

Geotechnical Engineering

Expertise	Numerical Modeling, Software Development, Geotechnical Engineering
Education	Ph.D. (Civil & Environmental Engineering), 2006 University of California, Davis M.Eng.(Hydraulic Structure Engineering), 2000 B.Eng. (Hydraulic Structure Engineering), 1997 Wuhan University, China
Registrations	Licensed Professional Engineer in Civil Engineering, State of California
Professional Affiliations	American Society of Civil Engineers
Professional Experience	
2011 - Present	<i>Itasca Consulting Group, Inc., Minneapolis, Minnesota Software & Geomechanics Engineer</i>
2010 - 2011	<i>Shenzhen Graduate School of HIT, Shenzhen, China Associate Advisor</i>
2007-2010	<i>Earth Mechanics Inc., Oakland, California Geotechnical Staff Engineer</i>
2002-2006	<i>University of California, Davis, California Graduate Student Researcher</i>
2000-2002	<i>Shanghai Jiao Tong University, Shanghai Postgraduate Researcher</i>

Project Experience

Geotechnical Engineering and Seismic Retrofits: Determination of seismic design parameters, seismic site-response analysis, liquefaction potential analysis, soil-structure interaction analyses, and provision of geotechnical recommendations for the retrofit of California's Glen Park and Church Street MUNI/BART stations. Geotechnical investigations to characterize subsurface soil conditions, liquefaction analysis for California's Dumbarton and Antioch Bridge Seismic Retrofit sites, downdrag and lateral spreading analysis for some piers, assisting in the evaluation of ground motion criteria and foundation characterization for the seismic response of the bridges based on 1993 USGS seismic source model and Next Generation Attenuation model. Pushover analysis for typical piers considering nonlinear p-y, t-z, q-u springs using finite-element models to evaluate lateral displacement demands and provide load-deformation behaviors using performance-based design methods. Complex damping effect analysis on permanent foundation displacements. Drivability analysis for construction support and dynamic pile-driving tests using PDA system during construction of the new San Francisco-Oakland Bay Bridge east-span replacement. Generation of artificial spectrum-compatible time histories, seismic site-response analysis using the 2D finite-

element method by SASSI and soil-structure-interaction analysis using the 3D finite-element method by ADINA. Seismic caisson foundation designs for the main span considering soil nonlinearity and soil-caisson interface gapping effect, and providing structure engineers depth-varying time histories and deformation-compatible spring parameters for the South Park Bridge replacement. Liquefaction analyses and ARS curve design for highway bridge foundations, performing 2D/3D finite-element analysis using PLAXIS and ADINA to evaluate the impact of the bridge foundation construction for California Interstate Highway 405 to the buried pipeline nearby.

Numerical Analysis Research: Study of p-version adaptive finite element analysis sponsored by National Natural Science Foundation of China. Study and modeling for liquefaction, fluid and porous media coupling, and soil-structure interaction sponsored by National Science Foundation and Pacific Earthquake Engineering Research Center. Study of effects of soil improvement (including jet grouting and mass mixing) on the lateral resistance of weak soil for a research project sponsored by National Cooperative Highway Research Program.

Software Development and Support: Provide *FLAC3D* technical support and development.