

Victor Bonjean

PhD in Astronomy and Astrophysics
Scientist / Data scientist

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27 yo
Driving licence

Education

- 2019-2020 **Post-doctoral position in the ByoPiC group**, with Nabila Aghanim in IAS (Orsay).
- 2016-2019 **PhD in Astronomy and Astrophysics**, under the supervision of Nabila Aghanim in IAS (Orsay) and Philippe Salomé in LERMA, Observatoire de Paris:
“Matter in the largest structures of the Universe: from galaxies to filaments, observations and data analysis”.
- 2015-2016 **Master 2 “Astronomy, Astrophysics, and Spatial Engineering”**, co-accredited by the Ecole Normale Supérieure, the Université Paris-Sud, the Université Paris Diderot, the Observatoire de Paris, and the Université Pierre et Marie Curie.
- 2014-2015 **Master 1 “High Energy Physics”**, at the Ecole Polytechnique in Palaiseau, France.
- 2010-2014 **Licence in Fundamental Physics**, in the Université Bordeaux 1.
- 2010 **French scientific Baccalauréat, speciality in Physics**, in Dax, Landes (40), France.

Awards

- 2018 **Finalist of Paris Sciences et Lettres (PSL) University**, at the PhD contest *“Ma thèse en 180 secondes”*.
- 2017 **Third price**, at the PhD contest *“Ma thèse en 5 minutes”*.
- 2016 **PhD grant**, from the Ecole Doctorale 127 *“Astronomie et Astrophysique”*.

List of publications

Submitted

5. *“Deep learning for Sunyaev-Zel’dovich detection in Planck”*, V. Bonjean, submitted to A&A.
4. *“Like a spider in its web: a study of the Large Scale Structure around the Coma cluster”*, N. Malavasi, N. Aghanim, H. Tanimura, V. Bonjean, and M. Douspis, submitted to A&A.

Accepted

3. *“Detection of intercluster gas in superclusters using the thermal Sunyaev-Zel’dovich effect”*, H. Tanimura, N. Aghanim, M. Douspis, A. Beelen, and V. Bonjean, 2019, A&A, 625, A67.
2. *“Star formation rate and stellar masses from machine learning”*, V. Bonjean, N. Aghanim, P. Salomé, A. Beelen, M. Douspis, and E. Soubrié, 2019, A&A, 622, A137.
1. *“Gas and galaxies in filament between clusters of galaxies: The study of A399-A401”*, V. Bonjean, N. Aghanim, P. Salomé, M. Douspis, and A. Beelen, 2018, A&A, 609, A49.

Seminars & Invited talks

- March 2018 “*Galaxy properties from WISE with machine learning*”, University of Nagoya, Nagoya, Japan.
July 2017 “*Multi-wavelength analysis of inter-cluster filaments*”, University of Nagoya, Nagoya, Japan.

Talks

- Nov. 2018 “*Galaxy properties from WISE with machine learning*”, PNCG days, IAP, Paris, France.
Sept. 2018 “*Star formation activity in the Cosmic Web*”, West Coast Swings workshop, ICRAR, Perth, Australia.
May 2018 “*Random forest for galaxy types*”, First ByoPiC meeting, Malta.
May 2018 “*Case study A399-A401*”, First ByoPiC meeting, Malta.
Sept. 2017 “*Hot gas in the largest structures of the Universe*”, PhD student day, IAS, Orsay, France.
April 2017 “*Multi-wavelength analysis of inter-cluster filaments*”, Physics of the Intra-Cluster Medium, Beijing Normal University, Beijing, China.
Oct. 2016 “*Hot gas in the largest structures of the Universe*”, Elbereth PhD student conference, IAP, Paris, France.

Posters

- June 2019 “*A global picture of galaxy properties around cosmic filaments at low redshift*”, The Cosmic Web: From Galaxies to Cosmology, Royal Observatory, Edinburgh, Scotland.
Aug. 2018 “*Machine learning for galaxy types*”, XXX IAU Assembly (International Astronomical Union), Austria Center, Vienna, Austria.
May 2018 “*Machine learning for galaxy types*”, Statistical challenges in 21st century cosmology, Plaza Virgen de la Paz, Valencia, Spain.
March 2018 “*Gas and galaxies in the Cosmic Web*”, Colloque Alain Bouyssy, Université Paris-Saclay, Orsay, France.
July 2017 “*Gas and galaxies in inter-cluster filaments*”, Galaxy Clusters Across Cosmic Time, Aquabella Hotel, Aix-en-Provence, France.

Responsibilities

- 2019 **Second ByoPiC workshop**, participation to the organisation in Hossegor, France.
2018 **First ByoPiC workshop**, participation to the organisation in Malta.
2017-2018 **PhD seminar “S’n’B”**, in charge of the organisation in IAS, Orsay.
2016 **Annual meeting of the French Cosmology and Galaxy Program (PNCG)**, in the Local Organizing Committee in IAS, Orsay.

Teaching experience

- 2018-2019 **Master 2 “Astronomy, Astrophysics, and Spatial Engineering”**, computer science and data analysis courses (35 hours).
2018 **Master 2 “Atoms, Particles, Astro-particles and Cosmology”**, computer science and data analysis courses (35 hours).

Supervision

2018 **Raphaël Wicker**, L3 student for the internship: “*NTT observations of galaxy clusters detected by the thermal Sunyaev Zel’dovich effect with the Planck satellite*”.

Outreach

August 2018 “*Nuit des étoiles*”, animation and seminar in the Observatoire de Dax, France.

Relevant skills

Coding skills

Langages Python: Expert
Fortran, Java, C, C++: Good level

Web HTML5 - CSS3.
JavaScript (jQuery), PHP, Django

Methods Machine learning
Deep learning
Bayesian statistics
Modelisation

Tools GitHub, L^AT_EX

OS iOS
GNU/Linux : Ubuntu, Debian
Windows XP, Seven

DB SQL - MySQL

Languages

French: Mother tongue
English: Good level
Spanish: Basic knowledge

Other interests

Music (singing, playing guitar, saxophone, and piano)
Arts (drawing, painting, design)
Sports (running, hiking, climbing, tennis)
Coding (France-IOI, CodinGame)
Nature & Ecology
Travels