

## Chi-Yao Hung

Assistant Professor

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### **Fields of research:**

Morphodynamics, granular flow, particle flow imaging

### **Education**

- 2011-2015 PhD, Civil Engineering, National Taiwan University
- 2009-2011 MS, Civil Engineering, National Taiwan University
- 2005-2009 BS, Soil and Water Conservation, National Chung Hsing University

### **Positions held**

- 2016- Assistant Professor, Soil and Water Conservation, National Chung Hsing University
- 2016 Visiting Postdoctoral, Aix-Marseille Université, Marseille, France
- 2015-2016 Postdoctoral Fellow, Civil Engineering, National Taiwan University

### **Experience**

- 2021 Aug – 2022 Feb Visiting Scholar, University of Minnesota, Minnesota, USA
- 2021 Mar-Aug Visiting Scholar, Aix-Marseille Université, Marseille, France
- 2013-2015 Visiting Scholar, Columbia University, New York, USA

### **Awards & Honors**

- 2018 Young Scholar Fellowship Einstein Program, Ministry of Science & Technology (MOST) in Taiwan

### **Research Interests**

My research interest is **morphological hydraulics**. This subject includes disaster on hill slope, fluvial geomorphology, and landscape evolution. My current focuses are **debris flow simulation, landscape evolution, two-phase solid-liquid flows and morphological field investigations**. A major research goal is using fundamental fluid mechanics and applied mathematics to solve these interesting morphological hydraulics problems.

### **Recent publications**

- Hung, C.-Y., Tseng, I-F., Chen, S.-C., and Feng, Z.-Y.\* (2021) On Dam Failure Induced Seismic Signals Using Laboratory Tests and on Breach Morphology Due to Overtopping by Modeling, *Water*, 13, 2757.
- Yang, C.-M., Chang J.-M., Hung C.-Y., Lu, C.-H., Chao W.-A.\*, and Kang, K.-H. (2021) Life span of a landslide dam on mountain valley caught on seismic signals and its possible early warnings, *Landslides*, 19, 647-646.
- Hung C.-Y., Aussillous P. and Capart H. (2018) Granular surface avalanching induced by drainage from a narrow silo, *J. Fluid Mech*, vol. 856, pp. 444-469.
- Yang C.-H, Tsai M.-H, Kang S.-C, Hung C.-Y (2018) UAV path planning method for digital terrain model reconstruction – A debris fan example, *Autom Construc*, 93, pp. 214–230.
- Hung C.-Y., Stark C. P. and Capart H. (2016) Granular flow regimes in rotating drums from depth-integrated theory, *Physical Review E*, 93, 030902.
- Capart H., Hung C.-Y. and Stark C. P. (2015) Depth-integrated equations for entraining granular flows in narrow channels. *Journal of Fluid Mechanics*, 765, R4 doi:10.1017/jfm.2014.713.

- Hung C.-Y. and Capart H. (2013) Rotating laser scan method to measure the transient free-surface topography of small-scale debris flows. *Experiments in Fluids*, 54:1544