



BCIT Civil Engineering Department
Publication List
2014-Present

Peer Reviewed Journal Publications and Books

- Dong, C., Xiao-Bao Z., **Talukdar, S.**, Zheng, K. (2020). "Use of tomography to understand the cracking behavior and its impact on accelerated carbonation for sliced paste specimen". *Materials*. Manuscript #744266. Accepted for Publication, April 7, 2020.
- Parghar, F., **Talukdar, S.**, Pal, K., Zanotti, C., (2020). "The feasibility of two-step hemp waste valorization in cement and concrete production". *Waste and Biomass Valorization*, <https://doi.org/10.1007/s12649-020-01051-z>.
- Tayyebi K, Sun M , **Karimi K.** (2020) "Residual Stresses of Heat-Treated and Hot-Dip Galvanized RHS Manufactured by Different Methods", *Journal of Construction Steel Research*, Article 106071, Accepted for Publication, April 1, 2020.
- Benitez, P., Rocha, E., **Talukdar, S.**, Varum H., Rodrigues, F., (2019). "Efficiency Analysis of Optimal Inspection Management for Reinforced Concrete Structures under Corrosion Risk". *Construction and Building Materials*. 211:1000-101
- Benitez, P., Rodrigues, F., **Talukdar, S.**, Gavilan, S., Varum, H., Spacone, E., (2019). "Analysis of correlation between real degradation data and a carbonation model for concrete structures". *Cement and Concrete Composites*. 95:247-259
- **Talukdar, S.**, Heere, R., (2019). "The Effects of Pumping on the Air Content and Void Structure of Air-Entrained, Wet Mix Fibre Reinforced Shotcrete". *Case Studies in Construction Materials*.
- Bhutta A, **Farooq M,** Banthia N. (2019), "Performance characteristics of micro fiber-reinforced geopolymer mortars for repair", *Construction and Building Materials*, 215:605-612.
- **Farooq M,** Bhutta A, Banthia N. (2019), "Tensile performance of eco-friendly ductile geopolymer composites (EDGC) incorporating different micro-fibers", *Cement and Concrete Composites*, 103:183-192.
- **Farooq M,** Banthia N. "FRP fibre-cementitious matrix interfacial bond under time-dependent loading", *Materials and Structures*, 52(6):109-120.
- Daneshvar S, Sun M , **Karimi K.** (2019) "Galvanized RHS X-Connections. I: Effects of vents and drain holes on SCFs", *Journal of Construction Steel Research*, Article in Press.



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- Bhutta A, **Farooq M**, Borges PHR, Banthia N. (2018), "Influence of fiber inclination on bond-slip behavior of different geopolymer composites under dynamic and quasi-static loading", *Cement and Concrete Research*, 107:236-246.
- **Farooq M**, Banthia N. (2018), "An innovative FRP fibre for concrete reinforcement: Production of fibre and micromechanics", *Construction and Building Materials*, 172:406-421.
- Bhutta A, **Farooq M**, Banthia N. (2018), "Matrix hybridization using waste fuel ash and slag in alkali-activated composites and its influence on maturity of fiber-matrix bond", *Journal of Cleaner Production*, 177:857-867.
- **Chan, C.C.V.**, Lari, K., Soulsbury, K., Use of a Biochar and Biosand Filter to Remove Chemical Contaminants from Drinking Water in Rural Communities in Low Income Countries, *Original Paper submitted to the International Journal of Environmental Science and Technology*, March 2018.
- Bhutta A, **Farooq M**, Zanotti C, & Banthia N. (2017), "Pull-out behaviour of different fibres in geopolymer mortars: effect of alkaline solution concentration and curing", *Materials and Structures*, 50(1).
- Bhutta A, Borges PHR, Zanotti C, **Farooq M**, Banthia N. (2017), "Behaviour of geopolymer mortars reinforced with steel and polypropylene fibers", *Cement and Concrete Composites*, 80:31-40.
- Brzev, S., **Pandey, B.**, Maharjan, D. and Ventura, C. (2017) "Seismic Vulnerability Assessment of Low-Rise Reinforced Concrete Buildings Affected by the 2015 Gorkha, Nepal Earthquake". *Earthquake Spectra*: December 2017, Vol. 33, No. S1, pp. S275-S298.
- **Pandey, B.** (2017). "Performance of Schools." *Report on the M7.8 Gorkha, Nepal Earthquake on April 25, 2015 and its Aftershocks*, Canadian Association of Earthquake Engineering (CAEE), ISBN: 978-0-9685376-2-6, Pp 82-95
- Brzev, S., **Pandey, B.** and Pao, J. (2017). "Urban Housing: Performance of Reinforced Concrete Buildings." *Report on the M7.8 Gorkha, Nepal Earthquake on April 25, 2015 and its Aftershocks*, Canadian Association of Earthquake Engineering (CAEE), ISBN: 978-0-9685376-2-6, Pp 43-62
- Petal, M., Baral, S., Giri, S., Rajbanshi, R., Gajurel, S., Paci-Green, R., **Pandey, B.**, Shoaf, K. (2017). Research Report: Causes of Deaths and Injuries in the 2015 Gorkha Earthquake, Save the Children, in cooperation with Health Research and Development Forum with support from: Red Cross Global Disaster Preparedness Center, National Society for Earthquake Technology–Nepal (NSET), Risk RED, and Nepal Risk Reduction Consortium.



