

TEMPLE

MATH CLUB

**The Awesome Averaging
Power of Heat in Geometry –
Andrew Cooper**

WHEN

**November 2, 2023
5-6 PM**

WHERE

Wachman Hall 617

Senior Lecturer of Mathematics Andrew Cooper from the University of Pennsylvania will give a talk on using the heat equation to prove geometric uniformization theorems. As a main example: the Jordan Curve Theorem asserts that any simple closed curve divides the plane into two regions, one essentially the unit disk and one essentially its complement. The heat equation gives an explicit proof -- one which actually constructs a deformation of the given curve into the unit circle. I will discuss this proof in some detail, as well as giving an indication of how other geometric heat equations can tell us about what possible shapes exist.

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