

CURRICULUM VITAE

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Primary Research Interests:

Galaxy formation and evolution; Chemical Evolution; Cosmology; Numerical Simulations.

Academic Background

Licenciatura in Astronomy, Universidad Nacional de Córdoba, Argentina, 1990 .

PhD in Astronomy, Universidad Nacional de Córdoba, Argentina, 1995.

Current Position

Associate Researcher of the National Research Council of Argentina (Conicet) at the Institute for Astronomy and Space Physics (IAFE), since 2007.

Director of the New Argentine Virtual Observatory (NOVA) since 2010.

Current Professional Activities

Vice-Coordinator of the Astronomy Committee of Conicet, 2011-2012.

Member of the Astronomy Commission of the Ministry of Science of Argentina, 2011-2013.

Coordinator of the Conicet Node of the CosmoComp Network funded by the European Union (PF7 ITN Marie Curie Program), 2010-2013.

Coordinator of the Conicet Node of the LaceGal Network funded by the European Union (PF7 IRSES Marie Curie Program), 2010-1014.

Publications: 140 total with more than 1000 cites (ADS); 53 refereed articles.

Prizes and Honors

Gaviola Prize, National Academy of Science, 2007.

Houssey Prize, Young Scientist in Natural and Exact Sciences, 2007.

Virpi Niemela Prize, National Academy of Physics and Natural Sciences, 2007.

Scopus Prize for Young Scientists, 2007.

L'Oreal-Unesco-Conicet For Women in Science Honor Mention, 2008.

L'Oreal-Unesco-Conicet For Women in Science, 2010.

Past Professional Activities:

- Member of the Advisory Committee for the National System for Supercomputing of the Ministry of Science and Technology of Argentina, 2010-2011.
- Member of the Gemini Telescopes Commission of the Ministry of Science and Technology of Argentina. 2009-2011.
- Member of the Astronomy and Space Science Commission of the Ministry of Science of Argentina. 2009-2011.
- Member of the Directive Commission of IAFE, 2008-2009.
- Member of the Astronomy Committee of Conicet, 2008.
- Vice-Coordinator of the Astronomy Committee of Conicet, 2007.

International Grants:

CosmoComp Network funded by the European Union, PF7 ITN Marie Curie Program (2010-2013);
LaceGal Network funded by the European Union, PF7 IRSES Marie Curie Program, (2010-2014);
Alfa Project: "Latin-american European Network for Astrophysics and Cosmology" awarded for the European Union (2004-2007).

National Grants as PI:

- Research grant awarded by Conicet, PIP 2009 - 0305
- Research grant awarded by the National Research Agency in collaboration with the Max Planck Institutes, PICT 2006 Max-Planck N° 245.
- Research grant awarded by Foncyt, PICT 2005: Chemical Evolution of the Universe
- Research grant awarded by Conicet PIP: "Numerical Astrophysics: Chemical Evolution of Galaxies", 2006-2007.
- Multi-institutional grant awarded by Conicet to build up the national consortium "High-performance Opteron Parallel Ensemble" (HOPE) : 64bit Beowulf cluster at IAFE (2004).
- Young Scientist Grant project awarded by Conicet: "Formation and Evolution of the Galaxies and Clusters of Galaxies in Hierarchical Scenarios", 2004 (1 year).
- Early Career Grant "Numerical Cosmology" awarded by Antorchas Foundation, 2002 (3 years).
- Multi-institutional grant: Study of the formation and evolution of galaxies: star formation and chemical evolution in a cosmological framework, awarded by Antorchas Foundation, May 2000 (1 year).
- Young Scientist Grant project: "Formation and Evolution of the Structure", awarded by Conicet, January 1999 (1 year).
- Young Scientist Grant: "Formation and Evolution of Galaxies", awarded by National Research Agency, July 1999 (2 years).

