# Masahiro Kurata



Address: Nationality: S-308D, Main Building Japanese **Disaster Prevention Research Institute E-mail:** kurata.masahiro.5c@kyoto-u.ac.jp Gokasho, Uji, Kyoto, JAPAN Office: 81 (774) 38-4085 (As of October, 2023) **EDUCATIONS** PhD. in Civil and Environmental Engineering, Georgia Institute of Technology, Georgia, USA Completion Date: September 2009, Graduation Date: December 2009 Dissertation: Strategies for Rapid Seismic Hazard Mitigation for Sustainable Infrastructure Systems Advisors: Dr. Reginald DesRoches and Dr. Roberto T. Leon Master of Science, Georgia Institute of Technology, Georgia, USA Date: December 2007 Master of Architectural System, Kyoto University, Kyoto, Japan Date: March 2005 Thesis: Test and Analysis of Steel Column Bases for Assessment of Earthquake Responses of Steel Moment Frames Advisors: Dr. Masayoshi Nakashima and Dr. Keiichiro Suita Master of Earthquake Engineering, University of Pavia, Pavia, Italy: Centre for Post-Graduate Training and Research in Earthquake Engineering and Engineering Seismology (ROSE School) Date: June 2004 Thesis: Effect of Column Base Behavior on Seismic Response of Steel Moment Frames Advisor: Dr. Masayoshi Nakashima and Dr. Rui Pinho Bachelor of Architectural Engineering, Kyoto University, Kyoto, Japan Date: March 2002 Advisor: Dr. Keiichiro Suita and Dr. Masayoshi Nakashima RESEARCH AREAS Structural Engineering, Earthquake Engineering, Seismic Rehabilitation, Structural Health Monitoring, Sustainable structural system WORK **EXPERIENCES** Instructor, Kyoto Prefectural University Date: April 2019 - September 2020 Associate Professor, Kyoto University Date: January 2015 - current Assistant Professor, Kyoto University Date: October 2011 - December 2014 Post-doctorate Research Fellow, University of Michigan Date: September 2009 - September 2011 Instructor, Georgia Institute of Technology Undergraduate Level Class: Statics, Date: Spring 2009 and Summer 2009 Graduate Research Assistant, Georgia Institute of Technology Date: August 2005 - May 2009 Graduate Teaching Assistant, Georgia Institute of Technology Graduate Level Class: Earthquake Engineering, Date: Spring 2007 and Spring 2008 HONOWR and AWARDS **Top Downloaded Paper** 2018-2019 in Earthquake Engineering and Structural Dynamics "Fragility function development and seismic loss assessment of expansion joints", 2020 Encouragement Prize of AIJ, 2017 Best Speaker Award, the 11<sup>th</sup> Japan-America Frontier of Engineers jointly organized by Engineering Academy of Japan and National Science Foundation, Oct. 31, 2012 Invited Speaker, the 11th Japan-America Frontier of Engineers, Oct. 29-31, 2012 Invited Speaker, Engineers Week 2011, February 26, 2011.

**Distinguished Master Thesis Award**, Kyoto University Architectural Association (Kenchiku Kai), 2006 Japan Society for the Promotion of Science Doctoral Fellowship, 2005

Japanese Student Services Organization Scholarship for Master study at Kyoto Univ., 2002 and 2004 Instituto Universitario di Studi Superiori Scholarship for Master study at ROSE School, 2003

