

# Angela Speck – Curriculum Vitae

## Contact Information:

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NATIONALITY/IMMIGRATION	British/Permanent U.S. Resident (since October 2006)	

## Education:

June 1995-Sept 1998	Ph.D.	University College London
Sept 1989-June 1992	B.Sc. (Hons.) - Astrophysics	Queen Mary, University of London

## Positions held:

Assistant Professor	University of Missouri – Columbia	Aug 2002-present
Postdoctoral Research Associate	University of Illinois at Urbana-Champaign	June 1999-Aug 2002
Postdoctoral Research Assistant	University College London	Oct 1998-June 1999
Demonstrator (TA)	University College London	Oct 1995-June 1998
Research & Development Tech.	Mountain Breeze	Mar 1993-Sep 1993

## Research Themes:

Late stages of stellar evolution: AGB stars to planetary nebulae; Infrared spectroscopic and photometric observations of dust and molecules; Astromineralogy: composition and formation of circumstellar and interstellar dust.

## Grants, Honours & Awards

### Awarded:

Spitzer Space Telescope: \$11,525\* (and time); "*Excavating the Mass Loss History in the Circumstellar Dust Shells of Evolved Stars (Spitzer-MLHES)*", PI: Toshiya Ueta. (08/01/07 - 05/31/10) \*Co-I Speck funding.

Spitzer Space Telescope: \$8,500\* (and time); "*SAGE-Spectroscopy: The life cycle of dust and gas in the Large Magellanic Cloud*", PI: Alexander Tielens. (08/01/07 - 05/31/10) \*Co-I Speck funding.

Spitzer Space Telescope: \$5000\* (and time); "The circumstellar - interstellar interface revealed", PI: Robert Stencel. (08/01/07 - 05/31/10) \*Co-I Speck funding.

NSF CAREER: \$488,558; "*CAREER: A multi-faceted investigation of the astromineralogy and evolution of dust around low- and intermediate mass evolved stars*", PI: Angela Speck (05/15/07 – 04/30/12)

NSF AST: \$196,702; "*Collaborative Research: Dust formation around carbon stars: astromineralogy and the condensation sequence*", PI: Angela Speck (07/15/06 – 06/30/09)

Spitzer Space Telescope: \$11,020\* (and time); "*The Dust Condensation Sequence at Low Metallicity: AGB Stars in NGC 6822*", PI: Schuyler Van Dyk. (02/01/06–05/31/08) \*Co-I Speck funding.

Spitzer Space Telescope: \$51,885 (and time); "*MIPS Infrared Imaging of AGB Dustshells (MIRIAD): tracing mass-loss history in the extremely large shells around evolved stars*", PI: Angela Speck, (08/10/05 - 05/31/08) \*Co-PI Speck's funding.

University of Missouri Research Board: \$30,945; "*Astromineralogy: dust around evolved stars in the Magellanic Clouds*", PI: Angela Speck (09/01/2005 – 08/31/2006)

MU Research Council/Summer Research Fellowship: \$7,500(RC), \$3500 (SRF); "*Evolution of Molecular Gas and the Origin of Cometary Knots in Planetary Nebulae*", PI: Angela Speck, (07/01/05 – 06/30/06)

Hubble Space Telescope: \$32,997; "*Evolution of molecular gas and the origin of cometary knots in planetary nebulae*", PI: Angela Speck (07/01/05 - 06/30/07).

NASA: \$44,570\*; "*Distinguishing Grain-Size and Temperature Effects on the Infrared Fingerprints of Astrominerals: A Quantitative Laboratory Approach*", PI: Anne Hofmeister (Washington University), Co-PI: Angela Speck (02/01/2005 to 01/31/2008) \*Co-PI Speck's funding.

NASA Astrophysics Data Program: \$105,000; "*Astromineralogy: dust around evolved stars in the Magellanic Clouds*", PI: Angela Speck (03/01/2003 to 02/28/2005)

NASA Astrophysics Data Program: \$95,000; "*Extremely extended dust shells around evolved stars: mass-loss histories, thermal pulses and stellar evolution*", PI: Angela Speck (02/01/2002 to 01/31/2004)

MU Faculty International Travel Award \$1500 to attend "Why Galaxies Care About AGB Stars" conference in Vienna, Austria, Aug 2006.

