EXECUTIVE SUMMARY

A long-range plan for the Multinational Coordinated *Arabidopsis thaliana* Functional Genomics Project has been developed by the international community of scientists engaged in the study of basic plant biology using *Arabidopsis* as a model system. The project was conceived and developed in response to the completion of the *Arabidopsis* genome sequence by the *Arabidopsis* Genome Initiative in December of 2000. For the first time, scientists have access to the sequence of the 25,500 genes required for the functioning of a flowering plant. This information brings with it an opportunity: the chance to exploit this newfound knowledge to bring about the complete understanding of plant biology.

The international community of plant scientists enters into the new era of functional genomics research with the realization that in order to meet the needs of an expanding world population and of protecting the environment for future generations, we must find ways to improve the plants that we rely on for our existence; that before we can efficiently make improvements to economically important plant species, we must further our knowledge of plant biology; and that the best way to rapidly and efficiently gain this knowledge is through the use of the experimental model system *Arabidopsis thaliana*.

Mission: To determine the function of every gene of a reference species in its cellular, organismal, and evolutionary context by the year 2010.

Project Goal: The ultimate goal of the project is a complete understanding of the biology of a flowering plant, using *Arabidopsis* as an experimental model system.

Scientific Objectives:

1. Development of an expanded genetic toolkit, including new technology development that enables a broad community of scientists to conduct functional genomics research in *Arabidopsis*
2. Whole-systems identification of gene function, including global analyses of gene expression, the plant proteome, metabolite dynamics, molecular interactions and comparative genomics
3. Expansion of the role for bioinformatics
4. Development of community and human resources
5. Promotion of international cooperation

International Collaboration: It is recognized by the community of *Arabidopsis* researchers that the success of the Multinational Coordinated *Arabidopsis thaliana* Genome Research Project was due in large part to the tremendous amount of international cooperation that was an integral part of the project. As we launch this new project, we take with us this lesson: international cooperation, coordination of efforts, and communication among the involved groups are essential. The Multinational *Arabidopsis* Steering Committee will continue to provide the means for ensuring a high level of international cooperation.