

2018 ALUMNI NEWSLETTER

The Official Newsletter of the Duke Medical Physics Alumni Association (DUMPAA)

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2018 Annual Medical Physics DUMPAA Alumni Dinner



Irina Vergalasova PhD, DABR
DUMPAA President

DUMPAA President

This year's DUMPAA dinner was held at Jimmy Buffett's Margaritaville in Nashville, Tennessee on Sunday July 29, 2018 during the annual AAPM meeting. We had another great turnout with a total of 82 alumni, faculty and students. I would like to thank Cindy Qin and Deon Dick for their tremendous efforts in helping to organize this dinner, as well as assisting me with managing the event itself and checking everyone in at the door in an organized fashion. What was particularly different about this year's event was the inclusion of two vendors, LifeLine Software and RaySearch. Both of these vendors happily attended our event and generously donated \$1000 each to our DUMPAA funds, all thanks to Liwei Zhang. Although he was unable to attend this year's event, he spearheaded the efforts on finding vendors to support us and contribute to our causes.



Want to get involved with the newsletter?

Be featured as an alumni or research spotlight?

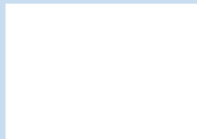
Contact - LaToya Clark
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or Irene Zawisza
(irenez618@gmail.com)

DUMPAA President | Irina Vergalasova

At the 2017 event, I was informed that the increase in the price of the event prohibited some of the more recent alumni to attend because of limited funding support provided from their training programs. In an attempt to alleviate this problem, Liwei thought it would be a great idea to get vendor sponsorship for our events, so that we may subsidize the cost for resident alumni and promote more participation and networking for our growing alumni body. With Liwei's determination, we were able to make this happen and we even have enough funding to continue to subsidize the resident tickets for several events to come. We hope to get more sponsorship in the future and grow our funds for causes even beyond alumni events, such as student scholarships for rising Duke medical physicists. I would also like to thank Jainil Shah, who continues to kindly volunteer to take photographs at our annual DUMPAA event so that we may share the memories with the entire alumni network.

Additionally, this year we were able to extend our alumni gatherings to the annual ASTRO meeting, all due to the works of DUMPAA Secretary, Matthew Goss. Beyond setting up all of the logistics for our first alumni event at an ASTRO meeting, Matt went even further and quickly found a bar to partner with DUMPAA in order to raise money for the Zachary Shrock scholarship to commemorate and honor Zachary, whose passing was a tremendous loss to our alumni association. I would like to thank Matt for his diligent efforts and doing such a superb job at setting up this kind of first-time event, all while supporting wonderful cause.



Medical Physics 3.0: An Initiative for the Future of Medical Physics

What is “Medical Physics 3.0”?

The landscape of medicine and technology is rapidly and continuously evolving, with oncoming changes as varied as shifts in healthcare payment models, increasing automation of routine tasks, and the expansion of viable treatment options. These developments inevitably impact our traditional models and areas of medical physics practice, and necessitate co-adaptation to ensure that medical physicists continue to deliver value and expertise toward the improvement of human health.

Chaired by our own Dr. Ehsan Samei, the Medical Physics 3.0 (MP3.0) Working Group recently put forth a number of strategic goals [1] aimed not only at maintaining a consistent high level of quality in our current practices, but also at moving forward toward the future growth of medical physics both as an interdisciplinary scientific field and as a profession. We aim to pursue and achieve these goals through a framework of “smart” initiatives [2] that tackle development, communication, and representation in multiple areas, including efforts in

- Creating and curating resources and tools that medical physicists can readily implement in their everyday practice to improve efficiency and consistency (*Smart Tools*);
- Providing a voice for medical physicists in regulatory bodies with the intent of creating regulations, guidelines, and accreditation criteria that reflect best practices (*Smart Regulations*);
- Defining and promoting technical, clinical, and leadership competency (*Smart Practitioners*);
- Applying models of process improvement to clinical practices (*Smart Practice*);
- Engaging with the medical physics community to provide accessible resources and opportunities for professional growth, as well as an avenue for active feedback (*Smart Grassroots*);
- Advocating for medical physics by creating connections with our partners in healthcare, including administrators, other medical professionals, and patients (*Smart Advocacy*); and
- Exploring new avenues beyond radiation medicine where physics and physicists can contribute to the advancement of medicine and healthcare (*Smart Expansion*).

