

# Eyal Kazin Ph.D.

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Objective: *To use my analytic and research skills to lead data analyses.*

## Experience

Throughout my career I have worked in various environments world-wide (USA, Europe, Australia), demonstrating thoroughness in analysis, and developing strong collaborative working relationships.

- 2011–present **Research Staff Associate**, *Swinburne University of Technology*, Australia.
- Led key analyses of the largest data sets of galaxies mapped by multi-million dollar sky surveys, resulting in measurements of the most accurate cosmic distances and expansion rates of the Universe, to date.
  - Demonstrated creativity in developing new techniques for improved interpretation of results of key analyses.
- Manager: Associate Professor Chris Blake (cblake@astro.swin.edu.au)
- 2011 **Research Staff Associate**, *New York University*, New York, NY, USA.
- Raised analysis standards by comparing galaxy clustering results to hundreds of simulations.
  - Conducted quality assurance testing of an improved imaging sky subtraction algorithm.
- Manager: Professor Michael Blanton (michael.blanton@gmail.com)
- 2001–2011 **University education**, See below.
- 2000 **Satellite Technician**, *Gilat Communications Ltd.*, Petach Tikva, Israel.
- Maintained and operated telephone- and data-lines for customers world-wide.
- 1996–1999 **Communication Device Instructor**, *Israeli Defense Forces*, Israel.
- Instructed soldiers to operate communication devices on base and in the field.
  - Worked as part of a team in charge of managing soldiers' everyday duties.

## Skills and Tools

- Data Analysis 6+ years experience. Machine Learning (classification and regression modeling, neural networks, SVM), Fourier Transformations, Clustering, Image processing, Spectra analysis.
- Statistics 4+ years experience. Bayesian analysis, MCMC, SVD
- Programming 6+ years experience. Python (numpy, scipy), R (randomForest), SQL, C, GIT, shell (Unix, Linux), Matlab/Octave, IDL, Excel
- Visualization 5+ years experience. Python (matplotlib), R (ggplot2), Keynote/Powerpoint, HTML, L<sup>A</sup>T<sub>E</sub>X.
- Communication Delivered many professional and layman presentations in conferences, seminars and colloquia world wide; (e.g, example presentation [hyperlink](#))
- Writing Published research articles in peer reviewed astronomical journals, and refereed. (publication list [hyperlink](#))
- Teaching 8+ years. Taught physics, math and research management on various levels

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[gitub/elzurdo/cosmo](#)

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## Education

- 2005–2011 **Ph.D. Physics**, *New York University*, New York, NY, USA.  
Research in observational cosmology  
Dissertation: *Large-Scale Clustering of Galaxies* (dissertation hyperlink)
- 2001–2004 **B.Sc. Physics**, *Ben Gurion University*, Be'er Sheva, Israel.  
Graduated with honors

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## Publications

Co-author of 22 astronomy papers, 19 published, and the rest pending publication. I have published the following five papers as leading researcher focusing on the analysis of distributions of galaxies. As these are sensitive to gravity and the expansion of the universe, I have investigated techniques involving measuring cosmic expansion rates and General Relativity on cosmic scales. The listed publications have been cited in peer-reviewed articles 205 times.

- **Kazin E. A.**, Koda J., Blake C. et al., *The WiggleZ Dark Energy Survey: Improved Distance Measurements to  $z = 1$  with Reconstruction of the Baryonic Acoustic Feature*, (submitted to MNRAS)
- **Kazin E. A.**, Sanchez A. G. & the SDSS collaboration, *The Clustering of Galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: Measuring  $H(z)$  and  $D_A(z)$  at  $z = 0.57$  with Clustering Wedges*, MNRAS, 435, 64 (2013)
- **Kazin E. A.**, Sanchez A. G., Blanton M. R., *Improving Measurements of  $H(z)$  and  $D_A(z)$  by analyzing clustering anisotropies*, MNRAS, 419, 3223 (2012)
- **Kazin, E. A.**, Blanton M. R., Scoccamarro, R., McBride, C. K. & Berlind, A. *Regarding the Line-of-Sight Baryonic Acoustic Feature in the SDSS and BOSS LRG Samples*, A. A. ApJ, 719, 1032 (2010)
- **Kazin, E. A.**, Blanton, M. R. et al. *The Baryonic Acoustic Feature and Large-Scale Clustering in the Sloan Digital Sky Survey Luminous Red Galaxy Sample*, ApJ, 710, 1444 (2010)  
MNRAS = Monthly Notices of the Royal Astronomical Society  
APJ= The Astrophysical Journal.

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## Languages

Proficient **English, Hebrew**  
Conversational **Spanish**

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## Hyper-links for additional information

Web Site, LinkedIn, Academic CV, Publication Listing

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## Hobbies

Guitar, photography, short film production, tennis, basketball, skiing (water and snow), juggling, bicycling, long distance running, surfing, traveling.