Thank you to the 2016-2017 JSA Graduate Fellowship for supporting my research on the Heavy Photon Search (HPS) experiment. This Fellowship enabled me to share preliminary results from our first experimental run in 2015 and to complete my analysis searching for heavy photons with displaced vertices at Jefferson Lab.

During the 2016-2017 term, I optimized and completed my analysis laying the groundwork for future displaced vertex searches for heavy photons. This research is currently being incorporated into the first results publication from the HPS experiment and composed the bulk of my thesis. I completed and defended my thesis on June 23, 2017 at Old Dominion University.

My previous calibration and simulation studies on the HPS electromagnetic calorimeter were essential to the experiment and were published in “The HPS electromagnetic calorimeter” in Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 854, February 2017. Additionally, my work on the HPS beamline was published in “The Heavy Photon Search beamline and its performance” in Nuclear Instruments and Methods in Physics Research Section A: Accelerators Spectrometers Detectors and Associated Equipment 859, December 2016.

Through my involvement in HPS, I was asked to present a talk at the 2017 User’s Group Meeting about Heavy Photon Searches at Jefferson Lab. This talk led to my first official invited talk to be given on the same topic at the SESAPS Meeting in November, 2017. Through the JSA Fellowship, I gave a contributed talk “Heavy Photon Search Run and Results Update” at the Division of Nuclear Physics conference in Vancouver in October, 2016 on behalf of the HPS collaboration. During this year, I contributed heavily to the HPS Collaboration meetings as our focus was to obtain our first official physics results from the 2015 run. Furthermore, the JSA Fellowship enabled me to directly work with my HPS collaborators at INFN-Genoa to improve HPS calorimeter calibrations for future running.