

Curriculum Vitae - Yoshiaki IKEDA

Professor

Earthquake Resistant Structures, Division of Earthquake Disasters
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Education

Dr. Eng. Structural Engineering for Buildings, Waseda University, 1993
M.S. Structural Engineering for Buildings, Waseda University, 1986
B.S. Architecture, Waseda University, 1984

Research Interest

Earthquake Engineering, Structural Control, Structural Health Monitoring

Academic Position

Professor, Disaster Prevention Research Institute, Kyoto University, 2017-present
Visiting Associate Professor, Advanced Research Institute for Science and Engineering, Waseda University, 1999-2001

Job Experience

Kajima Corporation, 1986-2017
Kajima Technical Research Institute, 2015-2017
Architectural Design Division, 2010-2015
Kobori Research Complex, 1986-1987 and 1988-2010
Department of Information System, 1987-1988

Awards

Prize of AIJ 2016 (Research Theses Division), Architectural Institute of Japan, 2016
Encouragement Prize of AIJ 1996, Architectural Institute of Japan, 1996

Major Activities for Academic Associations and Societies

- Technical Committee on Monitoring for Steel Structures, Japan Society of Steel Construction (JSSC), 2017-present
- Sub-committee on Structural Health Monitoring, Architectural Institute of Japan (AIJ), 2014-present
- Managing Committee on Engineering Seismology and Structural Dynamics, AIJ, 2005-2017
- Chair, Sub-committee on Structural Control, AIJ, 2010-2014
- AIJ Committee for Architectural Engineering Education, Japan Accreditation Board for Engineering Education (JABEE), 2005-2017
- Director, Japan Accreditation Board for Engineering Education (JABEE), 2013-2015
- Japan Panel on Structural Control, Japan Society for Promotion of Science, 2003 -2014
- Committee on Selection for the Encouragement Prize of AIJ, 2010-2012
- National Organization Committee, the Fifth World Conference on Structural Control and Monitoring 2010
- Scientific Committee, the 4th World Conference on Structural Control and Monitoring 2006
- Advisory Sub-committee, the 3rd World Conference on Structural Control 2002
- Science Promotion Project for Future on Development of Intelligent Structural Control subjected to Large Earthquakes, Japan Society for Promotion of Science, 1999-2000
- Conference Operations Sub-committee, the 2nd World Conference on Structural Control 1998

- Special Research Committee on Structural Control, AIJ, 1991-1998

Journal Publications (Peer-reviewed Papers)

1. Nagata S., Ikeda Y., Kusaka A., Torisawa K. and Nakajima Y.: Verification Analysis of Earthquake Resistance Diagnosis for Buildings using Capacity Spectrum Method, *Journal of Japan Association for Earthquake Engineering*, Vol.18, No.2, pp.115-129, May 2018 (in Japanese)
2. Ikeda Y.: Active Mass Damper Designed Using ARX Models of a Building Structure, *Earthquake Engineering & Structural Dynamics*, Vol.45, No.13, pp.2185-2205, October 2016
3. Ikeda Y.: Verification of System Identification Utilizing Shaking Table Tests of a Full-scale 4-story Steel Building, *Earthquake Engineering & Structural Dynamics*, Vol.45 No.4, pp.543-562, April 2016
4. Ikeda Y.: Eccentricity Identification Based on Modal Information for Laterally-Torsionally Coupled Structures, *Journal of Structural Engineering (Architectural Institute of Japan)*, Vol.62B, pp.373-380, March 2016 (in Japanese)
5. Ikeda Y., Hanafusa H.: Direct Identification of Stiffness for Flexural-Shear Building Model based on Earthquake Observation, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, Vol.79, No.705, pp.1601-1611, November 2014 (in Japanese)
6. Ikeda Y., Hisada Y.: Earthquake Responses on All Floors in a Building Estimated by Observation Records on Some Restricted Floors, *Journal of Japan Association for Earthquake Engineering*, Vol.13, No.4, pp.38-54, August 2013 (in Japanese)
7. Ikeda Y.: Building Dynamic Property Change under an Earthquake Evaluated by the Forgetting Factor Recursive Least Squares Method, *AIJ Journal of Technology and Design*, Vol.18, No.38, pp.51-54, February 2012 (in Japanese)
8. Ikeda Y.: Verification of identification Methods for Linear Systems Utilizing Shaking Table Tests of Full-Scale 4-story steel Building, *AIJ Journal of Technology and Design*, Vol.16, No.34, pp.889-894, October 2010 (in Japanese)
9. Ikeda Y.: Verification of identification Methods for Nonlinear Hysteretic Systems Utilizing Shaking Table Tests of Full-Scale 4-story steel Building, *AIJ Journal of Technology and Design*, Vol.16, No.34, pp.895-898, October 2010 (in Japanese)
10. Ikeda Y., Suzuki Y, Suzuki Y, Adachi N., Nozawa T.: Damage Detection of Actual Building Structures through Singular Value Decomposition of Power Spectral Density Matrices of Microtremor Responses, *AIJ Journal of Technology and Design*, Vol.16, No.32, pp.69-74, February 2010 (in Japanese)
11. Ikeda Y.: Identification of Story Stiffness for MDOF Shear Building Structures Considering Consistency with Modal Information, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, Vol.74, No.646, pp.2237-2243, December 2009 (in Japanese)
12. Ikeda Y.: Active and Semi-active Vibration Control of Buildings in Japan -Practical Applications and Verification-, *Structural Control & Health Monitoring*, Vol.16, No.7-8, pp.703-723, November-December 2009
13. Ikeda Y.: Mass Identification for Buildings on Linear Programming Utilizing Modal Shape, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, Vol.73, No.627, pp.749-456, May 2008 (in Japanese)
14. Ikeda Y.: Active and Semi-active Control of Buildings in Japan, Special Issue on “Some Recent Earthquake Engineering Research and Practice in Japan”, *Journal of the Japan Association for Earthquake Engineering*, Vol.4 No.3, pp.278-282, August 2004
15. Ikeda Y.: Applications of Direct Identification in Closed Loop to Earthquake Observation Recorded in Actively-Controlled Structures, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.581, pp.47-54, July 2004 (in Japanese)
16. Ikeda Y.: Structural Control Based on ARX Models for Structure and an Equation of Motion for Active Mass Damper, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.578, pp.43-50, April 2004 (in Japanese)
17. Nishitani A., Nitta Y. and Ikeda Y.: Semiactive Structural Control based on Variable Slip-Force Level Damper, *Journal of Structural Engineering*, ASCE, Vol.129 No.7, pp.933-940, July 2003
18. Nishitani A., Nitta Y., Ikeda Y., Ito A. and Maseki R.: Concept of Semiactive Structural Control Utilizing Variable Slip-Force Level Dampers, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.558, pp.93-100, August 2002 (in Japanese)
19. Ikeda Y., Sasaki K., Sakamoto M. and Kobori T.: Active Mass Driver System as the First Application of Active Structural Control, *Earthquake Engineering & Structural Dynamics*, Vol.30 No.11,

