Curriculum Vitae

Personal Information

Name	**Thomas G. Bisbas** (or Bismpas)
Date of Birth	*July 30th, 1982*
Home Address	Egnatias 115, 54635, Thessaloniki, Greece
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Education

25/05/2010 **Ph.D. in Astrophysics**
Title: "Smoothed Particle Hydrodynamics simulations of expanding HII regions"
School of Physics and Astronomy. Cardiff University. United Kingdom
Supervisor: Professor Anthony Whitworth

2000-2004 **Degree of Physics ('Ptychio')**. Aristotle University of Thessaloniki. Greece

Current position

12/2019 – present **Senior Scientist (DFG Fellow)**. University of Cologne, Germany

Professional appointments

06/2019 – 12/2019 **Postdoctoral Researcher**. National Observatory of Athens, Greece
Group leader Assistant Professor Kalliopi Dasyra

09/2018 – 03/2019 **Postdoctoral Researcher**. University of Cologne, Germany
Group leader Professor Stefanie Walch-Gassner

10/2018 **Tenure-track**. Nicolaus Copernicus University. Torun, Poland (declined)

01/2018 – 07/2018 **Postdoctoral Researcher**. University of Virginia, Charlottesville, USA
Group leader: Professor Jonathan Tan

07/2016 – 01/2018 **Postdoctoral Researcher**. University of Florida, Gainesville, USA
Group leader: Professor Jonathan Tan

07/2015 – 07/2016 **Postdoctoral Researcher**. Max-Planck-Instit. für extraterrestrische Physik. Garching.
Group leader: Professor Ewine van Dishoeck

03/2012 – 06/2012 **Visiting Researcher** Harvard-Smithsonian Centre for Astrophysics. Boston, USA
Collaboration with Dr. Jeremy Drake

10/2010 – 07/2015 **Postdoctoral Researcher**. University College London. London, UK
Group leader: Professor Serena Viti

10/2009 – 09/2010 **Postdoctoral Researcher.** Czech Academy of Sciences. Prague, Czech Republic
Group leader: Professor Jan Palous

Funding awarded

03/2019 Deutsche Forschungsgemeinschaft (DFG) – 287,000 Euros

03/2019 *Chandra* proposal 20610387 – 66,270$

Distinctions

03/2019 Seal of Excellence. Horizon 2020. European Commission

03/2018 Seal of Excellence. Horizon 2020. European Commission

Teaching activities

09/2014 – 01/2015 Lecturer of the Astronomy Diploma Course "Interstellar Medium". University College London, UK

Principal investigator (PI)

2019 ALMA proposal 2019.1.00862.S – 16.3 hours. "Two birds with one stone: CO rotation curves of two main-sequence galaxies at $z = 1.5$ and 2.2"

2018 *Chandra* proposal 20610387 – 80ks. "Testing Cosmic Ray vs X-ray Driven Chemistry in Extreme Star-Forming Conditions"

2017 A-ranked ALMA proposal 2017.1.01020.S – 13.1 hours. "Deep [CI] observations in the high-redshift Universe: studying the distribution of Dark Matter in galaxies"

2012 1.1 million CPU hours for DiRAC II project grand ACOP26. "Modelling the Physics and Chemistry of expanding nebulae"

Co-investigator (Co-I)

