Neven Caplar

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Education

2013 - 2017 (expected), Ph.D., ETH Zurich

Advisor: Dr. Simon J. Lilly, ETH Zurich

Thesis: Growth of variable active galactic nuclei

2005 - 2010, MSc, Faculty of Science, University of Zagreb

Advisor: Dr. Hrvoje Stefancic, Institut Ruder Boskovic, Theoretical Physics division

Thesis: Unification models of dark energy and dark matter

Research

Main topics of my work include black hole-galaxy co-evolution, AGN physics and time domain astronomy.

Peer-Reviewed Journal Articles in Astronomy

1. 2016, A. Weigel, K. Schawinski, **N. Caplar**, O. I. Wong
   Two mass independent Eddington ratio distribution functions regulate black hole growth of blue and red galaxies in the local Universe, submitted to MNRAS

2. 2016, **N. Caplar**, S. J. Lilly, B. Trakhtenbrot
   Optical variability of AGN in the PTF/iPTF survey, submitted to ApJ

3. 2015, **N. Caplar**, S. J. Lilly, B. Trakhtenbrot
   AGN evolution from a galaxy evolution viewpoint, ApJ, 2015, 811, 148C

4. 2013, **N. Caplar**, H. Stefancic
   Generalized models of unification of dark matter and dark energy, Phys. Rev. D, 2013, 87, 023510

Other Publications

These publications include are not directly connected to Astronomy. However, they are both “big-data" analysis papers for which I collected, manipulated and reduced the data using methods that are also applicable in astronomy.

5. 2016, **N. Caplar**, S. Tacchella, S. Birrer
   Quantitative evaluation of gender bias in astronomy, to be submitted to Nature Astronomy

6. 2013, **N. Caplar**, M. Suznjevic, M. Matijasevic
   Analysis of players' in-game performance vs rating: Case study of Heroes of Newerth, Foundation of Digital games 2013, pp. 237-244

Telescope Proposals

2013, F. Miniati, S. J. Lilly, **N. Caplar**
The connection between magnetised galactic outflows and high Faraday effect in the circumgalactic environment of intermediate redshift galaxies
Awarded 24 hours with VIMOS instrument on VLT

2013, S. J. Lilly, F. Miniati, **N. Caplar**, B. Gaensler, J. Farnes
Testing the association of magnetized plasma with high redshift galaxies along the line of sight
Awarded 5 nights at NTT telescope

Seminar and Conference Presentations

2016: Caltech (scheduled); University of Washington (scheduled); Stanford (scheduled); University of Maryland (scheduled); Shining from the heart of darkness: black hole accretion and jets, Katmandu, Nepal (conference, talk); AGN: what's in a name, Munich, Germany, (conference, talk)

2015: Black Hole Accretion and AGN Feedback, Shanghai, PRC, (conference, talk); Inaugural Zwicky Symposium, Braunwald, Switzerland, (conference, talk/organizer); Demographics and environment of AGN from multi-wavelength surveys Chania, Greece, (conference, talk); Unveiling the AGN/Galaxy Evolution, Puerto Varas, Chile, (conference, talk)

2014: COSMOS team meeting, Zagreb, Croatia, (conference, talk); Multiwavelength-surveys, Dubrovnik, Croatia, (conference, poster); Powerful AGN, Port Douglas, Australia, (conference, talk); The Formation and Growth of Galaxies in the Young Universe, Obergurgl, Austria, (conference, talk)

2012: Karl-Franzens University, Graz, Austria, (invited talk); Jagellonian University, Krakow, Poland, (invited talk)

2011: European Summer Campus, Strasbourg, France, (conference/school, poster)

Teaching

As a Ph.D. student at ETH Zurich I had the opportunity to contribute to the teaching efforts at the Department of Physics. I committed most of that time helping with the introductory class in physics for chemists at ETH Zurich with $\sim$ 250 students. In the academic year 2015/2016 I led the team which was in charge of preparing homework assignments and preparing the examination questions for this course.

Assistant: Advanced physics lab, Master course in physics, First year, ETH Zurich: Fall 2016

Assistant: Physics for Chemists, Bachelor course in chemistry, Second year, ETH Zurich: Spring 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2013, Fall 2013

Assistant: Physical Cosmology, Master course in physics, First year, University of Zagreb: Spring 2011

Special skills and computing

Programming Languages: Mathematica, Python, LaTeX, CIAO, SQL

Experience in working with X-ray, optical and time-domain data

Experience in data reduction, survey calibration, "big data" and machine learning techniques

Since April 2015 I run astrodataiscool.com website, where I publish analysis of the data from astronomical and popular sources. The website gathered $\sim$20000 unique views.