

EDUCATION:

Eng.Sc. Doctorate..... Civil Engineering and Engineering Mechanics. Columbia University, October 1986.
Master of Science..... Civil Engineering and Engineering Mechanics. Columbia University, May 1983.
Bachelor of Science.... Mechanical Engineering. Columbia University, May 1981.

ACADEMIC EXPERIENCE:

- **09/2013 – Present: Lecturer in Civil Engineering, Columbia University, New York, NY.**
 - *Advanced Design of Concrete Structures*
 - *Design of Prestressed Concrete*
 - *Structural Design Projects*
 - *Computer Aided Structural Design*
 - *Structural (Steel and Concrete) Design*
 - *Structural Analysis*
 - *Senior Design Projects*
 - *Advanced Analysis and Design of Structures*
- **09/2014 – 05/2017: Adjunct Professor of Civil Engineering, The Cooper Union, New York, NY.**
 - *Structural Stability*
 - *Structural Dynamics*
 - *Advanced Steel Design*
 - *Advanced Concrete Design*
 - *Design of Prestressed Concrete*
 - *Engineering Mechanics*
- **01/98 – 05/2017: Adjunct Professor of Civil Engineering, Stevens Institute of Technology, Hoboken, NJ.**
 - *Finite Element Method*
 - *Structural Dynamics*
 - *Advanced Steel Design*
 - *Advanced Reinforced Concrete*
 - *Geotechnical Design*
 - *Theory of Plates and Shells*
 - *Geotechnical Engineering (Soil Mechanics)*
- **09/90 – 06/91: Instructor of Civil Engineering, City College, the City University of New York.**
 - *Mechanics of Solids.*
- **09/87 – 9/90: Assistant Professor of Mechanical Engineering, Manhattan College, Riverdale, NY.**
 - *Theory of Elasticity*
 - *Machine Design*
 - *Automation and Control*
 - *Mechanics of Solids*
 - *Kinematics of Mechanisms*
 - *Statics and Dynamics*
 - *Computer-Aided-Design*
 - *Engineering Mathematics*

INDUSTRIAL EXPERIENCE:

- **07/91 – 05/18: Principal Engineer, Power Engineers (Burns and Roe Enterprises), Oradell, NJ.**
 - *B&W mPower Project*

Standard Plant Design of new generation compact 125 MW nuclear station. Three-dimensional soil-structure interaction analysis of underground nuclear island. Development of ground motion synthetic time history from high frequency CEUS design spectra, and NRC 1.60. Generation of floor response spectra (ISRS).
 - *Cooper Nuclear Station - Analytical review for the Reactor Building Crane Upgrade*

Re-rate analysis of Cooper Nuclear Station Reactor Building, due to increase in refueling crane capacity. Reactor building integrity evaluated for load combinations including tornado, seismic (transient dynamic), and lifted load.
 - *Con Edison “Hurricane Analysis of Station Stacks”*

Structural qualification of existing station stacks (concrete, brick, steel) to Hurricane Category 3 wind forces, and to impact forces caused by a small aircraft crash (Cirrus SR22). ASCE 7, ACI 318, ACI 530, ASME–STS-1, ACI 307, DOE 3014.
 - *National Enrichment Facility (NEF), Lea County, NM*

Seismic soil-structure interaction analysis of NEF buildings. Calculation of ISRS for qualification of safety related items (IROFS), in accordance with ASCE 4, ASCE 43. Software: SHAKE91, CARES, SASSI2000. Developed Visual Basic code to automate the generation of broadened ISRS.

➤ *Accelerator Production of Tritium, DOE, Savannah River Site*

Seismic analysis of reinforced concrete building, including 3-D soil-structure interaction effects. Calculation of strained (iterated) soil properties using SHAKE91. Convolution and deconvolution of input motion. Developed Visual Basic codes to determine 3-dimensional seismic response of 1-mile long underground accelerator tunnel subjected to multiple support accelerations (dynamic condensation, ground influence matrix and Newmark modal time integration).

➤ *Cryofracture Incineration Demonstration Plant, US Army Corps of Engineers, Pueblo, Co.*

Seismic time history analysis of reinforced concrete/steel building. Transient dynamic analysis of hydraulic press to withstand accidental blast and impulse loads. Design of explosion containment room by Yield Line theory.

➤ *River Road Generating Project, Washington State*

Analysis and design of 250 MW single shaft, in-line gas turbine/steam turbine/generator concrete pedestal for normal operation, thermal, seismic and accident conditions. Design of batter and vertical foundation piles.

➤ *Bristol Myers-Squibb, Hopewell, NJ*

Dynamic isolation of two 2000 Hp diesel generator units operating on upper floor of utility building; selection of spring isolators to minimize vibration and reduce transmissibility.

➤ *Korea Power Engineering Co., Hadong, Korea*

Design of 156 m tall reinforced concrete chimney of annular cross-section, per ACI 307, ACI 349, ACI 318, ASCE 7. Development of wind load criteria for exposure D terrain; vortex shedding; along and across wind response; thermal stresses. Development of Visual Basic codes to generate P-M interaction diagram of multicell hollow concrete columns, and for the design of concrete octagonal foundations.

• **03/12 – 04/13: Consulting Engineer, Enercon Corporation, Mt. Arlington, NJ.**

- Design of ISFSI (Independent Spent Fuel Storage Installation) foundation for ANO
- Peer Review Lead Engineer of the Fukushima Seismic Task Force, Entergy North Nuclear Power Plants.
- Vapor Cloud Explosion analysis (BST, MEM models) for Linn Energy gas processing plant.

• **10/10 – 03/12: Consulting Seismic Structural Engineer, URS Corporation, Princeton, NJ.**

- *Mitsubishi Heavy Industries – US Advanced Pressurized Water Reactor, Standard Design of Nuclear Island* Seismic Soil-Structure Interaction (SSI) Analysis of Reactor Building Complex. Nonlinear transient analysis to calculate sliding displacement of reactor building foundation subjected to ground motion acceleration time history. ACI 349, AISC N690, ASCE 4, ASCE 43, AISC 341.

• **10/05 – 03/06: Senior Engineer, Hinman Consulting Engineers, New York, NY.**

- Blast resistant nonlinear analysis and design/retrofit of structures. Calculation of blast pressure and impulse load using TM5-1300. Design of blast-resistant glazing system. Development of Visual Basic code for nonlinear transient dynamic analysis of skeletal structures. Vulnerability assessment per DOD criteria. Progressive collapse analysis.

• **10/86 – 09/87: Systems Engineer. Perkin Elmer Corporation, Danbury, CT.**

- *Strategic Defense Initiative:* Design of flexible, actuator compensated mirrors to minimize optical aberrations. Dynamic analysis of large telescope structures using NASTRAN.

COMPUTER EXPERIENCE:

Mathcad, Matlab, GTSTRUDL, SAP2000, STAADPRO, NASTRAN, SASSI, SHAKE91, STARDYNE, CARES, LPILE, PCA-MATS, PCA-COL, Visual Basic 6.0, FORTRAN, Excel VBA, T_EX.

PROFESSIONAL AFFILIATIONS:

- Registered Professional Engineer in the states of New York and New Jersey.
- Member ASCE, ACI, AISC, ASME.
- ASCE Task Committee on Blast Resistant Design (Energy Division)
- ACI Technical Activity Committee 370 “Blast and Impact Load Effects”
- ACI/ASCE Technical Activity Committee 447 “Finite Element Analysis of Reinforced Concrete Structures”