

## Personal

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## Education

- Since September 2015: **FCT Fellowship SFRH/BPD/103958/2014 + Invited Lecturer (Profesor Auxiliar Convidado)**  
Working in the Institute of Astrophysics and Space Sciences (IA; Instituto de Astrofísica e Ciências do Espaço) and the University of Lisbon (Portugal)
- October 2011 - March 2015: **PostDoctoral Researcher Associated to James S. Dunlop's European Research Council Grant + 6-month extension funded by the ASTRODEEP FP7 programme**  
Working in the Institute for Astronomy, Royal Observatory of Edinburgh (UK)
- **PhD Thesis: Structural evolution of massive galaxies in the last 11 Gyr**  
Duration: April 2008 - April 2012. University of Nottingham, UK  
Supervisors: Prof. Christopher J. Conselice (Nottingham) and Dr. Ignacio Trujillo (IAC)
- Since Oct 10: **BSc in Computer Science (3-year degree)**, University of Salamanca, Spain
- Since Jun 08: **MSc in Astronomy (2-year degree)**, University of La Laguna – Institute of Astrophysics of Canary Islands, Spain
- Since Sep 07: **MSc in Physics (5-year degree)**, University of Salamanca, Spain

## Awards

- **Prize (ex-aequo) for the Best Spanish Thesis 2012 by the Spanish Astronomical Society (SEA)**
- **Science and Technology Facilities Council (UK) and Institute of Astrophysics of Canary Islands (Spain) International Grant to study a PhD in UK (2008-2011)**

## Professional Experience

- (As of 28-May-2018) 1720 cites (including two first author papers with 288 and 100 cites each), 33 papers in high-impact international journals, h-index: 22

### Invited talks

- 20th June 2017 – SISSA Invited seminar – “Pressing and pending questions about massive galaxies” – Trieste (Italy)

- 8th July 2014 – XIIth Spanish Astronomical Society Meeting plenary talk – **“Structural evolution of massive galaxies in the last 11 Gyr”** – Teruel (Spain)
- 4th October 2013 – IVICFA Workshop – **“The most massive galaxies living in a  $\Lambda$ CDM Universe”** – Valencia (Spain)

## Conference talks

- 23rd Oct 2017 – “Galaxy Groups and Clusters II: Laboratories to study Galaxy Evolution” meeting – **“The monster’s lair: open questions about the environment of the most massive galaxies”** - La Serena (Chile)
- 21st Sep 2017 – RIA-sponsored meeting “Proposing and Processing MEGARA observations with GTC” – **“Why massive and compact galaxies “disappear” across cosmic time”** – Madrid (Spain)
- 21st July 2017 – XXVIIth Portuguese Astronomical Society Meeting plenary talk – **“Is the Universe devoid of ultracompact galaxies?”** – Lisbon (Portugal)
- 9th Sep 2016 – XXV ENAA 2016 – **“The outskirts of massive early-type galaxies at  $z = 0.65$  in the Hubble Ultra Deep Field”** – Aveiro (Portugal)
- 18th Mar 2016 – IAUS 321 Outskirts Of Galaxies – **“The cosmic assembly of stellar haloes in massive Early-Type Galaxies”** – Toledo (Spain)
- 12th Jan 2016 – “The early growth of galaxies: The HST, Spitzer and Herschel joint legacy” meeting – **“Dissecting the outskirts of massive galaxies”** – Sexten (Italy)
- 23rd Jul 2015 – XXV ENAA 2015 – **“Scientific volunteering in East Africa: Opportunities in Astronomy”** – Lisbon (Portugal)
- 23rd Jun 2015 – EWASS 2015 – **“The outskirts of massive early-type galaxies at  $z = 0.65$  in the Hubble Ultra Deep Field”** – Tenerife (Spain)
- 3rd Feb 2015 – “Getting a grip on galactic girths” meeting – **“Are the most massive galaxies substantially different using the deepest surveys?”** – Tokyo (Japan)
- 28th Jan 2015 – “The Spectral Energy Distribution of high redshift galaxies: lessons learned and open questions” meeting – **“Are the most massive galaxies substantially different using the deepest surveys?”** – Sexten (Italy)
- 9th Jan 2015 – XI DEX Workshop – **The low surface brightness haloes of massive galaxies in ultra-deep imaging and their relative importance** – Edinburgh (UK)
- 13th Mar 2014 – 3D2014 Gas and stars in galaxies: A multi-wavelength 3D perspective – **“SINFONI/VLT 3D spectroscopy of massive galaxies: Evidence of rotational support at  $z \sim 1.4$ ”** – Garching (Germany)
- 8th Jul 2013 – European Week of Astronomy and Space Science 2013 – **“Ongoing assembly of massive early-type galaxies in the HUDF12”** – Turku (Finland)
- 2nd Jul 2013 – National Astronomical Meeting 2013 – **“Ongoing assembly of massive early-type galaxies in the HUDF12”** – St Andrews (UK)
- 22nd Jan 2013 – “Shaping galaxy evolution: interactions & feedback” meeting –

