2012 International Workshop on Environment and Alternative Energy Technical Sessions

Technical sessions will occur in sequence throughout the workshop. These forums will include presentations of technical problems and issues. Presentations will be followed by open discussion among participants in order to foster new or further collaboration on matters of pollution reduction and energy conservation. Individual sessions will comprise single of complementary technical areas, to include the following:

Use of Life Cycle Assessments (LCA) in Aerospace Applications
To reduce the risk of material obsolescence and cost escalation from increasing regulations and dwindling natural resources make it necessary to evaluate all impacts associated with a program from cradle to grave. A Life Cycle Assessment allows the user to compare a range of effects in order to improve processes, support policy, and provide a sound basis for informed decisions. Topics include LCA guidelines and tools and the impact of their implementation including practical application examples.

Environmentally-Driven Changes to Aerospace Materials and Processes
Materials and processes historically used by the aerospace industry are continually impacted by environmental legislation. Domestic regulation and international agreements have banned certain materials from future use or production, making it necessary to find replacements that comply with environmental regulations and provide equivalent performance. Topics include environmentally-preferable replacements for materials and processes commonly used in aerospace manufacturing and maintenance processes.

Quantification of Green Roofs' Contributions to Building and Community Performance
Green roofs can provide an oasis especially in an urban environment but the effect on building performance is just gaining understanding. This lack of understanding affects the ability to adequately calculate the return on investment for the added cost of the roof installation. Speakers will relate practical experiences and recent research into green roof systems building performance contribution quantification. Topics include performance monitoring, modeling, the Urban Heat Island effect, stormwater quantity and quality management, energy conservation, and community benefits.

Facility Energy Supply Solutions for Critical Applications including Energy Security
The global environment and natural disasters can have profound impacts due to loss of energy supplies. Speakers will discuss methods to protect critical systems from grid power quantity and quality failures through the use of on-site alternative energy generation and management. Topics include fuel cells, microturbines, solar and other renewable energy sources, energy storage, CHP operations as well as energy management.