

# Modeling and Simulation in Robotics Workshop

Breakout Summary Slides

Team 3  
Breakout 2

# Slide 1: Consensus Thinking

- Gap between sim and robot community
- Simulation for design and simulation for control are different
- A systematic way to validate simulation
- Model generation is non-trivial, different methods, different hardware
- Reproduce the results using different simulators
- Simulate human reaction - many levels of abstraction of human modeling
- Reality gap (Do not know how to prioritize)
  - Flexibility of bodies
  - Contact modeling
  - Sensor noise and latency
  - Actuator model

## Slide 2: “Somewhat contentious” Ideas

- Learn a model from real data works better in general
  - e.g. rally cars off road
- OK to overfit a model specific for the task (not seeking high fidelity general model)
- Why reality gap can be bridged?
  - It's so hard.
  - No need to bridge and gap.

## Slide 3: Odds and ends, out there thoughts, fun stuff

- Enter your handful of thoughts here

# Cheat Sheet Slide

- Breakout Themes, “M&S in Robotics” workshop:
  - Breakout 1: Panoramic view of opportunities  
[a time to dream]
  - Breakout 2: What’s stopping us from getting there  
[the reality check]
  - Breakout 3: Pragmatic suggestions for moving forward  
[what funding organizations, the robotics community,  
or other vested parties can/should do]

- Breakout session, things to keep in mind
  - You have 25 mins to generate your three slides
  - Select a scribe to generate your three slides
  - Decide who will present your slides in plenary
  - Do not argue within team for more than 2 mins about an idea. Move it to “Slide 2” and proceed
  - Generate diverse/original/out-there ideas
- Plenary session, things to keep in mind
  - Each team has 5 mins to present its slides
  - We seek to collect as many original ideas/points of view/opinions as possible
    - Settling contentious issues not a priority
  - Use open-floor discussion to add to what the teams have presented
  - Limit your remarks to one to two minutes. Give others an opportunity to speak. Keep it fun, keep it friendly