

**The Department of
Mathematical Sciences
Welcomes**

**2023 Taft Lecturer
Dr. Ivan Corwin**

**Professor
Department of Mathematics
Columbia University**



**Thursday October 19th 2023
Taft Research Center
Edwards Center 1 Room1110B
4:00-5:00pm**

Extreme diffusion

In a wide range of physical systems large numbers of particles diffuse together in a common environment. In this talk we will consider how the nature of the hidden environment impacts the motion of these diffusing particles and how the motion can in turn be used to interrogate the environment. In particular we will see that the impact is most pronounced in the behavior of extreme particles that move the farthest and fastest. Surprisingly, the mathematics behind this theory will bring us into the realm of integrable probability and quantum integrable systems, most notably relying on a non-commutative binomial theorem.

**Refreshments will be served 3:15-4pm in the same location as the lecture.
Taft Research Center, Edwards Center 1 Room 1110B**