

## Prof. Dr. Alexander Knebe

nationality: German  
date of birth: 31/01/1970

Director  
Departamento de Física Teórica  
Facultad de Ciencias  
Universidad Autónoma de Madrid  
28049 Cantoblanco, Spain  
alexander.knebe@uam.es  
<http://popia.ft.uam.es/aknebe>

## CURRICULUM VITAE

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### summary

#### Degrees:

01/2023	Accreditation as Professor “Catedrático”	<i>ANECA<sup>1</sup>, Spain</i>
07/2011	Accreditation as Professor “Titular”	<i>ANECA, Spain</i>
01/2010	Habilitation	<i>Potsdam University, Germany</i>
10/1999	PhD	<i>Potsdam University, Germany</i>
01/1996	Diploma (M.Sc.)	<i>Christian-Albrechts-University Kiel, Germany</i>

#### Employment:

since 11/2024	Director of the Department of Theoretical Physics	<i>UAM, Spain</i>
since 12/2020	Professor	<i>UAM, Spain</i>
since 05/2018	Adjunct Professor	<i>University of Western Australia, Australia</i>
03/2014 – 11/2020	Associate Professor	<i>UAM, Spain</i>
03/2009 – 02/2014	Ramon Y Cajal Fellow (tenure-track)	<i>UAM, Spain</i>
03/2005 – 02/2009	Emmy Noether Fellow	<i>AIP, Germany</i>
10/2004 – 02/2005	Postdoctoral Researcher	<i>AIP, Germany</i>
10/2001 – 05/2004	Postdoctoral Researcher	<i>Swinburne University, Australia</i>
06/1999 – 05/2001	Postdoctoral Researcher	<i>Oxford University, United Kingdom</i>

#### Publications: (as obtained from ADS)

- 203 peer-reviewed publications (of which 35 are 1<sup>st</sup> author), 1 paper submitted
- >12000 citations
- h-index 58

#### Presentations:

- >30 invited colloquia talks
- >30 oral presentations at international meetings (incl. several invited reviews)

#### Teaching:

- range of full courses, both at BSc and MSc level (totalling to more than 1600h)
- coordination of [Astrophysics speciality](#) of MSc in Theoretical Physics at UAM

#### Supervision:

- 11 PhD students (+1 on-going), 14 MSc students

#### Competitive Grants:

- Principal Investigator of grants amounting to ca. EUR 2 Mio.
- Co-Investigator of grants amounting to more than EUR 16 Mio.

#### Services:

- member of various committees (scientific, advisory, PhD, etc.)
- referee for internationally recognized journals (MNRAS, ApJ, ApSS, etc.)
- referee for various funding agencies (e.g. DFG, AEI, ANPCYT, NSC Poland, etc.)

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<sup>1</sup> Agencia Nacional de Evaluación de la Calidad y Acreditación <http://www.aneca.es>

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## professional experience

- since 11/2024 **Director of the Department of Theoretical Physics** *UAM, Spain*
- management of a Department consisting of approx. 50 researchers (and teachers) in the fields of Nuclear Physics, Experimental Particle Physics, Theoretical Particle Physics, and Astrophysics
- since 12/2020 **Professor** *UAM, Madrid, Spain*
- near-field cosmology, the local group of galaxies, high-performance computing, alternative cosmologies, galaxy formation and evolution, large-scale structure of the universe
- results (so far): **57 refereed paper, 1 submitted**
- since 05/2018 **Adjunct Professor** *University of Western Australia, Perth*
- 03/2014 – 11/2020 **Associate Professor (tenured)** *UAM, Madrid, Spain*
- near-field cosmology, the local group of galaxies, high-performance computing, alternative cosmologies, galaxy formation and evolution, large-scale structure of the universe
- results: **56 refereed paper**
- 03/2009 – 02/2014 **Ramon y Cajal Fellow (tenure-track)** *UAM, Madrid, Spain*
- near-field cosmology, alternative cosmologies
- results: **46 refereed**
- 03/2005 – 02/2009 **Head of “Emmy Noether” Group** *AIP, Potsdam, Germany*
- leading project “AMIGA: Adaptive Mesh Investigations of Galaxy Assembly”
- results: **20 refereed papers**
- 10/2004 – 02/2005 **Postdoctoral Researcher** *AIP, Potsdam, Germany*
- studying satellite galaxies in phase-space
- results: **2 refereed papers**
- 06/2004 – 07/2004 **Visiting Scientist** *UAM, Madrid, Spain*
- initiating/refreshing collaborative links
- results: **1 refereed paper**
- 10/2001 – 05/2004 **Postdoctoral Researcher** *Swinburne, Melbourne, Australia*
- structure formation in non-standard models of the Universe, the dynamics of satellite galaxies
- results: **10 refereed papers**
- 06/2001 – 09/2001 **Visiting Scientist** *UAM, Madrid, Spain*
- co-organizing workshop *Hydrodynamical Simulations of Galaxy Assembly*
- 06/1999 – 05/2001 **Postdoctoral Researcher** *Oxford University, United Kingdom*
- developing new C code for cosmological simulations, investigating galaxy formation in various cosmologies
- results: **4 refereed papers**

- 03/1996 – 05/1999 **Research Assistant** *AIP, Potsdam, Germany*
- comparing numerical techniques for cosmological simulations, studying the formation and evolution of galaxy clusters
- results: **6 refereed papers**

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## **education**

- 01/2010 **Habilitation** *Potsdam University, Germany*
- field of research: computational cosmology
- 03/1996 – 05/1999 **Post-Graduate Studies** *Potsdam University, Germany*
- field of research: computer simulations, clusters of galaxies
    - PhD degree, grade: magna cum laude
- 10/1996 **Autumn School on Cosmology** *Garching, Germany*
- 10/1990 – 01/1996 **Graduate Studies** *Chr.-Albrechts-University, Kiel, Germany*
- main subjects: quantum mechanics, atom physics, mathematics
    - 1996: Diplom (M.Sc.), grade: 1.0
    - 1992: Vordiplom (B.Sc.), grade: 1.2
- 07/1989 – 10/1990 **Civil Service** *Diakonisches Werk, Kiel, Germany*
- 07/1980 – 07/1989 **Grammar School** *Ernst-Barlach-Gymnasium, Kiel, Germany*
- A-level (specialized in physics & mathematics), grade: 1.3  
(German grading system: 1=best, 6=worst)

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## **qualifications in the Spanish system**

- 01/2013 **Accreditation as ‘Professor Catedratico’** *ANECA, Spain*
- 09/2020 **Accreditation as Professor ‘[Docencia Ingles](#)’** *UAM, Spain*
- incl. taking a 3ECTS course ‘English as a Medium of Instructions’
- 07/2011 **Accreditation as ‘Professor Titular’** *ANECA, Spain*
- 4 Sexenios** (last one granted Sept 2020), *ANECA, Spain*  
**3 Quinquenios** (last one granted July 2025), *UAM, Spain*  
**2 DOCENTIA** (2012-2015, 2015-2018), *UAM, Spain*

