

## Is There a Bulldozer in Your Model?

Tuesday, April 1st – 4:30 pm Arduino Room

Speaker: **Dr. Eli D. Lazarus**

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Humans make deliberate, real-time interventions into geomorphic processes, especially during major storm events. Existing morphodynamic models are not built to account for active, responsive human interventions. Evolving model platforms may need to explicitly address active human interventions as morphodynamic processes unto themselves. In this seminar, I present DOZER, a new exploratory numerical model of mechanised intervention in storm-driven coastal morphodynamics. In typological terms, DOZER is a participatory agent-based model of a complex adaptive system, in which the mechanisms for adaptive agent behaviour are handled by a human user rather than through evolutionary computation. In plainer terms, DOZER is a single-player video game: the player guides a bulldozer to plow sand as it washes onto a road. I use ensemble model results from my own game play to show how DOZER functions as a model, and as a tool for insight into a complex adaptive system that is challenging to observe directly. Drawing on game-design scholarship, I also speculate on how this kind of approach to researching complex adaptive systems lends itself to fresh lines of inquiry.



Proponent: **Alvise Finotello**



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