**Spring 2013 SEMINAR SERIES:** DEPARTMENT OF ENVIRONMENTAL SCIENCES

**SPEAKER:** DR. UTA KROGMANN,
EXTENSION SPECIALIST IN SOLID WASTE MGMT.
DEPARTMENT OF ENVIRONMENTAL SCIENCES – RUTGERS UNIVERSITY

**TITLE OF TALK:** “RELATIVE IMPORTANCE OF ELECTRICITY SOURCES AND CONSTRUCTION PRACTICES IN RESIDENTIAL BUILDINGS: A SWISS-U.S. COMPARISON OF ENERGY RELATED LIFE-CYCLE IMPACTS”

**DATE/TIME/LOCATION:**
Environmental & Natural Resource Sciences Bldg.
14 College Farm Road, New Brunswick, NJ
Light Refreshments served at 2:15pm

**HOST:** Dr. Beth Ravit, ravit@aesop.rutgers.edu, 848-932-5752
Seminar Website: [http://www.envsci.rutgers.edu/info/seminar/seminar.shtml](http://www.envsci.rutgers.edu/info/seminar/seminar.shtml)

**ABSTRACT:**
Comparisons of buildings in similar climates built in accordance with different regional construction practices and building rating systems can provide useful insights in sustainable design practices. The objectives of this study were: (1) to perform energy related life cycle assessments of a typical LEED-H (Leadership in Energy and Environmental Design for homes) single-family home in New Jersey (US), and a typical Minergie-P single-family home in Chur, Switzerland; and (2) to assess the effect of rating systems and construction practices on the buildings’ environmental impacts. Inventory data was obtained from the Ecoinvent 2.2 database with a replacement of the Western European electricity mix with the US or New Jersey electricity mix for the New Jersey home. The Swiss building performed better regarding non-renewable energy consumption, global warming potential and acidification mainly due to the geothermal heat pump and the Swiss electricity mix while there was less of a difference regarding ozone depletion potential and eutrophication potential. The influence of electricity sources exceeded the effects of longer building life time or the removal of the Swiss basement. Since the electricity mix is so important regional building practices, local codes and environmental policies should take the electricity grid into account.

Uta Krogmann, Ph.D. (Dr.-Ing.)
Associate Professor, Extension Specialist in Solid Waste Management Rutgers University,
Department of Environmental Sciences
14 College Farm Road
New Brunswick, NJ 08901-8551
Phone: (848)-932-5729, Fax: (732)-932-8644 E-mail: krogmann@aesop.rutgers.edu

Jeannie Nicewicz
Rutgers, The State University of New Jersey
School of Environmental & Biological Sciences, Environmental & Natural Resource Sciences Bldg.
14 College Farm Road - Room 252, New Brunswick, New Jersey 08901
Email: jnicewicz@envsci.rutgers.edu Tel: 848-932-5762 * Fax: 732-932-3562
Web: [http://www.envsci.rutgers.edu](http://www.envsci.rutgers.edu)