

# Tracy Michelle Becker

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## EDUCATION

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2010 - Present	<b>University of Central Florida</b> <i>PhD in Physics/Planetary Sciences: in progress</i>	Orlando, FL
2005-2010	<b>Lehigh University</b> <i>Bachelors of Science in Astrophysics</i> <i>Minor in Latin American Studies</i>	Bethlehem, PA
July -Dec. 2007	<b>Pontificia Universidad Católica de Valparaíso</b> <i>Study Abroad</i> <i>Concentration: Spanish Language and Literature</i>	Valparaíso, Chile

## PROFESSIONAL EXPERIENCE

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2011 - Present	<b>Graduate Research Assistant</b> <i>University of Central Florida</i> <ul style="list-style-type: none"><li>• Unique Solar Occultation of Saturn's F Ring with Cassini Spacecraft</li><li>• Numerical Model and Analysis to constrain particle size</li></ul>	Orlando, FL
2010 - Present	<b>Graduate Teaching Assistant</b> <i>University of Central Florida</i> <ul style="list-style-type: none"><li>• Introductory Physics Lab</li><li>• Introductory Physics Lecture Assistant</li><li>• Robinson Observatory Manager</li></ul>	Orlando, FL
Nov. - Dec. 2009	<b>Arecibo Observatory</b> <ul style="list-style-type: none"><li>• SHAPE model of first Triple Near-Earth Asteroid System 2001 SN263</li><li>• RADAR observations of Near-Earth Asteroids</li></ul>	Arecibo, PR
Jan. - Mar. 2009	<b>Cerro Tololo Inter-American Observatory</b> <i>NSF Research Experience for Undergraduates (REU)</i> <ul style="list-style-type: none"><li>• Observations using 4-m Blanco telescope</li><li>• Data Reduction and Analysis of Accretion-Powered Millisecond Pulsar HETE-J1900.1-2455</li></ul>	La Serena, Chile
June - Aug. 2008	<b>Arecibo Observatory</b> <i>NSF Research Experience for Undergraduates (REU)</i> <ul style="list-style-type: none"><li>• SHAPE model of first Triple Near-Earth Asteroid System 2001 SN263</li><li>• RADAR observations of Near-Earth Asteroids</li></ul>	Arecibo, PR
2008 - 2009	<b>Center for Academic Success</b> <i>Lehigh University</i>	Bethlehem, PA

- Physics and Spanish Tutor

## CONFERENCES

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- December 2012      **American Geophysical Union (AGU) Fall Meeting**      San Francisco, CA  
*Poster Presentation*
- **Becker, T.M.**, J.E. Colwell, A.D. Bratcher, L.W. Esposito, *"The Population of Small Particles in Saturn's Rings from Diffraction in Stellar Occultations"* P51B-2030
- October 2012      **Division of Planetary Science (DPS) Meeting**      Reno, NV  
*Oral Presentation*
- **Becker, T.M.**, J.E. Colwell, L.W. Esposito, *"Particle Sizes in Saturn's F Ring and Strands from Cassini Solar Occultation"* 501.04
- Poster Presentation*
- Howell, E.S., R.J. Vervack Jr., M.C. Nolan, C. Magri, Y.R. Fernandez, P.A. Taylor, A.S. Rivkin, **T.M. Becker**, *"Combining Thermal and Radar Observation of Near-Earth Asteroids"* 110.07
- December 2011      **American Geophysical Union (AGU) Fall Meeting**      San Francisco, CA  
*Poster Presentation*
- **Becker, T.M.**, J.E. Colwell, L.W. Esposito, *"Constraining Particle Sizes of Saturn's F Ring"* P13B-1666
- July 2011      **Rings 2011 Meeting**      Ithaca, NY  
*Poster Presentation*
- **Becker, T. M.**, J. E. Colwell, L.W. Esposito, *"Constraining Size Distribution in the F Ring"*
- February 2011      **Next-Generation Suborbital Researchers Conference**      Orlando, FL
- January 2010      **American Astronomical Society (AAS) Meeting**      Washington, D.C.  
*Poster Presentation*
- **Becker, T.M.**, T. Abbott, *"Spectroscopic Observations of Accretion-Powered Millisecond Pulsar HETE J1900-2455"* 453.31
- January 2009      **American Astronomical Society (AAS) Meeting**      Long Beach, CA  
*Poster Presentation*
- **Becker, T.M.**, E.S. Howell, M.C. Nolan, C. Magri, *"Physical Modeling of Triple Near-Earth Asteroid 153591 (2001 SN263)"*. 401.10
- October 2008      **Division for Planetary Science (DPS) Meeting**      Ithaca, NY  
*Poster Presentation*
- **Becker, T.M.**, E.S. Howell, M.C. Nolan, C. Magri, *"Physical Modeling of Triple Near-Earth Asteroid 153591 (2001 SN263)"*. 28.06
- Oral Presentation*

