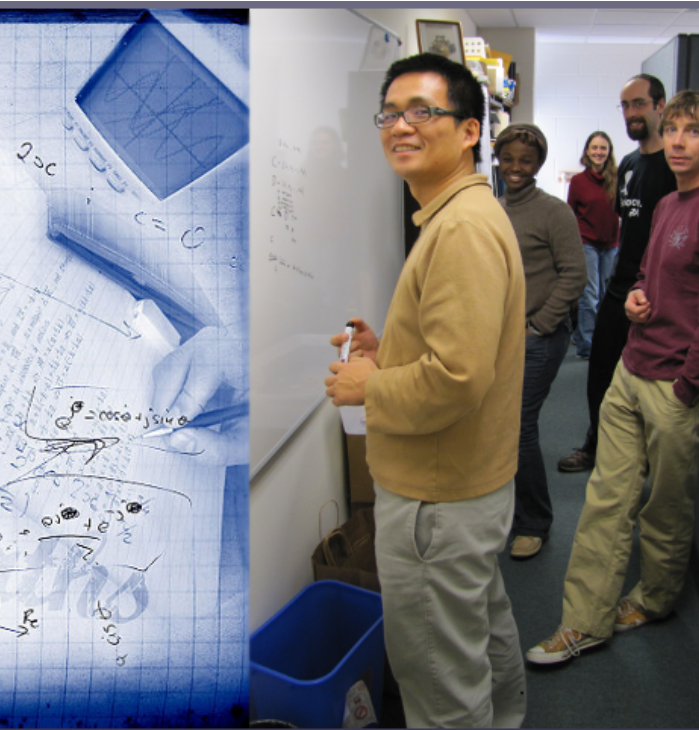


Welcome to the Mathematical Modeling Consulting Center (MMCC)

We are excited to provide access to modeling to researchers who might otherwise not have the time, resources, or even inclination to build or employ mathematical models independently.

We are a team with diverse skills, across math and computing, in application to numerous research areas, and are eager to work with you.

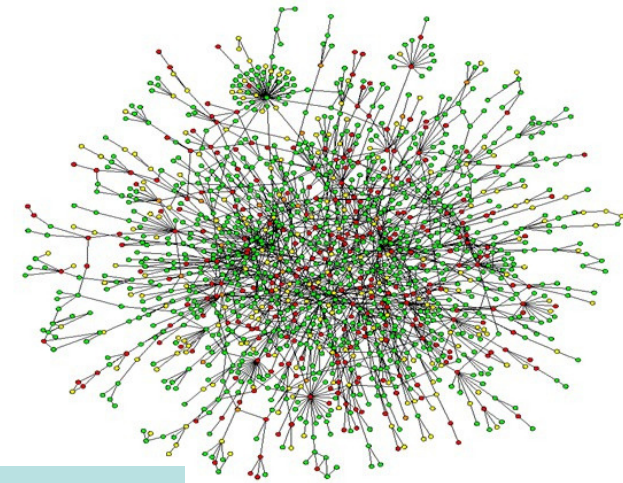
Come meet a modeler!



“
**All models are
wrong, but some
are useful.**

George E.P. Box

”



**The
Mathematical
Modeling
Consulting
Center**
(MMCC)

at NIMBioS
The University of Tennessee
Knoxville

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Mathematical & Biological Synthesis
Claxton Education Building, Ste 106
1122 Volunteer Boulevard
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What is Math Modeling?

At its core, a mathematical model is a logical abstraction that allows you to boil down your understanding of how any system works into simple, structured elements. Once built, these models let you:

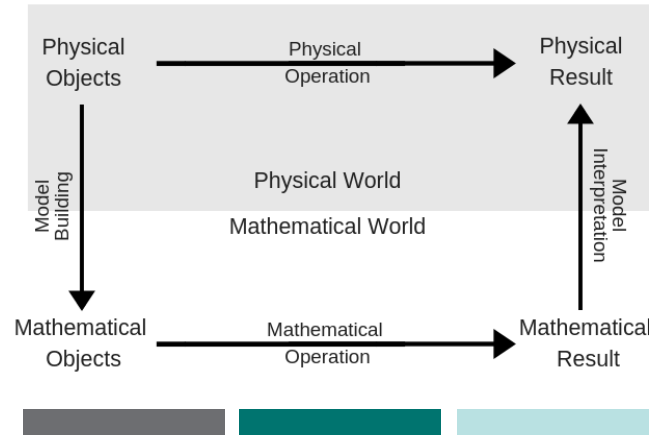
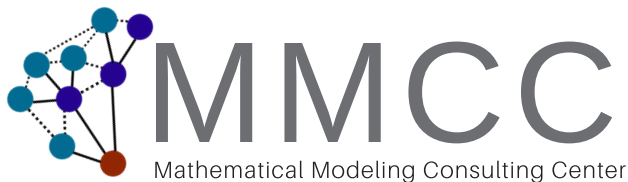
- Make predictions about how specific alterations should affect the system
- Test hypotheses that would be impossible or impractical to test empirically
- Allow insights from your system to generalize to other systems that might share the same mathematical description

What Types of Modeling Do We Do?

We have in house expertise in a wide diversity of modeling methods

- Difference/Differential Equations
- Matrix Methods
- Game Theory
- Cellular Automata
- Network Theory
- Agent/Individual Based Methods
- Optimization Methods
- and many more...

We are always expanding our collaborative network and can work with you to find an appropriate modeling collaborator if we don't already have someone in house.



What Services Do We Provide?

- **Brief Consultation (hourly)**
Visit the MMCC to discuss how models might be of use to your research or figure out what would be involved in a specific modeling research effort. Or walk through a published paper or existing project that involved modeling to understand what was done and what it means.
- **Ongoing Consultation (per project)**
Visit the MMCC for a series of meetings to provide discussion/advice about small modeling components in your own research efforts. Or visit us for help in preparing a grant proposal that includes a modeling component.
- **Ongoing Consultation/Research**
Visit the MMCC to find a modeler who will work with you to build and analyze models of your systems for you, working with you every step of the way



Who Might Use Our Services?

- A researcher looking for a way to synthesize insights into a system-wide framework for validation/prediction
- A student looking to gain new skills in a particular area of modeling for work on a specific project
- A PI hoping to broaden the generalizability of research for a grant proposal
- A collaboration with a non-governmental group that requires quantitative methods.

How Much Do Services Cost?

Each project is likely to be a little different, depending on the level of expertise and amount of time required.

Our first conversation on any project is free!

Based on that conversation, we will provide recommendations for what your project needs and what the costs would be.

Curious?

Come talk to us! We are happy to schedule a conversation with you to discuss whether working with the MMCC at NIMBioS can help you. Venturing into a new area might seem complicated and time consuming – let us convince you it's worth it!

- Give us a call or drop us an email!
- **Email:** MMCC@nimbios.org
- **Phone:** (865) 974-9334

