

Jenny Sorce

Postdoctoral Fellow

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Languages: French & English & Italian: fluent
German: fair Japanese & Spanish: basic notions

Research Activity

- 2021 – tdy **Postdoctoral researcher**, Institut d'Astrophysique Spatiale (IAS), Orsay, France.
Main interest: *Numerical, Theoretical & Observational interface* ; To overcome systematic biases inflicted by our location in the Universe in order to reach *accurate* precision cosmology.
- 2016 – tdy **Guest Researcher**, 'Leibniz-Institut für Astrophysik' (AIP), Potsdam, Germany.
- 2020 – 2021 **Postdoctoral researcher & Lecturer**, 'Ecole Normale Supérieure de Lyon' (ENSL), France.
Main interest: *Numerical & Observational* ; (zoom-in) hydrodynamical constrained (with observational data) simulations of the local Universe and its constituents, comparisons observations/simulations.
- 2018 – 2019 **CNES Research Fellow**, 'Centre de Recherche Astrophysique de Lyon' (CRAL), France.
Main interest: *Numerical* ; (zoom-in) hydrodynamical constrained (with observational data) simulations of the local Universe and its constituents.
- 2016 – 2017 **Postdoctoral Researcher**, 'Observatoire Astronomique de Strasbourg', France.
Main interest: *Numerical & Observational* ; dark matter constrained (with observational data) simulations of the local Universe and its constituents, comparisons observations/simulations.
- 2014 – 2016 **Humboldt Research Fellow**, Leibniz-Institut für Astrophysik, Potsdam, Germany.
Main interest: *Numerical* ; Building constrained (with observational data) initial conditions, running simulations, follow the formation and evolution of the Large Scale Structure in the Local Universe.
- 2011 – 2014 **Long term research stays**, Universities of Lyon/Potsdam/Hawaii (France/Germany/USA).
Main interest: *Observational* ; Measurement of galaxy surface photometry, calibration of the Tully-Fisher relation in the Mid-Infrared, estimates of galaxy distances and peculiar velocities.
- 2011 – 2018 **Summer Schools**.
- MUSE summer school -Lyon, France (Jul. 2018)
 - Euclid summer school - Fréjus, France (Jul., 2017) & Narbonne, France (Aug., 2016)
 - International Young Astronomers: Herschel & Planck data - Sèvres, Paris (selection, Apr. 2013)
 - Statistics in Autrans, France (May 2012)
 - Technics & observations, Kavli - Peking, China (**unique non-chinese successful candidate**, Oct. 2011)
- 2009 – 2011 **Internships**.
- Institute for Astronomy - Hawaii, USA: galaxy surface photometry (Apr.-Jul. 2011) with Pr. B. Tully
 - IfA - Hawaii, USA: galaxy spectrophotometry (May-Jul. 2010) with Pr. R. Gal & Pr. L. Kewley
 - Joliot Curie, Lyon, France: programming to follow cells (Jun.-Jul. 2009) with Dr. G. Charvin

Education and Diplomas

- 2011 – 2014 **PhD in Astrophysics, Cosmology with the Highest Honors (Magna Cum Laude)**,
Defense *Universities of Lyon/Potsdam (France/Germany)*, Advisors: Pr. M. Steinmetz, Dr. H. Courtois ; President:
June 12th Pr. C. Augier ; Reviewers: Pr. C. Porciani, Pr. G. Yepes ; Other examiners: Pr. B. Tully, Dr. S. Gottlöber.
2014 From Spitzer Observations and Measurements of Peculiar Velocities to Constrained Simulations of the Local Universe
2011 **ENS Lyon additional diploma**, France ; *high criteria: mobility, language and interdisciplinarity*.
- 2009 – 2011 **Master's degree, honors in (Astro)Physics (top 10 %)**, Ecole Normale Supérieure de Lyon
(ENS Lyon), *leading French scientific institution, entrance exams*.
- 2008 – 2009 **Bachelor of Science in Physics, honors**, ENS Lyon, France.
- 2005 – 2008 **Post secondary classes: preparing for entrance to the 'Grandes Ecoles' & Baccalauréat**
(~ High School Diploma) **scientific, highest honors**, Lyon & Bourgoin, France.

Prizes, Grants and Computer time

Since 2005 **Prizes/Awards.**

- ~31.2 k€
- o **Award** ‘l’Oreal-UNESCO, for women in science’, 20 k€ (2017)
 - o Young researcher’s **prize** of Lyon city, 5.4 k€ (2016)
 - o 66th Lindau Nobel Laureate Meeting, selected and fully funded, 5 k€ (2016)
 - o Scientific vocation **prize**, Department in charge of the equality between women & men, 800 € (2005)

