

Karen C. Chou, Ph.D., P.E.
List of Publications

PUBLICATIONS (Refereed Papers):

- MOAVENI, S. and CHOU, K.C. (2009) "An Inverse Solution for Reconstruction of the Area Moment of Inertia of a Beam Using Deflection Data", *International Journal of Inverse Problems in Science and Technology*. (tentative acceptance with revision in progress, Dec. 2009)
- CHOU, K.C. and MOAVENI, S. (2009) "Making Steel Sculpture Available Online to Students in Developing Countries", *International Journal of Modern Engineering*, Volume 10, No.1, pp 45-54.
- CHOU, K.C. and MOAVENI, S. (2009) "Web-Based Interactive Steel Sculpture for the Google Generation", *Journal of STEM Education: Innovations & Research*, Vol. 10, Issue 3& 4, pp 50-59.
- CHOU, K.C. and NYKANEN, D. (2009) "Bringing Professional Experience into the Classroom – Faculty Experiences", *2009 ASEE Annual Conference and Exposition*, AC2009-2208, Austin, TX, June 14-17.
- MOAVENI, S., NYKANEN, D., and CHOU, K.C. (2009) "Perspectives on "Career and Family" Alternatives for Female Engineering Faculty", *2009 ASEE Annual Conference and Exposition*, AC2009-2069, Austin, TX, June 14-17.
- MOAVENI, S. and CHOU, K. (2008) "An Innovative Approach to A Cross-Disciplinary Senior Design Project", *International Journal of Modern Engineering*, Volume 8, No. 2, spring/summer, pp. 61-66.
- CHOU, K.C., WILDE, W.J. and MOAVENI, S. (2007) "Subcontracting Senior Design Project in Civil Engineering", *Journal of Professional Issues in Engineering Education and Practice*, ASCE, Volume 13, Issue 3, pp. 171-180, July.
- CHOU, K.C., INGRAM, E., and COROTIS, R.B. (2005) "Optimization Approach to the use of Goodness-of-Fit Test", *Proceedings of 9th International Conference on Structural Safety and Reliability ICOSSAR '05*, June.
- KOGUT, G.F. and CHOU, K.C. (2004) "Partial Resistance Factor Design on Steel-Concrete Beam-Columns", *Engineering Structures*, 26, pp.857-866.
- CHOU, K.C., COX, G.C., and LOCKWOOD, A.M. (2004) "Crack growth life model for fatigue susceptible structural components in aging aircraft", *Structural Engineering and Mechanics*, Vol. 17, No. 1: 29-50.
- MOLINA, A.V. and CHOU, K.C. (2002) "Evaluation of Existing Bridges Using Neural Networks", *Structural Engineering and Mechanics*, Vol. 13, No.2, pp.187-209.
- WILLIAMS, C.A., CHOU, K.C., and PIONKE, C.D. (2001) "Multimedia Simulation Tool for Steel Tension Member Analysis and Design", *Proceedings of 2001 ASEE Annual Conference & Exposition*, June.
- CHOU, K.C. (2001) "Enhancing the Teaching of Moment Distribution Analysis Using Spreadsheet", *Proceedings ASEE Southeast Section Meeting*, April.
- WHITTEN, B.N., CHOU, K.C., and JACKSON, N.M. (2001) "Probabilistic-Based Performance Prediction Model for HMA Pavements", *Proceedings of 8th International Conference on Structural Safety and Reliability ICOSSAR '01*, June.
- CHOU, K.C., COX, G.C., and LOCKWOOD, A.M. (2001) "Development of Probability Model for Fatigue Crack Growth Using Response Surface Method", *Proceedings of 8th International Conference on Structural Safety and Reliability ICOSSAR '01*, June.
- DEATHERAGE, J.H., CHOU, K.C., BURDETTE, E.G., and GOODPASTURE, D.W. (2001) "Productivity of Highway Construction Operations", *TRB 80th Annual Meeting*, January.
- CHOU, K.C., DEATHERAGE, J.H., BROWN, E.R., BURDETTE, E.G., and GOODPASTURE, D.W. (1999) "Statistical Analysis of Repetitive Tasks in Highway Construction Operations", *International Conference on Applications of Statistics and Probability (ICASP8)*, Vol.1, Dec., pp. 241-246.
- YEW, E.C. and CHOU, K.C. (1999) "Reliability Analysis of Two-Way Reinforced Concrete Slab", *International Conference on Applications of Statistics and Probability (ICASP8)*, Vol.2, Dec., pp.1033-1037.
- CHOU, K.C. and OLIVEIRA, L.F. (1999) "Nonlinear Load Exceedance Model for Cyclic Load Processes: Development", *Structural Safety*, Vol. 21, No. 1, pp.65-90.
- CHOU, K.C., DEATHERAGE, J.H., LEATHERWOOD, T.D. and KHAYAT, A.J. (1999) "Innovative Method for Evaluating Overweight Vehicle Permit on Tennessee Highway Bridges", *Journal of Bridge*

