
ALESSANDRA CANDIAN

PERSONAL INFORMATION

First Name: Alessandra

Last Name: Candian

Date of birth: 2nd September 1980

Place of birth: Cologna Veneta, Verona (Italy)

CURRENT POSITION

Postdoctoral Fellow at Leiden Observatory

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RESEARCH INTERESTS

Polycyclic Aromatic Hydrocarbons (PAHs)

Quantum Chemistry Calculations

Unidentified Infrared (UIR) bands

Infrared astronomy

Dust

EDUCATION

- The University of Nottingham - UK
September 2007 - December 2011
Ph.D. in (Astrophysical) Chemistry
Topic: "Polycyclic Aromatic Hydrocarbons in the Interstellar Medium."
Advisor: Prof. Peter J. Sarre
- Università degli Studi di Padova - Italy
September 1999 - June 2006
Physics Degree (Astrophysics and Space Physics)
Note: My graduation was completed after a 8-months-long degree thesis ("Tesi di Laurea") under the supervision of Prof. Sabino Matarrese (Padova University) and Prof. Gianfranco de Zotti (INAF - Osservatorio Astronomico di Padova). The thesis work was titled "The Cosmic Microwave Background".

HONORS AND AWARDS

- *STFC Scholarship for postgraduate studies*, The University of Nottingham - UK, **October 2007 - November 2010**
- *European Postgraduate Research Scholarship*, The University of Nottingham - UK, **October 2007 - September 2010**
- *RAS travel grant* to attend the IAU Symposium 280, held in Toledo - Spain, **March 2011**
- *Bursary* from the Astrophysical Chemistry Group to attend 'APCHEM 2010', held in Manchester - UK, **January 2010**
- *BEST (Building Experience and Skills Travel) Scholarship*, Graduate School, The University of Nottingham- UK, **February 2009**
- *Bursary* from 'The Molecular Universe conference', held in Arcachon - France, **May 2008**

SCIENTIFIC PUBLICATIONS

- *The 11.2 μm band in astrophysical objects*
A. Candian and P.J. Sarre
to be submitted
- *Quadrupole ion trap/time of flight photodissociation spectrometry of the hexa-peri-hexabenzocoronene (HBC) cation*
J. Zhen et al. (including A. Candian)
submitted to Chem. Phys. Lett.
- *Deprotonated PAHs as potential astrophysical species*
M. Hammonds, A. Candian and P.J. Sarre
submitted to Phys. Chem. Chem. Phys.
- *Integral field spectroscopy of M1-67. A nebula Wolf-Rayet with LBVN appearance*
A. Fernández-Martín et al. (including A. Candian)
A&A, 2013, 554, 104
- *Spatial distribution and molecular interpretation of the 3.3 μm PAH emission of the Red Rectangle*
A. Candian, T.H. Kerr, I.-O. Song, J. McCombie and P.J. Sarre
MNRAS, 2012, 426, 389-397

CONTRIBUTIONS TO CONFERENCES AND WORKSHOPS

- *Hydrogen loss in the HBC cation - Talk*
A. Candian et al.
Lorentz Workshop: The Molecular Physics of Interstellar PAHs, Leiden - The Netherlands, August 2013
- *Hydrogen loss in the HBC cation - Talk*
A. Candian et al.
COST meeting: The Chemical Cosmos - Windsor, UK, April 2013

- *The 3.3 μm band in the Red Rectangle Nebula* - **Talk**
A. Candian et al.
Dutch Astrochemistry Network Meeting, Leiden - The Netherlands,
October 2012
- *Spatial distribution of dust, ionised gas and PAH emission in the Red Rectangle Nebula* - **Poster**
A. Candian et al.
Metals in 3D: New insights from Integral Field Spectroscopy, Granada
- Spain, April 2012
- *Formation of Small Polycyclic Aromatic Hydrocarbons (PAH) Molecules on Silicate Grains* - **Talk**
P.J. Sarre et al. (including **A. Candian**)
COST, The Cosmic Connection - Malta, October 2011
- *PAH Anions in Circumstellar and Interstellar Environments* - **Poster**
M. Hammonds et al. (including **A. Candian**)
IAU Symposium 280, Toledo - Spain, June 2011
- *Emission model of AIBs: the case of 11.2 μm band* - **Poster**
A. Candian and P. J. Sarre
IAU Symposium 280, Toledo - Spain, June 2011
- *Spectroscopy of Protonated and Deprotonated PAHs* - **Talk** - Proceeding
M. Hammonds et al. (including **A. Candian**)
PAHs and the Universe, Toulouse - France, May 2010
- *Assignment of the 11.0 μm and 11.2 μm UIR bands: specific PAH classes and the PAH neutral mass distribution* - **Poster**
A. Candian and P.J. Sarre
PAHs and the Universe, Toulouse - France, May 2010
- *Spectroscopy and Spatial Distribution of PAHs and Dust in the Inner Region of the Red Rectangle Nebula* - **Poster**
A. Pathak et al. (including **A. Candian**)
PAHs and the Universe, Toulouse - France, May 2010

- *Closed-Shell PAH Anions* - **Poster**
M. Hammonds et al. (including **A. Candian**)
PAHs and the Universe, Toulouse - France, May 2010
- *Assignment of UIR bands to specific classes of PAHs* - **Poster**
A. Candian and P.J. Sarre
APCHEM 2010, Jodrell Bank Centre for Astrophysics, University of Manchester - UK, January 2010

