

# Curriculum Vitae

Dr. Elisabete da Cunha

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Date of birth: July 2nd, 1983  
Place of birth: Paris, France  
Nationality: Portuguese

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## Education

- 10/2005 – 10/2008    PhD at the Institut d’Astrophysique de Paris, Université Paris VI  
*Thesis:* Modelling the UV-to-IR Spectral Energy Distributions of Galaxies  
*Supervisor:* Dr. Stéphane Charlot
- 09/2001 – 07/2005    Undergraduate studies in Physics/Applied Mathematics (Astronomy)  
Faculty of Sciences of the University of Porto, Portugal
- 09/1998 – 07/2001    Secondary School Certificate in Natural Sciences  
Barroselas Secondary School, Portugal

## Research Experience

- 11/2014 – 11/2016    Postdoctoral Researcher (Level A8)  
Centre for Astrophysics & Supercomputing, Swinburne University, Australia
- 11/2010 – 10/2014    Postdoctoral Researcher  
Max-Planck Institute for Astronomy, Heidelberg, Germany
- 10/2008 – 10/2010    Postdoctoral Marie Curie Researcher  
Department of Physics, University of Crete, Greece
- 10/2005 – 10/2008    PhD thesis research  
Institut d’Astrophysique de Paris, France

## Research Interests

- Modelling spectral energy distributions of galaxies
- Stellar population synthesis models
- Statistical interpretation of spectroscopic and photometric galaxy surveys
- The formation and evolution of galaxies, comparison between theory/models and observations
- The connections between star formation and AGN
- Chemical evolution and dust production in galaxies
- Deep (sub-)millimeter surveys with ALMA
- The gas content of low- and high-redshift galaxies and connection with star formation properties
- The effect of the CMB in high-redshift (sub-)millimeter observations

## Grants & Awards

- 2009: International Astronomical Union Grant in support for participation in the IAU XXVII General Assembly.
- 2008: Marie Curie Postdoctoral Fellowship at the FORTH/University of Crete (awarded by host: FORTH / University of Crete).
- 2007: European Science Foundation Grant in support of participation in ESF Conference *The Origin of Galaxies*.
- 2005: Marie Curie Early Stage Researcher 3-year Fellowship through the EU MAGPOP (*Multi-wavelength Analyses of Galaxy Populations*) FP6 Research & Training Network (awarded by host: IAP, France)
- 2005: Portuguese Ministry of Science and Education Grant in support for participation in ESA Summer School *Dark Matter & Dark Energy in the Universe*.

## Successful Telescope Proposals

European Southern Observatory Atacama Large Millimeter Array (ESO/ALMA) Cycle 2, Program 2013.1.00513.S, 2.2 hours, P.I. E. da Cunha, *Through the magnifying glass: a unique view of the low-metallicity ISM at high redshift*.

## Graduate Schools & Workshops

- Marie Curie FP6-funded MAGPOP Summer Schools: Aug. 2006, Budapest, Hungary & Aug. 2007, Kloster Seeon, Germany
- Doctoral School of Astronomy & Astrophysics of Ile-de-France, 2005 to 2007: *Workshops*: Numerical Simulations and Parallel Computation (Project: *Numerical resolution of the wave equation in a sphere through spectral methods*); Introduction to Project Management (Project: *Development of a balloon-borne precursor to DUNE (Dark UNiverse Explorer)*). *Courses*: Galaxy Dynamics, by F. Combes (Observatoire de Paris); The Evolution of Galaxies, by B. Rocca-Volmerange (IAP); General Relativity, by G. Esposito (IAP); Introduction to Telescope Proposals, by P. Petitjean (IAP).
- ESA Summer School 2005: Dark Matter & Dark Energy in the Universe, Jul. 19th to 25th, Alpbach, Austria. Organized by the European Space Agency and the Austrian Aeronautics and Space Agency.
- Workshop: Exploring the Solar System, Mar. 29th to Apr. 1st, 2005, Espinho, Portugal. Organized by the portuguese foundation *Navegar* and the *MAGIC* project, with support from the European Space Agency and the European Astrobiology Network Association.