One of the current major drives of the MP3.0 initiative is in producing resources – including digital tools, instructional training material, and in-person workshops – that will be readily available for all medical physicists. A Medical Physics 3.0 AAPM meeting, where participants will have the opportunity for hands-on experience and implementation of many of the topics above in a 3-day workshop, is planned for early 2020. Please keep an eye out for the registration announcement in the upcoming year!

Learn More about Medical Physics 3.0

• [Redefining and reinvigorating the role of physics in clinical medicine: A Report from the AAPM Medical Physics 3.0 Ad Hoc Committee](#). Samei, E., et al. *Med. Phys.*, 45: e783-e789 (2018). doi:10.1002/mp.13087
Recently published in *Medical Physics* and freely available online, this paper lays out the rationale and goals of Medical Physics 3.0.

• [MedPhys 3.0 Report: What is it all About?](#) Samei, E. *AAPM Newsletter*, 43 (4), (2018).

• [Medical Physics 3.0, physics for every patient](#). Samei, E. and Mills, M. D. *J Appl Clin Med Phys*. (2018). doi:10.1002/acm2.12484

This open access *JACMP* editorial puts forth a succinct case for Medical Physics 3.0 in the service of advancing patient care.

• <https://www.aapm.org/MedPhys30/>

Our website outlines the purpose and goals of MP3.0, and provides examples of opportunities for clinical growth, guidelines for good practices, and articles showcasing medical physics outside the box. Videos produced by Taoran Li (PhD, '13) and Anuj Kapadia highlight the roles of medical physicists in healthcare, and are freely available for sharing and distribution.

Alumni Spotlight | Sherry Andrew



Sherry Andrew (MS '09) is a Radiation Therapy Physicist at UNC Rex Healthcare in Raleigh, North Carolina. She is really happy to have found medical physics as a career and finds that working in the community setting has been extremely fulfilling.

Early Career

I found out about medical physics from an open house flyer while I was a junior at UNC, and quickly realized that this was exactly what I wanted to do. I enrolled with the third class of students in the Duke Medical Physics Program, where I had the privilege to learn amongst a group of individuals I very much admire and respect, and am still friends with many years later. I graduated in 2009 when the market for job seekers was grim. Luckily, I was offered a position in Lowell, Massachusetts, working with one other physicist at a community hospital. I had always wanted to live in a big city, at least for a little while, so I moved to Boston and made the hour commute each way every day. I didn't mind it much, as I had the reverse commute and could chat with my then boyfriend Steve who was across the world on deployment. I cut my teeth during my time in Lowell, where I commissioned two new linacs, implemented a record and verify system, made the switch to paperless charts and started new procedures like stereotactic radiotherapy, IGRT with on-board imaging, prone breast and more.

Two years into my time at Lowell, Steve ended his time in the military and moved into my apartment in Boston. He quickly discovered how much he didn't like city living, however, so after a month we packed up and moved to New Hampshire to "live free or die." We bought a house, got married, adopted a dog, joined a ski house in the winter and had monstrous bonfires with our neighbors in the summer. I spent another two years at Lowell, and in 2013 I passed my final board exam to become fully certified. Around that time a position opened up in a nearby community hospital in Manchester, NH so I said goodbye to my first job in Massachusetts and hello to no income tax and every other Friday off.



A Change of Scenery

My second job was similar to the first, but they also had an HDR unit which was a new technology for me. They also did a lot of stereotactic cases, and it was here that I found that I really had an affinity for SRS and SBRT. I split my time between the main site and the satellite clinic, where I found that I enjoyed the autonomy of overseeing my "own" clinic while not having to deal with the administrative responsibilities of being the chief physicist. I had a really nice setup working in New Hampshire, and it's an absolutely beautiful state to live in, but unfortunately it's too cold there for too long, and this southern gal couldn't be away from her family and Bojangles forever.

Alumni Spotlight | Sherry Andrew

Returning Home

A year and a half into my second job I left for my current position in Raleigh. Not only am I now back in my hometown, but I also get to work with the great Shiva Das. Luckily he hasn't assigned me anything to program in Matlab yet, although I'm sure those skills, although rusty, are still there. Rex is a community hospital owned by UNC with three linacs, that also provides radiation therapy services at four satellite clinics. I am primarily located at one of the satellite clinics, but I also do SRS planning and oversee the Vision RT program at two of our locations, in addition to all the "normal" physics duties.