ALMA 2015.1.01133.S (PI: Greve, T) "Harnessing the power of CI as a tracer of H_2 in starburst galaxies"; 2015.1.01191.S (PI: Zhang, Z-Y) "A new molecular gas mass tracer in galaxies: a first test in the local Universe"; 2017.1.00291.S (PI: Zhang, Z-Y) "Probing excitation structure of ISM in a sub-millimeter galaxy with water lines"; 2017.1.00607.S (PI: Haikala, L) "Rosette Globulettes"; 2017.1.00856.S (PI: Bothwell, M) "[CI] as a gas tracer in main sequence star-forming galaxies at $z \sim 2$"; 2017.1.01499.S (PI: Fu, X) "LiH - a probe of Galactic Li evolution and the lithium problems"; 2018.1.00528.S (PI: Zhang, Z-Y) "Searching for CO-dark H_2 gas in radio jets"; 2019.1.00205.S (PI: Yang, C.) "Physical conditions and chemical processes of the ISM at high redshift: a line survey towards BR1202-0725; 2019.1.00533.S (PI: Yang, C.) "Constrain the ISM conditions and ionization states at high redshift with multi-transitions of the H_2O^+ and H_2O lines; 2019.1.00526.S (PI: Zhang, Z-Y) "A new molecular gas mass tracer in galaxies: a first test in the local Universe"; 2019.1.00421.S (PI: Zhang, Z-Y) "Searching for CO-dark H_2 gas in radio jets"; 2019.1.00907.S (PI: Cicone, C.) "Searching for hidden CO-poor molecular gas reservoir linked to the feedback processes"; 2019.1.01030.S (PI: Haikala, L.) "Deep CO(3-2) and continuum survey of Rosette Nebula globulettes"

NOEMA W15DW (PI: Greve, T) "Tracing the molecular gas in strongly lensed starburst galaxies at $z \sim 2.5$ using CI"; W15EB and W14EL (PI: Emonts, B) "CI in the cold molecular halo of a $z = 2.6$ radio galaxy"

SOFIA 05_0176 (PI: Sahai, R) "Shocked and scorched: A GREAT investigation of [CII] and [OI] emission from free-floating Evaporating Gas Globules in Massive Star Forming regions"; 06_0150 (PI: Tan, JC) "The Inception of Star Cluster Formation"

NASA N7-ADAP17-0093 (PI: Sahai, R) "Free-floating Evaporating Gaseous Globules: A New Astrophysical Laboratory for Investigating Star-Formation and Chemistry in Irradiated Environments"

Organization of international conferences

2018 "The Olympian Symposium on Gas and Stars from milli- to mega- parsecs". Principal Organizer. SOC co-chair. 159 participants. Organized under the auspices of UNESCO. Paralia Katerini, Greece (28/05/2018 - 01/06/2018). (olympiansymposium.org)

2015 "The Olympian Symposium on Cosmology and the Epoch of Reionization". Principal Organizer. 120 participants. Paralia Katerini, Greece (18/05/2015 - 22/05/2015)

2014 "The Olympian Symposium on Star Formation". Principal Organizer. 191 participants. Paralia Katerini, Greece (26/05/2014 - 30/05/2014)

2012 "The Labyrinth of Star Formation". Member of organizing committee. 127 participants. Crete, Greece (18/06/2012 - 22/06/2012)

Organization of workshops and summer schools

2016 "The ISM-SPP Olympian School of Astrophysics 2016". 28 students. Paralia Katerini, Greece (03/10/2016 - 07/10/2016)

2014 "StarBench-II" workshop. Member of the Scientific Advisory Committee. Bonn. Germany (01/09/2014 - 05/09/2014).

2013 "StarBench-I" workshop. Member of the Organizing and Scientific Advisory Committee. Exeter, UK (08/04/2013 - 11/04/2013)

Commissions of trust

2017 External Reviewer for ERC Advanced Grants 2018

2017, 2019 Reviewer for FONDECYT Regular Grant competition (Chilean public funds)

2010 – present Referee for Nature Astronomy, ApJ, MNRAS, A&A, PASA, ASCOM, IAUS

Scientific societies

2015 Founder of the **Olympian Centre for Astrophysics**, a non-profit company established in Greece which aims at bringing the international astrophysical research with the respective Greek one (olympiancfa.org)

2007 – present Member of the Hellenic Astronomical Society. Greece

2006 – 2010 Member of the Institute of Physics. UK

Presentations and Talks

Presentations in international conferences (since 2012)

07/2019 14th Hellenic Astronomical Conference. **Oral presentation**. "*Cosmic-ray induced destruction of CO in star-forming galaxies*". Volos, Greece

06/2019 From Stars to Planets II. **Poster presentation**. "*How do the observables of molecular clouds depend on the ISM environmental parameters?*". Gothenburg, Sweden.