- Engineering*, ASCE, Vol. 4, No.3, pp. 221-227.
- FISHER, A.D. and CHOU, K.C. (1998) "Reliability Investigation of Prestressed Bulb-Tee Bridge Beams", *Structural Safety & Reliability - Proceeding of 7th International Conference on Structural Safety and Reliability ICOSSAR '97*, Nov.24-28, 1997, Vol. 1, pp.1921-1926, A.A. Balkema, Rotterdam.
- CHOU, K.C. and PONKO, A.F. (1998) "Nonlinear Structural Response of Simply Supported Beam due to a Point Load Process", *Structural Safety & Reliability - Proceeding of 7th International Conference on Structural Safety and Reliability ICOSSAR '97*, Nov.24-28, 1997, Vol.1, pp.213-216, A.A. Balkema, Rotterdam.
- MAULDON, M., CHOU, K.C., and WU, Y. (1997) "Uncertainty Analysis of Tunnel Roof Stability", *Transportation Research Record 1582*, TRB, pp. 53-59.
- CHOU, K.C., FISHER, A.D. and MAULDON, M. (1997) "Reliability Analysis of A Cantilever Retaining Walls", *76th Transportation Research Board Meeting*, TRB, Paper No. 971209, January 12-16.
- TRAUTNER, J., CHOU, K., YATES, J. and STALNAKER, J. (1996) "Women Faculty in Engineering: Changing the Academic Climate", *Journal of Engineering Education*, ASEE, Vol. 85, No.1, January 1996, pp. 45-51.
- CHOU, K. C. and HOFFMAN, P.C. (1994) "Repair Service Life Evaluations Based on Imprecise Information", *Structural Safety & Reliability*, ICOSSAR '93, Vol.2, pp. 953-956, Balkema, Rotterdam, Netherland.
- KOGUT, G.F. and CHOU, K.C. (1994) "Reliability Based Design for Steel-Concrete Composite Beam-Columns", *Structural Safety & Reliability*, ICOSSAR'93, Vol.1, pp.703-708, Balkema, Rotterdam, Netherland.
- BENNETT, R.M., GILLEY, R.D., BELK, C.A. and CHOU, K.C. (1994) "Macro Time Modeling of Wind and Snow", *Structural Safety & Reliability*, ICOSSAR '93, Vol.3, pp. 1617-1622, Balkema, Rotterdam, Netherland.
- CHOU, K. C. and YUAN, J. (1993) "Fuzzy-Bayesian Approach to Reliability of Existing Structures", *Journal of Structural Engineering*, ASCE, Vol.119, No.11, pp.3276-3290, Nov.
- CHOU, K.C. and YUAN, J. (1992) "Safety Assessment of Existing Structures Using Filtered Fuzzy Relation", *Structural Safety*, Vol. 11, No. 3-4, pp 173-189.
- CHOU, K.C. (1990) "Nonlinear Load Exceedances with Correlated Sustained Load Process", *Structural Safety and Reliability*, ASCE, Vol. 3.
- ARTLEY, M.E. and CHOU, K.C. (1990) "Reliability Analysis of Aerospace Structures Subjected to Thermal Mechanical and Flight Loads", *Structural Safety and Reliability*, ASCE, Vol.3, pp.2373-2376.
- THAYAPARAN, P.A. and CHOU, K.C. (1988) "Stochastic Load Exceedances with General Material Nonlinearity", *Journal of Structural Engineering*, ASCE, July, pp. 1674-1685.
- CHOU, K.C. and THAYAPARAN, P.A. (1988)"Nonlinear Structural Response to Live Load Processes", *Journal of Structural Engineering*, ASCE, May, pp. 1135-1151.
- CHOU, K.C. (1986) "Probabilistic Analysis of Nonlinear Response to Sustained Load Processes", *Structural Safety*, Vol. 4, No. 1, October.
- CHOU, K.C., COROTIS, R.B., and KARR, A.F. (1985) "Nonlinear Response to Sustained Load Processes", *Journal of Structural Engineering*, ASCE, Vol. 111, No. 1, Jan., pp. 142-157.
- CHOU, K.C. and COROTIS, R.B. (1984) "Conditioned Gaussian Probability Distribution", *Journal of Engineering Mechanics*, ASCE, Vol. 110, No. 1, Jan., pp. 115-119.
- CHOU, K.C., McINTOSH, C., and COROTIS, R.B. (1983) "Observation on Structural System Reliability and the Role of Modal Correlations", *Structural Safety*, Vol.1, No.3, April, pp. 189-198.
- CHOU, K.C. and COROTIS, R.B. (1983) "Generalized Wind Speed Probability Distribution", *Journal of Engineering Mechanics*, ASCE, Vol. 109, No. 1, Feb., pp. 14-29.
- CHOU, K.C. and COROTIS, R.B. (1981) "Simulation of Hourly Wind Speed and Array Wind Power", *Solar Energy*, Vol. 26, No. 3, pp. 199-212.

