NIMBioS: A National Institute to Foster Mathematical and Biological Linkages

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NIMBioS.org
NIMBioS Vision

• Foster new collaborative efforts to investigate fundamental and applied questions in biology

• Enhance people’s capacity to analyze complex biological questions and develop necessary new mathematics

• Encourage broader public appreciation of the unity of science and mathematics.
Our Leadership Team

Colleen Jonsson  
Director

Chris Welsh  
Deputy Director

Paul Armsworth  
Postdoctoral Activities

Ernest Brothers  
Diversity Enhancement

Alison Buchan  
Graduate Education

Sergey Gavrilents  
Scientific Activities

Suzanne Lenhart  
Outreach & Education
General Methods

- Choosing fundamental problems that will benefit from cross-disciplinary collaborations.
- Choosing applied problems of sufficient general interest to be readily extended beyond an initial region/organism/system.
- Building appropriate collaborations to address these fundamental and applied problems.
- Developing education and outreach opportunities to diversify participation in these collaborations at all levels.
NIMBioS Opportunities

Working Groups
- 10-12 people
- Focused research question
- 3-4 meetings
- Closed

Investigative Workshops
- 30-40 people
- More open-ended topic
- Meets once
- Invited and open participants
NIMBioS Opportunities

• Tutorials and educational workshops
• Sabbatical Fellowships
• Short-term visits
NIMBioS Opportunities

- Post-doctoral Fellowships
  - Independent researchers
  - 2-yr appointment
  - Math and bio mentors
NIMBioS Opportunities

Outreach and Education

• Summer Research Experience for undergraduates and teachers program
• Annual Undergraduate Research Conference
• Visiting Graduate Fellowships
What we expect from each activity we sponsor:

• Great science/education
• A collaborative approach to problems and willingness to share expertise
• Suggestions for next steps and additional NIMBioS activities
• Have a good time (ask us for music/dance or other local activity suggestions)
General Questions for a Working Group & Investigative Workshop

• What data are available?
• What math and modeling techniques are available?
• What are the empirical patterns that cannot be explained by existing theories?
• How can we adapt existing models to fully use available data?
• What kinds of data are needed to better inform the models?
• What new math or modeling techniques and methods need to be developed?
Metrics of success:

• Transformative papers and tools that lead to new interdisciplinary collaborations and ongoing research beyond the specific activities of the original group.

• Research proposals submitted for support, new courses developed, new student projects designed, symposia at scientific meetings, etc.

• Future activities here or in other venues. This can be new Working Groups, short-term visits, projects for our SRE program, etc.

• *It is very important to the ongoing success of NIMBioS that we are aware of your activities related to participation in this group and that you acknowledge NIMBioS in any resulting science.*

• *PLEASE KEEP US INFORMED!!*
Some administrative matters:

• The NIMBioS staff are available to assist you with any administrative matters or for questions. Just ask.

• We’d be happy to recommend restaurants or other local activities.

• Evaluation - please respond to our request for your assessment of this which will be sent to your email - done electronically

• Recycling - please help by using the recycling bins – we use compostable plates and utensils

• See Chandra Eskridge or Jennifer Thomas for any questions regarding finances - if we are covering this for you there will be a flat $28 per diem for dinners - no receipt necessary.

• We need a copy of passport/visa for non-US folks if you have not already provided this
Use of WordPress

• Previously, you were invited to join the WordPress site.

• A tool for communication before, during and after!

• Post to introduce yourself

• Post resources, papers, comments, etc.

• Sort your posts into categories (create new categories if needed). Create tags for your posts.

• The WordPress site is open and can serve as a resource to those not able to attend today.

• Posts can be made private (password protected).