# professional activities and services

## referee for...

- national funding agencies:
  - MINECO (Ministerio de Economía y Competitividad, Spain)
  - DFG (Deutsche Forschungs-Gemeinschaft/German Science Foundation, Germany)
  - Swiss National Science Foundation (Switzerland)
  - Agencia Nacional de Promoción Científica y Tecnología (Argentina)
  - Luxembourg Research Foundation (Luxembourg)
- international journals:
  - MNRAS, ApJ, PASA, A&A, Ap&SS
- external examiner for postdoc applications and professorships

## committee work

- Science Committee:
  - since 2018: steering committee of international [The Three Hundred](#) collaboration
  - since 2018: steering committee of international [CLUES](#) collaboration
  - since 2012: member/chair of *MSc Tribunal*, UAM, Spain
  - since 2010: PI of international [Mocking Astrophysics](#) program
  - since 2010: member of Euclid: coordinator of work packages
    - Halo Finding & Merger Tree Construction
    - Mock Galaxy Validationwithin the *Cosmological Simulations Working Group*
- PhD committee:
  - 2025: Sara Santoni, UAM
  - 2024: Rosa Merida, UAM
  - 2024: Daniel de Andres, UAM
  - 2023: Walter Riquelme, UAM
  - 2022: Judit Perez, UAM
  - 2022: William Oliver, Sydney University
  - 2021: Manuel Trashorras, UAM
  - 2018: Isabel Santos, UAM
  - 2017: Manuel Garcia, UAM
  - 2017: Sergio Rodriguez, UAM/IFT-CSIC
  - 2017: Ana Salvador, UAM/IFT-CSIC
  - 2014: Federico Sembolini, UAM
  - 2013: German Gomez, UAM
  - 2012: Miguel Zumalacarregui, UAM
  - 2010: Raul Sevilla, UAM
  - 2010: Francois Sicard, Université Pierre et Marie Curie, Paris
  - 2010: Francisco Martinez-Serrano, UAM
  - 2009: Kristin Riebe, Potsdam University
  - 2009: Jose Onorbe, UAM
  - 2009: Steffen Knollmann, Potsdam University
  - + external examiner for PhD theses (France, Australia, Germany, UK)

- Time Allocation Committee:
  - since 2015: Barcelona Supercomputing Centre (Spain)
  - 2013/2014: DiRAC Resource Allocation Committee (UK)
  - 2008/2009: SHARCNET High-Performance Computing Consortium (Canada)
  - 2008/2009: AIP partner nights at the Large-Binocular Telescope (Germany)
- Science Advisory Committee:
  - 2004-2009: (spokesman of) internal science advisory committee at AIP

## workshop organisation (SOC)

- 08/2026: workshop [The Three Hundred](#), La Cristalera, Madrid, Spain (chair)
- 07/2025: workshop [The Three Hundred](#), Trim Castle, Ireland (chair)
- 07/2024: workshop [The Three Hundred](#), La Cristalera, Madrid, Spain (chair)
- 07/2022: workshop [The Three Hundred](#), La Cristalera, Madrid, Spain (chair)
- 07/2022: workshop [CLUES](#), La Cristalera, Madrid, Spain (chair)
- 07/2021: workshop [The Three Hundred](#), virtual meeting via Zoom (chair)
- 07/2020: workshop [The Three Hundred](#), virtual meeting via Zoom (chair)
- 06/2018: workshop [Glennfiddling Galaxy Clusters](#), Edinburgh, UK
- 09/2017: conference [Fundamental Cosmology](#), Teruel, Spain
- 06/2017: workshop [Crystal Clear Clusters](#), La Cristalera, Madrid, Spain (chair)
- 09/2016: workshop [MultiDark Galaxies](#), La Plata, Argentina
- 07/2016: workshop [Compact Clusters](#), Cape Town, South Africa
- 10/2016: workshop [Lightcones for Cosmology](#), Garching, Germany
- 07/2015: workshop [Cosmic CARNage](#), Pasadena, USA
- 06/2015: symposium [Gas in Galaxies](#) (EWASS 2015), Tenerife, Spain
- 03/2015: workshop [Perth Simulated Clusters](#), Perth, Australia
- 06/2014: workshop [nIFTy Cosmology](#), Madrid, Spain (chair)
- 07/2013: workshop [Sussing Merger Trees](#), Sussex, UK
- 05/2012: workshop [Subhaloes going Notts](#), Nottingham, UK
- 05/2010: workshop [Haloes going MAD](#), UAM, Spain (chair)
- 09/2008: symposium [Computational Astrophysics](#) (JENAM 2008), Vienna, Austria
- 09/2001: workshop [Hydro. Simulations of Galaxy Assembly](#), UAM, Spain

## other activities

- since 2015: coordinator of MSc in Theoretical Physics (astrophysics part) at UAM
- 2017-2025: coordinator of outgoing and incoming Erasmus students at UAM
- 2011-2020: (co-)organizer of colloquia at UAM
- 2001-2020: organisation of astro-ph clubs
- 2013-2016: outreach coordinator at UAM
- 2005-2009: (co-)organizer of in-house colloquia at AIP

## awards

- since 2018: Adjunct Professor, University of Western Australia, Australia
- 2005-08: Adjunct Research Fellow, Swinburne University, Australia

## **competitive grants and awards**

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### ***principal investigator:***

- 09/2025      **Research Grant**      *MICINN, Spain*  
▪ Exploring the local and distant universe: cutting-edge simulations of galaxies, clusters and large scales  
grant volume: **EUR 200.000**
- 09/2022      **Research Grant**      *MICINN, Spain*  
▪ Numerical Investigations of Galaxies and their distribution across the Universe: A multi-scale view from dwarfs to clusters to the cosmic web  
grant volume: **EUR 240.000**
- 01/2019      **Research Grant**      *MICIU, Spain*  
▪ Multiscale Cosmological Simulations of Galaxy Formation and Large Scale Structures in the Universe  
grant volume: **EUR 230.000**
- 06/2017      **workshop funding**      *LACEGAL (EU funding)*  
▪ "[Crystal Clear Clusters](#)"  
grant volume: **EUR 10.000**
- 01/2016      **Research Grant**      *MINECO, Spain*  
▪ Mocking the Universe: from LSS to our local neighbourhood  
grant volume: **EUR 180.000**
- 11/2013      **workshop funding**      *Severo Ochoa Excellence Fund, Spain*  
▪ "[nIFTy Cosmolgy](#)"  
grant volume: **EUR 30.000**
- 05/2010      **workshop funding**      *ASTROSIM (EU funding)*  
▪ "[Haloes going MAD](#)"  
grant volume: **EUR 11.500**
- 03/2008-02/2014      **Ramon Y Cajal Fellowship**      *MICINN, Spain*  
▪ The phase-space structure of disrupting satellite galaxies  
grant volume: **EUR 200.000**
- 11/2006-10/2009      **Research Grant**      *DFG, Germany*  
▪ *Simulations of the Universe using modified Newtonian Dynamics (MOND)*  
grant volume: **EUR 90.000**
- 03/2005-02/2009      **Emmy Noether Fellowship**      *DFG, Germany*  
▪ *AMIGA: Adaptive Mesh Investigations of Galaxy Assembly*  
grant volume: **EUR 500.000**
- 01/2002-12/2002      **Research Development Grant**      *Swinburne University, Australia*  
▪ *High-performance Cosmological Simulations*  
grant volume: **AUD 10.000**

