Curriculum Vitae

KONSTANTINOS A. SKALOMENOS

Disaster Prevention Research Institute (DPRI)
Kyoto University
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Greek
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(As of September, 2017)

1. EDUCATION

University of Patras – Department of Civil Engineering, Greece

10/2009 – 05/2014 Doctor of Philosophy in Engineering (Ph.D)
Structural Dynamics and Seismic Design of Composite Steel/Concrete Structures
Dissertation: *Seismic performance of plane moment resisting frames with concrete filled steel tube columns and steel I beams*
Advisor: Professor Dimitri E. Beskos

09/2007 – 09/2009 Master of Science in Earthquake Resistant Design of Structures (M.Sc.)
Thesis: *Development of spatial combination rules of seismic responses of tall steel building structures*
Advisor: Professor Dimitri E. Beskos

09/2002 – 07/2007 Diploma in Civil Engineering
5 years program with Master of Engineering (M.Eng)
Thesis: *Comparison of two new seismic design methods for steel structures with the design method based on Eurocode 8: a) the displacement based design (DBD) method, and b) the hybrid force/displacement design (HFD) method.*
Advisor: Professor Dimitri E. Beskos

2. RESEARCH AREAS

Earthquake Structural Engineering, Steel and Composite Steel/Concrete Structures, New High-Performance Materials and Technology, Seismic Assessment and Rehabilitation of Existing Buildings

3. ACADEMIC APPOINTMENTS/EXPERIENCE

Kyoto University – Disaster Prevention Research Institute (DPRI), Japan

04/2017 – Today Specially Appointed Assistant Professor

04/2015 – 03/2017 Post-Doctoral Fellow of the Japan Society for Promotion of Science (JSPS)
(under Prof. Masayoshi Nakashima)

02/2015 – 03/2015 Post-Doctoral Research Associate

09/2014 – 10/2014 Visiting Graduate Researcher
(Nakashima & Kurata lab)

University of Patras – Department of Civil Engineering, Greece

08/2013 – 01/2015 Graduate Research Assistant
(under Prof. Stavros Anagnostopoulos)

09/2008 – 04/2014 Graduate Teaching Assistant

University of Patras – Laboratory of Industrial Engineering and Environmental Technology, Greece

07/2007 – 01/2008 Graduate Lab Assistant

4. PUBLICATIONS

Doctoral Thesis

Skalomenos KA, Seismic Performance of Plane Moment Resisting Frames With Concrete-Filled Steel Tube Columns and Steel I Beams, Ph.D. Thesis, Department of Civil Engineering, University of Patras, Greece, April 2014, 402 pages (written in English), http://hdl.handle.net/10889/8442

Papers in International Refereed Journals

J11. Skalomenos KA, Kurata M, Nakashima M (2017), On-line hybrid test method for evaluating the performance of structural details to failure, *Earthquake Engineering and Structural Dynamic*s, 1–18, https://doi.org/10.1002/eqe.2979

J10. Serras D, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2017), Inelastic behavior of circular concrete-filled steel tubes: Monotonic vs. Cyclic response, *Bulletin of Earthquake Engineering*, https://link.springer.com/article/10.1007/s10518-017-0186-7

J9. Skalomenos KA, Inamasu H, Shimada H, Nakashima M (2017), Development of a steel brace with intentional eccentricity and experimental validation, *ASCE - Journal of Structural Engineering*, 143(8):04017072, http://ascelibrary.org/doi/10.1061/(ASCE)ST.1943-541X.0001809

J8. Inamasu H, Skalomenos KA, Hsiao P-C, Hayashi K, Kurata M, Nakashima M (2017), Gusset plate connections for naturally buckling steel braces, *ASCE - Journal of Structural Engineering*, 143(8): 04017065, http://ascelibrary.org/doi/10.1061/(ASCE)ST.1943-541X.0001794

J7. Serras D, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2016), Modelling of circular concrete-filled steel tube columns subjected to cyclic lateral loading, *Structures*, 8(1): 75-93, https://doi.org/10.1016/j.istruc.2016.08.008

J6. Skalomenos KA, Hayashi KK, Nishi R, Inamasu H, Nakashima M (2016), Experimental behavior of concrete-filled steel tube columns using ultra-high strength steel, *ASCE - Journal of Structural Engineering,* 142(9):04016057, http://ascelibrary.org/doi/10.1061/(ASCE)ST.1943-541X.0001513

J5. Kamaris G, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2016), Seismic damage estimation of in-plane regular steel/concrete composite moment resisting frames, *Engineering Structures*, 115: 67-77, https://doi.org/10.1016/j.engstruct.2016.01.053

