

GEORGIOS E. MAGDIS

Associate Professor - Villum Young Investigator
Cosmic DAWN Center, DTU-Space / Niels Bohr Institute

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RESEARCH INTEREST

My research lies in the area of observational cosmology and galaxy evolution. I focus on the study of the physical properties (e.g. stellar mass, star-formation rate, ISM) of distant galaxy populations aiming to shed light on the birth, formation, mass build-up, and evolution of galaxies throughout cosmic time. For my research, I use multi-wavelength data (ranging from X-rays to radio) and I specialise in infrared/submm/radio space as well as ground-based observations. I am leading and actively participate in numerous projects that aim to pioneer our view of galaxy evolution, develop new methods and tools to detect distant galaxy populations and study their physical properties in order to understand the origins and the history of our Cosmos.

EDUCATION

University of Oxford, UK

October 2008

DPhil in Astrophysics

Thesis title: Mid-Infrared Studies of Lyman Break Galaxies with the Spitzer Space Telescope

University of Crete, GR

September 2005

MSc in Astrophysics

University of Crete, GR

September 2003

BSc in Physics

ACADEMIC POSITIONS

Cosmic Dawn Center, DTU-Space and NBI/KU, DK

2019 - present

Associate Professor - tenured, Co-founder

Cosmic Dawn Center, NBI/KU, DK

2018 - present

Associate Professor, Co-founder

Young Investigator Program, Villum Foundation

January 2016 - present

Group Leader

Dark Cosmology Center, NBI, DK

November 2015 - April 2018

Assistant Professor - DARK/Carlsberg Fellow

National Observatory of Athens, GR

January 2014 - present

Adjunct Researcher

University of Oxford, UK

April 2011 - November 2015

Post-doctoral Research Fellow

Service d'Astrophysique, CEA, Saclay, FR

November 2008 - April 2011

Post-doctoral Fellow

FELLOWSHIPS AND SCHOLARSHIPS

DARK/Carlsberg Independent Research Fellowship, DARK Cosmology Center

2015 - 2018

School of Advanced Physics graduate Scholarship, University of Crete

2003 - 2005

GRANTS

Centers of Excellence, DNRF €8.5million (core member, co-founder) <i>Cosmic Dawn Center of Excellence</i>	2018 - 2024
Young Investigator Program, Villum Foundation, €1.0million (PI) <i>Gas to stars - Stars to Dust; Exploring the star formation activity through Cosmic time</i>	2016 - 2021
THALES Programme, €521k (co-I) <i>The invisible side of formation and evolution of supermassive Black Holes in the Universe</i>	2012 - 2015
Astrophysical Data Analysis Program, NASA, \$116k (co-I) <i>Extreme silicate absorbers in WISE</i>	2012

PUBLICATIONS

I have published **129 articles** in peer reviewed journals, **13 as a first author**, that have received **around 9000 citations** and I have an **h-index of 52**. For a full list of my publication record see separate attachment.

TEACHING EXPERIENCE

NBI, KU, DK <i>Lecturer for the course: "Gravitational Dynamics and Galaxy Formation" - Block 3</i>	2018
University of Athens, GR <i>Invited lecturer on Galaxy Evolution Astronomy Summer School</i>	2016 and 2017
University of Oxford, UK <i>Demonstrator for the 3rd undergraduate course "Astrophysics Lab"</i>	2006 -2008 and 2011 - 2015
University of Crete, GR <i>Teaching Assistant, Demonstrator and Mark Evaluator for the courses "Classical Mechanics" and "Applied Mathematics"</i>	2003-2005

SUPERVISION

Master Students	
<i>S. Ponchida, University of Copenhagen (Principal)</i>	2019 - present
<i>A. Athanasiou, University of Copenhagen (Principal)</i>	2019 - present
<i>E. Paspaliaris, University of Copenhagen (Principal)</i>	2017 - 2018
<i>Cecilie Sand Norholm, University of Copenhagen (Principal)</i>	2017 - 2019
<i>Marina Papathanasiou, DTU (Principal)</i>	2017 - 2018
<i>I. Cortzen, University of Copenhagen (Principal)</i>	2015 - 2016
PhD Students	
<i>V. Kokorev, University of Copenhagen (Principal)</i>	2018 - present
<i>I. Cortzen, University of Copenhagen (Principal)</i>	2017 - present
<i>C. Gomez Guizarro, University of Copenhagen (co)</i>	2016 - 2019
<i>J. Virdee, University of Oxford (co)</i>	2012-2015
<i>A. Tiley, University of Oxford (co)</i>	2013-2015
Post-Docs	
<i>F. Vallentino, University of Copenhagen (Principal)</i>	2017-2020
<i>L. Ciesla, University of Crete (co)</i>	2013-2015

