

**PUBLICATIONS****Journal publications under review**

- 1 Bhaduri, A., Meyer, C.S., Gillespie, J.W., Haque, B.Z., Shields, M.D., Graham-Brady, L. (2021). "A probabilistic modeling framework for composite plate penetration models under projectile impact," submitted.
- 2 Bhattacharjee, A., Hurley, R., Graham-Brady, L. (2021). "Predicting high rate granular transition and fragment statistics at the onset of granular flow for brittle ceramics," submitted.
- 3 Bhaduri, A., Gupta, A., Olivier, A., Graham-Brady, L. (2021). "An efficient optimization based microstructure reconstruction approach with multiple loss functions," submitted

**Refereed journal publications**

- 4 Bhattacharjee, A., Bhaduri, A., Hurley, R., Graham-Brady, L. (2021). "Failure modelling and sensitivity analysis of ceramics under impact," *ASME Journal of Applied Mechanics*, accepted.
- 5 Cil, M. B., Zeng, Q., Hurley, R. C., Graham-Brady, L. (2020). "An integrative model for the dynamic behavior of brittle materials based on microcracking and breakage mechanics," *Journal of the Dynamic Behavior of Materials*, in press, doi: 10.1007/s40870-020-00251-x.
- 6 Bhaduri, A., Brandyberry, D., Shields, M., Geubelle, P., Graham-Brady, L. (2020). "On the usefulness of gradient information in surrogate modeling: Application to uncertainty propagation in composite material models," *Probabilistic Engineering Mechanics*, 60,103024.
- 7 Bhaduri, A., Gardner, J., Abrams, C., Graham-Brady, L. (2020). "Free energy calculation using space filled design and weighted reconstruction: A modified single sweep approach," *Molecular Simulations*, 46(3):193-206.
- 8 Cil, M., Hurley, R., Graham-Brady, L. (2020). "Constitutive Model for Brittle Granular Materials Considering Competition between Breakage and Dilation," *Journal of Engineering Mechanics*, 146(1): 04019110.
- 9 Saouma, V., Hariri-Ardebili, M.A., Graham-Brady, L., Salamon, J. (2020). "Stochastic Analysis of Concrete Dams with Alkali Aggregate Reaction," *Cement and Concrete Research*, 132: 106032.
- 10 Teferra, K. & Graham-Brady L. (2019). "The maximum value distribution of response quantities in computational homogenization," *Journal of Engineering Mechanics*, 145(5): 06019002.
- 11 Huq, F., Liu, J., Tonge, A., Graham-Brady, L. (2019). "A micromechanics based model to predict micro-crack coalescence in brittle materials under dynamic compression," *Engineering Fracture Mechanics*, 217: 106515.

