

**Speaker:** Robert Clarke, GMU

**Title:** The Dirichlet Problem – Part II

**Abstract:** We continue a detailed exam of the development of the Dirichlet problem after Poisson's discovery of his integral formula. The following topics will be addressed:

- Weakness of the formula
- A new look at convolution and Banach algebras
- Riemann introduces the “Dirichlet Principle” (energy integral)
- Weierstrass' counterexample to Riemann's Dirichlet Principle
- Schwarz solves the D.P. for regions consisting of unions of disks
- Efforts (including interesting examples) of Zaremba, Bouligand, Poincaré, and Lebesgue
- Definition of regular and irregular points

This lecture will set the stage for Perron's method, Wiener's solution, which will be covered along with much more in the third, and last, lecture next week.