INTERNATIONAL RECOGNITION AND AWARDS

Enhanced Eurotalents, Proposal Reviewer	2017
NASA Astrophysical Data Analysis Program, Selection Committee	2017
ESO, Time Allocation Committee	2017-2018
ERC Starting Grant, Proposal Referee	2016
Royal Astronomical Society Group Achievement Award	2014
MNRAS, ApJ, A&A journals, Referee	2010 - present

PRESS RELEASES AND OUTREACH

Maxwell Lecture Series, King's College, UK	2017
<i>Talk: The History of the Universe; A story narrated by photons</i>	
Master Intro cabin trip, Niels Bohr Institute	2017
<i>Talk: The Cool Cosmos</i>	
Work experience placement in astrophysics at the University of Oxford	2011 - 2015
<i>A week of astronomer's daily work followed by school students</i>	
Oxford Stargazing, BBC live stargazing	2014
Oxford University Science Blog	2014
<i>Galactic star baby boom ended five billion years ago.</i>	
Press release by the Royal Astronomical Society	2012
<i>GOODS-Herschel reveals gas mass role in creating fireworks versus beacons of star formation</i>	
Astronomy & Astrophysics Highlights	2011
<i>Herschel Reveals a new population of star forming Galaxies</i>	
Press release by the European Space Agency	2011
<i>Herschel paints a new story of galaxy evolution</i>	

SELECTED TELESCOPE TIME ALLOCATION AND OBSERVING EXPERIENCE

ALMA (selected)	
<i>Running on Empty: Probing the Gas Reservoirs of the REQUIEM Galaxies, 10.2hrs (co-I)</i>	2019
<i>The physics of the ISM with CO and neutral CI: the final piece, 27hrs (co-I)</i>	2019
<i>Dissecting the Main Sequence of Star Formation with [CI](1-0) Observations, 11.0hrs, (PI)</i>	2018
<i>Excitation conditions of the diffuse gas traced by [CI] in MS galaxies at $z \sim 1.2$, 11.5hrs (co-PI)</i>	2018
<i>Exploring the link between [CI] and PAHs in star-forming galaxies, 72.5hrs (ACA, co-PI)</i>	2018
<i>Obscuration to Reionization: A Blank-Field 2mm Deep Survey in COSMOS, 40.5hrs (co-I)</i>	2018
<i>What is the Origin and Subsequent Evolution of Starbursts at $z \sim 2$?, 19.4hrs (co-I)</i>	2018
<i>SFR and dust sizes, morphologies and dynamical masses of 42 galaxies at $z \sim 1.5$, 15.9hrs(co-I)</i>	2018
<i>Probing the Gas Reservoirs of Lensed Quiescent Galaxies at $z = 1.6 - 3.2$ 10.6hrs(co-I)</i>	2018
<i>Towards a census of star-formation since $z \sim 6$ with ALMA-1.1mm, 21.2hrs, (co-I)</i>	2017
<i>Quiescence of quiescent galaxies at $z \sim 2$, 12.3hrs, (co-I)</i>	2017
<i>Direct detection of cold dust in $z \sim 1.6$ passive early-type galaxies, 11.4hrs, (co-I)</i>	2017
<i>A [CI] survey of high-redshift main-sequence galaxies, 8hrs, (co-I)</i>	2016
<i>What is the origin and subsequent evolution of starbursts at $z > 2$, 14.6hrs, (co-I)</i>	2016
<i>How do we get to the peak of the Cosmic Star Formation Rate Density, 1.2hrs, (co-I)</i>	2016
<i>Tracing the star formation law in the early Universe, 1.0hrs, (PI)</i>	2016
<i>ISM physics at high-z: cold gas and CO excitation for 75 galaxies at $z \sim 1.5$, 9.0hrs, (co-I)</i>	2016
<i>Properties of a temperature-unbiased sample of 250μm-selected galaxies at $z > 2.5$, 5.1hrs, (co-I)</i>	2015
<i>Molecular gas content of EXTREME outliers from the SMS at $z \sim 6.4$, 14.6hrs, (co-I)</i>	2015
<i>Probing the $z = 1.0$ K-S law by combining ALMA and VLT KMOS observations, 4.1hrs, (co-I)</i>	2013
IRAM 30m and PdBI (selected)	
<i>[CI] emission from a template Main-Sequence galaxy at $z = 3$ 9.0hrs, (co-PI)</i>	2019
<i>Exploring the connection between PAHs and cold gas in galaxies over 10 Gyr, 14.2hrs, (co-PI)</i>	2018
<i>[CI] emission from a template starburst galaxy at $z = 4.05$, 7hrs, (PI)</i>	2017
<i>Scaling Laws of star formation across cosmic time, 80hrs, (PI)</i>	2015 - 2016
<i>What fuels the star formation of Lyman Break Galaxies?, 10hrs, (PI)</i>	2014
<i>Bridging the local and high-z ULIRGs, 32hrs, (PI)</i>	2014
<i>Probing the molecular gas reservoir of normal galaxies at $z \sim 3$, 8hrs, (PI)</i>	2011
ESO - APEX (selected)	
<i>The evolving ISM of Ultra Luminous Infrared Galaxies, 32hrs, (PI)</i>	2013

