

# Joo Heon Yoon

Department of Physics  
Broida Hall Rm. 2233  
University of California Santa Barbara  
Santa Barbara, CA 93106-9530

phone: 917-972-2129  
fax: 805-893-3307  
jhyoon@physics.ucsb.edu  
<http://web.physics.ucsb.edu/~jhyoon>

## EDUCATION

---

**Columbia University**, Graduate School of Arts and Science  
**Ph.D.** in Astronomy  
Thesis title: "Gas around Galaxies and Clusters: The case for the Virgo Cluster"  
Advisor: Prof. Mary E. Putman  
New York, NY  
Sept 2013

**Yonsei University**, College of Science  
**M.S.** in Astronomy, Thesis title: "A Demography of Galaxies in Galaxy Clusters"  
Advisor: Prof. Sukyoung K. Yi  
Seoul, Republic of Korea  
Feb 2008

**Yonsei University**, College of Science  
**B.S.** in Astronomy  
Seoul, Republic of Korea  
Feb 2006

## AWARDS, SCHOLARSHIPS, AND HONORS

---

**Columbia University:**  
Faculty Fellowship, Department of Astronomy  
New York, NY  
Sept 2008 - Sept 2013

**Yonsei University:**  
Korea Science and Engineering Foundation Research Assistant Fellowship  
Brain Korea 21(BK21) Research Fellowship  
High Honors Student  
Undergraduate Scholarship  
Seoul, Republic of Korea  
Mar 2007 - Aug 2008  
Mar 2006 - Feb 2008  
Sept 2005 - Dec 2005  
Sept 2004 - Dec 2005

## EMPLOYMENT AND TEACHING EXPERIENCE

---

**University of California Santa Barbara:**  
*Postdoctoral Researcher*  
Santa Barbara, CA  
Nov 2013 - current

**Columbia University:**  
*Instructor of an Astronomy Lab for Undergraduates*  
Designed and taught labs over 4 semesters  
New York, NY  
Sept 2009 - May 2011

**Yonsei University / Korea Science and Engineering Foundation:**  
*Teaching / Research Assistant for Research & Education Project*  
Led high school students to complete a research project  
Seoul, Republic of Korea  
May 2007 - Feb 2008

**Yonsei University:**  
*Teaching Assistant* with Prof. Sukyoung K. Yi  
Cosmology (Astronomy major undergraduate course)  
*Teaching Assistant* with Prof. Suk-Jin Yoon  
Galaxies and the Universe (Astronomy major undergraduate course)  
*Teaching Assistant* with Prof. Young-Jong Sohn  
Understanding the Universe (Non-science major undergraduate course)  
Seoul, Republic of Korea  
Sept 2006 - Dec 2006  
Sept 2006 - Dec 2006  
Mar 2006 - Jun 2006

## OBSERVING EXPERIENCE

---

CTIO 4m, DECam, Co-I, 2014, 3 nts  
HST, Cosmic Origins Spectrograph, Cycle 21, Co-I, 2014, 8 orbits  
HST, Cosmic Origins Spectrograph, Cycle 21, Co-I, 2014, 27 orbits  
EVLA, 21cm HI imaging, Co-I, 2010, 12 hrs  
MDM, 1.3-m McGraw-Hill telescope, 2010, 5 hrs

## PUBLIC OUTREACH

---

**Columbia Astronomy Public Outreach Program** New York, NY  
*Public Lecturer and volunteer for stargazing* Sept 2008 - May 2011  
Led observations of planets and stars at the Columbia observatory  
Gave a public lecture, "Ancient East-Asian Astronomy", for 120 New Yorkers.