## co-investigator:

### Research Grants:

01/2017-12/2020	<i>"LACEGAL: LatinAmericanChineseEuropean Galaxy FormationNetwork"</i> PI: Carlton Baugh, H2020-RISE (EU),	<b>EUR 1.350.000</b>
01/2014-12/2017	<i>"Elusives" Initial Training Network</i> PI: Belen Gavela, H2020-ITN (EU, No 674896),	<b>EUR 3.800.000</b>
01/2014-12/2017	<i>"INVISIBLESplus"</i> PI: Belen Gavela, H2020-RISE (EU, No 690575),	<b>EUR 2.000.000</b>
01/2014-12/2017	<i>"Orbits and Interactions of Satellites: a fundamental test of cosmology"</i> PI: Chris Power, ARC (Australia, DP140100198),	<b>AUD 360.000</b>
01/2013-12/2016	<i>"Observing the synthetic universe: revealing the dark cosmos"</i> PI: Geraint Lewis, ARC (Australia, DP130100117),	<b>AUD 390.000</b>
01/2013-12/2016	<i>"The MareNostrum Numerical Cosmology Project II"</i> PI: Gustavo Yepes, MINECO (Spain, AYA2012-31101),	<b>EUR 90.000</b>
12/2011-12/2015	<i>"INVISIBLES" Initial Training Network"</i> PI: Belen Gavela, FP7-PEOPLE (EU, No 289442),	<b>EUR 4.000.000</b>
12/2009-12/2014	<i>"MultiDark: Multimessenger Approach for Dark Matter Detection"</i> PI: Caros Munoz, MINECO (Spain, CSD2009-00064),	<b>EUR .200.000</b>
10/2009-09/2013	<i>"Astrofisica y Desarrollos tecnologicos en la Comunidad de Madrid"</i> PI: Miguel Mas, Comunidad Madrid (Spain),	<b>EUR 900.000</b>
01/2010-12/2012	<i>"The MareNostrum Numerical Cosmology Project"</i> PI: Gustavo Yepes, MICINN (Spain, AYA2009-13875-C03-02),	<b>EUR 370.000</b>
01/2010-12/2012	<i>"Formación y Evolución de Galaxias en un Contexto Cosmológico desde las Simulaciones Numéricas"</i> PI: Rosa Dominguez, MICINN (Spain, AYA2009-12792-C03-03),	<b>EUR 240.000</b>

### Workshop Funds:

07/2024	support for <i>"The300 Galaxy Clusters" annual meeting</i> (UAM)	<b>EUR 6.000</b>
07/2022	support for <i>"The300 Galaxy Clusters" annual meeting</i> (UAM)	<b>EUR 2.000</b>
07/2013	<i>"Sussing Merger Tree"</i> (COSMOCOMP, EU)	<b>EUR 20.000</b>
05/2012	<i>"Subhaloes going Notts"</i> (COSMOCOMP, EU)	<b>EUR 20.000</b>

## **Travel Grants:**

- 03/2026-09/2026** Edward Olex's 6-months visit at the AIP working with Noam Libeskind  
grant volume (DAAD, Germany): **EUR 15.000**
- 05/2024-07/2024** "Research Stays for University Academics and Scientists", funds for 3-month mini-sabbatical at AIP, Germany (declined)  
grant volume (DAAD, Germany): **EUR 10.000**
- 05/2012-08/2012** Arianna Di Cintio's 3-months visit at the AIP working with Stefan Gottloeber and Noam Libeskind  
grant volume (UAM, Spain): **EUR 1.800**
- 03/2012-06/2012** Edoardo Carlesi's 3-months visit at the University of Sydney working with Geraint Lewis  
grant volume (UAM, Spain): **EUR 2.400**
- 05/2009-09/2009** Timur Doumler's 4-months visit at Universidad Autonoma de Madrid to work on the development of AHF  
grant volume (ASTROSIM, EU): **EUR 2.000**
- 06/2008-07/2008** Claudio Llinares' 2-months visit at St. Andrew's University to work on galactic dynamics under MOND  
grant volume (HPC-Europa, EU): **EUR 1.300**
- 08/2007-11/2007** Claudio Llinares 3-months visit at St. Andrew's University to work on MONDian cosmological simualtions  
grant volume (HPC-Europa, EU): **EUR 2.000**
- 01/2007-03/2007** Steffen Knollmann's 3-months visit at Edinburgh University to work on MPI-parallelisation  
grant volume (HPC-Europa, EU): **EUR 2.000**

# PUBLICATIONS

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## refereed journals

### submitted

- [204] Callejas-Cordoba B., Sanchez-Blazquez P., Gil de Paz A., **Knebe A.**, Cui W., Catalan-Torrecilla C.,  
*The Caustic Method Applied to The Three Hundred: Prospects for Upcoming CATARSIS and Other Surveys*, A&A

### 2026

- [203] Gamez-Marin M., Dominguez R., Santos-Santos I., Sotillo-Ramos D., **Knebe A.**,  
*A statistical look on kinematic planes of satellite galaxies II: The physics behind their early formation in TNG50 MW/M3 I-like galaxies*, MNRAS
- [202] Olex E., **Knebe A.**, Libeskind N., Gottloeber S., Makarov D.,  
*HINORA II: Testing the Existence of the Council of Giants in  $\Lambda$ CDM simulations*, PASA
- [201] Sorce J., McGee S., Dubois Y., Blaizot J., **Knebe A.**, Yepes G.,  
*A hydrodynamical CLONE of the Virgo cluster to confront observed and synthetic galaxy population twins in a dense environment*, A&A
- [200] Riera T., Knebe A., Power C., Mostoghiu R., Ussing A.,  
*On the redshift evolution of the spin parameter in cosmological simulations*, PASA
- [199] Martin G. et al. (8 more co-authors),  
*Intracluster light as a dark matter tracer: how their spatial and kinematic relationship is shaped by satellite demographics*, MNRAS, in press
- [198] Garcia-Bethencourt, G., et al. (9 more co-authors),  
*HI-bearing dark galaxies predictions from constrained Local Group simulations: how many and where to find them*, A&A, in press
- [197] Walker K., Ludlow A., Power C., **Knebe A.**, Cui W.,  
*The Three Hundred Project: deducing the stellar splashback structure of galaxy clusters from their orbiting profiles*, MNRAS

