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Adam Zsarnóczay

Senior Research Engineer
Stanford University

Professional Appointments

Stanford University

Senior Research Engineer	2025 – present
Research Engineer	2021 – 2025
Postdoctoral Researcher	2018 – 2021
Visiting Scholar	2017 – 2018

Budapest University of Technology and Economics

Research Fellow	2015 – 2017
Assistant Professor	2014 – 2015
Assistant Lecturer	2013 – 2014

Education

Ph.D. in Civil Engineering, summa cum laude — 2014
Budapest University of Technology and Economics, advisor: László Gergely Vigh

B.Sc. & M.Sc. in Civil Engineering, with honors — 2010
Budapest University of Technology and Economics, advisors: László Gergely Vigh, László P. Kollár

M.Eng. in Civil Engineering, highest honors — 2009
University of Tokyo, advisors: Riki Honda, Muneo Hori

Research Experience

I performed experimental tests, developed and calibrated numerical models, and ran computer simulations to investigate research questions in four broad areas. My significant contributions to peer-reviewed research and main collaborators in each area are summarized below.

Regional Risk Assessment and Management

I have been involved in collaborative research in this area within the scope of the NHERI SimCenter since 2018.

- Develop and calibrate a stochastic building inventory model considering imperfections in real-world data.
- Infer structural vulnerabilities using rulesets based on local design and construction practices.
- Infer geometric features of assets in the built environment using machine-learning models on image data.
- Develop a methodology to infer minimum household income for each unit in a large building portfolio.
- Develop and calibrate a stochastic near-surface soil model for probabilistic regional site-response analysis.
- Develop a surrogate model for efficient, high-fidelity response estimation of single-family wooden houses
- Develop a story-level seismic fragility and loss model for regional risk assessment based on Hazus data.
- Develop an agent-based model to simulate disaster recovery of owner and renter-occupied residential units.
- Develop a methodology to simulate how neighborhood damage influences the recovery of individual buildings.
- Develop a methodology to evaluate disaster recovery strategies using the complexity of their possible outcomes.

Collaborators:		
	Gregory G. Deierlein, Jack W. Baker	Stanford University
	Tracy Kijewski-Correa, Alexandros Taflanidis	University of Notre Dame
	Rodrigo Costa	University of Waterloo
	Pedro Arduino	University of Washington
	Anne Wein	United States Geological Survey
	Ertugrul Taciroglu	UC Los Angeles
	Dimitrios Giovanis	Johns Hopkins University
	Riki Honda	University of Tokyo

Structural Design, Modeling & Performance Assessment with Uncertainty Quantification

First, my graduate research, then grants, and later the NHERI SimCenter provided opportunities to work in this area.

- Design and perform 10 uniaxial cyclic load tests of Buckling Restrained Braces (BRBs).
- Develop a phenomenological material model for BRBs and implement it in OpenSees as Steel4.
- Develop a probabilistic methodology for quantitative evaluation of calibration methods for structural models.
- Develop a calibration method and calibrate conventional and all-steel BRB models to experimental data.
- Develop a design procedure for BRBF and evaluate its performance for the revised Eurocode standards.
- Characterize the Hungarian bridge inventory, develop archetype designs, and assess their seismic performance.
- Assess the seismic risk of pre-Northridge tall steel buildings in San Francisco using high-fidelity models.
- Evaluate current consequence models for seismic performance assessment and propose improvements.
- Analyze the sensitivity of functional recovery time estimates to various sources of uncertainty.
- Develop and calibrate a new probabilistic residual-drift model for high-fidelity performance assessment.
- Develop and implement a new method for efficient high-resolution hurricane damage and loss simulation.

Collaborators:	Gregory G. Deierlein, Jack W. Baker	Stanford University
	László Gergely Vigh, László P. Kollár, László Dunai	Budapest University of Tech. and Econ.
	Carlos Molina-Hutt	University of British Columbia
	Rachel Davidson	University of Delaware
	Seymour Spence	University of Michigan
	Anne Hulsey, Ken Elwood	Auckland University
	Lydell Wiebe	McMaster University
	Bin Wu	Harbin University of Technology
	JunXian Zhao	South China University of Technology

Probabilistic Seismic Hazard and Site Response Analysis

My contributions to this area started with postgraduate research and continued within the NHERI SimCenter project.