Conference Proceedings (Refereed Abstracts):

- CHOU, K.C. and MOAVENI, S. (2008) "Enhancing Global Education: Making Steel Connection Sculpture Available Online to Students in Developing Countries", *2008 IJAC-IJME Conference*, Nashville, TN., Nov. (refereed conference proceedings)
- MOAVENI, S. and CHOU, K. (2006) "An Innovative Approach to A Cross-Disciplinary Senior Design Project", *IJME-INTERTECH Conference*, New York, Oct. (refereed conference proceedings)
- CHOU, K.C., RIPPKE, J.A., and FREY, J.E. (2004) "Engineering Community Participation in the Development of a Civil Engineering Program", *2004 ASEE North Midwest Conference*, University of Wisconsin-Milwaukee, October.
- CHOU, K.C. and WILDE, W.J. (2003) "Integrating Major Design Experience throughout a Small Civil Engineering Program", *2003 Frontier in Education Conference*, Boulder, CO, November.
- CHOU, K.C., WILDE, W.J., and MOAVENI, S. (2003) "An Unique Approach to Civil Engineering Design Experience", *2003 ASEE North Midwest Conference*, Iowa State University, October.
- CHOU, K.C. and THOMAS, K.G. (2001) "Engineering Toy Display - Moment Distribution Model & Truss Instability Model", *2001 ASEE Annual Conference*, June.
- CHOU, K.C. and THOMAS, K.G. (2000) "Mechanical Teaching Model for Moment Distribution and Other Structural Analysis Concepts", *2000 ASEE Southeast Section Annual Meeting Book of Abstracts*, April 3-4, Blacksburg, VA.
- KERR, T.E., PIONKE, C.D., WONG, K.L. and CHOU, K.C. (1999) "Space Frame Analysis Using Parallel Processing on PC's Operating Under the Linux Operating System", *Proceeding of the Canadian Society for Civil Engineers 1999 Annual Conference*, Regina, Canada, June, pp.285-294.
- MAULDON, M., DING, D., SAVAGE, G., CHOU, K.C. and WU, Y. (1999) "Stability of Statically Indeterminate Rock Blocks under Arbitrary Loads", *Proceeding of the 37th U.S. Rock Mechanics Symposium*, Vail, CO. 6-9 June, pp. 1099-1105.
- CHOU, K.C. (1997) "Applications of Neural Networks for the Safety and Performance Evaluation of Infrastructure Systems", *ASCE/CERF Workshop to Increase Collaboration Between Universities and the Design and Construction Industry*, 19-20 October, Washington, DC. (By invitation only)
