

# Stanford

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## Mohammad Karimi-Fard

Sr Res Scientist-Physical, Energy Science & Engineering

### Professional

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#### PROFESSIONAL INTERESTS

Research interests: Unstructured grid and discretization. Discrete feature modeling. Detailed well modeling and well/reservoir interactions. Upscaling techniques for naturally fractured reservoir.

### Publications

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#### PUBLICATIONS

- An approximate cut-cell discretization technique for flow in fractured porous media *COMPUTATIONAL GEOSCIENCES*  
Karimi-Fard, M.  
2022
- A General Modeling Framework for Simulating Complex Recovery Processes in Fractured Reservoirs at Different Resolutions *SPE Journal*  
Hui, M. R.  
2018; 23 (02)
- A general gridding, discretization, and coarsening methodology for modeling flow in porous formations with discrete geological features *ADVANCES IN WATER RESOURCES*  
Karimi-Fard, M., Durlofsky, L. J.  
2016; 96: 354-372
- Discrete fracture model for coupled flow and geomechanics *COMPUTATIONAL GEOSCIENCES*  
Garipov, T. T., Karimi-Fard, M., Tchelepi, H. A.  
2016; 20 (1): 149-160
- Accurate Resolution of Near-Well Effects in Upscaled Models Using Flow-Based Unstructured Local Grid Refinement *SPE Reservoir Simulation Symposium on Improved Oil Recovery*  
Karimi-Fard, M., Durlofsky, L. J.  
SOC PETROLEUM ENG.2012: 1084-95
- From outcrop to flow simulation: Constructing discrete fracture models from a LIDAR survey *AAPG BULLETIN*  
Wilson, C. E., Aydin, A., Karimi-Fard, M., Durlofsky, L. J., Sagy, A., Brodsky, E. E., Kreylos, O., Kellogg, L. H.  
2011; 95 (11): 1883-1905
- Upscaling discrete fracture characterizations to dual-porosity, dual-permeability models for efficient simulation of flow with strong gravitational effects *2006 SPE Annual Technical Conference and Exhibition*  
Gong, B., Karimi-Fard, M., Durlofsky, L. J.  
SOC PETROLEUM ENG.2008: 58-67
- Permeability upscaling of fault zones in the Aztec Sandstone, Valley of Fire State Park, Nevada, with a focus on slip surfaces and slip bands *HYDROGEOLGY JOURNAL*  
Ahmadov, R., Aydin, A., Karimi-Fard, M., Durlofsky, L. J.  
2007; 15 (7): 1239-1250
- Numerical assessment of a class of uniformly stable mixed spectral elements for the Navier-Stokes equations *COMPUTERS & FLUIDS*  
Azaiez, M., Belgacem, F. B., Escriva, X., Fournie, M., Karimi-Fard, M.

2007; 36 (6): 1137-1148

- **Generation of coarse-scale continuum flow models from detailed fracture characterizations** *WATER RESOURCES RESEARCH*  
Karimi-Fard, M., Gong, B., Durlofsky, L. J.  
2006; 42 (10)
- **Flow and transport effects of compaction bands in sandstone at scales relevant to aquifer and reservoir management** *WATER RESOURCES RESEARCH*  
Sternlof, K. R., Karimi-Fard, M., Pollard, D. D., Durlofsky, L. J.  
2006; 42 (7)
- **Inertia effects in high-rate flow through heterogeneous porous media** *TRANSPORT IN POROUS MEDIA*  
Fourar, M., Lenormand, R., Karimi-Fard, M., Horne, R.  
2005; 60 (3): 353-370
- **An efficient discrete-fracture model applicable for general-purpose reservoir simulators** *2003 SPE Reservoir Simulation Symposium*  
Karimi-Fard, M., Durlofsky, L. J., Aziz, K.  
SOC PETROLEUM ENG.2004: 227-36