Curriculum Vitae	The Japan Iron a	nd Steel Federation Research Award for Master study, 2004
PROFESSIONAL AFFILIATION	Architectural Institute of Japan (AIJ), Japan Japan Society of Steel Construction (JSSC), Japan Earthquake Engineering Research Institute (EERI), CA, USA American Society of Civil Engineers (ASCE), VA, USA American Institute of Steel Construction (AISC), IL, USA International Society for optics and photonics (SPIE), USA International Association for Bridge and Structural Engineering (IABSE), Switzerland	
ACTIVITIES	<b>Professional:</b> 2009 – Current	Committee, Structural and Health Monitoring and Control Committee Engineering Mechanics Institute, American Society of Civil Engineers, 2013
	2013 – Current 2013 – 2016 2012 – 2016	Staff, Central Office, International Association of Earthquake Engineering Committee, Program Committee for SPIE Smart Structures /NDE Committee, Structural Health Monitoring Sub-Committee of Special Project for Reducing Vulnerability for Urban Mega Earthquake Disasters (ii) Maintenance and Bacquary of Eurocionality in Urban Infrastructures, MEXT
	2013 2014 – 2015	Executive Committee Chairperson and Facilitator, NEES/E-Defense Collaborative Earthquake Research Program 10th Planning Meeting Committee, Working Group to Prepare English Versions of Design Provisions
		for Steel Structures, AIJ
	2014 – Current 2015 – 2017	Committee, Committee on Stability Design of Steel Structures, AIJ Committee, Committee to Prepare English Versions of Design Provisions for Steel Structures, AIJ
	2014 - 2015	Executive Secretary, Executive Committee for IABSE conference in Nara 2015
	2014 - 2015	Committee, Scientific Committee for IABSE conference in Nara 2015
	2014 – Current	Staff, Central Office, Group of Young Earthquake Engineers
	2015 – Current 2015 – 2017	Staff, NPO International Association of Earthquake Engineering Executive Secretary, Special Task Committee for Educating Architects and Architectural Engineers Capable of Surviving Globalization, AIJ
	2015	Leading Facilitator, Japan-U.S. Planning Meeting for Collaborative Researches on Earthquake Engineering at E-Defense
	2015-2016	Committee, WG for Evaluating Performance of Buckling Suspected Steel Members
	2016 - 2018	Committee, Committee on Ultimate State Evaluation and Damage Detection of Steel Buildings, Japan Society of Steel Construction
	2016 - 2019	Treasurer, Steel Structures Group, AIJ Kinki Branch
	2010 - 2018 2017	Committee Scientific Committee for ANCRISST2017
	2017 – Current	Evaluation Committee, Japan Steel-fabrication Appraisal Organization
	2017 - 2022	Chair of Sub-committee, A Project on Holistic Resilience Enhancement in the Tokyo Metropolitan Area: - Evaluation of special equipment and functionality loss for disaster-base facilities
	2017 – Current	Committee, Committee on Monitoring of Steel Structures, Japan Society of Steel Construction
	2018Current 2018 - 2020	Committee, City Master Plan Committee of Joyo City Council Delegate, AIJ Kinki Branch
	Journal Service:	
	2016-2017	Computer-Aided Civil and Infrastructure Engineering, Guest Editor for 2017 Special Issue on "Innovations in Structural Health Monitoring."
	2017-現在	AIJ Japan Architectural Review, Editorial Board Member
	2017-2018	Computer-Aided Civil and Infrastructure Engineering, Guest Editor for 2018 Special Issue on "Innovations in Structural Health Monitoring."
	2018-2019	Special Issue on "Innovations in Structural Health Monitoring."
	2019-2023	Earthquake Engineering and Structural Dynamics, Associate Editor

## Social:

President, Earthquake Engineering Research Institute, Georgia Tech Student Chapter, 2007 Vice President, Earthquake Engineering Research Institute, Georgia Tech Student Chapter, 2006 President, Georgia Tech Japan Society, 2007 and 2008 Panelist, Briefing Sessions in Kyoto University, Japanese Graduate Student Association in the US, 2012, 2013, 2014

LANGUAGES English: fluent in writing, reading and speaking Italian: fair for daily communications Japanese: native

#### SEMINAR AND TALK

University of Catania, Italy "Ph.D. Course in Evaluation and Mitigation of Urban and Territorial Risks": Multi-Disciplinary Approach on Earthquake Reconnaissance and Large-Scale Testing for Seismic Assessment and Monitoring of Medical Facilities, October, 4, 2023

