The Hallmarks of
UAB CANCER BIOLOGY
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June 2017

Cancer Bioinformatics at UAB

Faculty in Focus: Bioinformatics

CANCER BIOLOGY
Graduate Program at UAB

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UAB GBS CANCER BIOLOGY THEME

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From the Directors

This newsletter a summarizes the events, activities and accomplishments of our students during the first half of 2017. One of the important events for the cancer biology has been the retirement of Patricia Mathews. She had been the mainstay of or theme administration for many years and organized all the cancer biology events very diligently. Cancer Center director Dr. Ed Partridge decided to retire after a very successful tenure at the helm. Dr. Michael J. Birrer, M.D., Ph.D., has accepted the position of director of UAB Comprehensive Cancer Center. Dr. Birrer comes to UAB from Massachusetts General Hospital where he is director of Medical Gynecologic Oncology and director of the Gynecologic Cancer Research Program at the Gillette Cancer Center.

We have also had our new student recruitment this semester. This was a successful event which attracted highly talented students for the cancer biology theme from diverse background including international students. These students will join UAB in summer of 2017. Many of the senior students actively participated in this recruitment process.

On April 22, 2017, March for science day was celebrated across Birmingham and across the nation. Students from cancer biology theme have participated in the events held at Birmingham. Main theme of this march for science for the cancer biology theme (and others) has been that in the era of precision medicine, it is critical to increase the awareness of importance of scientific research and request to support the research by increasing funding.

During the last 6 months, many of our outstanding cancer biology students attended National and international conferences. These accomplishments are highlighted in this newsletter. You will find interviews with Drs. Varambally and Ojesina, 2 faculty associated with cancer biology theme who are interested in integrative cancer research in this newsletter. Kudos to all our students who have graduated, qualified, published articles and won many awards and accolades. Wish you all a great rest of the year. Cheers….

Lalita Shevde-Samant, Ph.D. & Soory Varambally, Ph.D.

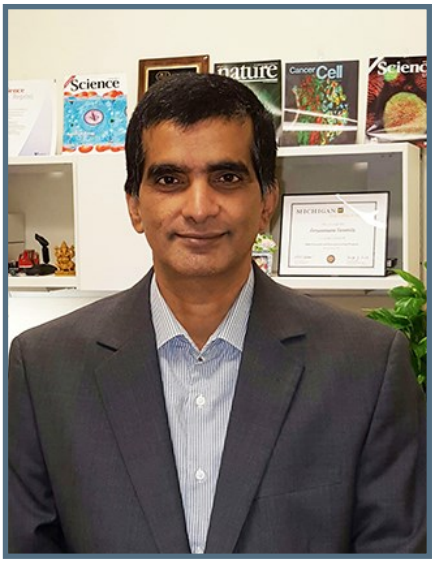
Visit our website: http://www.uab.edu/gbs/cancerbiology

Photo courtesy of intostudy.com

Front cover: Photo courtesy of cancerfighterthrive.com

Dr. Soory Varambally

by Samuel Fehling



An associate professor of Molecular & Cellular Pathology and Co-Director of the Cancer Biology Theme, Dr. Sooryanarayana Varambally is interested in identifying novel therapeutic targets to combat cancer. His work aims to meld clinical data with next-generation sequencing analysis.

Where are you from?

I am from the Southern part of India form a town (Udupi) near the Arabian Sea. I completed my second postdoc at the Michigan Center for Translational Pathology (MCTP) under the mentorship of Dr. Arul Chinnaiyan. Our goal was to identify early diagnostic biomarkers and potential therapeutic targets of prostate and breast cancer. We performed integrative analyses of the relevant data from cDNA microarrays and clinical specimen data to ascertain whether inhibition of specific targets would benefit patients. Working with oncologists and pathologists was an important part of my training. I experienced first-hand the importance of 'team science', the collaboration to address scientific challenges. In 2007, we were the first recipients of the prestigious Inaugural American Association for Cancer Research (AACR) Team Science Award.

My early work identified that EZH2, a global repressor which blocks tumor suppressors, is upregulated in a range or malignancies. Since this discovery, therapeutics have been developed against EZH2 which have since progressed into clinical trials for lymphoma patients as well as multiple solid tumors. This exemplifies that, through bioinformatics and data analysis, we can make better educated guesses, identify novel targets and develop improved molecular inhibitors for cancer treatment.

What interested you in science?

My interest in biology is what drove me to where I am today. I came to research as I got an admission in the institute to do a PhD. Nothing preplanned there! After completing my PhD from the Indian Institute of Science, I pursued a postdoc in Paris for 3 years. I then transitioned to Michigan where I worked with Dr. Arul Chinnaiyan. His work greatly interested me as I could collaborate with specialists and apply my knowledge to a range of different cancers. Further, I had the opportunity to contribute to the commonly used resource called Oncomine database while in Michigan.

What interested you in UAB?

I joined UAB as faculty in pathology where I hold the positions of the Director of Integrative Translational Oncology Pathology Research and Co-Director of the Cancer Biology theme. As a faculty member, I work with pathologists and oncologists to meld their clinical data with next-gen sequencing analysis. Our goal is to translate the sequencing data into the clinic.

An institution which provided a strong collaborative and integrative environment was important to me. UAB is a tremendous place in this regards. You learn so much from the same institute, but, by moving to a new university, you can further increase collaborations and knowledge. The opportunity to collaborate with experts, pathologists and oncologists at UAB has increased the diversity of cancers I can study and contribute to.

What are your current research interests?

I focus primarily on bioinformatic analysis of publicly available transcriptome sequencing, cancer biology and therapeutic targeting. At UAB, we have developed a user-friendly web-portal for cancer transcriptome data analysis called UALCAN (http://ualcan.path.uab.edu/index.html). Apart from data analyses, "You all can" generate high quality figures, graphs and plots to evaluate gene expression analyses and patient overall survival across a range of malignancies using UALCAN! Additionally, UALCAN links to Genecards, TargetScan, the Human Protein Atlas as well as PubMed to provide easy access to publications.

Where will your research take you next?

FDA-approved therapeutics which target mutations in BRAF and EGFR amplification are available. Yet, 95% of those patients don't have those targets, but still require treatment. Our goal is to identify new therapeutic targets and increase the number of treatable patients. We are working on additional targets and developing inhibitors for these targets to treat patients.

As the co-director of the Cancer Biology theme, do you have any advice for incoming and current students?

It is important to understand the biology, mechanisms and targets of cancer. It is also useful if we learn to integrate our work and look beyond our cancer of interest or disease of interest to gain knowledge. There are FDA-approved drugs which can be repurposed. For example, amplification of AGTR1 is found in 15% of breast cancers. Drugs to combat hypertension, including irbesartan, olmesartan and candesartan have recently been employed to inhibit the growth of breast cancer containing AGTR1 amplifications in cell line models. Additionally, Metformin, used for treatment of diabetes, can be repurposed as a cancer therapeutic. Overall, it is also important to look for good postdoc positions where you can focus on publications to improve your CV. Just do as well as possible, consider this as a great opportunity and try your best come up with nice ideas. Try to be a team player. Combating cancer needs teams.

Have there been any pleasant surprises about living in Birmingham?

I have enjoyed the weather of Birmingham. When it comes to the University, I have enjoyed the collaborative and kind people. To complete a good study, you need to collaborate. When I am not in lab, I enjoy playing tennis and going for walks with my children. Coming up, I would like to spend time at the beach, Atlanta or exploring the Grand Canyon.

What might someone be surprised to know about you?

Not much surprise at all! ●

Dr. Akinyemi Ojesina

by Samuel Fehling

Dr. Akinyemi Ojesina is a tenure-track Assistant Professor in the Department of Epidemiology and an Adjunct Faculty Investigator at the HudsonAlpha Institute for Biotechnology. He research focuses on the synergistic contributions of genomic alterations and infection in tumor initiation, progression, response to therapy and prognosis.

Where are you from?

I grew up in Lagos, Nigeria. Even as a child I have always been interested in science. I earned my M.D. from the University of Ibadan and Ph.D. in Biological Sciences in Public Health from Harvard. My dissertation was focused on the molecular determinants of HIV drug resistance and mother-to-child transmission. I was admitted to graduate school shortly after the human genome sequencing project was completed, and was fascinated by the wealth of information this project provided and was eager to utilize sequencing and bioinformatics to better understand and prevent disease. I completed my postdoctoral fellowship at the Dana-Farber Cancer Institute and Broad Institute of Harvard and MIT where I combined my interests in cancer and infection, seeking to understand the genomic mechanisms for how infection contributes to cancer. To address these questions, I helped develop both computational and experimental methods to identify pathogens via next generation sequencing data. We continue to utilize these techniques to identify pathogens associated with cancer development and progression, particularly in cervical cancer where we published our work in Nature. In addition, I am one of the leaders of the Cancer Genome Atlas (TCGA) Cervical Cancer Analysis Working Group.

What interested you in UAB?