J4. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), Seismic behavior of composite steel/concrete MRFs: deformation assessment and behavior factors, *Bulletin of Earthquake Engineering*, 13(12): 3871-3896, https://link.springer.com/article/10.1007/s10518-015-9794-2

J3. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), Application of the hybrid force/displacement (HFD) seismic design method to composite steel/concrete plane frames, *Journal of Constructional Steel Research*, 115: 179-190, https://doi.org/10.1016/j.jcsr.2015.08.007

J2. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), Modelling level selection for seismic analysis of concrete-filled steel tube/moment resisting frames by using fragility curves, *Earthquake Engineering and Structural Dynamics*, 44(2): 199-220, http://onlinelibrary.wiley.com/doi/10.1002/eqe.2465/full

J1. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2014), Parameter identification of three hysteretic models for the simulation of the response of CFT columns to cyclic loading, *Engineering Structures*, 61, 44-60, https://doi.org/10.1016/j.engstruct.2014.01.006

Papers in Refereed Conference Proceedings

C20. Serras D, Hatzivassiliou M., Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2018), Three-dimensional composite buildings subjected to repeated earthquakes: the 16th ECCE European Conference in Earthquake Engineering, 18-21 June, Thessaloniki, Greece (abstract submitted).

C19. Skalomenos KA, Kurata M, Fukutomi Y, Nishiyama M (2018), Steel braces with controlled post-buckling behavior: an application example of induction heating (IH) technology: the 11th NCEE U.S. National Conference on Earthquake Engineering, 25-29 June, Los Angeles (abstract submitted).

C18. Hayashi K, Skalomenos KA, Inamasu H (2018), Cyclic testing of a controlled-rocking composite frame system with pre-stressed concrete (PC) bars and low-yield point fuses: the 16th ECCE European Conference in Earthquake Engineering, 18-21 June, Thessaloniki, Greece (abstract submitted).

C17. Skalomenos KA, Kurata M, Shimada H, Nishiyama M (2018), An experimental study on steel braces with partially enhanced strength using induction heating (IH) technology: the 16th ECCE European Conference in Earthquake Engineering, 18-21 June, Thessaloniki, Greece (abstract submitted).

C16. Lekidis V, Anagnostopoulos SA, Skalomenos KA, Morfidis K, Karakostas C, Salonikios T (2018), Assessment and retrofit scenarios for administration building of prefecture of Messinia (Greece) applying the EN1998-1 and KANEPE code: the 16th ECCE European Conference in Earthquake Engineering, 18-21 June, Thessaloniki, Greece (abstract submitted).

C15. Skalomenos KA, Shimada H, Kurata M, Nakashima M (2018), On-line testing of brace connections using non-linear substructuring and force-displacement combined control: the 8th STESSA International Conference on Behavior of Steel Structures in Seismic Areas, 14-17 February 2018, Christchurch, New Zealand (paper submitted).

C14. Kamaris GS, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2018), An empirical methodology for seismic damage control of CFT-MRFs: the 8th STESSA International Conference on Behavior of Steel Structures in Seismic Areas, 14-17 February 2018, Christchurch, New Zealand (paper submitted).

C13. Serras D, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2017), Nonlinear model for circular concrete-filled steel tubes under monotonic loading: the 9th Hellenic National Conference of Steel Structures, 5-7 October, 2017, Larisa, Greece.

C12. Skalomenos KA, Shimada H, Kurata M, Nakashima M (2017), Feasibility of hybrid simulation for testing steel connections of braces with intentional eccentricity: the 8th EUROSTEEL European conference on Steel and Composite Structures, 13-15 September 2017, Copenhagen, Denmark.

C11. Inamasu H, Skalomenos KA, Hsiao PC, Hayashi K, Kurata M, Nakashima M (2017), Experimental investigation of bolt-configured naturally buckling brace with gusset plate connection: the 16th WCEE World Conference on Earthquake Engineering, 9-13 January 2017, Chile.

C10. Skalomenos KA, Inamasu H, Shimada H, Nakashima M (2017), Experimental investigation of steel braces installed with intentional eccentricity using gusset plate connections: the 16th WCEE World Conference on Earthquake Engineering, 9-13 January 2017, Chile.

C9. Skalomenos KA, Inamasu H, Shimada H, Nakashima M (2016), Seismic behavior and physical theory model of a steel brace with intentional eccentricity: the 11th PSSC Pacific Structural Steel Conference, 29-31 October 2016, Shanghai, China, 1116-1122.

