

CURRICULUM VITAE

Given-Surname **Dr. Yifei Cui**
Nationality P. R. China
Birth August, 1986
Title Assistant Professor
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Research Interest

Physical and numerical modeling on geo-hazards, coupling of solid and fluid, internal erosion of soil, interaction of mass flow with structure, disaster early warning

Educational Background

May 2012 to August 2016 **Doctor of Philosophy in Geotechnical Engineering**
Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, Canada

September 2009 to April 2012 **Master of Science (Thesis) in Geotechnical Engineering**
Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, Canada

September 2005 to June 2009 **Bachelor of Engineering in Civil Engineering**
Department of Civil and Structural Engineering, The Hong Kong Polytechnic University, Hong Kong, P. R. China

Relevant Professional Working Experience

September 2019 to Now	Assistant Professor State Key Laboratory of Hydrosience and Engineering, Department of Hydraulic Engineering, Tsinghua University.
July 2018 to August 2019	Research Assistant Professor Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology.
October 2016 to June 2018	Post-doctoral Fellow/Research Assistant Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology.
May 2009 to August 2009	Research Assistant, Geotechnical Engineering Department of Civil and Structural Engineering, The Hong Kong Polytechnic University, Hong Kong, P. R. China
May 2008 to August 2008	Consultant, Intern Geotechnical Engineer Ove Arup & Partners Hong Kong Limited

Honours and Awards

2019	Young Overseas High-level Talents Introduction Plan of China 6 million RMB funding support
2018	Outstanding reviewer <i>Computer and Geotechnics</i>
May 2012 to August 2016	Research Studentship for Ph.D. Study funded by NSERC (Natural Sciences and Engineering Research Council of Canada) and BP (British Petroleum); Tuition Scholarship for Research Postgraduate Study
2012	Best Presentation Award Asian Network on Debris Flow Annual conference 2012

September 2009 till March 2012	Research Studentship for MSc Study funded by NSERC (Natural Sciences and Engineering Research Council of Canada)
September 2005 till June 2009	The Hong Kong Jockey Club Scholarship for Outstanding Students

Relevant Professional Teaching Experience

Spring Term of 2020	Dynamic Mechanism and Risk Reduction of Debris Flow	Graduate Coarse in Tsinghua University with 32 teaching hours
July 2019	Dimensional analysis in debris flow barrier interaction	Training expert of the First Training Course on the Silk Road Disaster Risk Reduction (SiDRR)
Spring Term of 2019	Geotechnical Analysis and Design	Undergraduate coarse in Hong Kong University of Science and Technology with 40 teaching hours

Membership of Professional Institution and Association

September 2019 till now	Secretary-General Youth Committee of Branch China of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)
May 2019 till now	Vice Chairman Geoscience Youth Network for “Belt and Road”
April 2019 till now	Selected Young Scientist Integrated Research on Disaster Risk Program(IRDR) supported by UNDRR and ISC
November 2017 till now	Professional Member Debris Flow Hazard Mitigation Committee, The Association of Geohazard Professionals (AGHP)

January 2018 till **Professional Member**
 now European Geosciences Union

Reviewer of SCI journals

Bulletin of Engineering Geology and the Environment, Géotechnique, Landslides, Computers and Geotechnics, Canadian Geotechnical Journal, Granular Matter, European Journal of Environmental and Civil Engineering, Natural Hazards, Powder Technology, Geoscience Frontiers, International Journal of Rock Mechanics and Mining Sciences

Editor of SCI journals

January 2020 till **Editor**
 now Landslides

Relevant research projects involved

No.	Project Title	Funding Agency	Budget	Start Year	End Year	PI/ Participant
1	Identification and Prediction of the major geological hazards along the Sichuan-Tibet railway	The National Natural Science Foundation of China	3 million RMB	2020	2023	Co-PI
2	Understanding the failure mechanism of hazards chain	State Government and Tsinghua University	3+3 million RMB	2019	2022	PI
3	Understanding the initiation failure of large-scale construction solid waste landfill and the subsequent movement mechanism	State Key Laboratory of Hydraulics and Mountain River Engineering, Sichuan University	0.1 million RMB	2016	2018	PI
4	Understanding Debris Flow Mechanisms and Mitigating Risks for a Sustainable Hong Kong	Theme based project The Research Grant Council	30 million HKD	2015	2020	Participant

