

Dr. Bruno Sánchez-Andrade Nuño

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EDUCATION

- **Max Planck Institute for Solar System Research / University of Göttingen** (Göttingen, Germany)
Dr. rer. nat. (PhD) Magna cum Laude Jan 2005 - Jan 2008
“ Observations, Analysis and Interpretation with non-LTE of chromospheric structures of the Sun.”
(copy under <http://phd.brunosan.eu>)
- **Universidad de La Laguna** (Tenerife, Spain)
Graduate in Physics (Astrophysics) Sep 2003 - Sep 2004
Minors in Stellar structure and evolution, radiative transfer, instrumentation, spectroscopy, extragalactic physics, numerical simulations.
- **Universidad de Oviedo** (Oviedo, Spain)
Undergrad in Physics, continued in Universidad de La Laguna. Sep 1999 - Sep 2003
Minors in Computer assisted design, fractal geometry, numerical simulation, statistical physics.

PROFESSIONAL EXPERIENCE

US Naval Research Laboratory (Contractor from George Mason University), Washington, D.C. Oct 2008 to Present
Research Assistant Professor, [Space Science Division](#)

- Independent Research on Solar Physics and Space Weather: Sun-Earth relations, Coronal Mass Ejections, Solar wind.
- Space hardware: Camera calibration for UV spectrograph onboard a sounding rocket.
- Lead Software development: Advanced data/image analysis. Space mission proposals.

University of Göttingen, [Institut Für Astrophysics](#), Göttingen (Germany)

Postdoc Scientist Feb 2008 to Sep 2008

- Independent Research on Solar Physics: Chromosphere, spicules, waves, Visible spectrography and IR spectropolarimetry.
- Ground based telescope operations and observations: Vacuum Tower Telescope, Izaña (Tenerife)
- Optomechanical bench work.
- Lead software development and optimization: Seeing aberrations, Image deconvolution, Interferometry, Signal processing

SCIENCE RELATED EXPERIENCE

- 2009** Panel reviewer for US National Science Foundation.
- 2009** Invited Lecturer “Cátedra Magistral Mutis”. National University of Colombia, Bogotá. (~1600 attendees)
- 2009** Board of the International "100 hours of Astronomy" Team.
- 2009** Chairman of the Solar Group for the International Year of Astronomy 2009 (endorsed by UNESCO)
- 2009** Spanish translation for the educational DVD Eyes on the Skies.
- 2009** Collaborations with South African outreach events.
- 2009-2005** Several Scientific articles and interviews on mainstream newspapers. (<http://media.brunosan.eu>)
- 2009, 2007** NASA Astronomy Picture of the Day (22 May 2007 and April,5 2009).
- 2008** Cover image for the Astronomy & Astrophysics Journal Vol. 486 No. 2.

PROFESSIONAL SKILLS

Language: Native in *Spanish*, Fluent in *English*, Advanced in *German*, Basic in *French*.

General: Engaging speaker for formal and non formal presentations; open minded; effective team worker as member and leader on international/intercultural environments; event planning; writing and editing; academic research.

Technical: Advanced user and administrator in Windows, Linux, MacOSX and Sun; MS Office, OpenOffice.org, iWork, LaTeX; Software developer in FORTRAN, C, IDL. Competent in scientific/mathematical tools: statistics, image analysis, analytical solutions, plotting, multithread optimization. Proficient in Office, iWork, LaTeX, Gimp.

International Experience: *US, Spain, Germany, Italy, Greece, Slovenia, Turkey, Poland, Estonia, Hungary, Colombia*

ASSOCIATIONS & VOLUNTEER WORK

- 2009-pres.** Member of the Council for Foreign Residents at the Spanish Consulate in Washington DC. IT and Science responsible.
- 2008-pres.** Member of the American Association for the Advancement of Science.
- 2008-pres.** Royal Spanish Academy of Physics fellow.
- 2008-2005** Fellow of the International Max Planck Research School on the Solar System.
- 2008-2003** Member of the NGO "AEGEE" (2003-2008). Held several duties both local and international (Treasurer, Secretary, IT Responsible, Project Manager).
- 2004-2003** Organizer of Traveling Summer University (Spain).
- 2004-1999** Member of Civil Protection in Gijón (1999-2004). Firemen, Police & Paramedics support. +400 hours of duty service.
- 2003** Main IT Responsible de AGORA-AEGEE (major international students conference, +1000 attendees).
- 2002-2001** Organizer on AEGEE events (NGO with consultive power for UNESCO) Summer Universities. Spain.
- 2002-2001** Student representative of the Faculty of Science. University of Oviedo.
- 2002** Faculty Council member of the Faculty of Science University of Oviedo.