## Invited Talks & Seminars

April 2014 – Invited talk at the conference *The formation and growth of galaxies in the young Universe*, Obergugl, Austria

March 2014 – Invited talk at the conference *Gas and Stars in Galaxies: A multiwavelength 3D Perspective*, Garching, Germany

September 2013 – Seminar at the University of Zagreb, Croatia

November 2012 – Talk at the MPIA Science Day, Germany

October 2012 – Seminar at Tufts University, Boston MA, USA

September 2012 – Seminar at the CEA Saclay, France

June 2011 – Invited talk at the workshop *Constraints of physical parameters from the ultraviolet, optical and infrared SEDs of galaxies*, Nice, France

February 2009 – School of Astronomy & Astrophysics Seminar, University of Nottingham, UK

September 2008 – MPA Cosmology Seminar, Max-Planck-Institute for Astrophysics, Germany

November 2007 – Seminar at the Center for Astrophysics of the University of Porto, Portugal

## Conferences & Meetings

- May 2014: International Symposium *Multi-wavelength Surveys: Galaxy formation and evolution from the early Universe to today*, Dubrovnik, Croatia (contributed talk & judge on the ‘best poster’ award panel)
- April 2014: Conference *The formation and growth of galaxies in the young Universe*, Obergurgl, Austria (invited talk)
- March 2014: ESO conference: *Gas and Stars in Galaxies: A multiwavelength 3D Perspective*, Garching, Germany (invited talk)
- July 2013: EWASS 2013 Session: *Starburst Galaxies Now and Then with ALMA*, Turku, Finland (talk)
- May – June 2013: Aspen Center for Physics Workshop *Dusty Starbursts*, Aspen CO, USA (talk & led discussion session)
- May 2013: Ringberg Workshop *Far-infrared emission as window to study the formation of galaxies, black holes and dust in the young Universe*, Ringberg Castle, Germany (talk, participation by invitation)
- April 2013: Academy Colloquium *FIRSED2013 – the FIR-submm SEDs of galaxies with and without active nucleus*, Amsterdam, The Netherlands (talk, participation by invitation)
- November 2012: MPA Galaxies & Cosmology Department Retreat, Lobbach, Germany
- October 2012: 3D-HST Team Meeting, Yale University, USA (talk)
- March 2012: Germany/UK Astronomy Meeting NAM 2012, Session *12 billion years of star formation and nuclear activity in galaxies - the submillimetre view* (invited talk)
- December 2011: Ringberg Workshop *Watching Galaxies Grow*, Ringberg Castle, Germany (participation by invitation, session chair)
- October 2011: MPA Galaxies & Cosmology Department Retreat, Schloss Engers, Germany (talk, co-organizer)
- October 2011: 3D-HST Team Meeting, Leiden, The Netherlands (talk)
- September 2011: IAU Symposium 284 *The Spectral Energy Distribution of Galaxies* (talk)
- June 2011: ESO GAS2011 Conference *The ISM of high-redshift galaxies*, Santiago, Chile (talk)
- June 2011: Workshop *Constraints of physical parameters from the ultraviolet, optical and infrared SEDs of galaxies*, Nice, France (invited talk)
- May 2011: 3D-HST Team Meeting, Yale University, USA (talk)
- March 2011: 3D-HST Team Meeting, Leiden, The Netherlands (talk)
- September 2010: Conference *Challenges in Infrared Extragalactic Astrophysics II*, Crete, Greece (talk, LOC member)