I've been at Rex for three and a half years now and I hope to be here for many more. We have built a house in the woods and had two boys, Grant (2 ½) and Thomas (10 mo), who we call Tom Tom or more recently Tomzilla, as he has become quite mobile and destroys everything.

Being a medical physicist has been a very rewarding experience. I find that, like a lot of things in life, you get what you put into it. I am constantly trying to improve clinical operations and workflows, and I find that I've been able to do so very effectively in the community setting. I love dealing with new challenges every day, whether it be a difficult patient setup or treatment plan, developing new procedures, or even the occasional but thrilling machine fault. It all started with my time at Duke, where I developed skills that would help me succeed as a physicist, and created long-time friendships with fellow students and faculty that are poised to last throughout my career.

Alumni Spotlight | Jason Paisley



Jason Paisley (MS '09) is the Chief Medical Physicist at the Coastal Carolina Radiation Oncology Center in North Carolina. In addition he also serves as the Chairman of the Operations Committee for the Radiation Oncology Department and is involved in the strategic planning for the center.

Getting Started in Medical Physics

My introduction to Medical Physics began while I was living in St. Louis. I was working in a Radiopharmacy making PET tracers and I had no idea what the PET tracers were used for. One day my curiosity got the best of me and I started asking questions. It was then that I learned about the role of PET in tumor staging and from there things snowballed into me wanting to become a medical physicist. Looking back at it now my time at Duke was pretty amazing. I was fortunate enough to make some really good friends, we played hard and worked even harder. Our class was incredibly close (in fact one of my classmates ended up becoming my wife) and there are many people that I still keep in touch with. It is an absolute joy to go to a conference and run into one of my classmates.

Alumni Spotlight | Jason Paisley

Life after Duke

Life post Duke has been pretty good. My first job after Duke was working at Memorial Sloan Kettering Cancer Center as a treatment planning physicist. It was a great job. I got to learn from very knowledgeable people and got very good at treatment planning. However, I still felt like there was a whole lot of physics that I didn't know. I wanted a job that would give me a more rounded experience and prepare me for the board exams. So, I took a job at a Coastal Carolina Radiation Oncology in North Carolina. Two years into that job and shortly after passing my boards I was offered the chief physicist position at that clinic. I still have that job today.

Being the Chief

Being a chief physicist is an odd job and it has taken me a while to grow into it. The skills that make you a good chief are not the same skills that make you a good physicist. I have had to spend a lot of time learning about insurance payor rules, department budgets, staffing levels and a whole host of other things that I never needed to worry about as a clinic physicist. I am also the chairman of the operations committee for radiation oncology and I'm involved with a lot of our strategic planning. The things that I enjoy the most about my job are providing staff education, solving new problems and evaluating and implementing new technology. I was a big part of bringing VMAT to our clinic and it was incredibly rewarding to be a part of a big project that changed the way we treat patients.

Beyond the Clinic

Outside of the clinic I read a lot papers and listen to TED talks. I'm really into artificial intelligence (AI) right now and I think that AI will radically change radiation oncology physics. Otherwise, most of my free time is spent with my family. My wife and I are the proud parents of a four year old girl and two year old boy. They keep us very busy. My daughter is very curious and asks a lot questions. She's also starting to get into super heroes (more DC than Marvel so I have some work to do). My son is very energetic and loves to laugh, his hobby is waking me up at night. When my wife and I aren't with our kids we love to travel. We recently went to South East Asia and had an amazing time.

Future Plans

In the future I would like to do some more research and maybe even publish a few papers. I would like to learn a programming language like C# so that I can write programs for data analytics. Our Aria database is a goldmine of data that's just waiting to be used for the right purpose. Finally I would like to learn a second language (probably not going to happen but I like to pretend). I've also been asking the AAPM to include more sessions at the annual and spring meetings about leadership and project management. Because of our critical thinking skills physicists tend to get pulled in a lot of different directions and it would nice if we had more resources to help us navigate the minefield that is personnel and office politics. If none of these goals pan out then plan b is retire early and keep traveling.



