

2005 SCIENCE AND ENVIRONMENT MEDAL

FINALIST

Name: The Rembrandt Project Team

Agency: National Cancer Institute Center for Bioinformatics, National Institutes of

Health, U.S. Department of Health and Human Services

Location: Rockville, MD Residence: Rockville, MD

Achievement: Created database that could lead to new cancer treatments and revolutionize

the way cancer research is conducted.

This past year, cancer surpassed heart disease as the number one killer in the United States among people under the age of 85. One of the biggest obstacles to breakthroughs in cancer treatment has been insufficient information sharing between clinicians and researchers. A team from the National Institutes of Health (NIH) has begun a new effort that stands to break down the barriers to information sharing and revolutionize the way we conduct cancer research, moving us closer to the goal of reducing suffering and death due to cancer.

This project, known as Rembrandt (Repository for Molecular BRAin Neoplasia DaTa), is a joint initiative of NIH's National Cancer Institute (NCI) and National Institute of Neurological Disorders and Stroke (NINDS).

Rembrandt is designed to bridge the gap between biological and clinical information on brain cancer. It is a database that will house two sets of valuable data. The first set comes from a National Cancer Institute-sponsored clinical trial and the largest genetic/clinical corollary study ever conducted on brain tumors. As part of this trial, hundreds of brain tumor surgery patients throughout the country are having samples of their tumors sent to NCI for exhaustive genetic and molecular analysis, and the findings will ultimately be correlated with the clinical course of the individual patient. The second type of data to be housed in the database is a wide array of molecular and genetic data regarding all types of brain tumors. Understanding the biology behind these tumors and overlaying this valuable data on clinical data will provide clues to discover new therapies.

Rembrandt marks a shift toward better information sharing and greater emphasis on finding practical treatments for individuals fighting this disease. The concrete benefits of Rembrandt include enabling physicians to identify individualized and tailored therapies to treat brain tumor patients.

One of the major challenges of this project is that it requires researchers and clinicians to work together along with software engineers and input from patients to bring it all together.

Through this project, the Rembrandt team is bringing together the disparate communities in biomedicine so that the whole can be more than the sum of the parts in the fight against cancer.