OTHER COURSES, ACTIVITIES & CERTIFICATES

- 2007-2000** Cultural differences awareness Seminars. Organized by the NGO AEGEE, sponsored by the EU: Tallin, Estonia (2000); Heraklion, Crete (2005); Narva-Joesu, Estonia (2007)
- 2007** AEGEE Summer University, Slovenia.
- 2006** Total Solar Eclipse Workshop on Research Ethics, Max Planck. Turkey.
- 2006-2003** AEGEE NGO general conference: Zaragoza, Spain (2003); Torino, Italy (2004); Warsaw, Poland (2006).
- 2005** Project Management Seminar, Hofgeismar Germany (Max Planck Institute).
- 2005** Hydrodynamics Course, Germany, Max Planck Institute.
- 2004-2002** Civil Protection Courses on: Security, Emergency operations, firefighter, traffic warden, Medical first Aid. (Spain).
- 2003** European School NGO Management (AEGEE), Turkey
- 2003** Astrobiology Course. (University of La Laguna, Spain).

- US Department of Defense security clearance to work at the Naval Research Laboratory as Foreign National Contractor. (2008-2009). These entitled to the fulfillment of several courses:

- 2009** Sexual Harassment Awareness Training Module.
- 2009** DoD Information Assurance Awareness Training, Version 7.0.
- 2009** Network Security (Passwords, Antivirus, Computer Security, Phishing, Personally Identifiable Information, Portable Electronic Devices and Removable Storage Media).
- 2008** Annual Security Refresher Briefing.
- 2008** Environmental Management Systems.
- 2008** Privacy Safeguards.
- 2008** Trafficking In Persons Awareness Training.

Flight Crew medical certificate. (Class-2)

US and Spanish (B1) driving license.

ESA Astronaut Selection Candidate (2008). [Dismissed](#) after 2nd filter (for last [192 candidates](#)).

Experience as observer and operator in advanced solar telescope (VTT, Tenerife)

SCIENTIFIC PUBLICATIONS

Complete listing available under <http://papers.brunosan.eu>

- Refereed papers

1. A. Vourlidis, B. Sanchez-Andrade Nuño et al. The Structure and Dynamics of the Upper Chromosphere and Lower Transition Region as Revealed by the Subarcsecond VAULT Observations. Sol. Phys. in press 2009
2. B. Sánchez-Andrade Nuño, et. al. Fast events in an active region of the Sun observed in H α with high spatial resolution. Aug. 2008.
3. B. Sánchez-Andrade Nuño, et al. Spicule emission profiles observed in He I 10830 Å. Sept. 2007.
4. J. Blanco Rodriguez, et al. [B. Sánchez-Andrade Nuño]. On the properties of faculae at the poles of the Sun. A&A Oct. 2007.

- Conferences

1. B. Sanchez-Andrade Nuno, et al. Results From The 2nd Flight Of The Nrl Vault Sounding Rocket Payload. May 2009.
2. B. Sánchez-Andrade Nuño. Case Study: Solar science communication. June 2008.
3. B. Sánchez-Andrade Nuño, et al. Observations of a flaring active region in H α . Sep. 2007.
4. B. Sánchez-Andrade Nuño, et al. Off-limb spectroscopy of the He I 10830 Å multiplet: observations vs. modelling. Sep. 2007.
5. J. Blanco Rodriguez, B. Sánchez-Andrade Nuño et al. Study of Polar Faculae. In The Dynamic Sun, ESA conference. Dec. 2005.
6. J. Blanco Rodriguez, B. Sánchez-Andrade Nuño et al. Study of Polar Faculae. Belgium ESA, Nov. 2005.
7. F. Kneer, et al. [B. Sánchez-Andrade Nuño]. Observations with the New Two-Dimensional Spectrometer. ESA Special Publication, Nov. 2005.
8. B. Sánchez-Andrade Nuño, et al. Analysis of a Wide Chromospheric Active Region. ESA Special Publication, Nov. 2005.
9. B. Sánchez-Andrade Nuño, et al. Chromospheric Dynamics of a Solar Active Region. ESA Special Publication, Dec. 2005.
10. L. Valdivielso Casas, et al. [B. Sánchez-Andrade Nuño] ESA Special Publication, Nov. 2005.