

Curriculum Vitae
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Roger M. Leiton Thompson

First Name Roger

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Nationality: Chilean citizenship

Higher Education:

2010-present *Universidad de Concepción, Concepción, Chile.*
Université Paris Sud, France.

Ph.D. thesis in CHILE

- Doctor in Physical Science, specialization in Astronomy, Universidad de Concepcion, Chile.
- Advisor in Chile: Dr. Neil Nagar (U. de Concepción)
Thesis title: '**Dust destruction by radio jets**'

Ph.D. thesis in FRANCE

- Doctorat és Science, Spécialité Astronomie et Astrophysique, Université Paris-XI, France.
- Advisor in France: Dr. David Elbaz (CEA Saclay)
Thesis title: '**Star formation in starburst galaxies**'

1997 - 2004 *Universidad de La Serena, La Serena, Chile*

Bachelor in Physics, minor in Astronomy.

Thesis: "**The Magellanic Cloud Emission-line Survey (MCELS) & Supernova Remnants in the MCs**".

Adviser: Dr. R.Chris Smith (CTIO/NOAO); Dr. Rodolfo Barba (U. de La Serena).

Note: In 1997, it was mandatory for the students of the Dept. of Physics of Universidad de La Serena to spend the first two years studying Pedagogy in Mathematics and Physics. After completing those four semesters, students can switch to the program of Bachelor in Physics or continuing in the Pedagogy program.

EMPLOYMENT AND RESEARCH EXPERIENCE

- 2010-present *CEA Saclay, France*
Member of the GOODS-Herschel team in CEA Saclay. Ph.D student in the Cosmology and Extragalactic Group (P.I. D. Elbaz). Working on: **cosmic star formation and black hole assembly in galaxies at high redshift; confusion limits in the far infrared.**
- 2008-present *Universidad de Concepción, Concepción, Chile:*
Ph.D work with Dr. Neil Nagar on **destruction of dust grains with radio jets.**
- 2006-2009 *Universidad de Concepción, Concepción, Chile:*
Scientific Collaboration with Dr. Zbigniew Kolaczowski and Dr. Karen Kinemuchi: **Photometric Monitoring of Variable stars.**
- Sept. 2005 – 2008 *Universidad de Concepción, Concepción, Chile:*
Data Analyst supervised by Dr. Douglas Geisler, working on the observations and data reduction for a Key Project of the **NASA Space Interferometer Mission (SIM)** and other observational projects related with the astronomy group. Observation duties included about 50 nights using the Swope 40" telescope in Las Campanas Observatory (Chile).
- 2005-2010 *Universidad de Concepción, Concepción, Chile:*
Manager of the on-campus observatory. Duties included technical maintenance, scheduling, student training, public outreach and observational programs using the 30cm telescope + CCD camera + high-resolution spectrograph.
- Jan.-Mar 2005 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Research Assistant of Dr. Patrice Bouchet, working on the reduction and photometry of **infrared supernova** images from CTIO-4m/ ISPI.
- May 2003- Jan. 2004 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Research Assistant of Dr. Andrei Tokovinin, working on incrementing the **9th Catalog of Radial Velocities for Spectrophotometric Binary Systems** for Commission 30 of the International Astronomical Union.
- Summer1999 & Summer2000 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Observer for the **2-Micron All Sky Survey (2MASS)** project.
- 1998 - 2005 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Research Assistant of Dr. R. Chris Smith:
- in the **U. of Michigan/CTIO Magellanic Cloud Emission-line Survey, MCELS**, (observations, reduction, calibration of images and spectra) to map the LMC and SMC in narrow-band filters (H alpha, [S II], [O III]) to study the ISM of those galaxies.