Since 2006 **Grants.**

- ~716.3 k€
- o French ANR-PRCI program, **co-writing**, IAS Orsay/LMU Munich, ~ 357k€/ French side (2021 – 2024)
 - o ATER **independent** postdoctoral and lecturer fellowship, ~24 k€ (2020 – 2021)
 - o PNCG **collaboration** grant, 1 k€ (2019)
 - o CRAL incentive actions **collaboration** grant, 2 k€ (2018)
 - o LIA Origins France-China **collaboration** grant, 2.5 k€ (2018)
 - o CNES **independent** postdoctoral research fellowship, ~55 k€ (2017 – 2019)
 - o Juan de la Cierva **independent** postdoctoral research fellowship, ~50 k€ (2017, declined)
 - o Humboldt **independent** postdoctoral research fellowship, ~84 k€ (2014 – 2016)
 - o **Ph.D. grant**, Department of the higher education and scientific research, ~102 k€ (2011 – 2014)
 - o **Explora’doc** (x1), **Mobility** (x1) grants, Rhône-Alpes County, ~4.4 k€ (2013)
 - o **Explora’sup** grants (x2) Rhône-Alpes County, ~3.4 k€ (2009 – 2011)
 - o **Merit Scholarship**, Department of National Education, ~31 k€ (2006 – 2011)

Since 2015 **Computer time.**

- 309 Mcpu hours
- ~103 M€
- o **PI** of the ‘Light on the Virgo cluster’ project at LRZ, 35.3 Mcpu-hours (2016 – tdy)
 - o **Co-PI** of the ‘Coma Connectivity’ project at TGCC+LRZ, 9.2 Mcpu.h, Co-PI: N. Aghanim, N. Malavasi & K. Dolag (2020 – tdy)
 - o **Co-PI** of the BRETZEL project at IDRIS, 2 Mcpu-hours, Co-PI: P. Ocvirk & J. Rosdahl (2020 – tdy)
 - o **Co-PI** of the Gauss project ‘SLOW dancing galaxies’, 226 Mcpu-hours, Co-PI: K. Dolag (2016 – tdy)
 - o Co-I of the ‘HESTIA’ project at LRZ, 30 Mcpu-hours, PI: N. Libeskind (2017 – tdy)
 - o Co-I of the ‘local cosmic rays’ project on JURECA, 0.8 Mcpu-hours, PI: F. Vazza (2016 – 2017)
 - o Co-I of the ‘JUBiLEE’ project on JURECA, 3.7 Mcpu-hours, PI: S. Gottlöber & I. Iliev (2015 – 2016)
 - o Co-I of the ‘Universe’s Structures’ project on JURECA, 2 Mcpu-hours, PI: S. Gottlöber (2015 – 2016)

Teaching and Supervision Activities

Since 2012 **Supervision.**

- o **1 M2, 3 one-year-Bachelor-Thesis, 1 L3** (since 2016)
- o **1 co-supervised postdoc** (2015 – 2017)
- o **High School Students’ Training**, Lyon, France (since 2012, each April)

2010 – 2021 **Teaching.**

- >650 h
- o Numerical Analyses (Master), ~18h, ENS Lyon (2020 – 2021)
 - o Practical work and lectures preparing for teaching qualifications in physics, ~100h, ENS Lyon (2020 – 2021)
 - o Numerical Project (Bachelor), ~20h, ENS Lyon (2020 – 2021)
 - o Mathematical tools (Bachelor), ~12h, ENS Lyon (2020 – 2021)
 - o Curriculum supervision of students, ~38h, ENS Lyon (2020 – 2021)
 - o Lectures for junior & high school teachers, 4h, Lyon (2020)
 - o Computer Science (2nd year of Medical School & Bachelor), 8h & 30h, Lyon (2013 – 2014)
 - o Science of the Universe (Bachelor), 123h, Lyon (2011 – 2013)
 - o Mathematical refresher courses to undergraduate students, 12h (2011 – 2012)
 - o Private and in a learning center lessons in Science (pre-Baccalaureat), > 300h, Lyon (2010 – 2011)

Responsibilities and Scientific Mediation

Since 2011 **Responsibilities.**

- o **Executive Board/co-PI of the CLUES consortium**, (member since 2012 with telecon and meeting attendance, PI since 2018). Main responsibilities:
 - **Coordination** of the collaboration (since 2018)
 - **Lead and co-lead** of projects using the constrained simulations (since 2012)
 - **Building** of the constrained simulations, **development/improvement** of the methodology including the treatment of the observations (since 2012)
 - **Lead of discussions** and **chair of sessions** at CLUES meetings (since 2017)

