

## Biomedical Research Award

### Dr. Lucia Cevidanes, *University of Michigan School of Dentistry*

Dr. Lucia Cevidanes has been a faculty in the Department of Orthodontics at the University of Michigan School of Dentistry, since July 2011. She was previously a faculty in the Department of Orthodontics at the UNC School of Dentistry. Dr. Cevidanes completed specialty training in 1994 and received her PhD in 2003. She is a Diplomate of the American Board of Orthodontics.



Her research interests include 3D imaging to solve difficult clinical problems in orthodontics, with particular interest in health and disease of the Temporomandibular Joints. She currently studies 3D outcomes of treatment approaches, including treatment for craniofacial anomalies and dentofacial deformities. Dr. Cevidanes has both predoctoral and graduate clinical and didactic teaching responsibilities, serving as course director for six Orthodontic courses. She is the Predoctoral Orthodontic Clinic Director and sees her own patients in the faculty associates practice on Wednesday mornings.

Dr. Cevidanes has published over 100 scientific papers on 3D imaging since 2003. Her work has been recognized by the American Association of Orthodontics Graber Award in 2005, the B F Dewel Award in 2006 for the best clinical papers in the AJODO, the American Academy of Oral and Maxillofacial Radiology Wuhermann Award in 2011, and the 2014 American Association of Orthodontics Millo Helman Research Award. Her work has been funded by K23, R03, R21 and R01 awards from NIH and Faculty Development and Biomedical Research awards (BRA) from the American Association of Orthodontics Foundation. In this BRA, Dr. Cevidanes proposes systematic phenotyping of temporomandibular joint osteoarthritis (TMJOA) through the Data Storage Computation and Integration web-based system. This web-based system decentralizes powerful algorithms in a deep learning neural network that integrates imaging, clinical and biological markers. Orthodontists will benefit from identification of comprehensive phenotypes of TMJ OA that allow cost-effective early diagnosis and personalized treatment strategies to be developed and targeted. The proposed web-based integrative system will have wide applications to management of other health problems.

The AAOF has provided broad and exciting new frontiers for translational research in the field of TMJ health and disease. The AAOF awards have supported my career development providing necessary funding towards preliminary data for NIH submissions. This Biomedical Research Award will lead to continued investigations to better understand bone repair and remodeling in the TMJ.