

## Orthodontic Faculty Development Fellowship Award

### Dr. Tingxi Wu, *The State University of New York at Buffalo*

Dr. Tingxi Wu is an Assistant Professor in Orthodontic department at the State University of New York at Buffalo. Dr. Wu obtained her DDS degree from West China School of Stomatology, Sichuan University. Following her DDS training, she received Oral Biology PhD degree and Certificate in Orthodontics from University of California, Los Angeles.



Dr. Wu has been using multidisciplinary approaches to study oral microbial pathogenesis with a specific focus on microbial biofilm, inter-species interaction and signal transduction. Meanwhile, she is actively involved in translational and clinic research, including management of complications in orthodontic treatment and development of preventive and therapeutic tools against orthodontic-related oral infectious diseases. In addition, she also teaches in postgraduate program as well as mentors residents and dental students.

The research project supported by the fellowship award will explore oral microbiome associated with orthodontic complications. It is well known that orthodontic treatment may lead to several microbial associated diseases, such as white spot lesions, gingival inflammation. The high prevalence of these negative consequences has been attracting more and more attention. While most current studies are mainly on the contribution of quantity of the plaque around the brackets to the problem, Dr. Wu is aiming to use microbiome techniques to explore how the quality of the plaque (microbial composition) may contribute to the problem. In particular, oral microbiome changes before and after having braces placed will be analyzed in correlation with the possible negative health outcomes. The research will help expand microbiological knowledge in orthodontic patients; aid in management of orthodontic related infectious oral diseases; and also support research training for post-graduate orthodontic education.

The support from American Association of Orthodontists Foundation (AAOF) for this project is critical for Dr. Wu to develop a competitive research program aimed at obtaining NIH grants; the establishment of a well-structured education, teaching and clinical practice plan to pursue her tenure track academic career in orthodontics.