



**National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230**

NSF 10-075

Dear Colleague Letter: Metabolomics for a Low Carbon Society

This letter is to call your attention to an upcoming opportunity that is anticipated to be offered in FY 2011, pending appropriation of funds. The Metabolomics for a Low Carbon Society Program will support basic research in the area of plant, algal and microbial metabolomics. This Program, which is a continuation of ongoing activities funded in the Directorate for Biological Sciences at NSF, will be supported jointly by the Divisions of Integrative Organismal Systems and Molecular and Cellular Biosciences in the NSF Directorate for Biological Sciences and Japan Science and Technology Agency (JST).

The goal of the Metabolomics for a Low Carbon Society Program is to advance novel biological knowledge in metabolomics in the areas of energy and the environment, and to foster greater collaborative interactions between Japanese and American scientists in these priority areas. In recent years, metabolomics has matured to the point where it is now possible to consider cataloging the complete small molecule profiles of cells. Such profiling is critically important because these small molecule metabolites are the end products of gene expression and represent the high-resolution biochemical phenotype of the cell, tissue, and organism. Key goals of metabolomics include 1) chemical annotation, i.e. determining the chemical structure of each molecule, 2) biological annotation, i.e. connecting each metabolite to a specific enzyme, biochemical pathway, or biological process, and 3) metabolomic annotation, i.e. the distribution of each metabolite in different cells of an organism which includes spatial and temporal information as well as concentration.

Once released, the solicitation will be posted on the NSF BIO Directorate website at:
<http://www.nsf.gov/dir/index.jsp?org=BIO>.

Sincerely,

Joann Roskoski
Acting Assistant Director