- Develop a stochastic model and a calibration method for site amplification. Use the calibrated model and probabilistic seismic hazard assessment to update the seismic hazard maps and define a set of site-specific design spectra for every city in Hungary.
- Quantify the uncertainty in liquefaction simulation through Bayesian calibration of a constitutive soil model.
- Develop a site- and building-specific ground motion record selection method.

Collaborators:	László Gergely Vigh, András Mahler	Budapest University of Tech. and Econ.
	Jose Miguel Castro, Luis Macedo	University of Porto
	Pedro Arduino	University of Washington

Robust and Reproducible Computational Simulation in Natural Hazards Engineering

My work in this area has been supporting the primary objectives of the NHERI SimCenter project since 2018.

- Develop Pelicun, a new performance assessment framework, and a corresponding data schema that unifies existing methodologies and supporting data across various hazards and assessment resolutions. Implement Pelicun in an open-source Python package that serves as the performance assessment engine for SimCenter.
- Develop data schemas and design a generalized, modular disaster simulation workflow. Create the application framework that implements this design and serves as the backend engine for all SimCenter tools.
- Develop four regional seismic and hurricane risk assessment studies and document them as testbeds that can serve as templates and benchmarks for future research in natural hazards engineering.

Collaborators:	Frank McKenna, Sanjay Govindjee, Satish Rao	UC Berkeley
	Gregory G. Deierlein	Stanford University
	Tracy Kijewski-Correa	University of Notre Dame
	Laura Lowes	University of Washington

Mentoring Experience

1 graduate student at the University of British Columbia 2021 – 2024
P. Kourehpaz
Co-advised a graduate student in a long-term research project.

9 graduate students at Stanford University 2019 – present
J.J.Zou, J. Saw, T. Bassman, F. Galvis, J. Zhang, E. Mongold, O. Issa, P. Lee, and M. Lochhead
Collaborating in long-term graduate research projects.

4 graduate students outside Stanford University 2023 – present
A. Banihashemi (McMaster), A. Miliziano (IUSS), R. Hamburger (U. Notre Dame),
J. Vouvakis Manousakis (UC Berkeley)
Collaborating in long-term graduate research projects.

3 undergraduate students at UC Berkeley 2019 – 2022
P. Vargas, W. Zakka, and M. Givens
Main advisor of students in the 10-week summer REU program at the NHERI SimCenter
P. Vargas received additional funding from USGS and SimCenter to perform an independent study with me for 1 year.

22 diploma projects at the Budapest University of Technology and Economics 2013 – 2015
Main advisor for 10 graduate students and 12 undergraduate students
The diploma is a one-semester-long design or research project at the end of the undergraduate and graduate curricula.

Teaching Experience

Stanford University 2020 – 2022

CEE 296 – Regional Seismic Risk Analysis and Risk Management
graduate level, co-Instructor

Responsibilities: Co-develop the course, deliver lectures, design and evaluate assignments and projects, hold weekly office hours

Student feedback – score reflects student success in achieving learning goals
4.36 / 5.0 (2022 Spring)
4.00/ 5.0 (2021 Spring)
4.10 / 5.0 (2020 Spring)

Budapest University of Technology and Economics 2011 – 2015

Seismic Design of Structures
graduate level, co-Instructor

Bridge Construction
undergraduate level, co-Instructor

Structural Laboratory Practice
undergraduate level, co-Instructor

Experimental Analysis of Structures
graduate level, co-Instructor

Steel Structures
undergraduate level, Instructor

Steel Buildings
undergraduate level, Instructor

Responsibilities: Developed new courses and updated existing ones, delivered lectures, designed and graded assignments and projects, designed and graded exams, held weekly office hours for groups of 20-40 students per course. Most courses were offered both in English and in Hungarian.

Student feedback – score reflects average quality of teaching across all classes taught per semester
5.58 / 6.0 (2014/15 Spring)
5.85 / 6.0 (2014/15 Fall)
5.72 / 6.0 (2013/14 Spring)
5.66 / 6.0 (2013/14 Fall)

Professional Experience

Associate Director for Research Outreach at the NHERI SimCenter 2021 – present

Engage members of the natural hazards engineering community to monitor the state of the art, research needs, and emerging areas in computational simulation. Participate in managing the software development and collaborative research performed by 5-10 postdoctoral scholars and ~25 senior faculty affiliated with the SimCenter.

