

# Modeling and Simulation in Robotics Workshop

## Breakout Summary Slides

NameOfScribeHere

Team 1

Breakout 2

# Group 1: Slide 1: Consensus Thinking

- Lack of funding for simulation
  - Serious software, can't be developed by students and post-docs
  - Requires staff software engineers
- How do I know the simulator is any good? (Validation)
  - How do we measure what a simulator is good at?
  - How to distinguish between a bad system ID and a bad simulator?
  - Questions to ask of a simulator?
    - Does it have to match a particular real robot (or is it just a generic test platform?)
    - Is it exploitable? Will a learning method be able to exploit a flaw in a simulator?
    - Accurate or stochastic breadth?
- Not clear whether simulated results will transfer to real world.
  - Does simulator 'accuracy' make it more likely an algorithm will transfer?
- Have ability to capture a lot more data. Not yet doing a good enough job to move data into simulation.
  - How do we build a simulator that uses both parametric and data driven modeling.
  - Not sure how to collect the *right* data for a particular robot/task.
- How to deal with vendor software?
- Noise (variance) is hard to estimate. How do we learn the correct noise model for a simulation?

## Slide 2: “Somewhat contentious” Ideas

- Enter your handful of thoughts here

## 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