- **Member of the 4MOST consortia** ([since](#) 2016, cosmology, galaxy cluster, survey strategy & simulation groups with telecon & meeting attendance). Main responsibilities:
 - Involved in **developing algorithms** to correct the completeness of cluster mass functions in the galaxy cluster surveys ([since](#) Sep. 2021)
 - responsible for the cosmology survey in the Instrument Simulator working group ([since](#) Oct. 2019)
 - Involved in **developing algorithms** related to target selection & fiber assignment ([since](#) Jun. 2018)
 - Involved in **developing algorithms** related to the construction of the cosmology survey target catalog ([since](#) May 2017)
 - **Runs of simulations** to determine target exposure times and observed areas for the cosmology survey ([since](#) May 2017)
 - **Lead** of a discussion on the cadence of observations + short **written report** (Jun. 2018)
 - **Written report** of sprint 4 (Jun. 2018)
 - **Lead** of sprint 4 for the observational strategy: tiling, exposure time and contiguous areas - organization of telecons, questions & gathering of responses (Apr. to Jun. 2018)
 - **involved in the 4HS proposal**, a high completeness local Universe survey with 4MOST ([since](#) Dec. 2020)
 - **involved in the BEST4MOST proposal**, a Euclid complementary cluster survey with 4MOST ([since](#) Jul. 2020)
- **Member of the Euclid consortia** ([since](#) 2014, galaxy clusters, galaxy evolution, galaxy clustering, local Universe and simulation groups with telecon & meeting attendance). Main responsibilities:
 - Galaxy evolution : **in charge of studying** galaxy properties as a function of their environment + **co-coordinating the activities** (member [since](#) Nov. 2020, co-coordinator of galaxy evolution wrt environment workpackage and projects [since](#) Mar. 2021)
 - Simulations: Tiger team **in charge of checking and preparing** data for the galaxy clusters and galaxy evolution science working group ([since](#) Jun. 2021)
 - Local Universe: **in charge of preparing** the local galaxy catalogs using different databases + **bringing my general expertise** ([since](#) Feb. 2021)
 - Galaxy clusters: **in charge of studying** local galaxy clusters to understand clusters broadly via simulation/observation studies and comparisons + **bridging between Euclid and 4MOST surveys** ([since](#) Dec. 2019)
 - Galaxy clustering : **in charge of determining** the local-induced bias effects ([since](#) Jan. 2018)
 - Euclid Consortium Information Channels Implementation Committee ([since](#) Jul. 2021)
 - Euclid Consortium Diversity Committee board (May 2018 - Aug. 2021)
- **Member of the ASTERICS project**, affiliated to the DADI workpackage (2016 – 2017): Virtual Observatory schools, feedbacks to improve the CDS virtual tools (SIMBAD, Aladin, Vizier, etc). Main responsibilities:
 - **Tutor at the Virtual Observatory schools** in Spain (Nov. 2017) and in France (Nov. 2016)
 - **Tutor at the Cosmology schools** in Poland, Spain and France (Jul., Sep., Jan, 2017)
 - **Update and templates of the tutorials** and the Euro-VO webpage (Jan. 2017 – Dec. 2017)
 - **Written report** of the 2nd Virtual Observatory school (Dec. 2016)
- **Referee** for STFC grant proposals ([since](#) 2019)
- **Referee** for MNRAS, ApJ, ApJL and A&A ([since](#) 2014)
- Member of the **PhD student day committee** (2019)
- Member of the **examination committee for M2** internship defense (2019)
- TICE, **project with innovative teaching methods**, development of an interactive website (2013–2014)
- **Responsible for seminars (organization+budget)** at CRAL - Lyon, France (Oct. 2018 - Aug. 2021)
- **Co-chair of the EHC** for the EWASS2019 meeting - Lyon, France (Jun. 2018 - Jun. 2019 with telecon and meeting attendance). Main responsibilities:
 - **in charge of planning** local inscriptions and volunteers' schedule
 - **in charge of contacting and meeting** local and regional bodies for mediation event planning
 - **in charge of developing** mediation events and their webpages
 - **in charge of finding** sponsors
- **LOC & SOC** of the Ramses Users meeting - Lyon, France (Sep. 2018)
- **LOC** at the Alsatian X-Rays meeting - Strasbourg, France (Nov. 2017)
- **Chair of complete day sessions** at the 'Cosmic Web' workshop in Leiden (Jan. 2020) and the Cosmology School in Fuerteventura, Spain (Sep. 2017)
- **Member of the International Astronomical Union** (IAU, [since](#) 2018)
- **Member of the astronomical and astrophysical French society** (SF2A, [since](#) 2016)
- **Junior member of the American Astronomical Society** (AAS, 2012 – 2014)

