

**Prof dr. sc. Hrvoje Šikić**

**Subordination of a Brownian motion in a domain**

We shall present some new results on harmonic functions of subordinate killed Brownian motion in a domain  $D$ . The results include the establishment of the Harnack inequality, the characterization of the Martin boundary. The key technical properties are intrinsic ultracontractivity of the corresponding semigroup and the decomposition of excessive function via its fractional parts.