

## Orthodontic Faculty Development Fellowship Award

### Dr. Ghada Nimeri, *Marquette University School of Dentistry*

Dr. Ghada Nimeri, is an assistant professor in Orthodontics at the Marquette University School of Dentistry. She completed her orthodontic residency at the University of Alabama, Birmingham, in 2016, and obtained a Dental degree and PhD at the Karolinska Institute in Sweden. Over the course of her studies, her research interests were related to cellular mechanisms and their interaction with foreign surfaces, which has resulted in the publication of several articles in peer-reviewed journals. This interdisciplinary research has been the seed for her current research, which focuses on the cellular mechanism of PDL cells exposed to a low-level laser light source and the characterization of different wavelengths and intensities.



The purpose of this study is to characterize the optimized effects of a low-level laser on human periodontal ligament cells by comparing the molecular effect of different wavelengths, intensities and durations of low-level laser irradiation. The biological effects to be investigated include the proliferation rate of PDL cells, collagen production, and the expression of inflammatory mediators (e.g. interleukin IL-1, matrix metalloproteinase (MMP)). AAOF funding is important to this project because, unlike most awards that require a heavy amount of preliminary data, it allows a junior researcher such as herself to get her laboratory off the ground with an exciting and novel new project that might be seen as too risky to fund coming from a researcher with little independent research experience.

In regard to education, she will benefit from this award by having the opportunity to get the appropriate training necessary to be an effective educator. This will be achieved by taking courses both in specialized techniques such as the course offered by the Tweed Foundation, and professional development courses offered by Marquette University in utilizing teaching tools and best practices for effective teaching. These skills will be applied in orthodontic courses for both graduate and post graduate levels.

This generous Albert P. Westfall Memorial Teaching Fellowship Award from AAOF will make it possible for her to develop a research focus that allows her to build on past experience and knowledge as well as contributing to the development and application of new knowledge and discovery in orthodontics. Her ultimate goal is to become an independent, funded, and well-published researcher at the cutting-edge of cellular and molecular research. This fellowship will propel her career forward as she moves through the junior faculty stage, and will facilitate her development in teaching, research, professional development and clinical applications. These steps will perfectly prepare her for a long and productive career as an independent scholar.