### 2025

- [196] Contreras-Santos A., **Knebe A.**, et al. (10 more co-authors)  
*The origin of the intra-cluster light in The Three Hundred simulations*, A&A, in press
- [195] Onions J., Pearce F., **Knebe A.**, Gray M., Haggar R., Kuchner U., Contreras-Santos A., Yepes G., Cui W.  
*The life and times of dark matter haloes: what will I be when I grow up?*, MNRAS
- [194] Mostoghiu R., Croton D., Power C., **Knebe A.**, Ussing A., Duffy A.,  
*Tidal adaptive softening and artificial fragmentation in cosmological simulations*, MNRAS
- [193] Arjona-Galvez E., et al. (8 more co-authors)  
*A physically motivated galaxy size definition across different state-of-the-art hydrodynamical simulations*, A&A
- [192] Olex E., Hellwing W., **Knebe A.**,  
*An universal and physically motivated threshold for Hessian based cosmic web identification: V-Web case*, A&A 696, 142
- [191] Stoppacher D., Montero-Dorta A., Artale M., **Knebe A.**, Padilla N., Benson A., Behrens C.,  
*A semi-analytical perspective on massive red galaxies: I. Assembly history, environment & redshift evolution*, A&A, 693, 219
- [190] Euclid Collaboration, Mellier et al.,  
*Euclid. I. Overview of the Euclid mission*, A&A 697, 1

### 2024

- [189] Adame A., et al. (+9 co-authors)  
*PNG-UNITsims: the response of halo clustering to Primordial Non-Gaussianities as a function of mass*, *A&A* 689, 69
- [188] Martin G., Pearce F.R., Hatch N., Contreras-Santos A., **Knebe A.**, Cui W.,  
*Stellar stripping efficiencies of satellites in numerical simulations: the effect of resolution, satellite properties and numerical disruption*, *MNRAS*, 535, 2375
- [187] Nuza S., Hoeft M., Contreras-Santos A., **Knebe A.**, Yepes G.,  
*The Three Hundred project: radio luminosity evolution from merger-induced shock fronts in simulated galaxy clusters*, *A&A*, 690, 146
- [186] Contreras-Santos A., Buitrago F., **Knebe A.**, Rasia E., Pearce F., Cui W., Power C., Winstanley J.,  
*The Three Hundred: on the existence of (nearly) dark matter free massive satellite galaxies*, *A&A*, 690, 109
- [185] Hagggar R., et al. (+12 co-authors),  
*Reconsidering the dynamical states of galaxy clusters using PCA and UMAP*, *MNRAS*, 532, 1031
- [184] Olex E. **Knebe A.**, Libeskind N., Makarov D., Gottloeber S.,  
*HINORA: a method for detecting ring-like structures in 3D point distributions and its application to the LVG catalogue*, *PASA*, 41, 18
- [183] Srivastava, A., et al. (+9 co-authors),  
*The Three Hundred:  $M_{sub} - V_{circ}$  relation*, *MNRAS*, 528, 4451
- [182] Contreras-Santos A., et al. (+8 co-authors)  
*Characterising the Intra-Cluster Light in The Three Hundred simulations*, *A&A*, 683, 59
- [181] Reyes-Peraza G., Avila S., Gonzalez-Perez V., Lopez-Cano D., Ramakrishnan S., **Knebe A.**, Yepes G.,  
*An improved HOD prescription for Ha ELGs from UNITsim-Galaxies: conformity and modified NFW*, *MNRAS*, 529, 3877
- [180] Favole, G., et al. (+14 co-authors),  
*Characterizing the ELG luminosity functions in the nearby Universe*, *A&A*, 683, 46
- [179] Cornwell D., Kuchner U., Gray M.E., Aragon-Salamanca A., Pearce F.R., Cui W., **Knebe A.**,  
*The localization of galaxy groups in close proximity to galaxy clusters using cosmic web nodes*, *MNRAS*, 527, 23
- [178] Giocoli C., et al. (14 co-authors)  
*Evaluating the weak lensing cluster mass biases using the Three Hundred Project hydrodynamical simulations*, *A&A*, 681, 67
- [177] Rost, A., et al. (+10 co-authors),  
*The three hundred project: thermodynamical properties, shocks and gas dynamics in simulated galaxy cluster filaments and their surroundings*, *MNRAS*, 527, 1301

## **2023**

- [176] Meneghetti M., et al. (+20 co-authors),  
*A persistent excess of galaxy-galaxy strong lensing observed in galaxy clusters*, *A&A Letters*, 678, L2
- [175] Cornwell D., Aragon-Salamanca A., Kuchner U., Gray M., Pearce F., **Knebe A.**,  
*The probability of identifying the cosmic web environment of galaxies around clusters motivated by the Weave Wide Field Cluster Survey*, *MNRAS*, 524, 2148
- [174] Li, Q., et al. (+9 co-authors),  
*The Three Hundred: the evolution of physical baryon profiles*, *MNRAS*, 523, 1228
- [173] Contreras-Santos A., **Knebe A.**, Cui W., Hagggar R., Pearce F., Gray M., De Petris M., Yepes G.,

- Galaxy pairs in The Three Hundred simulations II: studying bound ones and identifying them via machine learning*, MNRAS, 522, 1270
- [172] Newton O., Di Cintio A., Cardona-Barrero S., Libeskind N., Hoffman Y., **Knebe A.**, Sorce J., Steinmetz M., Tempel E.,  
*The undiscovered ultra-diffuse galaxies of the Local Group*, ApJL, 956, L37
- [171] Khoperskov S., et al. (+12 co-authors),  
*The stellar halo in Local Group Hestia simulations III. Chemical abundance relations for accreted and in-situ stars*, A&A, 677, 91
- [170] Khoperskov S., et al. (+13 co-authors),  
*The stellar halo in Local Group Hestia simulations II. The accreted component*, A&A, 677, 90
- [169] Khoperskov S., et al. (+13 co-authors),  
*The stellar halo in Local Group Hestia simulations I. The in-situ component and the effect of mergers*, A&A, 677, 89
- [168] Gianfagna G., Rasia E., Cui W., de Petris M., Yepes G., Contreras-Santos A., **Knebe A.**,  
*A study of the hydrostatic mass bias dependence and evolution within The Three Hundred clusters*, MNRAS, 518, 4238
- [167] Hough T., et al. (+12 co-authors),  
*The Three Hundred project: connection between star formation quenching and dynamical evolution in and around galaxy clusters*, MNRAS, 518, 2398
- [166] Haggard R., Kuchner U., Gray M., Pearce F., **Knebe A.**, Yepes G., Cui W.,  
*The Three Hundred project: Galaxy groups do not survive cluster infall*, MNRAS, 518, 1316