日本建築学会:トルコ・シリア地震災害調査 速報会:建物被害と事業継続性:工業団地(PC 造・S 造)/病院施設(耐震・免震), April, 29, 2022

"Reconnaissance, Seismic Assessment, and Monitoring of Hospital Buildings with due Consideration of Nonstructural Components and Equipment," Georgia Institute of Technology Earthquake, SMEM Seminar, October, 11, 2022 (invited)

NHERI/E-Defense First Phase, NHERI National Disaster Research Summit, Oct 5-6, 2022 (invited)

建築物の振動計測技術と多様な性能評価に関する研究勉強会:BCP(事業継続計画)とモニタ リング地震による病院機能の損失から,2022.6.2(招待講演)

日本建築総合試験所・BCP(事業継続計画)に関する講演会:地震による病院機能の損失, 2022.5.16(招待講演)

Monitoring for Earthquake Engineering: Current initiatives and future direction, 17th World Conference on Earthquake Engineering, Future Direction Session, Super advanced exploration, simulation, and monitoring (Panelist)

Holistic Seismic Assessment of Critical Buildings with due Consideration of Non-Structural Components and Equipment, Seminar at National Institute of Standards and Technology, USA, March 21, 2019.

Connections in Steel Structures with HSS columns: Design, Fabrication and Researches in Japan, XV International Symposium of Steel Structure, Instituto Mexicano de la Construcción en Acero (IMCA), Puerto Vallarta, Jalisco, Mexico, March 7, 2019

新生児看護学会の教育講演会:災害について一緒に考えよう備えあれば憂いなし備えるべき 『知識』『意識』"大地震時に病院は一特にNICUはー"January 27, 2018 (in Japanese)

"Damage Prevention, Evaluation and Decision-Making: Challenges in Structural Engineering against Megaquakes," Departmental Seminar, University of Canterbury, September 11, 2017

"Damage Evaluation and Residual Performance Estimates of Steel Structures after Earthquakes," Departmental Seminar, University of Auckland, September 7, 2017

"Needs on Seismic Retrofit of Steel Buildings Considering Consequences", 2nd Huixian International Forum on Earthquake Engineering for Young Researchers, August 19-21, 2016, Beijing, China

"余震による事業中断を考慮した重要施設の事業継続性評価", IT 強震計研究会第 26 回定例会 January 24, 2017 (in Japanese)

地域の拠点建物の使用継続性を担保する,第 22 回京都大学宇治キャンパス産学交流会, Dec. 6, 2016 (in Japanese)

"熊本地震の教訓:建築構造の観点から",南防火協会講演会, Sept 21, 2016 (in Japanese)

"Advanced Architecture B", invited lecture for graduate level class, graduate school of architecture, Waseda University, November 26, 2014

"Structural Health Monitoring and Decision Making of Seismically Damaged Buildings," the Special Seminar at the 29th General Assembly Meeting, the Committee of Earthquake Observation and Research in the Kansai Area: CEORKA, July 1, 2014.

"Responses to Non-Physical Performance Requirements in Structural Engineering," Seminar for the Structural Control Committee (157 Committee), Japan Society for the Promotion of Science, January 14, 2014.

"Ultimate Behavior of Hollow Steel Section Columns and Collapse Margin of Steel Buildings," Seminar for Steel Research Section, Kinki Branch, Architectural Institute of Japan, January 1, 2014.

"Development of Local Damage Detection Techniques for Improving Earthquake Preparedness of Steel Structures," Global COE Program: International Urban Earthquake Engineering Center for Mitigating Seismic Mega Risk, Center for Earthquake Engineering (CUEE), Tokyo Institute of Technology, February 23, 2013.

"Post-Earthquake Damage Screening of Structures," the 11th Japan-America Frontiers of Engineering (JAFOE), Engineering Academy of Japan (EAJ) and National Science Foundation (NSF), Arnold and Mabel Beckman Center in Irvine, California, October 29-31, 2012.