Expert Committees:

- Expert for the FP7-PEOPLE-2011-IEF-IIF-IOF, European Union, 2011.
- Member of the Gemini Review Panel of the National Science Foundation, 2011.
- External reviewer for Cnpq (Brasil), 2008 and Conicyt (Chile), 2007, 2010.
- Referee: MNRAS, ApJ, A&A.
- Reviewer for the Argentine national research agencies (Conicet, Foncyt, etc).

Supervision of Students and Postdocs

Supervised PhD Thesis

Dr. Tomas Tecce (31/03/2011, Universidad Nacional de Buenos Aires, director).
Dr. Maria E. De Rossi, (27/03/2009, Universidad Nacional de Buenos Aires, director).
Dr. Sebastian Nuza (06/11/2008, Universidad Nacional de Buenos Aires, director).
Dr. Cecilia Scannapieco (July/06, Universidad Nacional de Buenos Aires, director).
Dr. Leonardo Pellizza (3/12/03, Universidad Nacional de La Plata, Co-director).

Supervised Msc in Physics:

Lic. M. Celeste Artale (March 2010, Universidad Nacional de Buenos Aires, co-director)
Lic. Elisa Chisari (July 2009, Universidad Nacional de Buenos Aires, co-director)
Lic. Abigail Ganopol (June 2006, Universidad Nacional de Buenos Aires, director)
Lic. Maria E. De Rossi (March 2005, Universidad Nacional de Buenos Aires, director)
Lic. Cecilia Scannapieco (March 2002, Universidad Nacional de Buenos Aires, co-director)

Supervised PhD Fellowships:

Lic. Alejandro López (PhD grant Consejo de Investigaciones Científicas de Buenos Aires, 2000, co-director).
Lic. Analia Smith Castelli (PhD grant I, Universidad Nacional de La Plata, 2003 - 2004, director).
Lic. Analia Smith Castelli (PhD grant I, Conicet 2004-2005, director).
Lic. Cecilia Scannapieco (PhD grant I y II , Conicet, director, 2003-2006).
Lic. M. Alonso (PhD Grant I y II , Conicet, co-director, 2003-2007).
Lic. Abigail Ganopol (PhD grant I, Conicet, director, 2006-2009).
Lic. Maria E. De Rossi (PhD grant I y II, Conicet, director, 2005-2009).
Lic. Tomas Tecce (PhD grant I and II, Conicet, director, 2005-2010).

Supervised Postdoctoral Fellowships:

Dr. Owain Snaith (Cosmocomp Postdoctoral Fellowship, FP7 EU, supervisor, 2011)
Dr. Tomas Tecce (Postdoctoral Fellowship, Conicet, supervisor, 2011-2013)
Dr. Maria E. De Rossi (Postdoctoral Fellowship, Conicet, supervisor, 2009-2011).
Dr. Josefa Perez (Postdoctoral Fellowship, Conicet, supervisor, 2004).
Dra. Sofia Cora (Postdoctoral Fellowship , Conicet; co-supervisor, 2000-2001).

Recent Invited Lectures and Reviews:

-Chemical evolution during galaxy interactions, Trieste, Italy, April 2012.
-Chemical patterns in hierarchical clustering scenarios. Assembling the puzzle of the Milky Way, Le Grand Bournard, France, April 2011
-Chemical patterns in Milky Way mass galaxies. The Ringberg Workshop on Galaxy Formation, Ringberg, Germany, April 2011.
-Current status of star formation modeling in numerical simulations, Workshop on H-Metallicity, El Escorial, España, September 2010.
-Chemical Evolution and Galaxy Formation, workshop on Supercomputing Techniques in Astrophysics, Santiago, Chile, March 2010.
-Main Successes and Open Problems of Current Galaxy Formation models, Workshop 'Galaxies in isolation: Exploring Nature vs. Nurture, Granada, Spain, May 2009

- Current Status of Galaxy Formation Models, Simposium 262, Rio de Janeiro, August 2009
- Supernova Feedback in Numerical Simulations of Galaxy Formation, Workshop The -Cosmic Odyssey of Elements, Aegina, Greece, 23-27 June 2008
- Chemical Evolution in Numerical Simulations, Guaruja Lenac Workshop, Guaruja, Brazil, Septemberr 2006.
- Galaxy Formation, One day meeting on Science at Facultad de Astronomía, Matemática y Física, Córdoba, Argentina, December 2006.
- Supernova Feedback in Hydrodynamical Simulations, Workshop on Computational Cosmology, Trieste, Italy, June, 2005.
- Chemical Evolution in the Universe, National Meeting of the Argentine Astronomy Society, 48, 2003, La Plata.