## 2022

- [165] Dupuy A., et al. (+11 co-authors),  
*Anisotropic satellite accretion onto the Local Group with HESTIA*, MNRAS, 516, 4576
- [164] Contreras-Santos A., **Knebe A.**, Cui W., Haggard R., Pearce F., Gray M., De Petris M., Yepes G.,  
*Galaxy pairs in The Three Hundred simulations: a study on the performance of observational pair-finding techniques*, MNRAS, 515, 5375
- [163] Wang Y., et al. (+9 co-authors),  
*A stochastic model to reproduce the SFH of individual galaxy in hydrodynamic simulations*, MNRAS, 515, 3249
- [162] Cui W., Dave R., **Knebe A.**, et al. (22 co-authors),  
*The Three Hundred project: The Gizmo-Simba runs*, MNRAS, 514, 977
- [161] Newton O., Libeskind N.I., **Knebe A.**, Sanchez-Conde M.A., Sorce J., Pilipenko S., Steinmetz M., Pakmor R., Tempel E., Hoffman Y., Vogelsberger M.,  
*Hermeian Dark Matter Haloes of the Local Group*, MNRAS, 514, 3612
- [160] Contreras-Santos A., **Knebe A.**, Pearce F., Haggard R., Gray M., Cui W., Yepes G., De Petris M., De Luca F., Power C., Mostoghiu R., Nuza S., Hoeft M.,  
*The Three Hundred project: galaxy cluster mergers and their impact on the stellar component of brightest cluster galaxies*, MNRAS, 511, 2897
- [159] **Knebe A.**, Lopez D., Avila S., Favole G., Stevens A.R.H., Gonzalez-Perez V., Reyes-Peraza G., Yepes G., Chuang C.-H., Kitaura F.,  
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## **2008**

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## **2007**

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## **2006**

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## **2005**

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## **2003**

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- [14] **Knebe A.**, Devriendt J.E., Gibson B.K., Silk J.,  
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## **2002**

- [10] Binney J.J., **Knebe A.**,

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- [9] **Knebe A.**, Devriendt J.E., Mahmood A., Silk J.,  
*Merger Histories in Warm Dark Matter structure formation scenarios*, MNRAS 329, 813

## **2001**

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*Bumpy Power Spectra and Galaxy Clusters*, MNRAS 326, 109
- [7] **Knebe A.**, Green A., Binney J.J.,  
*MLAPM – a new C code for cosmological simulations*, MNRAS 325, 845

## **2000**

- [6] **Knebe A.**, Kravtsov A., Gottlöber S., Klypin A.,  
*On the effects of force resolution in cosmological N-body codes*, MNRAS 317, 630
- [5] **Knebe A.**, Müller V.,  
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## **1999**

- [4] Einasto J., Einasto M., Tago E., Starobinsky A., Atrio-Barandela F., Müller V.,  
**Knebe A.**, Frisch P., Cen R., Andernach H., Tucker D.,  
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*Steps towards the power spectrum of matter II: the biasing correction*, ApJ 519, 456
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**Knebe A.**, Cen R.,  
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- [1] **Knebe A.**, Müller V.,  
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## conference proceedings & other publications

### 2018

- [28] Maji M., Zhu Q., Li Y., Marinacci F., Charlton J., Hernquist L., **Knebe A.**,  
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### 2017

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### 2016

- [26] Hotchkiss S., Nadathur S., Gottlöber S., Iliev I., **Knebe A.**, Watson W.A., Yepes G.,  
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### 2015

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I., **Knebe A.**, Lux H., Yao-Yuan M., Neyrinck M., Pearce F.R., Rodriguez-Gomez V.,  
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- [23] Power C., Pearce F.R., **Knebe A.**,  
*Probes of the Dynamical State of Galaxy Clusters: Insights from the nIFTy Simulated Galaxy  
Cluster Comparison*, IAU General Assembly, Meeting #29, #2257121

### 2011

- [22] **Knebe A.**, Power C.,  
*A correlation between spin parameter and dark matter halo mass*, in EAS Publications  
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- [21] Arnold B., **Knebe A.**, Power C., Gibson B.K.,  
*Dynamics of substructures in warm-dark matter cosmologies*, in EAS Publications Series,  
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- [20] Llinares C., **Knebe A.**, Zhao H.-S.  
*Cosmological structure formation under MOND*, in EAS Publications Series, Vol. 44, 2011,  
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### 2010

- [19] **Knebe A.**, Power C.,  
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Series, Vol. 44, 2010, p.53
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- [17] **Knebe A.**,  
*Computational Cosmology*, Habilitation thesis, Potsdam University, Germany

## **2009**

- [16] Draganova N., **Knebe A.**,  
*On the relation between radial alignment of dark matter subhalos and host mass in cosmological simulations*, in EAS Publications Series, Vol. 36, 2009, p.147

## **2006**

- [15] **Knebe A.**,  
*MONDian Cosmological Simulations*, in “Mass Profiles and Shapes of Cosmological Structures”, EAS Publications Series, Vol. 20, p. 239

## **2005**

- [14] **Knebe A.**,  
*How to simulate the Universe in a Computer*, in “Gravity 2004”, PASA 22, 184

## **2004**

- [13] Gill S.P.D., **Knebe A.**, Gibson B.K.,  
*The dynamics of Cluster Substructure*, in “Outskirts of Galaxy Clusters”, IAU Coll. 195, p.280
- [12] Gill S.P.D., **Knebe A.**, Gibson B.K.,  
*Satellite Galaxies in Cosmological Dark Matter Halos*, in “Satellites and Tidal Streams”, ASP Conf. Ser. 327, p. 186

## **2003**

- [11] **Knebe A.**,  
*Filaments in Warm Dark Matter*, in “Galaxy Evolution”, RevMexAA, p.41
- [10] Gibson B.K., Gill S.P.D., **Knebe A.**, Lewis G.F., Flynn C.,  
*Tidal Debris as Probes of Dark Matter Halo Substructure*, in “IAU Symposium 220”, p.159
- [9] Gill S.P.D., **Knebe A.**, Gibson B.K., Flynn C., Iбата R.A., Lewis G.F.,  
*Cosmology on a Mesh*, in “IGM-Galaxy Connection”, Kluwer Academic Publishers, p.199
- [8] **Knebe A.**, Little B., Islam R.R., Devriendt J.E., Silk J.,  
*Non-Standard Structure Formation Scenarios*, Ap&SS 284, p.335

