SUMMARY OF CURRICULUM VITAE

Y. FRANK CHEN, PH.D., P.E., PROFESSOR OF CIVIL ENGINEERING

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Dr. Chen is currently Tenured Professor of The Pennsylvania State University. He obtained his B.S.C.E. degree from Cheng Kung University (Taiwan, 1979), and M.Sc. and Ph.D. degrees from The University of Minnesota (1985 & 1988 respectively), all in civil engineering. His primary research area is *structures*. Dr. Chen specializes in *dynamic soil-structure interaction*, *computational methods*, *limit states design, seismic design and retrofitting*, *condition-based structural assessment*, *resistant design for dynamic loads*, *metal structures*, *bridge engineering*, and *foundation engineering*. He has been the PI or Co-PI for a number of research projects funded by various organizations domestically and internationally. The total research expenditure has surpassed $5 million USD covering more than 30 completed research projects. His publication record includes 130 refereed papers (77 SCI + 49 EI), 33 plus research reports, 1 book and 3 book chapters, and more than 55 graduate theses addressing various structural and geotechnical engineering issues. Dr. Chen's research interests also include the following areas: full/large scale testing, innovative construction materials, smart structural systems, protective technology and structures, sustainable engineering, geo-environmental engineering, and any cutting-edge technology. He also has one patent.

Dr. Chen received a number of awards including Research Award from The Pennsylvania State University, Research Fellow from National Sciences Council/Taiwan (multiple times), Daniel P. Jenny Research Award from Prestressed Concrete Institute (twice), Excellence in Transportation Design/Construction Awards from Pennsylvania Department of Transportation (three times), Outstanding Scholar Award from Central University (Taiwan), Teaching Fellow from The Ministry of Education/Taiwan, Research Fellow from Japan Society for Promotion of Science (twice), Outstanding Alumni Award from Cheng Kung University (Taiwan), Distinguished and International Expert under Shanxi Hundred Talents Program (China), Guest Professor from Central South University (China), Guest Professor from Chang'an University (China), Distinguished Professor from North University of China, Academic Peer from Kyushu University (Japan), Guest Professor from Guizhou Institute of Technology, and Guest Professor from Chongqing University (China).

Dr Chen's teaching experience includes: Undergraduate courses- soil lab., structural analysis, Newtonian mechanics (statics & dynamics), strength of materials, structural steel design, and foundations; Graduate courses- design of metal structures, advanced foundation design, structural design for dynamic loads, earthquake resistant design and retrofitting of highway bridges (developed), bridge design by LRFD method I & II (developed), and finite element analysis. He is also capable of teaching the following courses: mathematical methods in engineering, numerical analysis, vibrations, plastic design, soil dynamics, elasticity theory, structural reliability, and deep foundations. He has a number of graduate students completing the degree requirements under his direct supervision.

Dr. Chen has been actively involved with various technical committees/organizations, including *ASCE Technical Council on Lifeline Earthquake Engineering*, *ASCE Steel Bridge Committee*, *ACI Committee 442* (Response of Concrete Buildings to Lateral Forces), *ACI Committee 341* (Earthquake Resistant Design of Reinforced Concrete Bridges), *Association for Bridge Design & Construction*, and *Advisory Board* for the Center for Bridge Engineering Research at Central University (Taiwan). He is also a regular reviewer for several quality engineering journals and an editor for *Materials Testing* (Germany) and *Journal of Structural Integrity & Maintenance* (UK). He has been frequently invited to give lectures, professional seminars, training courses, short courses, and workshops domestically and internationally. Dr. Chen is a registered professional engineer, a certified bridge inspector, and an active technical consultant to various organizations in the USA and abroad on various projects. He has maintained close connections with the industry and engineering community for more than 20 years. He has also been asked to serve as an expert witness in several occasions.

Dr. Chen's administrative experience includes: Coordinator for the Graduate Programs for Engineering & Sciences at Penn State Harrisburg, Assistant Director for the Center for Bridge Engineering Research at Central University (Taiwan), and Associate Chair for the Civil Engineering Program at Penn State Harrisburg. He has served on a variety of campus committees at various levels of capacity with several of them acting as the chair.

CURRICULUM VITAE- PROFESSOR Y. FRANK CHEN, PH.D., P.E.

BIOGRAPHICAL DATA

Date of Birth: August 25, 1956
Citizenship: U.S. Citizen
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Permanent Address: 1218 Summit Way
Mechanicsburg, PA 17050, USA
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EDUCATION

Ph.D., Civil Engineering (Structures), University of Minnesota (Minneapolis), USA, February 1988.
M.S.., Civil Engineering (Structures), University of Minnesota (Minneapolis), USA, May 1985.
B.S.., Civil Engineering, Cheng Kung University, Taiwan, June 1979.

PROFESSIONAL CAREER

7/2000-Present Tenured Professor
Struc. Des. & Constr. Eng. Technology and Civil Engineering, Penn State Harrisburg, USA
6/2013- Present Distinguished Professor (summer)
Architecture & Civil Engineering, Taiyuan University of Technology, China
8/2004-1/2005 Visiting Professor
Civil Engineering, Cheng Kung University, Taiwan
3/2006-4/2006 Research Fellow
Civil Engineering, The University of Tokyo, Japan
7/1995-6/2000 Tenured Associate Professor
Struc. Des. & Construction Eng. Technology, Penn State Harrisburg, USA
8/1996-1/1997 Visiting Professor
Civil Engineering, Central University, Taiwan
8/1989-6/1995 Assistant Professor
Struc. Des. & Constr. Eng. Technology, Penn State Harrisburg, USA
7/1988-7/1989 Structural/Bridge Engineer
Bakke Kopp Ballou & McFarlin (BKBM) Engineers, Inc., Minneapolis, MN, USA
7/1987-6/1988 Structural/Bridge Engineer
Howard Needles Tammen & Bergendof (HNTB), Inc., Minneapolis, MN, USA
9/1984-6/1987 Structural Engineer
Minnesota Mining and Manufacturing (3M) Company, Saint Paul, MN, USA
10/1981-8/1982 Structural Engineer
Pacific Engineers & Contractors Limited, Taipei, Taiwan
8/1979-7/1980 Instructor
Civil Engineering, Feng Chia Univ., Taiwan

ADMINISTRATIVE EXPERIENCE

1/2008- 6/2013Associate Chair, Civil Engineering, Penn State Harrisburg, USA
5/2000-8/2000 Coordinator, Graduate Program in Engineering & Science, Penn State Harrisburg, USA
8/1996-1/1997 Assist. Dir., Center for Bridge Eng. Research, Central Univ., Taiwan (during sabbatical leave)

PROFESSIONAL AFFILIATIONS

- Professional Engineer, Commonwealth of Pennsylvania, USA
- Certified Bridge Inspector, Pennsylvania Department of Transportation, USA
- Board Director, Association for Bridge Construction and Design (ABCD), Susquehanna Chapter, USA

- Member of the Advisory Board, Center for Bridge Engineering Research, Central University, Taiwan
- Member, American Society of Civil Engineers (ASCE), USA
- Member, American Institute of Steel Construction (AISC), USA
- Member, Prestressed Concrete Institute (PCI), USA
- Member, Japan Society for the Promotion to Science (JSPS), Japan
- Committee Member, ACI Committee 341 "*Earthquake Resistant Design of Reinforced Concrete Bridges*", USA
- Committee Member, ACI Committee 442 "*Response of Concrete Buildings to Lateral Forces*", USA
- Committee Member, ASCE Technical Council on Lifeline Earthquake Engineering, USA
- Committee Member, ASCE Steel Bridge Committee, USA
- Founding Member, Chinese American Professors and Professionals, USA
- Scientific Committee Member, International Association for Jointless Bridges (IAJB), USA
- Editor, Material Testing, Germany
- Editor, Journal Structural Integrity and Maintenance, UK

HONORS

♣ Outstanding Research Award, Penn State Harrisburg, USA, 1993
♣ Research Fellow, National Sciences Council, Taiwan, Summer 1993
♣ Teaching Fellow, The Ministry of Education, Taiwan, Summer 1994
♣ Daniel Jenny Research Award, Prestressed Concrete Institute, Chicago, USA, 1993 & 1995
♣ Excellence in Transportation Design/Construction Award, PennDOT, USA, 1994, 1996 & 2004
♣ Outstanding Scholar, Dept. of Civil Eng., Central University, Taiwan, 1997
♣ Visiting Professor, National Sciences Council, Taiwan, Sep. 2004-Jan. 2005
♣ Research Fellow, Japan Society for the Promotion of Science, Japan, 2006
♣ Panelist, National Science Foundation, USA, 2007
♣ Outstanding Alumni Award, Cheng Kung University, Taiwan, 2010
♣ Guest Professor, Taiyuan University of Science & Technology, China, 2012
♣ Distinguished International Expert, Shanxi Hundred Talents Program, China, 2013
♣ Guest Professor, Central South University, China, 2013
♣ Guest Professor, Chang'an University, China, 2014
♣ Talent Intellect Program, Central South University, China, 2014
♣ Distinguished Professor, North University of China, 2014
♣ Editor, *Materials Testing*, Germany, Nov. 2014
♣ Academic Peer, Kyushu University, Japan, Jan. 2015
♣ Distinguished Professor, Guizhou Institute of Technology, China, 2015
♣ Guest Professor, Chongqing University, China, 2015
♣ Research Fellow, Japan Society for the Promotion of Science, Japan, 2016
♣ Editor, *Journal of Structural Integrity & Maintenance*, UK, May 2016

SPECIALIZATIONS

Conventional and Computer Aided Structural Analysis & Design; Resistant Design for Dynamic Loads (wind, earthquake, impact & blast); Numerical Analysis and Computational Methods; Condition-Based Structural Assessment; Limit States Design (buildings & bridges); Dynamic Soil-Structure Interaction (lifelines, buildings & infrastructures); Vibrations; Foundation Engineering; Innovative Structural Materials & Systems; Geoenvironmental Engineering; Evaluation, Rehabilitation, Retrofitting and Hazard Mitigation for Civil Infrastructures.