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AAS travel grant to attend the “Workshop on Pulsating Mass-losing Stars” workshop, Sendai, Japan, May 2002  
AAS travel grant to attend the “Origin and Evolution of Interstellar Silicates” workshop, Leiden, The Netherlands, 2001.  
Royal Society grant to attend the “IAU Symposium 197 – Astrochemistry” in Cheju Island, South Korea, Aug 1999.  
IAU grant to attend “IAU Symposium 197 – Astrochemistry” in Cheju Island, South Korea, Aug 1999.  
IAU grant to attend “IAU Symposium 191 - AGB Stars” in Montpellier, France, Aug 1998.  
Winner of the Royal Society of Chemistry, Skinner Poster Prize – 1998  
Washington University (St Louis) grant to attend “Astrophysical Implications of the Lab Study of Presolar Grains” conference in St Louis, Oct 1996.

## Teaching and Educational Activities:

- Courses taught: Astronomy 1010, Introduction to Astronomy; Astronomy 1020, Introduction to Laboratory Astronomy; Astronomy 3010, Introduction to Modern Astrophysics; Astronomy 4180/7180: Solar System Science; Astronomy 4250: Stellar Astrophysics; Astronomy 7301, Topics in Astronomy and Astrophysics: Stellar Structure and Evolution.
- Currently advisor to 3 doctoral students and 1 masters student.
- Research advisor to 1 postdoc and 12 undergraduate students since Winter 2002 (4 current).
- Supervised 28 (both national and international) conference presentations by students since 2004.
- Took two female undergraduates on a research observing trip to Mauna Kea, Hawaii (Fall 2002)

## Professional Affiliations, Activities and Outreach:

Fellow of the Royal Astronomical Society, Full member of the American Astronomical Society, Member of the Astronomical Society of the Pacific, Member of the Meteoritical Society.

Member of NOAO Users Committee.

Panel member in Spitzer Space Telescope Cycle 3 Review Panel (2006).

Reviewer of journal articles in e.g. ApJ, AJ, A&A, MNRAS, Nature, Science etc. (~3-4/year)

Reviewer of NASA ROSES proposals.

Invited speaker at >5 other universities since 2002.

Participant in Saturday Morning Science: several science talks for general public, Fall 2003; Spring 2005.

Speaker for the Columbia School District Astronomy Day

Speaker for the Columbia School District Gifted Program

Regular source for scientific stories in the Columbia Missourian (local newspaper) and on local radio/television.

## Publications:

Total publications: 28 peer-reviewed; >20 conference proceedings; >50 conference presentations, 6 invited conference talks since 2003, *h*-factor = 11, total citations > 350. See attached publications and conference lists for details.

## Observational Programs

*Observing time received since September 2004:*

- Spitzer Space Telescope, 30 hours to observe large circumstellar dust shell in the far infrared (PI)
- Spitzer Space Telescope, 32.6 hours to observe spectra of evolved stars in NGC 6822 (co-I)
- Gemini North/Michelle, 4 hours to do spatial resolved spectroscopic observations of SiC emission from carbon stars (PI)
- VLT/SINFONI, 3 half-nights to do spatially resolved spectroscopic measurements of Molecular Hydrogen Lines in the Globules in the Planetary Nebula NGC 7293 (co-I)
- Hubble space telescope, 16.1 hours to observe the evolution in dust emission from supernovae. (co-I)
- Spitzer Space Telescope, 24.5 hrs to observe more large circumstellar dust shells in the far infrared (co-I)
- Spitzer Space Telescope, 235 hrs legacy program to obtain spectroscopy of objects in the LMC (co-I)
- Spitzer Space Telescope, ~2.5 hrs to do far-infrared spectroscopy of bow-shock in R Hya. (co-I)
- Subaru/MOIRCS, 1 night to obtain medium resolution spectra of molecular hydrogen in multiple globules (co-I)

*Pending observing proposals*

- Gemini North/Michelle, requested time to do spatial resolved spectroscopic observations of UIR band emission carbon stars (co-I)
- Gemini South/T-ReCs, requested time to do spatial resolved spectroscopic observations of 13um emission from O-rich AGB stars (PI)