

Curriculum Vitae: David R. Law

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I. EDUCATION:

2003-2009: Ph.D. Astrophysics, CALIFORNIA INSTITUTE OF TECHNOLOGY

Defended July 2008

Advisor: Professor Charles C. Steidel

“The Kiloparsec-Scale Structure and Kinematics of High-Redshift Star-Forming Galaxies”

1999-2003: B.A. Astronomy-Physics, Summa Cum Laude, Minor Mathematics, UNIVERSITY OF VIRGINIA

Advisor: Professor Steven R. Majewski

“Modeling the Tidal Tails of the Sagittarius Dwarf Galaxy”

II. RESEARCH INTERESTS:

Galaxy formation and evolution

Kinematics/morphology of high-redshift galaxies

Milky Way structure; dynamics of Local Group galaxies

Integral-field spectroscopy and laser-guided adaptive optics

III. POSITIONS:

2008-present: Hubble Postdoctoral Fellow, UCLA

2003-2008: Graduate research student, CALTECH

2003: Summer Research Assistant, UNIVERSITY OF VIRGINIA (*Advisor: Dr. Steven Majewski*)

2002: Summer Research Assistant, UNIVERSITY OF VIRGINIA (*Advisor: Dr. Steven Majewski*)

2001: Summer Research Assistant (REU), NORTHERN ARIZONA UNIVERSITY
(*Advisor: Dr. Kathleen DeGioia-Eastwood*)

2000: Summer Research Assistant (REU), MIT HAYSTACK OBSERVATORY (*Advisor: Dr. Colin Lonsdale*)

IV. AWARDS AND HONORS:

2008: Hubble Fellowship

2004: Holloway Fellowship, CALTECH

2003: D. Nelson Limber Prize, UNIVERSITY OF VIRGINIA

2003: Small Research Fellowship, UNIVERSITY OF VIRGINIA

V. PROFESSIONAL SOCIETIES AND SERVICE:

2010-present: Postdoctoral representative to UCLA departmental faculty meetings

2009: Developed OSIRIS (infrared IFU) data simulation package for Keck Observatory

2008-present: Referee for the ASTROPHYSICAL JOURNAL, MNRAS, ASTRONOMY & ASTROPHYSICS

2008-present: Science team member: Thirty Meter Telescope, Infrared Imaging Spectrograph (IRIS)

2007: Science Advisor: Keck next-generation adaptive optics program
2004-present: Member of the American Astronomical Society

VI. PUBLICATIONS:

LEAD AUTHOR on **10** Refereed Publications (ASTROPHYSICAL JOURNAL, ASTRONOMICAL JOURNAL)
CO-AUTHOR on **16** Additional Refereed Publications

VII. TEACHING AND OUTREACH:

2010: Speaker, UCLA “Exploring Your Universe” Outreach Day
Our Corner of the Cosmos: The Local Group of Galaxies

2010: Invited speaker, Ventura County Astronomical Society
Tidal Streams in the Milky Way

2010: Supervised Spring/Summer 2010 research by a UCLA undergraduate

2006-2007: Co-advised (with C. Steidel) senior thesis research by a CALTECH undergraduate

2005: Teaching Assistant, *Structure and Dynamics of Galaxies*, CALTECH (graduate level)

2005: Teaching Assistant, *Galaxies and Cosmology*, CALTECH

2004,2005: Teaching Assistant, *Astronomical Measurements and Instrumentation*, CALTECH (graduate level)

2002-2003: Public Night Telescope Operator, MCCORMICK OBSERVATORY

VIII. GRANT AND PROPOSAL HISTORY:

2010: Gemini Observatory (NIFS), CoI
45 hours, USA lead scientist on international collaboration
Resolving the Kinematics of High-Redshift Galaxy Assembly

2009-2010: Hubble Space Telescope: Cycle 17 (WFC3/IR), PI
42 orbits, GO-11694, allocation \sim \$150,000
Mapping the Interaction between High-Redshift Galaxies and the Intergalactic Environment