OTHER RESEARCH INTERESTS (In no particular order)

■ Seismic Area: Spatially Varying Ground Motion; Seismic induced earth pressure; Isolation Devices & Methods.
■ Innovative Bridge Technologies & Systems
■ Integrated Design and Construction
■ Software Development
■ Structural Stability and Reliability
■ High Performance Steel & High Performance Concrete

■ Performance under Extreme Loading or Environmental Conditions
■ Smart Structures
■ Testing: Nondestructive; Wind Tunnel; Full/Large Scale.
■ Protective Technology and Structures
■ Sustainable/Green engineering
■ Geo-environmental engineering
■ Cutting Edge Technology

PATENTS

Integral Heat Insulation Building System, Patent E04B 1/76.

RESEARCH PROJECTS

Completed (As the PI or Co-PI)

1. Dynamic Soil-Structure Interaction on Bent Reinforced Concrete Lifelines under Earthquakes. Penn State University, Harrisburg, PA, USA, 1989-1990.
2. Seismic Analysis and Design of Bridges- A More Accurate Approach. Ben Franklin Foundation, Harrisburg, PA, USA, 1990-1991.
3. Composite Construction. Engineering Foundation, New York, NY, USA, 1992.
4. Blast Protective Design. Federal Emergency Management Agency (FEMA), Washington, DC, USA, 1992.
5. Lateral Distribution of Vehicle Live Loads. Prestressed Concrete Association (PCA), Allentown, PA, USA, 1992-1993.
6. Vibration Properties of Precast Building Floors. Prestressed Concrete Institute (PCI), Chicago, IL, USA, 1992-1993.
7. Lateral Distribution of Vehicular Live Loads on Bridges with Unequally Spaced Girders. Ben Franklin Foundation, Harrisburg, PA, USA, 1993-1994.
8. Rational Determination of Soil Stiffness Coefficients for Bridge Foundations. Penn State University, Harrisburg, PA, USA, 1993-1994.
9. Effects of Bridge Modeling and Analysis Methods on Seismic Responses. Ben Franklin Foundation, Harrisburg, PA, USA, 1994-1995.
10. Development of Computer Codes for the Analysis and Design of Various Bridge Substructure Systems by LRFD Method. PennDOT, Harrisburg, PA, USA, 1994-1996.
11. Aluminum Bridge Decks - Finite Element Analyses, Experimental Validation, and Development of LRFD Design Criteria. PennDOT, Harrisburg, PA and Reynolds Metal Co., Richmond, VA, USA, 1995-1996.
12. Development of Rational Release Strength Criteria. PCI, Chicago, IL, USA, 1995-1996.
13. Improving Bridge Design Efficiency Using Refined Lateral Load Distribution. PCA, Allentown, PA, USA, 1995-1996.
14. Studies on the Construction Technology of Rock Tunnels: Phase I- Study on Decision Support System for Drill and Blast Technology of Tunnels. Ministry of Transportation & Communications and Taiwan Institute of Technology, Taipei, Taiwan, 1994-1996.
15. Structural Evaluation of Roof Truss Systems. New Holland Manufacturing Co., New Holland, PA, USA, 1996.
16. Investigation of Highway Bridge Design Specifications for Taiwan Area and Feasibility Study of LRFD Bridge Design Code. Sinotech Engineering Research Foundation and Central Univ., Taiwan, 1996-1997.
17. Innovative Bridge Systems. Sinotech Engineering Research Foundation, Taipei, Taiwan, 1996-1997.
18. Fabrication of Steel Structure. American Institute of Steel Construction, (AISC), Chicago, IL and High Steel, Inc., Denver, PA, USA, 1997.
19. Inspection and Evaluation on Nondestructive Bridge Structures. Provincial Highway Bureau and Central Univ., Taiwan, 1996-1999.
20. Development of a Computer Program for Seismic Analysis and Design for Buildings Conforming to the 1997 UBC Code. J&A Inc., Denver, CO, USA, 1999.
21. Shear in Skewed Multi-Beam Bridges: Project 20-7, Task 107. National Cooperative Highway Research Programs (NCHRP), Washington, DC and Modjeski & Masters Inc., Mechanicsburg, PA, USA, 1999-2001.
22. Identification and Prioritization of Research Issues in Transportation Area. PennDOT, Harrisburg, PA, USA, 2002-2004.
23. Pilot Study on Blast Resistant Design for Bridge Structures. Penn State Harrisburg and High Concrete Inc.,

Denver, PA, USA, 2004.
24. Novel Reinforcing Details at Dapped Ends of Double-Tee Beams- Analytical Evaluations and Testing. PCA, Allentown, PA and High Concrete Inc., Denver, PA, USA, 2005.
25. Development of Weight Curves for Various Design Methodologies, High Steel Inc., Denver, PA, USA, 2006- 2007.
26. Engineering Use of Low-Strength Concrete in Highway Construction. PennDOT, Harrisburg, PA and Dawood Engineering Inc., Grantville, PA, USA, 2008-2009.
27. Rapid Design of Prestressed Building Tee Members. PCI, Chicago, IL and High Concrete Inc., Denver, PA, USA, 2008-2009.
28. An Investigation of Tendon Stress Limits for Prestressed Concrete Girders. PCI, Chicago, IL and Gannett Fleming Inc., Camp Hill, PA, USA, 2009-2010.
29. Use of Steel Diaphragms in Prestressed Concrete Bridges. PennDOT, Harrisburg, PA and Navarro & Wright Inc., New Cumberland, PA, USA, 2010-2011.
30. Rational Shear Analysis for Multi-Cellular Concrete Box Sections. PennDOT, Harrisburg, PA and Modjeski & Masters Inc., Mechanicsburg, PA, USA, 2010-2011.
31. Development of More Sustainable Diaphragms for Highway Bridges. PennDOT, Harrisburg, PA and Traffic Planning & Design Inc., Harrisburg, PA, USA, 2012-2014.

Ongoing

- Hundred Talents and 131 Programs. Shanxi Province, China ($416,000)
- Seismic Induced Earth Pressures on Abutments Considering Soil-Foundation-Structure Interactions ($21,000)
- Effects of Various Surface Finishes in Bolted Connections on Structural Damping. Mellott Company, PA ($35,000)
- Optimized Properties of High-Performance Nano Perlite Insulation Material and Its Applications. Bureau of Science, Shanxi Province, China ($33,300).
- Effective and Sustainable Diaphragm Systems for Highway Bridges. Japan Society for the Promotion of Science (JSPS) ($20,000).

PUBLICATIONS

Refereed Journal Papers (All SCI U.N.O.)

1. Krauthammer, T. and Y. Chen. Dynamic soil-structure interaction of rectangular reinforced concrete lifelines, *Eng. Structures*, 8, 181-190 (1986).
2. Krauthammer, T. and Y. Chen. Free field earthquake ground motions: effects of various numerical simulation approaches on dynamic soil-structure interaction results, *Eng. Structures*, 10(2), 85-94 (1988).
3. Krauthammer, T and Y. Chen. Soil-structure interface effects on dynamic concrete lifelines, *Soil Dyn. & Earthq. Eng.*, 8(1), 32-42 (1989).
4. Chen, Y. and T. Krauthammer. A combined ADINA-finite difference approach with substructuring for seismically induced nonlinear soil-structure interaction problems, *Computers & Structures*, 32(3/4), 779-785 (1989).
5. Chen, Y. and T. Krauthammer. Seismic effects on large RC lifelines: Part I. Theory, *Computers & Structures*, 42(2), 129-135 (1992).
6. Chen, Y. and T. Krauthammer. Seismic effects on large RC lifelines: Part II. Implementation, *Computers & Structures*, 42(2), 137-144 (1992).
7. Chen, Y. Modeling and response of lifelines, *Math. & Computer Modeling*, 17(3), 47-56 (1993).
8. Chen, Y. Modeling of large soil-lifeline systems, *Math. Modeling & Sci. Computing*, 2(B), 1131-1136 (1993).
9. Chen, Y. Interface effects on box-type reinforced concrete structures: I. Theory, *Computers & Structures*, 42(3), 383-390 (1993).
10. Chen, Y. Interface effects on box-type reinforced concrete structures: II. Implementation, *Computers & Structures*, 47(3), 391-398 (1993).
11. Chen, Y. On static and dynamic refined analysis of reinforced concrete bridges, *Computers & Structures*, 47(4/5), 601-613 (1993).
12. Chen, Y. and A. Aswad. Vibration characteristics of double tee building floors, *PCI J.*, 39(1), 84-95 (1994).
13. Chen, Y. An effective and efficient seismic analysis approach for bridges, *Math. & Computer Modeling*, 19(2), 79-90 (1994).

