

AMDeC Member Institutions

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Cold Spring Harbor Laboratory
Columbia-Presbyterian Campus of New York
Presbyterian Hospital
Columbia University College of Physicians and
Surgeons
Greater New York Hospital Association
Hospital for Special Surgery
Joan & Sanford I. Weill Medical College of
Cornell University
Lenox Hill Hospital
Maimonides Medical Center
Memorial Sloan-Kettering Cancer Center
Montefiore Medical Center
Mount Sinai-NYU Medical Center and Health
System
Mount Sinai School of Medicine
Nassau County Medical Center
New York Blood Center
New York-Cornell Campus of New York
Presbyterian Hospital
New York Eye and Ear Infirmary
New York Hospital Medical Center of Queens
New York Medical College
New York University School of Medicine
North Shore-Long Island Jewish Health
System
Our Lady of Mercy Medical Center
Rockefeller University
Roswell Park Cancer Institute
Saint Vincents Catholic Medical Centers of
New York, Manhattan Region
Saint Vincents Catholic Medical Centers of
New York, Staten Island Region
St. Luke's-Roosevelt Hospital Center
State University of New York
SUNY Health Science Center at Brooklyn
SUNY at Buffalo, School of Medicine &
Biomedical Sciences
SUNY at Stony Brook, University Hospital and
Medical Center
SUNY Upstate Medical University at Syracuse
Strang Cancer Prevention Center
University of Rochester School of Medicine
Winthrop-University Hospital

Editor's note: For our non-scientist readers, "BIO SNPs" is a play on the acronym SNPs (pronounced "snips"), single nucleotide polymorphisms, which are DNA sequence variations that occur when one of the structural components of DNA in the genome sequence is altered.

April 2001 Volume 2, Number 1

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Maurice R. Greenberg, Chairman
Maria K. Mitchell, Ph.D., President

BIO SNPs

AMDeC BOASTS BANNER YEAR IN 2000: STRENGTHENS COLLABORATIONS AND RAISES OVER \$14 MILLION

Collaborations and fundraising soared in 2000 for AMDeC with over \$14 million raised in support of its collaborative research initiatives and over \$1 million in pro bono services and equipment. Given its successful fundraising, AMDeC began implementation of its large-scale collaborative research initiatives and made considerable progress on AMDeC's Five-year Strategic Initiative for Human Genetics Research (see related article on genomics core facilities below). Working closely with the Associated Medical Schools of New York and the New York Academy of Medicine, AMDeC secured a large commitment for biomedical research and biotechnology in the State's upcoming budget. Forging new alliances and strengthening ties in 2000 brought AMDeC's membership ranks to 38 institutions

Statewide, making AMDeC the largest consortium of its kind in the country. These partnerships enabled AMDeC to negotiate favorable prices on research technologies such as Affymetrix gene chips and Celera databases to assist scientists in driving down costs while expanding their research capabilities. AMDeC's Business Advisory Group began to crystallize its venture capital fund with plans to raise funds and recruit a fund manager by the end of 2001 as the centerpiece to a biotechnology development plan that creates a network with other public and private entities to strengthen New York's biotechnology industry. During the coming year, AMDeC plans to leverage these opportunities to serve its members and to benefit New York's great biomedical research enterprise.

AMDeC GENOMICS CORE FACILITIES UNDERWAY: Starr Foundation Grant Enables Start-Up of Shared Cores in Bioinformatics and Genotyping

With a generous \$5 million grant from the Starr Foundation, AMDeC has begun implementation of two key genomics core facilities: bioinformatics/computational biology and genotyping. These core facilities are two of five such shared facilities, the establishment of which was authorized last year by the AMDeC Board of Directors as part of AMDeC's five-year strategic plan for human genetics and genomics research. The other core facilities involve microarrays, proteomics and statistical genetics. Advisory Committees for both cores have been developed consisting of expert scientists from across New York State.

Each of AMDeC's cores will **combine in-house efforts with products and services provided at discounted rates by one or more outside companies**. The cores will have three primary functions. First, they will evaluate emerging technologies and their application to various fields of research. Such evaluations will determine the services a core produces in-house versus negotiating with commercial vendors for discounted access to proprietary technologies. Second, the core will provide training and service to AMDeC-affiliated

scientists on the application of various research technologies to specific research efforts. Finally, the core will invest in technology development so that New York is a leader in the next generation of genomics research tools and products.