**Rooftop Variables, Columbia University** New York, NY  
*Telescope trainer* Sept 2009 - May 2010  
Trained high school teachers on the use of telescopes for them to lead  
an astronomy club at their schools

## SELECTED PRESENTATIONS

---

**The Galactic Gas Supply Workshop** Green Bank, WV  
*"Environmental Effects on the Circumgalactic Medium"*, Oral contribution May 2013

**American Astronomical Society Meeting 221** Long Beach, CA  
*"Ly $\alpha$  Absorbers in a Cluster Environment:  
Filamentary Feeding and Changes in the Circumgalactic Medium"*, Thesis Talk Jan 2013

**The Baryon Cycle**, Center for Galaxy Evolution Conference Irvine, CA  
*"Warm Gas in the Virgo Cluster"*, Poster contribution Jun 2012

**Gas Flows in Galaxies**, 2012 May STScI Symposium Baltimore, MA  
*"Warm Gas in the Virgo Cluster"*, Poster contribution May 2012

**Fornax, Virgo, Coma et al.**, ESO Workshop Garching, Germany  
*"Warm Gas in the Virgo Cluster"*, Oral contribution Jun 2011

**The Cosmic Odyssey of Baryons**, International Cosmology Conference Marseille, France  
*"Warm Gas in the Virgo Cluster"*, Poster contribution Jun 2011

**1st Korea-Japan Workshop and SDSS-KSG Workshop** Seoul, Republic of Korea  
*"A Demography of Galaxies in Galaxy Clusters with the Spectro-photometric  
Density Measurement"*, Oral contribution Feb 2008

**Asia Pacific Center for Theoretical Physics-Yukawa Institute  
for Theoretical Physics Workshop** Kyoto, Japan  
*"A Demography of Galaxies in Galaxy Clusters with the Spectro-photometric  
Density Measurement"*, Oral contribution Jan 2008

**IAU Symposium 245** Oxford, UK  
*"Spectro-photometric search for galaxy clusters in the SDSS database"*, Poster contribution Jul 2007

**Tracing Cosmic Evolution with Clusters of Galaxies** Sesto, Italy  
*"Spectro-photometric search for galaxy clusters in the SDSS database"*, Poster contribution Jun 2007

**Korean Astronomical Society Meeting** Jeju, Korea  
*"Measurement of Local Density of Galaxies with Spectra and CMR and* Apr 2007

*Detection of Galaxy Clusters*”, Oral contribution

**American Astronomical Society Meeting 209**

“*Measuring Galaxy Spatial Densities Using Spectroscopic and Photometric Data*”,  
Poster contribution

Seattle, WA

Jan 2007

## COMPUTER SKILLS

---

**Programming:** IDL, FORTRAN, SQL, R, bash, Python

**Image Processing/Analysis:** IRAF, CASA, AIPS, Karma, GIPSY

**Operating Systems:** Mac OS X, Linux, UNIX, Windows

**Additional:** POV-Ray(3D image rendering tool), LaTeX, Supermongo, Vi  
Data Mining, Analyzing large data sets (e.g., SDSS, H I Surveys)

## PUBLICATIONS

---

### A. Refereed Publications

4. “The Influence of Environment on the Circumgalactic Medium”  
**J. H. Yoon** & M. E. Putman *2013, ApJL, 772, L29*
3. “Warm Gas in the Virgo Cluster: I. Distribution of Ly $\alpha$  Absorbers”  
**J. H. Yoon**, M. E. Putman, C. Thom, H.-W. Chen, & G. L. Bryan *2012, ApJ, 754, 84*
2. “Clumpy Streams from Clumpy Halos: Detecting Missing Satellites with Cold Stellar Structures”  
**J. H. Yoon**, K. V. Johnston, & D. W. Hogg, *2011, ApJ, 731, 58*
1. “Spectro-photometric Search for Galaxy Clusters in SDSS”  
**J. H. Yoon**, K. Schawinski, Y.-K. Sheen, C. H. Ree, & S. K. Yi *2008, ApJS, 176, 414*

### B. Non-refereed Publications

1. “Finding Galaxy Clusters with Spectro-photometric Density in SDSS”  
**J. H. Yoon**, K. Schawinski, Y.-K. Sheen, C. H. Ree, & S. K. Yi *2008, IAUS, 245, 421*