14. Chen, Y. Modeling of bridges subjected to moving loads, *Math. Modeling & Sci. Computing*, 4, 567-572 (1994).
15. Chen, Y. A practical nonlinear seismic analysis of bridges, *Math. Modeling & Sci. Computing*, 4, 573-578 (1994).
16. Chen, Y. and I. A. Karaki. Modeling of precast double tee floors subjected to walking vibration, *Math. Modeling & Sci. Computing*, 4, 591-596 (1994).
17. Aswad, A. and Y. Chen. Impact of LRFD Specifications on load distribution of prestressed concrete bridges, *PCI Journal*, 39(5), 78-89 (1994).
18. Chen, Y. Prediction of lateral distribution of vehicular live loads on bridges with unequally spaced girders, *Computer & Structures*, 54(4), 609-620 (1995).
19. Chen, Y. Refined and simplified methods of lateral distribution for bridges with unequally spaced girders: I. Theory, *Computers & Structures*, 55(1), 1-15 (1995).
20. Chen, Y. Refined and simplified methods of lateral distribution for bridges with unequally spaced girders: II. Applications, *Computers & Structures*, 55(1), 17-32 (1995).
21. Chen, Y. Simplified and refined earthquake analyses of buried pipes, *Math. & Computer Modeling*, 21(11), 47-60 (1995).
22. Chen, Y. Live-load distribution factors for bridges with unequally spaced girders: a comparative study, *Modern Steel Construction*, Feb., 24-26 (1995).
23. Chen, Y. Dynamic analysis and response of large reinforced concrete conduits in inhomogeneous soil strata, *Computers & Structures*, 56(2/3), 475-483 (1995).
24. Chen, Y. Modeling and analysis methods of bridges and their effects on seismic responses: I. Theory, *Computers & Structures*, 59(1), 81-98 (1996).
25. Chen, Y. Modeling and analysis methods of bridges and their effects on seismic responses: II. Implementation, *Computers & Structures*, 59(1), 99-114 (1996).
26. Chen, Y. and A. Aswad. Stretching the span capability of prestressed concrete bridges under AASHTO LRFD, *ASCE J. Bridge Eng.*, 1(3), 112-120 (1996).
27. Chen, Y. Assessment on pile effective lengths and their effects on design: I. Theory, *Computers & Structures*, 62(2), 265-286 (1997).
28. Chen, Y. Assessment on pile effective lengths and their effects on design: II. Practical Applications, *Computers & Structures*, 62(2), 287-312 (1997).
29. Chen, Y. Practical formulae for soil spring constants for bridge foundations, *J. Eng. Technology*, 13(2), 20-23 (1996).
30. Chen, Y. Important considerations, guidelines and practical details of integral bridges, *J. Eng. Technology*, 14(l), 16-19 (1997).
31. Chen, Y. and A. Aswad. Discussions on "*Stretching the span capability of prestressed concrete bridges under AASHTO LRFD*", *ASCE J. Bridge Eng*., 2(4), 191-192 (1997).
32. Chen, Y. Explicit calculation of effective lengths for friction piles, *J. Eng. Technology*, 14(2), 14-17 (1997).
33. Chen, Y. Practical analysis and design of MSE walls by LRFD method, *J. Eng. Technology*, 16(1), 8-17 (1999).
34. Chen, Y. Finite element analysis for walking vibration problems for composite precast building floors using ADINA: modeling, simulation, and comparison, *Computers & Structures*, 72, 109-126 (1999).
35. Chen, Y. Distribution of vehicular loads on bridge girders by the FEA using ADINA: modeling, simulation, and Comparison, *Computers & Structures*, 72, 127-139 (1999).
36. Chen, Y. Practical analysis and design of mechanically-stabilized earth walls- I. Design Philosophies and Procedures, *Eng. Structures*, 22(7), 793-808 (2000).
37. Chen, Y. Practical analysis and design of mechanically-stabilized earth walls- II. Design Comparisons and Impact of LRFD Method, *Eng. Structures*, 22, 809-830 (2000).
38. Chen, Y. Close examination of AASHTO dynamic ice forces and their effects on piers. *J. Eng. Technology*, 18(2), 36-44 (2001).
39. Chen, Y. Assessment of the current US seismic displacement requirements for bridges in a low-moderate seismic zone. *Eng. Structures*, 26, 1365-1379 (2004).
40. Hsu, W. T., D. M. Lue, and Y. F. Chen. Design aid for moment strength of built-up crane runway girders, *Intn'l J. Steel Structures*, 12(3), 403-417 (2012).
41. Han, P. J., Y. F. Chen, B. Shen, and D. Y. Du. Experimental investigation on the corrosion mechanism of cemented soils in magnesium sulfate solution. *Materials Testing*, 56(9), 675-680 (2014).

42. Nie, R. S., W. M., Leng, L. M., Wei, and Y. F. Chen. Prediction of lateral behavior of existing bridge pile foundations due to surcharge load, *ASCE Tunneling and Underground Construction*, GSP 242, 458-469 (2014). (EI)
43. Nie, R. S., W. M. Leng, A. H. Wu, F. Q., Li, and Y. F. Chen. Field measurement and analysis of residual stress in bored piles, *J. Hwy. and Transp. Research and Development*, 8(4), 57-62 (2014). (EI)
44. Zhao, L., W. J. Wang, Z. Li, and Y. F. Chen. An experimental study to evaluate the effects of adding glazed hollow beads on the mechanical properties and thermal conductivity of concrete, *Materials Research Innovations*, 19(S5), 929-935 (2015).
45. Han, P. J., Y. F. Chen, C. Ren, and X. H. Bai. Electrochemical impedance spectroscopy of hardened compacted cemented soils at early curing stage, *Materials Testing*, 57(4), 343-348 (2015).
46. Zhao, L., W. J. Wang, Z. Li, and Y. F. Chen. Microstructure and pore fractal dimensions of recycled thermal insulation concrete, *Materials Testing*, 57(4), 349-359 (2015).
47. Han, P. J., S. Wang, Y. F. Chen, and X. H. Bai. Mechanism study on cement-stabilized soil polluted by magnesium sulfate, *J. of Central South Univ.*, 22(May), 1869-1877 (2015).
48. Han, P. J., Y. F. Chen, X. H. Bai, and B. He. Effects of magnesium chloride polluted soils on underground Q235 steel pipelines, *Materials Testing*, 57(10), 850-858 (2015).
49. Han, P. J., Y. Zhang, Y. F. Chen, and X. H. Ba. Interpretation of electrochemical impedance spectroscopy (EIS) circuit model for soils, *J. of Central South Univ.*, 22(Nov), 4318-4328 (2015).
50. Liu, J. S., Y. F. Chen, Y. Ma, and S. Y. Zhang. Condition evaluation of a unique mining site. *Intn'l J. Mining Sci. & Tech.*, 25, 1023-1029 (2015).
51. Han, P. J., C. Ren, X. H. Bai, and Y. F. Chen. Corrosion mechanisms of cemented soils in three different sulfate solutions, *Acta Geoetchnica Slovenica*, 12(2), 77-85 (2015).
52. Dong, X. Q., Z. Song, and Y. F. Chen. Electrical resistivity and strength properties of the sodium hydroxide-contaminated soil solidified with cement, *Materials Testing*, 58(Jan), 82-87 (2016).
53. Liu, Y. J., Y. F. Chen, W. J. Wang, and Z. Li. Bond performance of thermal insulation concrete under freeze-thaw cycles, *Construction and Building Materials*, 104, 116-125 (2016).
54. Qiao, G. F., T.Y. Li, and Y. F. Chen. Assessment and retrofitting solutions for a historical wooden pavilion in China, *Construction and Building Materials*, 105, 435-447 (2016).
55. Zhou, X. H., L. Cao, Y. F. Chen, J. P. Liu, and J. Li. Experimental and analytical studies on the vibration serviceability of pre-stressed cable RC truss floor systems, *J. of Sound and Vibration*, 361, 130-147 (2016).
56. Zhou, X. H., L. Cao, Y. F. Chen, J. P. Liu, and J. Li. Acceleration response of pre-stressed cable RC truss floor system subjected to heel-drop loading, ASCE *J. of Performance of Constructed Facilities*, 30(5), 04016014-1 to 8 (2016).
57. Nie, R. S., Y. F. Chen, W. M. Leng, and Q. Yang. Experimental measurement of dynamic load parameters for pier pile caps of high-speed railway bridges, *J. of Rail and Rapid Transit* (2016) (doi: 10.1177/0954409715622965).
58. Han, P. J., Y. F. Chen, X. H. Bai, and B. He. Corrosive **e**lectrochemical behavior of X70 steel in sands at different electrifying time, *Materials Testing*, 58(4), 319-324 (2016).
59. Nie, R. S., W. M. Leng, Q. Yang, and Y. F. Chen. An improved instrumentation method for PHC piles, *Geotechnical Eng.*, 169(6), 494-508 (2016).
60. Hao, F. M., Y. F. Chen, and J. F. Jiao, Design of pier caps by strut-and-tie model, *China Sciencepaper*, 7(11), 760-764 &771 (2016) (In Chinese). (Non EI/SCI)
61. Liu, K. and Y. F. Chen. Simplified approach for rational determination of seismic induced earth pressure on abutments, *Journal of Taiyuan University of Technology*, 2, 249-253&258 (2016) (In Chinese). (Non EI/SCI)
62. Du, J. and Y. F. Chen. Alternative diaphragms for nonbox-shaped concrete girders, *Industrial Construction*, 46 (Supplement), 178-182 (2016) (In Chinese). (Non EI/SCI)
63. Liu, Y. Z., H. F. Ji, J. G. Zhang, W. J. Wang, and Y. F. Chen. Mechanical properties of thermal insulation concrete with recycled coarse aggregates after elevated temperature exposure, *Materials Testing*, 58(7-8), 669-677 (2016).
64. Wang, C. S., L. Duan, Y. F. Chen, and S. C. Wang. Flexural behavior and ductility of hybrid high performance steel I-girders, *Journal of Constructional Steel Research*, 125, 1-14 (2016).
65. Dai, G. L., M. Su, W. S. Liu, and Y. F. Chen. New Songhua River Bridge: A continuous girder, tied arch, hybrid bridge with four-rail tracks in Harbin, China, *Struct. Eng. International*, 26(3), 254-259 (2016).
66. He, X. H., H. X. Qin, W. S. Liu, Y. F. Chen, J. P. Zhai, and L. Liu. Design, analysis and construction of a steel truss cable-stayed bridge for high-speed railway in China, *Struct. Eng. International* , 26(4), 381-388 (2016).
67. Zhou, X. H., J. P. Liu, X. D. Wang, and Y. F. Chen. Behavior and design of slender circular tubed-reinforced-concrete columns subjected to eccentric compression, *Eng. Structures*, 124, 17-28 (2016).
68. Chen, Y. F., J. S. Liu, and Y. Shi. Retrofitting of a seismically deficient building, *Journal of Structural Integrity*