- Studying **Supernova Remnants** in the **Magellanic Clouds**

- 1998 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Research Assistant of Dr. Rene Mendez, **Photometry of the Open Cluster NGC2516.**
- 1997 - 2005 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Observing Assistant and Support spending more than 300 observing nights in Cerro Tololo Interamerican Observatory:
- **supporting visiting astronomers** as observing assistant,
- **performing service observing programs** (MCELS, High-z SN Search, Parallax Investigation, SINGG, MACHO, Super MACHO, ESSENCE and other)
- **telescope and observing support** for CTIO/NOAO and SMART Consortium
- **operating and observing with CTIO telescopes:** Blanco 4m (R-C spectrograph, MOSAIC Camera), 1.5m (CCD imager, R-C spectrograph), 1.0m (CCD imager), 0.9m (CCD imager), Curtis/Schmidt (CCD imager), 2MASS (IR camera), 1.3m (ANDICAM)
- Summer 1996 *National Optical Astronomical Observatories, Cerro Tololo Interamerican Observatory, La Serena, Chile:*
Research Assistant of Dr. Mark Phillips as R.E.U. student, **Measuring the Sky Brightness of CTIO.**

TEACHING EXPERIENCE

- 2009 *Universidad Andres Bello, Concepción, Chile:*
Lecturer on Physics I for medical sciences undergraduates.
- 2008 *Universidad de Concepción, Concepción, Chile:*
Teaching Assistant for on mechanics laboratory for engineering undergraduates.
- March 2002 - July 2002 *Universidad de La Serena, La Serena, Chile:*
Teaching Assistant on Modern Physics for undergraduate Physics students.
- Aug. 2001- Dec.2001 *Universidad de La Serena, La Serena, Chile:*
Teaching Assistant for undergraduate course on General Physics (Mechanics) for Computing Engineering.
- March 2000 - July 2000 *Universidad de La Serena, La Serena, Chile:*
Teaching Assistant for undergraduate course on General Mathematics for 1st year science students.
- 1997-1999 *Universidad de La Serena, La Serena, Chile:*
Organizer and Lecturer of a Course of Basic Astronomy for non-scientific university students.

SOCIETIES

- 2002 - 2010 **Chilean Section** of the **International Dark-Sky Association**, co-founder and head.
- 1999 - present **International Dark-Sky Association (IDA)**, Individual Member.

- 1998 - 2000 **Chilean Network of Astronomy**, co-founder and head.
- 1997 - 1998 **Amateur Astronomy Group "Centauri"**, Physics Dept. of Universidad de La Serena, co-founder and president.

AWARDS AND SCHOLARSHIPS

- 2010-2012 **BECAS CHILE Studentship Grant awarded by the Chilean Government** for co-advised thesis in France.
- 2010-2012 **French Government Studentship** for Doctorate studies.
- 2007-2010 **Four-years CONICYT Scholarship (Chilean Government)** for Doctorate studies in the Universidad de Concepción.
- 2002 **Executive Director's Award**, International Dark-Sky Association.
- 1996 **Research Experiences for Undergraduates (REU)**. Studentship to work in CTIO on Sky Brightness measurements.
- 1993 1st National Place (Gold Medal) in the VII National Award "Pacific Uses of Nuclear Energy" with the original essay titled "Production of Energy by particle-antiparticle annihilation", **Chilean Nuclear Commission**.
- 1993 **Regional Physics Olympiads for Schools**, Universidad de La Serena.
- 1992 **Regional Physics Olympiads for Schools**, Universidad de La Serena.

PUBLICATIONS

(including all the results from the NASA Astrophysical Data System)

- 2012** **GOODS-Herschel: dust attenuation properties of high redshift galaxies**
Buat, V., et al.
in preparation.
- GOODS-Herschel: resolving the Cosmic Infrared Background with Herschel**
Leiton, R. , et al.
in preparation.
- GOODS-Herschel: beyond the confusion limits in the GOODS fields.**
Leiton, R. , et al.
in preparation.
- Dust destruction by radio jets**
Leiton, R. , Nagar, N.
in preparation.
- GOODS-Herschel: Ultra-deep XMM-Newton observations reveal AGN-star formation connection**
Rovillos, E., Comastri, A., Gilli, R., Georgantopoulos, I, Ranalli, P., Vignali, C., Lusso, E., Cappelluti, N., Zamorani, G., GOODS-H team (**Leiton, R.**)
In press.
- GOODS-Herschel: the far-infrared view of star-formation in AGN host galaxies since $z \sim 3$**
Mullaney, J.R., Pannella, M., Daddi, E., Alexander, D.M., Elbaz, E., Hickox, R.C., Bournaud, F., GOODS-H team (**Leiton, R.**)
2012, MNRAS, 419, 95
- GOODS-Herschel: measurements of the dust attenuation of typical star-forming galaxies at high-redshift: Observations of UV-selected galaxies at $z \sim 2$**