Lantau Island

Research Spotlight | Isabella Duarte



Isabella Duarte is a PhD candidate working under the supervision of Dr. Fang-Fang Yin and Dr. Jing Cai in Radiation Oncology. Her research focuses on lung ventilation imaging techniques for image-guided radiation therapy. Isabella has been active in the program serving as the president of the Student Leadership and Advisory Council (SLAC) in 2017-2018, as the Student Mentorship Coordinator in 2016-2018, and as a current member of the Culture Committee.

Radiation-induced pulmonary toxicity poses a serious challenge and limiting factor in delivering a sufficient amount of dose to eradicate thoracic tumors without compromising lung function. Functional avoidance radiation therapy (RT) using lung ventilation mapping techniques could possibly allow for preferential avoidance of functional lung tissue during radiotherapy and potentially reduce RT-induced lung injuries.

Hyperpolarized (HP) gas MRI is a unique MR imaging technique that utilizes hyperpolarized gases such as Helium-3 or Xenon-129 as imaging contrast for the lungs. Once inhaled, hyperpolarized gas provides a strong MR signal within the lung airspaces as shown in Figure 1, enabling voxel-by-voxel imaging of pulmonary ventilation.

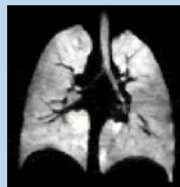


Figure 1.
HP Gas MRI
ventilation

Recently, a new method has been proposed to calculate regional lung ventilation maps which is based on lung 'deformation'. In this method, lung ventilation is quantified as the regional relative lung volume change between two respiratory phases, usually end-of-inhalation (EOI) to end-of-exhalation (EOE), and can be computed by calculating the Jacobian Determinant of the 3D lung displacement vector field (DVF). The DVF can be calculated by performing a Deformable Image Registration (DIR) on two anatomical images (such as MR or CT) at EOE and EOI. The workflow is shown in Figure 2, where two proton MRI images are deformed to calculate ventilation on a voxel-by-voxel level. This DIR-based method is advantageous in its higher image resolutions and simpler imaging procedures, making it a more feasible option for implementation into the clinical workflow.

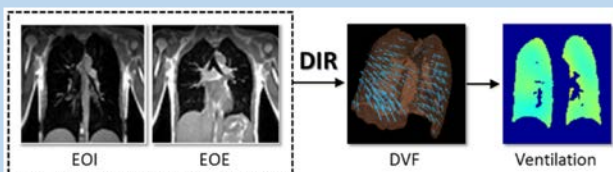


Figure 2. DIR-based ventilation method

The goal of my research is to develop important tools for validation and standardization of lung function imaging methods and contribute to their clinical implementation in advanced radiotherapy of lung cancer and diagnosis of obstructive pulmonary diseases. The objective is to develop digital thoracic phantoms from physiologically-plausible lung motion models as a valuable DIR validation tool, and to evaluate Jacobian-based lung ventilation mapping techniques against HP gas MRI ventilation images.

The physiologically-plausible lung motion models for the digital thoracic phantoms are created from a HP gas *tagging* MRI technique.

The tagging is performed by implementing a short non-imaging pulse that saturates

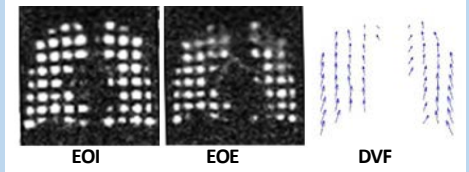
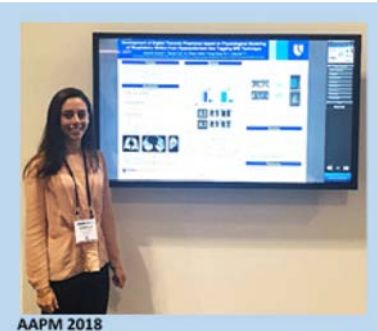


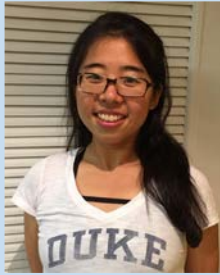
Figure 3. HP gas Tagging MRI images and DVF

the magnetization creating a 3D grid pattern as shown in the tagging images at EOI and EOE in Figure 3. This technique provides at least ~300 'landmarks' which are uniformly distributed throughout the lungs, and by tracking the motion of these tags, we are able to measure true lung motion. Once fully developed, these digital phantoms can be used to evaluate DIR accuracy by comparing known motion to registration results.