- 12 Cil, M., Hurley, R., Graham-Brady, L. (2019). "A rate-dependent constitutive model for brittle granular materials based on breakage mechanics," *Journal of the American Ceramics Society*, 102(9): 5524-5534.
- 13 Teferra, K. & Graham-Brady, L. (2018). "A random field-based method to estimate convergence of apparent properties in computational homogenization," *Computer Methods in Applied Mechanics and Engineering*, 330: 253-270.
- 14 Cereceda, D., Kats, D., Daphalapurkar, N., Graham-Brady, L. (2018). "A micro-mechanical modeling approach for dynamic fragmentation in brittle multi-phase materials," *International Journal of Solids & Structures*, 134: 116-129. doi: [10.1016/j.ijsolstr.2017.10.026](https://doi.org/10.1016/j.ijsolstr.2017.10.026).
- 15 Bhaduri, A. & Graham-Brady, L. (2018). "An efficient adaptive sparse grid collocation method through derivative estimation," *Probabilistic Engineering Mechanics*, 51:11-22.
- 16 Bhaduri, A., He, Y., Shields, M., Graham-Brady, L., Kirby, R.M. (2018). "Stochastic collocation approach with adaptive mesh refinement for parametric uncertainty analysis," *Journal of Computational Physics*, 371: 732-750.
- 17 Cereceda, D., Graham-Brady, L., Daphalapurkar, N. (2017). "Modeling dynamic fragmentation of heterogeneous structural materials," *International Journal of Impact Engineering*, 99:85-101.
- 18 Huq, F., Brannon, R. & Graham-Brady, L. (2016). "An Efficient Binning Scheme with Application to Statistical Crack Mechanics," *International Journal for Numerical Methods in Engineering*, 105(1): 33-62.
- 19 Liu, J. & Graham-Brady, L. (2016). "Perturbation-based surrogate models for dynamic failure of brittle materials in a multi-scale and probabilistic context," *International Journal for Multiscale Computational Engineering*, 14(3): 273-290.
- 20 Liu, J. & Graham-Brady, L. (2016). "Anisotropic Damage-Compliance Relationships for Brittle Materials under Compression," *International Journal of Solids & Structures*, 100-101: 151-168.
- 21 Hu, G., Liu, J., Graham-Brady, L., Ramesh, K.T. (2015). "A 3D Mechanistic Constitutive Model for Brittle Materials Containing Evolving Flaw Distributions under Dynamic Multiaxial Loading," *Journal of the Mechanics and Physics of Solids*, 78: 269-297.
- 22 Teferra, K. & Graham-Brady, L.L. (2015). "Grain growth tessellation models for polycrystalline microstructures," *Computational Materials Science*, 102: 57-67.
- 23 Mayercsik, N.P., Shaeffer, M., Graham-Brady, L.L. & Kurtis, K.E. (2015). "Analysis of Portland Cement mortar under impact: a combined materials characterization, micromechanics modeling, and dynamic testing approach," *Cement and Concrete Research*, 73: 190-206.
- 24 Graham-Brady, L.L., Katcoff, C.Z., Mayercsik, N.P., Kurtis, K.E. (2015). "Micromechanical Model and Associated Validation for Dynamic Failure of Brittle Materials Containing Pores and Slit-like Flaws," *Journal of Engineering Mechanics*, ASCE, 141(10): 04015040.
- 25 Roozbahani, M.R., Graham-Brady, L.L., Frost, J.D. (2014). "Mechanical trapping of fine particles in a medium of mono-sized randomly packed spheres," *International Journal for Numerical and Analytical Methods in Geomechanics*, 38(17): 1776-1791.

- 26 Katcoff, C.A. & Graham-Brady, L.L. (2014). "Modeling Dynamic Brittle Behavior of Materials with Circular Flaws or Pores," *International Journal of Solids & Structures*, 51: 754-766.
- 27 Zeinoddini, V.M., Graham-Brady, L.L., Schafer, B.W. (2013). "Imperfection sensitivity and reliability using simple bar-spring models for stability," *International Journal of Structural Stability and Dynamics*, 13(3): Art.No. 1250075.
- 28 Daphalapurkar, N.P., Ramesh, K.T., Graham-Brady, L.L., Molinari, J.F. (2011). "Predicting variability in the dynamic failure strength of brittle materials considering preexisting flaws," *Journal of the Mechanics & Physics of Solids*, 59(2): 297-319.
- 29 Tootkaboni, M. & Graham-Brady, L. (2010). "A Multi-scale Spectral Stochastic Method for Homogenization of Multi-Phase Periodic Composites with Random Material Properties," *International Journal of Numerical Methods in Engineering*, 83(1): 59-90.
- 30 Tootkaboni, M. & Graham-Brady, L. (2010). "Stochastic direct integration schemes for dynamic systems subjected to random excitation," *Probabilistic Engineering Mechanics*, 25(2): 163-171.
- 31 Acton, K. & Graham-Brady, L. (2010). "Elasto-plastic mesoscale homogenization of composite materials," *Journal of Engineering Mechanics*, ASCE, 136(5): 613-624.
- 32 Graham-Brady, L. (2010). "Statistical characterization of meso-scale uniaxial compressive strength in brittle materials with randomly occurring flaws," *International Journal of Solids and Structures*, 47 (18-19): 2398-2413.
- 33 Acton, K. & Graham-Brady, L. (2009). "Mesoscale modeling of plasticity in composites," *Computer Methods in Applied Mechanics & Engineering*, 198(9-12): 920-932.
- 34 Tootkaboni, M., Graham-Brady, L., Schafer, B. (2009). "Geometrically nonlinear behavior of structural systems with random material property: an asymptotic spectral stochastic approach," *Computer Methods in Applied Mechanics & Engineering*, 198(37-40): 3173-3185.
- 35 Graham-Brady, L. & Xu, X. Frank (2008). "Stochastic morphological modeling of random multiphase materials," *Journal of Applied Mechanics*, ASME, 75(6): 0610011-06100110.
- 36 Tregger, N., Corr, D., Graham-Brady, L., Shah, S. (2007). "Modeling mesoscale uncertainty for concrete in tension," *Computers & Concrete*, 4: 347-362.
- 37 Corr, D.J., Accardi, M., Graham-Brady, L., Shah, S. (2006). "Digital image correlation analysis of interfacial debonding properties and fracture behavior in concrete," *Engineering Fracture Mechanics*, 74(1,2): 109-121.
- 38 Schafer, B.W. & Graham-Brady, L. (2006). "Stochastic postbuckling of frames using Koiter's method," *International Journal of Structural Stability and Dynamics*, 6(3): 333-358.
- 39 Tregger, N., Corr, D., Graham-Brady, L., Shah, S. (2006). "Modeling the effect of mesoscale randomness on concrete fracture," *Probabilistic Engineering Mechanics*, 21(3): 217-225.
- 40 Xu, X.F. & Graham-Brady, L. (2006). "Computational stochastic homogenization of random media elliptic problems using the Fourier Galerkin method," *Finite Elements in Analysis and Design*, 42(7): 613-622.

