Serdar SELAMET, Ph.D.

Office
Boğaziçi University
School of Engineering
Department of Civil Engineering
Bebek 34342
Istanbul, TURKEY

cell: +90-533-2391254
office: +90-212-3596430
email: serdar.selamet@boun.edu.tr
website: http://www.ce.boun.edu.tr/selamet

RESEARCH INTERESTS

Fire Engineering and Structural Engineering
Structural fire engineering, thermal sciences, fire dynamics, egress, structural steel design, earthquake and fire multi-hazard risk evaluation of tall buildings (on city-wide scale), finite element method with emphasis on 3D steel connections and contact mechanics.

EDITORIAL BOARD

Fire Safety Journal

JOURNAL REVIEWS

Fire Safety Journal, Fire Technology, Engineering Structures, Journal of Structural Engineering, Journal of Constructional Steel Research, Journal of Building Engineering, Turkish Journal of Civil Engineering

CONSULTING EXPERIENCE

Lead Fire Engineer: Central Bank of Turkey Tower commissioned by Limak Group of Companies (2021-2022).

Structural Engineer: Istanbul Airport commissioned by TAV Airports (2020).

Lead Structural Fire Engineer: Anagold Mining Facilities commissioned by Amec Foster Wheeler (2016-2017).

COURSES TAUGHT

CE549 Structural Fire Safety: Theory and Applications
CE502 Introduction to Finite Elements
CE58S Advanced Steel Design and Behavior of Steel Structures

CE245 Mechanics
CE246 Strength of Materials
CE353 Steel Structures
CE355 Structural Analysis
CE492 Project
CE49S Fire Engineering Design

Serdar SELAMET, Ph.D.

EMPLOYMENT

Boğaziçi University, Istanbul Turkey — October 2017 – present
Associate Professor
Department of Civil Engineering

Boğaziçi University, Istanbul Turkey — November 2012 – October 2017
Assistant Professor (tenure-track)
Department of Civil Engineering

ADMINISTRATIVE POSITIONS

Boğaziçi University, Istanbul Turkey — March 2021 – present
Faculty Board, Faculty of Engineering

Boğaziçi University, Istanbul Turkey — January 2018 – December 2018
Vice Chair, Department of Civil Engineering

Boğaziçi University, Istanbul Turkey — January 2014 – December 2015
ABET Departmental Representative, Department of Civil Engineering

PREVIOUS EMPLOYMENT

University of Manchester, Manchester UK — March 2016- September 2017
Newton Programme Visiting Faculty
School of Mechanical, Aerospace and Civil Engineering
Research Topic: Resilient and Sustainable Structural Engineering Risk Assessment of Tall Residential Buildings for Structural Fire Safety

UC Berkeley, Berkeley CA — June 2014 - October 2014
Visiting Research Scholar,
Department of Civil and Environmental Engineering
Research Topic: Investigation of seat connections in World Trade Center Towers 1/2

Princeton University, Princeton NJ — May 2011 - December 2011
Research Associate (Post-Doc),
Department of Civil and Environmental Engineering
Research Topic: Investigation of fire related collapses in steel bridges

EDUCATION

Princeton University, Princeton NJ — June 2008 - May 2011
Doctor of Philosophy (Ph.D.)
Department of Civil and Environmental Engineering

Thesis: Behavior, Design and Finite Element Modeling of Shear Connections under Fire Hazard; Princeton University 2011; 287 pages

Princeton University, Princeton NJ — September 2006 - May 2008

Masters in Engineering (M.A.)
Department of Civil and Environmental Engineering

Duke University, Durham NC — August 2002 - May 2006
B.Sc. in Engineering
Department of Civil and Environmental Engineering

Deutsche Schule Istanbul — September 1994 - June 2002
High School Degree (Gymnasium)

GRANTS/FELLOWSHIPS

- Scientific and Technological Research Council of Turkey "**TUBITAK 1002**" Start-up R&D Project Grant (2019-2020)
- Boğaziçi University Scientific Research Project **BAP Doctoral** Project Support (2017-2020)
- Royal Society of Engineering: **Newton** Collaborative Research Programme (2016-
- 2017)
- Scientific and Technological Research Council of Turkey "**TUBITAK 3001**" Start-up R&D Project Grant (2015-2016)
- European Commission "**Marie Curie International Incoming Fellowship**" IIF (2013-2015)
- Boğaziçi University Scientific Research Project **BAP Standard** Project Support (2013-2016)