- CHOU, K.C., FISHER, A.D. and MAULDON, M. (1997) "Reliability Analysis of Prestressed Bulb-Tee Bridge Beams and Cantilever Retaining Walls", *Innovation in Structural Design: Strength, Stability, Reliability - Theodore V. Galambos Symposium*, 6-7 June. (invited presentation)
- MAULDON, M., CHOU, K.C. and WU, Y. (1997) "Linear Programming Analysis of Keyblock Stability", *9th Int'l Conf. of the Int'l Assoc. for Computer Methods and Advances in Geomechanics*, Wuhan, China, Nov. 2-7.
- MAULDON, M., WU, Y. and CHOU, K.C. (1997) "2-d Limit Analysis of Tunnel Stability in Fractured Rock", *36th U.S. Rock Mechanics Symposium*, Columbia University, New York, June 29 - July 2.
- MOLINA, A.V. and CHOU, K.C. (1996) "Application of Neural Networks for the Performance Evaluation of Bridges", *Proceedings of 7th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Worcester, MA, August, pp. 298-301.
- CHOU, K.C. and BENNETT, R.M. (1995) "Stochastic Dynamic Analysis Using Nonlinear Load Exceedance Approach", *Proceedings of Int'l Conference on Structural Dynamics, Vibrations, Noise and Control SDVNC'95*, Vol. 1, Hong Kong, December, pp. 696-701.
- CHOU, K.C., HOFFMAN, P.C. and YAO, J.T.P. (1995) "Teaching Uncertainty Analysis and Risk Assessment in Civil Engineering", *Proceeding of Joint Conference of the 3rd Int'l Symposium on Uncertainty Modeling and Analysis, and the annual meeting of the North American Fuzzy Information Processing Society, ISUMA-NAFIPS'95*, University of Maryland, College Park, MD, September.
- HOFFMAN, P.C. and CHOU, K.C. (1994) "Infrastructure Assessment: Fuzzy Regression with Neural Networks", *Proceeding of NAFIPS 94*, San Antonio, TX, December. (invited paper)
- TRAUTNER, J.J. and CHOU, K.C. (1994) "Women Faculty in the Structural Engineering Professional: Academic Climate", *Proceeding of Women in Engineering Program Advocates Network (WEPAN) National Conference*, Washington, DC, June.
- CHOU, K.C. (1992) "Probability Model of Load Exceedances Under Cyclic Loadings", *Proceedings of the 6th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Denver, CO, July.