In the end, I hope that my research will yield significant and metrics for evaluation of deformation-based ventilation imaging methods and help improve outcome of lung cancer treatments by maximally sparing healthy lung tissue in radiotherapy

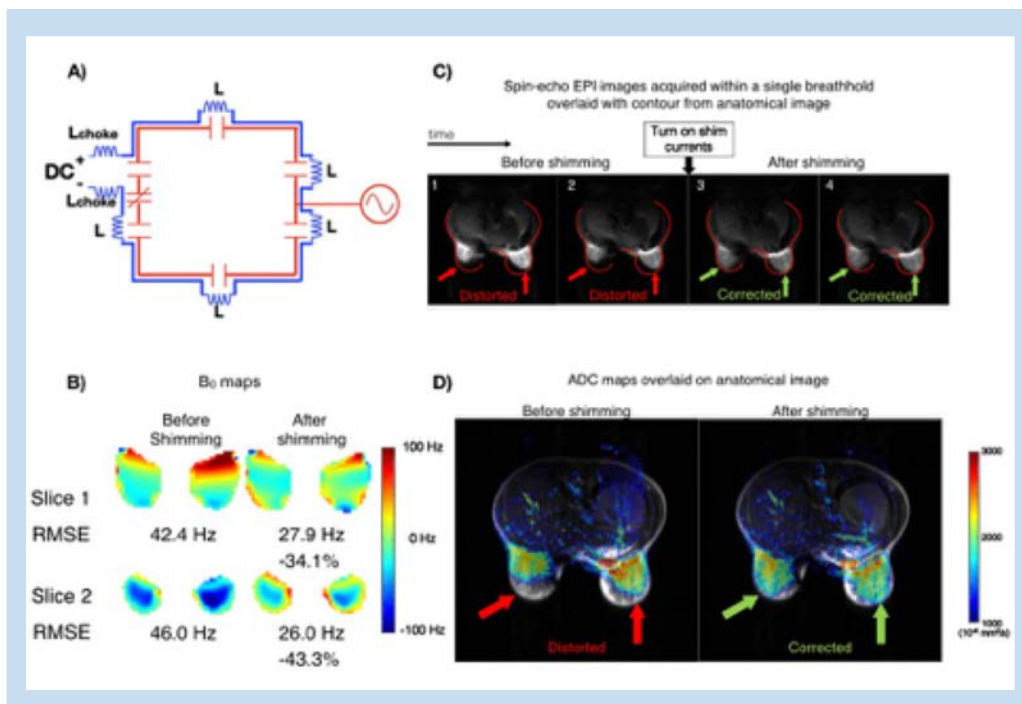


Research Spotlight | Yixin Ma



Yixin Ma is a 3rd year Ph.D. student working in the Brain Imaging and Analysis Center (BIAC), supervised by Dr. Trong-Kha Truong and Dr. Dean Darnell. This lab develops MRI coil technology. As a part of the team, she focuses on B_0 shimming in breast imaging.

An MRI scanner consists of the magnet, gradient coils and RF coil array (transmitting and receiving). An ideal case is that the magnet generates a perfectly homogeneous B_0 field inside the human body. However, near the air/tissue surfaces, the susceptibility-induced magnetic field spoils the B_0 homogeneity, which further cause distortions and signal loss. Traditionally, a spherical harmonic shim coil is additionally installed to MR system to correct for B_0 inhomogeneity. However, it increases the complexity of the MR system and cannot effectively shim localized B_0 inhomogeneity. A novel coil design: integrated parallel reception, excitation and shimming (iPRES) allows both Radio Frequency (RF) and Direct Current (DC) to flow in the same coil elements.^[1] DC currents running in multiple coil elements generate magnetic field to compensate localized B_0 inhomogeneities, which will mitigate image distortion artifact.



iPRES (Schematic is shown in **Fig.A**) was implemented into breast coil array). We add inductors to bypass the capacitors, allowing DC current to flow for shimming. The in-vivo shimming experiment shows that the B_0 inhomogeneity was significantly reduced by up to 43.3% (**Fig.B**), Distortions in Echo Planar Image (EPI) and Apparent Diffusion Coefficient (ADC) map were degraded as well (**Fig.C D**).