- 41 Graham-Brady, L.L., Arwade, S.R., Corr, D.J., Gutierrez, M.A., Breysse, D., Grigoriu, M., Zabaraz, N. (2006). "Probability and materials, from nano- to macro-scale: a summary," *Probabilistic Engineering Mechanics*, 21(3): 193-199.
- 42 Chung, D.B., Gutierrez, M.A., Graham-Brady, L.L., Lingen, F.J. (2005). "Efficient numerical strategies for spectral stochastic finite element models," *International Journal of Numerical Methods in Engineering*, 64: 1334-1349.
- 43 Ferrante, F.J., Arwade, S.R., Graham-Brady, L.L. (2005). "A translation model for non-stationary, non-Gaussian random processes," *Probabilistic Engineering Mechanics*, 20(3): 215-228.
- 44 Xu, X.F. & Graham-Brady, L.L. (2005). "A stochastic computational method for evaluation of global and local behavior of random media," *Computer Methods in Applied Mechanics & Engineering*, 194(42-44): 4362-4385.
- 45 Ferrante, F.J. & Graham-Brady, L.L. (2005). "Stochastic simulation of non-Gaussian/non-stationary properties in a functionally graded plate," *Computer Methods in Applied Mechanics and Engineering*, 194(12-16): 1675-1692.
- 46 Baxter, S.C., Graham-Brady, L.L., Xu, X.F. (2005). "Modeling the effects of material nonlinearity using moving window micromechanics," *International Journal for Nonlinear Mechanics*, 40: 351-359.
- 47 Deodatis, G., Graham-Brady, L.L., Micaletti, R. (2003). "A hierarchy of upper bounds on the response of stochastic systems with large variation of their properties: random variable case," *Probabilistic Engineering Mechanics*, 18(4): 349-363.
- 48 Deodatis, G., Graham-Brady, L.L., Micaletti, R. (2003). "A hierarchy of upper bounds on the response of stochastic systems with large variation of their properties: random field case," *Probabilistic Engineering Mechanics*, 18(4): 365-375.
- 49 Hooper, J.J., Foecke, T., Graham, L., Weihs, T.P. (2003). "The metallurgical analysis of wrought iron from the RMS Titanic," *Measurement Science & Technology*, 14: 1556-1563.
- 50 Graham, L.L., Gurley, K., Masters, F. (2003). "Non-Gaussian simulation of local material properties based on a moving-window technique," *Probabilistic Engineering Mechanics*, 18(3): 223-234.
- 51 Hooper, J.J., Foecke, T., Graham, L., Weihs, T.P. (2003). "Metallurgical analysis of wrought iron from the RMS Titanic," *Marine Technology*, 40(2): 73-81.
- 52 Graham-Brady, L.L., Siragy, E.F., Baxter, S.C. (2003). "Analysis of heterogeneous composite materials using moving-window techniques," *Journal of Engineering Mechanics*, ASCE, 129(9): 1054-1064.
- 53 Hooper, J., Graham, L., Foecke, T., Weihs, T. (2002). "The relationship between microstructure and mechanical properties of late 19th/early 20th century wrought iron using the generalized method of cells model," *Materials Issues in Art and Archaeology Vi*. 712: 471-479.
- 54 Corr, D.J. & Graham, L.L. (2002). "Mechanical analysis of concrete with the moving-window generalized method of cells," *ACI Materials Journal*, 100(2): 156-164.
- 55 Graham, L.L. & Khan, M. (2002). "Use of ANSYS and Matlab in an introductory finite element course," *Computers in Education*, XII(1): 32-37.
- 56 Baxter, S.C., Hossain, M.I., Graham, L.L. (2001). "Micromechanics based random material property fields for particulate reinforced composites," *International Journal of Solids & Structures*, 30: 9209-9220.