- May 2010: ESLAB 2010 – Hershel First Results Symposium, Noordwijk, The Netherlands (poster)
- August 2009: IAU XXVII General Assembly, Rio de Janeiro, Brazil; IAU Symposium 262: “*Stellar Populations - Planning for the Next Decade*” (talk)
- November 2008: Lorentz Center Workshop *Fitting the Spectral Energy Distributions of Galaxies*, Leiden, The Netherlands (talk)
- November 2008: 5th MAGPOP Network Meeting, Paris, France (talk)
- September 2008: Conference *Challenges in Infrared Extragalactic Astrophysics*, Crete, Greece (talk)
- February 2008: EARA–IAP Workshop *Herschel Promises for Galaxy Evolution Studies*, Paris, France (talk)
- October 2007: 4th MAGPOP Network Meeting, Malta (talk)
- March 2007: ESF Conference *The Origin of Galaxies*, Obergurgl, Austria (poster)
- December 2006: 3rd MAGPOP Network Meeting, La Palma, Canary Islands, Spain (talk)
- July 2006: XVI ENAA: Portuguese Astronomy & Astrophysics Meeting, Espinho, Portugal (talk)
- February 2006: 2nd MAGPOP Network Meeting, Toledo, Spain (talk)
- IAP Thesis Day, 2006, 2007 and 2008, Paris, France (talks)

## Software Experience

UNIX, Linux and Macintosh operating systems; frequent Fortran, SuperMongo and IDL programming; LaTeX word processing.

## Professional Activities

Author & Maintainer of the public SED-fitting package MAGPHYS ([www.iap.fr/magphys](http://www.iap.fr/magphys))

Survey Manager for the Taipan Survey led by the Australian Astronomical Observatory

Post-doc member of PhD review panel of (so far) two PhD students at Swinburne University

Referee for the journals A&A, MNRAS and ApJ

Review panel member for the NASA ADAP grants in 2012 and 2013

Panel member in post-doctoral researcher selection committees at the Max-Planck Institute for Astronomy (January 2014) and Swinburne University (December 2014)

Co-organizer of ‘Galaxy Coffee’, the informal seminar of the Galaxies & Cosmology Department at MPIA for 2 years

Co-organizer of the MPIA Galaxies & Cosmology Department Retreat 2011, Schloss Engers, Germany

Local Organizing Committee of the Conference *Challenges in Infrared Extragalactic Astrophysics II*, September 2010, Agios Nikolaos, Crete

## Team/Collaboration Membership

Co-I in the Herschel-ATLAS Open Time Key Project of the Herschel Space Observatory (P.I.s: S. Eales, Cardiff, and L. Dunne, Canterbury)

Team member of the 3D-HST survey (P.I.: P. van Dokkum, Yale, co-P.I. H.-W. Rix, MPA Heidelberg)

ALESS (*ALMA Survey of Sub-mm Galaxies in the ECDF-South*; P.I.s I. Smail, Durham University, and F. Walter, MPA Heidelberg) collaborator

## Language Skills

Portuguese (*native speaker*); English (*fluent*); French (*fluent*); Spanish (*intermediate*); Modern Greek, German (*basic*).

## Public Outreach

April 2008: Lecturer at the *Science Academie* at the IAP (Astrophysics courses for high school students).

2006 – 2009: Participation in the project *FAQ IAP*.

April 2005: Invited participation in RTP (Portuguese public TV broadcast) science show *4X Ciência*, with the subject *Astronomy in School*.

2003 – 2005: *StarLab Planetarium* assistant at the Center for Astrophysics of the University of Porto, Portugal.

## References

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## Selected Publications

Total: 61 publications (of which 5 first-author) with a total of 1562 citations; h-index of 22; m-index of 3.1 (statistics from ADS).