"Resilient City: Functions Required for Structural Engineering and Design," Closed Seminar for Structural Health Monitoring, Steel Structure Development Center, Steel Research Laboratories, Nippon Steel Corporation, March 15, 2012

"Smart Bridges...How Wireless Sensors Can Detect a Sick Bridge: Multi-Scale Approaches to Monitoring and Assessing the Structural Integrity of Bridges Using Next-Generation Sensor Technologies," Engineers Week 2011: Dinner Banquet Program, Windsor Park Conference Center, Mishawaka, IN, February 26, 2011.

"Strategies for Seismic Hazard Mitigation in Sustainable Urban Systems through Large Scaling Testing", Earthquake Protection System, California, June 19, 2009

"Strategies for Seismic Hazard Mitigation in Sustainable Urban Systems through Large Scaling Testing", Department of Civil and Environmental Engineering, University of Michigan, May 26, 2009

"Strategies for Seismic Hazard Mitigation in Sustainable Urban Systems through Large Scaling Testing", Department of Civil and Environmental Engineering, Oregon State University, April 8, 2009

**PATENT** "Cable Bracing System with Central Energy Dissipater", U.S. Provisional Patent Application, GTRC ID 4754 (lapsed in April 17, 2010)

Masahiro Kurata, Kailai Den: Method of constructing a composite stud, a floor structure and the floor structure [Patent number] Japanese Patent No. 7082413 (P7082413) [Publication date] Reiwa 4(2022) June 8 (2022.6.8) [Patentee] Kyoto University

## **PUBLICATIONS** SCI Journal Papers (56):

- 1. Astudillo, B, Rivera, D, Duke, J, Simpson,B, Fahnestock, LA, Sause, R, Ricles, J, <u>Kurata, M</u>, Okazaki, T, Kawamata, Y, Tao, Z, Qie Y, "Modeling uncertainty of specimens employing spines and force-limiting connections tested at E-defense shake table," *Earthquake Engng Struct Dyn.* 2023; 52: 4638–4659. https://doi.org/10.1002/eqe.3976
- Qi, L., <u>Kurata, M.</u>, Huang, J., Kawamata Y., Aida, S., Cho, K., Kanao, K., Takaoka, M. "Seismic Damage and Functional Defects of Ceiling Systems: Observation in Shaking Table Test of Hospital Specimen," *Earthq. Engng Struct Dyn.* 2023; <u>https://doi.org/10.1002/eqe.3900</u>

