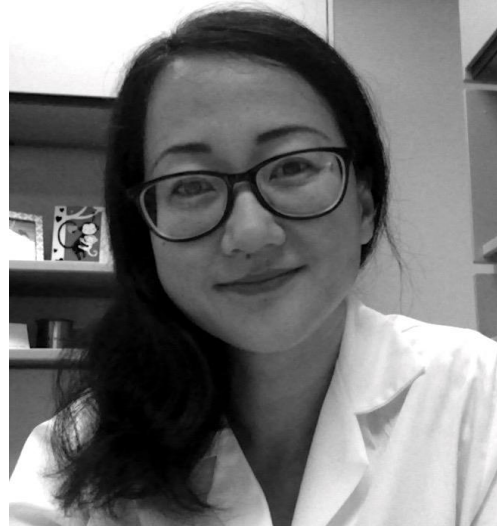


Orthodontic Faculty Development Fellowship Award

Dr. Wei Huang, Rutgers School of Dental Medicine

Biography

Dr. Wei Huang is currently an Assistant Professor at Rutgers School of Dental Medicine. She received her D.D.S. (equivalent) and M.S. in orthodontics from School of Stomatology, Peking University in China. Then she went on to study bone mechano-transduction and vascular biology and received her Ph.D. in Biological Sciences in Dental Medicine from Harvard University. Following her postdoctoral research training at Harvard, Dr. Huang did her orthodontic residency training again and obtained her M.S.D. from Indiana University. She is currently a diplomate of the American Board of Orthodontics and is engaged in many interesting research topics such as accelerated orthodontics, posterior open bite and innovative clinical product designs.



Description of the Project

Long treatment time is a major disadvantage of orthodontic treatment that drives the cost up and out of reach for many families. It also easily shuts the door to many adult patients with its prolonged undesirable social and professional impacts. This translational research proposal plans to develop a drug/carrier complex that can be injected into the jaw to temporarily induce weak bones. The weakened jawbone will allow teeth to move much faster during orthodontic treatment and thereby significantly shorten orthodontic treatment time. The weak bone-inducing effect of the drug will be sustained for up to six months through a slow-release mechanism of a drug carrier using the latest nanotechnologies in drug delivery.

How Orthodontic Education Will Benefit from the Award

Accelerated orthodontics using the fundamental molecular mechanisms underlying bone biology is still in the infant stage in orthodontics. However, clinical procedures such as periodontally accelerated osteogenic orthodontics have shown the significant impact a weakened bone (induced by surgery) can have on the rate of orthodontic tooth movement. This award will offer the investigators a great chance to further investigate this regional acceleratory phenomenon at a translational level using the molecular tools. It will ultimately help advance the field of accelerated orthodontics and propel a groundbreaking leap both in the clinical practice and the orthodontic education aspects.

Why the Foundation is Important to the Project

The foundations' funding is extremely important to support this project for me, as a junior faculty member, to generate the initial preliminary data. The preliminary data will be used for further investigations and future funding applications.

How Foundation Funding Might Help Advance Your Career

One of the biggest reasons that I chose an academic career is my interest in translational research. The AAOF's funding is crucial to help me with a jump start in my research pursuit as a junior faculty member, which will ultimately support my career development as an academic orthodontic educator and researcher.