- Nolan, M. C., E.S. Howell, **T.M. Becker**, C. Magri, J.D. Giorgini, J.L. Margot, "Arecibo Radar Observations of 2001 SN263: A Near-Earth Triple Asteroid System." 25.04

## **EXTRACURRICULAR**

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2010 – Present	<b>Physics Women Society</b> <i>University of Central Florida</i> <ul style="list-style-type: none"> <li>• Secretary of Physics Women Society</li> </ul>	Orlando, FL
2006 – 2010	<b>Society of Physics Students</b> <i>Lehigh University</i> <ul style="list-style-type: none"> <li>• President 2009-2010, Executive Board 2006-2010</li> </ul>	Bethlehem, PA

## **SERVICE ACTIVITIES**

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January 2013	<b>Southeast Conference for Undergraduate Women in Physics</b> <i>University of Central Florida</i> <ul style="list-style-type: none"> <li>• Conference Organizer, ~100 attendees</li> </ul>	Orlando, FL
2011 – Present	<b>Robinson Observatory Scout Tour Director</b> <i>University of Central Florida</i> <ul style="list-style-type: none"> <li>• Coordinate tours of observatory for Scouts and classes</li> <li>• Teach astronomy lesson</li> <li>• Help scouts use telescopes to observe astronomical objects</li> </ul>	Orlando, FL
May – Aug. 2011	<b>Professional Development Workshop on Gravity and Motion</b> <i>University of Central Florida</i> <ul style="list-style-type: none"> <li>• Developed and ran three workshops for ~100 Middle School and High School teachers in Orlando area</li> <li>• Created worksheets for students to accompany various demonstrations provided to the teachers</li> </ul>	Orlando, FL
2007 – 2010	<b>Outreach Program</b> <i>Lehigh University</i> <ul style="list-style-type: none"> <li>• Various science programs in Elementary and Middle School classrooms</li> <li>• Science activities, experiments, and telescope nights</li> </ul>	Bethlehem, PA
Aug. – Oct. 2009	<b>Volunteer Teacher at Indigenous Mayan School</b> <i>Global Vision International Phoenix School in Guatemala</i> <ul style="list-style-type: none"> <li>• Educator of math, science, language and social studies for 2<sup>nd</sup> and 3<sup>rd</sup> graders, in Spanish</li> </ul>	Itzapa, Guatemala
Jan. – April 2008	<b>Sally Ride Outreach Program</b> <i>Lehigh University</i> <ul style="list-style-type: none"> <li>• Worked with selected 4<sup>th</sup> grade girls, discussing the role of women in STEM and astronomy concepts</li> <li>• Prepared girls for their private meeting with Dr. Sally Ride, helped them to develop their questions</li> </ul>	Bethlehem, PA

July – Dec. 2007	<b>Volunteer English Teacher</b> <i>Volunteer English teacher at Middle Schools</i>	Viña del Mar, Chile
2006 – 2008	<b>Spring Serve</b> <i>Lehigh University Alternative Spring Break Programs</i> <ul style="list-style-type: none"> <li>• Hurricane Katrina Relief in Biloxi, Mississippi (2007)</li> <li>• Give Kids The World/Make a Wish Foundation, Kissimmee, FL (2008)</li> </ul>	Bethlehem, PA

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**PROFESSIONAL SOCIETIES**

American Astronomical Society, Division for Planetary Sciences  
 American Geophysical Union

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**HONORS AND AWARDS**

March 2008	Lehigh University Women’s Club Scholar Award for the College of Arts and Science	Bethlehem, PA
April 2006	National Society of Collegiate Scholars	Bethlehem, PA
November 2006	Lehigh University Chapter of Phi Eta Sigma National Honors Society	Bethlehem, PA
June 2005	Edward J. Bloustein Distinguished Scholar for the State of New Jersey	Colts Neck, NJ

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**SKILLS**

Languages: English, Spanish  
 Computer: IDL, Python, FORTRAN, SPICE, IRAF