- Shen, S-D, <u>Kurata, M.</u> Rapid evaluation of structural soundness of steel frames using a coupling coefficient (CC)-based method. Earthquake Engng Struct Dyn. 2023; 1- 23. https://doi.org/10.1002/eqe.3811
- Huang, J, <u>Kurata, M</u>, Kawamata, Y, Kanao, I, Qi, L, Takaoka, M. In-Plane damage of partition walls with various boundaries during earthquakes. Earthquake Engng Struct Dyn. 2022; 1- 19. <u>https://doi.org/10.1002/eqe.3802</u>
- Shimoto, M., Cho, K., <u>Kurata, M.</u>, Hitomi, M., Kato, Y., Aida, S., Sugiyama, O., Maki, N., Ohtsuru, S. "Hospital Evacuation Implications After the 2016 Kumamoto Earthquake," *Disaster Medicine and Public Health Preparedness*, 1-3, 2022 doi:10.1017/dmp.2022.25 (Report from the Field)
- Horiuchi, T., Ohsaki, M., <u>Kurata, M.</u>, Ramirez, JA., Yamashita, T., Kajiwara, K. "Contributions of E-Defense Shaking Table to Earthquake Engineering and its Future," *Journal of Disaster Research*, 17 (6), 985-999, 2022.10, <u>https://doi.org/10.20965/jdr.2022.p0985</u>
- Ikeda, Y., <u>Kurata, M.</u>, Xie, J. "Verification of multi-degree-of-freedom building modelling for seismic response prediction based on microtremor measurement," *Earthquake Engng Struct Dyn.* 2022; 00 1– 26, <u>https://doi.org/10.1002/eqe.3630</u>
- Skalomenos, K., Whittall, T., <u>Kurata, M.</u>, Pickering J. "Component testing and multi-level seismic design of steel braced frames with high post-yielding stiffness and two-phase yielding," *Soil Dynamics and Earthquake Engineering* 157, 107248, 2022.6, <u>https://doi.org/10.1016/j.soildyn.2022.107248</u>
- Hamauzu, S., Skalomenos, K., <u>Kurata, M.</u>, Theofanous M. "Local buckling behaviour of highstrength steel tubular columns subjected to one-sided cyclic loading and implications in seismic design of steel MRFs," *Soil Dynamics and Earthquake Engineering* 154, 107115, 2022.3, <u>https://doi.org/10.1016/j.soildyn.2021.107115</u>
- Qi, L., <u>Kurata, M.</u>, Ikeda Y. "Seismic damage thresholds and design methods for two-elevation continuous ceiling systems," *Engineering Structures*, 251, 113530, 2022, <u>https://doi.org/10.1016/j.engstruct.2021.113530</u>
- 11. Shen, SD., <u>Kurata, M.</u>, Pan, P., He, ZZ. "Test, analysis, and design of ovally perforated vertically flexible steel plate shear wall (OVSPW)," *Earthquake Engineering & Structural Dynamics*, 51(1), pp. 66-85, 2022.1, <u>https://doi.org/10.1002/eqe.3556</u>
- Ammons, M., Shimada, H., McCormick, J., <u>Kurata, M.</u> "Experimental Investigation of Foam Filled CHS Braces under Cyclic Loading," *Journal of Structural Engineering*, 147(5), 04021044, 2021.5, <u>https://doi.org/10.1061/(asce)st.1943-541x.0002993</u>
- 13. Li, X., <u>Kurata, M.</u>, Wang, Y-H., Nakashima, M. "Estimating Earthquake-Induced Displacement Responses of Building Structures Using Time-Varying Model and Limited Acceleration Data," *Journal of Structural Engineering*, 147(4), 04021014, 2021.4, <u>https://doi.org/10.1061/(asce)st.1943-541x.0002973</u>
- Qi, L., <u>Kurata, M.</u>, Ikeda, Y., Kunitomo, K., Takaoka, M. "Seismic evaluation of two elevation ceiling system by shake table tests," *Earthquake Engineering and Structural Dynamics*, 50(4), pp. 11447-1166, 2021.4, <u>https://doi.org/10.1002/eqe.3390</u>
- Arfin, F.A., Sullivan, T., MacRae, G., <u>Kurata, M.</u>, Takeda, T. "Lessons for loss assessment from the Canterbury earthquakes: a 22-storey building," *Bulletin of Earthquake Engineering*, 19(5), pp. 2081-2104, 2021.3, <u>https://doi.org/10.1007/s10518-021-01055-7</u>
- 16. Otsuki, Y., Li, D., Dey, S.S., <u>Kurata, M.</u>, Wang, Y. "Finite Element Model Updating of an 18-Story Structure using Branch-and-Bound Algorithm with Epsilon-Constraint," *Journal of Civil Structural Health Monitoring*, 2020.12, <u>https://doi.org/10.1007/s13349-020-00468-3</u>