Herschel Space Observatory (selected)

Buried Engines: Extreme Silicate Absorbers in WISE, 12.7hrs, (co-I) 2012

Unravelling the physical processes that regulate star formation and AGN activity in ordinary galaxies at $z = 2$, 196.3hrs, (co-I) 2012

Herschel Spectroscopic Survey of far-IR Infrared Fine Structure Lines in the Intermediate Redshift ULIRGs, 89hrs, (co-I) 2012

ESO-VLT (selected)

Can we use giant Ly α nebulae to trace the early heating of intracluster plasma in cluster progenitors?, 1night, (co-I) 2016

A Kinematic Study of Herschel selected ULIRGs at $z > 2$, 1night (co-PI) 2016

The KMOS Kinematic Survey of ~ 1000 star-forming galaxies; Tracing their Dynamics, Star-Formation and Chemical Properties, 40 nights, (co-I) 2013 - 2015

A detailed Kinematic Study of star forming galaxies at $z > 2$, 1night, (co-PI) 2013

Observing experience: IRAM 30m * VLT (KMOS) * Palomar Observatory (SWIFT) * Caltech Sub-millimeter 10.4m Observatory * MMT (Hectospec) * Skinakas 1.3m Optical Observatory

MAIN COLLABORATIONS AND TEAMS

Major Collaborations

University of Oxford (UK) * CEA/Saclay (Paris, France) * Max Plank Institute for Extra-terrestrial Physics (MPE, Germany) * Center for Astrophysics (CfA/Harvard, USA) * National Optical Astronomy Observatory (NOAO, USA) * Caltech (USA) * University of Crete (Greece) * ESO (Germany) * IAASARS (National Observatory of Athens, Greece)

Major Teams

SPICA WP1 co-ordinator * BUFFALO * PEP * GOODS * GOODS-Herschel * HerMES * CLS * KROSS * COSMOS-Herschel * Candels-Herschel, * Cosmic Dawn Survey

TECHNICAL AND OTHER QUALIFICATIONS

Computers & Programming

Windows/Unix/MacOs; Fortran 77, Python, IDL, LATEX, HTML

Astronomical Packages

Starfinder, DAOPHOT, SExtractor, IRAF, GALFIT, PEGASE, Hyper-z, EASY, LePHARE, CIGALLE, SPICE (among others)

Languages

Native Greek, Fluent English, Conversational French

REFERENCES

Prof. Sune Toft, University of Copenhagen (sune@dark-cosmology.dk)

Dr David Elbaz, CEA/Saclay (elbaz@cea.fr)

Dr Emanuele Daddi, CEA/Saclay (edaddi@cea.fr)

Prof. Dimitra Rigopoulou, University of Oxford (dar@astro.ox.ac.uk)

Dr Jiasheng Huang, CfA/Harvard (jhuang@cfa.harvard.edu)

Prof. Martin Bureau, University of Oxford, (bureau@astro.ox.ac.uk)

Dr Mark Dickinson, NOAO (med@noao.edu)

Prof. Vassilis Charmandaris, University of Crete / NOA (vassilis@physics.uoc.gr)