



IN THIS ISSUE

Our Alumni Community	1
Program Director's Message	1
Duke Kunshan	2
Student Update	3
Catching Up with Alumni	5
Alumni News	5
Student Publications, 2013	7
Classes 2013 & 2014	8



Rendering of the Duke Kunshan University academic building slated to open in Fall 2014.

Our Alumni Community

Alumni associations are an interesting invention: like many inventions they are not an obvious necessity, but they certainly serve a purpose. I have to wonder, how were they started? What was the first one? Wikipedia is relatively silent on the history of alumni associations, so I can only speculate. A cynic might simply think that some ancient model of an academic ivory tower wanted to fill the annual fund coffers and offer affinity credit cards. In that case, an involved alumni base (and current contact info!) would be very valuable, literally. However, I think it is much more likely that people who had bonded through a unique, shared experience wanted to stay connected.

When you think back to your time as a student in our Program, what comes to mind? Perhaps, radioactive pocket change, MATLAB coding a multileaf collimator sequence, the same "BOO" Halloween confetti that has reappeared every year for a decade, or the mystical hologram bags and cart that came out for tests



JOSHUA WILSON, PHD
Alumni President

CONTINUED ON PAGE 4



JAMES DOBBINS III, PHD
Director

A Message from Our Program Director

Greetings from Durham! It is always a delight to connect with you, our alumni, at scientific meetings and other events during the year. We take great pride in the things that you are doing to advance the field of medical physics research and clinical practice. In this brief message, I would like to highlight some of the noteworthy happenings in our graduate program and comment on the state of medical physics as a field.

MILESTONE AND 10TH ANNIVERSARY

Our graduate program is enjoying a number of milestones this year. This coming academic year will mark the tenth anniversary of the establishment of our program. While we have been providing graduate education in topics related to medical physics research for over 40 years, it was ten years ago that we established new MS and PhD degrees in medical physics at Duke. In the decade since then, we

CONTINUED ON PAGE 3

**DUKE MEDICAL PHYSICS
ALUMNI NEWSLETTER**

Summer 2014

NEWSLETTER COORDINATOR

Joshua Wilson

EDITOR

Joshua Wilson

DESIGNER

Joshua Wilson

CONTRIBUTORS

James Dobbins III

Nicole Murphy

Simon Murphy

Anna Rodrigues

Andrew Scott

Joshua Wilson

Fang-Fang Yin

ALUMNI ASSOCIATION PRESIDENT

Joshua Wilson

DIRECTOR

James Dobbins III

ASSOCIATE DIRECTOR

Fang-Fang Yin

DIRECTOR OF GRADUATE STUDIES

Timothy Turkington

PROGRAM COORDINATOR

Olga Baranova

CONTACT

Olga Baranova

Duke Medical Physics Graduate Program

DUMC 2729

2424 Erwin Road Suite 101

Durham, NC 27705

TEL 919-684-1400

FAX 919-684-1490

EMAIL olga.baranova@duke.edu

Update on Duke Kunshan University

Duke Kunshan University will be starting a Graduate Program in Medical Physics in Fall 2014. This program will be implemented academically by Duke University through the Duke Medical Physics Graduate Program in Durham. The program will be directed initially by Professor **Fang-Fang Yin** together with two other critical faculty: Professor **James Bowsher** (Director of Graduate Studies at DKU) and Professor **David Huang** (Director-in-Residence of MGP-DKU). Dr. Huang is a newly hired faculty for DKU, effective August 2014. He is currently Chief Physicist at an affiliated center of the Memorial Sloan Kettering Cancer Center. We are now completing the application and admissions process for new graduate students at DKU. This process is performed mainly at Duke University.