- 57 Graham, L.L. & Baxter, S.C. (2001). "Simulation of local material properties based on moving-window GMC," *Probabilistic Engineering Mechanics*, 16(4): 295-306.
- 58 Graham, L.L. & Deodatis, G. (2001). "Response and eigenvalue analysis of stochastic finite element systems with multiple correlated material and geometric properties," *Probabilistic Engineering Mechanics*, 16(1): 11-29.
- 59 Graham, L.L. & Siragy, E.F. (2001). "Stochastic finite element analysis for elastic buckling of stiffened panels," *ASCE Journal of Engineering Mechanics*, 127(1): 91-97.
- 60 Phillips, E.A., Herakovich, C.T., Graham, L.L. (2001). "Damage development in composites with large stress gradients," *Composites Science & Technology*, 61: 2169-2182.
- 61 Baxter, S.C. & Graham, L.L. (2000). "Characterization of random composite materials using the moving-window generalized method of cells technique," *ASCE Journal of Engineering Mechanics*, 126(4): 389-397.
- 62 Graham, L.L. (1998). "Maximum displacement variability of stochastic structures subject to deterministic earthquake loading," *Shock and Vibration*, 5(5,6): 355-369.
- 63 Graham, L.L. & Deodatis, G. (1998). "Variability response functions for stochastic plate bending problems," *Structural Safety*, 20(2): 167-188.

### Refereed book chapters

- Wade, N., Uchic, M., Criner, A., Graham-Brady, L. (2019). "A framework for quantifying effects of characterization error on the predicted local elastic response in polycrystalline materials," *Integrated Computational Materials Engineering (ICME) - Advancing Computational and Experimental Methods*, pp. 223-247, Springer.
- Cereceda, D., Daphalapurkar, N., Graham-Brady, L. (2018). "One-dimensional models for dynamic fragmentation of brittle materials," *Dynamic Damage and Fragmentation*, pp. 237-263, Wiley.
- Acton, K. & Graham-Brady, L. (2010). "Fitting an anisotropic yield surface using the Generalized Method of Cells," *Advances in Mathematical Modeling and Experimental Methods for Materials and Structures. The Jacob Aboudi Volume*, pp. 27-42, Springer.
- Deodatis, G. & Graham, L. (1997). "The weighted integral method and the variability response function as part of a SFEM formulation," *Uncertainty Modeling in Finite Element, Fatigue & Stability of Structures*, pp. 71-116, World Scientific.

### Refereed proceedings publications

- Bhaduri, A., Graham-Brady, L., Shields, M. (2019). "Surrogate modeling and model selection in irreducible high dimensions with small sample size," *Proceedings of the 13<sup>th</sup> International Conference on Applications of Statistics and Probability in Civil Engineering*, Seoul, S. Korea, May 26-30, 2019.
- Bhaduri, A., Graham-Brady, L., Shields, M., Brandyberry, D., Geubelle, P. (2018). "Uncertainty Propagation in Composite Models Using an Efficient Surrogate Algorithm," *Proceedings of the 8<sup>th</sup> International Conference on Computational Stochastic Mechanics*, eds. P. Spanos and G. Deodatis, Paros, Greece, June 10-13, 2018.

- Bhaduri, A., Shields, M., Graham-Brady, L. (2017). "FEM based uncertainty quantification for computational models of fiber-reinforced composite materials," *Proceedings of the 12<sup>th</sup> International Conference on Structural Safety and Reliability*, Vienna, Austria, August 6-10, 2017.
- Cereceda, D., Pavarini, T., Daphalapurkar, N., Graham-Brady, L. (2016). "Modeling dynamic fragmentation of concrete under high strain-rate loading," *Proceedings of FramCos 9, the 9<sup>th</sup> International Conference on Fracture Mechanics of Concrete and Concrete Structures*, Berkeley, CA, May 30-June 2, 2016.
- Graham-Brady, L. & Liu, J. (2015). "Efficient stochastic simulation of dynamic brittle strength using a random perturbation-based micromechanics model," *Proceedings of the 12<sup>th</sup> International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP12*, Vancouver, Canada, July 12-15, 2015.
- Teferra, K. & Graham-Brady, L. (2014). "Simulating granular microstructures with random tessellations models for micromechanical analysis," *Proceedings of the 7<sup>th</sup> International Conference on Computational Stochastic Mechanics (CSM)*, Santorini, Greece, June 15-18, 2014.
- Graham-Brady, L.L. & Liu, J. (2013). "Strength variability based on a stochastic damage micromechanics model," *11<sup>th</sup> International Conference on Structural Safety and Reliability*, New York, NY, June 16-20, 2013.
- Graham-Brady, L. & Huq, F. (2012). "Upscaling crack propagation and random interactions in brittle materials under dynamic loading," *Procedia IUTAM: IUTAM Symposium on Multiscale Problems in Stochastic Mechanics*, (editor: Carsten Proppe), Vol. 6: 108-113, Karlsruhe, Germany, June 26, 2012.
- Zingale, C. & Graham-Brady, L. (2010). "Spatial variability of strength of brittle materials under high-strain-rate loadings," *Computational Stochastic Mechanics* (editors: G. Deodatis & P.D. Spanos), Rhodes, Greece, June 13-16, 2010.
- Graham-Brady, L. & Acton, K. (2009). "Stochastic simulation of local elasto-plastic properties of composite materials," *10<sup>th</sup> International Conference on Structural Safety and Reliability*, Osaka, Japan, September 13-17, 2009.
- Graham-Brady, L. & Zingale, C. (2009). "Strength Variability in Brittle Materials with Randomly Occurring Flaws," *10<sup>th</sup> International Conference on Structural Safety and Reliability*, Osaka, Japan, September 13-17, 2009.
- Zeinnodini, V.M., Graham-Brady, L.L., Schafer, B.W. (2008). "Imperfection Sensitivity and Reliability Predictions Using Simple Models for Stability," *SSRC 2008 Annual Stability Conference*, Nashville, TN, April 2-5, 2008.
- Ferrante, F.J., Graham-Brady, L.L., Arwade, S.R., Acton, K.A. (2006). "An overview of micromechanical-based techniques for the analysis of microstructural randomness in functionally graded materials," *Multiscale and Functionally Graded Materials 2006*, Honolulu, HI, November 13-15, 2006.
- Chung, D.B., Gutierrez, M.A., de Borst, R., Graham-Brady, L.L. (2006). "Characterisation of random properties of fibre-metal laminate interfaces," *Computational Stochastic*

*Mechanics*, Rhodes, Greece, June 21-23, 2006.

Graham-Brady, L.L. & Xu, X.F. (2006). "Simulation and classification of random multiphase materials through short-range correlation," *7th AIAA Non-Deterministic Approaches Conference*, Newport, RI, May 1-5, 2006.

Ferrante, F.J. & Graham-Brady, L.L. (2005). "Probabilistic analysis of a functionally graded plate based on moving-window technique," *9th International Conference on Structural Safety & Reliability*, Rome, Italy, July 26-28, 2005.

Chung, D.B., Gutierrez, M.A., De Borst, R., Graham-Brady, L.L. (2005). "Stochastic finite element analysis based on a moving-window GMC characterization of fibre metal laminate interfaces," *9th International Conference on Structural Safety & Reliability*, Rome, Italy, July 26-28, 2005.

Ferrante, F.J., Arwade, S.R., Graham-Brady, L.L. (2005). "Non-Gaussian, non-stationary simulation with spatially varying marginal probability distribution," *9th International Conference on Structural Safety & Reliability*, Rome, Italy, July 26-28, 2005.

Graham-Brady, L.L. & Corr, D.J. (2003). "Moving-window representation of interfacial debonding in concrete," *1st International Symposium on Nanotechnology in Construction*, Glasgow, Scotland, June 24, 2003.

Corr, D.J. & Graham-Brady, L.L. (2003). "Simulation of random material properties and local maximum stresses and strains in concrete," *Applications of Statistics and Probability in Civil Engineering*, San Francisco, CA, July 6-9, 2003, Millpress, Rotterdam, pp. 533-540.

Corr, D., Graham-Brady, L., Igusa, T., Der Kiureghian, A. (2003). "Reliability of service life predictions for concrete under sulfate attack," *Applications of Statistics and Probability in Civil Engineering*, San Francisco, CA, July 6-9, 2003, Millpress, Rotterdam, pp. 525-532.

Deodatis, G., Graham-Brady, L., Micaletti, R. (2003). "Upper bounds on the response variance of stochastic systems via generalized variability response functions," *Computational Fluid and Solid Mechanics*, (editor: K.J. Bathe), Cambridge, MA, June 17-20, 2003, Elsevier, Amsterdam, pp. 1918-1921.

Graham, L.L., Gurley, K., Masters, F., Baxter, S. (2002). "Analysis of random composite materials using non-Gaussian simulations," *Computational Stochastic Mechanics* (editors: P. Spanos & G. Deodatis), Corfu, Greece, June 9-12, 2002, Balkema, Rotterdam, pp. 225-234.

Graham, L.L. & Lutes, L.D. (2001). "Teaching uncertainty to undergraduate structural engineers," *Structural Safety & Reliability* (editors: R.B. Corotis, G.I. Schueller, M. Shinozuka), Newport Beach, CA, June 18-22, 2001, Swets & Zeitinger, Lisse.

Ferrante, F.J. & Graham, L.L. (2001). "Randomness effects on the properties of a functionally graded plate using probabilistic methods," *Structural Safety & Reliability* (editors: R.B. Corotis, G.I. Schueller, M. Shinozuka), Newport Beach, CA, June 18-22, 2001, Swets & Zeitinger, Lisse.

Graham, L.L. & Siragy, E.F. (2001). "Analysis of local response of heterogeneous materials using moving-window GMC," *Structural Safety & Reliability* (editors: R.B. Corotis, G.I. Schueller, M. Shinozuka), Newport Beach, CA, June 18-22, 2001, Swets & Zeitinger, Lisse.

Graham, L.L. & Baxter, S.C. (2000). "Simulation of local material properties based on moving-window GMC," *Monte Carlo Simulation* (editors: G.I. Schueller & P.D. Spanos), Monte Carlo, Monaco, June 18-21, 2000, Balkema, Rotterdam, pp. 221-227.

Graham, L.L. & Baxter, S.C. (1998). "Stochastic finite element analysis of composite structures with random imperfections," *Stochastic Structural Dynamics* (editors: B.F. Spencer, Jr. & E.A. Johnson), University of Notre Dame, August 6-8, 1998, Balkema, Rotterdam, pp. 159-164.

Graham, L.L. & Siragy, E. (1998). "SFEM for buckling of structures with random imperfections," *Computational Stochastic Mechanics* (editor: P.D. Spanos), Santorini, Greece, June, 1998, Balkema, Rotterdam, pp. 515-521.

Graham, L.L. (1997). "Stochastic finite element analysis using variability response functions," *Stochastic Simulation for Civil Infrastructural Systems*, eds. Y.K. Wen and J. Kanda, Kyoto, Japan.

Deodatis, G. & Graham, L.L. (1997). "Variability response functions for structures with multiple uncertain material and/or geometric properties," *Structural Safety and Reliability*, Vol. 2, (editors: N. Shiraishi, M. Shinozuka, Y.K. Wen), Kyoto, Japan, November, 1997, Balkema, Rotterdam, pp. 883-890.

### **Conference proceedings publications (last 5 years)**

Bhaduri, A., Ghosal, S., Graham-Brady, L. (2021). "Stress Field Prediction for Composite Materials Using Deep Learning," *4th International Conference on Uncertainty Quantification in Computational Sciences and Engineering*, June 27-30, 2021.

Bhaduri, A., Gupta, A., Olivier, A., Graham-Brady, L. (2021). "A transfer learning based microstructure reconstruction approach using microstructural correlation functions," *13th International Conference on Structural Safety and Reliability (ICOSSAR2021)*, Shanghai, China, June 21-25, 2021.

Bhattacharjee, A., Bhaduri, A., Hurley, R., Graham-Brady, L. (2021). "Morphological implications on microstructure of armor ceramics to enhance ballistic performance," *Biot-Bazant Conference on Engineering Mechanics and Physics of Porous Materials*, June 1-3, 2021.

Bhattacharjee, A., Bhaduri, A., Hurley, R., Graham-Brady, L. (2021). "Sensitivity analysis of armor ceramics and the influence of microstructure on fragmentation and impact performance," *ASCE EMI Conference (EMI 2020)*, Virtual, May 27-29, 2021.

Zare, A., Bhattacharjee, A., Yang, Q., Christian, K., Haber, R.A., Graham-Brady, L. Shaeffer, M., Ramesh, K.T. (2021). "Effects of Microstructure on Dynamic Compressive Response of Hot-pressed Boron Carbide," *8th Annual Mach Conference*, Virtual, April 9-9, 2021.



Bhattacharjee, A., Bhaduri, A., Hurley, R., Graham-Brady, L. (2021). "Impact behavior of armor ceramics: sensitivity analysis," *8<sup>th</sup> Annual Mach Conference*, Virtual, April 7-9, 2021.

Bhattacharjee, A., Bhaduri, A., Hurley, R. & Graham-Brady, L. (2021). "Sensitivity analysis of armor ceramics: Sphere indentation simulations (Abstract Only)," *45<sup>th</sup> International Conference and Exposition on Advanced Ceramics conference (ICACC 2021)*, virtual, February 8 - 12, 2021.

Gupta, A., Bhaduri, A., Olivier, A. & Graham-Brady, L. (2020). "A transfer learning based microstructure reconstruction approach using microstructural correlation functions (Abstract Only)," *Society of Engineering Science Virtual Technical Meeting*, virtual, September 29-October 1, 2020.

Graham-Brady, L. & Wade, N. (2020). "Methods for the correction of epistemic resolution error through data collection process simulations (Abstract Only)," *TMS 2020: 149<sup>th</sup> Annual Meeting and Exhibition*, San Diego, CA, February 23-27, 2020.

Graham-Brady, L., Bhattacharjee, A., Cil, M. (2020). "Impact models for ceramics incorporating fragmentation and subsequent breakage (Abstract Only)," *44<sup>th</sup> Annual International Conference and Exposition on Advanced Ceramics and Composites*, Daytona Beach, FL, January 28-31, 2020.

Graham-Brady, L. & Bhattacharjee, A. (2019). "Fragment size characterization for granular flow in highly damaged ceramics (Abstract Only)," *ECCOMAS Conference of Computational Methods in Multi-scale, Multi-uncertainty and Multi-physics Problems*, Porto, Portugal, July 16-18, 2019.

Bhaduri, A., Graham-Brady, L., Shields, M. (2019). "Efficient surrogate modeling using gradient information (Abstract Only)," *3<sup>rd</sup> International Conference on Uncertainty Quantification in Computational Sciences and Engineering*, Crete, Greece, June 24-26, 2019.

Bhattacharjee, A. & Graham-Brady, L. (2019). "Predicting initial fragment sizes for granular flow under dynamic fragmentation of ceramics (Abstract Only)," *ASCE EMI Conference (EMI 2019)*, Pasadena, CA, June 18-21, 2019.

Olivier, A., Shields, M., Graham-Brady, L. (2019). "Uncovering exploitable insights from microstructures using machine learning algorithms (Abstract Only)," *ASCE EMI Conference (EMI 2019)*, Pasadena, CA, June 18-21, 2019.

Bhaduri, A., Graham-Brady, L., Shields, M., Meyer, C., Haque, B., Gillespie, J. (2019). "Predicting probability of penetration for continuum plain-weave composite plate model under projectile impact (Abstract Only)," *ASCE EMI Conference (EMI 2019)*, Pasadena, CA, June 18-21, 2019.

Cil, M., Hurley, R., Graham-Brady, L. (2019). "Dynamic behavior of granulated boron carbide (Abstract Only)," *7<sup>th</sup> Annual Mach Conference*, Annapolis, MD, April 3-5, 2019.

Bhattacharjee, A. & Graham-Brady, L. (2019). "Fragmentation and granular phase transition in brittle ceramics (Abstract Only)," *43<sup>rd</sup> Annual International Conference and*

*Exposition on Advanced Ceramics and Composites*, Daytona Beach, FL, January 27-February 1, 2019.

Cil, M., Hurley, R., Graham-Brady, L. (2019). "A constitutive model for granulated ceramics based on breakage mechanics (Abstract Only)," *43rd Annual International Conference and Exposition on Advanced Ceramics and Composites*, Daytona Beach, FL, January 27-February 1, 2019.

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