Reddy, N., Dickinson, M., Elbaz, D., Morrison, G., Giavalisco, M., Ivison, R., Papovich, C., Scott, D., Buat, V., Burgarella, D., Charmandaris, V., Daddi, E., Magdis, G., Murphy, E., GOODS-H team (**Leiton, R.**)
2012, ApJ, 744, 154

The Evolution of the star formation activity per halo mass up to redshift ~1.6 as seen by Herschel

Poposo, P., Biviano, A., Rodighiero, G., Baronchelli, I., Salvato, M., Saintonge, A., Fonoguenov, A., B. Magnelli, Grupionni, C., Pozzi, F., Lutz, D., Elbaz, D., GOODS-H team (**Leiton, R.**)
2012, A&A, 537, 58

GOODS-Herschel & CANDLES: The Morphologies of Ultraluminous Infrared Galaxies at $z \sim 2$

Kartaltepe, J., Dickinson, M., Alexander, D. M., Bell, E. F., Dahlen, T., Elbaz, D., Faber, S. M., Lotz, J., McIntosh, D. H., Wiklind, T., GOODS-H team (**Leiton, R.**)
2011, arXiv1110.4057K, to appear in ApJ

2011

GOODS-Herschel: the impact of galaxy-galaxy interactions on the far-infrared properties of galaxies

Hwang, H.S., Elbaz, D., Dickinson, M., Charmandaris, V., Daddi, E., Le Borgne, D., Buat, V., Magdis, G., GOODS-H team (**Leiton, R.**)
2011, A&A, 535, 60

GOODS-Herschel: gas-to-dust mass ratios and CO-to-H₂ conversion factors in normal and starbursting galaxies at high- z

Magdis, G., Daddi, E., Elbaz, D., Sargent, M., Dickinson, M., Dannerbauer, H., Aussel, H., Walter, F., Hwang, H.S., Charmandaris, V., Hodge, J., Ricchards, D., Rigopoulou, D., Carilli, C., Galliano, F., Panella, M., Mullaney, J., **Leiton, R.**, Scott, D.
2011, ApJL, 740, 15.

GOODS-Herschel: a population of 24 μ m dropouts sources at $z < 2$

Magdis, G., Elbaz, D., Dickinson, M., Hwang, H.S., Charmandaris, V., Armus, L., Daddi, E., Le Floch, E., Aussel, H., Dannerbauer, H., Rigopoulou, D., Buat, V.; Morrison, G.; Mullaney, J.; Lutz, D.; Scott, D.; Coia, D.; Pope, A.; Pannella, M.; Altieri, B.; Burgarella, D.; Bethermin, M.; Dasyra, K.; Kartaltepe, J.; **Leiton, R.**; Magnelli, B.; Popesso, P.; Valtchanov, I.
2011, A&A, 534, 15

GOODS-Herschel: evidence for a UV extinction bump in galaxies at $z > 1$

Buat, V., Giovannoli, E., Heinis, S., Charmandaris, V., Coia, D., Daddi, E., Elbaz, D., Hickox, R.C., Bournaud, F., GOODS-H team (**Leiton, R.**)
2011, A&A, 533, 93

GOODS-Herschel: an infrared main sequence for star-forming galaxies

Elbaz, E., Dickinson, M., Hwang, H.S., Diaz-Santos, T., Magdis, G., Magnelli, B., Le Borgne, D., Galliano, F., Pannella, M., Chanial, P., GOODS-H team (**Leiton, R.**)
2011, A&A, 533, 119

