

# Algebra, Geometry, and Mathematical Physics Seminar

## Geometrical approach for strongly regular graphs

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&

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### **Abstract**

A simple graph  $G = (V, E)$  is called a strongly regular graph with parameters  $(v, k, \lambda, \mu)$  if the cardinality of  $V$  is  $v$ ,  $G$  is  $k$  regular, any two adjacent vertices are adjacent to  $\lambda$  common vertices, and any two nonadjacent vertices are adjacent to  $\mu$  common vertices. We have a certain Euclidean spherical embedding from a strongly regular graph. By the geometrical theory of the Euclidean sphere, we construct new examples of strongly regular graphs with parameters  $(276, 140, 58, 84)$ . For these parameters, only one graph was known by Goethals-Seidel (1975). The survey paper by Brouwer and Lint (1984) asked whether this graph is unique or not.

Date: **Friday, November 13, 2009**

Time: 3:00pm–4:30pm

Place: MAGC 1.302

For further information or for special accommodations, please contact Dr. Sean Lawton via email at [lawtonsd@utpa.edu](mailto:lawtonsd@utpa.edu).