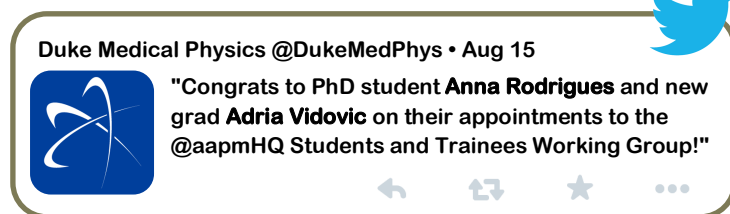
FANG-FANG YIN, PHD
DKU Program Director

MEDICAL PHYSICS IN CHINA

As you are all aware, medical physics as a specialty is fairly new in China, and there is a tremendous demand for quality medical physicists not only in hospitals but also for government agencies and industry. We hope that the DKU medical physics graduate program will set a new standard for medical physics education in China and other Asian countries. Also, DKU is a new university based in China as a joint venture between Duke University, Kunshan City, and Wuhan University. Duke is responsible for implementing high quality educational programs there. At this time, our DKU Medical Physics Graduate Program will offer a Master's degree with identical curriculum as we have at Durham. If this is successful, a PhD program could be initiated soon. Dr. Bowsher and Dr. Yin wish to express their gratitude to the leadership team, faculty, and students in the Medical Physics Graduate Program at Duke University for their generous support during the lengthy approval process and the on-going implementation of the graduate program at DKU. ♦



JAMES BOWSHER, PHD
DKU Director of Graduate
Studies



Duke Medical Physics Online



alum map

follow

group

A Message from Our Program Director

CONTINUED FROM PAGE 1

have enrolled over 200 students and have become the second largest program in the country and probably among the top four in quality. This rapid rise in both size and quality has been the result of hard work on the part of the faculty, staff, and leadership, and ultimately is a reflection of the outstanding students who have been part of our program. We will hold several events this coming year to mark our tenth anniversary and we will be sure to let you know about them.

DKU

We don't celebrate the rapid growth of our program as an end in itself, but rather see it as part of our mission to contribute things of value to the medical physics enterprise globally that will make the world a better place. We very much see our role as wanting to have an impact for good and part of that motivation has been realized in the establishment of a new Medical Physics Graduate Program at Duke Kunshan University (DKU). Under the leadership of Dr. **Fang-Fang Yin**, we are launching this new graduate program in China to extend the quality of education we provide at Duke to achieve societal benefit more globally. The medical physics students at DKU will come to Durham in their third semester, so there will be the opportunity for substantial interaction between our Durham and Kunshan students each year.

THE FIELD OF MEDICAL PHYSICS

There are several things of importance to comment on regarding the field of medical physics in general. First, the field continues to grow in its importance to the biomedical community, especially in the professional role that medical physics plays in the practice of medicine. The field has grown considerably over the past 30 years in terms of the quality and consistency of its professional training, as evidenced most recently by the 2014 mandate from the American Board of Radiology to require residency training for all ABR-

certified physicists. This has been a valuable initiative, I believe, but has caused some uncertainty about how the field will evolve in terms of training at the MS, PhD, and professional doctorate level.

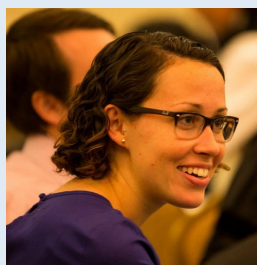
EDUCATION AND TRAINING

While there has been much discussion on blogs this past year about the roles of Masters physicists in the future, I believe that data from the Society of Directors of Academic Medical Physics Programs and from an AAPM workforce analysis conducted in 2010 suggest that the Masters degree will continue to be an important component of the overall medical physics workforce. I don't believe it is feasible (or even desirable) to transition all of the clinical positions currently held by Masters trained physicists to PhD degree holders. The roles of MS and PhD physicists are complementary and both are needed.

One issue of potential concern has been the lack of a sufficient number of residency slots nationally, but there has been consistent growth in the number of these slots over the past five years and the Education Council at AAPM now estimates that there are about 120-140 resident slots available per year. While this still isn't quite up to the number of 175 per year that is generally accepted as being the steady state requirement, more CAMPEP-accredited residencies are coming online each year and I believe that we should be able to reach the goal of 175 in the next few years. The good news for us is that our graduates at both the MS and PhD level have competed very well for these available residencies.