PROFESSIONAL AFFILIATIONS

- Technical Committee Member:

  ASCE/SEI Fire Protection Technical Committee (Fire Safety in the US)

  EU TC3 Technical Committee (Fire Safety in Europe)

  TUCSA / IMSAD TK3 Technical Committee (Fire Safety in Turkey)
- Active member of ASCE, SEI, TUYAK, NIST, NFPA, SIF, IAFSS, SFPE
- Reviewer of Journal of Structural Engineering-ASCE, Fire Safety Journal, Fire Technology, Journal of Constructional Steel Research, Engineering Structures

PUBLICATIONS

(1) **Selamet S**, Ayva B (in press 2023). Car fires in multi-story parking garages. Turkish Journal of Civil Engineering.

(2) **Selamet S**, Ozer AY, Ildan KB (2023). Experimental Study on the Fire Performance of Prestressed Steel Parallel Wire Strands. Engineering Structures 280, 115709. https://doi.org/10.1016/j.engstruct.2023.115709

(3) Dundar U, **Selamet S** (2023). Fire load and fire growth characteristics in modern high-rise buildings. Fire Safety Journal 135, 103710. https://doi.org/10.1016/j.firesaf.2022.103710

(4) Jodi M, **Selamet S**, Wang YC (2022). City-wide fire vulnerability map of high-rise residential buildings. Fire Technology. https://doi.org/10.1007/s10694-022-01344-w

(5) **Selamet S**, (2022). TEXTBOOK. Fire Engineering (in Turkish). Nobel Academic Publishing. July, 282 pages. ISBN 978-625-417-965-5.

(6) Calayir M, **Selamet S**, Wang YC (2022). Post-earthquake fire performance of fire door sets. Fire Safety Journal, 130, 103589.

(7) **Selamet S**, Yolacan TF (2018). Steel frame-concrete slab composite floor fire resistance experiment. Teknik Dergi, 28: 2131-2145.

(8) **Selamet S** (2017). Thermal Gradient Estimation due to Surface Heat Exchange in Steel I-Sections. Journal of Structural Engineering-ASCE, 143(9): 04017101.

(9) **Selamet S**, Bolukbas C (2016). Fire resilience of shear connections in a composite floor: Numerical investigation. Fire Safety Journal, 81: 97-108.

(10) **Selamet S**, Bolukbas C (2015). Fire performance of single plate shear connections in a composite floor. Journal of Structural Fire Engineering, 7(4): 316-327.

(11) **Selamet S**, Garlock ME (2014). Fire Resistance of Shear Connections. Fire Safety Journal, 68: 52-60.

(12) **Selamet S**, Garlock ME (2013). Plate buckling in wide-flanged beams considering nonlinear steel behavior at elevated temperatures. Journal of Structural Engineering, ASCE, 139(11): 1853-1865.

(13) Pakala P, Kodur V, **Selamet S**, Garlock M (2012). Fire behavior of shear angle connections in a restrained steel frame. Journal of Constructional Steel Research 77: 119-30.

(14) **Selamet S**, Garlock ME (2012). Predicting the maximum compressive beam axial force during fire considering local buckling. Journal of Constructional Steel Research 71: 189-201.

(15) **Selamet S**, Garlock ME (2010). Robust fire design of single plate shear connections. Engineering Structures, 32(8): 2367 – 2378.

(16) Garlock ME, **Selamet S** (2010). Modeling and behavior of steel plate connections subject to various fire scenarios. Journal of Structural Engineering, 136(7): 897–906.

CONFERENCE PROCEEDINGS

(1) **Selamet S** (2023). Car fires in multi-story parking garages. SFPE European Conference & Expo, Berlin, Germany.

(2) **Selamet S** (2022). Determining SFRM thermal properties through fire tests on I-beam sections. 12th International Conference on Structures in Fire (SIF), Hong Kong.

(3) **Selamet S** (2022). Post-fire Stability and Performance of Tall Steel Buildings, Engineering Mechanics Institute, Baltimore, MD USA.

