

# Benjamin Darwin Oppenheimer

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CONTACT INFORMATION	Steward Observatory University of Arizona 933 N. Cherry Ave. Tucson, AZ 85721	<i>Voice:</i> (520) 626-1767 <i>Fax:</i> (520) 621-1532 <i>E-mail:</i> <a href="mailto:oppen@as.arizona.edu">oppen@as.arizona.edu</a> <a href="http://luca.as.arizona.edu/~oppen/IGM/">http://luca.as.arizona.edu/~oppen/IGM/</a>
EDUCATION	<b>University of Arizona</b> Ph.D., Astronomy Thesis Title: "The History of Enrichment of the Intergalactic Medium Using Cosmological Simulations" Advisor: Romeel J. Davé	August 2008
	<b>University of Arizona</b> M.S., Astronomy	March 2004
	<b>Harvard University</b> A.B., Astronomy & Physics, cum laude	June 1999
RESEARCH INTERESTS	Galaxy formation and evolution, intergalactic medium, chemical enrichment and evolution, cosmological N-body+SPH simulations, quasar absorption line spectroscopy, stellar yields, assembly history of galaxies, the physics of gas and dust, scientific visualization	
RESEARCH APPOINTMENTS	<b>Post-doctoral Research Associate, University of Arizona</b> Supervisor: Romeel J. Davé	2008 - 2009
	<b>Graduate Research Assistant, University of Arizona</b>	2002 - 2008
	Master's Thesis with John Biegging: Developed modeling technique using spectropolarimetry and HST imaging to obtain circumstellar structure, grain size distribution, and chemistry of dust around post-AGB stars. Performed a survey of spectropolarimetric observations of AGB stars. Other Projects: Reduced and analyzed NICMOS data of Mon R2 with Mike Meyer. Calculated detection limits for brown dwarfs and extra-solar giant planets with Adam Burrows.	
	<b>Research Experience for Undergraduates, Arecibo, Puerto Rico</b>	1998
	Programmed new data reduction algorithm used to minimize noise in observations with the Arecibo dish. Observed a survey of OH/IR stars with Murray Lewis.	
	<b>Research Assistant, Harvard-Smithsonian Center for Astronomy</b>	1996 - 1997
	Analyzed trends in 75 years of AAVSO data of Z Camelopardalis, identifying trends and periods in work done with Scott Kenyon and Janet Mattei.	

TEACHING APPOINTMENTS	<p><b>Graduate Teaching Assistant, University of Arizona</b> <span style="float: right;">2006</span></p> <p>Led honors special project section in introductory astronomy class.</p> <p><b>Graduate Teaching Assistant, University of Arizona</b> <span style="float: right;">1999 - 2000</span></p> <p>Substitute lectured and led interactive breakout sessions in introductory astronomy class.</p>										
CURRENT ACTIVITIES	<p>Development, testing, and implementation of a variety physics modules added to our research group's version of Gadget-2, including superwind feedback, an on-the-fly galaxy finder, and a sophisticated yield model encompassing multiple sources.</p> <p>Optimizing, compiling, and running almost all of our group's Gadget-2 simulations over the past 3 years on a variety of computer architectures.</p> <p>Development of the software to convert the outputs of Gadget-2 into the visualizations on my science and outreach webpage.</p> <p>Ongoing development of the visualization component of the Structure in the Universe: Large Scale Structure Formation digital teaching module led by Eric Brogt and Chris Impey at the University of Arizona.</p> <p>Adapting simulations for the 3-dimensional visualization environment at the Arizona Laboratory for Immersive Visualization Environments.</p>										
SELECTED TALKS	<table border="0"> <tr> <td>Kavli Institute for Particle Astrophysics &amp; Cosmology, Cosmology Seminar</td> <td style="text-align: right;">Oct. 2008</td> </tr> <tr> <td>Kavli Institute for Cosmological Physics, Weekly Seminar</td> <td style="text-align: right;">Sept. 2008</td> </tr> <tr> <td>Cosmic Odyssey of the Elements Conference, Aegina, Greece</td> <td style="text-align: right;">June 2008</td> </tr> <tr> <td>Max Planck Institute for Astronomy, Galaxy Group</td> <td style="text-align: right;">July 2006</td> </tr> <tr> <td>Chemodynamics: From First Stars to Local Galaxies, Lyon, France</td> <td style="text-align: right;">July 2006</td> </tr> </table>	Kavli Institute for Particle Astrophysics & Cosmology, Cosmology Seminar	Oct. 2008	Kavli Institute for Cosmological Physics, Weekly Seminar	Sept. 2008	Cosmic Odyssey of the Elements Conference, Aegina, Greece	June 2008	Max Planck Institute for Astronomy, Galaxy Group	July 2006	Chemodynamics: From First Stars to Local Galaxies, Lyon, France	July 2006
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EXTERNAL FUNDING	<p>Co-I, HST Proposal ID 11751, Cycle 17, "Simulations of COS intergalactic HI and metal absorbers", \$88,900</p> <p>Co-I, HST Proposal ID 11598, Cycle 17, "How Galaxies Acquire their Gas: A Map of Multiphase Accretion and Feedback in Gaseous Galaxy Halos", 134 COS orbits</p> <p>Co-I, National Center for Supercomputing Applications, "Hydrodynamic Simulations of Galaxy Formation including Cosmic-Scale Feedback", 420,000 CPU hours on the Abe Cluster</p>										
COMPUTER SKILLS	C, Fortran, MPI, OpenMP, IDL, IRAF, SQL, ASP, Visual Basic										
PRIVATE SECTOR	<p><b>rfpMarket</b> <span style="float: right;">2000-2002</span></p> <p>Software developer.</p>										