- Liu, Y., Nishiyama, M., Tani, M., <u>Kurata, M.</u>, Iwata, K. "Steel beam with web opening reinforced by induction heating," *Journal of Constructional Steel Research*, Volume, 176, 106399, <u>https://doi.org/10.1016/j.jcsr.2020.106399</u>, 2021.1
- Marzano, G., Skalomenos, K.A., <u>Kurata, M.</u> "Multiple-Damage State Retrofit of Steel Moment-Resisting Frames with Minimal Disturbance Arm Damper," *Journal of Structural Engineering*, <u>https://doi.org/10.1061/(ASCE)ST.1943-541X.0002697</u>, 2020.9
- Zeng, X., Deng, K., <u>Kurata, M.</u>, Duan, J., Zhao, C. "Seismic performance evaluation of damagecontrolled composite steel frame with flexible-gel-covered studs," *Engineering Structures*, 219, 110855, <u>https://doi.org/10.1016/j.engstruct.2020.110855</u>, 2020.9
- Qi, L., Kunitomo, K., <u>Kurata, M.</u>, Ikeda, Y. "Investigating the Vibration Properties of Integrated Ceiling Systems Considering Interactions with Surrounding Equipment," *Earthquake Engineering* and Structural Dynamics, 49(8), 772-793, <u>https://doi.org/10.1002/eqe.3264</u>, 2020.7
- Liu, Y., Tani, M., <u>Kurata, M.</u>, Watase, C., Nishiyama, M. "Study on I-Shaped Section Steel Braces Partially Strengthened by Induction Heating," *Engineering Structures*, 210, 110341, <u>https://doi.org/10.1016/j.engstruct.2020.110341</u>, 2020.5
- 22. Skalomenos, K.A., <u>Kurata, M.</u>, Nishiyama, M. "Induction-heat treated steel braces with intentional eccentricity," *Engineering Structures*, 211, 2020, 110461, <u>https://doi.org/10.1016/j.engstruct.2020.110461</u>, 2020.5
- Deng, K., Zeng, X., <u>Kurata, M.</u>, Zhao, C., Onishi, K. "Damage Control of Composite Steel Beams Using Flexible Gel-Covered Studs," *Journal of Structural Engineering*, 146 (3), <u>https://doi.org/10.1061/(ASCE)ST.1943-541X.0002534</u>, 2020.3.
- Otsuki, Y., <u>Kurata, M.</u>, Skalomenos, K.A., Ikeda, Y. [2019]. "Fragility Function Development and Seismic Loss Assessment of Expansion Joints," *Earthquake Engineering and Structural Dynamic* 48 (9), 1007-1029, https://doi.org/10.1002/eqe.3171.
- Li, X., <u>Kurata, M</u>. [2019]. "Probabilistic updating of fishbone model for assessing seismic damage to beam-column connections in steel moment-resisting frames," *Computer-Aided Civil and Infrastructure Engineering*, 34(9), pp. 790-805, https://doi.org/10.1111/mice.12429.
- Otsuki, Y., <u>Kurata, M.</u>, Skalomenos, K.A., Ikeda, Y. [2019]. "Damage sequence and safety margin assessment of expansion joints by shake table testing," *Earthquake Engineering and Structural Dynamic*, 48: 3-26. https://doi.org/10.1002/eqe.31200.
- 27. Zhang, L., Marzano, G., Sasaki, Y., <u>Kurata, M.</u>, Skalomenos, K. [2018]. "Force Redistribution of Steel Moment-Resisting Frame Retrofitted with a Minimal Disturbance Arm Damper," *Soil Dynamics and Earthquake Engineering*, 114, pp. 159-173, https://doi.org/10.1016/j.soildyn.2018.06.035
- Skalomenos, K.S., <u>Kurata, M.</u>, Shimada, H., Nishiyama, M. [2018]. "Use of Induction-Heating in Steel Structures: Material Properties and Novel Brace Design," *Journal of Constructional Steel Research*, 148, pp. 112-123, https://doi.org/10.1016/j.jcsr.2018.05.016
- Skalomenos, K.S., Nakashima, M., <u>Kurata, M.</u> [2018]. "Seismic Capacity Quantification of Gusset-Plate Connections to Fracture for Ductility-Based Design," *Journal of Structural Engineering*, 144(10), https://doi.org/10.1061/(ASCE)ST.1943-541X.0002193
- Zhang, L, <u>Kurata, M.</u>, Marino, E.M., Takeda, T. [2018]. "Development of a Minimal-Disturbance Rehabilitation System for Sustaining Bidirectional Loading,", *Journal of Structural Engineering*, 144(6) https://doi.org/10.1061/(ASCE)ST.1943-541X.0002089.
- Deng, D., Zhao, C., Wang, K, <u>Kurata, M.</u>, Wang, T. [2018]. "Numerical Study on a Fullyprefabricated Damage-tolerant Beam to Column Connection for an Earthquake-resilient Frame," *Engineering Structures*, 159(15), pp. 320-331, https://doi.org/10.1016/j.engstruct.2018.01.011.
- 32. Skalomenos, K.S., Kurata, M. and Nakashima, M. [2018]. "On-line Hybrid Test Method for Evaluating the Performance of Structural Details to Failure," *Earthquake Engineering and Structural Dynamic*, 47(3), pp. 555-572, https://doi.org/10.1002/eqe.2979