- pp.1575-1595, November 2001
20. Ikeda Y. and Nitta Y.: System Identification of Generalized Linear Maxwell Model in the Time Domain, *Journal of Structural Engineering (Architectural Institute of Japan)*, Vol.47B, pp.97-103, March 2001 (in Japanese)
 21. Ikeda Y.: System Identification of 10-Story Building and Control Effect of Installed AMDs Based on Earthquake Observation Records, *Journal of Structural Engineering (Architectural Institute of Japan)*, Vol.46B, pp.335-344, March 2000 (in Japanese)
 22. Ikeda Y.: Effect of Weighting a Stroke of an Active Mass Damper in the Linear Quadratic Regulator Problem, *Earthquake Engineering & Structural Dynamics*, Vol.26 No.11, pp.1125-1136, November 1997
 23. Ikeda Y. and Kobori T.: Optimal Location of Controller for Actively Reducing Lateral and Torsional Vibrations by Only One Control Force, *Proceedings of the Ninth Japan National Symposium on Earthquake Engineering*, Vol.2, pp.1933-1938, December 1994 (in Japanese)
 24. Ikeda Y. and Kobori T.: Structure with Uniaxial Eccentricity Actively Controlled by Only One Control Force, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.462, pp.61-68, August 1994 (in Japanese)
 25. Ikeda Y. and Kobori T.: Active-Variable-Stiffness System Based on Instantaneous Optimization for Single-Degree-of-Freedom Structure, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.435, pp.51-59, May 1992 (in Japanese)
 26. Ikeda Y., Yamada K., Sasaki K., Koshika N. and Kobori T.: Effectiveness of Realized Seismic-Response-Controlled Structure with Active Mass Driver System, *Journal of Structural and Construction Engineering (Transactions of AIJ)*, No.420, pp.133-141, February 1991 (in Japanese)
 27. Kobori T., Koshika N., Yamada K. and Ikeda Y.: Seismic-response-controlled Structure with Active Mass Driver System. Part 1: Design, *Earthquake Engineering & Structural Dynamics*, Vol.20 No.2, pp.133-149, February 1991
 28. Kobori T., Koshika N., Yamada K. and Ikeda Y.: Seismic-response-controlled Structure with Active Mass Driver System. Part 2: Verification, *Earthquake Engineering & Structural Dynamics*, Vol.20 No.2, pp.151-166, February 1991
 29. Kobori T., Koshika N., Yamada K., Ikeda Y., Igarashi K. and Kan T.: Application Study on Active Mass Driver (AMD) System – Part 2: Building Excitation Test and Earthquake Observation, *Proceedings of the Eighth Japan National Symposium on Earthquake Engineering*, Vol.2, pp.1893-1898, December 1990 (in Japanese)