Since 2004 **Scientific Mediation: more than 10 types of actions, 4 countries.**

- **Benevolent vice president** of ‘UPBS’: association proposing science to high school students, **leader of the organization & supervision of the ‘astroweek’ + participation to & organization of the ‘Congress’** every year (since 2012 cancelled in 2020 & 2021 - vice president since 2018)
- **Presentation** of the researcher’s job to junior/high school/bachelor students - online for Orsay (Sep. 2021), Lyon Prefecture (Mar. 2019), Lyon (Mar. 2018), Strasbourg, France (Oct. 2017 & Dec. 2017)
- **Organization & coordination** of ‘la nuit est belle’ in Lyon: turning off city lights during a night to sensitize the population to its multiple benefits with different citizen planned events (2021)
- **Role model** for the ‘Science XXElles’ project of ‘Femmes & Sciences’, CNRS, ENSL - Lyon, Fr. (2019)
- **Organization & coordination of EWASS2019 (+budget) public events:** conference, exhibition, contest, panel discussion, debate, Sun observation - Lyon, France (year 2019)
- **Invitation** to the ‘Dialogs in Humanities’ - Lyon, France (Jul. 2017, Jul. 2019)
- **Participation** to the ‘Espace’ Game of the planetarium of Vaulx-en-Velin, France (Apr. 2019)
- **General Public Conference** for pupils - Lyon, France (Feb. 2020, Jan. & Dec. 2019, Jan. & Dec. 2018)
- **Open house** at Lyon Observatory, France (Jun. 2018), at the Institute For Astronomy - University of Hawaii, USA (Apr. 2011)
- **Presentation** at the conference ‘Generation young researchers’ - Paris, France (Oct. 2017)
- Face-to-face and phone **interviews** for French journals (e.g. ‘Ciel & Espace’) & radios (since Mar. 2017)
- **Building of images & movies** (e.g. internet public platforms) (2016)
- **Co-panelist of Nobel Laureate** Brian Schmidt, Falling Walls - Berlin, Germany (Nov. 2015)
- **Presentation** at the Science Slam of the Leibniz Association Forum - Berlin, Germany (Nov. 2015)
- **General Public Conferences** - science fairs, open houses - France (Mar., May, Jun., Oct. 2013)
- **Scientific camp counselor**, Health assistant, in charge of travels, England/France (Summers, 2004–09)

Publications: 50 publications (42 rank A), 1630 citations (as of 11/26/2021)

- Submitted Sorce, Mohayaee, Aghanim, Dolag, Malavasi, *Velocity waves born from local galaxy clusters in observations and constrained simulations*, MNRAS, Submitted.
- Submitted Lewis, Ocvirk, Sorce, Aubert, Conaboy, Shapiro, Dawoodbhoy, Teyssier, Yepes, Gottlöber, Ahn, Iliev, Thélie, Dubois, Rasera, *The short ionizing photon mean free path at $z=6$ in Cosmic Dawn III*, MNRAS, Submitted.
- Submitted Kotecha, Welker, Zhou, Wadsley, Kraljic, Sorce, Rasia, Roberts, Gray, Yepes, Cui, *Cosmic filaments delay quenching inside clusters*, MNRAS, Submitted.
- Submitted Arora, Macciò, Courteau, Buck, Libeskind, Sorce, Brook, Hoffman, Yepes, Carlesi, *NIHAO-LG: The uniqueness of Local Group dwarf galaxies*, MNRAS, Submitted, citations : 2.
- Submitted Newton, Libeskind, Knebe, Sánchez-Conde, Sorce, Pilipenko, Steinmetz, Pakmor, Tempel, Hoffman, Vogelsberger, *Hermeian dark matter haloes of the Local Group*, MNRAS, Submitted.
- 2021 42. Gronke, Ocvirk, Mason, Matthee, Bosman, Sorce, Lewis, Ahn, Aubert, Dawoodbhoy, Iliev, Shapiro, Yepes, *Lyman- α transmission properties of the intergalactic medium in the CoDaII simulation*, MNRAS, 508, 3697.
- 2021 20. 41. Sorce, Dubois, Blaizot, McGee, Yepes, Knebe, *I - A hydrodynamical CLONE of the Virgo cluster of galaxies to confirm observationally driven formation scenarios*, MNRAS, 504, 2998.
- 2020 40. Libeskind, Carlesi, Grand, Khalayan, Knebe, Pakmor, Pilipenko, Pawlowski, Marcel, Sparre, Tempel, Wang, Courtois, Göttlober, Hoffman, Minchev, Pfrommer, Sorce, Springel, Steinmetz, Tully, Vogelsberger, Yepes, *The HESTIA project: simulations of the local Group*, MNRAS, 498, 2968, citations: 2.
- 2020 19. 39. Sorce, Göttlober, Yepes, *The past history of galaxy clusters told by their present neighbors*, MNRAS, 496, 5139, citations: 1.
- 2020 38. Tempel, Tuvikene, Muru, Stoica, Bensby, Chiappini, Christlieb, Cioni, Comparat, Feltzing, Hook, Koch, Kordopatis, Krumpke, Loevday, Minchev, Norberg, Roukema, Sorce, Storm, Swann, Taylor, Traven, Walcher, de Jong, *An optimised tiling pattern for multi-object spectroscopic surveys: application to the 4MOST survey*, A&A, in press.
- 2020 37. Lewis, Ocvirk, Aubert, Sorce, Shapiro, Deparis, Dawoodbhoy, Lewis, Teyssier, Yepes, Gottlöber, Ahn, Iliev, Chardin, *Galactic ionizing photon budget during the epoch of reionization in the Cosmic Dawn II simulation*, MNRAS, 496, 4342, citations: 4.

