

Curriculum Vitae – Jesús Zavala Franco

Faculty of Physical Sciences, University of Iceland, Dunhagi 5, 107 Reykjavík, Iceland
e-mail: jzavala@hi.is website: <https://notendur.hi.is/~jzavala/>
Nationality: Mexican Age: 41
Married to a Swedish citizen, one child (3 months parental leave in 2015)

Publications

59 papers published + 4 submitted in international peer-reviewed journals
18/20 as a first/second author
~3250 citations as of 07/21 (~70% as first and second author)
hirsch index h=31 (31 articles with more than 30 citations).
[Link to list of articles in NASA ADS.](#)

Professional Appointments

07/21 **Professor**
[Department of Physics](#), University of Iceland

06/21 **Tenure appointment**
Department of Physics, University of Iceland

06/16 – 06/21 **Associate Professor** (tenure-track)
Department of Physics, University of Iceland

11/13 – 06/16 **Marie Curie Fellow** (03/14 – 06/16) **Independent DARK Fellow** (11/13 – 03/14)
[DARK Cosmology Centre](#), Niels Bohr Institute, University of Copenhagen, Denmark

10/10 – 11/13 **Joint Postdoctoral Fellow** (10/10 – 11/13)
Canadian Institute for Theoretical Astrophysics **National Fellow** (10/10 – 11/12)
[Perimeter Institute for Theoretical Physics](#)
[Department of Physics and Astronomy](#), University of Waterloo

09/07 – 10/10 **Joint Postdoctoral Researcher**
MPA/SHAO Joint Center for Astrophysical Cosmology
[Max Planck Institute for Astrophysics](#) (09/08 – 10/10), Garching, Germany
[Shanghai Astronomical Observatory](#) (09/07 – 09/08), Shanghai, China

Education

06/05 – 08/07 **Ph.D., Physics** (Awarded: 10/01/2008)
[Nuclear Sciences Institute](#) (ICN), National Autonomous University of Mexico (UNAM)
Advisor: Prof. Darío Núñez Zúñiga
Thesis Title: About the nature of dark matter and galaxy formation (eng. trans.)

08/03 – 06/05 **M.Sc., Physics** (Total average grade: 9.8 out of 10)
ICN, UNAM

08/97 – 06/03 **B.Sc., Physics** (Total average grade: 9.5 out of 10, graduated with honours)
Faculty of Sciences, UNAM
Advisor: Prof. Vladimir Avila Reese, Astronomy Institute, UNAM

Awards, Honors and Grants

2021 [Buchalter Cosmology Prize \(3rd prize\)](#)

2020 – 2022 **Project Grant, Icelandic Research Fund: ~45 million ISK (~€300,000)**

2017 – 2020 [Grant of Excellence, Icelandic Research Fund: ~100 million ISK \(~€750,000\)](#)

2016	Member of the Nordic Research Committee (Gravitation and Cosmology) for Nordita
2014 – 2016	Marie Curie Incoming International Fellowship, European Union (€231,000)
2013 – 2016	DARK Independent Fellowship, Danish National Research Foundation
2010 – 2012	CITA National Fellowship , Canadian Institute for Theoretical Astrophysics
2009	Elected as a member of the Mexican National Researchers System (level I)
2007 – 2008	Chinese Academy of Sciences Research Fellowship for International Young Researchers
2006 – 2007	European Union LENAC/ALFA project assistance grant (~€8,000 total): ICC, Durham, England (03/07 – 04/07), MPA, Garching, Germany (02/06 – 06/06)
2003 – 2007	Graduate student scholarship (~ €26,200), Mexican Government (CONACyT)
2003 – 2007	Complementary graduate student scholarships (~ €4,500), DGEP and PAEP, UNAM

Teaching and mentoring experience

Summary:

(I) Teaching: 5 years teaching as Faculty (~1 course per semester)

(II) Teaching development and innovation: 1 course in pedagogy, 1 course designed, core organizer of a new Master Programme in Physics

(III) Mentoring (2 Postdocs, Students: 3 PhD, 1 MSc, 8 BSc, 5 summer students)

