

KEYWORDS

Cosmology, Dark Energy, Cosmic voids, Cosmic Microwave Background, cross-correlations

INTERNATIONAL COLLABORATIONS

Dark Energy Survey (DES), Dark Energy Spectroscopic Instrument (DESI), Euclid, WEAVE

CURRENT POSITION

2018-2022: *Juan de la Cierva* Postdoctoral Fellow (funded by a Spanish national fellowship, success rate <8%), **Instituto de Astrofísica de Canarias (IAC)**

2023-(2027): will be a junior group leader at the *Konkoly Observatory* (Budapest, Hungary), supported by a *Lendület* research grant awarded by the Hungarian Academy of Sciences

PREVIOUS POSITIONS / EDUCATION

2014-2018: Postdoctoral Fellow (funded by Spanish excellence grants), IFAE, Barcelona

2011-2014: PhD student, Eötvös University, Hungary + extended stays at the University of Hawaii, Supervisors: *István Szapudi* (Hawaii), *Zsolt Frei* (Eötvös) **PhD thesis title:** *Statistical Probes of secondary CMB anisotropies and non-Gaussianities*

2006-2011: Physics BSc and MSc student, Eötvös University, Hungary, Supervisors: *István Szapudi* (MSc thesis, cosmology), *István Horváth & Zsolt Bagoly* (BSc thesis, gamma-ray bursts)

LEADERSHIP, SUPERVISION

- * convener of the DES "Voids and Troughs" analysis team (~20 researchers)
- * co-supervisor of PhD students *Pauline Vielzeuf* (IFAE, def. 2018), *Umut Demirbozan* (IFAE, 2019-) in Barcelona, also *Nestor Arsenov* (IAC, 2021-) and *Mar Perez* (IAC, 2022-) in Tenerife
- * supervised 2 MSc and 6 undergraduate students on cosmic void topics (2015-)

PUBLICATIONS, CONGRESSES

- * **Number of papers = 42, Total citations = 2400, h-index = 21 (inspire-HEP)**
- * regular speaker at international DES, Euclid, and DESI collaboration meetings
- * 40 oral and 12 poster contributions at international conferences

COMMITTEES, SCIENTIFIC REVIEW

- * Reviewer for A&A, MNRAS, & ApJ, internal reviewer in DES, Euclid, DESI (2015-)
- * Evaluator in computing time allocation, Swiss National Supercomputing Center (2021-)
- * Coordinator of the Summer Fellowship Program, IFAE (2016-18)
- * Member of the Master Thesis Committee, IFAE (2017-18)

TEACHING ACTIVITY

- * Teaching Assistant (TA) – Basic Computational Techniques, IAC
- * Lecturer – Cosmology with python, IFAE
- * TA – Electrodynamics, Eötvös University, Hungary

PUBLIC OUTREACH

- * "Pint of Science" and "Sziget Festival" presentations about cosmology
- * Interviewed by New Scientist Magazine, *The Guardian*, Qubit.hu
- * Helped to create IAC and *Fermilab* **press releases**; previous results in collaboration with ELTE researchers led to considerable media attention including a **cover story in the *Scientific American***
- * Dark Energy Survey "Public outreach champion", most popular facebook post (2016)

RESEARCH HIGHLIGHTS

- * detection of the **CMB imprint of cosmic super-structures** (~300 million light-years) from the Dark Energy Survey Year-3 data set, which further *challenged* the standard Lambda-CDM model
- * **discovery of the *Eridanus Supervoid*** aligned with the infamous CMB *Cold Spot* anomaly, including follow-up measurements using the state-of-the-art dark matter maps from the Dark Energy Survey, which confirmed the existence of this huge under-density in our "cosmic backyard"