cells". A few months after graduation, Dan will be starting as a postdoc in Dr. Joseph Corbo's lab at Washington University in St. Louis, Missouri. The lab has very a broad range of research projects on the control of gene expression in the retina. **Congratulations Dr. Murphy!**



[Chair's Corner]

I often laud the accomplishments of our faculty and students in their research and teaching missions – grants, papers, dissertations, awards, etc. But I would like to recognize the key people providing the administrative infrastructure that fosters the success of our faculty and students. Lana, Janelle, Gina and Carol work tirelessly behind the scenes to ensure that the Department operates smoothly. Consider all of the aspects of the operation that they impact – pre-award (small word - big, big job!), post-award, budgeting, hiring, payroll and benefits, purchasing, organization of Departmental activities (seminars, forums, recruiting), scheduling, support for the teaching mission, administrative support for P&T and recruiting, etc., etc., etc. More than anyone, they have to deal with the institutional bureaucracies on a daily

basis to do their jobs. Through it all, they have an upbeat attitude and smile for everyone. I would not like to calculate the additional hours that we would add to all of our jobs if we did not have their support.

Very sincerely, on behalf of all of the faculty, staff and students, **thank you Lana, Janelle, Gina and Carol for your hard work and efforts to support the Department!!!**



"To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science".
~ **Albert Einstein**

The [Spotlight]

10 Things you didn't know about:

Vishy Ramamurthy

The Basics

Title: Associate professor

Office: Eye Institute E-E-363

1. What was your very first job?

Diagnostic Specialist, Merck (India) – Marketing kits used in laboratory including selling pipettes. I disliked it, but I had to follow through from a bet I made with my friends that I can secure a marketing job after graduating.

2. Weirdest food you've ever eaten?

Natto, in Kyoto, Japan. It looked gross, but tasted fine. And andouillette, in Paris. This I could not eat beyond a bite.

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

I studied pharmacy and switched to Molecular biology and Biochemistry. I would still study the same and pursue research. I would like to have gotten a medical degree to have a connection with the diseases we study.

4. Biggest pet peeve?

Dishonesty

5. Least favorite thing to do in the lab?

The electroretinogram (in dark room) and cutting section. I cannot sit in one place for a long time.

6. Any phobias?

Aquaphobia. Water, it's a love hate relationship. Throw me in water and I become as stiff as cardboard.

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

Really, my wife tells me that my name has every alphabet in the English language.

8. Who was your favorite teacher/professor in school and why?

My biology teacher in high school and my college professor, who taught molecular biology. My interest in biology is due to the great mentors I have had in my life.

9. Were you named after anyone in particular?

Any practicing Hindu will visit two shrines



in their lifetime and my grandfather could not do it, so he named me after "Shiva": Visva = Universe; Nathan = One who rules it.

10. Are you superstitious?

How so? Of course, I grew up in India. I submit all my papers on a Friday.

[Recent Publications]