- CHOU, K.C. and GALAMBOS, T.V. (1992) "Reliability Consideration in Shake Down Analysis", *Proceedings of the 6th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Denver, CO, July.
- CHOU, K.C. and YUAN, J. (1990) "Safety Assessment of Existing Structures Using Fuzzy-Bayesian Approach", *Proceedings of the North American Fuzzy Information Processing Society (NAFIPS'90) Conference*, Toronto, June.
- FLEISCHMAN, W.M. and CHOU, K.C. (1988) "On Computing the PMF of the Number of Nonlinear Load Exceedances", *Proceedings of the Symposium on Reliability-Based Design in Civil Engineering*, Lausanne, Switzerland, July 7-9, pp. 49-56.
- FLEISCHMAN, W.M. and CHOU, K.C. (1988) "Computing the Distribution of the Number of Time-Dependent Events", *Proceedings of 36th ISMM International Conference on Mini and Micro Computers and Their Applications, MIMI '88*, Sant Feliu, Spain, June 27-30.
- CHOU, K.C. and FLEISCHMAN, W.M. (1988) "Probability of Load Exceedances for Structural Member with Nonlinear Structural Response Process", *Bulletin of The Institute of Management Science/Operation Research Society of America (TIMS/ORSA) Joint National Meeting*, Washington, D.C., April.
- CHOU, K.C. (1987) "Fuzzy Set and Rigid Frame Reliability", *Proceedings of 5th National Conference on Microcomputers in Civil Engineering*, Orlando, FL, Nov.
- THAYAPARAN, P.A. and CHOU, K.C. (1987) "Probabilistic Analysis of Live Load Processes with Nonlinear Structural Response", *Proceedings of 5th International Conference on Applications of Statistics and Probability in Soil and Structural Engineering (ICASP5)*, Vancouver, Canada, May.
- CHOU, K.C. (1987) "Reliability of Existing Framed Structures Using Fuzzy Sets", *Proceedings of the North American Fuzzy Information Processing Society (NAFIPS'87) Conference*, W. Lafayette, IN, May.
- CHOU, K.C. (1987) "Wind Effects on the Serviceability of Structures", *Proceedings of 6th ASCE-EMD Specialty Conference*, Buffalo, NY, May. (Invited paper)
- CHOU, K.C. and THAYAPARAN, P.A. (1987) "Nonlinear Structural Response to Combined Stochastic Load Processes", *Proceedings of 6th ASCE-EMD Specialty Conference*, Buffalo, NY, May.
- CHOU, K.C. and CHANG, M-C (1987) "Protective Structures from Nonnuclear Weapons: A Probabilistic Approach", *Proceedings of the 3rd International Symposium on the Interaction of Conventional Munitions with Protective Structures*, Mannheim, Germany, March.
- CHOU, K.C. (1984) "Probabilistic Analysis of Nonlinear Load Exceedances", *Proceedings of the 5th ASCE-EMD Specialty Conference*, Laramie, WY, Aug. 1-3, pp. 1280-1283.
- CHOU, K.C. and COROTIS, R.B. (1984) "Nonlinear Response to Stochastic Load Processes", *Proceedings of the 4th ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Berkeley, CA, Jan. 11-13, pp. 389-392.
- CHOU, K.C. and COROTIS, R.B. (1983) "Probability Distribution of Typical Wind Speeds", *Proceedings of the 4th ASCE-EMD Specialty Conference*, W. Lafayette, IN, May, 23-25, 1983.

Book and Book Chapters

- MOAVENI, S. (2011) *Engineering Fundamentals, 4th edition*, Thomson. Contributor to the creation of power points presentation of the entire text book.
- MOAVENI, S. and CHOU, K. (2009) "Conceptual Mechanics: A Holistic Approach to Introducing Engineering Mechanics to Freshman Students," Chapter 17 of *Innovation 2009 – World Innovations in Engineering Education and Research*, International Network for Engineering Education and Research (iNEER), pp 203-218. (Invited submission and refereed)
- MOAVENI, S. (2007) *Engineering Fundamentals, 3rd edition*, Thomson. Contributor to the creation of power points presentation of the entire text book.
- CHOU, K.C., WILDE, W.J., and MOAVENI, S. (2005) "Integrating Major Design Experience throughout a Small Civil Engineering Program – a 2-Year Assessment and Implementation", Chapter 17 of *Innovation 2005 – World Innovations in Engineering Education and Research*, International Network for Engineering Education and Research (iNEER), pp 188-198. (Invited submission and refereed)
- CHOU, K.C. (2005) "Human Errors in Constructed Projects", Chapter 12 of *Monograph on Structural Safety and Quality Assurance of Tall Buildings*, Council on Tall Buildings & Urban Habitat, American Society of

Civil Engineers, August.
WONG, F.S., CHOU, K.C., and YAO, J.T.P. (1999) "Civil Engineering Including Earthquake Engineering",
Chapter 6 of *Handbook for Fuzzy Sets*, Vol. 7, Kluwer Publisher