1. Pacifici, Camilla, **da Cunha, Elisabete**, Charlot, Stéphane et al., *On the importance of using appropriate spectral models to derive physical properties of galaxies at  $0.7 < z < 2.8$* , MNRAS accepted, arXiv:1411.5689 (2014)
2. Nelson, Erica, van Dokkum, Pieter, Franx, Marijn, Brammer, Gabriel, Momcheva, Ivelina, Forster Natascha, **da Cunha, Elisabete**, et al., *A massive galaxy in its core formation phase three billion years after the Big Bang*, Nature 513, 394 (2014)
3. Negrello, M., Hopwood, R., Dye, S., **da Cunha, E.**, Serjeant, S., Fleuren, S., et al., *Herschel-ATLAS: deep HST/WFC3 imaging of strongly lensed submillimeter galaxies*, submitted to MNRAS, arXiv:1311.5898 (2013)
4. Maseda, Michael V., van der Wel, Arjen, **da Cunha, Elisabete**, Rix, Hans-Walter, Pacifici, Camilla, et al., *Confirmation of Small Dynamical and Stellar Masses for Extreme Emission Line Galaxies at  $z \sim 2$* , ApJL 778, 22 (2013)
5. Schmidt, Kasper B., Rix, Hans-Walter, **da Cunha, Elisabete**, et al., *The spatial extent and distribution of star formation in 3D-HST mergers at  $z \sim 1.5$* , MNRAS 432, 285 (2013)
6. **da Cunha, Elisabete**, Groves, Brent, Walter, Fabian, et al., *On the Effect of the Cosmic Microwave Background in High-redshift (Sub-)millimeter Observations*, ApJ 766, 13 (2013)
7. **da Cunha, Elisabete**, Walter, Fabian, Decarli, Roberto, et al., *Empirical Predictions for (Sub-)millimeter Line and Continuum Deep Fields*, ApJ 765, 9 (2013)
8. Smith, D. J. B., Dunne, L., **da Cunha, E.**, et al., *Herschel-ATLAS: multi-wavelength SEDs and physical properties of 250- $\mu$ m selected galaxies at  $z < 0.5$* , MNRAS 427, 763 (2013)
9. Walter, Fabian, Decarli, Roberto, Carilli, Chris, Bertoldi, Frank, Cox, Pierre, **da Cunha, Elisabete**, et al., *The intense starburst HDF850.1 in a galaxy overdensity at  $z \simeq 5.2$  in the Hubble Deep Field*, Nature 486, 233 (2012)
10. Dunne, L., Gomez, H., **da Cunha, E.**, et al., *Herschel-ATLAS: rapid evolution of dust in galaxies over the last 5 billion years*, MNRAS 417, 1510 (2011)
11. Bitsakis, T., Charmandaris, V. **da Cunha, E.**, Diaz-Santos, T., Le Floch, E., Magdis, G., *A mid-IR study of Hickson compact groups. II. Multiwavelength analysis of the complete GALEX-Spitzer sample*, A&A 533, 142 (2011)
12. Wijesinghe, D. B., **da Cunha, E.**, Hopkins, A. M., Dunne, L., et al., *GAMA/H-ATLAS: The ultraviolet spectral slope and obscuration in galaxies*, MNRAS 415, 1002 (2011)
13. Negrello, M., Hopwood, R., De Zotti, G., Cooray, A., Verma, A., Bock, J., Frayer, D. T., Gurwell, M. A., Omont, A., Neri, R., Dannerbauer, H., Leeuw, L. L., Barton, E., Cooke, J., Kim, S., **da Cunha, E.**, et al., *The Detection of a Population of Submillimeter-Bright, Strongly Lensed Galaxies*, Science 330, 800 (2010)
14. **da Cunha, Elisabete**, Charmandaris, Vassilis, Diaz-Santos, Tanio, Armus, Lee, Marshall, Jason A., Elbaz, David, *Exploring the physical properties of local star-forming ULIRGs from the ultraviolet to the infrared*, A&A 523, 78 (2010)
15. **da Cunha, Elisabete**, Eminian, Céline, Charlot, Stéphane, Blaizot, Jérémy, *New insight into the relation between star formation activity and dust content in galaxies*, MNRAS 403, 1894 (2010)
16. **da Cunha, Elisabete**, Charlot, Stéphane, Elbaz, David, *A simple model to interpret consistently the ultraviolet, optical and infrared emission from galaxies*, MNRAS 388, 1595 (2008)