Theoretical and Computational Methods

Report from IMAG WG meeting, 2017

Highlights from discussions

1. What could we be doing?

Some ideas:

* Educate the `community’ about the role of modeling and simulation in science and medicine. Ideas for position papers:
  + Modeling and simulation for biologists and medical researchers
  + Modeling and simulation for the public
  + Q-bio special issue vision paper (J. Phys. Bio) on modeling, simulation and data analytics, and how advances in sensor technology will effect our data
* Webinars
  + Not just research, use for tutorials and IMAG community discussions
    - MSM – what so we have and what do we need
    - Tutorials on machine learning, pharmacokinetics,…
* Advising – Is the right data being collected to get the best understanding of,

for example, disease processes. Particularly for clinical data.

2. How could we operate more effectively as a group?

* Need to be able to email the WG
* List members, their interests, and link to their research site, and link to their Google scholar page
* Keep it simple and easy/automatic to update
* Create a public group on Mendalay or another platform
* Overall, IMAG needs a manual of best practices for WGs

3. Consider a possible merger with the WG on Multiscale Systems Biology

4. Accomplishments 2016

* Webinar – multi-fidelity stochastic modeling with Gaussian Processes
* Posted software
* Posted review papers
* Organized Theme 5 sessions for the 2016 Annual Meeting – New Methodologies for Multiscale Modeling