

Exponent®
Engineering & Scientific Consulting

Kofi Inkabi, Ph.D.

Principal | Civil and Structural Engineering
Oakland
+1-510-268-5057 | kinkabi@exponent.com

Professional Profile

Dr. Inkabi has over 10 years of experience specializing in the risk assessment and management of infrastructure systems with a particular emphasis on human and organizational factors. He has completed a full range of risk and reliability studies including uncertainty and risk analyses of natural gas pipelines, vulnerability assessments of flood control and power transmission systems, and the evaluation of high reliability management practices (nuclear power industry).

Dr. Inkabi also worked on the development of engineering quality metrics, including safety, resilience, and sustainability. In addition, he participated in the National Science Foundation sponsored investigation of the New Orleans flood defense system following Hurricane Katrina in 2005.

Dr. Inkabi has experience consulting on pipeline safety and integrity management issues to gas transmission and distribution companies, including a large gas utility company with its implementation plan to validate the Maximum Allowable Operating Pressure (MAOP) and modernize records for its gas transmission lines. He has performed formal apparent cause evaluations (ACE) and root cause analyses (RCA) in response to gas safety and reliability events.

Academic Credentials & Professional Honors

Ph.D., Civil and Environmental Engineering, University of California, Berkeley, 2009

M.S., Civil and Environmental Engineering, University of California, Berkeley, 2000

B.S., Civil and Environmental Engineering, University of California, Davis, 1999

Chi Epsilon Civil Engineering Honor Society

Sigma Xi International Research Honor Society

The National Academies Christine Mirazyan Science and Technology Policy Fellowship

UC Berkeley Civil and Environmental Engineering Graduate Student Fellowship

UC Berkeley College of Engineering Graduate Fellowship

UC Berkeley Outstanding Graduate Student Instructor Award

Associated General Contractors of America President's Scholarship

© 2026 Exponent, Inc. All Rights Reserved

Academic Appointments

Post Doctoral Research Fellow, Center for Catastrophic Risk Mgt, UC Berkeley, 2009-2010

Doctoral Research Fellow, Center for Catastrophic Risk Mgt, UC Berkeley, 2005-2009

Graduate Student Researcher, Civil & Environmental Engineering, UC Berkeley, 2002-2009

Graduate Student Instructor, Civil & Environmental Engineering, UC Berkeley, 2004-2007

Student Intern, Pacific Earthquake Engineering Research Center, UC Berkeley, 1998

Prior Experience

Structural Design Engineer, Parsons Brinckerhoff Quade & Douglas, 1999-2001

Student Aide/Civil Engineer, California Department of Transportation, 1997

Professional Affiliations

American Society of Mechanical Engineers—ASME

Center for Catastrophic Risk Management—CCRM

Publications

de Corn H, Inkabi KS, Bea RG. Sherman Island Pilot Project No. 2: A method to account for human intervention in the probability of failure computation. UCB/RESIN Report, Center for Catastrophic Risk Management, University of California, Berkeley, CA, 2010.

Inkabi KS, Roberts KH, Navarro A, Bea RG. Transitioning quality to encompass resilience and sustainability: Sherman Island and the Sacramento-San Joaquin Bay Delta. UCB/RESIN Report, Center for Catastrophic Risk Management, University of California, Berkeley, CA, 2010.

Inkabi KS. Complex infrastructure system reliability analysis. Ph.D. Dissertation, University of California, Berkeley, 2009.

Inkabi KS, Bea RG. Application of RAM methods in the structural reliability assessment of corroded offshore pipelines. 23rd International Conference on Offshore Mechanics and Arctic Engineering, ASME, Vancouver, British Columbia, Canada, 2004.

Inkabi KS, Bea RG. Burst verification study of corroded line-pipe. 23rd International Conference on Offshore Mechanics and Arctic Engineering, ASME, Vancouver, British Columbia, Canada, 2004.

Seed RB, Bea RG, et al. Investigation of the performance of the New Orleans flood protection systems in Hurricane Katrina on August 29, 2005. National Science Foundation Research Report, University of California, Berkeley, 2006.

Farber DA, Bea RG, Roberts KH, Wenk E, Inkabi KS. Reinventing flood control. Tulane Law Review 2007; 81(4).

Presentations

Inkabi KS. Lessons from failures of engineered systems. Lecture, Occupational Biomechanics (Ergonomics), UC Berkeley and UC San Francisco, Berkeley, CA, 2010.

Bea RG, Inkabi KS. Managing resilience and sustainability of interconnected, interdependent, and interactive critical infrastructure. Presentation, National Science Foundation - Virginia Tech Resilient and Sustainable Critical Infrastructures Workshop, Alexandria, VA, 2009.

Inkabi KS, Bea RG, Radke J, Roberts KH, Foster H, Tierney KJ. Assessing and managing failure vulnerabilities of interdependent complex infrastructure systems. Poster presentation, 2009 National Science Foundation Emerging Frontiers in Research and Innovation (EFRI) Grantees Conference, Honolulu, HI, 2009.

Inkabi KS, Cheung C, Bea RG. Complex infrastructure risk assessment and management: Resilience and sustainability of critical infrastructure systems in the Sacramento - San Joaquin Delta Region. Poster presentation, Society of American Military Engineers California Post Water Conference, Sacramento, CA, 2009.

Project Experience

Directed a review of a Stage 3 pipeline risk analysis in Marysville, California. Reviewed a site-specific risk analysis of two natural gas pipelines to a nearby school site, including proposed mitigation measures.

Performed human factors focused vulnerability evaluation of the Electric Reliability Council of Texas' transmission system. This project consisted of building a conceptual infrastructure and human performance models, defining quality metrics, estimating error rates, and lastly partnering with Los Alamos National Laboratory to conduct an advanced Monte Carlo simulation of the ERCOT system to understand the potential affect repair crews and control room operators have on serviceability and resilience.

Evaluated burst limit state models for corroded oil and natural gas steel pipelines. For this project, 153 experimental and in-service pipeline failures were complied, evaluated and verified in order to estimate the epistemic uncertainty and overall suitability various industrial and academic internal pressure limit state models for corroded line pipe reliability evaluations.