**Ideas for Project Proposals**

**Evacuation Models / Simulations**:

* Evacuation scenarios for a skyscraper
* Obstacles in public spaces that may contain large crowds
* Possible parameters are the panic level of each person, number of exits, in a skyscraper failure of elevator or staircase, number of people etc.
* Model group behavior for structure layout, such as door with pol (line forming), vision cone, stochastic choice parameter
* Goodness parameter such as complete evacuation time
* Simulation structure:
  + Cellular automata
  + swarming behavior for crowd can be applicable
  + arena of different floors, movement on stairs, time model for travelling down
* What are save emergency exit designs for a skyscraper

**Deforestation**:

* Different types of forest agriculture (for example Switzerland with area restriction)
  + Harvest patterns as a possible parameter
* Disease spreading for example fungus, parasites (may be species specific)
  + Species variety and patches of agriculture vs. natural forests in simulation
* Tree density in agricultural forest can vary (how close are the trees planted)
  + Quality of wood may decrease (can influence final margin of products, may not be desirable for wood in construction)
* Economic factors as goodness measure
  + Is the forest resilient on a larger time scale?
  + How fast are the trees growing, and which percentage can be harvested?
* Climate effects on forest for future prognosis
* What makes a healthy and economically agricultural forest?