

Math & Computer Science Colloquium

Presents:

Daniel E. Bollman

Architect and Owner
East Arbor Architecture
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Speaking on:

Brunelleschi's Dome: A Room With A View

In August 1418, the City of Florence, Italy commissioned a competition design of the dome of the Florence cathedral. Although construction on the cathedral began in 1296, the dome's design - which was the largest span of its time - was not proposed until 1367. Even then, its construction details remained to be determined. The competition's entrants were instructed to establish the means of construction, as well as the method of raising tons of brick, stone and marble, 180' vertically to the drum where the dome would be built.

The competition's eventual winner, architect Filippo Brunelleschi, confronted these obstacles, employing his ingenuity and skill to construct the first dome built since the time of the Romans.

The talk will feature a brief historical overview, followed by mathematical issues that address the problems of construction and logistics. The discussion includes structural analyses, the geometric properties of Brunelleschi's dome, external forces acting on the dome and the forces internal to Brunelleschi's site-built construction machines.

February 2, 2012

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3:30 PM

All are Welcome!