My time with UAB goes back to 2001. I was invited to interview for UAB GBS where I met with Dr. Chris Klug, Dr. Bedwell and others. I greatly enjoyed that visit to UAB. Everyone was very nice, friendly and welcoming. When looking for faculty positions following my postdoctoral fellowship, I was primarily interested in institutions with strength in gynecological oncology and had potential for growth in genomics research. I was also attracted to UAB because of the opportunity to work with and be mentored by Dr. Partridge.

What are your current research interests?

We are interested in understanding synergistic contributions of genomic alterations and infection in tumor initiation, progression, response to therapy and prognosis. This includes studying the spectrum from how cancer develops, to the mechanisms of recurrence after therapy. We approach these questions using a combination of genomic analysis and functional experiments in both primary tissue and cell lines. We focus primarily on women's cancers like breast cancer and cervical cancer, as well as infection-related cancers. At the bench, we are studying the functional mechanisms underlying the roles of somatic mutations in HPV-related malignancies. We are also interested in identifying cancer related microbes, and investigating their facultative roles in cancer, i.e. even if some microbes may not directly cause cancer, they may influence its development and progression. Overall, every cancer is a genomic disease. Therefore, our goal is to leverage the information we gather from cancer genomic sequencing data with what we know about microbes to determine their synergistic roles in cancer. Using these approaches, we aim to improve the detection of cancer, diagnosis and identify new therapeutic targets.

Where will your research take you next?

Our goal is to set the foundation for new and better ways to recognize cancer early, such as better diagnosis, prevention techniques and new therapeutic options. In addition, we are studying how pre-cancerous lesions progress to cancer. The use of sequencing information is pivotal as we can potentially identify somatic mutations and begin patient treatment early.

Are you interested in taking students?

Yes, we are looking to take students. Our philosophy is to create an environment where anyone can have an interdisciplinary experience. If a student wants to focus on bench work, they can. If they would like to focus on computational approaches, those opportunities are available. My lab offers the opportunity to work in both environments, for those who want to work in both streams. It is not imperative that they do both, but they have an environment where they can.

Do you have any advice for current and future students?

I think it is important to have guidance and mentors in life. In addition to a scientific mentor and committee members, I think it's important to have someone who knows you and what you are doing, especially someone who isn't thinking about your project every day. Someone to offer a different perspective and offer advice about life. Additionally, it is important to have people who can speak well for you when applying for fellowships and grants. For new students, it doesn't matter what your major is or what your department is. It is important to be somewhere you can learn to ask good questions and answer them properly. Methods come and go, but focus on the questions you want to answer.

Have there been any pleasant surprises about living in Birmingham? What do you do when you aren't in lab?

I enjoy the nature and greenery here, and with the topography, we don't need to go to New England to see the colors of Fall. Overall, I enjoy spending time with my family at home and around the area. My son and I play soccer, tennis and basketball together.

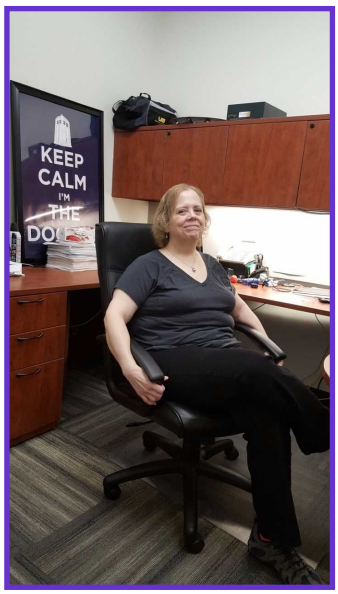
Outside of lab, I like to sing. I've always been one to have music in the background. Something to sing and hum along with. I also enjoy cooking. Especially experimenting with different tastes and recipes.

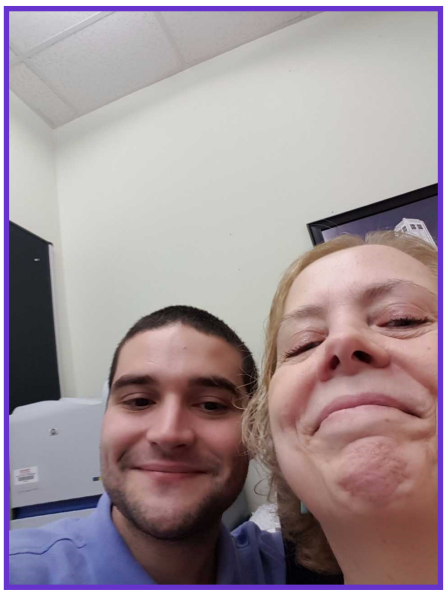
What would be your ideal vacation?

If I could take time away today, all expenses paid, I would travel home to Nigeria with my family to spend time with my larger family.

