

Training Opportunity

Institute on Systems Science and Health

May 3-8, 2009
Ann Arbor, Michigan

Organized by

University of Michigan
*Center for Social Epidemiology and Population Health
Center for the Study of Complex Systems*

National Association of Chronic Disease Directors

with guidance and support from the

NIH Office of Behavioral and Social Sciences Research
and the
CDC Syndemics Prevention Network

Application Deadline: February 13, 2009 11:59pm (Eastern)

Application Information Available: www.chronicdisease.org/i4a/pages/index.cfm?pageid=3811

OBJECTIVE: To provide investigators with a thorough introduction to selected systems science methodologies that may be used to study behavioral and social dimensions of public health. Participants in the week-long Institute will focus on one of three methodologies: agent-based modeling, system dynamics modeling, or network analysis.

The CURRICULUM will help participants:

- Better understand systems science in general and different methodological traditions, including their strengths, limitations, and types of problems for which they are best suited;
- Work through specific problems using their chosen methodology and become familiar with relevant software package(s);
- Appreciate the potential for applying systems science methodologies to problems of population health and disease, especially those in which behavioral and social factors figure prominently;
- Prepare stronger applications to funders such as NIH, CDC, and philanthropies in those areas where systems science, behavioral and social processes, and population health intersect.

FACULTY: Faculty consist of leading experts (practitioners and teachers) with extensive methodological experience. The Institute Organizers and Track leaders are:

Institute Planning Committee

George A. Kaplan, Ph.D.
University of Michigan

Carl Simon, Ph.D.
University of Michigan

Patricia Mabry, Ph.D.
National Institutes of Health

Bobby Milstein, Ph.D., M.P.H.
Centers for Disease Control and Prevention

Robert Smariga
National Assn. of Chronic Disease Directors

Track Leaders

Agent-based Modeling
Rick Riolo, Ph.D.
University of Michigan

System Dynamics Modeling
Nathaniel Osgood, Ph.D.
University of Saskatchewan

Network Analysis
Thomas Valente, Ph.D.
University of Southern California

Additional faculty and Institute-wide speakers will be announced at a later date.

Program Information

The Institute will feature plenary sessions on topics of general interest as well as hands-on and in-depth training in specific tracks. On the application form, participants will rank their preference for one or more tracks: (1) Agent-Based Modeling; (2) System Dynamics Modeling; or (3) Network Analysis. All tracks will provide an introduction to the relevant methodology with examples drawn from public health. Ample time will be provided for participants to network and form collaborations that will last beyond the course itself.

Background and Resources

The Institute builds on prior efforts of the organizers and sponsors to raise awareness among behavioral and social scientists about the potential uses for systems science methodologies to improve population health (see Mabry et al., 2008, [http://www.ajpm-online.net/article/S0749-3797\(08\)00431-5/abstract](http://www.ajpm-online.net/article/S0749-3797(08)00431-5/abstract)). In 2007, the NIH Office of Behavioral and Social Sciences, the Centers for Disease Control and Prevention along with various NIH components produced a four-part lecture series entitled: *2007 Symposia Series on Systems Science and Health*. This symposia series is aimed at introducing systems science to behavioral and social scientists for applications in health and is available indefinitely as a public resource via videocast (see below). In May 2007, the University of Michigan Center for Social Epidemiology and Population Health and Center for the Study of Complex Systems hosted a two-day conference sponsored by the *Eunice Kennedy Shriver* National Institute for Child Health and Human Development, the National Cancer Institute, and the Office of Behavioral and Social Sciences Research at NIH, and the Robert Wood Johnson Foundation. Here are links to these videocasts:

Systems Methodologies for Solving Real-World Problems: Applications in Public Health

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/ss032207.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=13712>

Network Analysis: Using Connections and Structures to Understand and Change Health Behaviors

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/ss061207.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=13878>

Agent Based Modeling: Population Health from the Bottom Up

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/ss071307.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=13931>

System Dynamics Modeling: Population Flows, Feedback Loops and Health

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/ss083007.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=14005>

Complex Systems Approaches to Population Health

DAY 1:

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/complex053007.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=13867>

DAY 2:

To view videocast with Real Player follow this link:

<http://www.videocast.nih.gov/ram/complex053107.ram>

To download Video or Audio Podcast follow this link:

<http://www.videocast.nih.gov/Summary.asp?File=13869>

If you experience difficulty accessing these videocasts, contact Patty Mabry at mabryp@od.nih.gov.

Eligibility

To be eligible for this institute, individuals must:

- Have completed a Ph.D., M.D., or equivalent terminal degree within their field.
- Have at least one year of post-doctoral experience in academia, private industry, non-profit, or government.
- Have identified one or more problems in public health to which they would like to apply systems science methodologies.

Priority will be given to researchers who have demonstrated research potential and experience and who will clearly benefit from systems science training. The ideal candidate will have prior exposure to systems science methodologies, will be actively pursuing an independent research career, and have a desire to focus their future work on applying systems science approaches to public or population health problems featuring behavioral and social factors.

Applicants must be citizens or non-citizen nationals of the United States, or must have been lawfully admitted to the United States for permanent residence (i.e., possess a currently valid Alien Registration Receipt Card I-551, or other legal verification of such status).

Women, minorities, and individuals with disabilities are encouraged to apply.

Location

The Institute will be held at the University of Michigan in Ann Arbor, Michigan, May 3-8, 2009. The program will begin with a welcome session at 6:00pm on Sunday, May 3 and will conclude by 2:00pm on Friday, May 8. Participants are expected to attend the entire course.

Costs

The NIH Office of Behavioral Sciences Research will pay for travel to and from the Institute site, room and board, and all course materials. There are no additional fees although participants are asked to furnish their own laptop computer; a limited number of laptops will be available on loan to students who do not have an appropriately configured laptop. Family members may accompany participants at their own expense. However, please note that the curriculum activities will be open only to enrolled students, so family members are encouraged to make their own arrangements for daytime activities.

Accreditation

Currently there is no CE/CME accreditation associated with this Institute.

Application Process

All application materials must be submitted electronically. A complete application packet must include:

1. One Application Cover Sheet with applicant signature
2. Curriculum Vitae
3. Two letters of recommendation
 - Letters should come from individuals who have worked professionally with the candidate within the last two to three years.
 - Letters can be from deans, department chairs, mentors, division chiefs, supervisors, colleagues etc.
4. Brief Personal statement of career interests and how this Institute fits into these interests as well as a summary of prior learning related to systems science methodologies.
5. Research interests, including a succinct statement of a research question that you feel would benefit from one or more of the three systems science methodologies highlighted in the Institute.

Submit your application materials online at

www.chronicdisease.org/i4a/pages/index.cfm?pageid=3811

**Applications must be received no later than 11:59pm eastern time
on February 13, 2009.**

Participants will be notified of their selection by March 16 2009.

If you have additional questions or needs, please contact Slavomira Lacinova, National Association of Chronic Disease Directors at (770) 458-7400 or SummerInst@chronicdisease.org.