On Campus

University Names Precision-Medicine Director

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Tom Maniatis

Tom Maniatis, a pioneer of modern molecular biology who has taught at Columbia since 2009, has been chosen to direct the University's new initiative on precision medicine. The goal of the initiative, which was established by President Lee C. Bollinger last fall, is to position Columbia at the forefront of the development of genetics- and genomics-based approaches to medical care, and to support research on the ethical, legal, and economic implications of such advances.

"Since the human genome was sequenced a decade ago, remarkable progress has been made in learning how we might diagnose and treat diseases more effectively by considering each person's unique genetic blueprint," says Maniatis. "There is a lot more work to be done before physicians will be able to offer patients individually tailored treatments on a routine basis. However, that day is approaching, and the

mission of the precision-medicine initiative is to ensure that Columbia emerges as a leader in this impending revolution in medical care."

In one of his first ventures as director, Maniatis is working closely with Michael Purdy, the executive vice president for research, to lead a faculty task force that convened last year to assess Columbia's strengths in the still-nascent field of precision medicine, as well as to identify academic departments that might contribute to this multidisciplinary effort but which need more resources to do so. The task force, whose forty members represent dozens of departments on both the Morningside and medical-school campuses, will publish their findings later this year.

"A successful outcome of the initiative will require the coordination of intellectual efforts across the University," says Maniatis. "Most obviously, this will require the creation of a structure that effectively translates advances in basic science to medical practice, a process that includes close communication of the basic-science departments at the medical school and the Morningside campus with clinical departments and the hospital. An important component of this effort will be strong programs in mathematics, data science, and computer science, which are necessary to analyze and interpret the enormous amounts of data required to effectively connect human genomic data to health-care outcomes."

According to Maniatis, the initiative on precision medicine will also promote research on a broad range of related social and policy issues. For example, the question of who has affordable access to genetic screening, which is often not covered by health insurance, is of increasing interest to bioethicists, health-care economists, sociologists, and public-health scholars.

"There are many complex issues that need to be addressed before precision medicine becomes the standard of medical care," Maniatis says. "And these issues touch virtually every part of the University."



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