- Matakah F, Martin E, Zhao H, **Agazie YM**. "SHP2 acts both upstream and downstream of multiple receptor tyrosine kinases to promote basal-like and triple-negative breast cancer". *Breast Cancer Res.* 645⁰ Jan 8;5²(5):6. doi: 54.55²⁰/s5749²-015-0659-z. PubMed PMID: 26728598; PubMed Central PMCID: PMC4700603.
- Farrugia MK, Vanderbilt DB, Salkeni MA, **Ruppert JM**. "Kruppel-like Pluripotency Factors as Modulators of Cancer Cell Therapeutic Responses." *Cancer Res.* 645⁰ Mar 54. [Epub ahead of print] Review. PubMed PMID: 6⁰3⁰8⁰69.
- Murphy D, Kolandaivelu S, **Ramamurthy V, Stoilov P**. "Analysis of Alternative Pre-RNA Splicing in the Mouse Retina Using a Fluorescent Reporter". *Methods Mol Biol.* 645⁰;5865:6⁰3-86. doi: 10.1007/978-1-4939-3591-8_20. PubMed PMID: 26965271.
- Gall BJ, Wilson A, Schroer AB, Gross JD, **Stoilov P**, Setola V, Watkins CM, Siderovski DP. "Genetic variations in GPSM9 associated with protection from rheumatoid arthritis affect its transcript abundance". *Genes Immun.* 645⁰ Mar;5¹(6):57³-47. doi: 10.1038/gene.2016.3. Epub 2016 Jan 28. PubMed PMID: 26821282; PubMed Central PMCID: PMC4777669.
- Wright ZC, Singh RK, Alpino R, Goldberg AF, **Sokolov M, Ramamurthy V**. "ARL3 regulates trafficking of prenylated phototransduction proteins to the rod outer segment". *Hum Mol Genet.* 645⁰ Mar 6. pii: ddw4¹1. [Epub ahead of print] PubMed PMID: 26936825.
- Driesschaert B, **Bobko AA**, Eubank TD, Samouilov A, **Khrantsov VV**, Zweier JL. "Poly-arginine conjugated triarylmethyl radical as intracellular spin label". *Bioorg Med Chem Lett.* 645⁰ Apr 5;6⁰(1):5¹86-4. doi: 10.1016/j.bmcl.2016.02.048. Epub 2016 Feb 19. PubMed PMID: 26923698.

*"Science never solves a problem without creating ten more."
~ George Bernard Shaw*



[Out Of Area Seminars]

by Aaron Snoberger and Kim Alonge



Completing my out-of-area seminar was like reading a new mystery novel in a week: overwhelming, exhausting, but satisfying. People choose to begin reading a new book based on publicity, recommendation, or curiosity. My out of area seminar topic was the CRISPR-Cas systems in bacteria. At the time, the CRISPR-Cas9 system was new, exciting, and definitely high publicity. So it was decided - I was going to give bacterial CRISPR-Cas systems a chance.

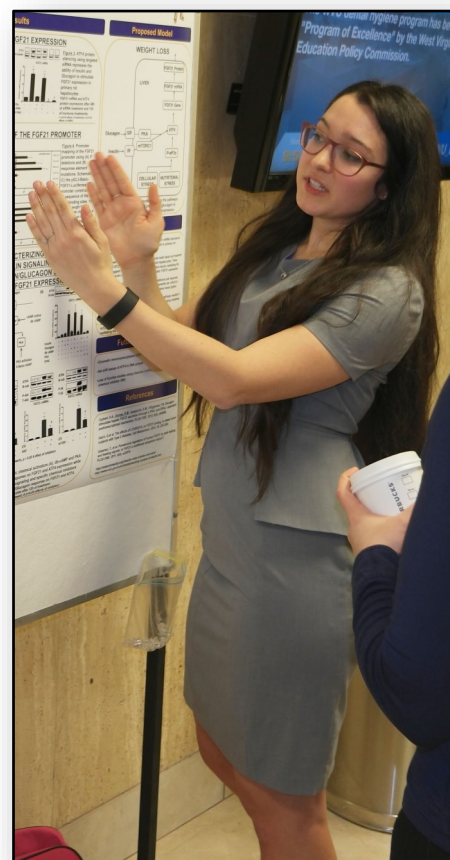
Just like reading the first few chapters in a mystery book, you need to read a few reviews on your seminar topic to decide if you are going to commit. Take your time on these first journal articles; in the beginning the language is new and the ideas are difficult to piece together. You wouldn't skim through the opening chapter in the first book of a new series would you? No, because you would never learn the characters, understand the mystery, or be able to pick up on the hidden clues later on. Build a strong base of knowledge now and it will pay off later.