Farewell, Patricia!

by Joshua Fried





Josh Fried: When do you officially retire?

Patricia Mathews: Feb 1, 2017.

JF: How long have you been working at UAB?

PM: 22 years, 8 months.

JF: Will you return in any capacity or will you be gone forever?

PM: I will work part time for the grad school.

JF: What part about your job will you miss the most?

PM: The students!

JF: What part of your job will you miss the least?

PM: Not being able to work from home.

JF: Do you think they will retire the pm1@uab email address?

PM: They won't, but I will be able to keep it for a while.

JF: Do you plan on moving away or will you still live in the area?

PM: I will continue to live in the area, I don't want to move.

JF: What do you plan to do with your increased spare time?

PM: Start rock climbing again, do more outdoor activities. I want to get a dog.

JF: What kind of dog?

PM: Never a poodle and must be a female dog.

JF: Do you have any regrets from your time with UAB?

PM: No regrets.

JF: What made you decide to retire?

PM: Omens.

JF: What made you decide to retire right now?

PM: Because I can.

JF: Do you have any advice for your replacement?

PM: No, because the position won't be filled in the same way.

JF: Why don't you attend public defenses?

PM: Because I don't understand the science.

JF: Are there any standout moments of your career?

PM: Yes, but I can't talk about them.

JF: What was the most difficult part / experience / time of your job?

PM: My second year at UAB. I was the only support person in the office.

JF: Do you have any immediate or long term plans about what you will do post retirement?

PM: No, I am content with where I am in life.

JF: What are your best memories from working at UAB?

PM: The people that I got to work with.

JF: What about your time at UAB are you the most proud of?

PM: That I survived it for such a long time and became a long tenured employee.

JF: Do you have any final remarks?

PM: I am going to miss all of the students.●

New Beginnings

by Rachael Orlandella

As the 2016 -2017 academic year comes to an end, so too has the recruitment season. This year's admissions committee was a bit larger than previous years, consisting of ten total members (six faculty members and four student representatives).

Prospective students began submitting applications in October. A total of 43 applications (14 domestic applicants and 29 international applicants) were received and reviewed by the cancer biology admissions committee this year.

Our theme invited 9 total applicants to interview on-site and identified 4 international applicants to interview over Skype. Onsite interviews were conducted over two separate weekends (January 12-14th and February 9-11th). Thursday night, recruits from all themes were treated to a catered dinner at the Hill Student Center. Here, they were introduced to the GBS program and encouraged to ask questions and interact with faculty members and current graduate students. The keynote speaker, Dr. Sanderson, also gave an exciting presentation on tumor-secreted exosomes. Friday morning and afternoon consisted of several grueling hours of consecutive individual interviews with faculty members and student representatives. Interviewees were rewarded for their persistence with free beer, wine, and hors d'oeuvres at a casual mixer and poster session with current faculty and students. Afterwards, student representatives took cancer biology recruits to The J. Clyde for dinner. Saturday morning, all interviewees were taken on a driving tour of the Birmingham area before heading back home.

This year, we extended an offer to 10 total students and 5 accepted. We are pleased to welcome **Zoya Anderson, Rachel Carnes, Sajina GC, Rachael Guenter**, and **Dominque Hinshaw** to the cancer biology theme for the 2017 fall semester!

Photo courtesy of intostudy.com

In a one-on-one interview with Cancer Biology's head of admissions committee, Dr. Douglas Hurst gives details and advice on the admissions process here at UAB.

Rachael Orlandella: What do you personally focus on when reviewing applications?

Dr. Hurst: It's really important to meet the minimum requirements - the prior research experience, grades, exam scores – this is listed on the graduate school website. Unless there are extenuating circumstances, applications not meeting these requirements are often immediately denied. But other than that, I would say the personal essay and the letters of recommendation are the most important parts of the application.

RO: Do you have any advice for future applicants regarding the personal statement and letters of recommendation?

DH: Have someone else read your personal statement before you submit it. I think that's really important. For the recommendation letters, put thought into who you ask to write your letters. Are they suited to evaluate you? Make sure they will spend the time to write a good, strong letter. A letter from your research mentor is strongly recommended.

RO: Once an applicant is invited to interview, what can they expect?

DH: Domestic applicants are invited on-campus where they are interviewed by several faculty members and can interact with current graduate students in the cancer biology program. International applicants are interviewed over Skype.

RO: What guidance can you offer for students preparing for a Skype interview?

