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**Clayton M Bjorland\*** ([cbjorland@math.ucsc.edu](mailto:cbjorland@math.ucsc.edu)), Mathematics Department, University of California, Santa Cruz, 194 Baskin Engineering, Santa Cruz, CA 95064. *Construction of Steady-State Solutions with Finite Energy for the Navier-Stokes equation in the Whole Space.*

In this talk we consider the steady-state Navier-Stokes equation in the whole space  $\mathbb{R}^3$  driven by a forcing function  $f$ . We will describe, with  $f$  sufficiently small and absent of low frequencies, how to construct solutions with finite energy by considering a related linear parabolic equation whose solution can be integrated in time. (Received February 12, 2008)