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Engineering & Scientific Consulting

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Professional Profile

Dr. Tal Feinstein specializes in civil and structural engineering, with particular expertise in earthquake and bridge engineering. Her expertise extends to investigating structure failures, construction defects, design errors and code compliance issues, spanning both domestic and international disputes. Dr. Feinstein also has experience evaluating the engineering standard of care for large-scale energy and infrastructure projects, having authored or co-authored numerous expert reports for use in dispute resolution.

Dr. Feinstein leverages her structural design background in her forensic investigations of concrete, steel, and timber structures and bridges. Her forensic investigations capabilities include identifying the contributing causes of structural failures through comprehensive site inspections, material assessments, accident reconstructions, and code compliance reviews.

Dr. Feinstein's academic experience includes a variety of structural laboratory testing methods, incorporating quasi-static cyclic testing and large-scale shake-table testing. She received her PhD at the University of California at Berkeley, where she developed nonlinear analysis methods to evaluate flexible-rocking structures under seismic loading, focusing on seismic design of anchored floor-mounted components and including shaking table testing in California and Taiwan. Her Masters thesis from Ben Gurion University investigated pipe-soil interaction based on large deformation analysis. Before going back to school to earn her PhD, she has worked as a structural design engineer on steel and concrete buildings and bridges at Rokach & Ashkenazi Consulting Engineers, LTD.

Dr. Feinstein served as an adjunct professor at San Francisco State University, where she taught a graduate level course on bridge design. She is also past-chair of the Seismology Committee of Structural Engineering Association of Northern California (SEAONC) and corresponding member of the Provisions Update Committee. Dr. Feinstein actively participates in the Earthquake Engineering Research Institute (EERI), including acting as a board member of the Northern California chapter and participating in the 2019 Learning from Earthquakes Travel Study Program in New Zealand.

Academic Credentials & Professional Honors

Ph.D., Civil Engineering, University of California, Berkeley, 2021

M.S., Mechanical Engineering, Ben Gurion University, 2016

B.S., Structural Engineering, Ben Gurion University, 2014

Licenses and Certifications

Professional Engineer, California, #94832

Professional Engineer, Connecticut, ##PEN.0038389

Professional Engineer, Michigan, #6201313242

Professional Engineer, New York, #112425

Prior Experience

Adjunct Professor, Bridge Design Graduate Class, San Francisco State University, 2023-2024

Structural Design Engineer, Rokach & Ashkenazi consulting engineers LTD, Israel, 2014-2015

Research officer and team leader, Israel Intelligence Force, 2005-2010

Professional Affiliations

American Society of Civil Engineers (ASCE)

Structural Engineers Association of California (SEAOC)

Earthquake Engineering Research Institute (EERI)

Provisions Update Committee (PUC) for the 2026 NEHRP (Corresponding Member)

Journal of Structural Engineering and Journal of Earthquake Engineering (Reviewer)

Publications

Dilsiz A, Gunay S, Mosalam K, Miranda E, Arteta C, Sezen H, Fischer E, Hakhamaneshi M, Hassan W, ALhawamdeh B, Andrus S, Archbold J, Arslanturkoglu S, BEKTAS N, Ceferino L, Cohen J, Duran B, Erazo K, Faraone G, Feinstein T, Gautam R, Gupta A, Haj Ismail S, Jana A, Javadinasab Hormozabad S, Kasalanati A, Kenawy M, Khalil Z, Liou I, Marinkovic M, Martin A, Merino-Peña Y, Mivehchi M, Moya L, Pájaro Miranda C, quintero N, Rivera J, Romão X, Lopez Ruiz M, Sorosh S, Vargas L, Velani P, Wibowo H, Xu S, YILMAZ T, Alam M, Holtzer G, Kijewski-Correa T, Robertson I, Roueche D, Safiey A (2023). "StEER: 2023 Mw 7.8 Kahramanmaras, Türkiye Earthquake Sequence Preliminary Virtual Reconnaissance Report (PVRR)." PRJ-3824, 2023

Feinstein, T. Moehle, J.P. (2022) "Seismic response of nonstructural components fastened with yielding elements", Journal of Structural Engineering. [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0003496](https://doi.org/10.1061/(ASCE)ST.1943-541X.0003496).

Feinstein, T, Moehle, JP. Seismic response of floor-anchored nonstructural components fastened with yielding elements. Earthquake Engng Struct Dyn. 2021; 1– 19. <https://doi.org/10.1002/eqe.3553>

Feinstein T, Moehle J.P., Mahin S.A. (2018). Anchored nonstructural component response to seismic loading - shaking table tests report. Pacific Earthquake Engineering Research (PEER) Center, University of California, Berkeley, SEMM, 5.

Feinstein, T. Moehle, J. (2021) "Shaking-Table tests of idealized nonstructural component fastened with yielding elements", in Experimental Seismic Performance of Nonstructural Components Fastened with Ductile Elements. DesignSafe-CI. <https://doi.org/10.17603/ds2-xg94-ds51>

Feinstein T, Jack P. Moehle. (2020). Experimental Seismic Performance of Nonstructural Components Fastened with Ductile Elements, Proceedings of the 17th World Conference on Earthquake Engineering, Sendai, Japan.