After the first few days of casual reading, you get to a point where the mystery draws you in. Suddenly, reading this book went from a slight indulgence to a very series obsession. You are now reading 5 or 6 chapters a night and find that everything else in your life that you once found important has now gone on the back burner. And if you've chosen the right out-of-area topic then you'll find this to be the same. You won't be able to stop reading the science! At this point not only would you have dramatically cut your bench work so you could focus on reading in the lab, but also be reading at home before dinner, and at the gym on the bike, and you'll be surprised to find stacks upon stacks of articles taking over both your desk at work and your kitchen table at home.

It is at this peak, brought upon by days of relentless reading, that you'll eventually find yourself faced with the most pinnacle

of "Aha" moments; the decades of articles, of clues, finally come together to paint the most perfect and complete understanding of your new topic. And when you reach this moment, in the eye of this literature storm you created, you know the story is coming to an end. The book has been read, the ending revealed, and you are now a master of a new topic. It's been a week and you feel overwhelmed, exhausted, but oh so, so satisfied. Now you just have to survive the seminar.

~ Kim Alonge



I was asked to write about my overall experience with the out-of-area seminar, a requirement for all Biochemistry Ph.D students. Typically, students present this seminar ~1 year after defending their dissertation proposal. However, since I had some changes to my dissertation committee, I presented closer to 2 years after my proposal defense. I decided to present on "Single Molecule Force Spectroscopy", a topic that I'm interested in studying for my post-doctoral work. It was definitely more nerve-racking presenting on a topic where I was less knowledgeable, so I had to really make sure to spend time doing background research. It was a nice change of pace to look outside of my immediate area of current research, and this gave me an excuse to look more deeply into a topic that I've been interested in for a while now. However, in preparing for the seminar it was hard not to think about all the work I could have been getting done in the lab toward completing my dissertation. So, if I had any advice to give to upcoming students, it would be to get this seminar out of the way, as soon as possible, so that you can focus on completing your dissertation in a timely fashion.

~ Aaron Snoberger



[New Beginnings In Morgantown]

by *Mark Tseytlin*

I was asked to share my thoughts and experiences as a newcomer in town. I've been a faculty member at WVU and a member of the Morgantown community for almost half a year. It is a good chunk of time for a reflection. Memories are still fresh and the anxiety of relocating is gone. It was a second move within almost a year for my family; first we were in Denver CO, then we moved to Hanover, NH and now Morgantown, WV. It was stressful for my family, especially for the kids, more so than it was for me. But, as my wife likes to say, with my computer I would be happy on the Moon!

But since the move, I am struggling a bit. I have set myself with the task of building a state-of-the-art imaging system, basically from scratch, on my own! In the past, I

have worked with large teams which include at least a couple of very experienced engineers to collaborate with and help build systems. Fortunately, I have just been able to hire a Research Specialist, Dimitry Tipikin, to help build this system. In addition to building the new system, I have had to deal with renovations in the lab and just buying a lot basic instruments, etc. But, things are getting better, we got our first promising results!

Morgantown, WV. Many people say that they really like it here, or have come to like it. (It sounds almost like an arranged marriage concept.) In comparison to Denver, well, Morgantown is a small town. What I hate here is the traffic (although PRT is fun!). And, as my wife puts it, there isn't even a Costco in the town. However,

what I do really like here are all the people. They are very friendly (sometimes slow-moving ☹), easy-going and simple, in a good meaning of the word.

It is hard to explain, but you can feel a positive physiological atmosphere here, which was a different feeling than the one in Dartmouth. But I do not know yet about Morgantown, I'm still taking it in and I think I will wait for spring to come!



[Life in 25% Employment]

by *Mike Miller, Ph.D.*

25% Effort: In August, 2013 Tammy and I retired from WVU (picture). About a month later, Tammy was working part time from home for John Barnett (Chair of Microbiology, Immunology and Cell Biology) and an NIH grant Nyles Charon and I submitted as Co-PI's was fully funded for 5 years, with each of us on for 25% effort. So, I continue to work in the lab, at the bench and analyzing data on a project I really love – it's so much fun and so exciting! We're in the process of submitting a ms to Science "Spirochete flagella hook proteins self-catalyze an unusual covalent cross-link for motility". This project involves biochemical, MS, genetics and cryo-EM approaches, collaborating with researchers at Cornell, U. Buffalo and U. Texas Health Sciences Center.