2009-2010: Hubble Space Telescope: Cycle 17 (WFC3/UVIS), CoI
30 orbits, GO-11638, allocation \sim \$120,000
Illuminating the HI Structure of a Proto-cluster Region at $z = 2.84$

2008-2010: STSCI Hubble Fellowship
HF-01221/HF-51244, allocation \sim \$300,000
Understanding the Complex Gaseous Environment of Galaxies at $z \sim 2 - 3$

2009: W.M. Keck Observatory (NIRC2), CoI
1 night
Optical Morphologies of Star-Forming Galaxies at $z \sim 2$

2008-2009: W.M. Keck Observatory (OSIRIS), CoI
5 nights
Mapping Star Formation in Faint QSO Host Galaxies at $z \sim 2$

2005-2008: W.M. Keck Observatory (OSIRIS), CoI

17 nights

Spatially Resolved Kinematics of Star-Forming Galaxies at $z \sim 2$

IX. OBSERVATIONAL AND TECHNICAL EXPERIENCE [NIGHTS]:

Over 50 nights experience with optical and near-IR imaging, spectroscopy, and laser-assisted adaptive optics.

Keck Observatory (Keck I/II: NIRC2[1], OSIRIS/LGSAO[23], NIRSPEC[9], LRIS[3])

Palomar Observatory (200" Hale: WIRC[16], LFC[1])

Cerro Tololo Interamerican Observatory (4m Blanco, 1.5m: CSPEC[4], MOSAIC[6])

Las Campanas Observatory (100" duPont[5])

Hubble Space Telescope (ACS, WFPC2, WFC3)

Experience with multiple major programming languages and computational N-body simulations:

C, C++, FORTRAN, IDL, IRAF, HTML

X. SELECTED RECENT TALKS:

INVITED SPEAKER at "Galaxies in the Distant Universe": Ringberg Castle, Bavaria, 2010

The Physical Structure of Galaxies at $z \sim 2 - 3$

COLLOQUIUM SPEAKER at UC Irvine: Irvine, CA, 2010

Galactic Archaeology with the Sagittarius Stellar Tidal Stream

COLLOQUIUM SPEAKER at New York University: New York, 2009

Evidence for a Triaxial Milky Way Dark Matter Halo

COLLOQUIUM SPEAKER at the Herzberg Institute of Astrophysics: Victoria BC, 2009

Kiloparsec-Scale Kinematics in High Redshift Star-Forming Galaxies

COLLOQUIUM SPEAKER at the University of California: San Diego, 2007

Spatially Resolved Kinematics of Star-Forming Galaxies in the Early Universe

INVITED TALK at "Science in the Era of TMT", Irvine, CA, 2007

TMT: Science Goals and Design Requirements for IFU Studies of High Redshift Galaxies

XI. SELECTED MEDIA COVERAGE:

BBC NEWS, "Dark matter 'beach ball' unveiled", Jan 6 2010

<http://news.bbc.co.uk/2/hi/science/nature/8444038.stm>

NEW SCIENTIST, "Milky Way's dark matter 'turned on its side' ", Jan 6 2010

<http://www.newscientist.com/article/dn18344>

SPACE.COM, "Dark Halo Around Our Galaxy Looks Like Squished Beach Ball", Jan 6 2010

<http://www.space.com/scienceastronomy/100106-dark-matter-halo-milky-way.html>

SKY & TELESCOPE, "Dark Matter and Dark Energy Update", January 9 2010

<http://www.skyandtelescope.com/community/skyblog/newsblog/81035932.html>

NATIONAL PUBLIC RADIO: MORNING EDITION, "Astronomers Map Dark Matter 'Beach Ball' ", Jan 7 2010

<http://www.npr.org/templates/story/story.php?storyId=122290475>

SKY AND TELESCOPE, "Meet the Milky Way's Newfound Neighbors", July 2005, p. 17

CNN NEWS, "Sagittarius being eaten by Milky Way", Sep 25 2003

CIEL ET ESPACE, "Impitoyable Voie Lactée", August 2003, p. 13