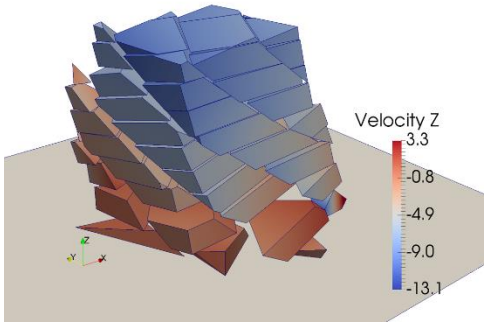
1th International Youth Scientists Forum for Discontinuous Deformation Analysis

9 January 2021, Zoom Platform

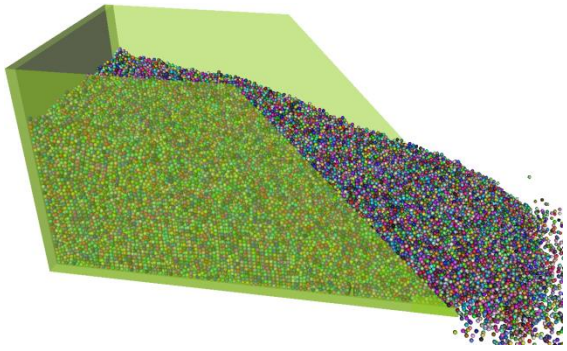
First announcement

Invitation

Discontinuous deformation characteristics are commonly observed in rock mechanics and engineering problems. The discontinuum-based numerical methods, such as the Key Block Theory (KBT), the Discontinuous Deformation Analysis (DDA), the Numerical Manifold Method (NMM) and the Distinct Element Method (DEM) etc., can provide promising results in accordance with in-situ phenomena and laws. Over the past decades, great progress has been achieved in the development of various discontinuous deformation numerical methods.



Jointed rock failure modeled by 3D DDA

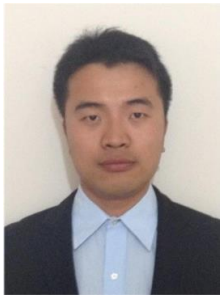


Slope failure modeled by 3D Spherical DDA

In view of the current COVID-19 pandemic situation and strong restrictions to travelling, the 1th International Youth Scientists Forum for Discontinuous Deformation Analysis (IYSF-DDA), co-sponsored by ISRM commission on DDA and CSRME commission on DDA, will be held in 9 January 2021 via Zoom platform. The conference aims to exchange cutting-edge advances of various discontinuous deformation analysis methods among young researchers community, and also welcome to share discontinuous deformation analysis cases in rock engineering.

We would like to invite colleagues in the field of numerical modeling, as well as rock mechanics and engineering, to join this upcoming great event to celebrate and anticipate the progress of discontinuous numerical methods.

Professor Yu-Yong Jiao



Professor Gao-Feng Zhao

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- Zheng-Qi Lei (China Institute of Water Resources and Hydropower Research, China)
- Zong-Qing Zhou (Shandong University, China)

Conference Topics

The theme of IYSF-DDA will cover a wide scope of discontinuous deformation analysis methods from algorithms, mechanics, to modelling techniques and applications, including but not limited to the following topics:

- Key Block Theory (KBT) and Engineering Applications
- Discontinuous Deformation Analysis (DDA)
- Numerical Manifold Method (NMM)
- Contact Algorithms and Joint Contact Modelling
- Discontinuous Modeling in Multi-scale and Multi-physics
- Experiment and Measurement of Discontinuous Deformation
- Case Studies of Relevant Rock Engineering Projects
- Other Advanced Discontinuous Analytical and Numerical Methods

Conference date and Joining the Conference

The Conference will be held in ***9 January 2021*** via ***Zoom platform***, which can be downloaded from https://www.zoomcloud.cn/download.html. Please click the link below to join the meeting: https://www.zoomus.cn/j/1311786067?pwd=aXd0RTR3Uk1paVpacTB4QW5NNTVSQT09.
You can also join the meeting through the following meeting details:

Meeting ID: 1311786067

Password: 123456

Conference Agenda

Time(GMT+08:00)	Topics & Lecturers	Host
08:30-08:40	***Opening Speech*** **Yu-Yong Jiao, China University of Geosciences**	Gao-Feng Zhao Tianjin University
08:40-09:00	*FDEM analysis for ruptured bulking induced large deformation* **Zhi-Jun Wu, Wuhan University**	
09:05-09:25	*Coupled Processes Modeling for Porous, Fractured and Granular Systems in Geosciences* **Meng-Su Hu, Lawrence Berkeley National Laboratory**	
09:30-09:50	*Fluid-solid coupling numerical simulation using the MatDEM* **Chun Liu, Nanjing University**	
09:55-10:15	*Development of numerical rockbolt modelling based on DDA method* **Wen Nie, Hebei University of Technology**	
10:20-10:40	*Applications of NMM in geotechnical engineering* **Yong-Tao Yang, Institute of Rock and Soil Mechanics, CAS**	
10:45-11:05	*3D discontinuous modeling with virtual multi-view photogrammetry for stability analysis of tunnels in blocky rock mass* **Wei Wu, Tongji University**	
11:10-11:30	*Several improved approaches to treat irregular block shapes in DDA* **Fei Zheng, China University of Geosciences**	
11:35-11:55	*Some issues in NMM contact analyses and plastic analyses* **Ning Zhang, Beijing University of Technology**	

13:30-13:50	*An introduction of the discontinuous SFEM* **Arman Khoshghalb, University of New South Wales**	Fei Zheng China University of GeoSciences
13:55-14:15	*Application of DDA in dynamic analysis of earthquke-induced landslides* **Ying-Bin Zhang, Southwest Jiaotong University**	
14:20-14:40	*A new contact potential based three-dimensional DDA* **Dong-Dong Xu, Yangtze River Scientific Research Institute**	
14:45-15:05	*Influence of rock fall ragmentation during impact using DDA* **Lu Zheng, Fuzhou University**	
15:10-15:30	*A Scalable Computing Architecture for DDA* **Xiao-Long Cheng, Beijing DDAMM Technology Co., Ltd.**	
15:35-15:55	*Application of NMM to simulate the failure process of rock slope under seismic loading* **Wei Wei, Wuhan University**	
16:00-16:20	*Numerical method for catastrophe process simulation of water inrush in tunnels* **Zong-Qing Zhou, Shandong University**	
16:25-16:45	*Modelling rock failure with the discontinuous deformation and displacement (DDD) method* **Bin Gong, Dalian University of Technology**	
16:50-17:10	*Development of DDA program and its engineering application* **Zheng-Qi Lei, China Institute of Water Resources and Hydropower Research**	
17:15-17:35	*Improvement of DDA with a new unified tensile fracture model* **Ming-Yao Xia, Kyushu University**	

Surpported by:

DDA Commission, ISRM

DDA Commission, CSRME

Organized by:

China University of Geosciences

Tianjin Universtiy

Hebei University of Technology

Language

The official language is English.

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