## **2001**

- [7] **Knebe A.**,  
*How to simulate the Universe in a Computer*, guest contribution for Swinburne Astronomy Online

## **2000**

- [6] Mueller V., **Knebe A.**,  
*Quantifying substructure in Galaxy Clusters*, in “Large-Scale Structure in the X-ray Universe”, Proceedings of the 20-22 September 1999 Workshop, Santorini, Greece, eds. Plionis, M. & Georgantopoulos, I., Atlantisciences, Paris, France, p.389

## **1999**

- [5] **Knebe A.**,  
*Formation and Evolution of Galaxy Clusters in Simulations*, PhD thesis, Potsdam University, Germany
- [4] Müller V., **Knebe A.**,  
*Virialisation of Dark Matter Halos*, in “Galaxy Dynamics”, ASP Conf. Ser. Vol. 182, p.543
- [3] **Knebe A.**,  
*Virialization of Galaxy Clusters in Simulations*, in “From Stars to Galaxies to the Universe”, MPA proceedings, p.57

**1998**

**[2] Knebe A.,**

*Properties of Galaxy Clusters*, in “Large Scale Structure: Tracks&Traces”, World Scientific,p.175

**1995**

**[1] Knebe A.,**

*Lösungen der Dirac-Gleichung für semi-empirische Zentralfelder*, diploma thesis (MSc), Kiel, Germany

## CONFERENCES & TALKS

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### colloquia

- 03/2025** “The redshift evolution of the spin parameter”, **Perth, Australia**
- 02/2025** “The ICL in Clusters and its relation to DM”, **Nottingham, UK**
- 02/2024** “Massive DM-deficient Galaxies”, **Perth, Australia**
- 11/2024** “Constrained Local Universe Simulations”, **UCM, Spain**
- 02/2024** “Intra-Cluster Light in The300 simulations”, **Perth, Australia**
- 02/2020** “The Three Hundred Galaxy Clusters”, **Zurich, Switzerland**
- 03/2018** “Mocking Astrophysics”, **Perth, Australia**
- 12/2013** “Constrained Local Universe Simulations”, **Barcelona, Spain**
- 03/2013** “Constrained Local Universe Simulations”, **Perth, Australia**
- 03/2013** “Constrained Local Universe Simulations”, **Sydney, Australia**
- 04/2011** “Near-Field Cosmology, a theoretician’s point of view”, **Salamanca, Spain**
- 02/2011** “Constrained Local Universe Simulations”, **Cambridge, UK**
- 06/2010** “Constrained Local Universe Simulations”, **Vienna, Austria**
- 06/2009** “Near-Field Cosmology, a theoretician’s point of view”, **Valencia, Spain**
- 05/2008** “Near-Field Cosmology, a theoretician’s point of view”, **Zürich, Switzerland**
- 04/2008** “Finding Dark Matter Halos in Cosmological Simulations”, **Warsaw, Poland**
- 04/2008** “Near-Field Cosmology, a theoretician’s point of view”, **Warsaw, Poland**
- 03/2008** “Near-Field Cosmology, a theoretician’s point of view”, **UCLan, UK**
- 04/2007** “Near-Field Cosmology, a theoretician’s point of view”, **Bonn, Germany**
- 12/2006** “Satellite Trek: integral-space, the final frontier?”, **Swinburne Uni, Australia**
- 12/2004** “Satellite Galaxies in Dark Matter Halos”, **CEA Saclay, France**
- 06/2004** “Evolution of Galaxy Cluster Substructure”, **UAM Madrid, Spain**
- 06/2004** “Evolution of Galaxy Cluster Substructure”, **Durham University, UK**
- 06/2004** “MLAPM, a C-code for cosmological simulations”, **Durham University, UK**
- 05/2004** “Dynamics of Cluster Substructure”, **ANU Canberra, Australia**
- 01/2004** “Revolutions of Satellite Galaxies”, **AIP, Germany**
- 05/2003** “MONDian Cosmological Simulations”, **Monash University, Australia**
- 04/2003** “MONDian Cosmological Simulations”, **Melbourne University, Australia**
- 11/2001** “Warm Dark Matter Models”, **Swinburne University, Australia**
- 06/2001** “Warm Dark Matter Models”, **UAM Madrid, Spain**
- 10/2000** “Cosmological N-body Simulations”, **University of Sussex, UK**
- 04/1999** “Virialisation of Groups & Clusters of Galaxies”, **University of Oxford, UK**

### Talks

- 05/2023** “Ring-like structures in the Local Volume”,  
*annual CLUES meeting, Munich, Germany*
- 07/2022** “The Council of Giants”,  
*annual CLUES meeting, La Cristalera, Madrid, Spain*
- 11/2019** “The Three Hundred: Modelling Galaxy Clusters and their Environment”,  
*First Spanish Meeting on Galaxy Clusters, ESAC, Villafranca, Spain*
- 03/2017** “Mocking Astrophysics”,  
*Mock Perth: Challenges for Simulations in the Era of Surveys, Perth, Australia*
- 11/2015** “nIFTy Cosmology”,  
*Euclid CSWG meeting, Barcelona, Spain*
- 06/2014** “Halo Finders & Tree Makers”,  
*Semianalytic models and hydrodynamic simulations, Marseille, France*
- 11/2013** “The response of dark matter haloes to baryonic physics”,  
*9th MultiDark workshop, Alcala de Henares, Spain*
- 09/2013** “Structure Finding in Cosmological Simulations: The State-of-Affairs”,  
*Exascale Computing in Astrophysics, Ascona, Switzerland*
- 07/2013** “MergerTree: a tool for constructing merger trees in cosmological simulations”,  
*Sussing Merger Trees workshop, Midhurst, UK*
- 04/2013** “The Halo-Finder Comparison Project”,  
*8th MultiDark workshop, Granada, Spain*
- 03/2013** “Structure Finding in Cosmological Simulations”,  
*Synthetic Universes for Future Surveys, Perth, Australia*
- 11/2012** “MultiDark CLUES”,  
*7th MultiDark workshop, Barcelona, Spain*
- 07/2012** “The state of affairs of halo finding”,  
*Joint Euclid CSWG-OUSIM meeting, Barcelona, Spain*
- 05/2012** “AHF: the AMIGA Halo Finder”,  
*Subhaloes going Notts workshop, Dovedale, UK*
- 04/2012** “Haloes going MAD”,  
*MPA-IFT Spring Workshop, Miraflores de la Sierra, Spain*
- 06/2010** “Luminosities of Backsplash Galaxies”,  
*CLUES meeting, Madrid, Spain*
- 05/2010** “Haloes going MAD – Why? What? And How?”,  
*Haloes going MAD workshop, Madrid, Spain* (organizer)
- 09/2008** “The correlation between spin parameter and halo mass”,  
*JENAM 2008, Vienna, Austria* (co-organizer)
- 07/2008** “Dark Matter Haloes in Cosmological Simulations”,  
*Frontiers in Computational Astrophysics, Ascona, Switzerland*
- 08/2007** “Dark Matter in Galaxies: A Defense of  $\Lambda$ CDM”,  
*Dynamics of Galaxies, St. Petersburg, Russia*
- 04/2006** “The Dynamics of Satellite Galaxies”,  
*Galaxies in the Cosmic Web, NMSU, Las Cruces, USA*
- 07/2005** “Galactic Haloes in MONDian Cosmology”,  
*Mass Profiles and Shapes of Cosmological Structures, IAP Paris, France*
- 04/2004** “Newtonian N-body Dynamics”,  
*Gravity 2004, Sydney University, Australia*
- 07/2003** “Galaxy Threshing”,  
*Galactic Chemodynamics, Swinburne University, Australia*

