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## New York Genome Center Unveiled in Manhattan

By Kevin Davies

**November 3, 2011** | NEW YORK CITY – A remarkable public-private coalition of universities, medical centers, technology partners and private philanthropists has created the New York Genome Center (NYGC). The center was officially unveiled in a ceremony at Frank Gehry's ICA Building in Manhattan this morning.

The coalition is a triumph for Nancy Kelley, NYGC's founding executive director, who made the creation and funding of the center something of a personal quest over the past 15 months, together with Columbia University's Tom Maniatis and Sloan Kettering Institute director Thomas Kelly.

"When I first talked to Tom Maniatis and Tom Kelly about this, we were operating with a cell phone and a Hotmail account! 12 months later, to have raised \$120 million and brought this number of institutions together is really quite extraordinary," said Kelley.

*Kelley recently gave Bio-IT World her first in-depth interview about the creation and vision of NYGC. (Excerpts from her interview will also be published in the November/December issue of Bio-IT World.)*

"This is one of the most exciting national developments in genomics and medicine," said Richard Gibbs, director of the Baylor College of Medicine Human Genome Sequencing Center. "This new venture will synergize the efforts of some of the nation's strongest research institutions, most outstanding researchers and vibrant communities. New York will be a new hub of genomics."

"Nancy Kelley and Tom Maniatis have done a remarkable job of bringing the 11 academic institutions together around this shared purpose," Marc Tessier-Lavigne, president of Rockefeller University, told *Bio-IT World*. "It required vision, determination and keen diplomatic skills to get the leaderships of the different institutions to realize how much more we could accomplish together than in isolation, and then to get everyone to sign on the dotted line."

Tessier-Lavigne continued: "It is a terrific accomplishment in itself, and also provides an important model for cooperation among New York institutions, which will be increasingly important as we work to build the biomedical enterprise in New York City and to attract pharma and biotech companies here."

One of the first decisions made by NYGC was to select Illumina as its initial sequencing platform. "By choosing Illumina as its next-generation sequencing (NGS) provider, NYGC is showing its commitment to making the vision of revolutionizing personal healthcare a reality," said Jay Flatley, president and CEO of Illumina. "The launch of NYGC ranks as a significant development in advancing the knowledge and understanding of health-related genomics."

Harold Swerdlow, head of sequencing technology at the UK's Wellcome Trust Sanger Institute, expressed excitement about the arrival of a major genomics hub in his home town. "The coming together of so many great institutions to form the New York Genome Center represents the culmination of a lot of hard work and a clear vision. Nancy and the other founding members should be applauded for this achievement. As one of NYGC's nearest neighbours to the east, we wish them all the success in building a world-class facility."

Also offering congratulations was Spike Willcocks, VP business and corporate development at Oxford Nanopore, a British NGS company. "We are excited that the NYGC team is building an exceptional technology development team as well as building a world class core facility," said Willcocks. "This is the mark of a team seeking to lead with innovation as well as provision of genomics services. We are really looking forward to working with NYGC's Innovation Center."

The funding for NYGC, which could open as early as March 2012 with a location in central Manhattan almost settled, comes from a variety of public and private sources, including 11 institutional founding members (see below), private philanthropists, founding member companies, technology collaborators, as well as the New York City Economic Development Corporation and the New York City Investment Fund.

### Made in Manhattan

Kelley is a lawyer and commercial real estate developer who spent much of the past two decades working on behalf of biotech and non-profit medical organizations. Several years ago, while working for Alexandria Real Estate, she oversaw the development of the East River Science Park in Manhattan -- three towers, nearly \$1 billion and 1 million square feet.

Two years ago, Kelley began working with a client seeking to establish an institute for personalized medicine, discussions that flirted with New York as a possible location. But while that institute did not materialize as originally conceived, Kelley said it "opened up the idea and possibility of introducing a large sequencing



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operation in New York. Given the fact I'd been working there for ten years and had many long-standing relationships with scientists there, I brought it to New York to see if there was interest... Things developed from there."

Kelley admits there was enormous skepticism around the proposal, but she was undaunted. After consulting with Maniatis and others, she met with representatives from leading New York medical institutions in August 2010. "It started with Columbia, went to Sloan Kettering and Rockefeller University," she recalled. "They enthusiastically endorsed it, to the extent that within 30 days, we had eight institutions putting seed money into a feasibility study." The seed funding was less than \$1 million, but enough to get the venture going.

Eventually 11 charter institutions signed on (see below) including Cold Spring Harbor Laboratory and the Jackson Lab from Maine (where Kelley serves on the Board of Trustees). Perhaps the only notable abstention among New York academic organizations is the Albert Einstein College of Medicine of Yeshiva University. A spokesperson told *Bio-IT World*: "Einstein chose not to join NYGC because we felt it was not the most cost-effective approach to providing our faculty with genome sequencing services."