5	Dynamic Process and Risk Analysis of Mega Debris Flow Hazard Chain at Mountainous Terrain under Climate Change	Major International Joint Research Project, National Natural Science Foundation of China	2.9 million RMB	2016	2020	Participant
6	Interaction mechanisms between debris flow and multiple barrier systems	Young Scientist Project, National Natural Science Foundation of China	0.24 million RMB	2018	2020	Participant

Publications (*denote the corresponding author)

1. SCI Journal papers

- [1] **Cui, Y.**, Cheng, D., Choi, C. E., Jin, W., Lei, Y., Kargel, J. S. (2019). The cost of rapid and haphazard urbanization: lessons learned from the Freetown landslide disaster. *Landslides*. 16(6), 1167-1176.
- [2] **Cui, Y.**, Jiang, Y., and Guo, C. (2019). Investigation of the initiation of shallow failure in widely graded loose soil slopes considering interstitial flow and surface runoff. *Landslides*. 16(4), 815-828.
- [3] **Cui, Y.**, Cheng, D. Q., Chan, D. (2019). Investigation of Post-Fire Debris Flows in Montecito. *ISPRS International Journal of Geo-Information*. 8(1), 5.
- [4] **Cui, Y.*** (2019). Effect of joint type on the shear behavior of synthetic rock. *Bulletin of the engineering geology and the environment*. 78 (5): 3395-3412.
- [5] **Cui, Y.**, Choi, C. E., Liu, H., Ng, C. W. W. (2018). Effects of Particle Size of Monodispersed Granular Flows Impacting a Rigid Barrier. *Natural Hazards*, 91(3), 1179-1201.
- [6] **Cui, Y.***, Chan, D., Nouri, A. (2017). Coupling of Solid Deformation and Pore Pressure for Undrained Deformation – a discrete Element Method Approach. *International Journal for Numerical and Analytical Methods in Geomechanics*. 41(18), 1943-1961.
- [7] **Cui, Y.***, Chan, D., Nouri, A. (2017). Discontinuum modelling of solid deformation pore water diffusion coupling. *International Journal of Geomechanics*. 17(8).
- [8] **Cui, Y.***, Zhou, X. J., Guo, C. X. (2017). Experimental study on the moving characteristics of fine grains in wide grading unconsolidated soil under heavy rainfall. *Journal of Mountain Science*. 14(3), 417-431.
- [9] **Cui, Y.***, Nouri, A., Chan, D., Rahmati, E. (2016). A new approach to the DEM simulation of sand production. *Journal of Petroleum Science and Engineering*. 147, 56-67.
- [10] Guo, C., **Cui, Y.*** (2020) Pore structure characteristics of debris flow source material in the Wenchuan earthquake area. *Engineering Geology* 267:105499