C8. Kamaris GS, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2016), Damage evaluation of plane regular CFT-MRFs subjected to far-fault ground motions: In Proceedings of 11th PSSC Pacific Structural Steel Conference, 29-31 October 2016, Shanghai, China, 1044-1049.

C7. Kamaris GS, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2016), Simple expressions for seismic damage assessment of CFT-MRFs: In Proceedings of 11th HSTAM International Congress on Mechanics, 27-30 May 2016, Athens, Greece.

C6. Serras D, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), On the nonlinear cyclic behavior of circular concrete-filled steel tubes: In Proceedings of 8th GRACM International Congress on Computational Mechanics, 12-15 July 2015, University of Thessaly, Volos, Greece.

C5. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), A design approach for composite framed structures using the hybrid force/displacement (HFD) seismic method: In Proceedings of 8th STESSA International Conference on Behavior of Steel Structures in Seismic Areas, 1-3 July 2015, Tongji University, Shanghai, China, 1458-1465.

C4. Kamaris GS, Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2015), Simple formulae for damage estimation of composite steel/concrete moment resisting frames: In proceedings of 5th COMPDYN International conference on Computational Methods in Structural Dynamics and Earthquake

Engineering, M. Papadrakakis, V. Papadopoulos, V. Plevris (eds.) Crete Island, Greece, 25–27 May 2015.

C3. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2014), Seismic yield displacement of composite steel/concrete plane frames: In Proceedings of 8th Hellenic National Conference of Steel Structures, 2-4 October, 2014, Tripoli, Greece.

C2. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2014), Modelling of CFT/MRFs using fragility curves: In Proceedings of 7th EUROSTEEL European conference on Steel and Composite Structures, 10-12 September 2014, Napoli, Italy.

C1. Skalomenos KA, Hatzigeorgiou GD, Beskos DE (2013), Determination of Bouc-Wen hysteretic model parameters for simulating the seismic behavior of square CFT columns: In Proceedings of 10th HSTAM International Congress on Mechanics, 25-27 May 2013, Chania, Crete.

Summaries of Technical Papers in Conference Proceedings

T13. Takeda T, Skalomenos K, Shimada H, Kurata M, Nakashima M (2017), Hybrid test of a gusset plate connection intended for steel braces, Part I: Experimental method: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 31 August - 3 September, Hiroshima, Japan (in Japanese).

T12. Skalomenos K, Takeda T, Shimada H, Kurata M, Nakashima M (2017), Hybrid test of a gusset plate connection intended for steel braces, Part II: Cyclic behavior: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 31 August - 3 September, Hiroshima, Japan.

T11. Fukutomi Y, Shimada H, Skalomenos K, Kurata M, Nishiyama M., Nakashima M (2017), Cyclic tests of steel braces with stronger middle portion: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 31 August - 3 September, Hiroshima, Japan (in Japanese).

T10. Shimada H, Fukutomi Y, Skalomenos K, Kurata M, Nishiyama M., Nakashima M (2017), Development of naturally buckling brace using induction heating technology: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 31 August - 3 September, Hiroshima, Japan (in Japanese).

T9. Skalomenos K, Shimada H, Inamasu H, Kurata M, Nakashima M (2017), An experimental study on the seismic response of BIEs using mechanical pins: In Proceedings of the Annual meeting of the Disaster Prevention Research Institute, DPRI, 21-22 February 2017, Kyoto University, Japan.

T8. Lekidis V, Anagnostopoulos SA, Morfidis K, Skalomenos K, Karakostas C, Salonikios T (2016), Seismic assessment and retrofit of the Messinia's Directorate R/C building: In Proceedings of 17th Hellenic National Conference of Concrete, 10-12 November, 2016, Thessaloniki, Greece (in Greek).

T7. Shimada H, Skalomenos K, Inamasu H, Nakashima M (2016), Development and seismic evaluation of stiffness tuning steel braces, Part I: Concept and model validation: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 24-26 August 2016, Fukuoka, Japan (in Japanese), paper No. 22413.

T6. Skalomenos K, Shimada H, Inamasu H, Nakashima M (2016), Development and seismic evaluation of stiffness tuning steel braces, Part II: Cyclic loading tests: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 24-26 August 2016, Fukuoka, Japan, paper No. 22414.

T5. Inamasu H, Skalomenos K, Shimada H, Kurata M, Nakashima M (2016), Modeling of NBB and SDOF dynamic analysis: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 24-26 August 2016, Fukuoka, Japan (in Japanese), paper No. 22392.