- 2020 18. 36. **Sorce**, *Efficiently estimating mean, uncertainty, and unconstrained large-scale fraction of local Universe simulations with paired fixed fields*, MNRAS, 495, 4463.
- 2020 35. Ocvirk, Aubert, **Sorce**, Shapiro, Deparis, Dawoodbhoy, Lewis, Teyssier, Yepes, Gottlöber, Ahn, Iliev, Hoffman, *Cosmic Dawn II (CoDaII): a new radiation-hydrodynamics simulation of the self-consistent coupling of galaxy formation and reionization*, MNRAS, 496, 4087, citations: 23.
- 2020 34. Tempel, Norberg, Tuvikene, Bensby, Chiappini, Christlieb, Cioni, Comparat, Davies, Guiglion, Koch, Kordopatis, Krumpke, Loevday, Merloni, Micheva, Minchev, Roukema, **Sorce**, Starkenburg, Storm, Swann, Thi, Traven, de Jong, *Probabilistic fiber-to-target assignment algorithm for multi-object spectroscopic surveys*, A&A, 635, A101, citations: 1.
- 2019 33. Libeskind, Carlesi, Müller, Pawloski, Hoffman, Pomarède, Courtois, Tully, Gottlöber, Steinmetz, **Sorce**, Knebe, *The orientation of planes of dwarf galaxies in the quasi-linear Universe*, MNRAS, 490, 3786, citations: 4.
- 2019 32. Gong, Libeskind, Tempel, Guo, Gottlöber, Yepes, Wang, **Sorce**, Pawlowski, *The origin of lopsided satellite galaxy distribution in galaxy pairs*, MNRAS, 488, 3100, citations: 2.
- 2019 17. 31. **Sorce**, Blaizot, Dubois, *Virgo: an unlikely cluster of galaxies because of its environment*, MNRAS, 486, 3951, citations: 3.
- 2019 8. Richard, Kneib, Blake, Raichoor, Comparat, Shanks, **Sorce**, Sahlén, Howlett, Tempel, McMahon, Bilicki, Roukema, Loveday, Pryer, Buchert, Zhao, CRS Team, *4MOST Consortium Survey 8: Cosmology Redshift Survey (CRS)*, The Messenger, 175, 50, citations: 14.
- 2019 7. 4MOST Infrastructure Working Group Survey Strategy and Simulations including **Sorce**, *4MOST Survey Strategy Plan*, The Messenger, 175, 17, citations: 9.
- 2019 6. 4MOST Infrastructure Working Group Survey Strategy and Simulations including **Sorce**, *4MOST Scientific Operations*, The Messenger, 175, 12, citations: 8.
- 2019 5. 4MOST consortium including **Sorce**, *4MOST Project overview and information for the First Call for Proposals*, The Messenger, 175, 3, citations: 64.
- 2019 4. Hackstein, Vazza, Brüggén, **Sorce**, Gottlöber, *Propagation of UHECRs in the local Universe and origin of cosmic magnetic fields*, IAU proceedings 2018.
- 2018 30. Cui, Knebe, Yepes, Pearce, Power, Dave, Arth, Borgani, Dolag, Elahi, Mostoghiu, Murante, Rasia, Stoppacher, Vega-Ferrero, Wang, Yang, Benson, Cora, Croton, Sinha, Stevens, Vega-Martínez, Arthur, Baldi, Cañas, Cialone, Cunnama, De Petris, Durando, Etti, Gottlöber, Nuza, Old, Pilipenko, **Sorce**, Welker, *The Three Hundred project: a large catalogue of theoretically modelled galaxy clusters for cosmological and astrophysical applications*, MNRAS, 480, 2898, citations: 26.
- 2018 29. Tempel, Kruuse, Kipper, Tuvikene, **Sorce**, Stoica, *Bayesian group finder based on marked point processes*, A&A, 618, A81, citations: 8.
- 2018 16. 28. **Sorce**, *Galaxy clusters in local Universe simulations: a long uphill struggle*, MNRAS, 478, 5199, citations: 3.
- 2018 27. Hoffman, Carlesi, Pomarède, Tully, Courtois, Gottlöber, Libeskind, **Sorce**, Yepes, *The quasi-linear nearby Universe*, Nature Astronomy, 2, 680, citations: 10.
- 2018 15. 26. **Sorce** & Tempel, *Galaxy clusters in simulations of the local Universe: a matter of constraints*, MNRAS, 476, 4362, citations: 5.
- 2018 25. Olchanski & **Sorce**, *Merger types forming the Virgo cluster in recent gigayears*, A&A, 614, A102, citations: 4.
- 2018 24. Hackstein, Vazza, Brüggén, **Sorce**, Gottlöber, *Simulations of ultra-high Energy Cosmic Rays in the local Universe and the origin of Cosmic Magnetic Fields*, MNRAS, 475, 2519, citations: 24.
- 2018 3. 3. **Sorce**, Dolag, Pilipenko, Gottlöber, *Our Cosmic Home in a box: SLOW dancing galaxies*, High Performance Computing in Science and Engineering - Garching/Munich, 2017.
- 2018 2. 2. **Sorce**, Blaizot, Dubois, Gottlöber, *Light on the Virgo cluster of galaxies: our closest cluster-neighbor*, High Performance Computing in Science and Engineering - Garching/Munich, 2017.

