1145-35-1510   **Agnid Banerjee** (`agnidban@gmail.com`), Bangalore, India, **Donatella Danielli***
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(`rembrandt54@gmail.com`), DICEA, Padova, Italy, and **Arshak Petrosyan**
(`arshak@purdue.edu`), Department of Mathematics, West Lafayette, IN. *The obstacle problem for the fractional heat equation: properties of the free boundary.*

In this talk we will discuss the structure of the free boundary in the obstacle problem for fractional powers of the heat operator. First introduced by M. Riesz in 1938, this nonlocal operator represents a basic model of the continuous time random walks studied by Montroll and Weiss. Our results are derived from the study of a lower-dimensional obstacle problem for a class of local, but degenerate, parabolic operators. (Received September 22, 2018)