T4. Skalomenos K, Inamasu H, Hsiao P-C, Hayashi K, Kurata M, Nakashima M (2016), Experimental investigation on new configurations of naturally buckling braces (NBBs): In Proceedings of the Annual meeting of the Disaster Prevention Research Institute, DPRI, 23-24 February 2016, Kyoto University, Japan.

T3. Nishi R, Hayashi K, Skalomenos K, Inamasu H, Nakashima M (2015), Quasi-static tests of self-centering frames using PC bars and double-skinned CFT columns, Part I: Test introduction: In

Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 4-6 September 2015, Tokyo, Japan (in Japanese), paper No. 22703

T2. Hayashi K, Nishi R, Skalomenos K, Inamasu H, Nakashima M (2015), Quasi-static tests of self-centering frames using PC bars and double-skinned CFT columns, Part II: Test results: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 4-6 September 2015, Tokyo, Japan (in Japanese), paper No. 22702

T1. Skalomenos K (2015), Strength reduction factor for performance-based design of plane CFT-MRFs: In Proceedings of the Annual Meeting of the Architectural Institute of Japan, AIJ, 4-6 September 2015, Tokyo, Japan, paper No. 22701

5. RESEARCH PROJECT PARTICIPATION

2016 - Today *Collapse Margin Assessment of Buildings Including Damage to Non-Structural Components*, MEXT (Ministry of Education, Culture, Sports, Science and Technology), Principal Coordinator, Prof. Akira Nishitani, Waseda University, Tokyo, Japan

2015 – 2017 *Establishment of Design Method for Self-Centering Composite Frames with Double-Skin CFT columns*, Japan Society for the Promotion of Science (JSPS), JSPS Postdoctoral Fellowship for Research in Japan and Grant-in-aid for JSPS Fellows (Tokubetsu Kenkyuin Shorei-hi)

2016 *Seismic Performance of Vintage Japanese Braced-Frame Buildings Before and After Retrofit*, US National Science Foundation (NSF). Principal Investigator: Andrew Sen, University of Washington, Seattle, WA

2013 – 2015 *Seismic Assessment and Retrofit of the Messinia's Directorate R/C Building in City of Kalamata, Greece*. Research participators: Administration of Messinia prefecture, University of Patras (Dept. of Civil Engineering) and ITSAK - OASP (Institute of Engineering Seismology and Earthquake Engineering). Principal coordinator: Prof. Stavros A. Anagnostopoulos, University of Patras, Greece

6. INVITED TALKS

"Structural systems with enhanced seismic resilience using high-performance materials", Performance-Based Seismic Design of Structures: Resilience, Robustness, International Workshop, Tongji University, Shanghai, China, October 12 – 15, 2017

"Combine what exceptional each country offers", On the Occasion of Retirement of Prof. Masayoshi Nakashima from Kyoto University, International Symposium, DPRI, Kyoto University, Japan, March 31 & April 1, 2017

Invited lecture for undergraduate level class, "Steel Structures II", Department of Architecture and Architectural Engineering, Kyoto University, October 20, 2016

"Model development methodology to simulate the seismic behavior of CFT columns", University of Canterbury, Christchurch, New Zealand, November 21, 2016

"Experimental investigation on a new steel brace named the Brace with Intentional Eccentricity (BIE)", University of Canterbury, Christchurch, New Zealand, November 21, 2016

"Soil liquefaction and its effects", Science Dialogue, JSPS Overseas Fellowship Division, Yamashiro High School, Kyoto, Japan, November 5, 2016

"Multi-strength seismic-resistant steel braces with high post-yielding stiffness and large energy dissipation capacity", Roles of Structural and Geotechnical Earthquake Engineering in Disaster Mitigation, International Workshop, DPRI, Kyoto University, Japan, June 12, 2016

"A new steel brace: Brace with Intentional Eccentricity (BIE)", DPRI-QuakeCore Student Forum in Earthquake Engineering, International Workshop, DPRI, Kyoto University, Japan, February 26-27, 2016

"Introduction of new-type structural members with enhanced seismic resiliency", Roles of Structural Engineering for Resilient Society, International Symposium, DPRI, Kyoto University, Japan, May 16, 2015

"Earthquake Engineering: Introduction to Base Isolation", Science Dialogue, JSPS Overseas Fellowship Division, Wakasa High School, Fukui, Japan, September 29, 2015

Invited lecture for undergraduate level class, "Steel Structures II", Department of Architecture and Architectural Engineering, Kyoto University, October 22, 2015

