Professional Development Grant Final Report

“Travel to and Registration for the 2018 Joint Frontiers in Optics / Laser Science Meeting”

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Restatement of professional enhancement opportunity:

The purpose of this proposal was to request funds to travel to Washington, DC for the joint Frontiers in Optics and Laser Science (FiO/LS) conference that is co-sponsored by the American Physical Society and the Optical Society of America.

Dr. Young presented a paper titled entitled "Polarization Properties of Generalized-Gauss Laser Beams". The type of laser beams studied (e.g. Generalized-Gauss beams) are of current interest for use in optical communications due to their increased data density compared to fundamental Gaussian beams. The main objective of the research project presented was to show how the intensity profile of a linearly polarized Generalized-Gauss beam changes with propagation.

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.

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 has led to ideas for Dr. Young’s next research projects. As an attendee, Dr. Young benefited from attending other talks and keynote speeches as well as participating in networking opportunities. During the conference, Dr. Young made arrangements for a collaboration with a researcher from the University of Arkansas that has agreed to (and is currently working on) complete the experimental verification the results of the theory she presented at this conference. This collaboration is very important because the equipment required to verify the theory is beyond the capabilities of Dr. Young’s current equipment at ATU. It is very likely this collaboration will result in at least one journal article.

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 2018 FiO/LS meeting proved to be a beneficial experience not only realizing new and improved laser physics research ideas but also exposure to optical physics education research.
Proof of attendance:
Name badge

Abstract in the conference program