I hope to connect with many of you at the annual AAPM meeting this summer, and I look forward to having some of you return to Durham for Career Day this fall and for other activities in celebration of our tenth anniversary. We are proud of you, and celebrate all that you are doing in your careers and communities. ♦

Student Update | Like a Family



ANNA RODRIGUES (PHD '15) graduated in 2012 with her MS from our program and is now working on advanced dynamic electron arc radiotherapy techniques under Dr. Qiuwen Wu and Dr. Fang-Fang Yin. She is also a member of StAB, has served as student representative on MPAC, and will be moderating this year's AAPM student meeting titled "Beyond Clinical Medical Physics: Entrepreneurship and Opportunities in Industry" as Meeting Chair of the AAPM Students and Trainees Subcommittee.

"We really wanted to build the program in such a way that we were like a family."

These are the opening words from our Program Director, Dr. **James Dobbins**, in the first of two (and soon to be three – stay tuned) videos about our Medical Physics program. These "Medical Physics family" produced videos, showcase the dedication of our faculty, staff, and students to making this the best Medical Physics

CONTINUED ON PAGE 4

Student Update | Like a Family

CONTINUED FROM PAGE 3

program there is. Along with these videos, students have played a pivotal role in shaping the programs development over the past few years.

STUDENT ADVISORY BOARD

The student-initiated Student Advisory Board (StAB) meets multiple times during the academic year with the Director of Graduate Studies, Dr. **Timothy Turkington**, to address issues, concerns, and comments that students have. StAB not only discusses but actively implements solutions.

This past year StAB and members of the student body have held a two-day technical writing workshop that included sessions held by faculty, alumni, and current students. Topics included presentations and posters, writing abstracts and grants, as well as a professional development workshop. Other successful workshops have included an "Intro to MATLAB" for incoming students, as well as a crash course for Teaching Assistants. In our future endeavors, StAB will continue to be an outlet for student concerns and suggestions and provide individualized solutions to the needs of each incoming class of students. Further, the student representative in the Medical Physics Administrative Council (MPAC) contributes during monthly MPAC meetings by serving the student's interest on discussions pertaining to the development of our program.

OUTSIDE OF HOCK

Even outside of Hock Plaza, the Medical Physics family is strong. Our social coordinator, service coordinator, and other students help organize teams for 5K runs to raise money for cancer research (opposite page), plan events for the 1st ever International Day of Medical Physics, and organize outreach events such as working in the local food bank or participating in Hillandale Elementary School's annual Science Day. From the Medical Physics Retreat to the Open House to Graduation – students are involved in every aspect and take on key roles that help shape our program. ♦



Angels Among Us 2014 5K team, "the T2 Stars raised \$585, which will go to benefit the Preston Robert Tisch Brain Tumor Center!"

Our Alumni Community

CONTINUED FROM PAGE 1

and the qualifier? Plenty of Duke students have been to basketball campout, and medical physics students across the world own a copy of Kahn. However, that list is uniquely Duke Medical Physics, and as you read it, I have to believe that at least one of those items made you smile. And you know what? There are only ~200 people in the world who could share and appreciate that.

Maintaining contact has become so incredibly simple to the point that email is an anachronism. In length(char(tweet))<=140 I can tell you what I'm doing, or perhaps I will Instagram or Facebook it. Maybe share on LinkedIn too. Despite the ease of social media contact, these can give a false sense of connectedness. For example, you may know which of your ~15 classmates have new jobs, spouses, kids, and homes, but you haven't spoken to any or most of them since graduation. One great thing about our Association is that it can be a means to reconnect with *all* alum, as well as current students, who have shared the unique Duke experience. For those who can attend our annual dinner at AAPM that might be enough, but there are a lot of opportunities for involvement.

To the question of "How can you be involved?" the answer is simply "How do you want to be?" Our Alumni Association is a completely volunteer organization, so it is however you feel it would be beneficial to contribute.

There are several initiatives I think we can develop, and I am actively seeking volunteers—many hands make light work. The projects that have been suggested for Association members to undertake include writing, editing, and/or publishing this annual newsletter, developing a job or internship referral system, facilitating alumni meet-and-greets for non-AAPM conferences (e.g., RSNA, ASTRO, HPS, ARRS, Mid-Winter), and administering a mentor-resource-program. Our Graduate Program has a solid 10-year history of dedicated strong service and innovation, and now that same enthusiasm can be carried into post-graduation.