"Estimation of seismic drift and ductility demands in composite framed structures: a design approach", Application of Structural Engineering and Structural Health Monitoring to Historic Buildings in EU and Japan, International Workshop by Young Researchers, DPRI, Kyoto University, Japan, December 19, 2014

7. AWARDS – DISTINCTIONS

Excellent Presentation Award on Conference

Skalomenos KA, Shimada H, Inamasu H, Kurata M, Nakashima M (2017), An experimental study of the seismic response of BIEs using mechanical pins: In Proceedings of the Annual meeting of the Disaster Prevention Research Institute, DPRI, 21-22 February 2017, Kyoto University, Japan.

The Excellent Graduation Thesis Prize of Architectural Institute of Japan (AIJ)

Hironari Shimada (2016), 初期偏心とガセットプレートを用いた剛性調律ブレースの開発 (Translation to English: Development of stiffness tuning braces using initial eccentricity and gusset plates), Bachelor thesis, Faculty of Engineering, Kyoto University (co-supervision).

Japan Society for the Promotion of Science Post-Doctoral Fellowship April 2015 (at the 120 fellows of 1,139 applicants)

Best Conference Paper Award (2nd)

Gkotzamanis TC, Skalomenos KA, Assessment and retrofitting of existing R/C building with pilotis using concrete jackets and shear walls: In Proceedings of 13th Undergraduate Conference on Repair and Strengthening of Structures, 21-22 February 2007, Patras, Greece.

Reviewer Assignments for the Scientific Journals

- Earthquake Engineering and Structural Dynamics, Wiley
- Journal of Structural Engineering, ASCE
- Engineering Structures, Elsevier
- Soil Dynamics and Earthquake Engineering, Elsevier
- The Open Civil Engineering Journal, Bentham Open

8. PRACTICAL EXPERIENCE

University of Patras – Department of Civil Engineering

08/2013 – 01/2015 Graduate Research Assistant in the project: *"Seismic Assessment and Retrofit of the Messinia's Directorate R/C Building"* in city of Kalamata, Greece.

Engineer Directorate of Greek Army

01/2012 – 10/2012 Designer and Supervisor Engineer on several structural and architectural projects, such as renovation of residences for military officers, construction of athletic facilities, rehabilitation of existing R/C and steel building structures etc.

OTE Estate S.A. (Construction and Real Estate Company)

07/2008 – 07/2011 Construction Quality/Supervisor Engineer in the project: *"Construction of a complex of shops, offices, food store, cafe-restaurant and residences with underground parking in the Tarampoura area of Patras, Greece."*

(Contractor Company: J&P Avax)

9. PROFESSIONAL AFILIATIONS/MEMBERSHIP

2015 International Association for Bridge and Structural Engineering (IABSE)
2015 Architectural Institute of Japan (AIJ)
2009 Greek Society of Civil Engineers
2008 Technical Chamber of Greece (Registered as Professional Engineer)

10. PROFESSIONAL ACTIVITIES

7-8/12/2017	Co-organizer of the Greece-Japan International Workshop for Young Researchers on Earthquake Engineering: *Advanced Materials and Technology for Applications to Steel and Composite Steel/Concrete Structures.*
13-15/2015	Participation in organization of IABSE Conference: *Elegance in Structures, Nara, Japan.*
08/2013 – 01/2015	Elected member in the *Administrative council* of the Greek Society of Civil Engineers.
11/2013 – 01/2015	Elected member in the *Central Representative Body* of the Technical Chamber of Greece.
04/2010 – 01/2015	Elected member in the *Representation of Western Greece branch* of the Technical Chamber of Greece.

11. ABILITIES

Languages	Greek (Native) English (Fluent) Japanese (Beginner)
Computer Programs	AutoCAD • ABAQUS • OpenSees • SAP2000 • E-TABS • ANSYS • ATENA 2D&3D RUAUMOKO 2D&3D • GID • FORTRAN • MATLAB
Master Coursework	Seismic Design of Reinforced Concrete Buildings • Earthquake Engineering and Earthquake Resistant Structures • Retrofit of Existing Structures • Advanced Mechanics of Structures • Dynamic Analysis of Structures by the Finite Element Method • Seismic Design of Steel Structures • Engineering Seismology and the Earthquake Response of Structures • Systems for Seismic Protection of Structures
PhD Coursework	Experimental Methods in Earthquake Engineering • Geotechnical Earthquake Engineering • Soil Dynamics • Deep Supported Excavations/Deep Foundations