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**Academic interests:** Technology foresight is the envisioning of feasible possibilities for future technological advances based on previous advances in basic science, technological trends and discoveries, and need. This research seeks to identify biotechnologies that are likely to be achievable based on these factors, and to do so early enough to provide awareness in advance. Such early awareness is expected to be helpful in speeding adoption of a technology by creating expectations, generating early market opportunities, and facilitating early investment. Within this broad area, the intent is to direct effort to specific problems in which progress can be expected.

**Research Focus & Techniques of Expertise:** We are pursuing the concrete and achievable, short-term goal of mining text and databases to identify potential opportunities for advances in plant genetic engineering and commercializing those advances. Methodology is a key issue in technology foresight and potential techniques are diverse, including mining the biological literature and data mining, graphing progress in facilitating technologies, perceptions of experts, and others. Facilitating such techniques, the Web as well as major text resources like Agricola, PubMed, and PubMedCentral form a rich set of data to mine.

## **Grants**

### **(P3-209) Enabling Crop Deregulation with Software: a Prototype**

**PI:** Daniel Berleant (UALR); **Co-PIs:** Elizabeth Hood (ASU), and Richard Segall (ASU)

Genetics can be used to develop important and valuable crops that are significantly better than existing varieties. Collecting information to show that a new crop strain has no problems compared to existing varieties is essential to obtaining permission to grow the new strain commercially. This project will assist by automatically collecting needed information by extracting known facts from the vast body of published work.

**Grant Interest:** NSF has programs in both biological sciences and computing that are likely candidates for us to submit a proposal to. Of particular interest is the Plant Genome Research Program (PGRP), which has supported research into plant genomics, and the program has a stated interest in receiving proposals from investigators and institutions that are new to the program. More information is provided by NSF at [http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=5338](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5338).