and Maintenance, 1:3, 107-113 (2016).

69. Zhou, X. H., J. Li, J. P. Liu, and Y. F. Chen. Dynamic performance characteristics of pre-stressed cable RC truss floor system under human-induced loads, *Intn'l J. of Struct. Stability and Dynamics*, 17(4), 1750049-1 to 20, (2017) (doi:10.1142/S0219455417500493).
70. Wu, H. Y., H. G. Lei, and Y. F. Chen. Effects of corrosion on the performance of singly-stepped unsymmetric steel columns under low cyclic loading, Steel Construction, 31(210), 103-111 (2016 (6)) (In Chinese).
71. Liu, Y. Z., W. J. Wang, Y. F. Chen, and H. F. Ji. Residual stress-strain relationship for thermal insulation concrete with recycled aggregate after high temperature exposure, *Construction and Building Materials*, 129, 37-47 (2016).
72. Nie, R. S., W. M. Leng, Q. Yang, Y. F. Chen, and, F. Xu. Comparison and evaluation of railway subgrade quality detection methods, *J. of Rail and Rapid Transit* (doi: 10.1177/0954409716671551).
73. Dai, G.L. M. Su, and Y. F. Chen. Design and construction of simple beam bridges for high-speed rails in China: standardization and industrialization, *The Baltic Journal of Road and Bridge Engineering*,11(4),274-282 (2016).
74. Song, Z. W., Dong, X. Q., W. Zhou, and Y. F. Chen. Electrical resistivity-specific parameters of loess grouted with sodium hydroxide, *Materials Testing*, 59(2), 195-201, 2017 (doi: 10.3139/120.110983).
75. Wang, W. J., Y. Z., Liu, Z. Li, L. Zhao, and Y. F. Chen. Calculation on effective thermal conductivity of recycled aggregate thermal insulation concrete added with glazed hollow beads, *Materials Testing*, (59)2, 202-209, 2017 (doi: 10.3139/120.110982).
76. Chen, Y. F. Rational and practical method for determination of seismic induced earth pressure on non-yielding walls, *Journal of Structural Integrity and Maintenance*, 2(1), 48-59 (2017) (doi: 10.1080/24705314.2017.1280587).
77. Zhang, O. Y. and Y. F. Chen. Study on chloride permeability of recycled concrete after repeated compressive Stress, *Concrete* (In Chinese, Accepted)
78. He, X. H., T. Wu, Y. F. Zou, Y. F. Chen, H. Guo, and Z. H. Yu. Recent development of high-speed railway bridges in China, *Structure and Infrastructure Engineering* (Accepted).
79. Yang, X., H. G. Lei, and Y. F. Chen. Constant amplitude fatigue test research on M20 high strength bolts in grid structure with bolt-sphere joints, *Advances in Structural Engineering* (Accepted).
80. Dai, G. L., H. Ge., M. Su, and Y. F. Chen. Century old covered bridge with cantilever beams in China, *Structural Engineering International* (Accepted).
81. Zhou, X. H., G. Z. Cheng, J. P. Liu, D. Gan, and, Y. F. Chen. Behavior of circular tubed-RC column to RC beam connections under axial compression, *Journal of Constructional Steel Research*. (Accepted).
82. Zhou, X. H., B. Y. Li, D. Gan, J. P. Liu, and Y. F. Chen. Connections between RC beam and square tubed-RC column under axial compression: experiments, *Steel and Composite Structures* (an International Journal) (Accepted).
83. Zhou, X. H., J. P. Liu, J. Li, L. Cao, and Y. F. Chen. Vibration behavior of prestressed cable reinforced concrete truss system caused by jumping and hopping, ASCE *Journal of Performance of Constructed Facilities* (Accepted).

Refereed Conference Proceedings (All EI)

1. Krauthammer, T. and Y. Chen. Dynamic soil-structure interaction for RC lifelines, Proc. ASCE Eng. Mech. Specialty Conf., U. of California, Los Angeles, CA, USA, 559-566 (1986).
2 Krauthammer, T. and Y. Chen. Dynamic response of RC conduits under earthquake conditions, Proc. 8th European Conf. Earthq. Eng, Lisbon, Portugal (1986).
3. Krauthammer, T., R. Stantelman, D. Galey, and Y. Chen. Engineering assessment of historic structures, Proc. ASCE Struct. Congress, New Orleans, LA, USA.
4. Krauthammer, T. and Y. Chen. Interface conditions and their effects on structural response, Proc. ASCE Eng. Mech. Specialty Conf., State U. of New York, Buffalo, NY, USA (1987).
5. Chen, Y. Seismic analysis and design of RC lifelines, Proc. ASCE US Conf Lifeline Earthq Eng., ASCE, U. of California, Los Angeles, CA, USA, 956-965 (1991).
6. Chen, Y. Improved free-field analysis for dynamic medium-structure interaction problems, Proc. MSC/NASTRAN Conf. Finite Element Methods & Technology, Detroit, MI, USA, 1(13), 1-20 (1992).
7. Chen, Y. Dynamic response of reinforced concrete box-type structures, Proc. MSC/NASTRAN Conf. Finite Element Methods & Technology, Detroit, MI, USA, 1(24), 1-20 (1992).
8. Chen, Y. Dynamic response and impedance of foundations, Proc. MSC/NASTRAN Conf. Finite Element Methods & Technology, Detroit, MI, USA, 1(49), 1-20 (1992).
9. Chen, Y. Effects of seismic ground motion on bridge analysis and design, Proc. ASME Pressure Vessels &

Piping Conf., New Orleans, LA, USA, 227, 29-40 (1992).