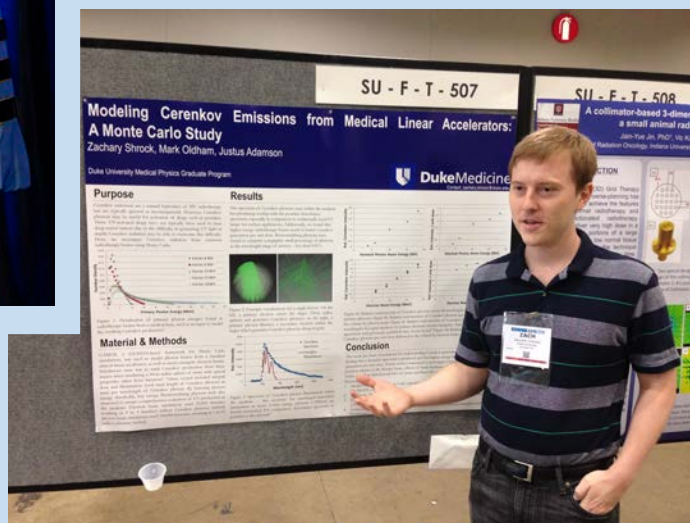
[1] Truong et al. NeuroImage 2014;103:235-40

Zachary Schrock Scholarship | Michael Traeger ('17)

The Duke Medical Physics community was shocked this September with the unexpected passing of alumnus Zachary Schrock. My classmates and I, as well as many Duke faculty members, got to know Zach very well in our short two years at Duke. He was uniquely selfless, found something in common with everyone, and never denied the opportunity for an adventure. Endless memories were made winning season tickets at campout, attending Duke basketball games, lounging around at winter retreat, vacationing in the outer banks, and playing late-night board games. Academically, Zach was



an excellent and bright student in our graduate program who strived to improve everything he touched for those around him. He undertook multiple leadership roles to serve our program and his fellow classmates during his time at Duke. He graduated with an MS in the class of 2017 and was enrolled in a residency program at Scott and White Medical Center in Temple, Texas. All who were touched by Zach's presence would agree that they are truly blessed to have known him.



Zachary Schrock Scholarship | Michael Traeger ('17)



Following this heart-breaking news and with his parent's endorsement, we established a scholarship in his name. The *Zachary Dean Shrock Memorial Scholarship* strives to keep Zach's legacy alive in the Duke Medical Physics community through a research scholarship aimed towards MS students. As we all know, the burden of graduate school costs can be challenging to navigate and can hamper research efforts. This scholarship is meant to provide motivation for an MS student to pursue and share their research so that it may further impact the world.

Thank you to those who already donated to this scholarship. Your generosity is greatly appreciated as it will help Duke Medical Physics students who embrace the ideals that Zach lived by, and continues his endeavor to improve healthcare. We are still soliciting donations for those interested. Donations can be made at gifts.duke.edu under *Zachary Dean Shrock Memorial Scholarship*.



Student Spotlight | Cielle Collins



Cielle Collins is a second year MS student, originally from Portsmouth, New Hampshire. She is a member of the Student Leadership and Advisory Council, the Open House Planning Committee, a coordinator for the Student Mentorship Program, and a Duke Basketball Graduate Usher. She is currently doing her Master's thesis research with Dr. Mark Oldham.

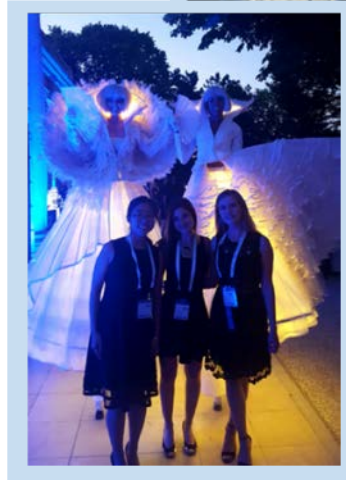
We are off to another great year in the Duke Medical Physics department! We just finished a successful fall open house with research talks, student-led bus tours of Durham, student spotlights, hospital tours, and a festive dinner at Gonza Tacos. It is always wonderful to be a Duke student during open house season, we have an enthusiastic community that cares deeply about the continued quality of the program. This is an incredibly small field, and I believe that what makes Duke so special is the wonderful relationships that we create with our peers, and the culture that propagates throughout the program. We have had a busy year strengthening the bonds of our community and the quality of our program!

