



CORE COMPETENCIES

X-Elastica is a specialized consulting firm based in Boulder, Colorado, that focuses on finite element analysis of complex concrete and reinforced concrete structures using advanced nonlinear methodologies. We specialize in alkali-aggregate reaction (AAR) analysis, nonlinear dynamic analysis, probabilistic failure analysis, and related structural engineering challenges.

Our primary focus areas encompass concrete dams, nuclear containment structures, bridges, and buildings. With strong academic foundations, our analytical tools and methodologies have undergone rigorous validation through peer-reviewed publications in leading engineering journals. We concentrate exclusively on complex structural problems that exceed the capabilities of standard commercial software packages, providing clients with cutting-edge solutions for their most challenging engineering projects.

PAST PERFORMANCE

Company	Founder's Background and Legacy Projects
<ul style="list-style-type: none">• Bureau of Reclamation (Denver)• KGS Group (Canada)• Korea National University (S. Korea)• GEMTEC (Canada)• Cervenka Consulting	<ul style="list-style-type: none">• Oak Ridge National Laboratory• Nuclear Regulatory Commission• Bureau of Reclamation• EPRI, Electric Power Research Institute• US Army Corps of Engineers• TEPCO, Tokyo Electric Power Company

Dr. Victor E. Saouma, founder of X-Elastica, brings over four decades of expertise in structural engineering and mechanics, developed through a distinguished academic career as Professor of Civil Engineering at the University of Colorado Boulder. His internationally recognized research has focused on the structural integrity of concrete infrastructure, fracture mechanics, and the effects of chemical degradation processes such as Alkali-Aggregate Reaction (AAR).

This body of work continues to inform the technical rigor and innovation applied by X-Elastica, ensuring that each engagement is grounded in a deep understanding of structural behavior, risk, and resilience.

DIFFERENTIATOR

COMPANY DATA

<p>Specialized Expertise Beyond Commercial Software</p> <ul style="list-style-type: none">• Capability to solve complex problems that exceed standard commercial code limitations• Advanced nonlinear analysis techniques not available in off-the-shelf software <p>Niche Technical Specializations</p> <ul style="list-style-type: none">• Alkali-Aggregate Reaction (AAR) analysis expertise - a rare specialization• Probabilistic failure analysis capabilities• Advanced nonlinear dynamic analysis for critical infrastructure	<p>X-Elastica, LLC DBA: X-Elastica Structural Consulting"</p> <p>Cage Code: Size Standard: SB-Small Business Unique Entity ID: XZ2BJA3TKSZ4 CAGE iD: 115H8</p> <p>Service Area: International PSC Codes: R425</p>
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