Structural Engineer & Software Developer Consultant 2010 – present

Define site-specific design seismic response spectra for prominent Hungarian projects using measured soil characteristics and a stochastic amplification model in a probabilistic seismic hazard assessment framework.

Developed and implemented new methods for AxisVM, one of the major finite element analysis software in Europe with more than 8,000 structural engineer users. Responsibilities included wind, snow, and pushover load generation for complex buildings; and critical flexural buckling length calculation in frame structures.

Working Group Member at the Department of Structural Engineering (BME) 2010 – 2017

Performed in-situ measurements, developed numerical models, and prepared sections of technical reports for site testing and independent design verification of prominent Hungarian bridges.

Honors and Fellowships

Korányi Imre Fellowship ($35,000) 2017

The Thomas Cholnoky Foundation

Awarded annually to one early-career faculty at the Budapest University of Technology and Economics to support a 10-month visiting research program in a U.S. university.

Faculty Teaching Evaluation: 3rd and 1st place 2014, 2015

Faculty of Civil Engineering, Budapest University of Technology and Economics

Awarded annually, based on student feedback, to recognize the top 3 early-career faculty (out of 50) for their commitment to high-quality teaching.

Three Campus Hungary Fellowships (3 x $1,000) 2014, 2015

European Social Fund

Each fellowship was awarded based on a work plan for a short-term study program in a foreign university.

Dr. Szittner Antal award 2011

Department of Structural Engineering, Budapest University of Technology and Economics

Awarded annually to one graduate student for excellence in experimental research in the Structural Laboratory of the Budapest University of Technology and Economics.

Diploma award of the Hungarian Chamber of Engineers 2010

Hungarian Chamber of Engineers

Awarded annually to one graduating student at the Faculty of Civil Engineering at the Budapest University of Technology and Economics to recognize the high quality of their Master thesis.

Furuichi Kimitake Prize 2009

Department of Civil Engineering, University of Tokyo

Awarded annually to 10% of the graduating students to recognize the high quality of their Master thesis.

Monbukagakusho Scholarship ($43,000) 2007

Japanese Ministry of Education, Culture, Sports, Science and Technology

Awarded to foreign students based on recommendation from prominent Japanese universities to support their studies in Japan.

Scholarship of the Hungarian Republic 2006, 2007

Hungarian Ministry of Education and Culture

Awarded annually to 0.8% of students in tertiary education in Hungary who simultaneously excel in their studies and extracurricular activities

Academic and Professional Service

Committees

NHERI SimCenter (UC Berkeley)

- Member of the Organizing Committee for the NHERI Hackathon (2022) and the NHERI Computational Symposia (2022, 2024, 2025) — 2022-present
- Chair of the Organizing Committee for Workshop on Simulation and Data Needs to Support Disaster Recovery Planning — 2020

United States Geological Survey

- Member of the review panel for the Earthquake Hazards Program External Grants Proposals — 2025

University of British Columbia

- Member of the Examination Panel for the Ph.D. defense of P. Kourehpaz — 2023

Budapest University of Technology and Economics

- Member of the Examination Panel of six Final Exams for the B.Sc. degree — 2015 – 2016

Theses Review

Budapest University of Technology and Economics

- Ph.D. Theses (2) — 2015 – 2016
- M.Sc. Theses (8) — 2015 – 2016
- B.Sc. Theses (10) — 2014 – 2016

Journal Article Review

Natural Hazards	2025 – present
Natural Hazards Review	2023 – present
Earthquake Engineering and Structural Dynamics	2022 – present
Earthquake Spectra	2019 – present
Engineering Structures	2018 – present
Journal of Structural Engineering	2017 – present

Professional Affiliations

Earthquake Engineering Research Institute, member	2018 – present
Stanford Urban Resilience Initiative, collaborator	2018 – present
Hungarian Steel Structure Association, member	2014 – present
Zielinski Civil Engineering College for Advanced Studies, senior member (president in 2007)	2006 – present

Language Proficiency

Hungarian	native speaker	German	intermediate (passive)
English	full professional	Japanese	lower intermediate (passive)

