



ICTS

INTERNATIONAL  
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THEORETICAL  
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TATA INSTITUTE OF FUNDAMENTAL RESEARCH

## **ICTS Seminar**

Title : Equivariant BRST cohomology and localization in supergravity

Speaker : Sameer Murthy, King's College London, UK

Date : Wednesday, October 25, 2017

Time : 11:30 AM

Venue : Nambu Discussion Room (Right), ICTS Campus, Bangalore

Abstract : Supersymmetric localization is a powerful technique to evaluate a class of functional integrals in supersymmetric field theories. It reduces the functional integral over field space to ordinary integrals over the space of solutions of the off-shell BPS equations. The application of this technique to supergravity suffers from some problems, both conceptual and practical. I will discuss one of the main conceptual problems, namely how to construct the fermionic symmetry with which to localize. I will show how a deformation of the BRST technique allows us to do this. I will then sketch a computation of the one-loop determinant of the super-graviton that enters the localization formula for BPS black hole entropy.