The **Bioinformatics/Computational Biology Core**, to be located within the Columbia University Genome Center, will begin operations in June 2001. Initially the core will have three principal functions:

- Establish an in-house computational infrastructure that will include copies of important databases, copies of analytical programs, and expertise in their use. The Core will provide sufficient CPU, disk storage, and rapid connectivity to permit 'mining' of databases with optimal speed and flexibility. AMDeC has already purchased a Paracel GeneMatcher2 for the Core. The GeneMatcher2 is the successor to Celera Genomics' GeneMatcher Plus, the instrument used to assemble and analyze the *Drosophila* and Human genomes. The GeneMatcher2 has over 27,000 parallel processors capable

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AMDeC GENOMICS CORE FACILITIES UNDERWAY

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of performing 30.7 billion cell updates per second.

- Evaluate for AMDeC the ever-growing array of new computational tools and databases emerging from both public and commercial sectors. A critically important role of AMDeC's has been in negotiating purchasing arrangements with vendors such as Affymetrix and Celera on behalf of AMDeC member institutions to achieve cost-savings through volume discounts. However, the exponential growth in the number of such products has outpaced the evaluative capacity of AMDeC centrally and most academic groups. Thus, a major emphasis of the Core will be to evaluate new tools, databases, and services for the purposes of assuring that AMDeC is an informed purchaser of services on behalf of its members, guiding and educating AMDeC member scientists in the use of or investment in such services, and seeking to integrate the best of these resources with the Core Facility's in-house databases in an optimal and cost-effective manner.
- Provide technical support to biostatisticians and other researchers at AMDeC institutions regarding optimal databases, search engines, and analytical tools to address their specific research queries and assist with the interpretation of results.

The **Genotyping Core Facility**, housed at Rockefeller University, will provide SNP and micro satellite genotyping for both small clinical research and large cohort studies. As with the other AMDeC cores, the services offered through this core will consist of in-house efforts combined with substantially discounted products and services provided by one or more outside companies. This approach will assure that the Core offers cutting edge services in the most cost-effective manner. The core will begin offering the SNP and microsatellite genotyping by mid-summer 2001.

The operations of all AMDeC Core Facilities are guided by Advisory Committees comprised of approximately 6-10 experts in relevant fields from AMDeC member institutions. The Advisory Committees, composed of scientists nominated by AMDeC board members, have two broad functions:

- Establishing and updating priorities for Core Facility functions
- Implementing procedures for assuring equitable access to Core Facility services by AMDeC member institution scientists.

For further information on the Cores, contact Ms. Ashley Williams, AMDeC's Director of Planning and Program Development, at (212) 218-5637 or williams@amdec.org.

AMDeC FINALIZES GROUP PURCHASING DEAL WITH CELERA GENOMICS, INC.

AMDeC finalized a multi-year agreement with Celera Genomics to allow AMDeC member institutions to access Celera's database information through its Celera Discovery System™. With increasing amounts of genomic data being generated and with new findings being published on the human genome, AMDeC scientists can now access the advanced tools, software, and data integrated in the Celera Discovery System to enhance their research programs and to enable them to uncover potential new therapies to treat human disease. The Celera Discovery System is an integrated, web-based discovery system that allows subscribers to use Celera generated databases, additional non-proprietary genome and biological datasets, computational tools and super-computing power to advance the discovery programs of researchers worldwide. This deal represents another significant milestone in AMDeC's efforts to ensure that New York's scientists have affordable access to today's cutting-edge research technologies, and is a critical step in AMDeC's efforts to position New York to lead the nation in the new genomic era. For more information on accessing the Celera group purchasing deal, contact Ms. Ashley Williams at (212) 218-5637.

AFFYMETRIX NEGOTIATIONS

Entering year-two of AMDeC's three-year Academic Access Agreement with Affymetrix, AMDeC and Affymetrix have been working together to ensure that AMDeC researchers continue to have access to preferential pricing on purchases of GeneChip® probe arrays. The growth in genomics related research at AMDeC member institutions will likely result in increased use of the chips. The projected increase in use should allow participating AMDeC institutions to take advantage of additional discounts on GeneChip® probe arrays. Affymetrix users will be notified of pricing going forward once negotiations are complete.