PUBLICATIONS

Peer Reviewed Articles

1. **Zsarnóczay A.**, Deierlein G.G., McKenna F., Schoettler M., Yi S., Cetiner B., Satish A.B., Zhao J., Bonus J., Melaku A.F., Naeimi S., Arduino P., Davidson R., Gorle C., Govindjee S., Kareem A., Kijewski-Correa T.L., Lowes L.N., Motley M., Spence S.M.J., Taciroglu E., Taflanidis A., DeJong M., An open-source simulation platform to support and foster research collaboration in natural hazards engineering, Frontiers in Built Environment 11:1590479, doi: 10.3389/fbuil.2025.1590479, 2025
2. Chen S., Xie Y., Wu C., Burton H.V., Padgett J.E., **Zsarnóczay A.**, Second-generation component and system-level seismic fragility models for reinforced concrete bridges in California. *Earthquake Spectra* 0(0), doi:10.1177/87552930251343634, 2025
3. Hamburger R., **Zsarnóczay A.**, Tackie-Otoo N.O., Kijewski-Correa T., Davidson R.A., Spence S.M.J., Unifying the Current State of the Art in Hurricane Wind Risk Simulations: A Systematic Review, *Journal of Structural Engineering* 151 (8) 03125001 p.17, doi: 10.1061/JSENDH.STENG-14590, 2025
4. Wu C., Burton H.V., **Zsarnóczay A.**, Chen S., Xie Y., Terzic V., Günay S., Padgett J., Mieler M., Almufti I., Modeling Post-earthquake Functional Recovery of Bridges, *Earthquake Spectra* 41(3):2089-2122, doi: 10.1177/87552930251321301, 2025
5. Kourehpaz P., Molina Hutt C., **Zsarnóczay A.**, Impact of Parameter Selection on Seismic Loss and Recovery Time Estimates: A Variance-Based Sensitivity Analysis, *Earthquake Spectra* 41(2):1713-1737, doi: 10.1177/87552930241307624, 2025
6. Banihashemi MA., Miliziano A., **Zsarnóczay A.**, Wiebe L., Filiatrault A., Consequences of consequence models: The impact of economies of scale on seismic loss estimates, *Earthquake Spectra* 40(2):1396-1424, doi: 10.1177/87552930231220001, 2024
7. Mongold E., Costa R., **Zsarnóczay A.**, Baker J.W., Modeling post-disaster recovery: Accounting for rental and multi-family housing, *Earthquake Spectra* 40(2):1353-75, doi: 10.1177/87552930231222769, 2024
8. Kijewski-Correa T.L., Cetiner B., Zhong K., Wang C., **Zsarnóczay A.**, Guo Y., Lochhead M., McKenna F., Validation of an Augmented Parcel Approach for Hurricane Regional Loss Assessments, *Natural Hazards Review* 24(3) paper 04023022 p.20, doi: 10.1061/NHREFO.NHENG-1649, 2023
9. **Zsarnóczay A.**, Deierlein G.G., Williams C.J., Kijewski-Correa T.L., Esnard A-M., Lowes L., Johnson L., Community Perspectives on Simulation and Data Needs for the Study of Natural Hazard Impacts and Recovery, *Natural Hazards Review*, 24(1) p.15, doi: 10.1061/NHREFO/NHENG-1551, 2022
10. Wang C., Yu Q., Law K.H., McKenna F., Yu S.X., Taciroglu E., **Zsarnóczay A.**, Elhaddad W., Cetiner B., Machine Learning-based Regional Scale Intelligent Modeling of Building Information for Natural Hazard Risk Management, *Automation in Construction* 122, paper 103474, doi: 10.1016/j.autcon.2020.103474, 2021
11. Deierlein G.G., McKenna F., **Zsarnóczay A.**, Kijewski-Correa T.L., Kareem A., Elhaddad W., Lowes L., Schoettler M.J., Govindjee S., A Cloud-enabled Application Framework for Simulating Regional-scale Impacts of Natural Hazards on the Built Environment, *Frontiers in Built Environment*, 6:558706, doi: 10.3389/fbuil.2020.558706, 2020
12. **Zsarnóczay Á.**, Baker J.W., Using model error in response history analysis to evaluate component calibration methods, *Earthquake Engineering and Structural Dynamics*, pp. 49:175-93, doi: 10.1002/eqe.3234, 2020
13. Vigh L.G., **Zsarnóczay Á.**, Balogh T., Eurocode conforming design of BRBF – Part I: Proposal for codification, *Journal of Constructional Steel Research* 135 pp.265-276, doi: 10.1016/j.jcsr.2017.04.010, 2017
14. **Zsarnóczay Á.**, Balogh T., Vigh L.G., On the European norms of design of Buckling Restrained Braced Frames, *The Open Civil Engineering Journal*, 11 pp.513-530, doi: 10.2174/1874149501711010513, 2017
15. **Zsarnóczay Á.**, Vigh L.G., Eurocode conforming design of BRBF – Part II: Design procedure evaluation, *Journal of Constructional Steel Research* 135 pp.253-264, doi: 10.1016/j.jcsr.2017.04.013, 2017

