Temple University Mathematics Colloquium

Govind Menon

Brown University

will speak on

Building polyhedra by self-assembly

ABSTRACT: A fascinating trend in materials science is the use of biology to inspire technology. This talk explores one aspect of this theme: the self-assembly of simple shapes in analogy with the formation of simple viruses, such as MS2. While our work was initially driven by the immediate demands of a lab (how best to build polyhedra by "self-folding"), it has now evolved to a point where there are hints of deeper structure and interesting mathematics (e.g. large combinatorial "assembly" graphs constructed by geometric rules, brownian motion on algebraic varieties in high dimensions). I will explain how we were led to these ideas, without presuming any background knowledge. This work is in collaboration with David Gracias' lab (Johns Hopkins University).

Monday, March 23, 2015
Lecture at 4:00 pm
Coffee, tea, and refreshments from 3:40 pm
Room 617, Wachman Hall
Department of Mathematics