Teaching experience:

- 2010 (July-August): Visiting Professor, International Summer Institute for Modelling in Astrophysics, University of California at Santa Cruz .
- 2006 (first semester), Associate Professor, Universidad Nacional de San Martin, Buenos Aires. (Course: General Astronomy).
- 2004 (first semester), Associate Professor, Universidad Nacional de San Martin, Buenos Aires. (Course: General Astronomy).
- 2004 (second semester), Invited Professor, Department of Astronomy and Geodesic of the National University of La Plata. Course: Chemical Evolution of Galaxies).
- 2003 (first semester), Invited Professor, National University of Córdoba. (Course: Chemical Evolution of Galaxies).
- 2002 (second semester): Teacher Assistant, National University of Buenos Aires.
- 2002 (second semester), Invited Professor, National University of Córdoba. (Course: Chemical Evolution of Galaxies).
- 2000 (February), Invited Professor, Universidad Autónoma de Honduras (AE-040/98 Project of Organization of the American States).
- 1995 (second semester), Teacher Assistant, St. John's College, University of Oxford, United Kingdom
- 1991-1995: Teacher Assistant, National University of Córdoba.

Invited Lectures:

- Chemical Evolution in Cosmological Simulation Workshop IAG-LENAC - XIII Advanced School of Astrophysics, Foz de Iguazu, Brazil, 6-12 April 2006.
- Structure formation in the universe as part of the Cosmology course, Physics Department, University of Buenos Aires, 2008.
- Structure formation in the universe as part of the Cosmology course, Physics Department, University of Buenos Aires, 2009.
- Introduction to the structure formation in the universe as part of the Astrophysics course at University of San Martin, Buenos Aires, 2009.

Member of Scientific Committees:

- Second Buenos Aires Workshop on Numerical and Observational Astrophysics, Institute for Astronomy and Space Physics, 2011.

- Mini-Workshop on Galaxy Formation, Pontificia Universidad Católica de Chile, 3-4 Marzo 2011.
- 4th High-Performance Computing Symposium, 40 JaIIIO, Córdoba, Argentina, 2010.
- First Buenos Aires Workshop on Numerical and Observational Astrophysics, Institute for Astronomy and Space Physics, 2010.
- Workshop on Supercomputing Techniques in Astrophysics, Pontificia Universidad Católica de Chile, 2010.
- 3rd High-Performance Computing Symposium, 39 JaIIIO, Buenos Aires, Argentina, 2010.
- 52nd Scientific meeting of Asociación Argentina de Astronomía, 2009.
- Symposium IAU 262: Stellar Populations for the next decade, Rio de Janeiro, Brazil, 2009.
- 2nd High-Performance Computing Symposium, 38 JaIIIO, Mar del Plata, Argentina, 2009
- First High-Performance Computing Symposium, 37 JaIIIO, Santa Fe, Argentina, 2008.
- Latinamerican IAU Regional Meeting, October 2007, Venezuela.
- Lenac Latin-American Workshop, 29 October- 1 November, 2006

Members of Local Organizing Committes:

- The Princeton-PUC Joint Workshop: 'Dark Matter and Lensing', San Pedro de Atacama, Chile, Julio, 2000.
- Latinoamerican American Meeting, Córdoba, Argentina, September, 2001.
- 45th Scientific Meeting of Asociación Argentina de Astronomía, Buenos Aires, 2002.
- IAG-LENAC Advanced School of Astrophysics, Iguazu, Brazil, Abril 2006.
- I Workshop and IV Mini-School on Numerical Astrophysics, Buenos Aires, Argentina, November 2008.
- First National Meeting on HPC for Science, La Falda. Córdoba, 2010.