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- **Pandey, B.**, Brzev, S., Culbert, R. and Schoenfeld, G. (2017). "Illustrated Guidelines for Construction of Stone Masonry Houses in Seismic Regions of Nepal." NRA, BWB-Canada, BCIT, RJC and UNDP-Nepal.
- Paci-Green, R., **Pandey, B.** (2016). "School Construction as Catalysts for Community Change: Evidence from Safer School Construction Projects in Nepal," *International Journal of Mass Emergencies and Disasters*, Nepal Earthquake special issue, 34(3):32-54
- **Talukdar, S.**, Heere, R., Sappakittipakorn, M., McAskill, N., (2016). "Lessons learnt from the shotcrete repair of the Powell River concrete hulks, and their applicability to other marine structures". *Innovations in Corrosion and Materials Science*. Article ID: ICMS-16-9885.
- **Talukdar, S.**, Banthia, N., (2016). "Carbonation in Concrete Infrastructure in the Context of Global Climate Change: Model Refinement and Representative Concentration Pathway Scenario Evaluation". *Journal of Materials in Civil Engineering*, 28(4), Article ID: 04015178.
- **Bazargani, P.** and Adebar, P. (2015). "Interstory Drifts from Shear Strains at Base of High-Rise Concrete Shear Walls." *ASCE Journal of Struct. Eng.*, 04015067.
- **Bazargani, P.**, Adebar, P., DeVall, R., and Anderson, D.L. (2015). "Nonlinear Analysis of Shear Wall Foundation Rocking", *Proceedings of the 11th Canadian Conference on Earthquake Engineering*, Victoria, BC, Canada.
- Jain, S.K., and **Brzev, S.** (2015). Promoting Sustainable and Earthquake-Safe Building Construction Practices in India, *Canadian Civil Engineer*, Spring 2015, pp. 29-32.
- Jain, S.K., **Brzev, S.**, and Rai, D.C. (2015). Use of Confined Masonry for Improved Seismic Safety of Buildings in India, *The Bridge and Structural Engineer*, Indian National Group of the International Association for Bridge and Structural Engineering, Vol.45, No.1, pp.28-38.
- Jain, S.K., **Brzev, S.**, and Rai, D.C. (2015). Use of Confined Masonry for Improved Seismic Safety of Buildings in India, *The Bridge and Structural Engineer*, Indian National Group of the International Association for Bridge and Structural Engineering, Vol.45, No.1, pp.28-38.
- Hatzinikolas, M., Korany, Y., and **Brzev, S.** (2015). *Masonry Design for Architects and Engineers*, Fourth Edition, Canadian Masonry Publications, Edmonton, AB, Canada.
- Perez Gavilan, J.J., **Brzev, S.**, et al. (2015). *Análisis de Estructuras de Mampostería*, Sociedad Mexicana de Ingeniería Estructural, Comité de Mampostería, Mexico (Analysis of Masonry Structures, in Spanish).