International Conference Presentations & Proceedings

1. Ikeda Y.: An Effective Use of Measurements under Main Shock of Earthquake to Predict Structural Dynamic Properties under Aftershocks, *Proceedings of the 7th World Conference on Structural Control and Monitoring*, pp.2507-2516, July 2018, P.R.China
2. Hatada T., Ikeda Y., Hagiwara H., Nitta Y. and Nishitani A.: Verification of Damage Monitoring and Evaluation Method for High-rise Buildings Based on Acceleration Measurement on Some Restricted Floors in E-Defense Shaking Table Test, *Proceedings of the 16th European Conference on Earthquake Engineering*, ID:10305, June 2018
3. Sugawara O., Hirotsu K., Ogata Y., Takahashi M., Ito M., Maeda M. and Ikeda Y.: Shear Wall Test and Verification of Aseismic Effects for Unit 2 Reactor Building of Onagawa NPP, *Proceedings of 16th World Conference on Earthquake Engineering*, Paper ID:2669, January 2017
4. Ikeda Y., Nagashima I. and Fujitani H.: Verification of Structural Control by Observation Records, *Proceedings of the 5th World Conference on Structural Control and Monitoring*, Paper No.56, July 2010
5. Suzuki Y., Ikeda Y., Suzuki Y., Adachi N. and Nozawa, T.: Damage Detection of Actual Building Structures through Singular Value Decomposition of Power Spectral Density Matrices of Microtremor Responses, *Proceedings of the 5th World Conference on Structural Control and Monitoring*, Paper No.77, July 2010
6. Ikeda Y.: Structural Control, Monitoring and System Identification for a Ten-story Building with AMD System, *Proceedings of the 4th World Conference on Structural Control and Monitoring*, Paper No.213, July 2006
7. Nishitani A., Nitta Y., Ikeda Y., Yamaguchi S. and Kume A.: Variable Slip-Force Level Damper Based-Control Utilizing Semiactive Oil Hydraulic Dampers, *Proceedings of the 3rd World Conference on Structural Control*, Vol.2, pp.115-120, April 2002

8. Ikeda Y.: Nonlinearity Detection in a Building and an Installed Active Control System Based on Earthquake Observation Records, *Proceedings of the 3rd World Conference on Structural Control*, Vol.3, pp.127-132, April 2002
9. Nishitani A., Nitta Y., Ito A. and Ikeda Y.: Semiactive Variable-Friction Damper Control with Simple Algorithms, *Proceedings of the American Control Conference*, pp.503-507, June 2000
10. Ikeda Y.: The Optimal Weighting Parameters for Active Tuned Mass Damper System on the Linear Quadratic Regulator Problem, *Proceedings of the 2nd World Conference on Structural Control*, Vol.3, pp.2107-2114, June-July 1998
11. Kanda K., Kobori T., Ikeda Y. and Koshida H.: The Development of a “Pre-arrival Transmission System for Earthquake Information” Applied to Seismic Response Controlled Structure, *Proceedings of the 1st World Conference on Structural Control*, Vol.2, TA3 pp.23-32, August 1994
12. Ikeda Y. and Kobori T.: Structure with Uniaxial Eccentricity Actively Controlled by Only One Control Force, *Proceedings of the 1st World Conference on Structural Control*, Vol.3, FP1 pp.3-12, August 1994
13. Koshika N., Sakamoto M., Sasaki K., Ikeda Y. and Kobori T.: Control Effect of Active Mass Driver System during Earthquakes and Winds, *Proceedings of the 1st International Conference on Motion and Vibration Control*, pp.261-266, September 1992
14. Ikeda Y., Yamada K., Koshika N. and Kobori T.: Effectiveness of Realized AMD Response-control system, *Proceedings of the 10th World Conference on Earthquake Engineering*, Vol.4, pp.2103-2108, July 1992
15. Kobori T., Sakamoto M., Yamada T., Sasaki K., Ikeda Y., Ishii K. and Tagami J.: Study on Active Mass Driver (AMD) System. Part 1: Active Seismic-response-controlled Structure, *Proceedings of the 4th World Congress on Tall Building -2000 and Beyond-*, pp.587-602, November 1990
16. Kobori T., Koshika N., Yamada K., Sasaki K., Ikeda Y., Orui S., Nagano M., Igarashi K. and Kan S.: Study on Active Mass Driver (AMD) System. Part 2: Active Seismic-response-controlled Structure, *Proceedings of the 4th World Congress on Tall Building -2000 and Beyond-*, pp.603-616, November 1990

National Conference Proceedings

1. Ikeda Y. and Kobori T.: Optimal Location of Controller for Actively Reducing Lateral and Torsional Vibration by Only One Control Force, *Proceedings of the 9th National Symposium on Earthquake Engineering*, Vol.2, pp.1933-1938, December 1994 (in Japanese)
2. Kobori T., Koshika N., Yamada K., Ikeda Y., Igarashi K. and Kan S.: Application Study on Active Mass Driver (AMD) System (Part 2) Building Excitation Test and Earthquake Observation, *Proceedings of the 8th National Symposium on Earthquake Engineering*, Vol.2, pp.1893-1898, December 1990 (in Japanese)