BROAD-BASED COALITION SUCCESSFUL IN LOBBYING STATE TO SUPPORT NEW YORK'S BIOMEDICAL RESEARCH AND BIOTECHNOLOGY ENTERPRISE

Late last year, leaders from nearly 40 key biomedical research institutions around the State joined together under the auspices of AMDeC, Associated Medical Schools of New York (AMS), and the New York Academy of Medicine (NYAM) to endorse a consensus paper calling on Governor Pataki and the New York State Legislature to establish a new Biomedical Research and Biotechnology Development Fund as part of a multi-pronged effort to help New York regain its historical position as the nation's leader in biomedical research and technology. The paper, which summarizes the now well-known story of New York's steady decline in this arena, describes the enormous contributions that biomedical research makes to the State's health care system and economy and the important opportunities that lie ahead as biomedical research becomes an ever more important component of the global economy.

The consensus paper, shared with the Governor, Senate and Assembly legislative leaders, and other key State officials, successfully secured the attention of State leaders on both sides of the aisle. A proposal was unveiled by New York State Senate Majority Leader Joseph L. Bruno in December 2000, to use \$500 million in government and private investment to lure new life science industries to the state and make New York a leader in creating biotechnology jobs. Generating Employment Through New York Science — Gen*NY*Sis — would provide a total of \$225 million in state grants to match federal, industry and academic funding; and additional targeted tax incentives to new companies launched by rapid advances in life sciences, genomics and genetics, and seek to build new ties between the biotech industry and New York's world-class universities and research institutions. In the Governor's 2001-02 Executive Budget, \$1 billion was earmarked for a high technology and biotechnology program that would link university researchers with business and industry leaders to position New York at the forefront of these critical new growth industries. The State Assembly has also set aside a discrete amount of money for biomedical research in its 2001-02 budget.

SUCCESSFUL RECRUITMENT STRATEGIES BOOST NEW YORK CANCER PROJECT ENROLLMENT TARGETS AND PROVIDE LESSONS FOR COMMUNITY OUTREACH

Several media intensive recruitment strategies over the past several months provided considerable growth in enrollment to the New York Cancer Project placing the totals well above the projected targets. Close to 7,000 volunteers have enrolled in the study, and recruiters have until March 2002 to reach 17,000 for the pilot phase. During this period, Project staff gained considerable experience devising recruitment strategies with diverse community groups within the five boroughs of New York City to encourage participation in a study that advances the understanding of genetics and the environment in cancer research. New relationships have been forged with organizations like the United Way of New York City, the Urban League, the NAACP New York Chapter, the American Cancer Society, and elected officials at the City and State level to further our reach into diverse communities.



Dr. Harold Freeman, Dr. Maria Mitchell, Mayor Rudolph Giuliani, and Dr. Arthur Rubenstein following the city-wide press kick-off for the New York Cancer Project held last October at Mount Sinai School of Medicine, one of the fifteen NYCP enrollment sites, to officially launch the project citywide.

Brooklyn Assembly member Adele Cohen, New York Police Department Commanding Officer, Chief Joseph Fox, Assembly member Diane Gordon, Maimonides Medical Center President and AMDeC Board Member Stanley Brezenoff, Brooklyn Assembly Delegation Chairman Joseph Lentol, Assembly member Steven H. Cymbrowitz, and NYCP Brooklyn Project Coordinator Vivienne DeStefano during a NYCP recruitment breakfast. Organized by Assemblyman Cymbrowitz at the Maimonides Medical Center NYCP enrollment site, well over half the members of the Brooklyn delegation of the New York State Assembly enrolled in the study.



New York Cancer Project Celebrity Spokesperson Susan Lucci and Dr. Maria Mitchell with the Girls Choir of Harlem at the Valentine's Day event held at the Grand Hyatt Hotel. Ms. Lucci, acting as the official NYCP Spokeswoman for the year, will bring her star power to the project and be a tremendous ambassador for reaching out to the public and for promoting enrollment in this important study on cancer research.

NCI-DESIGNATED CANCER CENTER HEADS DISCUSS FUTURE FUNDING FOR THE NEW YORK CANCER PROJECT

An unprecedented meeting with all New York State's NCI – Designated Cancer Center Directors was held on January 3, 2001 at Rockefeller University, chaired by Dr. Arnold J. Levine, President of Rockefeller University and Chair of the New York Cancer Project's Scientific Advisory Board, the Cancer Center directors were given an overview of the substantial progress of the New York Cancer Project to date. Since enrollment began in Fall 2000, nearly 7,000 diverse subjects have enrolled in the project and enrollment continues to escalate. The comprehensive infrastructure for NYCP is fully in place with the Biorepository housed at North Shore/Long Island Jewish Medical Center, the study database located at Columbia University's Medical Informatics department, and fourteen enrollment sites located throughout the five boroughs.