I look forward to growing the scope of our Association, and I am excited to see many alum in Austin. ♦

Catching Up | A Snapshot of Medical Physics in the USAF

NICOLE MURPHY (MS '12) is a 1st Lt. with the USAF.

ANDREW SCOTT (MS '12) is a Capt. with the USAF.

SIMON MURPHY (MS '11) is a Capt. with the USAF.



Left-to-right, at Wilford Hall Medical Center, a USAF clinic located on the grounds of San Antonio's Lackland Air Force Base.

Greetings! It often surprises people to learn that there are medical physicists in the military, but there are currently 18 of us serving as uniformed officers in the Air Force Biomedical Science Corps. Six of those 18 are Duke Alumni, and we work with a range of clinical activities spanning diagnostic radiology, nuclear medicine, and medical health physics. Our radiation oncology clinics are primarily staffed by independent contractors, but we take every opportunity to develop collaborative partnerships with our therapy colleagues.

MEDICAL PHYSICS IN THE USAF

Medical physicists in the Air Force are stationed at one of five regional support offices embedded in hospitals or large outpatient surgical centers. From those offices we provide support and guidance to all medical facilities in the USAF, including overseas bases. This has been an excellent environment for facilitating our growth as young professionals because we have worked as in-house staff in large medical centers as well as traveled to smaller clinics as consultants. Active duty personnel are typically reassigned to a new base every three to four years, furthering the scope of experience the job has to offer. We are actively involved in equipment acquisition and testing, developing quality control procedures, training radiology residents, and establishing and revising institutional policy. We act as facility RSOs, managing the hospital radioactive materials permits and radiation safety programs. Our offices provide input for research projects being pursued by various educational programs, from vetting emerging technology to investigating potential effects from cosmic radiation on high altitude pilots.

BEING PREPARED

The military setting also calls for some non-traditional applications of the medical physics skill set. For example, it will come as no surprise that the military does quite a bit of training for disaster preparedness, and we have been involved in designing training exercises for radiologic emergencies (the generals want us to be ready when Godzilla shows up). ♦

Alumni News

2007

Jessica Stephens became ABR board certified in Therapeutic Medical Physics, and was married in 2012.

Matthew Goss continues to work at Memorial Sloan Kettering Cancer Center in New York City.

2008

Chris Zatwarnicki became ABR certified in Therapeutic Medical Physics in 2012.

David Sterling continues to work for University of Minnesota Physicians, and he will be celebrating his 2-year work anniversary later this month. He is a member of the AAPM New Professionals subcommittee. His family moved into their house a year ago and have been enjoying the good and the bad of home ownership.

Robert Ike III became ABR board certified in Diagnostic Medical Physics in June 2013, and welcomed a new baby boy on Oct. 8, 2013: Logan Christopher Ike, 8lb 6oz.

2009

Brandon Mader is engaged to be married to Justyna Mudy, originally of Poland, and he continues to be a staff medical physicist at the Center for Cancer Care in Huntsville, AL.

Chris Veale became board certified in June 2013 and is a staff physicist at Billings Clinic in Billings, MT, where he helped bring up a Gamma Knife Perfexion. He was married on January 4, 2013, to a nurse he works with.

Jessica Nute will be graduating from MD Anderson with my PhD in Medical Physics this fall and hoping to pursue a career in clinical diagnostic imaging. She had a first-author manuscript on CT daily quality control data in Medical Physics, 2013, and she was awarded a Radiological Society of North America (RSNA) Trainee Research Prize (2012, Chicago).

LaToya Crayton became ABR board certified in Therapeutic Physics in 2013 and just purchased a new home.

CONTINUED ON PAGE 6

Alumni News

CONTINUED FROM PAGE 5

Sherry Leeper Andrew started a new position at Elliot Hospital in Manchester, NH, in August 2013, and became ABR board certified in Therapeutic Medical Physics.

Tian Zhang adopted a cat.

2010

Jin Wooi Tan is a Medical Physicist at Brighton and Sussex University Hospitals NHS Trust (UK). He co-authored journal papers from his time at Duke, which appeared in the Journal of Clinical Imaging and Seminars in Nuclear Medicine, and he presented on dose auditing of patients undergoing ERCP procedures at a 2013 Annual Meeting in the UK.