Student Leadership and Advisory Council Revitalization and Program Outreach

With a mostly new group of representatives in SLAC (formerly StAB), we began the year by strengthening our bylaws and redefining the role of each student representative. This has given us an opportunity to consider how each of us impacts the program, and try to make improvements where possible. Right now, we are particularly enthusiastic about Brianna Smiley's work as the Outreach Coordinator. Brianna, along with Han Setiawan, Hope Pegues, Taylor Smith, and others, always bring new opportunities for community involvement to the attention of our students. This year, outreach opportunities that the program is involved in include Habitat for Humanity, helping local middle school and high school children at the Science Olympiad, mentorship of 8th graders through the Women and Mathematics group, volunteering in the community for MLK Engineer Day, and helping out at the Duke Community Farms.

In addition, Taylor Smith, our Medical Physics Advisory Council representative, is implementing a new opportunity for students in the Distinguished Lecture Series. He is recruiting student volunteers who will act as facilitators for the visiting speakers. In this capacity, students will engage

(Bottom) Darnell and Truong group in Paris. (Right) IC3D dosimetry conference in Kunshan, China.



with some of the biggest names in medical physics. We are excited about this wonderful opportunity to get exposure to the greater field of medical physics outside of Duke.

Culture Committee

The Duke Medical Physics Culture Committee was formed this year to fulfill the task of outlining a diversity and inclusion statement to represent our program. Since its inception, the group has become increasingly active. Right now, they are working to coordinate professionalism events, an event to replace the canceled fall retreat, and a residency information panel for students.

Conferences

Our students had the opportunity to participate in an incredibly wide variety of conferences this year. The majority of us were able to attend AAPM in Nashville. We loved the conference experience and enjoyed getting to know all of the alumni who go back year after year. Several students were selected to be a part of the Science Highlights promotion at AAPM, highlighting the most

Student Spotlight | Cielle Collins



(Left) Health physics group at HPS in Cleveland. (Right) A group of students at AAPM.

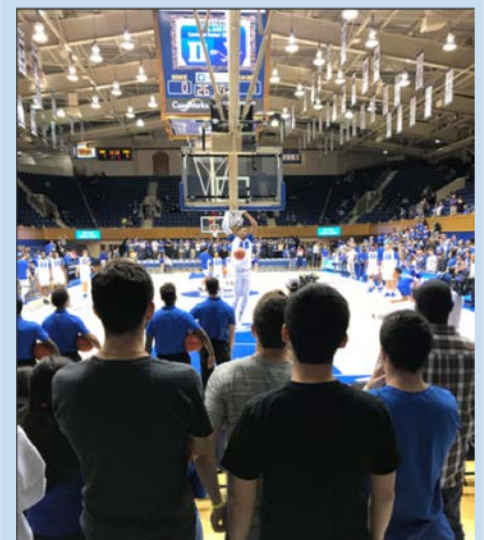
exciting new research from various sessions. Recently, Dr. Mark Oldham successfully coordinated the International Conference on 3D and Advanced Dosimetry at the DKU campus in Kunshan, China. Two students were able to join him and get a first-hand look at the beautiful DKU campus and our thriving medical physics program there. The RAI Labs students have either participated in, or are gearing up for a variety of conferences this year including RSNA, SPIE, and Astro, where our Duke student involvement is extensive. Dr. Yoshizumi's health physics group attended the HPS annual

conference in Cleveland this summer, and the BIAC group under Drs. Darnell and Truong attended the ISMRM conference in Paris, France and the GRC conference in New Hampshire. Two of their abstracts won Magna Cum Laude ISMRM Merit awards for being within the top 15% of abstracts.

Sports and Music Involvement

The program is continuing the tradition of passionate intramural sports participation this fall. We currently have faculty, physicists, program coordinators, and students from all class years (including DKU!) participating in soccer, volleyball, and flag football. Our volleyball team is off to a stellar start, and our football team is having a lot of fun trying to figure out how to complete passes. We also have two students participating in the Duke Orchestra and one student in the Duke Choir. It has been great to get to know each other through extracurricular activities, and exciting to see our classmates thriving outside the classroom environment.