DH: Skype interviews are a little tough, because students only have 30 minutes to present themselves to members of the admissions committee. We normally start with a minute or two of small talk to see how they interact. Then we jump into the interview process. For these sessions we want to get a sense of whether or not they have a grasp of the research they have done – why they did that they did, why they are using certain techniques. I would recommend choosing a location with minimal background noise, and just be ready to respond to computer or technology issues.

RO: Thank you for your time!●

Crossing the Finish Line

by Anh Tran

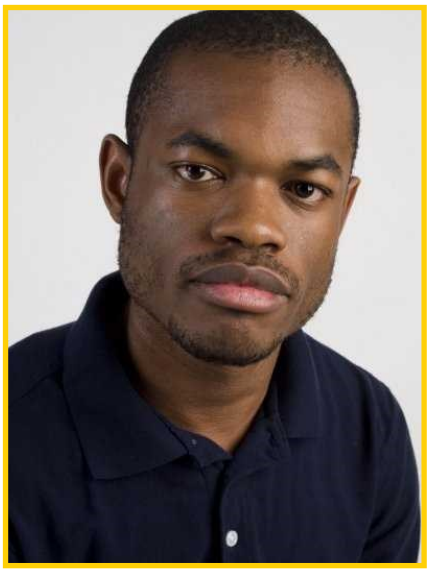
Puneet Agarwal

Puneet came to UAB from City of Hope Graduate School and joined GBS in 2015 when his mentor, Dr. Ravi Bhatia, took a new position as Division Director of Hematology/Oncology at UAB. In 2016, he published a paper titled "Enhanced Targeting of CML Stem and Progenitor Cells by Inhibition of Porcupine Acyltransferase in Combination with TKI", and defended his dissertation shortly after that. Dr. Agarwal is currently a Post-Doctoral Research Fellow at UAB.

Matthew McConnell

Matthew came to UAB in 2010 after receiving his Master's degree in Pharmaceutical Sciences from the University of Kentucky, and joined Dr. Yi-Ping Li's lab. His dissertation project addressed the role of osteoclast related genes in cancer, both in the tumor stroma/whole body as well as within the tumor itself. Matt had his public defense of his dissertation in November 2016. Dr. McConnell is currently a Postdoctoral Trainee (CAMBAC T32) at UAB.

Joshua Onuiri



Joshua had his public dissertation defense in March, 2017. Joshua joined GBS as a Howard Hughes Medical Institute Med-into-Grad Fellow. He was mentored by Dr. Mary-Ann Bjornsti, and worked on his thesis project entitled "Alterations in Ubs9 substrate specificity affect the cellular response to DNA damage". In 2012, he received the Amanda Layne Isom Travel Award. Upon graduation, Dr. Onuiri started his new position at Icahn School of Medicine at Mount Sinai to pursue his Doctor of Medicine degree.

State of the UAB Comprehensive Cancer Center

by Lalita Shevde-Samant, PhD

Having announced his retirement after 10 years of serving as the director of UAB's Comprehensive Cancer Center (CCC), Dr. Edward Partridge delivered his final "State of the UAB CCC" on April 5th, 2017 in the Spain Auditorium. The talk was divided into topics that spanned his personal journey, cancer disparities with a focus on cervical cancer, UAB's role in cancer disparities, the future of our CCC and the State of the CCC. Beginning with an introduction to his personal journey, Dr. Partridge revealed that he is a native of Demopolis, Alabama and grew up in a segregated society. He graduated from Demopolis High School, finished his undergraduate degree at the University of Alabama and his medical training at the University of Alabama School of Medicine in Birmingham. Following a stint in private practice, Dr. Partridge was recruited to UAB in 1990 to lead the Cancer Control and Prevention Program. Dr. Partridge outlined the challenges brought upon by racial disparities and told a success story that was the result of combined efforts of his team of qualified, able, and dedicated faculty and community service individuals. He advocated the need to achieve health equity through building trust. As he discussed the state of the Cancer Center Dr. Partridge explained that the UAB Cancer Center has plans to expand certain focus areas by recruiting teams and building collaborations. He finished his address to a resounding applause from the audience. Dr. Partridge looks forward to spending his retired life in the company of his family and friends. ●