Kelley says the vision for NYGC is "to achieve transformational results for healthcare and research... For a long time, [New York has] had the leading global institutions in healthcare, but for whatever reason, haven't always come together to collaborate and leverage that strength. With this enterprise, it will allow them to do that and take their role on the global stage -- as they should be."

At the core of NYGC will be large high-throughput sequencing center, offering services to founding members and other organizations. Much of the research focus will be in bioinformatics. "There's also the idea of an innovation center that would introduce new technologies that would be utilized throughout New York," she says.

Kelley said getting NYGC off the ground has been "very, very challenging," but the process was helped by institutional leadership "knowing how important this was going to be for New York." Another key factor was the "participatory and collaborative" nature of the process. "That helped everyone feel they were... on the same playing field, no matter what their size," she said.

Many issues inevitably cropped up about the way the center would be governed. "Some institutions stepped back and stepped forward again," says Kelley. "The reasons for hesitation by some Institutions were more organizational than financial. Some of the institutions are in the midst of major building projects and research programs, so [had to ask] whether spending capital in this area was more important to their ongoing operations."

#### Kelley's Heroes

Funding NYGC proved to be a massive undertaking. "There are a number of pieces to the quilt that had to be knit together to be able to put this all together," said Kelley. "One of the strengths of this effort is that its success is not dependent upon one funding source, especially a public funding source, which has proved to be a problem in some other large projects like this one."

Kelley says Maniati played a pivotal role. "He was the first person whom I talked to about this, and has been instrumental at every level in guiding this forward. So we've really done this together."

She also praised Kelly and the relatively new leadership at Sloan Kettering and Rockefeller University -- Craig Thompson and Marc Tessier-Lavigne respectively. Russ Carson (Welsh Carson/New York City Investment Fund) "immediately saw the benefits of this to the City," and is now chairman of NYGC's Board of Directors.

NYGC's bioinformatics center will be named after the Simons Foundation, the first major philanthropic donor, offering a \$20-million matching challenge grant. The Bloomberg Philanthropies have kicked in \$2.5 million. In addition to Tony Evnin's "very significant commitment to the Center," Carson has also pledged what Kelley calls "a very substantial sum of money."

There are two industrial partners -- Hoffman La Roche and Illumina. Kelley says both Illumina and Life Technologies were invited to make presentations on how they would partner with NYGC. "In the end, there's just been enormous progress made by Illumina in their productivity and turnaround times this year, and that proved to be one of the deciding factors," says Kelley.

NYGC expects to launch with 30 next-gen sequencing instruments in its first year. "This will not be an exclusive technology in any way," Kelley noted. "In the Innovation Center, we'll be testing new technologies and making them available to the scientists in New York."

A search committee (chaired by Evnin) has been assembled to recruit a world-class scientific director. In addition to the sequencing center, serving the founding members, pharma collaborators and hospitals, Kelley says there will be "a very robust bioinformatics presence" and an internal research program.

The Innovation Center will allow scientists to use the facility and develop new technologies and products. A training component is planned in conjunction with Cold Spring Harbor Laboratory and other organizations. And, Kelley said, there will be a small philanthropic unit.

Kelley fully expects there to be a strong clinical component to NYGC. "There will be a CLIA-certified portion of the facility and we'll be interacting very closely with hospitals like NewYork-Presbyterian Hospital and North Shore-LIJ."

As for Kelley's future role, she points out that creating the strategic plan and raising the money is only a small component of building a successful institute. "There's a huge ongoing financial, executive and operational role that has to be put together with a large organization, and I'd expect to play a key role in doing that," she said.

"At one point, Richard Gibbs said something to me: 'You have to be absolutely fearless to do this.' He's right... I don't think there was one day this year when I had full confidence we'd actually make it, but I knew it was important to try."

#### New York Genome Center Charter Members

**Institutional Founding Members:** Cold Spring Harbor Laboratory, Columbia University, Cornell University/Weill Cornell Medical College, The Jackson Laboratory, Memorial Sloan-Kettering Cancer Center, Mount Sinai School of Medicine, New York-Presbyterian Hospital, New York University/NYU School of Medicine, North Shore-Long Island Jewish Health System, The Rockefeller University, Stony Brook University

**Associate Founding Member:** Hospital for Special Surgery

**Additional Members/Collaborators:** F. Hoffmann-La Roche

Illumina

**Support from:** Empire State Development Corp. New York City Economic Development Corp.  
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