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**Obama Administration Announces New Steps to Meet President's Goal of  
Preparing 100,000 STEM Teachers**  
*Includes major \$22.5M investment by philanthropic partners*

Today, the White House announced new steps by the Administration and its partners to meet the President's goal of preparing 100,000 excellent math and science teachers over the next decade. These include a new \$22.5M investment by the Howard Hughes Medical Institute (HHMI), which would approximately double the private-sector investment in the President's initiative.

"Research shows—and everyone who has been a student knows—that teacher quality makes a big difference in student achievement," said John P. Holdren, President Obama's science and technology advisor and Director of the White House Office of Science and Technology Policy. "That's why the President made his all-hands-on-deck call to train 100,000 excellent STEM teachers in the next decade. And it's why the White House is so pleased to see the commitments being made today, which promise to change the lives of countless students in the years to come."

These new investments, in support of a national competition to be run by the National Math and Science Initiative (NMSI), will enable a major expansion of the "UTeach" program beyond today's 35 participating universities. UTeach allows undergraduate students to receive a Bachelor's degree in a science, technology, engineering, or math (STEM) field simultaneously with a teaching certificate—all within a standard four-year period—while also providing early and intensive teaching experiences. The UTeach approach has shown strong results at universities where it has been adopted; at UT-Austin, for example, where the program was launched, 92 percent of participants have gone on to become teachers, and 82 percent are still in the classroom after five years. Moreover, approximately 45 percent of UTeach graduates are teaching in high-need schools—where shortages often result in educators being required to teach outside their area of expertise.

NMSI estimates that this new grant, when combined with previous support that the UTeach model has received, will allow a total of 45 universities to cumulatively produce more than 17,000 new STEM teachers by 2022, with the HHMI investment creating more than 1,750 of those new teachers.

Today's announcement complements ongoing Administration efforts to strengthen and expand STEM teacher training. Among them:

- The President has called for an \$80 million Federal investment to help prepare effective STEM teachers: To build upon key private-sector investments such as the new HHMI commitment, the President's Budget requests \$80 million for a new competition by the Department of Education to support evidence-based, effective STEM teacher preparation programs.
- The "100Kin10" coalition continues to build momentum: Responding to the President's call to action, over 150 organizations have now come together in a coalition called *100Kin10* to make over 100 measurable commitments to increasing the supply of excellent STEM teachers; hiring, developing, and retaining excellent STEM teachers; and building the 100Kin10 movement. With leadership from Carnegie Corporation of New York, the coalition has raised over \$30 million from a broad range of foundations and philanthropists under a unique "funding marketplace" model where funders can choose from among a registry of high-quality proposals. The 100Kin10 coalition is also a powerful network for disseminating ideas, with leading-practice case studies, capacity-building workshops, and funds available for competitive research and collaboration grants.

## Background

President Obama strongly believes that the United States must equip many more students to excel in the key fields of science, technology, engineering and math. As a critical step to achieving that goal, the President in his 2011 State of the Union address called for a new effort to prepare, over the next decade, 100,000 science, technology, engineering, and math (STEM) teachers with strong teaching skills and deep content knowledge.

The President's call built on a key conclusion by the President's Council of Advisors on Science and Technology (PCAST) that being a great STEM teacher requires both deep content knowledge and strong teaching skills. Teachers need to have enough content knowledge to link STEM to compelling real world issues, model the process of scientific investigation, effectively address student misconceptions, and help their students learn to reason and solve problems like scientists and engineers.

NMSI's UTeach program is built on this key insight. Among the approach's core elements are:

- Strong focus on acquiring deep content knowledge in math and science, in addition to research-based teaching strategies focusing on teaching and learning math and science.
- Early and intensive field teaching experience, beginning in students' first semester, and personal guidance from experienced master teachers, faculty, and public school teachers.
- Compact degree program that allows students to graduate in four years with both a STEM degree and a teaching certification.
- Active recruitment and incentives, such as offering the first two courses for free.

NMSI estimates that, overall, the new \$22.5M grant will provide \$20M for expansion of the UTeach model to an additional 10 leading research universities; \$1.25M for UTeach to further develop curricula and assessment tools; and an additional \$1.25M to offer course-based authentic research experiences to Uteach students through the HHMI Science Education Alliance. These investments in UTeach will produce more than 1,750 math and science

teachers over the five-year grant period. This will build on UTeach's already growing success. NMSI estimates that graduates from the first cohort of 13 UTeach university sites alone will have taught more than four million students by 2020.

### **Building on Progress**

The Obama Administration has a longstanding commitment to improving STEM education, as evidenced by:

- Including STEM as a priority in the Administration's flagship education programs, including the Race to the Top competition: States that applied for Race to the Top funds were encouraged to develop comprehensive strategies to improve achievement and provide rigorous curricula in STEM subjects; partner with local STEM institutions, businesses, and museums; and broaden participation of women and girls and underrepresented groups in STEM classes. States are taking decisive actions to put STEM at the center of their education reform efforts. For example, Maryland is increasing the number of STEM teachers and developing a new STEM teacher preparation pathway for elementary school teachers to engage younger students.
- Creating an all-hands-on-deck effort, including the CEO-led coalition *Change the Equation* to expand high-quality STEM programs: The President's "all hands on deck" call to improve STEM education has galvanized industry, universities, foundations, and science and engineering professionals to do more. In 2010, President Obama announced the launch of *Change the Equation*, an effort by over 100 CEOs to come together to dramatically improve STEM learning by leveraging their investments, unique capabilities, and voice. *Change the Equation* members have since come together to expand five effective STEM programs in more than 130 new sites. These new sites are benefiting nearly 40,000 students nationwide, over half of whom are in low-income schools. *Change the Equation* also released powerful Vital Signs reports on the condition of STEM learning in every state, harnessed the best thinking of the coalition to develop tools to foster effective philanthropy, and advocated for stronger state policies to improve STEM.
- Hosting the first-ever White House Science Fair: The President hosted the first-ever White House Science Fair in late 2010, fulfilling a commitment he made at the launch of his *Educate to Innovate* campaign to directly use his bully pulpit to inspire more boys and girls to excel in math and science. As the President has said, he wants to celebrate the winners of science competitions just as he celebrates winning sports teams. The second White House Science Fair, hosted last year, included more than 100 students from over 45 states, representing over 40 different STEM competitions that recognize the talents of America's next generation of scientists, engineers, inventors and innovators. The President viewed exhibits of the student work, ranging from breakthrough research to new inventions.

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