THE UNIVERSITY OF HONG KONG

*Institute of Mathematical Research*
*Department of Mathematics*

# COLLOQUIUM

# Angles of Gaussian primes


## Professor Zeev Rudnick
Tel-Aviv University, Israel



**Abstract**

Fermat showed that every prime $p = 1 \bmod 4$ is a sum of two squares: $p = a^2 + b^2$, and hence such a prime gives rise to an angle whose tangent is the ratio $b/a$. Hecke showed, in 1919, that these angles are uniformly distributed, and uniform distribution in somewhat short arcs was given in by Kubilius in 1950 and refined since then. I will discuss the statistics of these angles on fine scales and present a conjecture, motivated by a random matrix model and by function field considerations.


| | |
|---|---|
| **Date:** | **August 15, 2017 (Tuesday)** |
| **Time:** | **3:00 – 4:00pm** |
| **Venue:** | **Room 210, Run Run Shaw Bldg., HKU** |

*All are welcome*