

COLUMBIA ASTRONOMY OUTREACH PRESENTS:



STARGAZING & LECTURE SERIES

Gravity's Engines

A lecture and book signing by Caleb Scharf
Friday, September 28th, 8:00PM
Pupin Hall, Columbia University

Often billions of times more massive than the Sun, black holes lurk in the inner sanctum of almost every galaxy. However, recent research has revealed an entirely different side to them. Astrophysicist Caleb Scharf says these chasms in space-time don't just vacuum up everything that comes near them, they also spit out huge beams and clouds of matter. In other words, black holes blow bubbles. Scharf will explain how these bubbles profoundly rearrange the cosmos around them, including our very own galaxy, the Milky Way. Copies of the book will be available for purchase after the lecture.

These are free lectures at a public level followed by guided stargazing with telescopes (weather permitting). All events are held at Pupin Hall at Columbia University. No reservations are needed. Lectures are 30 minutes, stargazing lasts 90 minutes. Stay only as long as you want. For directions, weather updates and more information, please visit:

<http://outreach.astro.columbia.edu>