The Unusual RR Lyrae Population of NGC 6101

Cohen, R.E., Sarajedini, A., Kinemuchi, K., **Leiton, R.**
2011, ApJ, 727, 9

2009

Minor Planet Observations [G91 Whipple Observatory, Mt. Hopkins--2MASS]

Cutri, R. M., Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A.,

- Leiton, R., et al.**
2009, MPC, 65051, 4
- Minor Planet Observations [G91 Whipple Observatory, Mt. Hopkins--2MASS]**
2009, MPC, 64763, 6,
Cutri, R. M., Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A.,
Leiton, R., et al.
- 2007 Planetary Nebulae in the Large Magellanic Cloud**
Zenteno, A., Smith, R.C., Rest, A., Points, S., **Leiton, R.**, Aguierra, C.
2007, BAAS, 38, 1112.
- 2006 Follow-up Photometry and Spectroscopy of Space Interferometry Mission Planet Quest Grid Giant Star Candidates,**
Geisler, D., Arenas, J. Majewski, S., Zapata, A., **Leiton, R.**, Gieren, W.
2006, *RMxAC*, 26, 180,
- Globular Cluster Observations in Preparation for a SIM Planet Quest Key Project**
Leiton, R., Geisler, D., Majewski, S., Patterson, R., Gieren, W., Spergel, D., Tremaine, S., Grebel, E., Grillmair, C., Johnston, K., Reid, N.
2006, Annual Meeting of the Chilean Astronomical Society,
- 2005 Optical Emission Line Surveys of the Ionized Gas in the Magellanic Clouds**
Smith, R.C., Chu, Y-H., Winkler, P.F., **Leiton, R.** and the MCELS Team.
2005, *AAS*, 207, 14501
- An Emission-Line Survey of the Small Magellanic Cloud: the Full Mosaic**
Winkler, P. F.; Young, A. L.; Braziunas, D.; Condon, R.; Galle, E. C.; Reaser, B. E.; **Leiton, R.**; Smith, R.C.; MCELS Team.
2005, *AAS*, 207, 13203
- The Magellanic Emission Line Survey (MCELS)**
Smith, R.C., Points, S.D., Chu, Y.-H., Winkler, P.F., Aguilera, C.; **Leiton, R.**, MCELS Team.
2005, *AAS*, 207, 2507
- New Optically Identified of SNR Candidates in the Large Magellanic Cloud.**
Leiton, R., Aguilera, C., Smith, R.C., Chu, Y-H, Winkler, F. and MCELS Collaboration.
2005, *AAS*, 205, 10106
- The MCELS Survey: Transition from Data to Science**
Smith, R.C., Points, S., Aguilera, C., **Leiton, R.**, Chu, Y-H, Winkler, F. and MCELS Collaboration.
2005, *AAS*, 205, 10108
- 2003 Minor Planet Observations [I02 Cerro Tololo Observatory, La Serena--2MASS]**
Cutri, R. M., Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A.,
Leiton, R., et al.
2003, MPC, 48911, 2
- Minor Planet Observations [G91 Whipple Observatory, Mt. Hopkins--2MASS]**
Cutri, R. M., Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A.,
Leiton, R., et al.
2003, MPC, 48905, 8
- Natural Satellite Observations [I02 Cerro Tololo Observatory, La Serena--**

2MASS]

Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A., **Leiton, R.**, et al.
2003, MPC, 48615, 3

Comet Observations [I02 Cerro Tololo Observatory, La Serena--2MASS]

Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A., **Leiton, R.**, et al.
2003, MPC, 48559, 27

Comet Observations [G91 Whipple Observatory, Mt. Hopkins--2MASS]

Aguilera, C., Bennet, E., Brehmer, G., Dembicky, J., Guerra, A., **Leiton, R.**, et al.
2003, MPC, 48559, 23

Increasing the Chilean Awareness of Dark-Sky Preservation

Leiton, R.

2003, Astrophysics and Space Library, 284, 195, on "Light Pollution: a Global View", E. Schwarz Ed.