Referred Publications:

1. **Tissera, P. B.**, D.G. Lambas, Angular Momentum of Protogalaxies in a Hierarchical Scenario, Monthly Notices of the Royal Astronomical Society, 346, 151, 1990
2. Lambas, D. G., Abadi, M., Nicotra, M. & **Tissera, P.**, Large-scale Structure in Biased Cold Dark Matter Cosmologies, Astrophysical Journal, 1993, 414, 30
3. **Tissera, P. B.**, D.G. Lambas & Abadi, M. G. ,Evolution of System s of Galaxies in Cold Dark Matter Models, Astrophysical Journal, 1994, 429, 29
4. **Tissera, P. B.**, Lambas, D.G. & Abadi, M. G., Analysis of Galaxy Formation with Hydrodynamics, Monthly Notices of the Royal Astronomical Society, 1997,286, 384, 1997
5. **Tissera, P. B.**, Dominguez-Tenreiro, R., Dark Matter Halo Structure in CDM Hydrodynamical Simulations, Monthly Notices of the Royal Astronomical Society, 1998, 297, 177, 1998
6. Dominguez-Tenreiro, R., **Tissera, P. B.** & Saiz, A., Disk Formation in Hierarchical Hydrodynamical Simulations: A Way Out to the Angular Momentum Catastrophe, Astrophysical Journal Letters, 1998, 508, L123.
7. Dominguez-Tenreiro, R., **Tissera, P.**, Saiz, A., Galaxy Disk Formation in Hierarchical Hydrodynamical Simulations, Astronomy and Space Science, 1998, 263, 35-38
8. Saiz, A., **Tissera, P.**, Dominguez-Tenreiro, R., The stabilizing Role of Stellar Bulges in Galaxy Disk Formation, Astronomy and Space Science, 1998, 263, 43-46
9. **Tissera, P. B.**, Analysis of Star Formation in Galaxy-like Objects, Astrophysical Journal, 2000, Astrophysical Journal, 534, 636.