Teaching

Fall 2021	Undergrad level course: Classical Mechanics , University of Iceland
Fall 2019, 2020	Graduate level course: Selected Topics in Modern Astrophysics , University of Iceland
Spring 2017-2021	Undergrad level course: Spacetime Physics , University of Iceland
Fall 2017, 2018	Undergrad level course: General Physics , University of Iceland
02/15 – 04/15	Graduate level course: Classic astrophysical papers, University of Copenhagen
March 2014	Invited lecturer in the “gravitational dynamics and galaxy formation” MSc course Dark Cosmology Centre, University of Copenhagen, Denmark
09/12 – 12/12	Lecturer of the Master level course: Advanced Topics in Astrophysics (Dark Matter) Department of Physics and Astronomy, U. of Waterloo, Canada
08/06 – 12/06	Undergrad level course: Elementary algebra, sets and number theory Mexico Autonomous Institute of Technology (ITAM), Mexico
08/05 – 12/05	Teaching assistant of the Master/PhD level course: Classical Mechanics, Physics Institute, UNAM, Mexico
01/05 – 06/05	Undergraduate course: Classical Mechanics Faculty of Sciences, UNAM, Mexico

Teaching development and innovation

2020-2021	Core organizer of the new MSc Programme in Physics in collaboration with the Nordic Institute for Theoretical Physics (Nordita), pilot phase to begin in the Fall 2021
2018-2020	Core member of the committee to renovate the MSc Programme at the Faculty of Physical Sciences
Fall 2019	Course design: Selected Topics in Modern Astrophysics , 10 ECTS, graduate level
Fall 2016	Pedagogy course: Introduction to teaching studies at the university level , 10 ECTS

Supervision of Postdocs

11/17 – present	Mark Lovell (PhD, Durham University)
11/17 – 10/19	Chaichalit Srisawat (PhD, University of Sussex)

Supervision of PhD students

10/20 – present	Tamari Meshveliani (MSc, University of Innsbruck)
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10/17 – 07/21 Sebastian Bohr (MSc, RWTH Aachen University); graduated 07.07.2021

09/17 – present Jan Burger (MSc, RWTH Aachen University)

Supervision of MSc students

04/14 – 08/15 Thejs E. Brinckmann, University of Copenhagen

Supervision of BSc students

Spring 2020 Arna María Ormsdóttir (grad in Spring 2020)

Spring/Fall 2020 Sigurður Bjartmar Magnússon

2019 Una Kamilla Steinsen (grad in Spring 2020)

2019 Rúnar Unnsteinsson (grad in Spring 2020)

2018-2019 Bryndís María Ragnarsdóttir (grad in Spring 2019)

2018-2019 Gunnlaugur Helgi Stefansson (grad in Spring 2019)

2017 Dagur S. Úlfarsson (grad in Spring 2018)

01/14 – 06/14 Jose M. Chimeno, Dark Cosmology Centre, University of Copenhagen

Supervision of Summer students

08/19 – 10/19 J. I. Reynoso C., PhD student, U. of Guanajuato, Mexico

06/17 – 08/17 Camille Collinet, MSc student, U. of Bordeaux, France

06/16 – 09/16 Eric Moseley, BSc student (SURF Program), Caltech, US

05/11 – 08/11 Co-supervisor: Stephen Ro, BSc student, U. of Waterloo, Canada

Thesis oponent

13/09/13 Bachelor Thesis Opponent, Aldo Rodriguez Puebla, “La conexión galaxia-halo y su evolución”, Astronomy Institute, UNAM, Mexico City, Mexico

Seminars, Colloquia and Conference talks

Since 2009 I have given over 70 talks. The following is a list of invited selected contributions (the slides for some of them can be found in [this link](#)).

Selected Conference and Workshop talks (invited)

06/21 **Review Lectures**, ISAPP (virtual) Summer School, University of Madrid

08/19 The nature of Dark Matter and Large Scale Structure, University of Cyprus

09/18 **Plenary Talk**, 15th Postdam Thinkshop, AIP, Potsdam

10/17 COSPA meeting, ULB, Brussels, Belgium

08/17 SIDM Workshop, Niels Bohr Institute, Copenhagen Denmark

11/16 **Review Lectures**, Workshop on Dark Matter, Physics Institute, UNAM, Mexico

09/16 **Plenary talk**, TeV Particle Astrophysics 2016, CERN, Switzerland

08/16 CERN TH Institute, The Big Bang and the little bangs - Non-equilibrium phenomena in cosmology and in heavy-ion collisions, CERN, Switzerland

07/16 12th International Workshop Dark Side of the Universe, University of Bergen, Norway

