

**Project Name**

Integrated Online Database for Plant Identification and Use in the Landscape

**Principal Investigator** Nina Bassuk

**Campus** Cornell University, NYS College of Agriculture & Life Sciences at

**Year of Project** 2012

**Tier** Tier Two

**Project Team**

- Dr. Ellen J. Cramer, Remarc Solutions

**Overview Summary**

Creation of a woody plant database with intent to expand to GPS referencing that can be accessed on smart phones and tablets for field application.

**Outcomes Summary**

[Project website](#) provides the research output.

**Project Abstract**

Enhancing The Learning Experience With Innovative Technology.

Creating the Urban Eden, (Horticulture/Landscape Architecture 4910-4920), a course taught jointly by faculty in the Departments of Landscape Architecture and Horticulture, is a unique two-semester class spanning the academic year from August to May. Students face the task of creating viable, sustainable landscapes both in theory and practice. The success and sustainability of any planting design ultimately is dependent upon knowledgeable site assessment and analysis, appropriate plant selection and clear communication of design intentions. This class teaches all aspects of landscape establishment including detailed site assessment,

woody plant identification, choice of appropriate plants, design, soil remediation, transplanting and early maintenance in human-impacted landscapes.

Half of this course involves teaching students about woody plants: their identification and appropriate use in the landscape. Students are expected to learn about 400 plants-a formidable task. We have developed multiple teaching methods to accomplish this, including using dried and live plant samples, an audio-tutorial cell phone tour, visitation of the class to plants on campus and an web based compendium of all of the plants.

With the advent of smart phones and tablets, it is now possible for students to take this data base into the field to learn how to identify the plants directly as well as to learn about the landscape conditions where they can best be used. We hope to do this with this technology proposal. We also intend to modernize and strengthen the searchable capabilities of this database so that it will useful for determining groups of plants that may be used in multiple landscapes including green infrastructure, green roofs, bioswales and rain gardens, streets and parks. This will enhance students' learning experience by integrating graphic and text information at their fingertips. Long after the students leave the classroom, this database will be useful to them in their working lives.

Current plant databases focus mostly on the identification of plants. Our database will provide information both on the identification and use in the landscape. Text, pictures and graphic displays will be added to the database. Since these very large data sets need regular maintenance and upgrading, tools will be put in place that allow for rapid editing and improvement of information. Currently, web based materials can be viewed with difficulty on smart phones or tablets. By enhancing this data set we will enable the appropriate sized text and graphics to immediately be viewed on these devices. Moreover, a GPS enabled GIS mapping tool will be integrated with the data to plot where these plants are on campus. Students will be able to update and generate maps that locate plants in the landscape. This mapping feature will be very useful for teaching on campus, but could also be used in any landscape and on any campus. Students in at SUNY Farmingdale or Cobleskill or Delhi will be able to map the locations of specific woody plants and link those maps to identification and appropriate uses of these plant in their local landscapes. This combination of features currently does not exist with any data set.

The enhancement to our woody plant database enabled by the grant would make these tools available to students, stakeholders, industry and the public. An introductory portal would help users get the most out of it. It would be freely available to all SUNY campuses and be relevant to their teaching landscapes due to the mapping function. We intend to evaluate this new tool during the spring, 2014 semester with students who will test all the features and suggest improvements. Ultimately, this will help all students to learn this vital material.

### **Reports and Resources**

- [Postor handout](#)
- [Project website](#)
- [Project Wiki](#)
- [Mid-project report](#)
- [Project outcomes report](#)

### **Instructional Design**

- Online Education

## **Instructional Technologies**

- Open Educational Resources (OER)