10. Chen, Y. Some important considerations for seismic analysis and design of bridges, Proc. National Earthq. Conf, Memphis, TN, USA, II, 533-542 (1993).
11. Chen, Y. Transfer functions of lifeline structures, Proc. National Earthq. Conf., Memphis, TN, USA, II, 639-648 (1993).
12. Chen, Y. A refined method for live-load distribution prediction of bridges and comparative study, Proc. MSC/NASTRAN Conf Finite Element Methods & Technology, Arlington, VA, USA, No. 52, 1-20 (1993).
13. Chen, Y. Nonlinear seismic analysis of bridges: practical approach and comparative study, Proc. MSC/NASTRAN Conf. Finite Element Methods &. Technology, Arlington, VA, USA, No. 57, 1-19 (1993).
14. Chen, Y. Transfer functions for bent circular lifelines, Proc. ASME Pressure Vessels & Piping Conf., Denver, CO, USA, 256-1, 77-89 (1993).
15. Chen, Y. Seismic analysis of bridges: simplified or refined approach, Proc. ASCE Struct. Congress, Atlanta, GA, USA, I, 79-84 (1994).
16. Chen, Y. Effects of seismically induced soil-structure interaction on buried pipes: simplified analysis versus refined analysis, Proc. ASME Pressure Vessels & Piping Conf., Minneapolis, MN, USA, 275-1, 93-102 (1994).
17. Chen, Y. Refined analysis for soil-pipe systems, Proc. MSC/NASTRAN Conf. Finite Element Methods Technology, Orlando, FL, USA, Paper 38, 1-19 (1994).
18. Chen, Y. and A. Aswad. Efficient design using refined methods of load distribution for prestressed bridges, Proc. International Bridge Conf., Pittsburgh, PA, USA, Paper 94-33, 1-7 (1994).
19. Chen, Y. Effects of modeling and analysis methods on seismic responses of curved bridges, Proc. ASCE Eng. Mech. Specialty Conf., U. of Colorado, Boulder, CO, USA, 2, 1078-1081 (1995).
20. Chen, Y. and A. Aswad. Refined design of exterior prestressed concrete girders by LRFD, Proc. International Bridge Conf., Pittsburgh, PA, USA, Paper 95-71, 405-410 (1995).
21. Chen, Y. Modeling and prediction of seismic responses on pipes in layered soil medium, Proc. ASME Pressure Vessels & Piping Conf., Honolulu, Hawaii, USA, Vol. 312 (1995).
22. Chen, Y. and T. Krauthammer. Performance of large concrete lifelines under severe earthquakes, Proc. International Conf. Conc. under Severe Cond., Sapporo, Japan, Paper 145, 2, 1481-1490 (1995).
23. Chen, Y. F. Prediction of lateral distribution of vehicular live loads on bridge girders by the refined analysis Method, Proc. 2nd MIT Conf. on Computational Fluid & Solid Mechanics. Cambridge, MA, USA, Vol. 1, 185-191 (2003).
24. Chen, Y. F. Evaluation of AASHTO seismic displacement requirements for bridges exposed to low-moderate Seismicity, Proc. 4th National Conf. and Workshop on Bridges & Highways, Memphis, TN, USA (Feb. 2004).
25. Chen, Y. F. Assessment of AASHTO seismic displacement requirements for bridges located in a low-moderate seismic zone, Proc. 13th World Conf. on Earthq. Eng., Vancouver, Canada, 2004 (Abstract only).
26. Ranck, B. and Y. F. Chen. A comparison of load ratings for existing bridges, Proc. International Bridge Conf., Pittsburgh, PA, USA, Paper IBC-05-27, 1-8 (2005).
27. Chen, Y. F. Vibration characteristics and acceptability of cold-formed steel joists, Proc. 18th International Specialty Conf., Orlando, FL, USA, 253-267 (Oct. 2006).
28. Spencer, J. and Y. F. Chen. Effects of compressive stress limits on prestressed concrete girder design, Proc. PCI Convention & Natn'l Bridge Conf., Grapevine, TX, USA, Paper 49, 1-20 (Oct. 2006).
29. Chen, Y. F., T. Imholte, T. Rowader, and D. Hacker. Engineering use of low-strength concrete in highway construction, Proc. Intn'l Bridge Conf., Pittsburg, PA, USA, Paper 42, 14 pp. (June 2008).
30. Elmore, S and Y. F. Chen. Rapid design of prestressed building tee members, Proc. PCI Convention & Natn'l Bridge Conf., Orlando, FL, USA, Paper 3, 13 pp. (Oct. 2008).
31. Zendek, J. and Y. F. Chen. An Investigation of Tendon Stress Limits for Prestressed Concrete Girders, Proc.PCI Convention & Natn'l Bridge Conf., San Antonio, TX, USA, Paper 6, 20 pp. (Sep. 2009).
32. Chen, Y. F. and P. J. Navarro. Use of steel diaphragms in prestressed concrete bridges, Proc. PCI Convention & Natn'l Bridge Conf. & 3rd fib Intn'l Congress, Washington, DC, USA, 1202-1226(25 pp) (May 2010).
33. Chen, Y. F. and M. J. Borzok. Rational shear analysis for multi-cellular concrete box sections, Proc. PCI Convention & Natn'l Bridge Conf. & 3rd fib Intn'l Congress, Washington, DC, USA, 1326-1338 (May 2010).
34. Nie, R. S., W. M., Leng, L. M., Wei, and Y. F. Chen. Prediction of lateral behavior of existing bridge pile foundations due to surcharge load, Proc. GeoShanghai Intn'l Conf., Shanghai, China, n 242 GSP, 458-469 (May 2014).
35. Chen, Y. F. Design and use of steel diaphragms for highway bridges, Proc. Intn'l Conf. Short-Medium Span Bridges, Alberta, Canada, Paper 188, 188-1 to 188-10 (July 2014).
36. Chen, Y. F. and H. Bui. A comparative study on high performance steel, Proc. Intn'l Conf. Short-Medium Span Bridges, Alberta, Canada, Paper 165, 165-1 to 165-6 (July 2014).
37. Snyder, M. D. and Y. F. Chen. More sustainable diaphragms for highway bridges, Proc. Intn'l Conf.

Short-Medium Span Bridges, Alberta, Canada, Paper 109, 109-1to 109-11 (July 2014).

38. Zhao, L., W. Wang, Z. Li, and Y. F. Chen. An experimental study to evaluate the effects of adding glazed hollow beads on the mechanical properties and thermal conductivity of concrete, Proc. 3rd Global Conf. Material Sci. & Eng., Shanghai, China, 12 pp. (Oct. 2014).
39. Chen, Y. F. Alternative diaphragms for box-shaped concrete girders, Proc. Intn'l Conf. Sustainable Bridge Design, Construction, and Maintenance (ICSBDCM), Xian, China, 7 pp., May 2015.
40. Chen, Y. F. Alternative diaphragms for nonbox-shaped concrete girders, Proc. 3rd Natn'l Conf. Bridge Maintenance and Safety, Xian, China, 7 pp., May 2015.
41. Chen, Y. F. Current design and construction of integral abutments in Pennsylvania- Part I, Proc. 1st Intn'l Symp. Jointless Bridges, Fuzhou, China, May 12-14, 119-126, 2016.
42. Chen, Y. F. Current design and construction of integral abutments in Pennsylvania- Part II, Proc. 1st Intn'l Symp. Jointless Bridges, Fuzhou, China, May 12-14, 128-135, 2016.
43. Bresch, M. T., R. Medlock, and Y. F. Chen. The influence of cold cambering on the toughness of rolled I-beams Paper 16, Proc. International Bridge Conference, Washington, DC, June 6-10, 2016.
44. Chen, G. R., G. L. Dai, and Y. F. Chen. Construction of precast concrete simply-supported box beams on Changsha Maglev Line, China, Paper 40, Proc. International Bridge Conference, Washington, DC, June 6-10, 2016.
45. Long, L. J., G. L. Dai, Y. F. Chen, and W. S. Liu. Experimental research on the dynamic response of continuous slab tracks and simple beam bridges, Proc. International Bridge Conference, Washington, DC, June 6-10, 2016.
46. Wang, W. J., Z. Li, Y. F. Chen, Y. Z. Liu, Z. P. Zhang, and L. Zhao. Innovative efficient building materials: development and applications, Proc. KSMI 2016 Spring Conference, Seoul, South Korea, April 7, 2016, 4 pp.
47. Nie, R. S., W. M. Leng, Y. Su, and Y. F. Chen. Causes and mechanism of mud pumping in ballast track subgrade, Proc. 4th International Conference on Railway Engineering: The Infrastructure Construction and Maintenance of High-speed Railway and Urban Rail Transit in Complex Environment (ICRE2016), Beijing, China, July 30-31, 2016 (Note: An excellent paper).

Research Reports

1. Chen, Y. and T. Krauthammer. *Dynamic Soil-Structure Interaction of Rectangular Reinforced Concrete Lifelines*, Struct. Eng. Rept. ST-85-03, Univ. of Minnesota, Minneapolis, MN, USA, 1985.
2. Krauthammer, T. and Y. Chen. *Analysis of Composite Structural Behavior- Minneapolis City Hall*, Final Rept., Hammel, Green & Abrahamson Inc., Minneapolis, MN, USA, 1985.
3. Chen, Y. and T. Krauthammer. *Dynamic Soil-Structure Interaction of Reinforced Concrete Lifelines under Earthquakes*, Struct. Eng. Rept. ST-88-01, Univ. of Minnesota, Minneapolis, MN, USA, 1988.
4. Chen, Y. (contributor). *Guide to Post-Earthquake Investigation of Lifelines*, ASCE Monograph, ASCE, New York, NY, USA, 1991.
5. Aswad, A. and Y. Chen. *Vibration Properties of Precast Building Floors*, Final Rept., Precast/Prestressed Conc. Instit. (PCI), Chicago, IL, USA, 1993.
6. Chen, Y. *Rational Determination of Soil Stiffness Coefficients for Bridge Foundations Subjected to Earthquakes*, Final Rept., Ben Franklin Foundation, Harrisburg, PA, USA, May 1994.
7. Chen, Y. *Lateral Distribution of vehicular Live Loads on Bridges with Unequally Spaced Girders*, Final Rept., Ben Franklin Foundation, Harrisburg, PA, USA, May 1994.
8. Chen, Y. *Integral Abutments - Current Practices and Design Recommendations*, Final Rept., PennDOT, Harrisburg, PA, USA, Oct. 1994.
9. Chen, Y. *Effects of Bridge Modeling and Analysis Methods on Seismic Responses*, Final Rept., Ben Franklin Foundation, Harrisburg, PA, USA, June 1995.
10. Aswad, A., and Y. Chen. *Improving Bridge Design Efficiency Using Refined Lateral Load Distribution*, Final Rept., Precast Conc. Assoc., Allentown, PA, USA, Aug. 1995.
11. Chen, Y., J. Williams, and M. Zvosky. *Structural Evaluation of Roof Truss Systems*, Final Rept., New Holland Manufacturing Co., New Holland, PA, USA, May 1996.
12. Y. Chen, Chiang, W. L., and J. P. Tang. *Investigation of Highway Bridge Design Specifications for Taiwan Area and Feasibility Study of LRFD Design Code*, Research Rept. SEC/R-ST-97-03, Sinotech Eng. Consultants Inc., Taipei, Taiwan, Jan. 1997 (in Chinese).
13. Chen, Y. *Development of Bridge Design Parameters for the Taiwan Case: Harmonization of Guidelines and Codes*, Final Rept., Ben Franklin Foundation & Penn State University, Harrisburg, PA, USA, May 1997.
14. Chen, Y. (contributor). *Seismic Analysis and Design of Concrete Bridge Systems, ACI Committee 341 Rept. ACI 341.2R-97*, American Conc. Instit., Farmington Hills, MI, USA, 1997.