- 06/2003** “Galaxy Threshing”,  
*The Local Group as a Cosmological Training Sample*, **Potsdam, Germany**
- 01/2003** “Virtual Observatory: extension to theory”,  
*Observing the Theoretical Universe*, **Sydney, Australia**
- 07/2002** “Non-Standard Structure Formation Scenarios”,  
*36<sup>th</sup> annual meeting of the Australian Society of Astrophysics*, **Australia**
- 07/2002** “Satellite Galaxies in Non-Standard Cosmologies”,  
*Galaxy Evolution: From Approaches to Models*, **Kiel, Germany**
- 02/2002** “Cosmological N-body Simulations”,  
*Theoretical Astrophysics in Australia*, **Monash University, Australia**
- 09/2001** “MLAPM—a new C code for Cosmological Simulations”,  
*Hydrodynamical Simulations of Galaxy Assembly*, **Madrid, Spain** (co-organizer)
- 08/1998** “Formation and Virialisation of Galaxy Clusters”,  
*New Trends in Astrophysics & Cosmology*, **Bad Honnef, Germany**
- 06/1998** “Formation of Groups & Clusters of Galaxies”,  
*From Stars to Galaxies to the Universe*, **Ringberg Castle, Germany**

### Poster

- 04/2002** “Top-Down Fragmentation of WDM Filaments”,  
*Galaxy Evolution: Theory & Observations*, **Cozumel, Mexico**
- 08/2000** “MLAPM – a new C code for Cosmological Simulation”,  
*Computational Cosmology*, **University of Victoria, Canada**
- 07/1997** “Galaxy Clusters in Cosmological Simulations”,  
*Large Scale Structure: Tracks & Traces*, **Potsdam, Germany**

### outreach

- 04/2025** “La vida, el Universo y lo demas”, **Jornadas Cientificas, UAM, Madrid**
- 11/2019** “A brief history of Cosmology”, **Agrupacion Astronomia de Madrid**
- 03/2018** “Life, the Universe and Everything”, general outreach talk, **UAM, Madrid**
- 2013-2017** annual presentation of the Department of Theoretical Physics @ UAM  
to high-school (twice a year) and first year physics students (once a year)
- 07/2012** “La historia del Universo”, **Astronomia en al Siglo XXI, Madrid**
- 10/2008** “Das Universum: Anfang vom Ende?”, **Insulaner Planetarium, Berlin**
- 09/2008** “Das Universum: Anfang vom Ende?”, **TU Berlin, Germany**
- 03/2008** “Das Universum: Anfang vom Ende?”, **Schülercampus Brandenburg**
- 02/2008** “Das Universum: Anfang vom Ende?”, **Kopernikus Gymnasium, Berlin**
- 09/2007** “Das Universum im Computer”, **Day of Open House, AIP, Germany**
- 02/2007** “Das Universum im Computer”, **Urania Berlin e.V., Germany**
- 09/2006** “Das Universum im Computer”, **Technical University Berlin, Germany**
- 09/2006** “Das Universum im Computer”, **Day of Open House, AIP, Germany**
- 07/2006** “Das Universum im Computer”, **JUWEL Summer University, Potsdam**

# TEACHING EXPERIENCE

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## classroom lecturing<sup>§</sup>

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since 2009    **Universidad Autonoma de Madrid**

- MSc courses:
  - [Cosmology & The Early Universe:](#) 180h++  
(2009/10 & every year since 2015/16)
  - [Gravitational Lensing:](#) 104h  
(2009/10 to 2022/23)
  - [Computational Astrophysics:](#) 340h  
(2010/11 to 2021/22)
  - [Radiative Processes in Astrophysics:](#) 48h  
(every year since 2019/20)
- BSc courses:
  - [Computational Physics I \(lab course\):](#) 780h  
(2009/10 to 2022/23)

June 2010    **Vienna University**

- *Cosmology (MSc course):* 16h  
(guest professorship in June 2010)

2005 – 2008    **Potsdam University**

- MSc courses:
  - *Cosmology & The Early Universe:* 16h  
(WS2005/06, WS2007/08)
  - *Computational Cosmology:* 60h  
(WS2005/06, WS2007/08)
  - *Computational Cosmology (lab course):* 90h  
(SS2007, WS2008/09)
- BSc courses:
  - *Astronomy & Astrophysics I:* 16h  
(WS2006/06)

**total of > 1600h**

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<sup>§</sup> all lecture notes and exercises are available at <http://popia.ft.uam.es/aknebe>

## **teaching assistant/tutor**

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- 2001 – 2004 Swinburne University**
- Supervising student projects
    - *Big Bang vs. Steady State theory*
    - *Software Simulations in Astrophysics*
    - *High-Energy Detectors*
    - *Search for extra-terrestrial Life*
- 1999 – 2001 Oxford University**
- teaching undergraduates in Astronomy
- 1993 – 1996 Christian-Albrechts-University, Kiel**
- tutoring undergraduates in theoretical physics & mathematics

