

CURRICULUM VITAE

Aida Wofford, née Nava

CONTACT INFORMATION

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EDUCATION

2004-2008–**PhD Astrophysics**, The University of Oklahoma, USA

2001-2004–**MS Astrophysics**, The University of Oklahoma, USA

1999-2000–**Exchange program**, Arizona State University, USA

1996-2001–**BS Physics**, Universidad de las Américas Puebla, MEXICO

DISSERTATION

Topics: Is the scatter in N/O of metal-poor star-forming galaxies real? Do H II regions become significantly self-enriched during their lifetime? **Advisors:** R.B.C. Henry (main), J. Cowan, E. Baron, D. Branch, D. Watson, D. Elmore

FIELDS OF CONCENTRATION

- * Extragalactic H II region chemical abundances
- * Spectrophotometric properties of unresolved massive star clusters
- * Lyman-alpha emission from star-forming galaxies at $z \sim 0$
- * Interactions of massive stars with the ISM/IGM
- * Stellar population synthesis

SKILLS

- * Observational: HST/STIS and HST/COS
- * Data visualization and manipulation: IRAF, SAOImage DS9, IDL, CEDAR
- * Programming language: Fortran 90/95
- * Modeling of the physical and spectral properties of H II regions: CLOUDY
- * Modeling of the spectrophotometric properties of stellar populations: STARBURST99
- * Approved proposals as PI: NASA ADP09 PID 0062
- * Panelist: NASA ADAP
- * Panel support for the cycle 19 HST TAC
- * Paper refereeing: MNRAS

EMPLOYMENT

Postdoc (2009–present, STScI, supervisor: Claus Leitherer)

1. Studied massive star clusters and H II regions in local (<250 Mpc) star-forming galaxies, i.e., determined their dust extinction and content from a) the power-law

index β of the FUV continuum, b) the intrinsic reddening $E(B-V)$ from hydrogen Balmer line ratios, and c) the H II region oxygen abundance $[O/H]$; the cluster ages, masses, and IMFs from FUV spectroscopy and/or optical photometry; the cluster star formation rates from the FUV-derived age+mass, and/or from $H\alpha$ and $[OII]\lambda\lambda 3726,3729$; the gas flows driven by the massive stars.

2. Compared STARBURST99 stellar population synthesis models that use empirical and theoretical stellar libraries, with observations of blue compact galaxies, blue compact dwarf galaxies, and disk galaxies.

3. Observed and studied the hydrogen Ly α line for a sample of 20 star-forming galaxies located at a mean redshift of $\langle z \rangle = 0.03$ with HST/COS.

Research Assistant

1. Worked on the chemical evolution of galaxies with R.B.C. Henry (Summers of 2004, 2005, and 2006, Fall of 2005, and Spring of 2007; U. of Oklahoma)

2. Worked on the X-ray properties of Active Galactic Nuclei with K. Leighly and C. Matsumoto (Summer of 2002; U. of Oklahoma)

Teaching Assistant

* Physics for Life-Science Majors — Fall 2001

* Waves, Optics and Relativity — Fall 2001

* Astronomy for Non-Science Majors — Springs 2002, 2003, & 2005; & Falls 2003, 2004, & 2006

* Astronomy Lab for Non-Science Majors — Springs 2004 & 2005; & Falls of 2004

* Physics for Non-Science Majors — Fall 2006

LIST OF PUBLICATIONS

1. "An XMM-Newton Observation of the Seyfert 2 Galaxy NGC 6300: I. The Nucleus", C. Matsumoto, **A. Nava**, L. Maddox, K. Leighly, D. Grupe, H. Awaki, S. Ueno 2004, ApJ, 617, 930, **20 citations**

2. "On the Determination of N and O Abundances in Low Metallicity Systems", **A. Nava**, D. Casebeer, R. B. C. Henry, and D. Jevremovic, 2006 ApJ, 645, 1076, **18 citations**

3. "The N/O Plateau of Blue Compact Galaxies: Monte Carlo Simulations of the Observed Scatter", R.B.C. Henry, **A. Nava**, and J.X. Prochaska, 2006 ApJ, 647, 984, **6 citations**

4. "Predictions of the extent of self-enrichment in oxygen of giant metal-poor HII regions", **A. Wofford**, 2009 MNRAS, 395, 1043, **6 citations**

5. "Ultraviolet Spectroscopy of Circumnuclear Star Clusters in M83", **A. Wofford**, R. Chandar, and C. Leitherer, 2011 ApJ, 727, 100, **2 citations**

6. "FUV and UVIS observations of circumnuclear star clusters in M83", **A. Wofford**, R. Chandar, and C. Leitherer, 2011, Bulletin de la Soci t  Royale des Sciences de Li ge, 80, 445

7. "The Massive Star Content of Circumnuclear Star Clusters in M83", **A. Wofford**, R. Chandar, and C. Leitherer, 2011 ASPC, 440, 143

8. "HST-COS Observations of Lyman-Alpha Emission from $\langle z = 0.03 \rangle$ Star-Forming

Galaxies”, **A. Wofford**, C. Leitherer, J. Salzer, and COS Science Team, to be submitted to ApJ in the spring of 2012.