15. Chen, Y. F. *Review of UBC-97 Code, and Development of Flowcharts for Seismic Analysis and Design for Buildings*, Final Rept., J&A Inc., Denver, CO, USA, Summer 1999.
16. Chen, Y. F. *Seismic Evaluation of Various Bridges Existing in Pennsylvania and Retrofitting Measures*, Final Rept., PennDOT, Harrisburg, PA, USA, Dec. 2000.
17. Chen, Y. F. *Investigation of a Tunnel System Subjected to Large Displacements*, Final Rept., Mellott Co., Warfordsburg, PA, USA, Oct. 2001.
18. Chen, Y. F. *Condition Assessment on Various Existing Pennsylvanian Bridges*, Final Rept., PennDOT, Harrisburg, PA, USA, Dec. 2001.
19. Chen, Y. F. and B. Dillman. *Shear in Skewed Multi-Beam Bridges*, Final Rept.., NCHRP, Washington, DC, USA, 2001.
20. Chen, Y. F. *Identification and Prioritization of Research Issues in Superstructures*, Final Rept., PennDOT, Harrisburg, PA, USA, 2002.
21. Chen, Y. F. *Identification and Prioritization of Research Issues in Substructures*, Final Rept., PennDOT, Harrisburg, PA, USA, 2004.
22. Chen, Y. F. *Pilot Study on Blast Resistant Design for Bridge Structures*, Phase I, Penn State University, Harrisburg, PA, USA, 2005.
23. Spencer, J. and Y. F. Chen. *Effects of Compressive Stress Limits on Prestressed Concrete Girder Desig*n, Final Rept., Dewberry Assoc., Carlisle, PA, USA, 2006.
24. Chen, Y. F., T. Imholte, T. Rowader, and D. Hacker. *Engineering Use of Low-Strength Concrete in Highway Construction*, Final Rept., Dawood Eng. Inc., Grantville, PA, USA, 2008.
25. Elmore, S and Y. F. Chen. *Rapid design of Prestressed Building Tee Members*, Final Rept., High Concrete Inc., Denver, PA, USA, 2008.
26. Zendek, J. and Y. F. Chen. *An Investigation of Tendon Stress Limits for Prestressed Concrete Girders*, Final Rept., Gannett Fleming Inc., Camp Hill, PA, 2009.
27. Chen, Y. F. *Use of Steel Diaphragms in Prestressed Concrete Bridges*, Final Rept., Penn State Harrisburg, 2010.
28. Chen, Y. F. and M. J. Borzok. *Rational Shear Analysis for Multi-Cellular Concrete Box Sections*, Final Rept., Modjeski & Masters Inc., Mechanicsburg, PA, USA, 2010.
29. Kandra, T. J. and Y. F. Chen. *A Feasibility Study of Cast-in-Place Posttensioned Integral Bridges*, Final Rept., JMT Inc., York, PA, 2011.
30. Snyder, M. D. and Y. F. Chen. *Development of Aluminum Diaphragms for Concrete Bridges*, Final Rept., Transportation Systems Inc., Harrisburg, PA, 2013.
31. Bui, H and Y. F. Chen. *High Performance Steel and Its Applications*, Final Rept., Modjeski & Masters Inc., Mechanicsburg, PA, 2013.
32. Chen, Y. F. (contributor). *Report on the Analysis and Design of Seismic-Resistant Concrete Bridge Systems, ACI Committee 341 Rept. ACI.2R-14*, American Conc. Instit., Farmington Hills, MI, 2014.

33-75. Graduate student research reports/theses.

Books

1. Chen, Y., *International Handbook of Earthquake Engineering- Codes, Programs and Examples*- Chapter 32. Chapman & Hall Inc., London, UK, 1994.
2. Chen, Y., *State-of-the-Art Report on Design of Steel Buildings for Earthquake and Wind Forces: Current US Practices, Discussions, and Research Needs- Part 1. Seismic.* In International Symposium on Steel Building Technology, pp. 155-183, Research Institute of Architecture, The Ministry of Interior Affairs, Taiwan, 1998.
3. Chen, Y., *State-of-the-Art Report on Design of Steel Buildings for Earthquake and Wind Forces: Current US Practices, Discussions, and Research Needs- Part 2. Wind.* In International Symposium on Steel Building Technology, pp. 184-214, Research Institute of Architecture, The Ministry of Interior Affairs, Taiwan, 1998.
4. Chen, Y. F., *Practical Analysis and Design of Foundations.* Penn State Harrisburg, USA, 2015 (current edition), 430 pp (Note: Textbook for an undergraduate foundation course).

TEACHING EXPERIENCE

Undergraduate Courses

- Feng Chia Univ., Taichung, Taiwan (1979-1980): Soil Mechanics Lab.; Structural Analysis.
- Penn State Harrisburg, USA (1989-Present): Newtonian Mechanics (Statics & Dynamics); Strength of Materials; Structural Steel Design; Foundations; Bridge Analysis & Design (developed); Special Topics (developed).

Graduate Courses

- Penn State Harrisburg, USA (1989-Present): Design of Metal Structures; Structural Dynamics; Structural Design for Dynamic Loads; Advanced Foundation Engineering; Earthquake Resistant Design & Retrofitting of Bridges (developed); Bridge Design by LRFD Method I & II (developed).
- Central Univ., Taiwan (Summer 1993): Earthquake Resistant Design of Bridges and Case Studies (developed).
- Central Univ., Taiwan (Fall 1996, sabbatical leave): Limit States Design of Bridges: Fundamentals and Applications (developed); Earthquake Resistant Design and Retrofitting of Bridges: Philosophy and Methodology (developed).
- Cheng Kung Univ., Taiwan (Fall 2004, sabbatical leave): Limit States Design of Highway Bridges (developed); Earthquake Resistant Design and Seismic Retrofitting of Highway Bridges (developed).
- Tsinghua Univ., China (July 2014): Structural Steel Design by AISC LRFD Method (developed).
- Taiyuan Univ. of Technology & Central South Univ., China (Dec. 2014): Earthquake Resistant Design of Highway Bridges- Theories and Applications (developed).

Supervision of Graduate Students

Ph.D. Students: 2 co-supervised.
M.S. Students: 52 completed.
Current supervision: 10 MS students (4 US + 6 international) & 2 PhD students (international).

SELECTIVE SCHOLARLY ACTIVITIES

Professional Committees

- Board Director, Association for Bridge Construction and Design (ABCD), Susquehanna Chapter, PA, USA
- ACI Committee 341 "*Earthquake Resistant Design of Reinforced Concrete Bridges*", USA
- ACI Committee 442 "*Response of Concrete Buildings to Lateral Forces*", USA
- ASCE Technical Council on Lifeline Earthquake Engineering, USA
- ASCE Steel Bridge Committee, USA
- Advisory Board, Center for Bridge Engineering Research, Central University, Taiwan

Conference Presentations

> 46 times (See "**Refereed Conference Proceedings**" above).

International Collaborations

Invited Scholars:
- Mr. J. S. Liu, Director of Shaanxi Research Institute of Seismic Engineering (China), July 26, 2013-July 25, 2014.
- Dr. P. J. Han, Associate Professor of Taiyuan University of Technology (China), Jan. 15, 2014-July 15, 2014.
- Dr. R. S. Nie, Assistant Professor of Central South University (China), Nov. 23, 2014-Nov. 22, 2015.
- Dr. Y. Z. Liu, Associate Professor of Taiyuan University of Technology (China), Sep. 10, 2015-Sep. 9, 2016.
- Dr. J. Y. Tian, Professor of Taiyuan University of Technology (China), Sep. 20, 2015-Sep. 19, 2016
- Dr. W. J. Wang, Assistant Professor of Taiyuan University of Technology (China), Jan. 14, 2016-July 14, 2016.
- Dr. J. F. Jiao, Assistant Professor of Taiyuan University of Technology (China), March 10, 2016-March 9, 2017.

PhD Students:
- Mr. Z. Huang, Central South University (China), March 13, 2015-March 12, 2016.

Invited International Lectures

■ *Refined and Simplified Methods of Lateral Load Distribution*. Taiwan Instit. of Tech., Taiwan, March 1993.
■ Lecture Series: 1. *Improved Free Field Analysis for Dynamic Soil-Structure Interaction Problems*; 2. *Important Considerations on Seismic Design of Highway Bridges*; and 3. *Development of Transfer*

Functions for Lifeline Structures. Taiwan Ocean Univ.,Taiwan, June/July 1993.