“Ongoing assembly of massive early-type galaxies in the HUDF12” – Observatoire de Paris (France)

- 6th Nov 2012 – Euclid-MOONS Meeting – “**The entertaining life of massive galaxies: Euclid & MOONS**” – Edinburgh (UK)
- 13th Jul 2012 – XIth Spanish Astronomical Society Meeting – **Massive galaxies: a gate for large area very deep galaxy surveys** – Valencia (Spain)
- 13th Jan 2012 – VIII DEX Workshop – “**Evolution of massive galaxies in the era of large area surveys**” – Durham (UK)
- 15th Oct 2010 – Xth Spanish Astronomical Society Meeting – “**Shaping massive galaxies from  $z=3$ : merging vs secular evolution**” - Centro Superior de Investigaciones Científicas, Madrid (Spain)
- 1st Jul 2009 – VIIIth Marseille International Cosmology Conference – “**Superdense massive galaxies: sizes and evolution since  $z=3$** ” - Marseille (France)
- 24th Oct 2008 – Workshop on Extragalactic Surveys – “**GOODS NICMOS Survey: Imaging most massive galaxies at  $z > 2$** ” –Institute of Astrophysics of Andalusia (Spain)

## Given seminars

- 1st-Nov 2017 – “**Review on massive galaxies**” – Instituto de Astronomia, Geofísica e Ciências Atmosféricas, University of São Paulo (Brazil)
- 18th Nov 2016 – “**Galactic Extremophiles: The most massive galaxies of the Universe**” – Centro de Astrobiología, Madrid (Spain)
- 9th Nov 2016 – “**What’s beyond my lab? Current challenges in extragalactic Astronomy**” – Faculdade de Ciências, Lisboa (Portugal)
- 10th Mar 2016 – “**Review about the state-of-the-art of massive galaxies**” – CENTRA, Lisbon (Portugal)
- 28th Nov 2015 – “**Review about the state-of-the-art of massive galaxies**” – ESO Vitacura, Santiago de Chile (Chile)
- 27th Nov 2015 – “**Review about the state-of-the-art of massive galaxies**” – University of Valparaíso, Valparaíso (Chile)
- 21st Sep 2015 – “**Review about the state-of-the-art of massive galaxies**” – IA-OAL, Lisbon (Portugal)
- 1st Oct 2014 – “**News from the galaxy monsters**” – University of Nottingham, Nottingham (UK)
- 19th Sep 2014 – “**The history of the galaxy monsters**” – IA-OAL , Lisbon (Portugal)
- 15th May 2014 – “**Stellar haloes of Early-Type massive galaxies at  $z\sim 0.7$  or how to use the HUDF for local Universe studies**” – Osservatorio Astronomico di Bologna, Bologna (Italy)
- 14th May 2014 – “**Stellar haloes of Early-Type massive galaxies at  $z\sim 0.7$  or how to use the HUDF for local Universe studies**” – Osservatorio di Arcetri,

Florence (Italy)

- 12th May 2014 – “**Stellar haloes of Early-Type massive galaxies at  $z \sim 0.7$  or how to use the HUDF for local Universe studies**” – Osservatorio Astronomico di Roma, Rome (Italy)
- 4th Mar 2014 – “**Ongoing assembly of massive early-type galaxies in the HUDF12 in the context of massive galaxy evolution**” – University of St. Andrews (UK)
- 9th October 2013 – “**Ongoing assembly of massive early-type galaxies in the HUDF12**” – John Moores University, Liverpool (UK)
- 20th Dec 2010 – “**On the nature of massive galaxies at high redshift**” – IAC (Spain)
- 19th Nov 2008 – “**Size evolution of the most massive galaxies at  $1.7 < z < 3$  & the GOODS NICMOS Survey**” – University of Central Lancashire (UK)
- 17th Oct 2008 – “**Size evolution of the most massive galaxies at  $1.7 < z < 3$  & the GOODS NICMOS Survey**” – University of Durham (UK)