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- **Chan, C.C.V.**, Neufeld, K., Cusworth, D., Gavrilovic, S., Ngai, T. (2015) Investigation of the Effect of Grain Size, Flow Rate and Diffuser Design on the CAWST Biosand Filter Performance, International Journal for Service Learning in Engineering, 10(1), 1-23.
- Paci-Green, R. and **Pandey, B.** (2015). "Towards Safer School Construction: A Community-based Approach", Save the Children, Global Facility for Disaster Reduction and Recovery, UNESCO, Arup International Development, and Risk RED, Melbourne: Save the Children. Pp 93
- Paci-Green, R., **Pandey, B.** and Friedman, R. (2015). "Safer Schools, Resilient Communities: A comparative Assessment of School Safety after the 2015 Nepal (Gorkha) Earthquake." Risk RED.
- Petal, M., Wisner, B., Kelman, I., Alexander, D., Cardona, O., Benouar, D., Bhatia, S., Bothara, J., Dixit, A., Green, R., Kandel, R., Monk, T., **Pandey, B.**, Rodgers, J., Sanducvac, Z. and Shaw, R. (2015). School seismic safety – case studies, Encyclopedia of Earthquake Engineering, Article ID 398245, Chapter ID 406. Beer, M., Patelli, E., Koughioumtzoglou, I., Au, I., eds., Springer-Verlag Berlin Heidelberg Publications, DOI 10.1007/978-3-642-36197-5_406-1.
- Alexander, D. Bhatia, S., Benouar, D., Bothara, J., Cardona, O. Dixit, A., Green, R., Gupta, M., Kandel, R., Kelman, I., Monk, T., **Pandey, B.**, Petal, M., Sanduvac, Z., Shaw, R., Wisner, B. (2015). School seismic safety – case studies, Encyclopedia of Earthquake Engineering, Article ID 398245, Chapter ID 406. Beer, M., Patelli, E., Koughioumtzoglou, I., Au, I., eds., Springer-Verlag Berlin Heidelberg Publications, DOI 10.1007/978-3-642-36197-5_406-1.
- **Talukdar, S.**, Banthia, N., Grace, J., (2015). "Modelling the effects of structural cracking on carbonation front advance into concrete". International Journal of Structural Engineering, 6(1):73-87.
- Adebar, P., DeVall, R., **Bazargani, P.**, and D.L. Anderson (2014). "Seismic Design of Foundations: The 2015 Canadian Building Code", 10th U.S. National Conference on Earthquake Engineering, Anchorage, Alaska, USA.
- Zanotti, C., **Talukdar, S.**, Banthia, N., (2014). "Chapter 4: A State-of-the-Art on Concrete Repairs and Some Thoughts on Ways to Achieve Durability in Repairs". Infrastructure Corrosion and Durability - a sustainability study. OMICS E-Books.



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2014-Present

Conference Publications, Talks and Poster Presentations

- **Pandey , B.** (2018). Invited speaker (Remote Presentation) “Findings and Recommendations of Research on Causes of Deaths and Injuries in the 2015 Nepal Earthquake”, National Symposium on Earthquake Disaster Management and Risk Reduction in Nepal, Ministry of Home Affairs, Government of Nepal, Kathmandu.
- **Pandey, B.** (2018). Invited Speaker, “Engineers and Tradespersons at the Doorsteps of Communities”, Symposium on Understanding Risk in the Built Environment, BC Construction Association, Victoria, Canada.
- **Pandey, B.,** Paci-Green, R. and Ventura, C. (2017) Comparative Assessment of Performance of School Buildings in the 2015 Gorkha (Nepal) Earthquakes”. Proceedings of the 16th world Conference on Earthquake Engineering, Santiago, Chile.
- Brzev, S., **Pandey, B.,** Maharjan, D. and Ventura, C. (2017) “Seismic Vulnerability Index for Low-Rise Reinforced Concrete and Masonry Buildings”. Proceedings of the 16th world Conference on Earthquake Engineering, Santiago, Chile.
- **Pandey, B.** (2017). Invited speaker. International practice of seismic code revisions. Seminar on revision of NBC105, Nepal engineers Association, Lalitpur, Nepal.
- **Pandey, B.** (2017) Invited speaker. Application of confined masonry in Nepalese context, Seminar on confined masonry initiative in Nepal, Institute of Engineering, Tribhuvan University, Nepal.
- **Pandey B.** (2017). Speaker, Post-earthquake Reconstruction: Technology at the Doorsteps, 2-days Workshop on Reconstructing Nepal: Politics and Practice after the 2015 Earthquake, University of British Columbia, Vancouver.
- Bown, K., **Talukdar, S.,** Brzev, S., Nguyen, B., Zhang, C., Booth, J., Cox, N. (2017). “The Effects of Adjusting Aggregate Fineness and Mix Proportions to Produce Concrete Masonry Blocks of Various Strengths”.
- Proceedings of the 6th International Conference on Engineering Mechanics and Materials, Vancouver, Canada, June, 2017.