10. Mosconi, M. B., **Tissera, P.B.**, Lambas, D. G., Cora, S. A., Chemical evolution using smooth particle hydrodynamical cosmological simulations: I. Implementation, tests and first results, 2001, Monthly Notices of the Royal Astronomical Society, vol 325, 34-48
11. Sáiz, A., Domínguez-Tenreiro, R., **Tissera, P. B.**, Courteau, S. Disc-like objects in hierarchical hydrodynamical simulations: comparison with observations, 2001, Monthly Notices of the Royal Astronomical Society, 325, 119-132
12. **Tissera, P.B.**, Lambas, D. G., Mosconi, M. B., Cora, S. A., Chemical Enrichment at High Redshifts: Understanding the Nature of Damped Ly α Systems in Hierarchical Models. 2001, Astrophysical Journal, 557, 527-532.
13. **Tissera, P.B.**, Domínguez-Tenreiro, R., Sáiz, A., Goldschmidt, P., Report on a study of galaxy formation in SPH simulations, 2001, Astrophysics and Space Science, 276, 1087-1095.
14. **Tissera, P.B.**, Sáiz, A., Domínguez-Tenreiro, R., Formation of galaxies in a hierarchical clustering model, 2001, Astrophysics and Space Science, 276, 1079-1086
15. Domínguez-Tenreiro, R., Sáiz, A., **Tissera, P. B.** Producing disc-like objects with observational counterparts from hierarchical hydrodynamical simulations, 2001, Astrophysics and Space Science, 276, 1041-1048.
16. **Tissera, P. B.**, Lambas, Diego G., Cora, Sofia A., Mosconi, Mirta B. Nitrogen abundances in damped Lyman systems: the combined effects of SNI II and SNI a in a hierarchical clustering scenario. Monthly Notices of the Royal Astronomical Society, 2002, 337, L27
17. **Tissera, P. B.**, Domínguez-Tenreiro, R., Scannapieco, C., Sáiz, A. Double starbursts triggered by mergers in hierarchical clustering scenarios. Monthly Notices of the Royal Astronomical Society, 333, 327, 2002
18. Scannapieco, C., **Tissera, P. B.** The Effects of Mergers on the Formation of Disc-Bulge Systems in Hierarchical Clustering Scenarios, Monthly Notices of the Royal Astronomical Society, 338, 880, 2003.
19. Cora, S. A., **Tissera, P. B.**, Lambas, D. G., Mosconi, M., Building blocks in hierarchical clustering models and their connection with damped Lyman α systems, Monthly Notices of the Royal Astronomical Society, 2003, 343, 959.
20. Lambas, D. G., **Tissera, P. B.**, M. S. Alonso, G. Coldwell G.. Galaxy Pairs in the 2dF Survey I. Effects of Interactions in the Field, Monthly Notices of the Royal Astronomical Society, 2003, 346, 1189
21. **Tissera, P. B.** Scannapieco, C. Chemical evolution in hierarchical scenarios, Publications of the Astronomical Society of Australia. 2004, 21, 192-196
22. Alonso, M.S., **Tissera, P. B.**, Coldwell G., Lambas, D. G.. Galaxy Pairs in the 2dF Survey II. Effects of Interactions in Groups. Monthly Notices of the Royal Astronomical Society, 2004, 352, 108-1088
23. De Rossi, M. E., **Tissera, P. B.**, Scannapieco, C., Evolution of the Chemical Properties of Galactic Systems in Hierarchical Universes. 2005 Astrophysics & Space Science , 329 ,15
24. **Tissera, P. B.**, Scannapieco, C., Evolution of the Chemical Properties of Galactic Systems in Hierarchical Universes. 2005 Astrophysics & Space Science , 329 ,15
25. **Tissera, P. B.**, De Rossi, M. E., Scannapieco, C.. Fingerprints of the Hierarchical Building up of Galaxies in the Mass-Metallicity Relation, 2005, Monthly Notices of the Royal Astronomical Society, 364, 38-41
26. Scannapieco, C., **Tissera, P. B.**, White, S. D. M., Springel, V., 2005, Feedback and metal enrichment in cosmological smoothed particle hydrodynamics simulations – I. A model for chemical enrichment, 2005, Monthly Notices of the Royal Astronomical Society, 364, 552-564
27. Perez, M. J, **Tissera, P. B.**, Lambas, D. G., Scannapieco, C., Galaxy Pairs in Cosmological Simulations: Effects of interactions on star formation, 2006, Astronomy & Astrophysics, 449, 23