## Supervising experience

- 2016-2020 Supervising with Dr. Polychronis Papaderos the **IA funded PhD project** “Unveiling the formation and evolution of massive galaxies via photometric and kinematic decompositions”. Student name: Sandra Reis
- 2016-2017 Supervising the **final MPhys thesis** “A multiwavelength study of galaxy disks across cosmic time”. Student name: João Águas
- 2016-2017 Supervising the **final MPhys project** “Spectrophotometric analysis of galaxies in high density environments”. Student name: Hugo Martins
- 2013/2014 University of Edinburgh – Supervising with Dr. Annette Ferguson the **final MPhys project** “Faint Tidal Debris in Galaxies”. Student name: Aron Krausz
- **Summer student** University of Edinburgh – Tamara Leitan, working on the project “High redshift galaxies: windows to the unknown” (with RAS £1200 grant)
- **Summer student** University of Edinburgh – Emma Ryan, working on the project “The effect of twisting on optical fibres for the MOONS spectrograph”

## Teaching experience

- Jury member for BSc programmes in the University of Lisbon and MSc programmes in the Mbarara University of Science and Technology
- Since Feb 2016: Astrofísica Extra-Galáctica: Formação e Evolução de Galáxias (AE-FEG), **Extragalactic Astrophysics: Galaxy formation and evolution**, MSc course in the University of Lisbon, 6 ECTS, Courses: 2nd semester 2015-2016, 2nd semester 2016-2017, 2nd semester 2017-2018
- Since Feb 2016: Tópicos Avançados de Astrofísica Extra Galáctica: Formação e Evolução de Galáxias (TAAEG-FEG), **Advanced topics in Extragalactic Astrophysics: galaxy formation and evolution**, PhD course in the University of

Lisbon, 6 ECTS, Courses: 2nd semester 2015-2016, 2nd semester 2016-2017, 2nd semester 2017-2018

- Apr 2015 - May 2015 – Addis Abeba University (Entoto Observatory, Ethiopia) – **Extragalactic Astronomy Invited Lecturer**, PhD in Astronomy
- Apr 2015 – Mbarara University for Science and Technology (Mbarara, Uganda) – **Extragalactic Astronomy Invited Lecturer**, MSc in Astronomy
- 2013/2014 University of Edinburgh – **Assistant teacher** in the "Research Methods in Physics" course. Main lecturer: Richard Blythe

## Committee participation

- **Panelist of the ESO OPC for periods P99, P100 and P101**
- **Jury** for BSc in Physics "Laboratory in Astrophysics" course in the University of Lisbon (Jul-17, 21 people) and MSc thesis in Mbarara University for Science and Technology (Aug-17, Ms. Beatrice Nyiransengiyumva)
- Mar-17 – Complutense University (Spain) – External evaluator for PhD thesis from Luis A. Díaz García
- 27th July 2016 – **University of La Laguna (Spain) – Dr. Luis Peralta de Arriba – Jury for PhD thesis:** "Growth of massive galaxies through cosmic time" – Mark: A with honours (Sobresaliente Cum Laude)

## Money awarded

- 2018 – **3750 €** for the FCT-DAAD collaboration "The hunt for the biggest super-massive black hole" (+9440 € from Germany; German PI G. van de Ven)
- 2018 – **14000 €** from FECyT (Spanish Foundation for Science and Technology) to organize the exhibition 'Con A de astrónomAs'.
- 2017 – **5000 R\$** for my AIG visit
- 2017 – **880 €** for my SISSA invited talk
- 2013 – **1000 €** for the Spanish Astronomical Society Thesis Prize
- 2013 – **£500** for organizing the National Astronomical Meeting Parallel Session 29

## Meeting organization

- 16th-20th July 2018 – **LOC coordinator and SOC member of the XIIIth Spanish Astronomical Meeting (SEA 2018)**, held in the University of Salamanca, celebrating its 800th anniversary <https://sea2018.usal.es>
- 8th-9th January 2015 – **Durham-Edinburgh eXtragalactic 11th annual meeting** (DEX XI) "Big Surveys + Big Simulations = Big Science" Edinburgh (UK) – <http://www.roe.ac.uk/ifa/Meetings/DEX/XI/>
- 9th-10th January 2014 – **Durham-Edinburgh eXtragalactic 10th annual meeting** (DEX X) "The peak of activity in the Universe" Durham (UK) – <http://astro.dur.ac.uk/DEX/X/>
- 2nd July 2013 – **NAM Parallel Session 29** "Declining star formation in galaxies: from primeval disks to the rise of ellipticals" held in St. Andrews (UK) – [http://www.roe.ac.uk/ifa/Meetings/NAM2013-quenching/nam2013\\_session29.html](http://www.roe.ac.uk/ifa/Meetings/NAM2013-quenching/nam2013_session29.html)

- 10th-11th January 2013 – **Durham-Edinburgh eXtragalactic 9th annual meeting** (DEX IX) “Physics of galaxy formation” held in Edinburgh (UK) – <http://www.roe.ac.uk/ifa/Meetings/DEX/IX/>

