

# Derek M. Tishler

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- CONTACT INFORMATION**      Address available on request.      mobile: +1 305 304 9645  
Orlando, Florida 32817      e-mail: dtishler@knights.ucf.edu
- RESEARCH INTERESTS**      Radiation oncology, Monte Carlo dosimetry & treatment planning, proton/electron radiosurgery, visualization of medical data.
- EDUCATION**      **University of Central Florida**, Orlando, Florida, USA  
*Physics B.S.*      **August 2008 – present**  
  - Expected graduation: May 2012
  - Advisor: Professor Brian P. Tonner*Valencia College, Math (A.A.)*      **January 2007 – May 2008**
- PUBLICATIONS**      Rahul Rao, Derek Tishler, Jyoti Katoch, and Masa Ishigami, "Multiphonon Raman Scattering in Graphene", *Physical Review B*, 84 113406, 2011  
Rahul Rao, Ramakrishna Podila, Ryuichi Tsuchikawa, Jyoti Katoch, Derek Tishler, Apparao M. Rao, and Masa Ishigami, "Effects of Layer Stacking on the Combination Raman Modes in Graphene", *ACS Nano.*, nn1031017, 2011.
- POSTERS**      Brian P. Tonner, Derek Tishler, and Dustin Morley, "Evaluation of Inverse-Compton scattering Gamma-ray Sources for Clinical Use in Radiotherapy", 2011.
- OPEN-SOURCE**      Derek M. Tishler, Brian P. Tonner, "G4 Dose Viewer Plugin", 2011.  
Written in Python, the G4dose plugin allows Dicompyler, a radiation therapy research platform, to generate a DICOM-RT file used in viewing isodose contours resulting from GAMOS or GEANT4 Monte Carlo medical simulations.
- PROFESSIONAL EXPERIENCE**      **University of Central Florida**, Orlando, Florida, USA  
*Undergraduate Research -Computational/Medical Physics*      **May 2011 – present**  
Advisor: Professor Brian P. Tonner  
Involves investigation of high-energy particle beams for use in radiation therapy:  
  - Improve & validate Monte Carlo simulations of proton therapy using GAMOS(GEANT4).
  - Investigate Particle Induced X-ray Emission(PIXE) from Au fiducial markers in proton therapy.
  - Characterization of dose distributions from an Inverse-Compton Scattering Gamma-Ray source using Monte Carlo simulation.
  - Develop visualization methods and automatic beam configuration for proton therapy of patient CT phantoms in GAMOS(GEANT4).*Undergraduate Research - Nano/Material Physics*      **April 2009 – September 2010**  
Advisor: Assistant Professor Masahiro Ishigami  
This project involved fabrication of graphene through mechanical exfoliation of graphite. Lab work included such activities as analysis with micro-Raman spectroscopy, analysis with atomic force microscopy, and collaboration with federal labs.
- PROGRAMMING**      C, C++, C#, Java, OpenGL, Python, L<sup>A</sup>T<sub>E</sub>X, PHP, SQL, Unix.
- REFEREES**      Available on request.