16. **Zsarnóczay Á.**, Vigh L.G., Kollár L.P., Seismic Performance of Conventional Girder Bridges in Moderate Seismic Regions, *Journal of Bridge Engineering* 19:(5) paper 04014001 p.9, doi: 10.1061/(ASCE)BE.1943-5592.0000536 ,2014
17. **Zsarnóczay Á.**, Budaházy V., Vigh L.G., Dunai L., Cyclic hardening criteria in EN 15129 for steel dissipative braces, *Journal of Constructional Steel Research* 83 pp.1-9, doi: 10.1016/j.jcsr.2012.12.013, 2013
18. **Zsarnóczay Á.**, Vigh L.G., Kollár L.P., Magyarországi közúti gerendahidak szeizmikus viselkedésének vizsgálata (Seismic performance assessment of Hungarian girder bridges), *Magyar Építőipar* LXIII:(2) pp.74-80, 2013 (in Hungarian)
19. **Zsarnóczay Á.**, Vigh L.G., Kihajlásbiztos merevítőrudak kísérleti vizsgálata (Experimental analysis of Buckling Restrained Braces), *Magyar Építőipar* LXII:(6) pp.222-230, 2012 (in Hungarian)

Books, Reports, and Theses

1. Givens M., **Zsarnóczay A.**, Schoettler M., *Evaluation of Brooklyn Storm Shelter Capabilities to Meet the Needs of Vulnerable Populations*, NHERI REU Report, DesignSafe-CI, doi: 10.17603/ds2-gbem-7e96, 26p, 2022
2. Deierlein G.G., **Zsarnóczay Á.**, Eds., *State of the Art in Computational Simulation for Natural Hazards Engineering*, Zenodo, doi: 10.5281/zenodo.4558106, 300p, 2021
3. Zakka W., **Zsarnóczay A.**, Arduino P., *High-Resolution Near-Surface Soil Model Developed for Site Response Analysis in Alameda, CA*, NHERI REU Report, DesignSafe-CI, doi: 10.17603/ds2-3xm5-p759, 16p, 2021
4. Günay S., Hu F., Mosalam K., Nema A., Restrepo J., **Zsarnóczay A.**, Baker J., *Blind Prediction of Shaking Table Tests of a New Bridge Bent Design*, PEER Report 2020/09, Pacific Earthquake Engineering Research Center, UC Berkeley, 147p, 2020
5. Deierlein G.G., **Zsarnóczay Á.**, Eds., *State-of-Art in Computational Simulation for Natural Hazards Engineering*, Zenodo, doi: 10.5281/zenodo.2579582, 121p, 2019
6. Vigh L.G., **Zsarnóczay Á.**, Simon J., Mahler A., Bán Z., *Helyi spektrumok alkalmazása földrengésre történő méretezésre* (Using site-specific response spectra for structural design), Hungarian Chamber of Engineers, 80p, 2018
7. **Zsarnóczay A.**, *Experimental and Numerical Investigation of Buckling Restrained Braced Frames for Eurocode Conforming Design Procedure Development*, Ph.D. dissertation, Budapest University of Technology and Economics, 152p, doi: 10.13140/RG.2.2.31509.27360, 2014
8. **Zsarnóczay Á.**, Dunai L., Kaltenbach L., Kálló M., Kachichian M., Halász A., *Type Testing of Buckling Restrained Braces According to EN 15129 – test reports*, Dept. of Struct. Eng., Budapest Univ. of Technology and Econ., 138p, 2011
9. **Zsarnóczay A.**, *Magyarországi Típushidak Szeizmikus Viselkedése (Seismic Performance Assessment of Hungarian Girder Bridges)*, M.Sc. thesis, Budapest University of Technology and Economics, 120p, doi: 10.13140/RG.2.2.20604.08321, 2009
10. **Zsarnóczay A.**, *Evaluation of Post-Earthquake Recovery Strategies Considering the Complexity of Sets of Possible Outcomes*, M.Eng. thesis, University of Tokyo, 107p, doi: 10.13140/RG.2.2.22281.80481, 2009