We have also carried on the tradition of Duke Basketball enthusiasm! We have three returning Graduate Ushers this year, and six more students applying to join the usher team. It is incredible that the school allows all graduate school game-day operations to be run by the students themselves, and a wonderful opportunity to get to be a part of this process. Campout was canceled as a result of Hurricane Florence, but we had 17 students enter the ticket lottery this year, and only 4 (now incredibly popular) students won tickets. We are all excited for another year of Duke Basketball and ready to cheer on the top recruiting class in the country. Because campout and retreat were both canceled as a result of hurricane Florence, we are enjoying these extracurricular opportunities to get to know each other even better.

















Duke MP students at intramural football (above) and Duke Basketball (right)

Class of 2018




2018 MEDICAL PHYSICS GRADUATE PROGRAM



MS GRADUATES

 Jaclyn Joan Carroll 2016-2018	 Jonathan David Cuthbertson 2016-2018	 Xiaoyu Duan 2016-2018	 Jeffrey Michael Fenoli 2016-2018	 Ruiqi Geng 2016-2018	 Steven Philip Hyatt 2016-2018	 Jacob Thomas Kodra 2016-2018
 Alexander Aronoff Kubli 2016-2018	 Xiaoning Liu 2016-2018	 Ryan Paul Pappafotis 2016-2018		 Michelle Beth Rokni 2016-2018	 Devin Anna Willey 2016-2018	 Zi Yang 2016-2018

PHD GRADUATES

 Wendy Beth Harris 2013-2018	 Xiao Liang 2014-2018	 Bria Madiwa Moore 2013-2018
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Alumni News

Adria Vidovic (MS '13) is working for Landauer Medical Physics in Phoenix, Arizona. She has a 22 month old son who will be turning two this November.

Matt Belley (PhD '15) and his wife, Cate, recently moved to Chelmsford, MA. Within the past year he transitioned out of the clinic and joined a small business in Massachusetts, to develop advanced algorithms for radiation and nuclear detection.

Lauren Long (MS '10) and her husband welcomed their son Emmett into the world on October 14th! They are so in love with their little guy!

Shelby Grzetic (MS '14), Jake Jackson (MS '14), Alex Price (MS '15), Christopher Smitherman (MS '14), Anna Rodriguez-Solomon (PhD '17), and Irene Zawisza (MS '15) passed boards and are now board certified.

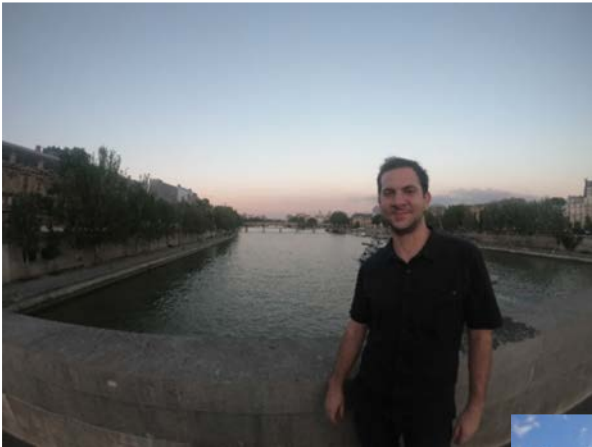


Lauren Long and family

Alumni News

Deon Dick (MS '12) got a new job in Nebraska and passed part 2 in August.

Jeremiah Sanders (MS '16) just completed a second deep machine learning internship at the Maui Optical and Supercomputing Site in Maui, Hawaii. He recently filed for his third US Patent. He is starting his third year in the Medical Physics PhD program at MD Anderson Cancer Center.



Jeremiah Sanders along the Seine River in Paris, France



Jeremiah Sanders in Maui, Hawaii (it was cold)

Titania Juang (PhD, '15) completed her medical physics residency at Stanford University in 2017. She stayed on as a member of the Stanford Radiation Oncology faculty until returning to her University of California roots in September 2018, this time as assistant professor at UC San Diego. Titania can be found at UC San Diego Department of Radiation Medicine and Applied Sciences in sunny La Jolla, where all the offices have windows and the department sport is surfing.



Jeremiah Sanders in Brussels, Belgium

Arlo James Bache was born on May 24, 2018 in Asheville, NC. This is **Steve (MS '14)** and Gretchen's second child (Oliver Monroe Bache born in Houston, TX on June 24, 2016).

Linda Poplawski (MS '15) began working at West Virginia University.



Steve Bache and family