11/15 **Plenary talk**, XI Workshop of the DGFM-SMF (1st Century of GR celebration), Guanajuato, Mexico

09/14 **Review Lecture**, Dark Matter Numerical Simulations, IPhT CEA/Saclay, France

08/14 Interplay of Particle and Astroparticle Physics Workshop, QMUL, London, UK

07/14 Dark Matter Symposium, European Week of Astronomy and Space Science (EWASS) Geneva, Switzerland

02/14 11th Symposium on Sources and Detection of Dark Matter and Dark Energy in the Universe, UCLA, Los Angeles, California

08/13 Self-interacting dark matter and challenges to Λ CDM cosmology, Harvard, USA

07/13 Dwarf Galaxies Workshop, Copenhagen, Denmark

06/13 Cosmic-Rays and Photons from Dark Matter Annihilation: Theoretical Issues

Mainz, Germany
 06/12 CIAS Meudon 2012, Warm dark matter galaxy formation in agreement with observations, CIAS Observatoire de Paris, Meudon, France
 05/12 DM Signatures in the Gamma Ray Sky Workshop, Texas Cosmology Center, USA
 11/09 LAUNCH 09: Neutrinos and Beyond, Heidelberg, Germany

Selected seminars & colloquia (invited)

01/18 Seminar, Perimeter Institute for Theoretical Physics, Waterloo, Canada
 03/17 Seminar, GRAPPA, University of Amsterdam, The Netherlands
 01/17 Seminar, TTK, RWTH Aachen University, Germany
 10/15 Colloquium, Royal Observatory, Edinburgh, UK
 06/15 Colloquium, Oskar Klein Centre, Stockholm, Sweden
 04/15 Seminar, Faculty of Physical Sciences, University of Iceland
 11/14 Seminar, Department of Physics, University of Oslo, Norway
 09/14 Seminar, CP³ Origins, Odense, Denmark
 04/14 Institute Colloquium, Mitchell Institute, Texas A&M University, USA
 02/14 Seminar, KIPAC, Stanford University, USA
 02/14 Colloquium, Department of Physics, UCSC, Santa Cruz, USA
 02/14 Seminar, Leiden Observatory, The Netherlands
 02/13 Institute seminar, Center for Cosmology and AstroParticle Physics, Columbus, USA
 02/13 Seminar, NORDITA, Stockholm, Sweden
 01/13 Seminar, Dark Cosmology Centre, Copenhagen, Denmark
 06/12 Seminar, Institute for Computational Cosmology, Durham, UK
 02/12 Colloquium, Physics Department, Queen's University, Kingston, Canada
 11/11 Joint Harvard/MIT/Tufts Cosmology Colloquium, Harvard-Smithsonian Center for Astrophysics (CfA), Cambridge, USA
 03/11 Seminar, Canadian Institute for Theoretical Astrophysics, Toronto, Canada
 01/09 Colloquium, Max Planck Institute for Astrophysics, Garching, Germany

Miscellaneous

- Referee for the journals (2009–present): Physics Reports, Physical Review Letters, Monthly Notices of the Royal Astronomical Society, Physical Review D, The Astronomical Journal and the Astrophysical Journal (**a total of 36 articles reviewed**)
- Have served as a referee for proposals submitted to the following institutions: European Research Council (ERC Starting Grant; 2021), Canada Research Chairs Program (2010); Swiss National Supercomputing Centre (CSCS; 2016), Swedish National Space Board (SNSB; 2015), Sorbonne Universities (2014)
- Member of the [Nordic Research Committee \(Gravitation and Cosmology\)](#) for Nordita to review postdoctoral applications (2016–2020; average ~120 proposals submitted per year).
- Main organizer of the workshop “[Competing Structure Formation Models](#)”, University of Iceland (October 2019)
- Local organizer of the workshop “Subhalo lensing challenges”, Reykjavik, Iceland (June 2018)
- Main organizer of the international workshop “Multi-scale ambient energy deposition from Supernovae”, Dark Cosmology Centre, Copenhagen, Denmark (February 2016)
- Co-organizer of the international workshop “Unravelling Dark Matter”, Perimeter Institute for Theoretical Physics, Waterloo, Canada (November 2011)
- Member of the European Astronomical Society
- Languages: Spanish (mother tongue), English (proficient), Swedish (novice), Icelandic (novice)