## Telescope time as PI

- **3h using MUSE at VLT**, programme ID 0101.B-0808: “The hunt for the biggest black hole in the nearby Universe with MUSE”
- **4h using KMOS at VLT**, programme ID 60.A-9465(A): “Unveiling low redshift HUDF ETGs: their internal disks & galactic satellites” Science Verification Programme

## Poster contributions

- Aug 2016 – “**Stellar haloes in massive early-type galaxies**” – XIIth Spanish Astronomical Society Meeting, Bilbao (Spain)
- Aug 2012 – “**Massive galaxies: born as disks, dead as spheroids**” – XXVIIIth IAU General Assembly, Beijing (China)
- Sep 2010 - “**3D Spectroscopy unveils Massive Galaxies at High-z Evolution**” – Joint European and National Astronomy Meeting (JENAM) Lisbon (Portugal)
- Jul 2008 - “**Extremely Compact Massive Galaxies at  $1.7 < z < 3$** ” – VIIIth Spanish Astronomical Society Meeting Universidad de Cantabria (Spain)

## Outreach activities

- **Many talks in schools, high schools and other associations**
- **June 2017: Title page & article in “Astronomia”**, outreach astronomical monthly journal in Spanish-speaking countries
- **IGNITE talks in Campo Maior (30 people), Lisbon (360 people), Óbidos (30 people)**
- **Noites do Observatório** activities: “As galáxias e o infinito” (30th Abr 16, 200 people) and “Mitos e lendas na Astronomia” (25th Feb 2017, 360 people), “O Universo para além da imaginação” (16th Dec 2017, 315 people)
- 2013-2015 – **Meet the Astronomer activity** – Royal Observatory of Edinburgh Visitor Center (UK)
- **Stars R Us activity** – University of Nottingham (UK) activity during academic year 2009/2010
- 17th Jun 2010 - Public Astronomy Lecture Series “**History of Space Exploration: Looking for New Horizons**” University of Nottingham (UK)
- 18th Sep 2009 – International Year of Astronomy Talk “**The universe and its galaxies**” University of Salamanca (Spain)
- 6th Nov 2009 – “**The Astronomy’s blue horizon**” Article in El Pais Newspaper Digital Edition
- **Leisure time activities instructor** by the CENSA school (270h)

## Software applications

- Full software package developed for Bachelor degree final project titled “**Photometric and spectroscopic study of high redshift massive galaxies using IDL**” under the supervision of Dr. Juan Manuel Corchado (Dean of Science, University of Salamanca, Spain)

## Others

- **Astronomy & Astrophysics, ApJ, MNRAS, Frontiers and Galaxies Referee**
- **Member of the UltraVISTA, CANDELS, S-PLUS, VANDELS, Euclid and JWST CEERS surveys**
- Active member in the **Euclid Galaxy Morphology Working Group**
- **Member of the ASTRODEEP FP7 European programme**
- **Member of the Real And Virtual Early-Type (RAVET) programme** founded by Spanish Science Ministry
- Member of the Spanish Astronomical Society
- Ex-fellow of the Royal Astronomical Society and ex-member of the European Astronomical Society
- Ex-member of the Society of Spanish Researchers in the UK (SRUK/CERU)
- Ex-member of the Research Staff Society and the Equality & Diversity Committee of the University of Edinburgh’s School of Physics & Astronomy
- **Coffee talks’ organizer** in the Royal Observatory of Edinburgh (from March 2013 to March 2015)
- **Seminars’ organizer** in the Instituto de Astrofísica e Ciências do Espaço (since January 2016)

## Skills

### Languages

- **Spanish:** Mother tongue
- **English:** Fluent (both spoken and written)
- **Portuguese:** Very good (both spoken and written)
- **Italian:** Basic (both spoken and written)

### Computational Skills

- **Programming languages:** Python, IDL, C, Fortran, Matlab, HTML, SQL, Java, PHP (GitHub username fbuitrago)
- **Other software:** IRAF, L<sup>A</sup>T<sub>E</sub>X, Virtual Observatory and associated databases
- Broad experience with GALFIT, SExtractor and ESO data reduction pipeline

### Telescope Experience

- 20-27th Nov 2016 at UT3 Melipal (8.2 m) for the VANDELS survey – VIMOS optical MOS instrument – Paranal Observatory (Chile)

# *Fernando Buitrago*

# *Curriculum Vitae*

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- 15-20th Nov 2015 at UT3 Melipal (8.2 m) for the VANDELS survey – VIMOS optical MOS instrument – Paranal Observatory (Chile)
- 20-24th Sep 2008 at William Herschel Telescope (4.2 m) – LIRIS near-infrared MOS instrument – Roque de los Muchachos Observatory (Spain)
- 10th Oct 2007 at William Herschel Telescope (4.2 m) – PFIP wide field camera – Roque de los Muchachos Observatory (Spain)