Parent & Daughter Evening Under the Stars October 24, 2014
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October 24, 2014
Agenda

Guest Speaker: Zhuohan Liang, Ph.D., Loyola University Maryland

6:00 p.m. – 6:30 p.m.  Registration and Dinner Reception
(Rear Lobby/Café)

6:30 p.m. – 6:35 p.m.  Introduction ~ Tania Anderson ~ YAE Program Manager
(Auditorium)

6:35 p.m. – 7:15 p.m.  Astronomy Talk: “Our Mysterious Universe”
Dr. Zhuohan Liang (Auditorium)

7:15 p.m. – 7:20 p.m.  Closing Remarks ~ Tania Anderson (Auditorium)

7:20 p.m. – 7:25 p.m.  Break

7:25 p.m. – 9:00 p.m.  Activities:

Night Sky Observation ~ Courtney McManus & Vanessa Thomas
(Muller Garage Rooftop)

Portable Planetarium ~ JHU Physics & Astronomy Grad Students
(Bloomberg Center for Physics & Astronomy)

Morris W. Offit Telescope Tour ~ Duncan Watts
(Bloomberg Center for Physics & Astronomy)
Our mysterious universe
— why a tiny dust particle matters

Zhuoqian Zheng
Department of Physics
Loyola University Maryland
Our mysterious universe
— why a tiny dust particle matters

Zhuohan Liang
Department of Physics
Loyola University Mayland
Where are we?

Auditorium ...... Space Telescope Science Institute ...... Baltimore .... Maryland ...... United States ...... North America ...... Earth ......
How big is a micrometer?

A micrometer (μm), aka a micron, is:
- one thousand times smaller than millimeter.
- equal to 1/1,000,000th of a meter.

http://imgarcade.com/1/micron/
Why does it matter?
— from the mass-energy perspective
It is the same mechanism that causes the blue sky and red sunset!
Infrared View of the Milky Way

http://www.nrao.edu/COBES/ReU.htm
Why does it matter? Because dust particles

- cycle mass and energy between stars and the interstellar medium → we are all made of stars
- Absorb light → make objects look dimmer
- Scatter light → make objects look redder
- Re-emit short-wavelength radiation at longer wavelengths → impact measurements of the CMB
OUR BODIES AND EVERYTHING AROUND US WERE CREATED FROM STARDUST.
OUR BODIES AND EVERYTHING AROUND US WERE Created FROM Stardust.