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Monday, May 14, 2007

Dr. Steve Railsback, President  
Swarm Development Group  
P. O. Box 4531  
Albuquerque, NM 87196-4531

Dear Dr. Railsback:

Thank you for spending some time talking with me during our January telephone conversation. I also took your recommendation and read *Individual-Based Modeling and Ecology*, which I found immensely useful for my work. As I explained to you in our conversation, I am undertaking a dissertation project to study the rise of the agent-based modeling social science community and the impact of agent-based modeling on 21st century social science research. The Swarm modeling platform and its community of users have been crucial in the development of agent-based modeling. For this reason I would like to conduct a participant-observation study at the upcoming SwarmFest conference in July and write to request your support for this study and to inquire about how I may help out with the upcoming conference.

The goal of my dissertation research is to understand how modeling and simulation help people think and, furthermore, how these tools can be used to organize communities of thinkers (a summary is attached). By “thinking” I mean the way people make sense of their world not only as individuals and groups, but also as users of tools and infrastructures and participants in institutions and practices, especially those that are distributed across multiple field sites. My research at SwarmFest will involve interviews and observations. The proposed research would be greatly facilitated with the approval of the SwarmFest organizing committee and with, perhaps, a brief note in the conference program that I will be an observer.

No doubt you have some questions, and a short conversation would probably be the most efficient way to answer them. I will be glad to telephone you this week, or if you would rather get in touch with me, my contact information is below. I appreciate the time that you’ve taken from your busy schedule to consider my request, and I look forward to talking with you.

Sincerely,

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**Coding Civic Science:  
Impact of Modeling and Simulation on Social Complexity Science  
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Agent-based computational modeling (ABM) promises to dramatically shape 21st century social science research. This dissertation research project looks at how this impact is being realized and how new technologies are deployed to rethink how science can serve the public good. This project investigates this by mapping the changes in the social structure, ecology, and practices of agent-based modeling groups and the development of concepts in the ABM community over the last fifteen years. The general hypothesis in this study is that tools and instruments for creating new knowledge influence the production of that knowledge. This happens not only through the cognitive advantages computational tools provide but also through the social and cultural resources that emerge from their use and improvement. The goal here is to understand how changes in the social and material ecology of agent-based modeling align with 1) conceptual development and change in ABM discourse, 2) the emergence of novel computational ways of making sense of social systems and social research, and 3) how broad political and social visions and strategies for ABM social research are conveyed.

The research activities for this project are divided into document collection and fieldwork. Documents for this research come from published sources, electronic archives, technical documentation, and reports. Fieldwork consists of gathering observations of key activities in the community and conducting interviews with young and established practitioners. The specific focus of the field study will be on learning activities and intellectual exchange in annual meetings and educational programs such as tutorials, workshops, and conferences in the agent-based social science community. Data for these activities will be in the form of field notes, audio and video recordings. The video will be used to discover how the classroom creates a shared modeling experience that supports learning and discussion of agent-based modeling concepts and principles.

This dissertation research will aid in the understanding of how modeling and simulation help people think and, furthermore, how these tools can be used to organize communities of thinkers. In this study, “thinking” refers to the way people make sense of their world not only as individuals and groups, but also as users of tools and infrastructures and participants in institutions and practices, especially those that are distributed across multiple field sites. A better understanding of such socially distributed thinking, and how technologies support that thinking, will have a broader impact on building civic forms of science in the 21<sup>st</sup> century.

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