2002

Optical and Infrared Photometry of the Unusual Type Ia Supernova 2000cx

Candia, P., Krisciunas, K., Suntzeff, N., Gonzalez, D., Espinoza, J., **Leiton, R.**, et al.

2002, PASP, 115, 277

CTIO Sky Brightness

Vera, S., Krisciunas, K., Candia, P., **Leiton, R.**, Suntzeff, N.

2002, AAS, 201, 7607

2000

The UM/CTIO Magellanic Cloud Emission-line Survey

Smith, R.C., **Leiton, R.**, Pizarro, S.

2000, in "Star, gas and dust in galaxies: Exploring the links", ASP Conference Series, Vol. 221., 83,

1999

The planetary nebula from Colombina (PDS519)

Quast, G., Faundez-Abans, M., Torres, C., **Leiton, R.**, Reyes, C.

1999, Boletim da Sociedade Astronomica Brasileira, Vol.19, p. 130

1998

PDS309: A post-AGB as a planetary nebula?

Quast, G.R., Reyes, C., Faundez-Abans, M., Torres, C., da Silva, L., Oliveira, **Leiton, R.**,

1998, Boletim da Sociedade Astronomica Brasileira, Vol.18, p. 94

PUBLIC OUTREACH AND MEDIA

2005-2009

Several appearances related with astronomy and light pollution in local media. Several talks given each year in schools and universities.

2005

MCELS image of the 30 Doradus Complex: **cover of the Mercury Magazine, Nov/Dec 2005**, Vol. 34. No.6.

2005

Co-author in the **Astronomy Picture of the Day**, 2005 Dec. 12. MCELS image of 30 Doradus

2005-present

Outreach program of the Astronomy Department of Universidad de Concepción. **Manager of the on-campus observatory** of the Universidad de Concepción (Chile). The observatory is visited by about 1000 individuals every year.

2005

Invited lecturer in the "Workshop for teachers", REDLASER Astronomy Program for Schools. Talk title: "Comets"

2004

Invited lecturer in the workshop "Astronomy as Educational Tool" with the presentation "Light Pollution: a problem of all", Pucon, Chile.

- 2004 Collaboration in the **Astronomy Picture of the Day**, 2004 October 6. MCELS image of "N11: a giant ring of emission nebulae".
- 2003 - 2004 **Creator and speaker** of "Viajeros", a radio broadcasting program on astronomy and light pollution, Radio Universitaria, La Serena.
- 2003 Organizer of the project "Determining the Light Pollution of Chilean Skies". A collaboration of the IDA Chilean Section, the ASTRO Project and Red de Estudiantes de La Serena (Redlaser).
- 1997-2000 **Co-founder and head** of the Chilean Network of Astronomy.
- 1997 - present **Lecturer** in different courses of elementary astronomy and astronomy seminars in the Dept. of Physics of University of La Serena
- 1997 **Organizer and contributor** in the Annual Meeting of Amateur Astronomy, held in Vicuna, Chile

LIGHT POLLUTION

- 2005 Author of a picture on light pollution in "Limiting Light Pollution in Ongoing Challenge" by Toni Feder, **Physics Today**, June 2005.
- 2004 **Invited lecturer** in the workshop "Astronomy as Educational Tool" with the presentation "Light Pollution: a problem of all", Pucon, Chile.
- 2004 **Organizer and contributor** of the "1st Workshop on Light Decontamination", La Serena, 23-24 April.
- 2003 **Organizer of the project** "Determining the Light Pollution of Chilean Skies". This is a collaboration of the IDA Chilean Section, the ASTRO Project and Red de Estudiantes de La Serena (Redlaser).
- 2002 - 2010 **Co-Founder and head** of the Chilean section of the International Dark-Sky Association.
- 2000 - 2001 **Co-Founder and head** of the Light Decontamination Group, a branch of the Chilean Network of Astronomy.

