

Student Spotlight: Feng Cheng, China University of Geosciences

[Feng Cheng](#) is currently a 2nd year PhD student at China University of Geosciences' Institute of Geophysics and Geomatics, where he researches the near-surface applications of passive seismic methods. Geophysics has always had a strong appeal to Feng, which led him to concentrate on physics while attending high school. During his undergraduate degree, Feng discovered that he preferred near-surface to solid-earth geophysics because of the wide ranging real world applications and relative ease of testing and verifying methods. Feng's dedication to academic and research excellence are apparent, having been awarded the Liuguangding Geophysics Scholarship (highest award for undergraduates in geophysics) and being a two-time winner of a national PhD scholarship for research performance.



Recent work by Feng has been focused on developing and testing new methodologies for seismic hazard assessment in large urban areas. To solve problems posed by traditional seismic methods in complex urban environments, [Feng et al. 2016](#) introduces a hybrid method of seismic interferometry and road-side passive multi-channel analysis of surface waves (MASW), called multi-channel analysis of passive surface waves (MAPS). This study found that MAPS was superior to road-side passive MASW based on three factors: (1) validity of azimuth detection, (2) feasibility of combining active MASW and MAPS, and (3) accuracy in determining dispersion energy trends at a low frequency range in urban areas. This work, and work from others in his research group has led to the development of several software packages, including [AmbiSeis©](#). AmbiSeis© is a powerful tool for passive surface wave processing and includes other dispersion analysis methods such as Refraction Microtremor (ReMi), Spatial Auto-Correlation (SPAC) and MAPS.

Feng has been a member of AGU since 2015 and has presented work at the [2015](#) and [2016](#) Fall Meetings. The 2015 Fall Meeting was particularly beneficial for him because the constructive criticism he received during the meeting contributed to his publication in [Geophysics](#). More generally, the AGU Fall Meetings are important to him because they encourage scientific curiosity and personal/professional development through a strong sense of community and acceptance. Feng describes the Fall Meeting as akin to a large family party where old and new friends gather from all over the world; he particularly enjoys catching up with his friends and colleagues over a cold beer.

Although still considering his post-graduation plans, Feng is interested in further pursuing his research at a post-doctoral position in the United States.

For more information about near-surface applications of passive seismic methods or AmbiSeis© software, please contact Feng Cheng (marscfeng@cug.edu.cn).

Interested in being highlighted, or know a student who should be? Please email [Matthew Sirianni](#) for more information about the Student Spotlight. We are also seeking research highlights that showcase use of near-surface geophysics in other [AGU sections and focus groups](#). If you are interested in writing a short, one-page highlight, please contact [Chi Zhang](#).