



## **Cornell launches largest scientific effort in university's history: \$500 million Life Sciences Initiative for research, education**

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ITHACA, N.Y. -- Cornell University has launched the largest single scientific effort in its history: the New Life Sciences Initiative, a campuswide program that will forever change the way life-science research is conducted and taught at the university. Involving investments of up to \$500 million, the initiative will require the largest fund-raising campaign for a single project ever attempted by Cornell.

Announcing the new initiative, Cornell President Hunter Rawlings said the effort will engage "the most broadly respected faculty in the country" in what he predicted will be "great research, great teaching and great outreach" in all aspects of the life sciences. Key to the huge program of discovery and education is the integration of life sciences with physical, engineering and computational sciences.

The new initiative will involve seven colleges, several hundred faculty and up to 60 departments in an interdisciplinary research and education program. Also participating are the New York State Agricultural Experiment Station in Geneva, N.Y., as well as the Boyce Thompson Institute for Plant Research (BTI) and the U.S. Department of Agriculture's Agricultural Research Service (USDA/ARS), both on Cornell's Ithaca campus.

The initiative will support at least 50 new faculty hires, in addition to two dozen already hired in life-sciences-related fields, broaden undergraduate education in the life sciences and create as many as 100 new graduate fellowships. It also will support the building of several facilities, including a proposed Life Science Technology Building; a nanotechnology-research center, Duffield Hall, now under construction; new facilities for chemistry and chemical biology, physics and applied and engineering physics; and significant laboratory renovations across campus.

Through cross-campus cooperation, the life sciences initiative will seek new methodologies for rapid DNA sequence detection, the computational and statistical tools to manage and analyze the data, and use Cornell's biological expertise to link sequence to function in the cell, in the organism and in the environment. The new initiative also will link genomics with such areas as neuroscience, basic ecology and environmental science.

Cornell Provost Biddy Martin will control the coordination of the life-sciences effort with advice from 16 senior faculty and from the External Life Science Advisory Council, newly created to review all initiative plans, from building and hiring to funding. All five members of the group are members of the National Academy of Sciences, and one, Harold Varmus, president, Memorial Sloan-Kettering Cancer Center, is a former director of the National Institutes of Health and a Nobel laureate. Other members of the panel are Gerald Fink, professor of genetics, Whitehead Institute; Robert Langer, professor of chemical and biomedical engineering, Massachusetts Institute of Technology; Pamela Matson, professor

of biogeochemistry, Stanford University; and Christopher Somerville, Carnegie Institution of Washington at Stanford.

The interdisciplinary research programs supported by the initiative will continue to be faculty-driven, and a previous five-year-old scientific effort, the Cornell Genomics Initiative (CGI), will form a major part of the new effort, says Kraig Adler, vice provost for life sciences. "These are research areas in which we feel we have an opportunity to be real leaders, or in cases where we are already the leaders, it is important to make these investments to remain ahead," he says.

Adds Charles Aquadro, professor of molecular biology and genetics: "The initiative will highlight and enhance the particular strengths of Cornell in the life and related sciences. We are trying to make it possible for students and faculty alike to explore and move up and down the continuum of disciplines as a particular biological question requires."

A large share of the total investment in the New Life Sciences Initiative will be assumed from CGI, including \$110 million for the proposed Life Science Technology Building. Cornell's trustees have approved siting the building central to life-science activities on campus. It is scheduled for completion in 2006.

Funds for the building are likely to come from two sources: New York state and private donors. The state, through its funding agency, the New York State Office of Science, Technology and Academic Research, last year designated Cornell as the site for a Strategically Targeted Academic Research center for Genomics Technologies and Information Sciences. No funding has yet been appropriated, but it is hoped that the amount could be as high as \$15 million.

In addition, the New York State Senate in March 2001 passed a bill to create a program called Gen\*NY\*sis (for Generating Employment Through New York Science) that would provide funding for the life sciences, with the goal of job creation. The state is expected to fund the program this fiscal year, and Cornell is expected to receive up to \$30 million, to be matched by the university 3-to-1. A key component of the program is to create research consortia around universities, and Cornell will dedicate most of its funding for a business incubator and related activities in the Life Science Technology Building to provide expertise, networks and tools that start-up and existing companies need to exploit research.

Other campus efforts to be included in the new initiative's investment portfolio are \$62.5 million for Duffield Hall, the nanotechnology-research building; \$18 million to \$20 million for new transgenic mouse facilities and laboratories in the College of Veterinary Medicine; and between \$50 million and \$75 million for renovated and expanded facilities for the departments of Chemistry and Chemical Biology, Physics and Applied and Engineering Physics, as well as significant laboratory renovations in existing buildings on campus.

Funds also will support start-up costs for at least 50 new faculty hires over five years, and for graduate fellowships. Also being instituted is an annual lecture series in genomics honoring Robert W. Holley (1922-93), Ph.D. Cornell '47. Holley shared the 1968 Nobel Prize in Physiology or Medicine with two other researchers, and he taught biochemistry at Cornell from 1948 to 1964.

About \$100 million of the needed resources already are committed, some of it to support the new initiative's interdisciplinary research programs, such as Basic Ecology and Environmental Science, allowing one of its two divisions formed to date, Biogeochemistry and Biocomplexity, to hire five new faculty members. Nelson Hairston, the Frank H.T. Rhodes Professor of Environmental Science, who

heads the division, says the new organization will allow his field "to interact across the whole sweep of biology, from genes to whole organisms, and well into the geophysical and geochemical sciences, to begin to understand how the natural world is put together."

The new funding also is supporting the second of Basic Ecology's divisions, Molecular and Chemical Ecology (or MaCE), a joint program between Cornell and BTI, enabling the program to hire five faculty members. A number of the new hires, said Barry Carpenter, professor and chair of the Department of Chemistry and Chemical Biology, inevitably will be for the Physical-Sciences/Life Sciences Interface program.

Notes Adler, "Although several other research universities have undertaken similar initiatives, Cornell's is arguably the most comprehensive and best integrated, largely because our faculty have led the effort at every stage of its development."

**Related World Wide Web sites:** The following site provides additional information on this news release.

o Cornell Genomics Initiative: <http://www.genomics.cornell.edu/>

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