



INTERNATIONAL YEAR OF  
**ASTRONOMY 2009**

THE UNIVERSE : YOURS TO DISCOVER



COLUMBIA ASTRONOMY PUBLIC OUTREACH PRESENTS:

# PUBLIC LECTURE SERIES & STAR-GAZING



## THE DARK SIDE OF THE UNIVERSE

**A Lecture  
by Laura Newburgh  
Pupin Hall - Columbia University  
Friday, Oct. 9 - 8pm**

**You've heard the rumors:  
the universe is expanding,  
most matter is dark matter,  
and there is something  
afoot involving dark  
energy. Dark matter, dark  
energy: what could they  
be? How do we know they  
exist? What do we know  
about things we know  
nearly nothing about?**

These are Free Lectures at a Public Level Followed by Guided Star-Gazing with Telescopes  
All Events are At Pupin Hall on the Columbia University Campus. No Reservations are Needed.  
Lectures are Wheelchair Accessible, Star-Gazing on the Roof is Not. Lectures are 30min, Star-Gazing lasts for two hours.  
For Directions and Other Information please Visit Our Website:

**[HTTP://OUTREACH.ASTRO.COLUMBIA.EDU](http://outreach.astro.columbia.edu)**