- 33. Matarazzo, T.J., <u>Kurata, M.</u>, Nishino, H., Suzuki, A. [2018]. "Post-earthquake Strength Assessment of a Steel Moment-Resisting Frame with Multiple Beam-Column Fractures using Local Monitoring Data," Journal of Structural Engineering, Vol. 144(2), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001967.
- Burton, A., Lynch, J.P., <u>Kurata, M.</u>, Law, K. [2017]. "Fully Integrated Carbon Nanotube Composite Thin Film Strain Sensors on Flexible Substrates for Structural Health Monitoring," *Smart Materials and Structures*, Vol. 26(9).
- Suzuki, A., <u>Kurata, M.</u>, Li, X., and Shimmoto, S. [2017]. "Residual Structural Capacity Evaluation of Steel Moment-Resisting Frames using Dynamic-strain-based Model Updating Method," *Earthquake Engineering and Structural Dynamics*, https://doi.org/10.1002/eqe.2882.
- Inamasu, H., Skalomenos, AK., Hsiao, P-C., Hayashi K., <u>Kurata, M.</u>, and Nakashima, M. [2017]. "Gusset plate connection for Naturally Buckling Brace," *Journal of Structural Engineering*, 143(8), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001794.
- Lavan, O., Sato, M., <u>Kurata, M.</u>, Zhang, L. [2017]. "Local Deformation Based Design of Minimal-Disturbance Arm Damper for Retrofitting Steel Moment-Resisting Frames," *Earthquake Engineering and Structural Dynamics*, 46(9), https://doi.org/10.1002/eqe.2866.
- Barbagallo, B., Hamashima, I., Hu, H., <u>Kurata, M.</u>, Nakashima, M. [2017]. "Base Shear Capping Buildings with Graphite-Lubricated Bases for Collapse Prevention in Extreme Earthquakes," *Earthquake Engineering and Structural Dynamics*, 46(6), https://doi.org/10.1002/eqe.2842.
- X, <u>Kurata, M.</u>, Suzuki, A. [2017]. "Decoupling Algorithm for Evaluating Multiple Beam Damages in Steel Moment-resisting Frames," *Earthquake Engineering and Structural Dynamics*, 46(7), pp. 1045-1064. https://doi.org/1064, 10.1002/eqe.2841.
- Zhang, Y., <u>Kurata, M.</u>, Lynch, J.P. [2017]. "Long-Term Modal Analysis of Wireless Structural Monitoring Data from a Suspension Bridge under Varying Environmental and Operational Conditions: System Design and Automated Modal Analysis," *Journal of Engineering Mechanics*, 143(4), https://doi.org/10.1061/(ASCE)EM.1943-7889.0001198, 04016124.
- Yamaguchi, M., <u>Kurata, M.</u>, Miyazawa, M. [2017]. "Building Damage Estimates using Slowness Change in Propagating Waves," *Journal of Structural Engineering*, 143(4), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001683, 04016200.
- He, L., Togo, T., Hayashi, K., <u>Kurata, M.</u>, Nakashima, M. [2016]. "Cyclic Behavior of Multi-Row Slit Shear Walls Made from Low Yield Point Steel," *Journal of Structural Engineering* 142(11), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001569, 04016094.
- Bai, Y., <u>Kurata, M.</u>, Nakashima, M., Florez, J. [2016]. "Macromodeling of Crack Damage in Steel Beams Subjected to Nonstationary Low Cycle Fatigue," *Journal of Structural Engineering*, 142(10), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001536, 04016076.
- 44. Li, X., <u>Kurata, M.</u>, Nakashima, M. [2016]. "Simplified Derivation of a Damage Curve for Seismically Induced Beam Fracture in Steel Moment-resisting Frames," *Journal of Structural Engineering*, 141(6), https://doi.org/10.1061/(ASCE)ST.1943-541X.0001473, 04016019.
- 45. <u>Kurata, M.</u>, Sato, M., Zhang, L., Lavan, O., Becker, T., Nakashima, M. [2016]. "Minimal-Disturbance Seismic Rehabilitation of Steel Moment-Resisting Frames using Light-weight Steel Elements," *Earthquake Engineering and Structural Dynamics*, 45(3), pp. 383-400.
- 46. He, L., <u>Kurata, M.</u>, Nakashima, M. [2015]. "Condition Assessment of Steel Shear Walls with Tapered Links under Various Loadings," *Earthquake and Structure*, 9(4), pp. 767-788, 2015.10.
- <u>Kurata, M.</u>, He, L., Nakashima, M. [2015]. "Steel Slit Shear Walls with Double-Tapered Links Capable of Condition Assessment," *Earthquake Engineering and Structural Dynamics*, Wiley, 44(8), pp. 1271-1287.

