

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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Invited Lectures

Five invited lectures on PFC Modeling. Tongji University (Shanghai, China, 30 October to 9 November 2024). Host is Fengshou Zhang. (1) "3D Subspring Network Breakable Voronoi Model for Rock," Tongji University (Shanghai, China, 8 November 2024); (2) "Potyondy, Itasca and BPM," Itasca China Office (Hangzhou, China, 6 November 2024); (3) "3D Subspring Network Breakable Voronoi Model for Rock," Chengdu University of Technology (Chengdu, China, 4 November 2024 — host is Prof. Haiyan Zhu); (4) "Simulating Perforation Damage with a Flat-Jointed Bonded-Particle Material," Southwest Petroleum University (Chengdu, China, 4 November 2024 — host is Prof. Liuke Huang); (5) "Bonded-Particle Modeling: What It is, Why It Matters," Session of Early Career Forum at China Rock 2024, Chinese Society for Rock Mechanics and Engineering (Chengdu, China, 3 November 2024).

Four invited lectures on PFC Modeling. Tongji University (Shanghai, China, 21 May 2019). Host is Fengshou Zhang. (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).

Three invited lectures at University of Tennessee (Knoxville), Civil Engr. Dept. (22–23 March 2018). Host is Khalid Alshibli. (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).

Four invited lectures on Bonded-Particle Modeling. Tsinghua University, Civil Engr. Dept. (Beijing, China, 12-16 October 2015). Host is Zhihong Zhao. (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.