07/2018 Astrochemistry: past, present & future (a meeting in celebration of Ewine van Dishoeck). **Oral presentation**. "*How do cosmic-rays affect the traceability of molecular gas in galaxies?*". Caltech, Pasadena, USA

05/2018 Cosmic rays, the salt of the star formation recipe. **Oral presentation**. "*Cosmic-ray induced destruction of CO in star-forming galaxies and implications for tracing H_2 gas*". Florence, Italy

02/2017 The Physics of ISM. 6 Years of ISM-SPP 1573: What have we learned? **Oral presentation**. "*Observing molecular gas in extreme ISM environments*". University of Cologne, Germany

10/2016 The Local Truth: Star Formation and Feedback in the SOFIA Era. **Oral presentation**. "*Tracing H_2 gas in the Universe: the role of cosmic-rays*". Asilomar, California, USA

07/2013 Phases of the ISM. 2013 MPIA Summer conference. **Oral presentation**. "*Modelling Photodissociation Regions in turbulent clouds*". Heidelberg, Germany

06/2012 The Labyrinth of Star Formation (a conference honouring the contributions of Anthony Whitworth). **Oral presentation**. "*A nebula in your computer: Simulating the dynamics and chemistry of an ionized region*". Kolymbari, Crete, Greece

Invited presentations, seminars, workshops (since 2016)

11/2019 National Observatory of Athens, Greece. **Colloquium**. "*Photodissociation and cosmic-ray dominated regions from local infrared dark clouds to distant star-forming galaxies*"

11/2018 Aristotle University of Thessaloniki, Greece. **Colloquium**. "*Studying the properties of the interstellar medium in galaxies near and far*"

07/2018 Jet Propulsion Laboratory, NASA. **Invited talk**. "*The inception of star cluster formation revealed by [CII] emission around an Infrared Dark Cloud*"

05/2018 University of Crete, Greece. **Invited talk**. "*Cosmic-ray induced destruction of CO in star-forming galaxies. Implications for tracing H_2 gas*"

04/2018 National Radioastronomy Observatory (NRAO, VLA). Socorro, New Mexico, USA. **Invited talk**. "*Cosmic-ray induced destruction of CO in star-forming galaxies. Implications for tracing H_2 gas*"

02/2018 Harvard-Smithsonian Centre for Astrophysics (ITC seminars). **Invited talk**. "*Selecting the best H_2 tracer for molecular gas studies in galaxies*"

01/2017 Imperial College London. **Invited talk**. "*The effect of cosmic-rays on the observability of H_2 gas in the Universe*"

12/2016 University of Bern, Switzerland. **Invited talk**. "*Tracing molecular hydrogen in extragalactic sources*"

07/2016 Czech Academy of Sciences. **Workshop**. "*The effect of cosmic-rays on the observability of H_2 gas in the Universe*"

05/2016 University of Florida. **Seminar**. "*The D-type expansion of HII regions*"

Public events

12/2019 – present	Organization of the **Magical University** which aims to help kids identify their talents according to the "Theory of Multiple Intelligences" (Gardner, 1983). Total audience exceeding 250 pupils (7-12 years old).
2015 – present	**Outreach talks in schools** (Greece). Total audience exceeding 3,000 pupils (13-15 years old). **Outreach talks in public** and various appearances in media (Greece)
12/2014	Participation in a panel of public outreach event followed by an open discussion on Science and Education. **Embassy of Greece in Brussels**. Invitated by a Member of the European Parliament. The event was covered by media
2014 – present	Organization of 5 major public events at the start of each Olympian Symposium and other scientific events (audience exceeding 300 people in each event)