Peer-Reviewed Conference Papers

1. Galvis F.A., Issa O., Deierlein G.G., **Zsarnóczay A.**, Baker J.W., The Role of Earthquake Losses and Functional Recovery Time Estimations on Retrofit Decisions, *Proc. 18th World Conference on Earthquake Engineering (18WCEE)*, Milan, Italy, 2024
2. Ceferino L., Kukunoor C., **Zsarnóczay A.**, The Benefits of Large-Scale Seismic Retrofits in the Hospital System in the Bay Area, California, *Proc. 18th World Conference on Earthquake Engineering (18WCEE)*, Milan, Italy, 2024
3. Kourehpaz P., Molina Hutt C., **Zsarnóczay A.**, The Importance of Parameter Choices in Quantifying Post-Earthquake Recovery Measures, *Proc. 18th World Conference on Earthquake Engineering (18WCEE)*, Milan, Italy, 2024

4. Galvis F.A., Deierlein G.G., Issa O., **Zsarnóczay A.**, Molina Hutt C., Baker J.W., Functional Recovery Assessment of Tall Buildings with pre-Northridge Welded Steel Moment Frames, *Proc. Canadian Conference – Pacific Conference on Earthquake Engineering 2023*, Vancouver, BC, 2023
5. Kourehpaz P., Molina Hutt C., **Zsarnóczay A.**, Probabilistic Sensitivity Analysis of Earthquake-induced Loss Estimates in Buildings, *Proc. Canadian Conference – Pacific Conference on Earthquake Engineering 2023*, Vancouver, BC, 2023
6. Yi S., Satish A.B., Nair A.S., Arduino P., **Zsarnóczay A.,** McKenna F., Sensitivity Analysis and Bayesian Calibration of OpenSees Models using quoFEM, *Proc. 2022 Eurasian OpenSees Days, Lecture Notes in Civil Engineering*, vol 326, Springer, Cham., doi: https://doi.org/10.1007/978-3-031-30125-4_6, 2022
7. Banihashemi MA., Miliziano A., **Zsarnóczay A.**, Wiebe L., Filiatrault A., Modeling Repairs in FEMA P-58: Different Interpretations and their Influence on Loss Estimates, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
8. Bassman T.J., **Zsarnóczay A.**, Saw J., Wang S., Deierlein G.G., High-Fidelity Testbed Development for Regional Risk Assessment in Alameda, California, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
9. Galvis F.A., Deierlein G.G., Molina Hutt C., Issa O., Baker J.W., **Zsarnóczay A.**, Seismic assessment of pre-Northridge welded steel moment frame buildings and implications on community resilience, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
10. Galvis F.A., Deierlein G.G., Molina Hutt C., Issa O., Baker J.W., **Zsarnóczay A.**, Structural modeling and ground motion selection for risk assessment of pre-Northridge welded steel moment frames, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
11. Mongold E., Costa R., **Zsarnóczay A.**, Baker J.W., Simulating Post-Disaster Landlord Residence and Rental Unit Recovery, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
12. Zhang J., Costa R., **Zsarnóczay A.**, Baker J.W., Enhancing Post-Disaster Recovery Modeling Through High-Fidelity Household Income Estimation, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
13. **Zsarnóczay A.**, Deierlein G.G., Towards the Integration of Socioeconomic Impact and Recovery Modeling into High-Resolution Regional Earthquake Simulations, *Proc. 12th National Conference in Earthquake Engineering*, Earthquake Engineering Research Institute, Salt Lake City, UT, 2022
14. Zou J., Welch D.P., **Zsarnóczay A.**, Taflanidis A., Deierlein G.G., Surrogate Modeling for the Seismic Response Estimation of Residential Wood Frame Structures, *Proc. 17th World Conference on Earthquake Engineering*, Sendai, Japan, p.12, 2020
15. **Zsarnóczay A.**, Deierlein G.G., PELICUN – A Computational Framework for Estimating Damage, Loss, and Community Resilience, *Proc. 17th World Conference on Earthquake Engineering*, Sendai, Japan, p.12, 2020
16. Joó A., **Zsarnóczay Á.**, Opoldusz M., Kollár L.P., Applicability of Modal Response Spectrum Analysis on Rocking Structures, *16th World Conference on Earthquake Engineering (16WCEE)*, Santiago, Chile, paper 3979 p.10, 2017
17. **Zsarnóczay Á.**, Advantages of Using Bayesian Inference for Model Calibration in OpenSees, *OpenSees Days Europe 2017: The 1st European Conference on OpenSees*, Porto, Portugal, p.6, 2017
18. **Zsarnóczay Á.**, Vigh L.G., Effective Design Measures Against Soft Story Development in Buckling Restrained Braced Frames, *16th World Conference on Earthquake Engineering (16WCEE)*, Santiago, Chile, paper 4356 p.12, 2017
19. Gulyás Gy., **Zsarnóczay Á.**, Vigh L.G., Reliability assessment of concentrically braced frames: Risk-based seismic performance assessment of Eurocode conform design, *7th European Conference on Steel and Composite Structures (Eurosteel 2014)*, Naples, Italy, p.6, 2014