- [11] Guo, J., Yi, S., Yin, Y., **Cui, Y.***, Qin, M., Li, T., Wang, C. (2020). The effect of topography on landslide kinematics: a case study of the Jichang town landslide in Guizhou, China. *Landslides*. <https://doi.org/10.1007/s10346-019-01339-9>
- [12] Zhang, Z. H., Zhang, X. D., **Cui, Y.***, Qiu, H. S. (2019). Discrete element modelling of a cross-river tunnel under subway train operation during peak and off-peak periods. *Arabian Journal of Geosciences*. 12(3), 102.
- [13] Zhang, Z., **Cui, Y.***, Chan, D., Taslagyan, K. (2018). DEM simulation of vibrational fluidization of granular material. *Granular Matter*. 20(71).
- [14] Wang, J., Jin, W., **Cui, Y.***, Zhang, W., Wu, C., Pasuto, A. (2018). Earthquake-triggered landslides affecting a UNESCO Natural Site: the 2017 Jiuzhaigou earthquake in the World National Park, China. *Journal of Mountain Science*. 15(7): 1412-1428.
- [15] Su, Y., **Cui, Y.***, Choi, C. E., Ng, C. W. W., Kwan, J. S. H. (2018). Effects of particle size and cushioning thickness on the performance of rock-filled gabions used in protection against boulder impact. *Canadian Geotechnical Journal*. 56(2), 198-207.
- [16] Choi, C. E., **Cui, Y.***, Au, K. Y. K., Liu, H. M., Wang, J., Liu, D. Z., Wang, H. (2018). Case Study: Effects of a Partial-debris Dam on Riverbank Erosion in the Parlung Tsangpo River, China. *Water*, 10(3), 250.
- [17] Cheng, D. Q., **Cui, Y.***, Su, F. H., Jia, Y. (2018). The Characteristics of the Mocoa Compound Disaster Event, Colombia. *Landslides*, 15(6), 1223-1232.
- [18] Chen, X. Z., **Cui, Y.*** (2017). The formation of the Wulipo landslide and the resulting debris flow in Dujiangyan City, China. *Journal of Mountain Science*. 14(6), 1100-1112.
- [19] Qiu, H., **Cui, Y.**, Pei, Y., Yang, D., Hu, S., Wang, X., Ma, S. (2020). Temporal patterns of nonseismically triggered landslides in Shaanxi Province, China. *CATENA*. 187: 104356
- [20] Qiu, H., **Cui, Y.**, Hu, S., Yang, D., Pei, Y., Ma, S., Liu, Z. (2019). Size distribution and size of loess slides in response to slope height and slope gradient based on field survey data. *Geomatics, Natural Hazards and Risk*. 10(1):1443–1458.
- [21] Qiu, H., **Cui, Y.**, Yang, D., Pei, Y., Hu, S., Ma, S., Hao, J., Liu, Z. (2019). Spatiotemporal Distribution of Nonseismic Landslides during the Last 22 Years in Shaanxi Province, China. *ISPRS International Journal of Geo-Information*. 8(11), 505.
- [22] Zhu, X. H., **Cui, Y.**, Peng, J. B., Jiang, C., Guo, W. L. (2019). Erosion and transport mechanisms of mine waste along gullies. *Journal of Mountain Science*. 16(2), 402-413.
- [23] Qiu, H. J., **Cui, Y.**, Hu, S., Yang, D. D., Pei, Y, Q., Yang, W. L. (2019). Temporal and spatial distributions of landslides in the Qinba Mountains, Shaanxi Province, China. *Geomatics, Natural Hazards and Risk*. 10(1): 599-621.
- [24] Choi, C. E., **Cui, Y.**, Zhou, G. G. D. (2018). Utilizing Crowdsourcing to Enhance the Mitigation and Management of Landslides, *Landslides*. 15(9): 1889-1899.

- [25] Choi, C. E., **Cui, Y.**, Liu, H., Ng, C. W. W. (2017). Impact mechanisms of granular flow against curved barriers. *Géotechnique Letters*, 7(4), 330-338.
- [26] Li, J., Cao, Z., **Cui, Y.**, Borthwick, A. G. L. (2020). Barrier lake formation due to landslide impacting a river: A numerical study using a double layer-averaged two-phase flow model. *Applied Mathematical Modelling*. 80, 574-601.
- [27] Li, H., Qi, S. C., Chen, H., Liao, H. M., **Cui, Y.**, Zhou, J. W. (2019). Mass movement and formation process analysis of the two sequential landslide dam events in Jinsha River, Southwest China. *Landslides*. 16, 2247–2258.
- [28] Hu, S., Qiu, H. J., Pei, Y. Q., **Cui, Y.**, Xie, W. L., Wang, X. G., Yang, D. D., Tu, X., Zou, Q., Cao, P. Y., Cao, M. M. (2019). Digital terrain analysis of a landslide on the loess tableland using high-resolution topography data, *Landslides*. 16, 617-632.
- [29] Ng, C. W. W., Choi, C. E., Cheng, D. K. H., **Cui, Y.** (2019). Effects of dynamic fragmentation on the impact force exerted on rigid barrier: centrifuge modelling. *Canadian Geotechnical Journal*. 56(9): 1215-1224.
- [30] Hu, W., Jiang, Y., Chen, D., Lin, Y., Han, Q., **Cui, Y.** (2018). Impact of Pore Geometry and Water Saturation on Gas Effective Diffusion Coefficient in Soil. *Applied Science*. 8(11), 2097.
- [31] Zhang, Z. H., Zhang, X. D., Tang, Y., **Cui, Y.** (2018). Discrete element analysis of a cross-river tunnel under random vibration levels induced by trains operating during the flood season. *Journal of Zhejiang University-SCIENCE A*. 19(5): 346-366.
- [32] Zhuang, J., Peng, J., Xu, C., Li, Z., Densmore, A., Milledge, D., Iqbal, J., **Cui, Y.** (2018) Distribution and characteristics of loess landslides triggered by the 1920 Haiyuan Earthquake, Northwest of China. *Geomorphology*. 314, 1-12.
- [33] Jiang, Q., Chan, D., Xiong, J., **Cui, Y.**, Dong, J., Li, S. (2016). Back analysis of a debris landslide based on real-time video record: Sliding process and post-sliding investigation. *Bulletin of the engineering geology and the environment*. 75(2), 647-658.

