

Thomas K. DeLillo

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will speak on

**The Schwarz-Christoffel Transformation
for Multiply Connected Domains**

ABSTRACT: We will discuss our extension (with Alan Elcrat and John Pfaltzgraff) of the classical Schwarz-Christoffel transformation, for conformally mapping polygonal domains, to the case of domains with connectivity greater than two. The transformation maps domains with circular boundaries in the complex plane to domains with polygonal boundaries. The derivation is based on analytic continuation of the mapping function by Schwarz reflection across the circles and the corresponding sides of the polygons. This process is continued successively and results in an infinite product formula for the derivative of the map. The formula involves the reflections of the prevertices and the circle centers. We will also discuss recent joint work with Everett Kropf on the numerical computation of these maps.

MONDAY, 18 OCTOBER 2010

LECTURE AT 4:00 PM

COFFEE, TEA, AND REFRESHMENTS FROM 3-5 PM

ROOM 617, WACHMAN BUILDING

DEPARTMENT OF MATHEMATICS