The Cancer Center Directors, coming together for the first time as a group, focused on ways to tap into the invaluable data resources generated by the Cancer Project and how to continue funding the project passed the pilot phase. In the short term, the plan is to put together a major NIH program project grant using the NYCP as its core. This strategy is expected to enhance future funding opportunities as well as yield more immediate findings related to cancer and genetics. Discussion also centered on various funding sources that could support the project in the long term. A variety of public and private funding sources are needed to sustain the project over time.

The group expressed considerable interest in the project and in working together to ensure its success. Follow-up meetings are planned with this group to ensure success of the project. For more information on the New York Cancer Project, please contact Dr. Wendy Geringer, Executive Director, at (212) 218-5642 or geringer@amdec.org.



10 Rockefeller Plaza, Suite 1120
New York, N.Y. 10020
(212) 218-5640
(212) 218-5644 (fax)

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ENROLLMENT UNDERWAY FOR THE NEW YORK EARLY LUNG CANCER ACTION PROGRAM

The New York Early Lung Cancer Action Program (NY-ELCAP) received \$1 million in additional support from two other funding sources in late 2000/early 2001 bringing the total raised for the project to over \$6.5 million. These grants have enabled the program to open eleven enrollment sites statewide that include:

- Weill Medical College of Cornell University
- Columbia University College of Physicians and Surgeons
- Maimonides Medical Center
- Memorial Sloan-Kettering Cancer Center
- Mount Sinai School of Medicine
- New York Medical College
- Our Lady of Mercy Medical Center
- Roswell Park Cancer Institute
- State University of New York Health Science Center at Brooklyn
- State University of New York at Stony Brook, University Hospital and Medical Center
- State University of New York, Upstate Medical University at Syracuse

The funds also underwrite additional scans at several enrollment sites bringing the target number of study volunteers to 8,250.

Progress continues on building the technical infrastructure to transmit all NY-ELCAP data, including the scan images, to the centralized data repository, located at the Central Coordinating Site that can be accessed by all participating enrollment sites. Investigators will directly enter enrollee data into the local

as well as central database. All images will be sent to the central image repository where a second independent reading will be conducted, without knowledge of the initial reading, to validate study findings and to ensure uniformity of the study protocol across institutions. Between the months of February and April computer installation occurs and data transmission checks conducted. Presently six

of the eleven sites have confirmed links to the Central Coordinating Site. Also functioning statewide is NY-ELCAP's toll free number (1-866-NY-ELCAP), with an advanced feature, that routes potential study volunteers to the enrollment site closest to the caller. For more information on NY-ELCAP, please contact Dr. Peter Preziosi at 212-218-5634.

THE NEW YORK CANCER PROJECT EMPLOYS INNOVATIVE TECHNOLOGY AT ITS BIOREPOSITORY

A cover story in the scientific lab automation journal, *JALA*, written by the New York Cancer Project Biorepository Principal Investigator, Dr. Peter Gregersen, features the New York Cancer Project's automated system designed to process, store and retrieve human biological specimens for genomics, proteomics, and diagnostic applications. One of the key features of the NYCP Biorepository is its ability to provide biorepository personnel with rapid random access to hundreds of thousands of DNA samples.

These robots can handle extremely large sample sizes and detect the generally modest and interacting effects of individual genes. Dr. Gregersen underscored the importance of this technology as a new breed of instruments essential to the success of large-scale research projects, especially in the genomics arena, that requires such automated systems to store DNA and other biological materials.

The New York Cancer Project will benefit from this novel robotic system developed in collaboration with the Medical Automation Research Center (MARC) at the University of Virginia. The overall system design - a product of over a year of planning by Dr. Gregersen and his colleagues at MARC - will be fully installed and operational at the North Shore University Hospital next month for use by the NYCP.

The biorepository currently receives 50-100 blood specimens per day from the NYCP recruitment sites. As of now, they are using a streamlined process of manual sample preparation. However, once the robotic system is in place, DNA, plasma and RNA derived from the samples will be handled robotically for specimen aliquoting and storage. Extracted DNA, plasma and sources of RNA will be automatically quantitated by the robotic system so that aliquots of similar concentration and volume may be stored in individually retrievable aliquots for studies. This will become increasingly necessary as the number of samples received per day from the NYCP increases.