

1077-35-1644

**Alfred S. Carasso\***, 100 Bureau Drive, Gaithersburg, MD 20899. *Non Standard Parabolic Equations and Image Reconstruction*. Preliminary report.

Fractional and logarithmic diffusion equations can be constructed by appropriate Bochner randomization of the time variable in Brownian motion and the related heat conduction equation. This talk will discuss recent NIST work using such equations in image denoising and deblurring. Significant applications to state of the art imaging, both at the nanoscale and at the cosmological scale, will be demonstrated. (Received September 20, 2011)