Joshua Wilson started with the Clinical Imaging Physics Group at Duke in May 2013, and he was married in September 2013.

Justin Roper became ABR board certified in Therapeutic Medical Physics, and he is the Interim Lead Physicist at Emory University Hospital Midtown. He and his wife welcomed their daughter Mary Cora Roper, born March 30, 2013.

Michael Adams is an MD candidate 2015 at UNC-Chapel Hill.

Mike Pierquet has taken a new position as a consultant medical physicist, so he will now be working in both therapy and diagnostic physics. He will take his therapy orals in May, and earlier this year, his wife and he finished moving from Sierra Vista, AZ, to MN.

Samuel Brady became ABR board certified in Diagnostic Imaging Physics in 2013, and he and his wife had their third child, Madison Mae Brady, born February 15, 2013. He has a recent publication in Radiology on implementing ASiR™ for pediatric CT, and one of his co-authors, **Bria Moore**, is a current Duke student. Bria co-authored this report with Sam while she was still in school in AL.

Sangroh Kim became ABR board certified and is a Medical Physicist at Genesis Medical Center in Davenport, IA.

Scott Senick continues to work at Varian Medical Systems in Las Vegas, NV, where he is responsible for receiving accreditation for all physics courses offered in our education center. He is also the Program director for CAMPEP credits offered at Varian. Scott is expecting a son in June 2014.

Xiang Li started working as an Assistant Professor at Cleveland State University in August 2013. She loves teaching and takes pride in getting a student evaluation score of 4.86 / 5 for the Radiation Safety course she taught last fall. She has also recruited excellent students to work with on research projects: her students are why she works very long hours and doesn't get tired of it (yet!).

2012

Anastasiya Batrachenko is a physics teacher in Arizona.

Andrew Scott passed the ABR Diagnostic part 1, and he is a Qualified RSO on the NRC with a broad scope license. He is engaged to a Duke alumna, **Nicole Murphy**.



Students and alumni took part in the Philadelphia Half Marathon on November 17, 2013, from left: Mike Niebanck (MS '12), Natalie Januzis (current PHD), Colleen Allen (MS '12), and a friend of the Program.

Deon Dick was in Durham for 2 weeks in June 2014 because three of her friends, Duke alums, were getting married.

Fan Zhang is a Safety and Health specialist in the Duke University Radiation Safety Division.

Ioannis Argyridis is waiting for the result of the STP job interview from the NHS (UK).

Josh Johnson and his wife bought a house in November 2013 and had a baby boy, Parker Robert Johnson, on January 23, 2014.

Nicole Murphy got engaged to **Andrew Scott**, a Duke alumnus!

Yakun Zhang became an imaging physics resident with the Clinical Imaging Physics group at Duke University Medical Center. She got married in July 2013, to her husband Mark (pictured) and they just bought a house in March, 2014.



2013

Adria Vidovic is currently finishing up her first year of residency with Landauer Medical Physics in Atlanta, GA. She is also enjoying her work as the IT/communications chair for the AAPM Students and Trainees Working Group. She continues to work closely with **Titania Juang** on a manuscript on Presage in-vivo dosimeters. Adria got married the day after graduation, and life post-Duke is great so far!

Allison Mitchell is engaged and is getting married in Sept., 2014.

Gretchen Raterman started as a Diagnostic Radiological Medical Physics Resident at the University of Alabama at Birmingham in January 2014.

2014

Ergys Subashi is a Medical Physics Resident at Duke University Medical Center in the Department of Radiation Oncology.

Alumni News

CONTINUED FROM PAGE 6

Jered Wells joined the Clinical Imaging Physics Group at Duke University as a Radiation Physicist.

Qiongge Huang is pursuing a PhD in City University of New York Physics & Astronomy Department.

Shelby Grzetic is a Junior Radiation Physicist at The Ohio State Medical Center.

Siming Lu is a Medical Physics Resident at Henry Ford Hospital.

Steve Bache will begin an Imaging Physics residency at MD Anderson Cancer Center in Houston, TX, in August 2014. On June 14, 2014, he was married to Gretchen Guggenheim in Pelzer, SC.

