

Meeting: 1003, Atlanta, Georgia, SS 2A, AMS-MAA-MER Special Session on Mathematics and Education Reform, I

1003-97-1488 **Thomas F Banchoff*** (Thomas_Banchoff@brown.edu), Brown University, Department of Mathematics, Providence, RI 02912-9032. *Undergraduate Geometry in the Twenty-First Century*. Preliminary report.

How can we introduce geometric ideas into the undergraduate curriculum in ways that reflect present-day problems and applications, in calculus and linear algebra as well as in more traditional geometry courses? Where do we find good problems? What is the role of the computer in investigations? How do these ideas fit in with the CUPM Guide 2004? Some of the new themes to be explored are scientific visualization in three- and four-dimensional space, catastrophe theory in engineering and in art, critical point theory and linkages, and dynamic non-Euclidean geometry. (Received October 05, 2004)