CONFERENCES, WORKSHOPS AND MEETING ATTENDANCE

- 7th IRAM Summer School, Granada - Spain, September 2013
- Lorentz Workshop: The Molecular Physics of Interstellar PAHs, Leiden - The Netherlands, August 2013
- COST meeting: The Chemical Cosmos, Windsor - UK, April 2013
- Dutch Astrochemistry Network Meeting, Leiden - The Netherlands, October 2012
- Metals in 3D: New insights from Integral Field Spectroscopy, Granada - Spain, April 2012
- IAU Symposium 280: The Molecular Universe, Toledo - Spain, June 2011
- Molecules in Galaxies (Summer School), Oxford - UK, July 2010
- PAHs and the Universe, Toulouse, France - May 2010
- ESLAB 2010, ESA-ESTEC, The Netherlands - May 2010
- Nottingham HPC users meeting, Nottingham - UK, Jan 2010
- APCHEM 2010: Astrochemistry at high resolution, Manchester - UK, Jan 2010
- RSC Spectroscopy and Dynamics Group meeting, Nottingham - UK, Jan 2009

- 7th Neon Observing School, La Palma - Spain, June 2008
- Herschel Observation Planning Workshop, ESAC - Spain, September 2007
- STFC Summer School, Durham - UK, August 2007

COLLOQUIA AND SEMINARS

- *Bay Region in PAH molecules*, NASA AMES, Mountain View - USA, May 2013
- *Polycyclic Aromatic Hydrocarbons in the Interstellar Medium*, Leiden Observatory, Leiden - The Netherlands, September 2012
- *The Dirty side of Astronomy: Carbonaceous Dust*, Instituto de Astrofísica de Andalucía (IAA - CSIC), Granada - Spain, March 2011
- *Polycyclic Aromatic Hydrocarbons in the Interstellar Medium*, The University of Nottingham (School of Chemistry), UK, July 2010
- *Caroline, Ann and the others: A (lamentably) brief history of Women and Astronomy*, The University of Nottingham (School of Astronomy), UK, Feb 2010
- *Everything you wanted to know about UIR bands (but did not dare to ask)*, Instituto de Astrofísica de Andalucía (IAA - CSIC), Granada - Spain, April 2009
- *Everything you wanted to know about UIR bands (but did not dare to ask)*, Gemini North Headquarters, Hilo - US, April 2009
- *The Unidentified Infrared Bands*, The University of Nottingham (School of Astronomy), UK, May 2008
- *The Cosmic Microwave Background*, Università degli Studi di Padova, Padova - Italy, June 2006 (*Degree Thesis presentation*)

OUTREACH

- Assistance with 'Stars R US' exposition during The University of Nottingham Open Days, 2009-2010

- Assistance in the School of Chemistry Open Days for A-level pupils, 2008-2009
- Assistance on 'The space week' , event within the International Year of Astronomy, Nottingham, June 2009

ACADEMIC SERVICES

- *Member* of the editorial board of the 'AstroPAH-newsletter'
- *Organiser* of the Advanced School 'The Interaction of stars with the interstellar medium of Galaxies' to be held in Les Houches (France), April 2014
- *Organiser* of the Interstellar Medium Group meetings at Leiden Observatory
- *Referee* for observing proposals for Gemini North Telescope

VISITING POSITIONS

- *Istituto Astrofísico de Andalucía (IAA-CSIC), Granada - Spain*, Feb - Aug 2012- 6 months
Host: **Dr. José M. Vilchez**
- *Joint Astronomy Center, Hilo - US*, Feb - Mar 2010 - 1 month
Host: **Dr. Tom H. Kerr**
- *Gemini North Headquarters, Hilo - US*, Mar - Apr 2009 - 1 month
Host: **Dr. Thomas R. Geballe**

TEACHING EXPERIENCE

- Demonstrator in the 1st year Physical Chemistry Laboratory for the degree in Chemistry, 2008-2009 and 2009-2010
- Teaching assistance in workshops of Quantum Chemistry and Spectroscopy course, for the 3rd year of the degree in Chemistry, 2008-2009 and 2009-2010

OBSERVATIONAL EXPERIENCE

- 8 hours at the IRAM 30 m Telescope within the 7th IRAM Summer School, Granada - Spain, September 2013
- 6 nights at the United Kingdom Infrared Telescope (UKIRT), Hawaii - US, March 2010
- 2 nights at the Gemini North Telescope, Hawaii - US, March 2010
- 3 nights at the Gemini North Telescope, Hawaii - US, March 2009
- 2 nights at the Isaac Newton Telescope (INT) within the 7th Neon Observing School, La Palma - Spain, July 2008
- 1 night at the Nordic Optical Telescope (NOT) within the 7th Neon Observing School, La Palma - Spain, July 2008

COMPUTER SKILLS

- Softwares: Emacs, LaTeX, Office (Word, Power Point, Excel), GIMP, Illustrator
- Astronomical Softwares: IRAF, pyIRAF, Starlink
- Quantum Chemistry Software: QCHEM, GAUSSIAN, GAMESS-US
- Languages: FORTRAN, IDL
- Operating Systems: Unix/Linux, Macintosh, Windows