

Timothy P. Szczykutowicz

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OBJECTIVE	Graduate with a PhD in Medical Physics enabling a career as a diagnostic imaging physicist. I hope to apply my technical image reconstruction and imaging physics knowledge towards improving patient care in a clinical/research setting.	
RESEARCH INTERESTS	X-ray Computed Tomography, focusing on intensity modulated CT, reconstruction algorithms and spectral CT applications	
EDUCATION	University at Buffalo , Buffalo, New York USA B.Sc., Physics June 2008 <ul style="list-style-type: none">• <i>Summa cum Laude</i>• Minor in Mathematics University at Wisconsin Madison , Madison, Wisconsin USA M.Sc., Medical Physics (CAMPEP Approved) May 2010 Phd Student, Medical Physics July 2008-present <ul style="list-style-type: none">• Working under the direction of Dr. Charles Mistretta• Working under the direction of Dr. Guang-Hong Chen	
AWARDS	University at Buffalo Physics Department Sekula Scholarship 2006-7 Grace W. Capen Womens Club Academic Award 2006 Dean's List 2004-8 Phi Beta Kappa Inducted 2008 Society of Physics Students Leadership Scholarship 2007 Boy Scouts Of America Eagle Scout 2004	
CLINICAL EXPERIENCE	Department of Human Oncology University of Wisconsin Madison TomoTherapy patient specific quality assurance Spring 2010-Summer 2011 <ul style="list-style-type: none">• Responsible for planning, shooting, and analyzing patient quality assurance plans on a weekly basis. Department of Medical Physics University of Wisconsin Madison Received CAMPEP approved didactic training in radiation therapy and medical imaging quality assurance methods 2008-present	
TEACHING EXPERIENCE	University at Buffalo , Buffalo, New York USA Tutor -University Learning Center September 2006 to May 2008 <ul style="list-style-type: none">• Tutored algebra, pre-calculus, and calculus• Worked approximately 12 hours a week both one on one and with small groups. Teacher -Physics and Arts Summer Institute Summer 2006 <ul style="list-style-type: none">• Taught special relativity and assisted in designing and building interactive displays, posters and simple particle detectors.	

- PEER REVIEWED PUBLICATIONS J Tang, P Thériault-Lauzier, Z Qi, **TP Szczykutowicz** and G-H Chen. A Consistency Theorem for X-ray CT Projection Data Measured for Moving Objects: Theory and Practical Implications. *IEEE Transactions on Medical Imaging* (Under review)
- TP Szczykutowicz** and G-H Chen. Dual Energy CT using Slow kVp Switching Acquisition and Prior Image Constrained Compressed Sensing (PICCS). *Physics in Medicine and Biology* **55** 6411 [Link]
- G-H Chen, J Tang, B Nett, Z Qi, S Leng and **TP Szczykutowicz**. Prior Image Constrained Compressed Sensing (PICCS) and Applications in X-ray Computed Tomography. *Current Medical Imaging Reviews* **6** 119-134 2010 [Link]
- CONFERENCE PRESENTATIONS WITH PROCEEDINGS J Tang, Z Qi, **TP Szczykutowicz**, and G-H Chen. New consistency theorem of motion contaminated projection data and applications in motion artifacts correction (Talk). *SPIE* 8313-50 2012. (In press)
- TP Szczykutowicz** and MC Mistretta. Practical considerations for intensity modulated CT (Poster). *SPIE* 8313-161 2012. (In press)
- TP Szczykutowicz**, Z Qi and G-H Chen. A simple image based method for obtaining electron density and atomic number in dual energy CT (Poster). *SPIE* 7961-3A 2011. [Link]
- TP Szczykutowicz** and G-H Chen. Spectral CT imaging using a slow kVp switching technique and PICCS image reconstruction (Talk). *The first international conference on image formation in x-ray computed tomography* 2010. [Link]
- TP Szczykutowicz**, J Hsieh and G-H Chen. The dependence of image quality on the number of high and low kVp projections in dual energy CT using the prior image constrained compressed sensing (PICCS) algorithm (Talk). *SPIE* 7622-72 2010. [Link]
- CONFERENCE PRESENTATIONS **TP Szczykutowicz** and G-H Chen. Radiation Dose Reduction in Dual-energy CT Using PICCS Reconstruction (Talk). *RSNA*. 2011. SSM20-03
- G-H. Chen and **TP Szczykutowicz**(delivered by TPS). Prior Image Constrained Compressed Sensing (PICCS): Basics and Applications (Invited Talk). *Algorithm Development for Security Applications Conference*. Oct. 5-6 2010. [Link]
- TP Szczykutowicz**, J. Tang, B. Nett, J. Hsieh and G-H. Chen. Dose Reduction in Dual-Energy CT Using Prior Image Constrained Compressed Sensing (PICCS) (Talk). *RSNA*. 2009. SSM20-04
- TP Szczykutowicz**, A Kuhls-Gilcrist, D Bednarek and S. Rudin. Instrumentation Noise Equivalent Exposure (INEE) for Routine Quality Assurance: INEE Measurements On a Clinical Flat Panel Detector (Talk). *Medical Physics*. **35**, 2879 2008. MO-E-332-7 [Link]
- TP Szczykutowicz**, S Rudin, G Yadava, V Patel, C Ionita, K Hoffmann and D Bednarek. Effect of Threshold Setting on 3D Visualization and Diameter Measurement Accuracy of Blood Vessels for CT Derived Images (Poster). *Medical Physics*. **34**, 2366-2367 2007. SU-FF-I-126 [Link]
- OTHER PRESENTATIONS **TP Szczykutowicz**, L Balogh, and W Lesniak. Interactions of PAMAM Dendrimers with Bovine Serum Albumin at Physiologic pH Values. *Roswell Park Cancer Institute Summer Research Symposium*. August 6-9 2007

TECHNICAL SKILLS Programming: Proficient (C++, MatlabTM), Familiar (UNIX shell scripting, CUDA (GPU programming), Linux, HTML) Applications: Tomotherapy DQA TPS and DQA analyzing software, L^AT_EX, B_IB_TE_X, Imagej, Microsoft Office, and other common productivity packages for Windows

ACTIVITIES AND MEMBERSHIPS

Radiological Society of North America **Member in Training 2010-present**
 Society of Photographic Instrumentation Engineers **2010-present**
 American Physical Society **2006-present**
 American Association of Medical Physicists **2008-present**
 Dane County Libertarian Party **Chairman 2009-2011**
 Assistant Boy Scout Leader for Troop 2 Madison, WI **2008-2010**
 Society of Physics Students (Buffalo) **2004-6, President 2006-08**

- Organized lectures, trips and projects. Acted as a liaison between physics majors and the physics department.
- Involved with the 2005-6 World Year of Physics project at UB where I assisted in designing and building an interactive physics display case.

Outdoor Adventure Club **Trip Organizer 2006-08**
 Assistant Boy Scout Leader for Troop 254 Grand Island, NY **2003-08**

- Merit badge counselor for Nuclear Science and Wilderness Survival

Grand Island, NY political party committee (elected position) **2006-7**
 Webmaster for the Boston Mud Run **2005-present**

- Race proceeds go towards medical emergency helicopter airlifts.

American Cancer Society Relay for Life **Team Captain 2004-6**

- Organized 15 team members and was responsible for over \$500 in fundraising money each year.