Paulette Shirey Pritchett Endowed Lecture

by Ann Hanna

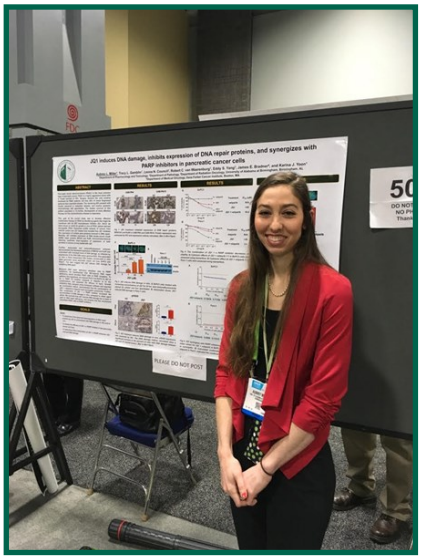
The UAB Department of Pathology held its 26th annual Paulette Shirey Pritchett Lecture on May 23rd. Dr. Paulette Shirey Pritchett had a successful and distinguished career in the Department of Pathology before passing away unexpectedly in 1984. Dr. Pritchett's family provided the financial support and dedicated this lectureship in honor of her memory. This year, the university hosted Dr. Arul Chinnaiyan, an SP Hicks Endowed Professor of Pathology and a Howard Hughes medical investigator, from the University of Michigan. Dr. Chinnaiyan's research focuses on genomic and bioinformatics approaches to molecularly profile tumors and establish diagnostic markers and therapeutic targets. Despite his young age, Dr. Chinnaiyan is a world-renowned, highly accomplished scientist, who has mentored tens of undergraduates, graduate students, and postdoctoral fellows. Currently, he serves as director of a new initiative at the University called the Michigan Center for Translational Pathology (MCTP), which aims to develop molecular tests and therapeutic predictions for various diseases. ●

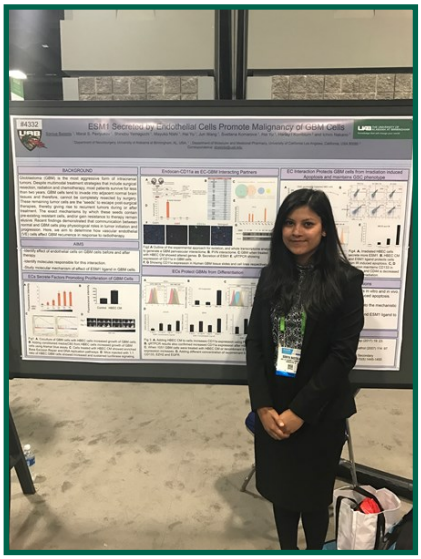
From left to right: Dr. Georges Netto; Dr. Arul Chinnaiyan; Dr. Robert Pritchett

Now presenting...

by Ann Hanna

The annual **American Association for Cancer Research** meeting was held April 1st through April 5th in Washington D.C this year. The conference spanned several topics including immunotherapy, tumor metabolism, and novel clinical approaches for cancer treatment. The event was an excellent opportunity for students to discover potential new directions in which to steer their research as well as network with professionals to ensure future post-doctoral positions. Several of our students attended the conference and showcased the progress of their dissertation projects.





Soniya Bastola presented her work titled "Interactome between vascular endothelial cells and Proneural glioma stem cells protects seeds for GBM recurrence from radiation therapy" discussing the crosstalk of tumor cells with surrounding vascular endothelial cells to promote therapy resistance and recurrence.

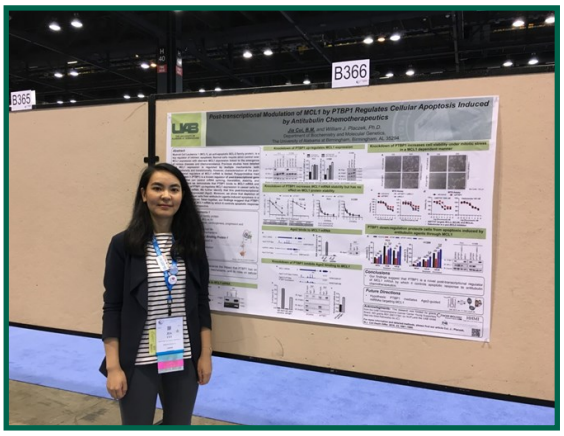
Ann Hanna gave a poster presentation "The role of hedgehog signaling in breast cancer progression through macrophage polarization" detailing a novel role for the Hedgehog signaling pathway to promote the polarization of the pro-tumorigenic phenotype of macrophages.

Kelly Kreitzburg presented her project investigating combination therapy for drug-resistant ovarian cancer titled "Combination of FTY720 and tamoxifen inhibits drug-resistant ovarian cancer cell proliferation".

Aubrey Miller presented her project "JQ1 induces DNA damage, inhibits expression of DNA repair proteins, and synergizes with PARP inhibitors in pancreatic cancer cells" which elucidates the underlying mechanisms for the anti-tumor effects of JQ1 in pancreatic ductal adenocarcinoma.