Yang Sheng passed ABR Part 1 and had an oral presentation at the 2013 AAPM Annual Meeting.

Student Publications | 2013

Astroza G, Neisius A, Wang A, Nguyen G G, Toncheva G, Wang C, **Januzis N**, Lowry C, Ferrandino M, Neville A, Yoshizumi T, Pre-minger G, Lipken M: Radiation Exposure in the follow-up of patients with urolithiasis comparing Digital Tomosynthesis, Non-Contrast CT, Standard KUB and IVP. *J. Endourology* 27:6, 2013.

Bond J, Frush D, Samei E, Segars WP: Simulation of anatomical texture in voxelized XCAT phantoms. *Proc. SPIE Medical Imaging*, 2013.

Chen B, Samei E: Development of a phantom-based methodology for the assessment of quantification performance in CT. *Proc. SPIE Medical Imaging*, 2013.

Dobbins JT III, **Wells JR**, Segars WP: Dose reduction in CT with Correlated-Polarity Noise Reduction: comparable image quality at half the dose with projection space processing. *Proc. SPIE Medical Imaging*, 2013.

Englander ZA, Pizoli CE, **Batrachenko A**, Sun J, Worley G, Mikati MA, Kurtzberg J, Song AW: Diffuse reduction of white matter connectivity in cerebral palsy with specific vulnerability of long range fiber tracts. *NeuroImage: Clinical*, Volume 2:440-447, 2013.

Freeman MS, Cleveland ZI, Qi Y, Driehuys B. Enabling Hyperpolarized 129Xe MR Spectroscopy and Imaging of Pulmonary Gas Transfer to the Red Blood Cells in Transgenic Mice Expressing Human Hemoglobin. *Proc. Magnetic Resonance in Medicine* 21:0815, 2013.

Juang T, Newton J, Das S, Adamovics J, Oldham M: Preliminary investigation and application of a novel deformable PRESAGE® dosimeter. *J. Physics: Conference Series* 444:012080, 2013.

Juang T, Newton J, **Niebanck M**, Benning R, Adamovics J, Oldham M: Customising PRESAGE® for diverse applications. *J. Physics: Conference Series* 444:012029, 2013.

Kaushik SS, **Freeman MS**, Cleveland ZI, Davies J, Stiles J, Virgin-car RS, **Robertson SH**, He M, Kelly KT, Foster WM, McAdams HP, Driehuys B: Probing the Regional Distribution of Pulmonary Gas-Exchange Through Single-Breath, Gas- and Dissolved-Phase

129Xe MR Imaging. *J. Applied Physiology*, 2013.

Liu C, **Murphy NE**, Li W: Probing white-matter microstructure with higher-order diffusion tensors and susceptibility tensor MRI. *Frontiers in Integrative Neuroscience* 7:11, March 6, 2013.

Makinen MW, Bamba R, **Ikejimba L**, Wietholt C, Chen CT, Conzen SD: The vanadyl chelate bis (acetylacetonato) oxovanadium (IV) increases the fractional uptake of 2-(fluorine-18)-2-deoxy-D-glucose by cultured human breast carcinoma cells. *Dalton Trans*, 2013.

McGurk R, Bowsher J, Lee JA, Das SK: Combining multiple FDG-PET radiotherapy target segmentation methods to reduce the effect of variable performance of individual segmentation methods. *Medical Physics* 40(4):042501, 2013.

McGurk R, Smith VA, Bowsher J, Lee JA, Das SK: Influence of filter choice on 18F-FDG PET segmentation accuracy determined using generalized estimating equations. *Physics in Medicine and Biology* 58(11):3517-34, 2013.

Niebanck M, **Juang T**, Newton J, Adamovics J, Wang Z, Oldham M: Investigating the Reproducibility of a Complex Multifocal Radio-surgery Treatment. *J. Physics: Conference Series* 444:012072, 2013.

Qin Y, **Zhang F**, Kelsey C, Yoo D, Yin FF, Cai J. Adaptive Stereotactic-Body Radiation Therapy (SBRT) Planning for Lung Cancer. *Intl. J. Radiation Oncology*Biolog*Physics* (13):00537-3, 2013.