- 48. Li, X., <u>Kurata, M.</u>, Nakashima, M. [2015]. "Evaluating Damage Extent of Fractured Beams in Steel Moment-Resisting Frames using Dynamic Strain Responses," *Earthquake Engineering and Structural Dynamics*, Wiley, 44(4), pp. 563-581.
- Nakashima, M., Lavan, O., <u>Kurata, M.</u>, Luo, Y. [2014]. "Earthquake Engineering Research Needs in Light of Lessons Learned from the 2011 Tohoku Earthquake," *Earthquake Engineering and Engineering Vibration*, 13, Suppl.1, pp. 141-149. https://doi.org/10.1007/s11803-014-0244-y
- 50. Shi Y., <u>Kurata, M.</u>, Nakashima, M. [2014]. "Disorder and Damage of Base-Isolated Medical Facilities when Subjected to Near-Fault and Long-Period Ground Motions," *Earthquake Engineering and Structural Dynamics*, Wiley, 43(11), pp. 1683-1701.
- 51. Shi, Y., Becker, T., <u>Kurata, M.</u>, Nakashima, M. [2013]. "H∞ Control in the Frequency Domain for a Semi-Active Floor Isolation System," *Frontiers of Structural and Civil Engineering*, 7(3), pp. 264-275.
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### **CO-Principal Investigator / Collaborator:**

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Tokyo Resilience Project "Collection and Synthesis of Data Regarding Combined Structural and Nonstructural Performance and Damage", Theme III Holistic Assessment of Seismic Damage in Medical Facilities -Evaluation of Special Equipment and Functionality Loss in Disaster-Base Facilities, PI: Akira Nishitani (Waseda University), Co-PI (Team leader of Theme III): Masahiro Kurata, 2016.4-2022.3

DPRI Kyoto University, Award for International Research Collaborations: Enabling Smart Retrofit to Enhance Seismic Resilience: Japan and NZ Case Studies, PI: Tim Sullivan (the University of Canterbury), 2016-2017.

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DPRI Kyoto University, Award for General Research Collaborations: Nanoengineered Sensing Skins for Rapid Post-Event Health Monitoring of Steel Frame Structures, PI: Jerome P. Lynch (University of Michigan), 2013-2014

## Organizing Workshop/Symposium (Principal Organizer):

DPRI Kyoto University, Award for International Collaborations: Japan-Greece International Workshop by Young Researchers on "Advanced Materials and Technology for Applications to Steel and Composite Steel/Concrete Structures", 12.7-8, 2017

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