1067-AF-1532 **Christian A. Duncan*** (duncan@latech.edu), Computer Science Program, Louisiana Tech University, Ruston, LA 71272, and **David Eppstein**, **Michael T. Goodrich**, **Stephen G. Kobourov** and **Martin Nöllenburg**. *Lombardi drawings: an artist-inspired approach to drawing graphs.*

In this presentation, we introduce a form of representing graphs inspired by work from the late American abstract artist Mark Lombardi (1951–2000). In Lombardi drawings, edges are represented as circular arcs and are equally spaced around their adjacent vertices, yielding perfect angular resolution. This differs from other graph drawing paradigms such as straight-line plane grid drawings where edges are line segments that do not intersect other edges, vertices are placed on integer coordinates within some bounded grid area, and there is no restriction on the angular resolution.

This new variation opens up a realm of possibilities in producing aesthetically-pleasing drawings of graphs. Using techniques from graph theory, graph drawing, and geometry, we shall explore and illustrate some of the graphs that can and cannot be represented as Lombardi drawings including regular graphs, graphs of bounded degeneracy, and various families of planar graphs including trees. (Received September 21, 2010)