Qin Y, **Zhang F**, Kelsey C, Yoo D, Yin FF, Cai J: Adaptive Stereotactic-Body Radiation Therapy (SBRT) Planning for Lung Cancer. *Intl. J. Radiation Oncology*Biolog*Physics* (13):00537-3, 2013.

Rankine L, Oldham M: On the feasibility of optical-CT imaging in media of different refractive index. *Medical Physics* 40(5):051701, 2013.

Segars WP, **Bond J**, Frush J, Hon S, Eckersley C, Williams CH, Feng J, Tward DJ, Ratnanather JT, Miller MI, Frush D, Samei E: Population of anatomically variable 4D XCAT adult phantoms for imaging research and optimization. *Medical Physics* 40(4), 043701, 2013.

Solomon JB, **Li X**, Samei E: Relating noise to image quality indicators in CT examinations with tube current modulation. *American Journal of Roentgenology* 200(3):592-600, 2013.

Subashi E, Moding EJ, Cofer GP, MacFall JR, Kirsch DG, Qi Y, Johnson GA: A Comparison of Radial Keyhole Strategies for High Spatial and Temporal Resolution 4D Contrast-Enhanced MRI in Small Animal Tumor Models. *Medical Physics* 40(2):022304, 2013.

Thomas A, Yan H, Oldham M, **Juang T**, Adamovics J, Yin FF: The effect of motion on IMRT – looking at interplay with 3D measurements. *J. of Physics: Conference Series* 444:012049, 2013.

Wells JR, Dobbins JT III: Preliminary investigation of the frequency response and distortion properties of nonlinear image processing algorithms. *Proc. SPIE Medical Imaging*, 2013.

Zhang F, Kelsey C, Yoo D, Yin FF, Cai J: Uncertainties of 4DCT-based Tumor Motion Measurement for Lung SBRT. *Practical Radiation Oncology*, 2013.

Zhang Y, **Ren L**, Ling C, Yin FF: Respiration-phase-matched Digital Tomosynthesis Imaging for Moving Target Verification-A Feasibility Study. *Medical Physics* 40(7):071723, 2013.

2013 MEDICAL PHYSICS GRADUATE PROGRAM



MS GRADUATES



Anastasiya Batrachenko
2007-2013



Jason Dale Bond
2011-2013



Yanan Cao
2011-2013



Lei Ding
2011-2013



Allison Lorraine Mitchell
2011-2013



Andrew Polem
2011-2013



Yujiao (Gindy) Qin
2011-2013



Leith John Rankine
2011-2013



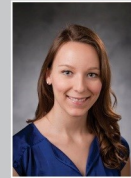
Dong Joo Rhee
2011-2013



Matthew Charles Schmidt
2011-2013



Kathryn Turner
2011-2013



Adria Vidovic
2011-2013

PhD GRADUATES



Taoran Li
2008-2013



Hao Li
2008-2013



Ross James McGurk
2008-2013



Jered R. Wells
2008-2013



Irina Verglasova
2008-2013

2014 MEDICAL PHYSICS GRADUATE PROGRAM



MS GRADUATES



Sarah Ashmeq
2011-2014



Steven Terrance Bache
2012-2014



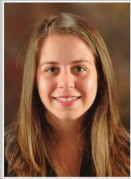
Drake Cole Brookins
2012-2014



Yingxuan Chen
2012-2014



Kelsey Leigh Chisholm
2012-2014



Shelby Mariah Grzetic
2012-2014



Qijie Huang
2012-2014



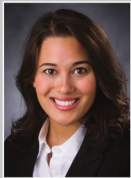
Jacob Lee Jackson
2012-2014



Qionggong Li
2012-2014



Xiao Liang
2012-2014



Kelly Kathleen Loman
2012-2014



Siming Lu
2012-2014



Brett Joshua Mattison
2012-2014



Andrew Thimmes McVicker
2012-2014

PhD GRADUATES



Baiyu Chen
2009-2014



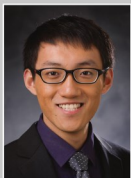
Steve Dean Mann
2009-2014



Ergys David Subashi
2009-2014



Susu Yan PhD
2010-2014



Yang Sheng
2012-2014



Christopher Craig
Snitherman
2012-2014