(4) Dundar U, **Selamet S** (2021). FDS Analysis of a High-Rise Residential Building in Istanbul, 14th International Congress on Advances in Civil Engineering (ACE).

(5) Onursal A, **Selamet S** (2019). Türkiye'deki Üniversitelerde Yangın Mühendisliği Müfredat Programı, 6th International Scientific Research Congress (UBAK). Şanlıurfa, Turkey.

(6) Jodi M, **Selamet S** (2019). Yangın Koşulları Altındaki Yüksek Katlı Konutlarda Tahliye, 6th International Scientific Research Congress (UBAK). Şanlıurfa, Turkey.

(7) **Selamet S**, Onursal A (2019). Stability of Steel Portal Frames in Industrial Buildings under Natural Fire Conditions, International Civil Engineering and Architecture Conference (ICEARCH). Trabzon, Turkey.

(8) Jones M, **Selamet S**, Wang Y, Calis M. (2017). Fire safety of high-rise residential buildings: scope of fire engineering and comparison between UK and Turkish Practice. ASFE, Manchester, UK.

(9) Gernay T, **Selamet S**, Tondini N, Khorasani NE, (2016). Urban infrastructure resilience to fire disaster: An overview. World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium (WMCAUS) - Procedia Engineering, Prague, Czech Republic

(10) Yolacan TF, **Selamet** S (2016). Thermo-Mechanical Behavior of Steel Beam-Concrete Slab Composite Floors. Advances in Civil Engineering, Istanbul, Turkey.

(11) **Selamet S**, Akbas E (2015). Reliability risk assessment of high-rise buildings in case of fire. 2nd International Conference on Performance-based and Lice-cycle Structural Engineering (PLSE), Brisbane, Australia.

(12) **Selamet S**, Uzun M (2015). A novel and efficient finite element software for heat transfer: FEHEAT. 1st International Conference on Structural Safety under Fire and Blast (CONFAB), Glasgow, Scotland

(13) **Selamet S**, Ozdemir T, Bolukbas C (2014). Fire performance of steel shear connections in a composite floor. 8th International Conference on Structures in Fire (SIF), Shanghai, China.

(14) Ozdemir T, **Selamet S** (2013). Yüksek katlı yapılarda yangının çökmeye etkisi (in Turkish). TUYAK Third Symposium and Exhibition on Fire and Security, Istanbul, Turkey.

(15) **Selamet S** (2013). The impact of fire scenario to the collapse of a tall structure. SEMC Fifth International Conference on Structural Engineering, Mechanics and Computation, Cape Town, South Africa.

(16) Kilic SA, **Selamet S** (2013). Symmetric and asymmetric collapse mechanisms of a multi-story steel structure subjected to gravity and fire. ASCE Structures Congress: Bridging your passion with your profession, Pittsburgh, PA.

(17) **Selamet S** (2013). Fire performance of an unprotected composite beam with semi-rigid end restraints. ASFE Applications of Structural Fire Engineering, Prague Czech Republic.

(18) **Selamet S**, Garlock M (2011). A comparison between the single plate and angle shear connection performance under fire. ASCE Structures Congress: Don't Gamble on your Future, Las Vegas, NV.

(19) **Selamet S**, Garlock ME. (2010). Local buckling study of flanges and webs in I-shapes at elevated temperatures. ASCE Structures Congress, pages 1592–1603, Orlando, FL.

(20) **Selamet S**, Garlock M (2010). Improved details for fire-induced steel single plate shear connections. In Proceedings of the 6th International Conference on Structures in Fire (SIF), pages 621–628, East Lansing, MI.

(21) **Selamet S**, Garlock M (2010). Guidelines for modeling three dimensional structural connection models using finite element methods. ECCS International Symposium Steel Structures: Culture and Sustainability 2010, pages 351–360, Istanbul, Turkey.

(22) **Selamet S** and Garlock ME (2009). Modified connection details for single plate steel connections under fire. ASCE Structures Congress: Don't Mess with Structural Engineers, pages 642–649, Austin, TX.

(23) **Selamet S** and Garlock M (2008). Behavior of steel plate connections subject to various fire scenarios. In Proceedings of the 5th International Conference on Structures in Fire (SIF), pages 139–149, Singapore.