2. Conference peer-reviewed proceedings

- [34] **Cui, Y.**, Zhang, Z., Chan, D. (2018). Vibrational Fluidization of Granular Material: An experimental and numerical approach. Second JTC1 Workshop on Triggering and Propagation of Rapid Flow-like Landslides, Hong Kong.
- [35] Liu, D., **Cui, Y.***, Choi, C. E. Bazai, N.A., Yu, Z., Lei, M., Yin, Y. (2019). Numerical investigation of deposition mechanism of submarine debris flow. 7th International Conference on Debris-Flow Hazards Mitigation, Colorado, USA.
- [36] Wang, J., **Cui, Y.***, Choi, C. E., Ng, C. W. W. (2019). The Effect of Climate Change on Alpine Mountain Hazards Chain: A Case Study in Tianmo Ravine, Tibet, China. In: Zhan L., Chen Y., Bouazza A. (eds) *Proceedings of the 8th International Congress on Environmental Geotechnics Volume 3. ICEG 2018. Environmental Science and Engineering*. Springer, Singapore.

Presentations

Keynote:

1. Understanding the internal erosion mechanism on loose landslide deposits in Wenchuan earthquake area. 2019 Chinese Hydraulic Engineering Society Annual Conference. 22-23 October, 2019, Yichang, China.
2. Analysis of compound geo-hazards chain in the glacial alpine region: A case study in Tianmo Gully, Tibet, China. 5th CAS-NASA Workshop on the Use of Earth Observations to Address Glacier Change and Associated Hazards in the High Mountain Asia. May 15-18, 2018, Dujiangyan, Chengdu, China.
3. The Climate Change Influence on glacial alpine region: Disaster Risk and Risk Reduction Strategies, 2nd Sino-South Asia Disaster Prevention and Reduction Forum, May 10-14, 2018, Sichuan University, Chengdu, China.

Oral presentation:

1. Dimensional analysis on geophysical flow interact with countermeasures. National Engineering Geology Conference 2019, 11-15 October, Beijing, China
2. Vibrational Fluidization of Granular Material: An experimental and numerical approach. The Second Joint Technical Committee on Natural Slopes and Landslides (JTC1) Workshop, 3-6 December, 2018, Hong Kong, China.
3. Investigation the initiation of the shallow failure of wide-grading loose soil slopes: an experimental and numerical approach. 5th International Debris Flow Workshop, 5-6 November, 2018, Beijing, China.
4. The effect of climate change on alpine mountain hazards chain, A case study in Tianmo Ravine, Tibet, China. The 8th International Congress on Environmental Geotechnics. 28 October -1 November, 2018, Hangzhou, China.
5. Large-scale physical modelling of debris flow impacting an L-shaped barrier. European Geosciences Union General Assembly 2018, 8–13 April 2018, Vienna, Austria.
6. Effects of Particle Size of Mono-disperse Granular Flows Impacting a Rigid Barrier. New Dimensions for Natural Hazards in Asia: An AOGS-EGU Joint Conference, 04–08 February, 2018, Tagaytay, Philippines.
7. Direct Shear Failure of a Synthetic Rock Containing Discontinuous Joints. 2012 International Debris Flow workshop. 11-12 August, 2012, Chengdu, China.

International conference service

1. Session convener, NH3.10 Landslides and debris flows: Risk management based on practical experience and numerical simulation, EGU General Assembly 2019, 8-11, April, 2019, Vienna, Austria.
2. Session general secretary, Session 1: The Formation Process, Mechanism, and Treating Countermeasures of Landslides, International Conference on Silk-roads Disaster Risk Reduction and Sustainable Development. 11-12 May, 2019, Beijing, China.
3. Organize committee member, Second JTC1 Workshop - Triggering and Propagation of Rapid Flow-like Landslides, 3-5 December, 2018, Hong Kong.