28. Alonso, M. S., Lambas, D. G., **Tissera, P. B.**, Coldwell, G., Galaxy Interactions and Environment, 2006, Monthly Notices of the Royal Astronomical Society, 367, 1029
29. **Tissera, P. B.**, Smith Castelli, A., Scannapieco, C., Interactions, mergers and the fundamental mass relations of galaxies, 2006, Astronomy and Astrophysics, 455, 135
30. Scannapieco, C., **Tissera, P. B.**, White, S. D. M., Springel, V., 2006, Monthly Notices of the Royal Astronomical Society, 371,1125
31. Perez, M. J, **Tissera, P. B.**, Scannapieco, C., Lambas, D. G., De Rossi, M. E. Galaxy Pairs in Cosmological Simulations: Effects of interactions on colours and metallicities, 2006, Astronomy & Astrophysics, 459, 361
32. De Rossi, M. E., **Tissera, P. B.**, Scannapieco, C., Clues for the origin of the fundamental metallicity relations. I: The hierarchical building up of the structure, 2007, Monthly Notices of the Royal Astronomical Society, 374, 323
33. Alonso, M. S., Lambas, D. G., **Tissera, P. B.**, Coldwell, G., Galaxy Interactions and AGN activity, 2007, Monthly Notices of the Royal Astronomical Society, 375, 1017.
34. Nuza, S., **Tissera, P. B.**, Pellizza, L., Lambas, D. G., Scannapieco, C., De Rossi, E., The host galaxies of long-duration gamma-ray bursts in a cosmological hierarchical scenario, 2007, Monthly Notices of the Royal Astronomical Society, 375, 665.
35. Michel-Dansac, L., Lambas, Diego G., Alonso, M. S, **Tissera, P. B.**, The mass-metallicity relation of interacting galaxies, 2008, Monthly Notices of the Royal Astronomical Society, 386, L82.
36. Pedrosa, S., **Tissera, P.B.**, Fuentes-Carrera, I., Mendez de Oliveira, C., Rotation curve bifurcations as indicators of close recent galaxy encounters, 2008, Astronomy & Astrophysics, 484, 299
37. Scannapieco, C., **Tissera, P.B.**, White, S.D.M, Springel, V., Effects of supernova feedback on the formation of galaxy discs, 2008, MNRAS, 389, 1137
- 38 .De Rossi, M. E., **Tissera, P. B.**, De Lucia, G., Kauffmann, G., Milky Way type galaxies in a Lambda CDM cosmology, 2009, MNRAS, 395, 210
39. Zapata, T., Perez, J., Padilla, N., **Tissera, P.B.**, The influence of halo assembly on galaxies and galaxy groups, 2009, MNRAS, 394, 2229
40. Pedrosa, S., **Tissera, P.B.**, Scannapieco, C., The impact of baryons on dark matter haloes, 2009, MNRAS, 395, L57.
41. Scannapieco, C., White, S.D. M., Springel, V., **Tissera, P.B.**, The formation and survival of discs in a Lambda CDM universe, 2009, MNRAS, 396, 696.
42. Perez, J., **Tissera, P.B.**, Blaizot, J., Building a control sample for galaxy pairs, 2009, MNRAS,397,748.
43. Perez, J., **Tissera, P.B.**, Padilla, N., Alonso, M.S., Lambas D. G., Global environmental effects versus galaxy interactions, 2009, MNRAS, 399, 1157.
- 44.Pedrosa, S., **Tissera, P. B.**, Scannapieco, C., The joint evolution of baryons and dark matter, 2010, MNRAS, 402, 776
- 45.**Tissera, P. B.**, White, S.D.M., Pedrosa, S., Scannapieco, C., Dark matter response to galaxy formation, 2010, MNRAS, 406, 922
46. Chisari, E., **Tissera, P. B.**, Pellizza, L., The host galaxies of long gamma-ray bursts in the Millenium Simulation, 2010, MNRAS, 495, 647
47. De Rossi, M. E., **Tissera, P. B.**, Pedrosa, S., Impact of Supernova feedback on the Tully-Fisher relation, 2010, Astronomy & Astrophysics, 519, 89
48. Tecce, T., Cora, S. A., **Tissera, P. B.**, Abadi, M., Lagos Claudia, Ram pressure stripping in a galaxy formation model.I. A novel numerical approach, 2010, MNRAS, 408, 2008
49. Artale, M. C ., Pellizza, L.J., **Tissera, P. B.**, Chemical abundances and spatial distribution of long gamma-ray bursts, 2011, MNRAS, 415, 3417

50. Scannapieco, C., White, S. D. M., Springel, V., **Tissera, P. B.**, Formation history, structure and dynamics of discs and spheroids in simulated Milky Way mass galaxies, 2011, MNRAS, 417, 154.
51. Perez, J., Micheal-Dansac, **Tissera, P. B.**, Chemical evolution during gas-rich galaxy interactions, 2011, MNRAS, 417, 580.
52. Tecce, T., Cora, S.A., **Tissera, P. B.**, Ram pressure profiles in galaxy groups and clusters, 2011, MNRAS, 416, 3170.
53. **Tissera, P. B.**, White, S.D.M., Scannapieco, C., Chemical signatures of formation processes in the stellar populations of simulated galaxies, 2011, MNRAS, accepted.