Session E1 APS/AAPT NSBP NSHP: The Kavli Foundation Joint Plenary Session: Re-Energizing America’s Focus in STEM Education

4:00PM E1.00001 Catalyzing Widespread Implementation of Good Teaching Practices
LINDA SLAKEY, Acting Executive Officer of the Education and Human Resources Directorate, NSF —

4:36PM E1.00002 The Value of Diversity in STEM
SHIRLEY MALCOM, American Association for the Advancement of Science — For many fields there is ready acknowledgment of the value of diversity in the research community and in the formulation of research questions. By contrast there has been resistance to such ideas in areas such as mathematics and physics. How does one make the case for diversity in these communities?

5:12PM E1.00003 The Algebra Projects Strategy to Accelerate the Nation’s Bottom Quartile Students Math Education and Get Them Ready for College Math
ROBERT P. MOSES, The Algebra Project — Hermann Bondi in “Relativity and Common Sense” remarks that “a wiser man is needed to ask the right question than to answer it”: One of the oldest problems is the question of motion. This has puzzled people for many centuries. Why do things move as they do? What makes them move? (p. 2) Bondi identifies Newton’s great insight into this question, “his Principle of Relativity, as we might call it, is that velocity does not matter”: In other words, merely changing the question from “What causes the velocity of the Earth?” to “What causes the acceleration of the Earth?” immediately leads one from chasing a hare to seeing the Sun. (p. 6) The “velocity” of sharecroppers in the Mississippi Delta had been “stuck in the mud” constant since the “work of death” called the Civil War. The reason, to be sure, was their apathy, a “chasing a hare” explanation. The Student Non-Violent Coordinating Committee, SNCC or “Snick”, the “Sun” of the Mississippi Civil Rights Movement from 1960 to 1965, accelerated that velocity: Amzie Moore, the president of the Cleveland Mississippi chapter of the NAACP set the direction of the acceleration (voter registration not public accommodations); Snick set the tempo. The rest, as they say, is history. The “velocity” of students in the bottom quartile of the nation’s public schools has also been “stuck in the mud” constant, with a parallel “chasing a hare” explanation: dysfunctional students, families and communities. The “Sun” of the movement to lift these students has yet to rise, but the Algebra Project (AP) and the Young People’s Project (YPP) have been working for the past quarter of a century on a “change of direction” strategy: More math.