- *Determination of Equivalent Pile Lengths as Related to AASHTO LRFD*. Sinotech Eng. Consultants Inc, Taiwan, Feb. 1995.
- *Overview on the Development of AASHTO LRFD Specifications* and *Overview of Earthquake Resistant Design*. Taiwan Insti. of Tech., Taiwan, July 1995.
- *Updates of AASHTO LRFD Specifications*. Univ. of Tokyo, Japan, Aug. 1996.
- *Overview of AASHTO LRFD Specifications with Discussions on Current Bridge Practices and Researches in Taiwan*. Chung Hsing Univ., Taiwan, Oct. 1996.
- *AASHTO LRFD Design Methodologies and Design Concepts*. Central Univ., Taiwan, Feb. 1997.
- *Advances in Bridge LRFD Specifications*. Chung Yuan Christian Univ., Taiwan, Aug. 1997.
- *Comparison between Limit States Design and Load Factor Design, and Discussion on Current Bridge Practices in Taiwan*. Pingtung Polytech. Instit., Taiwan, Oct. 1998.
- *Steel Building Technology: A State-of the-Art Report on Earthquake Resistant Design*. Taiwan Univ. of Sci. & Tech., Taiwan June 1999.
- *Steel Building Technology: A State-of-the-Art Report on Wind Resistant Design*. Taiwan Univ. of Sci. & Tech., Taiwan, June 1999.
- *Prediction of Vehicular Live Loads by Finite Element Method*. Sinotech Eng. Consultants Inc., Taiwan, July 1999.
- *Updates on the Lateral Distribution of Vehicular Live Loads on Bridge Girders*. Univ. of Tokyo and Tokyo Instit. of Tech., Japan, Jan. 27 & 28, 2000.
- *Vibration of Composite Floor Systems*. Taiwan Univ. of Sci. & Tech., Taiwan, May 2000.
- *Innovative Bridge Systems*. Chiao Tung Univ., Taiwan, Jan. 2001.
- *Floor Vibration due to Human Activity*. Univ. of Tokyo, Japan, Dec. 2001.
- *Lessons from the Rubble at the WTC*. Univ. of Tokyo, Japan, Dec. 2001.
- *Earthquake Resistant Design for Buildings*. Central Univ., Taiwan, July 8, 2002.
- *Wind Resistant Design for Buildings*. Central Univ., Taiwan, July 9, 2002.
- *Three Years after the WTC Collapse*. Chien Sheu Univ. of Sci. & Tech., Taiwan, Sep. 24, 2004.
- *Rational Seismic Analysis of Shear-Wall Buildings*. Chun Hsing Univ., Taiwan, Oct. 14, 2004.
- *Vibration of Precast Building Floors due to Human Activity*. Central Univ., Taiwan, Oct. 26, 2004.
- *Prediction of Vehicular Live Loads by More Refined Methods* and *Bridge Design by LRFD Method: Fundamentals, Major Changes, Advantages/Disadvantages, Specifications, and Research Agenda*. Taiwan Univ. of Sci. & Tech., Taiwan, Nov. 9, 2004.
- *Bridge Engineering: Past, Current, and Future*. Pingtung Univ. of Sci. & Tech., Taiwan, Dec. 6, 2004.
- *Design and Construction of Susquehanna River Segmental Bridge*. Cheng Kung Univ.,Taiwan, Dec. 17, 2004.
- *Various Bridge Topics*. Taiwan Univ. of Sci. & Tech., Chung Hsing Univ., and Cheng Kung Univ., Taiwan, May 2011.
- *Design of Highway Bridges: Past, Present, and Future*. Taiyuan Univ. of Tech., Taiyuan, China, May 2, 2012.
- *Design of Highway Bridges: Past, Present, and Future*. Xian Univ. of Agri. & Tech., Xian, China, May 7, 2012.
- *Design of Highway Bridges: Past, Present, and Future*. Shanxi Transp. Res. Instit., Taiyuan, China, May 10, 2012.
- *Design of Highway Bridges: Past, Present, and Future*. Chung Hsing Univ., Taiwan, May 24, 2012.
- *Design of Highway Bridges: Past, Present, and Future*. Cheng Kung Univ., Taiwan, June 8, 2012.
- *Open Talk with TYUT Students and Faculty with Sharing of Personal Experiences*. Taiyuan Univ. of Tech., Taiyuan, China, Dec. 3, 2012.
- *Design and Construction of Segmental Bridges* and *Security of Transportation Infrastructures: Current Conditions and Enhancement Recommendations*. Shanxi Transp. Res. Instit., Taiyuan, China, Dec. 4, 2012.
- *Seismic Analysis of Shear Wall Buildings: Approximate Method versus More Rational Method* . Xian Univ. of Agri. & Tech., Xian, China, May 20, 2013.
- *Engineering Use of Low-Strength Concrete* . Xian Univ. of Agri. & Tech., Xian, China, May 21, 2013.
- *Design of US Highway Bridges: Past, Present, and Future* . Chang'An Univ., Xian, China, May 22, 2013.
- *Engineering Use of Low-Strength Concrete*. Cheng Kung Univ., Taiwan, May 29, 2013.
- *A Rational and Simplified Shear Analysis for Multi-Cellular Concrete Box Sections*. Chung Hsing Univ., Taiwan, May 30, 2013.
- *Open Talk with CSU Students and Faculty with Sharing of Personal Experiences* .and *Practical and Research Issues Related to Bridge Substructures*. Central South Univ., Changsha, China, Dec. 19, 2013.
- *Vibration of Precast Building Floors due to Human Activity* and *Distribution of Vehicular Live Loads on Bridge Girders by Refined Analysis Methods*. Central South Univ., Changsha, China, Dec. 20, 2013.
- *Distribution of Vehicular Live Loads on Bridge Girders by Refined Analysis Methods*. Tshinghua Univ., Beijing,

China, Jan. 2, 2014.

- *Distribution of Vehicular Live Loads on Bridge Girders by Refined Analysis Methods* and *Rational Shear Analysis for Multi-Cellular Concrete Box Sections*. Chang'an Univ., Xian, China, Jan. 7, 2014.
- *A Case Study on the Design and Construction of Segmental Bridges: Susquehanna River Bridge Replacement*. Taiyuan Univ. of Tech., Taiyuan, China, March 7, 2014.
- *Vibration of Precast Concrete Floors due to Human Activity* and *Alternative and Sustainable Diaphragms for Concrete Bridges*. Chongqing Univ., Chongqing, China, May 9, 2014.
- *Rapid Design of Precast Concrete Double Tees*. Seoul Natn'l Univ., Seoul, Korea, May 19, 2014.
- *Use of Steel Diaphragms for Concrete Bridges*. Chung Hsing Univ., Taiwan, May 28, 2014.
- *Alternative and Sustainable Diaphragms for Highway Bridges*. Cheng Kung Univ., Taiwan, May 29, 2014.
- *Open Talk with GIT Students and Faculty with Sharing of Personal Experiences* and *A Case Study on the Design and Construction of Segmental Bridges: Susquehanna River Replacement*. Guiyang Instit. of Tech., Guiyang, China, June 9, 2014.
- *Mechanically Stabilized Earth* (*MSE) Walls*. Central South Univ., Changsha, China, June 18, 2014.
- Master Lecture "*Design of Highway Bridges: Past, Present, and Future"*. Hunan University, Changsha, China, June 25, 2014.
- Keynote Lecture "*Practical and Research Issues Related to Bridge Substructures*". China-USA-Korea Forum on Geoenviromental Engineering, Seoul Natn'l Univ., Seoul, Korea, July 21, 2014.
- Master Lecture "*AASHTO LRFD Bridge Specifications: Fundamentals, Chief Changes, and Updates"*. Seoul Natn'l Univ.,Seoul, Korea,, July 22, 2014.
- Keynote Lecture "*Practical and Research Issues Related to Bridge Substructures*. *Forum of Rock and Soil Mechanics & Engineering in Middle and West China*, Taiyuan, China, Aug. 3, 2014.
- Master Lecture "*Wind Resistant Design*". Northeast Dianli University, Jilin, China, May 8, 2015.
- *Distribution of Vehicular Live Loads on Bridge Girders by Refined Analysis Methods*. Northeast Dianli University, Jilin, China, May 8, 2015.
- *Alternative Diaphragms for Nonbox-Shaped Concrete Girders*. Northeast Dianli University, Jilin, China, May 11, 2015.
- Mater Lecture "*Basics and Applications of Energy Dissipation Systems*". Shaanxi Building Research Institute and Xian University of Architecture & Technology. Xian, China, May 13, 2015.
- Keynote Lecture "*Rational and Simplified Approach for Determination of Seismic Induced Earth Pressure on Non-Yielding Wall* ". STRUMO 2016, Chongqing, China, May 17, 2016.