## student supervision

### Ph.D.

11/2023 – present	<b>Edward Olex</b> <ul style="list-style-type: none"><li>• <i>Constrained Local Universe Simulations</i></li></ul>	<b>UAM</b> results (so far): ---
09/2021 – present	<b>Matias Gamez Marin</b> <ul style="list-style-type: none"><li>• <i>Planes of Satellite Galaxies and the Cosmic Web</i></li></ul>	<b>UAM</b> results (so far): 1 refereed paper
01/2020 – present	<b>Ana Contreras de Santos</b> <ul style="list-style-type: none"><li>• <i>The Three Hundred Galaxy Clusters</i></li></ul>	<b>UAM</b> results: 8 refereed paper
11/2016 – 11/2020	<b>Robert Mostoghiu</b> <ul style="list-style-type: none"><li>• <i>Crystal Clear Clusters</i></li></ul>	<b>UAM</b> results: 8 refereed papers
01/2015 – 12/2019	<b>Doris Stoppacher</b> <ul style="list-style-type: none"><li>• <i>Galaxy Surveys vs. Semi-Analytical Galaxy Catalogues</i></li></ul>	<b>UAM</b> results: 3 refereed paper
10/2012 – 09/2016	<b>Santiago Avila Peres</b> <ul style="list-style-type: none"><li>• <i>The accelerating Universe – Myth or Truth?</i></li></ul>	<b>UAM</b> results: 3 refereed paper
08/2010 – 07/2014	<b>Arianna Di Cintio</b> <ul style="list-style-type: none"><li>• <i>Constrained Simulations of the Local Group</i></li></ul>	<b>UAM</b> results: 5 refereed paper
11/2010 – 05/2014	<b>Edoardo Carlesi</b> <ul style="list-style-type: none"><li>• <i>Structure Formation in Models with coupled Dark Matter-Dark Energy</i></li></ul>	<b>UAM</b> results: 4 refereed paper
11/2006 – 12/2009	<b>Claudio Llinares</b> <ul style="list-style-type: none"><li>• <i>Simulations of the Universe using Modified Newtonian Dynamics</i></li></ul>	<b>AIP</b> results: 4 refereed paper
06/2005 – 06/2009	<b>Kristin Riebe (ne. Warnick)</b> <ul style="list-style-type: none"><li>• <i>Satellite galaxies in cosmological dark matter haloes</i></li></ul>	<b>AIP</b> results: 3 refereed paper
01/2006 – 04/2009	<b>Steffen Knollmann</b> <ul style="list-style-type: none"><li>• <i>AMIGA: Adaptive Mesh Investigations of Galaxy Assembly</i></li></ul>	<b>AIP</b> results: 4 refereed paper
01/2002 – 06/2005	<b>Stuart Gill</b> <ul style="list-style-type: none"><li>• <i>Satellite Galaxies in Cosmological Dark Matter Halos</i></li></ul>	<b>Swinburne University</b> results: 6 refereed papers

## M.Sc./Diploma

09/2024 – 09/2025	<b>Marta Valentuena</b> <ul style="list-style-type: none"><li><i>The300 galaxy clusters</i></li></ul>	<b>UAM</b> results: MSc thesis
09/2023 – 09/2024	<b>Victor de la Mora</b> <ul style="list-style-type: none"><li><i>Backsplash Galaxies</i></li></ul>	<b>UAM</b> results: MSc thesis
09/2023 – 09/2024	<b>Tomas Riera</b> <ul style="list-style-type: none"><li><i>Halo spin in WDM</i></li></ul>	<b>UAM</b> results: MSc thesis
09/2022 – 09/2023	<b>Edward Olex</b> <ul style="list-style-type: none"><li><i>The Council of Giants</i></li></ul>	<b>UAM</b> results: paper submitted
11/2021 – 09/2022	<b>Alejandro Cayrol</b> <ul style="list-style-type: none"><li><i>The Intra-Cluster Light in The300 clusters</i></li></ul>	<b>UAM</b> results: MSc thesis
11/2019 – 09/2020	<b>Daniel Lopez</b> <ul style="list-style-type: none"><li><i>UNITSIM emission-line galaxies</i></li></ul>	<b>UAM</b> results: 1 refereed paper
11/2018 – 09/2019	<b>Matias Gamez</b> <ul style="list-style-type: none"><li><i>“The Three Hundred” galaxy clusters</i></li></ul>	<b>UAM</b> results: 1 refereed paper
11/2016 – 09/2017	<b>Jose Ortuno</b> <ul style="list-style-type: none"><li><i>Crystal Clear Clusters</i></li></ul>	<b>UAM</b> results: MSc thesis
11/2015 – 09/2016	<b>Alejandro Guerrero</b> <ul style="list-style-type: none"><li><i>Simulations of Planet Formation</i></li></ul>	<b>UAM</b> results: MSc thesis
11/2014 – 07/2015	<b>Jose Luis Bernal</b> <ul style="list-style-type: none"><li><i>Separating cosmic expansion from growth</i></li></ul>	<b>UAM</b> results: 1 refereed paper
11/2013 – 10/2014	<b>Juan Biel</b> <ul style="list-style-type: none"><li><i>Merger Rates in Cosmological Simulations</i></li></ul>	<b>UAM</b> results: MSc thesis
11/2013 – 10/2014	<b>Fernando Campos</b> <ul style="list-style-type: none"><li><i>AHF-2</i></li></ul>	<b>UAM</b> results: software tool
01/2012 – 09/2012	<b>Pedro Alonso Pilicio</b> <ul style="list-style-type: none"><li><i>Lentes Gravitacionales</i></li></ul>	<b>UAM</b>

results: software tool

**04/2008 – 04/2009**

**Timur Doumler**

***AIP***

- *Cosmological Magneto-Hydrodynamics*

results: 1 refereed paper

**02/2006 – 07/2007**

**Bastian Arnold**

***AIP***

- *Satellite galaxies in Warm Dark Matter Cosmologies*

results: 1 refereed paper

**Ph.D. (partial supervision)**

- 05/2007 – 06/2007    **Nadia Draganova**    **AIP**  
• *The satellite galaxy – subhalo connection*  
results: 1 refereed paper
- 07/2003 – 06/2007    **Janne Holopainen**    **Tuorla Observatory**  
• *Strong gravitational lensing in triaxial Dark Matter Halos*  
results: 2 refereed papers
- 10/2000 – 05/2001    **Asim Mahmood**    **Oxford University**  
• *Merger Histories in Warm Dark Matter Structure Formation Scenarios*  
results: 1 refereed paper
- 10/1999 – 05/2001    **Ranty Islam**    **Oxford University**  
• *Bumpy Power Spectra and Galaxy Clusters*  
results: 2 refereed papers

**work experience students**

- 08/2005 – 09/2005    **Volkmar Wiessner**    **AIP**  
• *Analytical study of triaxial vs. spherical Dark Matter Halos*  
results: 1 refereed paper
- 12/2002 – 02/2003    **Kylie Nankervis**    **Swinburne University**  
• *NEWtool: setting up Dark Matter Halos for MLAPM*  
results: software tool
- 12/2001 – 02/2002    **Brett Little**    **Swinburne University**  
• *Warm Dark Matter versus Bumpy Power Spectra*  
results: 1 refereed paper