The Other 75%: I am so lucky to have such a wonderful wife and friend, Tammy. We work together on many local projects, visiting/helping our kids (4) and grand-

kids (6) and having fun. Locally, we spend a lot of time as Volunteer Coordinators on the Board of Directors of Empty Bowls, an organization which raises \$ to combat food insecurity in Monongalia County – this is often a full time job, but we feel blessed and want to 'give back' to our community. We also drive for Meals on Wheels and will be on the Board of Directors of that organization. I do miss interacting with students, and with Empty Bowls, we've partnered with WVU's Center for Service & Learning, so I'm interacting with many talented undergrads again.

Scuba diving remains our passion, going on 2-3 trips/year. We had a 'once in a lifetime' trip in Oct., 2015, on the live aboard 'Cayman Aggressor'. For a week we visited the 3 Cayman Islands, with incredible dives, wonderful food & drink and sharing with 2 good friends from Morgantown.

WVU has been VERY GOOD to me, Tammy

and our kids (the oldest 2 graduated from WVU in Pharmacy and in Chemical Engineering; our youngest 2 work at WVU). I have never regretted coming to WVU & continue to enjoy this community!



The Big Bang Theory

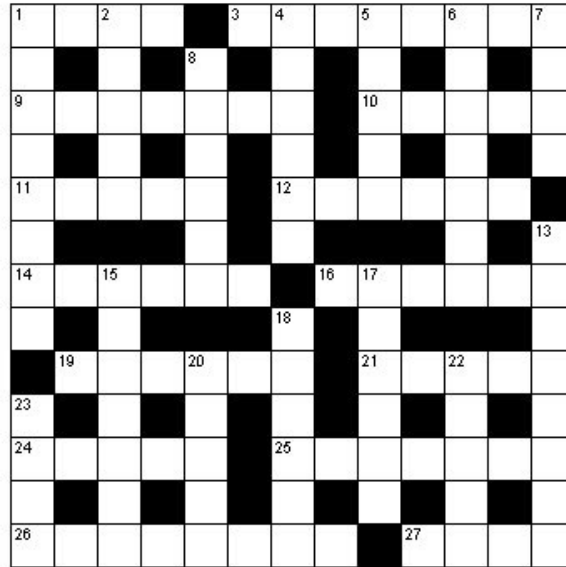
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- SCIENTIST
- RAJESH
- STUART
- COMIC BOOK
- SPACE
- SCIENCE
- PHYSICS
- PASADENA
- BIG BANG
- LEONARD
- HOWARD
- CHEESECAKE
- WOLOWITZ
- AMY
- THEORY
- SHELDON
- CALTECH
- OCD
- PENNY



JORGE CHAM © 2013

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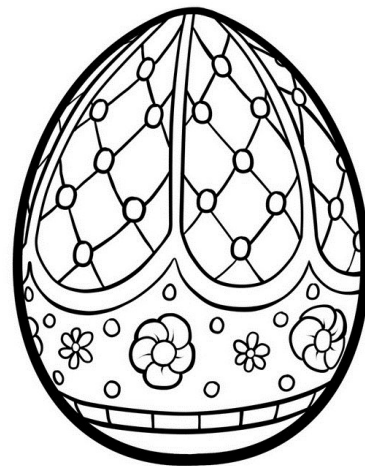


Across

- 1 Depose (4)
- 3 Marvellous (8)
- 9 Non-professional (7)
- 10 Trite (5)
- 11 Put off till later (5)
- 12 London rail terminus (6)
- 14 Violin (6)
- 16 Perplex (6)
- 19 Robbery at sea (6)
- 21 Scallywag (5)
- 24 Strangely (5)
- 25 Despotism (7)
- 26 Enjoyment (8)
- 27 Sort, category (4)

Down

- 1 Intermittently (2,3,3)
- 2 Personnel (5)
- 4 Merited (6)
- 5 Loose flowing garments (5)
- 6 Keep at bay (4,3)
- 7 Part of the leg (4)
- 8 Engine fuel (6)
- 13 Novice (8)
- 15 Diminish, shrink slowly (7)
- 17 Preposterous (6)
- 18 Marine mollusc (6)
- 20 Bottomless gulf (5)
- 22 Vex (5)
- 23 – and circumstance (4)



Crossword Puzzle answers located on the back page [No L👁️KING...!!!]

