#### LSU/MBPCC Medical Physics and Health Physics Newsletter

January 2015

The science and technology of radiation therapy has advanced dramatically since its inception more than a century ago. In the long term, the progress in the field

care.

Our medical physics faculty have a long tradition of collaborating with colleagues in industry to improve the quality and safety of radiation treatments. These research collaborations typically lead to improved treatment systems, early adoption of emerging technologies, and better treatments for our cancer patients. In addition, collaborative projects with industry provide opportunities for students to perform research projects under the mentorship of our clinical faculty.

An example of a particularly fruitful collaboration is the Sponsored Research Agreement between Elekta and MBPCC. This partnership, initiated in 2010 by Dr. Ken Hogstrom (Professor Emeritus (LSU) and Senior Physics Advisor (MBPCC)), includes research

and development that will enable Elekta to substantially improve their electron beam treatment delivery system. In 2015, this partnership was formally renewed under the leadership of Dr. Jonas Fontenot, (Adjunct Professor (LSU) and Associate Director of Academic Physics (MBPCC)). The 3-year award will focus on completing the electron therapy research begun in 2010, as well as new projects, including stereotactic body radiation therapy and time-resolved

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Featured Article: LSU professor receives cancer research grant

### **Recent Publications**

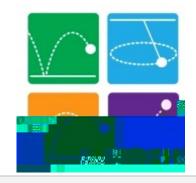
## Featured Article:

LSU's Guang Jia Uses LIFT Grant to Revolutionize Industrial Air Purifiers



# Featured Article (cont'd)

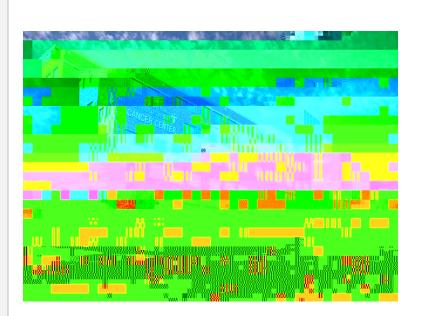




## Student News

Medical Physics PhD student, Paul Maggi, has been selected to attend

#### Renovations Near-complete at MBP



#### Accreditation and Program Statistics

The LSU/MBPCC MS Degree in Medical Physics is accredited by CAMPEP through December 31, 2016. The LSU/MBPCC PhD Degree in Physics (Medical Physics) was originally accredited by CAMPEP for 3 years; on April 9, 2014, it was granted a two year extension through December 31, 2016.

CAMPEP granted inaugural accreditation for the LSU/MBPCC Certificate

Program for post-doctoral fellows in 2014, which will

#### Featured Article: LSU Fulbright Scholar Examines Cancer Care Disparities in Croatia

LSU medical physics student Lydia Wilson has been on a journey of a lifetime. In October 2014, she began a nine-month stay in Croatia where she is studying disparities in radiotherapy cancer treatment as part of the Fulbright U.S. Student Program.

The Chicago native fell in love with the country after travelling there with her grandparents as a teenager. Her grandfather was born in Croatia and a number of her relatives reside on the Croatian Island of Kor ula.

"Ever since I was a kid I wanted to live there," said Wilson, who spent more than a year preparing her Fulbright application.

Harald Leder, director of LSU Academic Programs Abroad, guided her through the arduous application process.

"Ms. Wilson's preparation was exemplary. The process is very involved and requires a lot of dedication and detailed work, apart from the academic excellence," said Leder.

While in Croatia, Wilson is observing medical physicists and therapists at five radiotherapy centers in Croatia, but most of her time is spent at the Zagreb Cancer Clinic located in the country's capital city. Her research focuses on treatments for the five most common cancers: breast, prostate, lung, colorectal, and anal. Croatia's incidence rate of cancer is nearly equal to that of the United States, but Croatia's cancer mortality rate is almost twice as high.

"In America we raise lots of money to support cancer research and treatment. I want to make sure that everyone has access to quality cancer treatment, whether they are in the U.S. or a developing country," said Wilson.

Months into her stay, Wilson has observed that the treatment disparities are numerous and of many different types and causes.

"It is hard to really quantify what the exact disparities are, but I am seeing differences in treatment practices that new developments have improved upon," said Wilson.

"Some barriers to adopting more current treatment options are lack of funding, disharmony among the resident medical physicists, and a shortage of medical physics training programs, which in turn leads to a shortage of trained medical physics staff well versed in the latest treatments.

Unfortunately, a lot of the issues boil down to the

current economic situation in Croatia, which is not good," said Wilson.

Initially, Wilson's Fulbright experience was to end in June, but it has been extended to December. She will be returning to the U.S. for Christmas and will start working on her PhD at LSU in the spring.

"I plan to keep in touch with the incredible physicists I've met and continue to help them with the exciting work they're doing to develop medical physics training programs, gain official recognition of medical physics as a health care profession, and implement regulations and monitoring so that the regulations are followed," said Wilson.

"The drive and perseverance to push towards better, safer, and more accessible treatments here is just incredible and inspiring. At the very least, it's something that I will always remember and that will definitely help me as I move forward with my work away from Croatia. If they can keep working towards a better tomorrow in Croatia when faced with so much opposition from the strangest places, surely I can overcome whatever I'm faced with."

Article From: The Pursuit, 2014 Official Magazine of the LSU College of Science

http://issuu.com/djenkins1/ docs/the\_pursuit-2014/20 "The drive and perseverance to push towards better, safer, and more accessible treatments here is just incredible and inspiring."



Lydia Wilson