United States Department of Agriculture (USDA) National Needs Fellowships for Multidisciplinary Ph.D. Training in Advanced Technologies for High Yield Sustainable Agriculture

North Carolina State University’s Colleges of Agriculture and Life Sciences, Engineering, and Sciences are recruiting outstanding students to pursue interdisciplinary Ph.D.s in Advanced Technologies for High Yield Sustainable Agriculture as USDA-funded National Needs Fellows. These assistantships are available for graduate students who intend to become university teachers and/or researchers. We encourage applicants from groups traditionally underrepresented in agricultural sciences including women and African-, Hispanic-, Native-, and Asian-Americans. We seek highly qualified and motivated students with demonstrated research experience and potential to excel in an interdisciplinary setting.

Fellows will pursue an interdisciplinary course of study under the auspices of AMPLIFY (Agrosphere Modeling For Producing Large Increases In Food Yield). Courses of study will focus on six targeted expertise shortage areas: 1) biotechnology, biochemistry, and microbiology; 2) natural resources including sustainable agriculture and biofuels; 3) soil sciences; 4) agricultural/biological engineering; 5) plant sciences and horticulture; and 6) water resources including water quality. Students will concentrate on one core discipline with cross training among these and others such as bioinformatics, computational biology, statistics, electrical and computer engineering, geographic information sciences (GIS), remote sensing, integrated pest management, scientific modeling, regulatory sciences, and climate change.

The Fellowship will provide diverse training experiences that will prepare students for multiple career tracks. Each student will be co-advised by faculty from two different academic departments to ensure breadth in their academic and experiential learning. Course selection will be rigorous and tailored to each student’s professional goals and chosen research/extension project. Fellows will develop critical thinking and problem-solving skills, and apply proven scientific methodology in a multidisciplinary teamwork environment. A required three-month resident internship in the public sector or at a local agricultural biotechnology company will increase career opportunities in the strong job market for cross-trained scientists. Fellowships will be awarded based on academic performance and financial need.

To be eligible for consideration, the student must:

1. Be admitted by the Graduate School to a doctoral program; recommended by a department aligned with one of the six target areas (above); and approved by the Fellowship Program Selections Committee;

2. Be a U.S. citizen, permanent resident, or a permanent resident of the Trust Territory of the Pacific Islands;

3. Be committed to a career in university teaching and/or research;

4. Have an outstanding undergraduate and (if applicable) graduate academic record (cumulative grade point average), as well as excellent scores on the verbal, quantitative, and analytic writing sections of the Graduate Record Examination;
5. Have demonstrable identified financial need determined according to federal guidelines. Financial need is based on information supplied by each student on the Free Application for Federal Student Aid (FAFSA) and will be reassessed annually.

Special Program Features:

1. Fellowship Stipend: A minimum of $21,000 annually for three years plus fringe benefits covering federal taxes and health and other insurance benefits including Workers’ Compensation. Exceptional Fellows may receive additional stipend support from their home department or College. In extraordinary circumstances, funding may be available for a fourth year should it be needed for completion of training.

2. Tuition and Fees: The in-state portion of tuition will be covered by the NCSU Graduate Student Support Plan (GSSP). Fees and out-of-state tuition remission will be provided by the College of Agriculture and Life Sciences in accordance with GSSP guidelines.

3. Annual allowance of $2,000 to help defray research expenses and for travel to present research finding at a professional meeting in their disciplinary area.

4. Registration: Fellows must be full-time graduate students. Please see Section 3.15 of the Graduate Administrative Handbook for full-time registration requirements. Fellows must be engaged in full-time coursework or research during each summer session. At no time during the Fellowship period may a Fellow engage in gainful employment other than part-time employment involved in teaching, research, or similar activities determined by the Graduate School to be in support of progress toward the degree.

5. Each student will be co-advised by Fellowship Program faculty from two different academic departments.

6. Teaching Experience and Other Activities: Each Fellow will be provided opportunities for supervised teaching experiences during the doctoral program.

7. Renewal of Fellowship: Unless otherwise noted on the award letter, and contingent upon making satisfactory academic progress, Fellows will be appointed to a Fellowship for a period of one year. Renewal is not guaranteed. The Fellow’s graduate program has the option (but not the obligation) of re-nominating the Fellow annually for up to two to three additional years of fellowship support, provided that a) the Fellow is making satisfactory progress, as certified by his or her advisor and Director of Graduate Programs, b) the Fellow is maintaining a 3.5 GPA, and c) the Fellow’s research focus remains within the six targeted expertise areas (above).

For additional information on the USDA National-Needs Fellowship Program, please contact Dr. Gary Payne, Professor, Dept. of Plant Pathology and Entomology: gary_payne@ncsu.edu. Prospective Fellows are strongly encouraged to contact Fellowship Program faculty to discuss the Fellowship and potential research areas.