# Xiaofei Chen

**CHINA**

Dr. Xiaofei Chen, born in northeastern China in 1958, is currently a Professor in the University of Science and Technology of China (USTC), and holds the chair of Changjiang Distinguished Professorship of Ministry of Education, China since 2000. He gained a Bachelor degree in geophysics from the USTC in 1981, and a Master of Science in geophysics from the Institute of Geophysics of China Earthquake Administration in 1985 under supervision of Prof. Yun-tai Chen. From 1986-1991, he studied for PhD degree in seismology with Prof. Keiiti Aki in University of Southern California (USC) in USA. After getting his PhD degree, he spent five years in USC as a research associate to continuously conduct seismological research with Prof. Aki. During 1996-2008, he worked with the Peking University in China as a Professor. Since 2008, he moved to the USTC. Dr. Chen is a member of the China Association for Science and Technology; Vice Presidents of China Geophysical Society (2021-) and China Seismological Society (2010- ), respectively; Vice Chairman of IASPEI-China National Committee (2009- ), and member of IUGG-China National Committee (2009- ). He also is an Editor of Geophysical Journal International (2008- ), and associate Editor in-Chief of Earthquake Science. He was selected as the Distinguished Young Scientist by the National Science Foundation of China in 1996, and won the Prize for Scientific and Technological Progress (winner of the Award for Earth Science) in 2009 awarded by the Ho Leung Ho LEE Foundation, a NPO based in Hong Kong.

Dr. Chen has authored more than 100 articles on peer-reviewed scientific journals. His research interests involve theoretical analysis and numerical modelling of seismic wave's propagation and earthquake rupture dynamics, and their applications to mitigating seismic hazards. In the realm of seismic waves, he developed several practical algorithms for computing the seismic wave propagation in complex media, including the boundary element method (BEM), boundary integral equation method (BIEM) and hybrid with discrete wavenumber method. In recent years, he developed a more efficient and flexible 3D seismic wave modeling algorithm by using collocated-grid finite-difference method on curvilinear grids (CG-FDM), which might reshape the classic finite-difference method by the applicability to non-planar surface. It will contribute to not only the understanding of the nature of seismic waves in 3D complex media, but also the wide applications in quantitative estimation of seismic hazard, exploiting the Earth's interior structure, as well as the prospecting of fossil energy. In the study of earthquake dynamics, he has pioneered the solution of rupture dynamics in half-space by developing a half-space BIEM, and first time elucidated that the influence of the Earth's surface, a mechanical free-surface, is an important cause for super-shear rupture. Recently, he developed an effective algorithm to simulate earthquake rupture on non-planar faults, which makes it practicable to quantitatively characterize the rupture propagation of branched, kinked and discontinuous faults, and advances our understanding on the physics of earthquakes. These progresses in both realms of seismic waves and earthquake rupture lay solid foundation for quantitatively assessing seismic hazards.