

## Dr. Michael David Schneider

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RESEARCH INTERESTS Dark energy; Cosmological parameter estimation; Gravitational lensing; Dark matter; Galaxy formation; Early Universe cosmology; Novel applications of statistical and computational methods.

CURRENT POSITIONS **University of California, Davis**, Large Synoptic Survey Telescope Prize Post-doctoral Fellow, 02/2012 – present  
**Lawrence Livermore National Laboratory**, Post-doctoral Research Staff, Physics Division, 08/2010 – present

PREVIOUS EMPLOYMENT **Institute for Computational Cosmology, Durham University**, Post-doctoral Research Associate, 10/2008 - 08/2010

EDUCATION Ph.D. Physics, **University of California, Davis**, 2008  
Advisor: Professor Lloyd Knox  
Thesis: *Cosmological constraints from surveys of the weak lensing of galaxies*  
M.S. Physics, **Rutgers, the State University of New Jersey**, 2005  
(*advanced to Ph.D. candidacy*)  
B.S. Physics, **University of Illinois at Urbana-Champaign**, 2003  
*with High Distinction in the curriculum*

AWARDS AND HONORS Large Synoptic Survey Telescope Prize Post-doctoral Fellowship offer, 2011  
Excellence in Publication award, LLNL Physical and Life Sciences Directorate, 2011  
Outstanding Research and Best Poster Presentation award, LLNL internal 2011  
British Council Researcher Exchange Programme award, 2007  
Richard J. Plano Outstanding Teaching Assistant Award, Rutgers Department of Physics and Astronomy, 2004  
Outstanding Senior Thesis (theory), UIUC Department of Physics, 2003  
Lorella M. Jones Fellowship, UIUC Department of Physics, 2002

REFEREED PUBLICATIONS **M. D. Schneider**, C. S. Frenk, S. Cole, *The shapes and alignments of dark matter halos*, Journal of Cosmology and Astroparticle Physics, in press (2012). arXiv: 1111.5616  
**M. D. Schneider**, R. H. Becker, W. de Vries, R. L. White, *Foreground predictions for the cosmic microwave background power spectrum from measurements of faint inverted radio sources at 5 GHz*, The Astrophysical Journal, 750, 154 (2012). arXiv: 1203.3809  
**M. D. Schneider** *Bayesian linking of Geosynchronous orbital debris tracks as seen by the Large Synoptic Survey Telescope*, Advances in Space Research, 49, 4, pp. 655-666 (2012). arXiv: 1111.2556

**M. D. Schneider**, S. Cole, C. S. Frenk, I. Szapudi, *Fast generation of ensembles of cosmological  $N$ -body simulations via mode-resampling*, The Astrophysical Journal, 737, 11 (2011). arXiv: 1103.2767

Han-Seek Kim, C. M. Baugh, A. J. Benson, S. Cole, C. S. Frenk, C. G. Lacey, C. Power, **M. Schneider**, *The spatial distribution of cold gas in hierarchical galaxy formation models*, MNRAS 414, 2367-2385 (2011). arXiv: 1003.0008

**M. D. Schneider**, O. Holm and L. Knox, *Intelligent Design: On the Emulation of Cosmological Simulations*, Astrophysical Journal, 728, 137 (2011). arXiv: 1002.1752

F. Elsner, B. D. Wandelt and **M. D. Schneider**, *Probing local non-Gaussianities within a Bayesian framework*, Astronomy & Astrophysics, 513, A59 (2010). arXiv: 1002.1713

D. Kirk, S. Bridle, and **M. Schneider**, *The impact of intrinsic alignments: Cosmological constraints from a joint analysis of cosmic shear and galaxy survey data*, MNRAS 408, 1502-1515, (2010). arXiv: 1001.3787

**M. D. Schneider**, S. Bridle, *A halo model for intrinsic alignments of galaxy ellipticities*, MNRAS 9999, 1365-2966, (2010). arXiv: 0903.3870

**M. Schneider**, L. Knox, S. Habib, K. Heitmann, D. Higdon, C. Nakhleh, *Simulations and cosmological inference: A statistical model for power spectra means and covariances*, Physical Review D, vol. 78, Issue 6 (2008). arXiv: 0806.1487

**M. Schneider**, L. Knox, H. Zhan, A. Connolly, *Using Galaxy Two-Point Correlation Functions to Determine the Redshift Distributions of Galaxies Binned by Photometric Redshift*, Astrophysical Journal, 651, 14 (2006). arXiv: astro-ph/0606098

SELECTED  
INVITED TALKS

SnowPAC 2012: Gravitational Lensing in the Age of Survey Science.

Cosmology seminar at the University of California Santa Cruz, February 2012.

Cosmology seminar at the University of California Davis, October 2011.

Astronomy seminar at Stanford University, May 2011.

Future of AstroComputing Conference, San Diego Supercomputing Center, December 2010.

Cosmology journal club at the University of Pennsylvania, January 2010.

Astronomy colloquium at Durham University, October 2008.

Cosmology seminar at Los Alamos National Laboratory, August 2008.

PROFESSIONAL  
ACTIVITIES

Referee for The Astrophysical Journal, Astrophysical Journal Letters, Monthly Notices of the Royal Astronomical Society, and MNRAS Letters.

Served on a review panel for the National Science Foundation AAG program.

Contributing author, "Euclid" ESA mission proposal "Yellow book" (to establish the science case and feasibility of the mission - 2009).

Member of the Large Synoptic Survey Telescope Weak Lensing Science Collaboration.

Member of the Euclid Consortium supporting the European Space Agency mission.