9. “Star Formation Properties of Local Star-Forming Galaxies”, **A. Wofford** and C. Leitherer, in prep.

MEETING CONTRIBUTIONS, COLLOQUIA

- 01/2012–219th AAS, Austin, TX, USA (**talk**)
- 11/2011–Astro, Wine, & Cheese, Johns Hopkins University, MD, USA (talk)
- 10/2010–“Science with the Hubble Space Telescope - III, Two Decades and Counting”, Venice, ITALY (poster)
- 09/2010–Carnegie DTM, Washington D.C., USA (**colloquium**)
- 07/2010–“The Multi-Wavelength View of Hot Massive Stars”, Liège, BELGIUM (poster)
- 06/2010–“Up2010: Have Observations Revealed a Variable Upper End of the Initial Mass Function”, Sedona, AZ, USA (poster)
- 06/2010–HotSci STScI, Baltimore, MD, USA (**talk**)
- 05/2010–“Stellar Populations in the Cosmological Context”, Baltimore, MD, USA (poster)
- 04/2010–“From Stars to Galaxies, Connecting our Understanding of Star and Galaxy Formation”, Gainesville, FL, USA (poster)
- 10/2009–Hot Topics Friday, U. of Toledo, Toledo, OH (**colloquium**)
- 08/2009–IAU XXVII General Assembly S265 and S266, Rio de Janeiro, BRAZIL (poster)

SCHOOLS & WORKSHOPS

- 10/2011–“HST/COS Science Team Meeting”, Madison, WI, USA
- 04/2011–“HST/COS Science Team Meeting”, Boulder, CO, USA
- 06/2010–“Summer School in Statistics for Astronomers VI”, State College, PA, USA
- 04/2010–“HST/COS Science Team Meeting”, Berkeley, CA, USA
- 01/2010–“CAE Astro 101 Teaching Excellence Workshop”, Washington D.C., USA
- 12/2009–“HST/COS Science Team Meeting”, Boulder, CO, USA
- 10/2009–“Women in Astronomy and Space Science: Meeting the Challenges of an Increasingly Diverse Work Force”, College Park, Maryland, USA
- 11/2006–“XVIII Canary Islands Winter School of Astrophysics, The Emission Line Universe”, Tenerife, Canary Islands, SPAIN

GRANTS & SCHOLARSHIPS

- 2010–NASA ADP09 proposal ID 0062 (**PI, FY 2010: \$35,506, FY 2011: \$43,195**)
- 2010, 2011–DDRF grant for Journal Club (**\$3,000**)
- 2009–AAS travel grant (**\$850**)
- 2007–“Robert E. and Mary B. Sturgis” scholarship (**\$1,000**)
- 2001–2006–Scholarship from Mexican National Council of Science and Technology
- 1996–2001–Scholarship from Universidad de las Américas, Puebla, Mexico

APPROVED CYCLE 18 & CYCLE 19 HST PROPOSALS

* c18: COS-GTO: Star Formation/Lyman-Alpha (12027)

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- * c18: Feedback between Stars, ISM and IGM in IR-Luminous Galaxies (12173, Co-I)
- * c18: Is the Extraordinary Super Star Cluster NGC 3125-1 an Imposter? (12172, Co-I)
- * c19: The Cosmic Carbon Conundrum (12472, Co-I)

PROFESIONAL MEMBERSHIPS

- * Associate member of the COS Science team since 2009
- * American Astronomical Society since 2005
- * International Astronomical Union since 2009

OTHER SERVICES, MENTORING & OUTREACH

- * Organizer of the “Massive Stars and Starbursts” seminars/journal club (2009–present, STScI) and webmaster of the blog <http://www.massivestars.blogspot.com/>
- * Mentoring & Outreach
 - 08/2009–High school student host at STScI, Baltimore, MD, USA
 - 12/2007–“*Discipline and Astronomy*”, IDEA middle school, Mexico D.F., Mexico
 - 03/2007–“*Foucault’s Pendulum*”, Westminster middle school, OKC, OK, USA
 - 04/2007–“*Mission Space Carnival*”, Eisenhower Elementary School, Norman, OK, USA
 - 11/2006–“*Transit of Mercury*” open house in Norman, OK, USA
 - 06/2004–“*Transit of Venus*” open house in Norman, OK, USA
 - 08/2003–“*Closest Approach of Mars*” open house in Norman, OK, USA