- 2017 14. 23. **Soarce**, Colless, Kraan-Korteweg, Gottlöber, *Predicting Structures in the Zone of Avoidance*, MNRAS, 471, 3087, citations: 6.
- 2017 13. 22. **Soarce** & Tempel, *How does the Grouping Scheme affect the Wiener Filter reconstruction of the local Universe?*, MNRAS, 469, 2859, citations: 8.
- 2017 12. 21. **Soarce**, Hoffman, Gottlöber, *Toward an optimal sampling of peculiar velocity surveys for Wiener Filter reconstructions*, MNRAS, 468, 1812, citations: 9.
- 2017 1. 1. **Soarce**, *Simulating the local Universe*, proceeding SF2A 2016.
- 2017 20. Carlesi, Hoffman, **Soarce**, Gottlöber, *Constraining the mass of the Local Group*, MNRAS, 465, 4886, citations: 14.
- 2016 11. 19. **Soarce**, Gottlöber, Hoffman, Yepes, *How did the Virgo cluster form?*, MNRAS, 460, 2015, cit.: 14.
- 2016 18. Tully, Courtois, **Soarce**, *Cosmicflows-3*, ApJ, 152,50, citations: 164.
- 2016 17. Carlesi, Hoffman, **Soarce**, Gottlöber, Yepes, Courtois, Tully, *The tangential velocity of M31: CLUES from constrained simulations*, MNRAS letter, 460L, 5, citations: 9.
- 2016 10. 16. **Soarce** & Guo, *The Baryonic Tully-Fisher Relation cares about the Galaxy Sample*, MNRAS, 458, 2667, citations: 8.
- 2016 15. Pahwa, Libeskind, Tempel, Hoffman, Tully, Courtois, Gottlöber, Steinmetz, **Soarce**, *The alignment of galaxy spin with the shear field in observations*, MNRAS, 457, 695, citations: 33.
- 2016 14. Carlesi, **Soarce**, Hoffman, Gottlöber, Yepes, Libeskind, Pilipenko, Knebe, Courtois, Tully, Steinmetz, *Constrained Local UniversE Simulations: A Local Group Factory*, MNRAS, 458, 900, citations: 25.
- 2016 9. 13. **Soarce**, Creasey, Libeskind, *Properties of Galaxies in the Disk Central Surface Brightness Gap*, MNRAS, 455, 2644, citations: 4.
- 2016 8. 12. **Soarce**, Gottlöber, Yepes, Hoffman, Courtois, Steinmetz, Tully, Pomarède, Carlesi, *Cosmicflows Constrained Local UniversE Simulations*, MNRAS, 455, 2078, citations: 44.
- 2015 7. 11. **Soarce**, *Minimization of Biases in Galaxy Peculiar Velocity Catalogs*, MNRAS, 450, 2644, cit.: 20.
- 2015 10. Courtois, Zaritsky, **Soarce**, Pomarède, *Giant disk galaxies : Where environment trumps mass in galaxy evolution*, MNRAS, 448, 1767, citations: 12.
- 2014 6. 9. **Soarce**, Tully, Courtois, Jarrett, Neill, Shaya, *From Spitzer Galaxy Photometry to TF Distances*, MNRAS, 444, 527, citations: 74.
- 2014 8. Neill, Seibert, Tully, Courtois, **Soarce**, Jarrett, Scowcroft, Masci, *The Calibration of the WISE W1 and W2 TFR*, ApJ, 792, 129, citations: 28.
- 2014 7. Zaritsky, Courtois, Muñoz-Mateos, **Soarce**, Erroz-Ferrer, Comerón, Gadotti, Gil de Paz, Hinz, Laurikainen, Kim, Laine, Menéndez-Delmestre, Mizusawa, Regan, Salo, Seibert, Sheth, Athanasoula, Bosma, Cisternas, Ho, Holwerda, *The Baryonic TFR for S⁴G Galaxies and the Baryon Fraction of Central Galaxies*, ApJ, 147, 134, citations: 52.
- 2014 5. 6. **Soarce**, Courtois, Gottlöber, Hoffman, Tully,, *Simulations of the Local Universe constrained by observational peculiar velocities*, MNRAS, 437, 3586, citations: 38.
- 2013 5. Tully, Courtois, Dolphin, Fisher, Heraudeau, Jacobs, Karachentsev, Makarov, Makarova, Mitronova, Rizzi, Shaya, **Soarce**, Wu, *Cosmicflows-2: The Data*, AJ, 146, 86, citations: 322.
- 2013 4. 4. **Soarce**, Courtois, Sheth, Tully, *Bimodality of Galaxy Disk Central Surface Brightness Distribution [at 3.6 μ m]*, MNRAS, 433, 751, citations: 5.
- 2013 3. 3. **Soarce**, Courtois, Tully, Seibert, Scowcroft, Freedman, Madore, Persson, Monson, Rigby, *Calibration of the Mid-IR Tully-Fisher relation (TFR)*, ApJ, 765, 94, citations: 45.
- 2012 2. 2. **Soarce**, Tully, Courtois, *Mid-Infrared TFR: Calibration of the SNIA scale*, ApJ, 758, L12, cit.: 37.
- 2012 1. 1. **Soarce**, Courtois, Tully, *Mid-Infrared TFR: Spitzer Surface Photometry*, AJ, 144, 133, cit.: 25.