[Upcoming Events]

WVU and Morgantown Upcoming Events (March through June 2016)

Date(s)	Event	Time	Location	Additional Info/Website
March				
3/20 - 3/28	Spring Recess (students)			
3/25/2016	Good Friday, University Holiday			
3/26/2016	Easter Egg Hunt at Chestnut Ridge Park	1pm - 3pm	Chestnut Ridge Park 346 Chestnut Ridge Camp Burcetown Mills, WV 26525	http://chestnutridgepark.com/events.html *will be held on 3/27 in the case of bad weather
3/27/2016	Easter Brunch	11am - 4pm	Lakeview Golf Resort & Spa	For reservations & prices, call 304-594-1111
3/31/2016	Research Forum	4pm	Erma Byrd, 2nd floor Conf. Rm	
April				
4/9/2016	MountainEAR 5k	10am	Hazel Ruby-McQuain Park	www.mountainear5k.com
4/14/2016	Research Forum	4pm	Erma Byrd, 2nd floor Conf. Rm	
4/16/2016	Coopers Rock 50 km and Half Marathon Trial		Coopers Rock, WV	
4/22/2016	Sweets for the Sweet 2016	7pm - 11pm	Erickson Alumni Center	http://www.caritashouse.com/contact
4/22- 2/24/16	WVU Cancer Institute's Annual Spring Gala	all weekend	The Greenbrier, White Sulphur Spring, WV	cancergala@hsc.wvu.edu for more info
4/23/2016	Blue Gold Game	12pm		
4/23/2016	WV Bites and Brews	5pm - 9pm	WV National Guard Morgantown Readiness Center	supports the Children's Discovery Museum of WV. https://www.facebook.com/events/937973689619445/
4/23/2016	St. Francis Run for Education 5k	10am	WVU Rec Center	stfrancismorgantown.com
4/24/2016	Spring WVU Women's Expo	11am - 4pm	Mylan Park	http://www.mylanpark.com
4/26/2016	Seminar Speaker, Dr. Alberta La Slada	12pm	HSCN - 2094	
4/28/2016	Research Forum	4pm	Erma Byrd, 2nd floor Conf. Rm	
May				
5/10/2016	Election Day - University Holiday			
5/13- 5/15/16	Commencement	various times	various locations	
5/14/2016	12th Annual Blue & Gold Mine Sale	7am, 8:30am	Mylan Park	http://bluegoldmine.wvu.edu/
5/15/2016	HSC Graduation Ceremony			
5/16/2016	Summer Session On Campus First Day of Classes			
5/21 - 5/22/16	Stihl Timbersports Pro Lumberjack Competition & Festival	10am - 4pm	Mylan Park	http://www.mylanpark.com
5/25/2016	MSI Wellness Event	11am - 5pm	Memorial Garden	all Faculty, Staff & Students are invited
5/27 - 5/30/16	9th Annual River City Festival of the Arts	8am - 5pm		
5/30/2016	Memorial Day - University Holiday			
5/30/2016	Triple S Harley-Davidson Memorial Day Cookout	12pm - 3pm	Triple S Harley-Davidson	
June				
6/4/16	Deckers Creek Trail Half Marathon	8:30/8:45am	Morgantown, WV	www.montrails.org



Check out the
Biochemistry Website

1	O	U	2	S	T	3	T	4	E	R	5	R	6	I	7	I	8	C
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