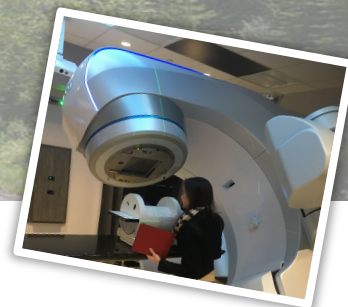


PHAmily Update

December 2019



A newsletter celebrating student success around PHAS!

Publications

Taylor Cameron, “Using Mutual Information to Determine Geoeffectiveness of Solar Wind Phase Fronts with Different Front Orientations”, *Journal of Geophysical Research: Space Physics*, February 2019

Yangyang Shen, “e-POP and Red Line Optical Observations of Alfvénic Auroras”, *Journal of Geophysical Research: Space Physics*, May 2019

Svetlana Kuznetsova, “Dosimetric and Radiobiological Impact of Abdominal Compression on Adjacent Gastro-Intestinal Critical Structures for Patients Treated with Upper and Mid Abdominal Stereotactic Body Radiotherapy”, *Journal of Radiosurgery and SBRT*, April 2019

Taylor Cameron, “Using a Numerical MHD Model to Improve Solar Wind Time-Shifting”, *Space Weather*, April 2019

Omid Khajehdehi, “Ti-rich TiO₂ Tubular Nanolettuces by Electrochemical Anodization for All-Solid-State High-Rate Supercapacitor Devices”, *ChemSusChem*, July 2019

Sourabh Kumar, “Towards Long-Distance Quantum Networks with Superconducting Processors and Optical Links”, *Quantum Science and Technology*, July 2019

Yadong Wu, “Efficient Verification of Bosonic Quantum Channels via Benchmarking”, *New Journal of Physics*, July 2019

Davor Curic, “High-Dimension Experimental Tomography of a Path-Encoded Photon Quantum State”, *Photonics Research*, July 2019

Davor Curic, “Experimental Simultaneous Readout of the Real and Imaginary Parts of the Weak Value”, Physical Review A, September 2019

Anna Ordog, Becky Booth, “Faraday Rotation of Extended Emission as a Probe of the Large Scale Magnetic Field”, Galaxies, March 2019

Lingyue Sun, “Dosimetric Effect of Body Contour Changes for Prostate and Head and Neck Volumetric Modulated Arc Therapy Plans”, Journal of Applied Clinical Medical Physics, March 2019

Devin Van Elburg, “Towards a Second-Generation PET/MR Insert with Enhanced Timing and Count Rate Performance”, Physics in Medicine & Biology, April 2019

Thomas Mann, “Development and Clinical Implementation of Eclipse Scripting-Based Automated Patient-Specific Collision Avoidance Software”, Journal of Applied Clinical Medical Physics, July 2019

Amy Frederick, “A Framework for Clinical Validation of Automatic Contour Propagation: Standardizing Geometric and Dosimetric Evaluation”, Practical Radiation Oncology, July 2019

Eric Grono, “Constraining the Source Regions of Pulsating Auroras”, Geophysical Research Letters, August 2019

Isaura Oliver, “Quantifying the Variability in Resting-State Networks”, Entropy, September 2019

Svetlana Kuznetsova, “Structure Guided Deformable Image Registration for Treatment Planning CT and post Stereotactic Body Radiation Therapy (SBRT) Primovist® (Gd-EOB-DTPA) Enhanced MRI”, Journal of Applied Clinical Medical Physics, December 2019

Sarah Weppeler, “Data Clustering to Select Clinically-Relevant Test Cases for Algorithm Benchmarking and Characterization”, Physics in Medicine and Biology, Accepted

Defences

Mehrnoosh Tahani, “The Large-Scale Structure of Magnetic Fields Associated with Filamentary Molecular Clouds”, PhD, January 2019

Jiawei Ji, “The Hubbard Model for Universal Quantum Computation”, MSc, January 2019

Victoria Foss, “Molecular Ions in Ion Upflows and their Effect on Hot Atomic Oxygen Production”, MSc, January 2019

Andres Felipe Zambrano Moreno, “Magnitude Correlations and Criticality in a Self-Similar Model of Seismicity”, MSc, February 2019

Masoud Habibi Davijani, “Continuous-Variable Ramp Quantum Secret Sharing with Gaussian States and Operations”, MSc, February 2019

Daniel Korchinski, “The Universal Critical Dynamics of Noisy Neurons”, MSc, April 2019

Chris Healey, “Nanophotonic Devices for Nonlinear Optomechanics”, PhD, May 2019

Candice Quinn, “Examining Surface Effects on the Swarm Satellite Langmuir Probes”, MSc, June 2019

Steven Nich, “Optically Stimulated Luminescence Dosimetry in Permanent Breast Seed Implant Brachytherapy: a Monte Carlo Approach”, MSc, July 2019

Mark Derksen, “Ice Nucleation: Sulfate and Its Influence in Arctic and Rural and Urban NW Continental Precipitation”, MSc, July 2019

Joseph Hickey, “A Complex Systems Study of Social Hierarchies and Jurisprudence”, PhD, August 2019

Taylor Cameron, “Planar Structures in the Solar Wind and Their Effect on the Magnetosphere”, PhD, September 2019

Alex Cameron, “Quantum Phase Characterization via Entanglement Scaling in Fermionic Quantum Wires”, MSc, September 2019

Jake Flowerdew, “Optimising Ion Transport in a Thermal Ionisation Mass Spectrometer and Plasma Ion Source Using Monte Carlo Simulations”, MSc, September 2019

Yangyang Shen, “Microphysics of Ion and Electron Energization in the Topside Ionosphere”, PhD, October 2019

Prathwiraj Umesh, “Measurement-Device-Independent Quantum Key Distribution for Metropolitan Network”, MSc, October 2019

Matthew Mitchell, “Coherent Cavity Optomechanics in Wide-Band Gap Materials”, PhD, October 2019

Yadong Wu, “Verifiable Relativistic Quantum Communication”, PhD, November 2019

Arina Tashchilina, “Two-mode Squeezing in a Cold Atomic Ensemble”, PhD, November 2019

Eric Grono, “Differentiating Diffuse Aurora”, PhD, December 2019

Pamela Freeman, “The Development of a Modern Correlator for the DRAO Synthesis Telescope”, MSc, December 2019

David Lake, PhD, December 2019

Hamza Qureshi, MSc, December 2019

Isaura Oliver I Alabau, “Variability in Resting-State Brain Networks”, PhD, December 2019

Upcoming DGA Events

Fifth Annual PHAS Symposium – February 19, 2020

Please let the DGA know about your and your group's future successes!