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2014-Present

- **Farooq M**, Bhutta A, Borges PHR, Zanotti C, Banthia N. "Flexural Behavior and Single Fiber-Matrix Bond-Slip Behavior of Macro Fiber Reinforced Fly Ash-Based Geopolymers" Fib symposium, Maastricht 2017, in High Tech Concrete: Where Technology and Engineering Meet 2338-2346.
- **Farooq M**, Bhutta A, Banthia N. "Effect of rate of loading on fiber pullout of different alkali-activated binders". ICACMS 2017, Chennai 2017.
- **Farooq M**, Azhari F, Banthia N. "Bridge scour monitoring: challenges and opportunities" IABSE 2017, Vancouver, 2017.
- Booth, J., Bown, K., Nguyen, B., Zhang, C., Song, B., Mendoza, M., **Talukdar, S.**, Cox, N. (2017). "Non- Destructive Acoustic Evaluation of Masonry Compressive Strength". Proceedings of the 6th International Conference on Engineering Mechanics and Materials, Vancouver, Canada, June, 2017.
- **Chan, C.C.V.**, Ferraby, J., Lari, K., Ip, M., Soulsbury, K. (2017) Chemical Contaminant Removal in Drinking Water Using Biosand/biochar Filters, Presented at IWA Water and Development Congress, Buenos Aires, Argentina.
- **Pandey, B.** (2016). Keynote speaker, The 2015 Nepal Earthquake and Research on Reducing vulnerability of Masonry Buildings, Annual 2016 Dinner of Masonry Institute of British Columbia, Vancouver
- Ferraby, J., **Chan, C.C.V.** (2015) The Use of Biochar to Remove Pesticides from Drinking Water, Water and Environment Student Talk (WEST) Conference, University of British Columbia, Vancouver, B.C.
- Centeno, J., Ventura, C., **Brzev, S.**, and Anderson, D.L. (2015). Estimating Sliding Shear Displacements in Reinforced Masonry Shear Walls, Proceedings, 11th Canadian Conference on Earthquake Engineering, Canadian Association for Earthquake Engineering, Victoria, BC, Canada.
- Robazza, B.R., **Brzev, S.**, et al. (2015). Effect of In-Plane Reversed Cyclic Loading on the Out-of-Plane Stability of Reinforced Masonry Shear Walls, Proceedings, 11th Canadian Conference on Earthquake Engineering, Canadian Association for Earthquake Engineering, Victoria, BC, Canada.
- Chane, P., **Brzev, S.**, Booth, J., McEwen, B., and Gupta, R. (2015). Mechanical Properties of Low-Strength Concrete Blocks Simulating Construction in Developing Countries, Proceedings, 12th North American Masonry Conference, Denver, CO, USA.



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Publication List

2014-Present

- Robazza, B.R., **Brzev, S.**, et al. (2015). A Study on the Out-of-Plane Stability of Ductile Reinforced Masonry Shear Walls Subjected to In-Plane Reversed Cyclic Loading, Proceedings, 12th North American Masonry Conference, Denver, CO, USA.
- Allen, L., **Brzev, S.**, Charleson, A.W., Scawthorn, C., and Silva, V. (2015). GEM Building Taxonomy - an Open Global Building Classification System, Proceedings of the 15th NZSEE Conference, New Zealand.
- Kim, J., **Chan, C.C.V.** (2015) Effect of Prolonged Inactivity of Biosand Filter on Water Quality, Water and Environment Student Talk (WEST) Conference, University of British Columbia, Vancouver, B.C.
- **Pandey, B.** (2015). Invited speaker, Impact of Gorkha Earthquake to Schools and Low- rise Reinforced Concrete Buildings, Structural Seminar of Graduate program of Dept. of Civil Engineering, UBC, and Vancouver.
- **Pandey, B.** (2015). Invited speaker, Community Engagement in Reconstruction Technology, Seminar organized by Institute of Asian Research and Himalaya Program, UBC
- **Pandey, B.** (2015). Speaker, "Damage to Schools and Low- rise Reinforced Concrete Buildings from the 2015 Gorkha earthquake" , Seminar organized by Structural Engineers Association of BC (SEABC), Vancouver.
- **Talukdar, S.**, Banthia, N., Bindiganavile, V., (2015). "How do accelerated carbonation tests affect the natural morphology and transport characteristics of concrete?". Proceedings of the Fifth International Conference on Construction Materials, Whistler, Canada. August, 2015.
- **Talukdar, S.**, Banthia, N., Grace, J., Cohen, S., (2015). "Climate Change Induced Corrosion of Concrete Infrastructure". American Concrete Institute, Spring Convention. April 13, 2015. Kansas City, USA.
- Hart, T., and **Brzev, S.** (2014). The Confined Masonry Network's Design and Construction Guidelines. Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, Alaska.
- Von Rotz, U., Yang, T.Y., **Brzev, S.**, and Stojadinovic, B. (2014). Seismic Performance Evaluation of an Unreinforced Masonry Building in Switzerland. Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, Alaska.
- Jain, S.K ., Basu, D., Ghosh, I., Rai, D.C., **Brzev, S.** , and Bhargava, L.K. (2014). Application of Confined Masonry in a Major Project in India. Proceedings of the Tenth U.S. National Conference on Earthquake Engineering, Anchorage, Alaska.



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Publication List

2014-Present

- **Pandey, B.** , Ventura, C.E., RioFrio, P. , Pummell, J. and Dowling, S., “ Development of Response Plan of Airport for Mega Earthquakes in Nepal.” Proceedings of the 10th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, USA, 2014.
- **Pandey, B.** (2014). Keynote speaker, “Making Schools Safe in the Republic of Kyrgyzstan: Technical and Policy Issues” national workshop on school safety, Ministry of Education of Republic of Kyrgyzstan and UNICEF, Bishkek, Kyrgyzstan.