Invited Workshops (As the Conductor/Speaker)

- *Advanced Prestress Design Topics: Lateral Systems, Codes, and Special Bridge Innovations*. Precast Conc. Assoc., Harrisburg, PA, USA, March 1990 (1 day).
- *Advanced Design Considerations*. Precast Conc. Assoc., Harrisburg, PA, USA, Dec. 1991 (1 day).
- Special Topics: (1) *Some Important Considerations for Seismic Analysis and Design of Bridges*; (2) *Prediction of Lateral Distribution of Vehicular Live Loads: Simplified Method vs. Refined Method*; and (3) *Refined Free-Field Analysis for Dynamic Soil-Structure Interaction Problems*. Sinotech Eng. Consultants Inc., Taiwan, July 1992 (1 day).
- *Design of, and Innovation in Prestressed Concrete Bridges*. Precast Conc. Assoc., Pittsburgh, PA, USA, Dec. 1993 (1 day).
- *Advanced Seismic Design Considerations*. Precast Conc. Assoc., Pittsburgh, PA, USA, Dec. 1994 (1 day).
- *Advanced Seismic Design Considerations for Bridges with Emphasis on AASHTO LRFD Specifications*. Precast Conc. Assoc., Philadelphia, PA, USA, Jan. 1995 (1 day).
- Special Topics: (1) *Overview on the Development of AASHTO LRFD Specification*; (2) *Overview of Earthquake Resistant Design*; and (3) *Live Load Distribution on Girders*. Taiwan Instit. of Tech., Taiwan, July 1996 (1 day).
- *Bridge Design by LRFD Method: Part I*. Chinese Soc. of Civil Engrs., Southern Taiwan Found. of Constr. Eng. and Pingtung Polytech. Instit., Taiwan, Jan. 1997 (1 day).
- *Mitigation of Hazards: (1) Analysis and Design of Transportation Structures: Short-Duration Dynamic Loads; (2) Wind Induced Vibrations; and (3) Limit States Design*. Central Univ., Taiwan, March 1998 (2 days).
- *Advances and Updates in Precast/Prestressed Structures*. Precast Conc. Assoc., Philadelphia, PA, USA, May 1999 (1 day).
- *Bridge Design by LRFD Method: Part II*. Chinese Soc. of Civil Engrs., Southern Taiwan Found. of Constr. Eng. and Pingtung Polytech. Instit., Taiwan, June 2000 (1 day).
- *Design of Prestressed Girders by LRFD Method*. Precast Conc. Assoc., Harrisburg, PA, USA, Sep. 2001 (1 day).
- *Design on Modern Highway Bridges*. Chung Hsing Univ., Taiwan, July 9, 2004 (1 day).

● *Updates and Advances on Bridge Engineering I*. Central Univ., Taiwan, Aug. 8 & 9, 2005 (2 days).
● *Updates and Advances on Bridge Engineering II*. Earthq. Res. Center, Taiwan Univ., Aug. 3 & 4, 2006 (2 days).
● *LRFD in Geotechnical Engineering*. Central Univ. & Sinotech Eng. Consultants Inc., Taiwan, July 5 & 6, 2007 (2 days).
● *Bridge LRFD Design by the Latest AASHTO Specifications*. Sinotech Eng. Consultants Inc., Taiwan, May 21-23, 2012 (3 days).
● *Jointless Integral Bridges*. Fuzhou University, Fuzhou, China, March 9-12, 2014 (4 days).

Invited Professional Training Courses (As the Instructor)

▲ *Integral Abutment Bridges*. Dept. of Transp., Harrisburg, PA, USA, Sep. 1995 (½ day).
▲ *Mechanically-Stabilized Earth Retaining Walls*. Dept. of Transp., Harrisburg, PA, USA, Sep. 1996 (½ day).
▲ *LRFD Design of Highway Bridges*. Sinotech Eng. Consultants, Inc., Taiwan, Nov. 1996-Jan. 1997 (6 weeks; sabbatical leave).
▲ *Bridge Designs by LRFD Method and Use of Specialized Computer Programs*. Pennoni Assoc., Philadelphia, PA, USA, 1998-2003 (a numbers of occasions, 1 day each time).
▲ *Bridge Construction and Inspection* . Navarro & Wright Inc., New Cumberland, PA, USA, Dec. 2011 (1 day).
▲ *Wind and Seism ic Designs by ASCE 7-10*. Mellott Co., Warforsburg, PA, USA, July 19 & 20, 2012 (2 days).
▲ *Steel Design by the 2010 AISC LRFD*. Mellott Co., Warforsburg, PA, USA, April 25 & 26,. 2013 (2 days).
▲ *Mechanically Stabilized Earth* (*MSE) Wall* and *Integral Abutment Bridges*. Shanxi Transp. Res. Instit., Taiyuan, China, June 28, 2014 (1 day).
▲ *Foundation Design by the 2011 ACI*. Mellott Co., Warfordsburg, PA, USA, Oct. 24 & Oct. 31, 2014 (2 days).

Invited Short Courses (As the Instructor)

■ *Design of Modern Steel Buildings*. Chung Hsing Univ., Taiwan, Aug. 13, 2005 (1 day).
■ *Design of Modern Highway Bridges*. Chung Hsing Univ., Taiwan, Aug. 20, 2005 (1 day).
■ *Technical Communication in English*. Central Univ.,Taiwan, July 6-10, 2009 (1 week).
■ *Structural Steel Design by AISC LRFD Method* (2cr). Tsinghua Univ., Beijing, China, June 30-July 9, 2014 (8 days).
■ *Earthquake Resistant Design of Highway Bridges- Theories and Applications* (1 cr). Taiyuan Univ. of Technology, Taiyuan, China, Dec. 16-Dec. 19, 2014 (4 days).
■ *Earthquake Resistant Design of Highway Bridges- Theories and Applications* (1.5 cr). Central South Univ., Changsha, China, Dec. 23-Dec. 31, 2014 (6 days).
■ *Limit States Design of Bridge Substructures* (1.5 cr., developed). Central South University, Changsha, China, June 1-June10, 2015 (6 days).
■ *Wind Resistant Design According to ASCE 7-10* (1.5 cr., developed). Seoul National University, South Korea, April 2016 (1 month).

Other Speaking Engagements

A number of professional presentations were given at professional meetings, universities, and various companies and organizations, domestically and internationally.

Journal Papers

Editor:
▪ *Materials Testing*, Germany
▪ *Journal of Structural Integrity and Maintenance*, UK

Reviewer:
▪ *Computers* & Structures, USA
▪ *Engineering Structures*, UK
▪ *ASCE Journal of Structural Engineering*, USA
▪ *ASCE Journal of Bridge Engineering*, USA
▪ *ACI Structural Journal*, USA
▪ *PCI Journal*, USA

▪ *AISC Engineering Journal*, USA
▪ *Journal of Engineering Technology*, USA
▪ *Canadian Geotechnical Journal*, Canada

Books

Textbook Awards Judge:
□ Text and Academic Authors Association, Petersburg, FL

Reviewer:
□ PWS Publishing Co., Boston, MA
□ Prentice Hall, Inc., Upper Saddle River, NJ
□ Chapman & Hall, Inc., London, UK
□ John Wiley & Sons Inc., Hoboken, NJ
□ Butterworth-Heinemann Publishing (Elsevier), UK
□ Springer International Publishing, Switzerland
□ Academic Press (Elsevier), UK
□ Springer Dordrecht Heidelberg, UK
□ Cengage Learning, USA

TECHNICAL CONSULTING (See separate document for details)

Buildings and Industrial Facilities

○ *PECL, Inc*., Taipei, Taiwan
○ *3M Company*. St. Paul, MN
○ *Hammel Green Abrahamson,* Inc., Minneapolis, MN
○ *MillHouse Industries,* Inc., Halifax, PA
○ *C S. Davidson,* Inc., York, PA
○ *L. B. Smith,* Inc., Camp Hill, PA
○ *Schuylkill Products, Inc.,* Cressona, PA
○ J&A, Inc., Denver, CO
○ *Mellott Company, Inc.,* Warfordsburg, PA
○ *ARRO Engineering, Inc., Lancaster*, PA
○ *Cleveland Brothers Equipment, Inc.* Harrisburg, PA
○ *Navarro & Wright, Inc*., New Cumberland, PA
◊ *Skelly & Loy, Inc.,* Harrisburg, PA

Transportation Structures

◊ *Sinotech Engineering Consultants, Inc*., Taipei, Taiwan
◊ *BKBM, Inc.*, Minneapolis, MN
◊ *HNTB, Inc.,* Minneapolis, MN
◊ *Michael Baker Jr., Inc*., Harrisburg, PA
◊ *Erdman Anthony Associates*, Camp Hill, PA
◊ *Benetac Associates,* Harrisburg, PA
◊ *Modjeski & Masters, Inc*., Mechanicsburg, PA
◊ *Goodkind & O'dea, Inc*., Carlisle, PA
◊ *TWE Engineering, Inc*., Pittsburgh, PA
◊ *Patel and Chen Associates,* Grantville, PA
◊ *Pennoni Associates,* Camp Hill, PA
◊ *Dawood Engineering, Inc.,* Grantville, PA
◊ *Specialty Engineers, Inc*., Philadelphia, PA

SERVICES

University (All served multiple times over years)

□ Intercultural Education Enhancement Committee
□ Library Committee
□ Computer Facilities Committee
□ Graduate Faculty Membership Review Committee
□ Admissions, Records & Scheduling Committee
□ Subcommittee on Diversity and Educational Equity
□ Faculty Development Committee (Chair)
□ Inter-Campus Policy and Procedure Committee
□ Sabbatical Leave Review Committee
□ Student Affairs Committee
□ International Study Award Committee
□ Outreach Committee (Chair)
□ Strategic Planning & Budget Advisory Committee (Chair)
□ School Research Committee (Chair)
□ Faculty Affairs Committee
□ Human Resources & Business Committee (Chair)
□ Faculty Search Committee (multiple times w/ some as the chair)
□ Other various sub-committees and special task committees.
□ Coordinator, SSET Seminar Series
□ School Graduate Recruitment Committee (Chair)
□ Academic Affairs Committee
□ Promotion & Tenure Criteria Review Committees (all levels with some as the chair)

Professional Organizations

See "**PROFESSIONAL AFFILIATIONS**" above.

Public

■ Expert witness for natural or incidental disasters to structures as requested by the media or government

REFERENCES

Available upon request