CLAREMONT CENTER
for MATHEMATICAL SCIENCES

C C M S   C O L L O Q U I U M

QUASICONFORMAL GEOMETRY OF FRACTALS

by

Mario Bonk

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Abstract: Many questions in analysis and geometry lead to problems of quasiconformal geometry on non-smooth or fractal spaces. For example, there is a close relation of this subject to the problem of characterizing fundamental groups of hyperbolic 3-orbifolds or to Thurston's characterization of rational functions with finite post-critical set. In recent years, the classical theory of quasiconformal maps between Euclidean spaces has been successfully extended to more general settings and powerful tools have become available. Fractal 2-spheres or Sierpinski carpets are typical spaces for which this deeper understanding of their quasiconformal geometry is particularly relevant and interesting. In my talk I will give a survey on some recent developments in this area.

About the speaker: Mario Bonk received his PhD from the Technical University of Braunschweig in Germany in 1988. In the 1990s he spent extended periods of time in the US, first supported by the Alexander-von-Humboldt Foundation and later by a Heisenberg Fellowship of the German Science Foundation. He accepted a professorship at the University of Michigan in 2002, and moved to UCLA in 2010. He was an invited speaker at the International Congress of Mathematicians in Madrid in 2006. Dr. Bonk's research interests lie at the interface of geometry and analysis, including classical complex analysis, the geometry of negatively curved spaces, geometric group theory, dynamics of rational maps, and analysis on metric spaces. His current work often relies on an extension of classical results in geometry and analysis to a non-smooth or fractal setting.

Wednesday, December 7, 2011, at 4:15pm

Millikan Auditorium, Pomona College

Refreshments at 3:45 p.m. in Millikan Auditorium & wine and cheese after the talk in Harry's Room (Millikan 209)

The dinner will be hosted by Prof. Lenny Fukshansky.
Please contact Prof. Fukshansky if you are interested in attending the dinner