



# NIMBioS

National Institute for Mathematical  
and Biological Synthesis



## NIMBioS Interdisciplinary Seminar

3:30 p.m.\*, Tuesday, February 25, 2014

**Dr. Virginia Dale**

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Adjunct Faculty, Ecology & Evolutionary Biology, UTK

### Incorporating Bioenergy Into Sustainable Landscape Designs

A spatially explicit collaborative plan for resource allocation and management, landscape design involves multiple scales, fits into existing systems, and maintains or enhances services. We describe an approach for landscape design that focuses on bioenergy production systems, which integrates into other components of the land, environment and socioeconomic system. The design for a particular area is developed with the involvement of key stakeholders. Appropriately applied, landscape design can guide choices toward more sustainable provision of bioenergy and other services. This approach encapsulates monitoring and assessment of a suite of indicators for soil quality, water quality and quantity, greenhouse gases, biodiversity, air quality, and productivity as well as socioeconomic considerations. The landscape design approach requires attention to site selection and environmental effects when making choices about locations, type(s) of feedstock, transport of feedstock to the refinery, refinery processing, and distribution of bioenergy products and services. The approach includes monitoring and reporting of measures of sustainability along the bioenergy supply chain and within specific contexts. Landscape designs must be implemented in a way that is doable from the perspective of producers along the supply chain. Hence, clear communication of environmental and socioeconomic opportunities and concerns is required to participants in production and users of the energy.

**Location: Tom Hallam Auditorium, Room 206 at NIMBioS, Claxton Education Bldg, 1122 Volunteer Blvd.**

*\*Join us for refreshments at 3 p.m. in the Auditorium.*

For more information about this and other NIMBioS Seminars, visit <http://www.nimbios.org/seminars>

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*The National Institute for Mathematical and Biological Synthesis (NIMBioS) brings together researchers from around the world to collaborate across disciplinary boundaries to investigate solutions to basic and applied problems in the life sciences. NIMBioS is sponsored by the National Science Foundation, the U.S. Department of Homeland Security, and the U.S. Department of Agriculture with additional support from The University of Tennessee, Knoxville.*