20. **Zsarnóczay Á.**, Vigh L.G., Steel4 – A Versatile Uniaxial Material Model for Cyclic Nonlinear Analysis of Steel-Based Elements, *OpenSees Days Portugal 2014: Workshop on Multi-Hazard Analysis of Structures using OpenSees*, Porto, Portugal, pp.11-14, 2014
21. **Zsarnóczay Á.**, Balogh T., Vigh L.G., Design of frames with Buckling Restrained Braces – FEMA P695 based Evaluation of a Eurocode 8 Conforming Design Procedure, *7th European Conference on Steel and Composite Structures (Eurosteel 2014)*, Naples, Italy, p.6, 2014
22. **Zsarnóczay Á.**, Budaházy V., Uniaxial Material Model Development for Nonlinear Response History Analysis of Steel Frames, *Second Conference of Junior Researchers in Civil Engineering* pp. 307-317, 2013
23. **Zsarnóczay Á.**, Macedo L., Castro J.M., Vigh L.G., A novel ground motion record selection strategy for incremental dynamic analysis, *Vienna Congress on Recent Advanced in Earthquake Engineering and Structural Dynamics (VEESD 2013)*, Vienna, Austria, paper 539. p.10, 2013
24. Budaházy V., **Zsarnóczay Á.**, Vigh L.G., Dunai L., Numerical model development for cyclic hardening investigation of steel-yield based displacement dependent devices, *15th World Conference on Earthquake Engineering (15WCEE)* paper 5222 p.10, 2012
25. **Zsarnóczay Á.**, Vigh L.G., Capacity design procedure evaluation for buckling restrained braced frames with incremental dynamic analysis, *15th World Conference on Earthquake Engineering (15WCEE)* paper 3533 p.10, 2012
26. **Zsarnóczay Á.**, Seismic Performance evaluation of buckling restrained braces and frame structures, *9th fib International PhD Symposium in Civil Engineering* pp.195-200, 2012
27. **Zsarnóczay Á.**, Influence of Plastic Mechanism Development on the Seismic Performance of Buckling Restrained Braced Frames – case study, *Conference of Junior Researchers in Civil Engineering* pp.289-297, 2012
28. **Zsarnóczay Á.**, Vigh L.G., Experimental analysis of buckling restrained braces: Performance evaluation under cyclic loading, *6th European Conference on Steel and Composite Structures (Eurosteel 2011)* pp.945-950, 2011
29. **Zsarnóczay Á.**, Vigh L.G., Static behavior of an innovative mounting solution for supporting structures on soft covered flat roofs, *6th International Conference on Thin Walled Structures (ICTWS 2011)* pp.657-664, 2011
30. **Zsarnóczay Á.**, Vigh L.G. Kihajlásbiztos merevítőrúd ciklikus viselkedésének elemszintű modellezése (Component-level model development for the cyclic response of a Buckling Restrained Brace), *XI. Magyar Mechanikai Konferencia* 109. cikk, p.9, 2011 (in Hungarian)
31. **Zsarnóczay Á.**, Kollár L.P., Vigh L.G., Seismic performance and design possibilities of conventional girder bridges in moderate seismic regions, *14th European Conference on Earthquake Engineering (ECEE 2010)* paper 1823 p.8, 2010

Open-Source Software and Data Publications

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