Hawley Pruitt was selected to give an oral presentation discussing her project titled "Conditional knockout of N -Myc and STAT Interactor disrupts normal mammary development and enhances metastatic ability of mammary tumors".

Anh Tran presented his project "GTP cyclohydrolase in brain tumor stem cells is implicated in glioblastoma growth" discussing the regulation of brain tumor initiating cells by GTP cyclohydrolase to enhance tumor formation and reduce survival.



ASBMB: Jia Cui presented her project "Post-transcriptional Modulation of MCL1 by PTBP1 Regulates Cellular Apoptosis Induced by Antitubulin Chemotherapeutics" at the American Society for Biochemistry and Molecular Biology annual meeting in Chicago on April 24th .

Cancer Biology Student Seminar Series: Spring 2017

by Samuel Fehling

Each semester, students and theme directors from the Cancer Biology theme meet for a monthly student-led seminar series, complete with a catered lunch. Senior students have the opportunity to present their work on their specific projects to at these sessions. Here's a look at some of the presenters from the Spring 2017 semester!

Jia Cui

"MCL1, an anti-apoptotic Bcl-2 family protein, is a key regulator of intrinsic apoptosis. Normal cells require strict control over MCL1 expression with aberrant MCL1 expression linked to the emergence of various diseases and chemoresistance. Previous studies have detailed how MCL1 expression is regulated by multiple mechanisms both transcriptionally and translationally. However, characterization of the post-transcriptional regulators of MCL1 mRNA is limited. Polypyrimidine tract binding protein 1 (PTBP1) is a known regulator of post-transcriptional gene expression that can control mRNA splicing, translation, stability, and localization. Here we demonstrate that PTBP1 binds to MCL1 mRNA and that knockdown of PTBP1 up-regulates MCL1 expression in cancer cells by stabilizing MCL1 mRNA and increasing MCL1 mRNA accumulation in cytoplasm. Further, we show that depletion of PTBP1 protects cancer cells from antitubulin agents-induced apoptosis in a MCL1-dependent manner. Taken together, our findings suggest that PTBP1 is a novel regulator of MCL1 mRNA by which it controls apoptotic response to antitubulin chemotherapeutics."

Nicholas Eustace

"We study the dynamic role of MARCKS as a novel tumor suppressor in glioblastoma. Utilizing glioma patient array data and an assortment of doxycycline inducible mutant MARCKS in vitro, we associated the phosphorylation of MARCKS with proliferation and radiation resistance. In addition, knockdown of MARCKS in patient derived xenografts (PDX) lines increases proliferation and sphere formation which emphasizes the importance of MARCKS in tumor progression. We have generated a MARCKS effector domain (ED) peptide which enters the cell in vitro. Furthermore, we observe MARCKS ED peptide entering the brain tumors of mice harboring orthotopic PDX brain tumors. This work underscores the potential use of MARCKS ED peptide for use as a therapeutic."

Ann Hanna

Ann Hanna presented her dissertation project on January 10th. Ann's project aims to understand the crosstalk between tumor cells and their surrounding stoma in the tumor microenvironment. She focuses on the Hedgehog signaling pathway, an essential pathway for normal development, and its role in mediating immunogenic changes in the different tumor-infiltrating immune cell populations, particularly in breast cancer.

Matthew McConnell, Ph.D.

"Matt presented his work on the role of ATP6v1c1, a rate-limiting component of the vacuolar proton pump, in breast cancer where its knockdown in 4T1 cells eliminates their ability to metastasize and reduces the growth and proliferation of both 4T1 and human cancer cells. It mediates this action through its essential role in mTORC1 signaling, by allowing the mTORC1 to be recruited to the surface of lysosomes for activation"

This work is now published: https://www.ncbi.nlm.nih.gov/pubmed/28504970

March for Science: A call to action

by Kaity Dorsett

This year on Earth Day, April 22nd, scientists from around the country and around the world gathered to march in Washington D.C. These rallies were also held in more than 600 satellite regions around the world, including Birmingham, AL. The goal of the March was to peacefully protest the proposed budget cuts to many scientific funding organizations. Their mission statement is as follows:

"The March for Science champions robustly funded and publicly communicated science as a pillar of human freedom and prosperity. We unite as a diverse, nonpartisan group to call for science that upholds the common good and for political leaders and policy makers to enact evidence based policies in the public interest."

I was lucky enough to attend the March in D.C., with hundreds of thousands of people to support this cause. Here in Birmingham, a fellow Cancer Biology student, Brent Jones, was an event volunteer. He worked to usher over 2,000 people marching on streets of Birmingham. I am happy to report that following the March, scientific funding increased by 2 billion dollars for the National Institute of Health alone. This March has proven that when called to action, our scientists will affect change.