• All papers: *h-index* 18

• As first author: *h-index* 10.

Oral Communications

Since 2011 **Colloquia: 36 seminars, 25 institutes, 9 countries.**

- Centre de Recherche en Informatique, Signal et Automatique de Lille (CRISTAL) - Villeneuve d'Ascq, France (Jan. 2022)
- Institut d'Astrophysique de Paris (IAP) - France (Dec. 2021, Oct. 2021 (online), Sep. 2014, Nov. 2012)
- Laboratoire d'Etudes du Rayonnement et de la Matière en Astrophysique et Atmosphères (LERMA) - Paris, France (Nov. 2021)
- Istituto di Astrofisica Spaziale e Fisica Cosmica di Milano (IASF) - online (Nov. 2021)
- Galaxies, Etoiles, Physique et Instrumentation (GEPI) - Meudon, France (Oct. 2021)
- **Invited** French Dark Energy Action Webinar - Online (May 2021)
- Institut d'Astrophysique Spatiale (IAS) - Orsay, France (Jan. 2020)
- Institut de Recherche en Astrophysique et Planétologie (IRAP) - Toulouse, France (Feb. 2019)
- Laboratoire Univers et THéories (LUTH) - Paris, France (Feb. 2019)
- Observatoire de la Côte d'Azur (OCA) - Nice, France (Jan. 2019)
- Institut Elie Cartan de Lorraine (IECL) - Nancy, France (Jan. 2019)
- Laboratoire d'Astrophysique de Marseille (LAM) - Marseille, France (Jan. 2019)
- Shanghai Astronomical Observatory (SHAO), Shanghai - China (Oct. 2018)
- Centre de Recherche Astrophysique de Lyon (CRAL) - Lyon, France (Sep. 2018, Sep. 2015, Sep. 2014)
- University College London (UCL) - London, UK (Jun. 2018)
- Centre de physique des particules (CPPM) - Marseille, France (Dec. 2017)
- Max-Planck-Institut für extraterrestrische Physik (MPE) - Garching, Germany (Jun. 2017)
- Leibniz-Institut für Astrophysik (AIP) - Potsdam, Germany (Feb. 2017, March 2015, Jul. 2013)
- Observatoire Astronomique de Strasbourg, France (Dec. 2016)
- Institut de Physique Nucléaire (IPNL) - Lyon, France (Dec. 2015, Oct. 2013)
- Andres Bello University, Santiago - Chile (Dec. 2015)
- National University of Córdoba - Argentina (Nov. 2015)
- AIP for the Scientific Advisory Board - Potsdam, Germany (Oct. 2015)
- Racah Institute of Physics - Jerusalem, Israel (Feb. 2015)
- Laboratoire de Physique Nucléaire et des Hautes Energies (LPNHE) - Paris, France (Sep. 2014)
- IfA - University of Hawaii, USA (Jan. 2014, Jun. 2011)
- Carnegie Observatories - Pasadena, USA (Jan. 2013)

Since 2012 **Conferences: 37 talks, 5 posters, 26 cities, 14 countries.**

- Talk - CLUES meeting - online (Jul. 2021, Nov. 2020), Lyon, France (Sep. 2019), Tenerife, Spain (Jun. 2018), Madrid, Spain (Jun. 2017), Haifa, Israel (Jun. 2016), Copenhagen, Denmark (x2, May 2015), Potsdam, Germany (Aug. 2014), Madrid, Spain (May 2013), Lyon, France (Jun. 2012)
- Talk - Galaxy evolution in different environments, Euclid workpackage, meeting, Feb. 2021
- **Invited Review** - The Cosmic Web in the Local Universe - Leiden, Netherlands (Jan. 2020)
- Talk - Ramses Users Meeting (RUM) - Copenhagen, Denmark (Sep. 2019), Lyon, France (Sep. 2018), Paris, France (Oct. 2016), Oxford, UK (Sep. 2015)
- Talk & poster - CNES Young researchers' days - Toulouse, France (Oct. 2018)
- Talk - Conference 'Highlights & prospects for numerical astrophysics' - Lyon, France (Oct. 2018)
- Talk - Conference 'the Large Scale properties of the Universe' - Tuorla, Finland (Oct. 2018)
- Talk - French Astronomical society annual meeting - Bordeaux, France (Jul. 2018), Lyon, France (Jun. 2016)
- Talk - 4MOST meeting - Sauverny, Switzerland (Jun. 2018)
- Talk - French Euclid galaxy clustering meeting - online (Jun. 2018)
- **Invited Review** and poster - Cosmology school - Fuerteventura, Canary Islands, Spain (Sep. 2017)
- Talk - Crystal Clear Clusters workshop - Madrid, Spain (Jun. 2017)
- Talk (x2) - IVOA meeting - Shanghai, China (May 2017)
- Talk - Conference 'Large Scale Structure and Galaxy Flows' - Quy Nhon, Vietnam (Jul. 2016)
- **Invited Review** - Unveiling the Anisotropic Universe workshop - Amsterdam, Netherlands (Apr. 2016)
- Talk - Near Field Cosmology workshop - Obergurgl, Austria (Mar. 2016)
- Poster - Conference 'Theoretical and Observational progress on the LSS' - Garching, Germany (Jul. 2015)
- Talk - Conference 'Drifting through the Cosmic Web' - Aix-en-provence, France (Jul. 2015)
- Poster - Humboldt foundation meeting - Bremen, Germany (Apr. 2015)
- Talk - Hydrosim meeting - Trieste, Italy (Feb. 2015)
- Dissertation talk - 223 rd AAS meeting - National Harbor, USA (Jan. 2014)
- Talk and Poster - Conference 'Cosmic Flows' - Marseille, France (Jun. 2013)
- Talk - 221st AAS meeting - Long Beach, USA (Jan. 2013)
- Talk - Tully-Fisher at 35 Workshop - Green Bank, USA (Apr. 2012)