Feinstein T, Jack P. Moehle. (2019). Dynamic Behavior of Anchored Nonstructural Component Connected Via Yielding Elements, Proceedings of the International Conference in Commemoration of 20th Anniversary of the 1999 Chi-Chi Earthquake, Taipei, Taiwan.

Feinstein T, Mahin S. (2018). Experimental Performance of Floor Mounted Nonstructural Components Under Seismic Loading. Proceedings of the 11th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Los Angeles, CA, USA.

Feinstein T, Mahin S. (2018). Shake Table Tests to Evaluate Seismic Performance of Floor Mounted Nonstructural Components. Proceedings of the 16th European Conference on Earthquake Engineering, Thessaloniki, Greece.

Trapper, P.A., Feinstein, T. and Gindis, M., Numerical Modelling of Submarine Landslides and Their Consequences on Offshore Infrastructure. In AAPG Geoscience Technology Workshop.

Invited Seminars

SFSU Invited Seminar – “Seismic Performance of Floor-Mounted Nonstructural Components”, San Francisco State University, November 2021

SEAONC Seismology Committee - “Seismic Behavior of Anchored Equipment”, Structural Engineers Association of North California Seismology Committee meeting, October 2021

ASCE/SEI SF Webinar - “Nonstructural Components' Influence on Seismic Force Demand and Dynamic Response”, Structural Engineering Institute San Francisco, September 2021

OSU EERI Invited Talk - "Dynamic response of Anchored Equipment connected via ductile connections", University of Oregon State, February 2021

International Symposium on Construction, Strengthening of Structures and Seismic Engineering - "Research into Seismic Demands on Floor-Anchored Nonstructural Components", Simposio Internacional de Construcción, Refuerzo de Estructuras e Ingeniería Sísmica, Santiago, Chile, October 2020

NHERI/E-Defense research collaboration meeting Seminar - "Recommendations for Improved Seismic Performance of Nonstructural Components", Kobe, Japan, December 2019

NHERI/E-Defense research collaboration meeting - "Nonstructural components Collaboration Ideas", Tokyo, Japan, November 2017

National Cheng-Kung University seminar series - "Seismic Behavior of Anchored Equipment", Tainan, Taiwan, November 2017

Conference Presentations

17WCEE – “Experimental Seismic Performance of Nonstructural Components Fastened with Ductile Elements”, 17th World Conference on Earthquake Engineering, Sendai, Japan, September 2021

NEC2020 - "Lessons from the 2019 LFE program focused on socioeconomic aspects of community engagement", NEC2020 & EERI Annual Meeting, San Diego, CA, March 2020

Chichi20 - "Dynamic Behavior of Anchored Nonstructural Component Connected Via Yielding Elements", International Conference in Commemoration of 20th Anniversary of the 1999 Chi-Chi Earthquake, Taipei, Taiwan, September 2019

11NCEE - "Experimental Performance of Floor Mounted Nonstructural Components Under Seismic Loading", 11 National Conference on Earthquake Engineering, Los Angeles, CA, June 2018

16ECEEE - "Shake Table Tests to Evaluate Seismic Performance of Floor Mounted Nonstructural Components", 16 European Conference on Earthquake Engineering, Thessaloniki, Greece, June 2018

Project Experience

Design and Construction Disputes

- Bridge and Tunnel Expansion: Led a multidisciplinary review of design evolution from tender through detailed design, identifying the drivers of scope changes and assessing their impact during design and construction
- Bridge Rehabilitation and Redesign: Evaluated the rehabilitation and modification of an existing bridge, including pier removal for portal widening. The review addressed existing conditions, design revisions, phased construction, and temporary structural supports.
- Transit and Rail Infrastructure: Supported comprehensive reviews of underground, elevated, and at-grade transit stations, assessing design development from tender to construction and addressing constructability challenges encountered on site.
- Industrial and Power Facilities: Analyzed structural design changes for combined-cycle power plants and industrial facilities, reviewing tender compliance with technical requirements and design modifications made during detailed design and construction.
- Commercial Development: Led the analysis of design revisions during the construction of a large mall project, evaluating the basis of design changes and their implications for cost, schedule, and constructability.
- High-Rise Residential: Analyzed vertical slab offsets in a high-rise concrete building through survey data analysis, structural analysis, and examination of construction procedures including shoring, reshoring, and concrete strength gain.

Structural Failures

- High-Rise Building Collapse: Investigated a high-rise concrete building's collapse caused by seismic activity, analyzing its design, modeling, and code compliance.
- Roof Collapses in Low-Rise Buildings: Assessed causes of partial and full roof failures from high winds, ponding water, and snow buildup.
- Bridge Collapse: Conducted comprehensive analyses and assessments of the factors contributing to the failure of steel bridges.

Additional Education & Training

NHERI RAPID Intensive Equipment Training Workshop, 2021

Learning from Earthquakes Study Program in New Zealand, 2019

ATC- 20 Post-Earthquake Safety Assessment of Buildings Training