

## Biomedical Research Award

### Dr. Phimon Atsawasuwan, *University of Illinois Chicago*

#### Biography:

Dr. Phimon Atsawasuwan received his D.D.S. and M.Sc. in Periodontics from Mahidol University, Thailand, and M.Sc. in Periodontology from Eastman Dental Institute, University College London, United Kingdom. He then received his Ph.D. in Oral Biology from the University of North Carolina at Chapel Hill and his M.S. and a certificate in Orthodontics from the University of Illinois Chicago. Right after graduating, he was a diplomate American Board of Orthodontics and joined the department of Orthodontics, University of Illinois at Chicago, as a full-time faculty. He was awarded the Thomas M. Graber award of Special Merit from AAO for his M.S. thesis. He has published over fifty original articles in several peer-reviewed orthodontic journals and case reports in *AJO-DO*, *Angle Orthodontist*, and *JCO*. He is an active member of the Eastern component, the Angle Society of Orthodontists. His research interests include cellular and molecular mechanisms of craniofacial anomalies and disorders, cellular and epigenetic control mechanisms of orthodontic tooth movement, and periodontal and bone remodeling.



#### Synopsis of the project

This project is proposed to investigate the role of microRNA-145 in osteocytes during orthodontic tooth movement using *in vitro* and *in vivo* models. Osteocytes are critical during orthodontic tooth movement because these cells act as mechanoreceptors in bones and are a major source of receptor activator of nuclear factor kappa-B ligand (RANKL), a critical osteoclast differentiating factor. If microRNA-145 plays a significant role in osteocyte cellular function, it would be a valuable tool for clinical orthodontic treatment.

With the generous Biomedical Research Award funding from AAOF, he will be able to conduct experiments and obtain some preliminary results for an application for extramural funding from the NIH. The ultimate career goal of Dr. Atsawasuwan is to be an independent investigator and renowned orthodontic educator.