Other attended conferences/workshops & Visited institutes abroad

Since 2012 **Conferences/workshops: 26 other conferences, 12 cities, 6 countries.**

- **4MOST meeting** - online (Sep. 2021), online (Oct. 2020), Potsdam (Sep. 2019), Heidelberg, Germany (Sep. 2018), Lyon, France (Sep. 2017)
- **French Astronomical society annual meeting - SF2A** - online (Jun. 2021)
- **Euclid annual meeting** - online (May 2021, May 2020), London, UK (Jun. 2017), Lisbon, Portugal (May-Jun. 2016), Lausanne, Switzerland (Jun. 2015)
- **French Euclid galaxy clustering meeting** - online (Apr. 2021)
- **Euclid galaxy clusters meeting** - online (Feb. 2021)
- French workshop on galaxy clusters - online (Dec. 2020)
- **Euclid France** conference - online (Nov. 2020), Paris (Nov. 2019), Nice (Nov. 2018), Lyon, France (Dec. 2014)
- **EWASS2019** - Lyon, France (Jun. 2019)
- **Euclid galaxy clustering meeting** - Milan, Italy (Dec. 2018), Nice, France (Feb. 2018)
- **CNES Young researchers' days** - Toulouse, France (Mar. 2018)
- **Third ASTERICS DADI Technology Forum** - Strasbourg, France (Mar. 2017)
- **66th Lindau Nobel Laureate Meeting** - Lindau, Germany (Jun.-Jul. 2016)
- **Workshop Paris-Meudon** - Paris, France (Dec. 2012)
- **Conference 'Neutrinos at the forefront of elementary particle physics and astrophysics'** - Lyon, France (Oct. 2012)

Since 2010 **Visited (for more than a day in a row) institutes (outside France, besides conferences): 12 institutes, 8 countries, total: about 3.6 years.**

- Shanghai Astronomical Observatory, Shanghai - China (1 week, Oct-Nov. 2018)
- Leibniz-Institut für Astrophysik, Potsdam - Germany (guest researcher, 1 month + 2 weeks, since 2017)
- University of Geneva - Switzerland (2 days, Jul. 2017)
- Max-Planck-Institut für extraterrestrische Physik (MPE) - Garching, Germany (1 week, May-Jun. 2017)
- Leibniz-Institut für Astrophysik, Potsdam - Germany (postdoc, **2 years**, between 2014 and 2016)
- Instituto de Fisica de Cantabria - Santander, Spain (1 week, Jan. 2016)
- Andres Bello University, Santiago - Chile (1 week, Dec. 2015)
- National University of Córdoba - Argentina (1 week, Nov. 2015)
- Racah Institute of Physics - Jerusalem, Israel (1 week, Feb. 2015)
- Universidad Autonoma de Madrid - Spain (1/2 week, Oct. 2014)
- Leibniz-Institut für Astrophysik, Potsdam - Germany (PhD, about **6 months**, between 2012 and 2014)
- Institute For Astronomy (IfA) - University of Hawaii, USA (student & PhD, total: **9 months**, between 2010 and 2014)
- Carnegie Observatories - Pasadena, USA (1 week, Jan. 2013)
- National Radio Astronomy Observatory - Charlottesville, USA (2 days, Apr. 2012)

Facilities (Supercomputers)

TGCC in Saclay (Joliot-Curie), IDRIS in Orsay (Jean Zay), CCIN2P3 in Lyon, LRZ/GSC (SuperMUC then SuperMUC-NG) and 'Jülich Center' (JUROPA then JURECA) in Germany, OLCF in the USA (Titan and Rhea)