CONFERENCES (* = oral exposition; ** = poster)

- 2010 *Galaxy Evolution: Infrared to millimeter wavelength perspective*. Guilin, China (**)
- 2010 *Challenges in Infrared Extragalactic Astrophysics II*. Crete, Greece.
- 2009 *ESO Workshop on "ALMA and ELTs: A Deeper, Finer View of the Universe"*, ESO Garching, Germany.(**)
- 2009 *Annual Meeting of the Chilean Astronomical Society*. Santiago, Chile (**)
- 2008 *Star formation across the Milky Way Galaxy*. ESO workshop. Santiago, Chile.
- 2007 *Insights in Galaxy Evolution from Stellar Populations in Resolved Galaxies*, Advanced Chilean School of Astrophysics, Concepción, Chile.
- 2006 *Interferometry in the epoch of ALMA and VLTI*. Advanced Chilean School of Astrophysics. Santiago, Chile.
- 2006 *Annual Meeting of the Chilean Astronomical Society*. La Serena, Chile (**)
- 2005 *Globular Clusters: Guide to Galaxies*, Concepción, Chile.

- 2005 *11th Latin-American Regional IAU Meeting*, Pucón, Chile (**)
- 2005 *Latin-American Astronomy Summer School*, Santiago, Chile.
- 2005 Invited lecturer in the “Workshop for teachers”, REDLASER Astronomy Program for Schools. Talk's title: “Comets”
- 2005 *January 2005 Meeting of the American Astronomical Society*, San Diego, Cal., USA. (**)
- 2004 *Astronomy as Educational Tool*, Pucón, Chile (*)
- 2004 *1st Workshop on Light Decontamination*, La Serena, Chile (*)
- 2003 *2nd Annual Meeting of the Chilean Astronomical Society*. Santiago, Chile. (*)
- 2002 *International Conference on Light Pollution*. ESO/CTIO/LCO. La Serena, Chile. (*)
- 2002 *Galactic Star Formation Across the Stellar Mass Spectrum*. ESO/CTIO/LCO. La Serena, Chile.
- 2000 *Star Formation and Galactic Evolution. Xth IAGUSP Advanced School on Astrophysics*. Rio de Janeiro, Brazil.
- 2000 *Stars, gas and dust: Exploring the links*. ESO/CTIO/LCO. La Serena, Chile. (**)
- 2000 *Annual Meeting of Amateur Astronomy*. Copiapó, Chile. (*)
- 2000 *IX Latin American Workshop on Plasma Physics*. La Serena, Chile.
- 1999 *Annual Meeting of Amateur Astronomy*. SAVAL. Vina del Mar, Chile. (*)
- 1998 *Annual Meeting of Amateur Astronomy*. Obs. Mamalluca/Grupo Centauri/ CTIO. Vicuna, Chile. (*)
- 1997 *SN 1987: Ten years after*. ESO/CTIO/LCO. La Serena, Chile.
- 1997 *Annual Meeting of Amateur Astronomy*. Concepción, Chile. (*)
- 1997 *VIII Regional Meeting of Northern Physics. IV International Meeting of Andean Physics*. Universidad de Tarapacá. Arica, Chile. (**)
- 1996 *The Galactic Center Workshop*. ESO/CTIO/LCO. La Serena, Chile.
- 1995 *V Regional Meeting of Northern Physics. II International Meeting of Andean Physics*. Univ. Arturo Prat. Iquique, Chile.

COMPUTATION AND SOFTWARE KNOWLEDGE

Operating Systems: UNIX, Mac OS and Microsoft Windows.

Knowledge of astronomical software

- **IRAF** software for reduction of images and spectra (medium-high)
- **HIPE** for Herschel Space Observatory reductions
- **StarFinder** for photometry
- **DAOPHOT** (basic)
- **MSCPIPELINE** and **PHOTPIPE**: for reduction of CTIO-4m Mosaic images

Programming skills (level):

- **SUPERMONGO** (basic)
- **HTML** (medium)
- **IDL** (medium).

Knowledge of **LATEX** word processor

LANGUAGE

Spanish: mother language

English: TOEFL score (paper-based): **573**

Italian (1 semester), **German** (1 semester), **French** (1 semester)

OTHER INTERESTS

Science & society issues. Science history. World history. Photography.