

Professional Development Grant Final Report

October 2015 deadline

“Travel to and Registration for the 2015 Joint Frontiers in Optics / Laser
Science Meeting”

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Restatement of professional enhancement opportunity:

The purpose of this project was to travel to San Jose, CA and attend the Joint Frontiers in Optics and Laser Science (FiO/LS) conference. Dr. Young presented a paper titled "Intra-Cavity Generation of Laguerre-Gauss Laser Beams via a High-Loss Mask." The type of laser beams studied (e.g. Laguerre-Gauss beams) are of current interest for use in optical communications due to their ability to carry more information than other beams. The main objective of the research was to prove that a circular high-loss mask inserted in the HeNe laser cavity would produce pure Laguerre-Gauss ("donut") modes.

Review of the professional enhancement opportunity:

Dr. Young's primary research interest is fundamental laser physics. The annual FiO/LS is the primary meeting of the year for laser physicists. The opportunity to attend and present research at this conference was an invaluable professional experience. A few new research ideas were created as a result of discussions that occurred during the conference. Additionally, Dr. Young was made aware of summer research opportunities for physics students at the University of Arkansas (UA), one ATU student spent the summer at the UA as an outcome.

Summary of experience:

As a presenter at FiO/LS, Dr. Young received valuable feedback on her research. Other conference attendees' input and ideas related to the research project lead to Dr. Young's next research topic. As an attendee, Dr. Young benefited from attending other talks and keynote speeches as well as participating in networking opportunities. Dr. Young was also able to participate in a physics teachers workshop that took place during one of the evenings of the conference.

Conclusions:

Dr. Young is grateful to the Professional Development Grant committee for approving her use of funding and allowing her to present and participate in the premier laser and optics research conference of the year. Participating in the 2015 FiO/LS meeting proved to be a beneficial experience not only for coming up with new and improved laser physics research ideas but also exposure to physics education research.

Copy of conference nametag:

