

PUBLICATIONS

Wang, S., Potyondy, D.O., Chu, W., Zhang, L., Zhao, X., & Wang, T. (2024). Investigation of Meso-mechanical Properties of Jinping Dolomitic Marble Based on Flat-Joint Model. *J. Rock Mech. Geotech. Eng.* In Press. <https://doi.org/10.1016/j.jrmge.2024.05.020>

Potyondy, D.O., & Fu, W. (2024). A 3D Subspring Network Breakable Voronoi Model for Rock: Laboratory-Scale Behavior. In *Proceedings, 58th U.S. Rock Mechanics/Geomechanics Symposium (ARMA, Golden, Colorado, USA, June 2024)*, ARMA 24-493. Alexandria, Virginia: ARMA.

Potyondy, D., & Purvance, M. (2024). A 3D Subspring Network Breakable Voronoi model for rock: Grain-breakage scheme. In *Proceedings, 6th International ITASCA Symposium on Applied Numerical Modeling in Geomechanics (Toronto, June 2024)*, Paper 04-01.

Hu, W. R., Liu, K., Potyondy, D. O., Salmi, E. F., Sellers, E. J., & Zhang, Q. B. (2023). Grain-Based Modelling of Dynamic Shear Rupture of Heterogeneous Rock Using a Coupled Continuum-Discrete Model. *International Journal of Impact Engineering*, 172, 104420. <https://doi.org/10.1016/j.ijimpeng.2022.104420>.

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Potyondy, D. O., & Mas Ivars, D. (2020). Simulating Spalling with a Flat-Jointed Material. In *Applied Numerical Modeling in Geomechanics 2020 (Proceedings, 5th International Itasca Symposium, February 2020)*, Paper 03-01. Minneapolis, Minnesota: Itasca.

Potyondy, D., Lorig, L., & Purvance, M. (2019). The Effect of Rock Mass Damage on Strength Degradation in Large Open Pits. In *Proceedings, ISRM 14th International Congress of Rock Mechanics (Iguassu Falls, Brazil, September 2019)*, pp. 2450–2460. ISRM.

Potyondy, D. O. (2018). A Flat-Jointed Bonded-Particle Model for Rock. In *Proceedings, 52nd U.S. Rock Mechanics/Geomechanics Symposium (ARMA, Seattle, Washington, June 2018)*, ARMA 18-1208. Alexandria, Virginia: ARMA.

Mahmud, S. M. N., Mishra, D., & Potyondy, D. O. (2018). Effect of Geogrid Inclusion on Ballast Resilient Modulus: The Concept of 'Geogrid Gain Factor'. In *Proceedings, 2018 Joint Rail Conference (Pittsburgh, PA, April 2018)*, JRC2018-6126. ASME.

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Invited Lectures

Invited lectures on PFC Modeling. Tongji University (Shanghai, China, 21 May 2019). Host: Fengshou Zhang “Frank”. Three talks: (1) “The Bonded-Particle Model as a Tool for Rock Mechanics Research and Application,” Departmental Lecture (21 May 2019); (2) “Simulating Perforation Damage with a 2D Flat-Jointed Bonded-Particle Material,” Departmental Lecture (21 May 2019); (3) “Simulating Spalling with a 3D Flat-Jointed Bonded-Particle Material,” Departmental Lecture (21 May 2019). Keynote lecture for PFC Workshop put on by HydroChina – Itasca R&D Center (Hangzhou, China). Host: Weijiang Chu “River”. “PFC (Particle Flow Code): Historical Development and Engineering Applications,” Keynote Lecture (23 May 2019).

Invited lectures, University of Tennessee (Knoxville), Civil Engr. Dept. (Knoxville, TN, 22–23 March 2018). Host: Khalid Alshibli. Three talks: (1) “PFC Pavement-Design Package,” Tennessee Department of Transportation, Materials and Tests Division (Knoxville, TN, March 22, 2018); (2) “PFC (Particle Flow Code): Historical Development and Engineering Applications,” Departmental Seminar, University of Tennessee (Knoxville), CE Department (Knoxville, TN, March 22, 2018); (3) “Discrete-Element Modeling of Rock Fracture for Nuclear-Waste Isolation: Predicting the Effect of Lithophysae on the Properties of Volcanic Tuff,” ASCE Technical Seminar, Knoxville ASCE Branch (Oak Ridge, TN, March 23, 2018).

Invited lectures on Bonded-Particle Modeling, Tsinghua University, Civil Engr. Dept. (Beijing, China, 12-16 October 2015). Host: Zhihong Zhao. Four talks: (1) “The Bonded-Particle Model as a Tool for Rock Mechanics Research and Application,” Graduate Lecture (13 October 2015); (2) “PFC (Particle Flow Code): Historical Development and Engineering Applications,” General Seminar (14 October 2015); (3) “Simulating Perforation Damage with a Flat-Jointed Bonded-Particle Material,” General Seminar (14 October 2015); (4) “Discrete-Element Modeling of Rock Fracture: Predicting the Effect of Lithophysae on the Properties of Volcanic Tuff,” Workshop on DEM in Geotechnical Engineering (16 October 2015).

“The Bonded-Particle Model as a Tool for Rock Mechanics Research and Application: Current Trends and Future Directions,” Keynote Lecture at 7th Asian Rock Mechanics Symposium — ARMS7 (Seoul, Korea, 16 October, 2012).

“Bonded-Particle Modeling of Excavation Response,” Lecture for Online Certificate in Tunneling Course, University of Texas at Austin, July 2010.

“Discrete Element Modeling of Rock Fracture for Nuclear-Waste Isolation: Predicting the Effect of Lithophysae on the Properties of Volcanic Tuff,” State of the Art Lecture, 13th Annual George F. Sowers Symposium, Georgia Institute of Technology, Atlanta, May 11, 2010.