Awards and Accolades

by Shelly Nason and Sweta Patel

Our New Publications

- Britain, C.M., **K.A. Dorsett**, and S.L. Bellis, The Glycosyltransferase ST6Gal-I Protects Tumor Cells against Serum Growth Factor Withdrawal by Enhancing Survival Signaling and Proliferative Potential. J Biol Chem, 2017. 292(11): p. 4663-4673.

- Camacho V, **McClearn M, Patel S**, Welner RS. Regulation of Normal and Leukemic Stem Cells through Cytokine Signaling and Microenvironment. Int J Hematol. 2017 May; 105(5): 566-577. doi: 10.1007/s12185-017-2184-6.

- **Mota M.** (2017). Merlin NF2 In S. Choi (Ed.), Encyclopedia of Signaling Molecules. New York: Springer-Verlag. [In Press]

Presentation

- **Hawley C. Pruitt**, Brandon J. Metge, Shannon E. Weeks, Dongquan Chen, Shi Wei, Lalita A. Shevde, Rajeev S. Samant. Conditional knockout of N-Myc and STAT Interactor disrupts normal mammary development and enhances metastatic ability of mammary tumors. Oral presentation at the Annual Meeting of the American Association for Cancer Research; 2017 Apr. 1-5; Washington, D.C.

New PhD Candidates

- **Asmi Chakraborty,** from the class of 2014 passed her qualifying exam to advance towards Candidacy.

New Graduates

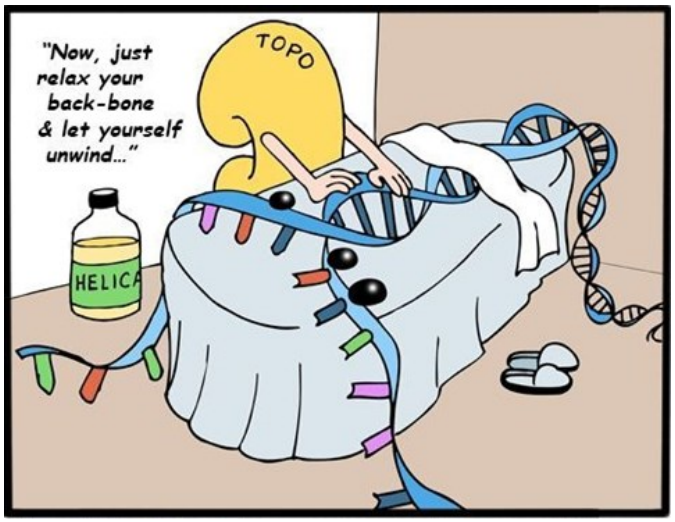
- Congratulations **Joshua Onuiri**, **Matt McConnell**, and **Puneet Agarwal** for successfully graduating this year.

Awards and Honors

- **Soniya Bastola, Ann Hanna, Kelly Kreitzburg, Aubrey Miller**, and **Anh Tran** received the Bertram Marx Travel Award
- **Ann Hanna** also received the Department of Pathology Travel Award.
- **Jia Cui**, from Dr. William Placzek's lab was awarded the ASBMB 2017 graduate/postdoctoral travel award to present her research at the annual meeting in Chicago.
- **Sindhu Nair,** from Dr. Susan Nozell's lab received the Radiation Oncology Intramural Pilot Grant for the year 2017-18.
- **Rachael Orlandella,** from Dr. Lyse Norian's lab, won an American Association of Immunologists trainee poster and travel award.

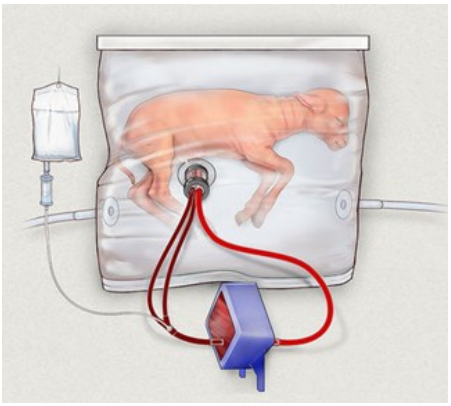
#justphdthings

by Ann Hanna



Fun Fact:

Scientists were able to create a "biobag" to mimic an artificial womb. The bag is supported with artificial amniotic fluid to support premature lambs for up to 4 weeks. Although this is very preliminary and is a long way from human use, it could be an exciting potential solution for premature births, a huge problem all over the globe.



You can read the original published article here: https://www.nature.com/articles/ncomms15112