Data Management Plan for
IRES – Population Dynamics and Complex Systems: Challenges and Opportunities (IRES)

OVERVIEW OF DATA HANDLING AND RESPONSIBLE PARTIES
The PI of the International Research Experience for Students – Population Dynamics and Complex Systems: Challenges and Opportunities (IRES), Dr. Carlos Castillo-Chavez, has overall responsibility for implementing the project, and for ensuring that data is collected, analyzed, shared, and archived in accordance with NSF guidelines. The IRES lead administrative unit will be Dr. Castillo-Chavez’ Mathematical, Computational and Modeling Sciences Center (MCMSC). MCMSC staff currently track the academic and professional progress of previous participants in two other summer programs housed at the center: the Mathematical and Theoretical Biology Institute (MTBI, a sister program to this IRES) and the Joaquin Bustoz, Jr. Math-Science Honors Program.

Responsibility for data management will be shared with the Co-PIs and appropriate MCMSC staff, including the assistant director and management intern. Specifically, with respect to data management, the MCMSC staff responsibilities will include:

(i) Tracking the submission of applications, including applicants’ demographic data and any selection notes;
(ii) Maintaining both research and IRES participant databases;
(iii) Overseeing access to protected databases (e.g. personal trainee data);
(iv) Ensuring that information from qualitative and quantitative evaluations is saved on an appropriate secure database; and
(v) Generating data and/or reports as requested by the PI and co-PIs.

TYPES OF DATA, SAMPLES, PHYSICAL COLLECTIONS, SOFTWARE, CURRICULUM MATERIALS, AND OTHER MATERIALS TO BE PRODUCED DURING PROJECT

To evaluate the primary measurable objectives, we will collect data on the:

(i) Number of applicants to the IRES project;
(ii) Demographics of both selected and non-selected applicants;
(iii) The frequency of continued participant-foreign mentor communication after the program;
(iv) The number of grant proposals submitted by the IRES participant and mentor for the research being conducted;
(v) The number of collaborative submissions to conferences and publications; and
(vi) The number presentations given and refereed papers published as a result of the collaborative research.
(vii) In addition, for the participants who had not started their dissertations prior to the IRES program, we will track how many of them include their foreign mentors on their dissertation committees.
Finally, formative evaluation data will guide the adaptation of the IRES experiences and will consist of a dynamic-developmental inquiry with a focus on the objectives of the IRES. Participants will complete surveys prior to their embarking on the experience, during the course of the 10-week program, and afterwards. Questions will include:

(i) Expectations of entire mentorship experience (pre-departure preparation, mentoring,
(ii) Satisfaction with mentor
(iii) Satisfaction with facilities and surroundings
(iv) Cultural opportunities
(v) Potential improvements

POLICIES FOR ACCESS AND SHARING, INCLUDING PRIVACY, CONFIDENTIALITY, SECURITY, INTELLECTUAL PROPERTY, AND OTHER RIGHTS OR REQUIREMENTS

Regarding data sharing and issues related to intellectual property, we will adhere to the guidelines set out in the NSF Award and Administration Guide (AAG) Chapter VI.D.4 (http://www.nsf.gov/bfa/dias/policy/dmp.jsp). Research materials (code, simulations, analysis tools, etc.) derived from collaborative IRES projects will be stored on a server housed within MCMSC. These materials will be made available within a reasonable period of time following publication, and the core faculty involved in the collaborative research efforts will control access to these data. Participants and faculty will also be encouraged to upload their published models to any one of a number of on-line databases (e.g. http://www.ebi.ac.uk/biomebrowser/) for wider dissemination.

PLANS FOR ARCHIVING DATA, SAMPLES, AND RESEARCH PROJECTS FOR PRESERVATION OF ACCESS

Data, analysis tools, curricular materials, and any other materials generated during the MCTP period will be stored on the MCMSC server to ensure preservation of the materials for continued access and regular backups (at least monthly) to external hard drives and other means of data storage (DVDs, etc.) will be made by the management intern coordinator, during the length of the IRES funding. Research reports on projects conducted each year during the project will be made available in an IRES Technical Reports Archive similar to the one housing MTBI technical reports (http://mtbi.asu.edu/research/archive). Research data and reports will remain archived within the MCMSC database for a minimum of 7 years.