

MARLA C. GEHA  
*Curriculum Vitae*

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Department of Astronomy  
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**Appointments**

YALE UNIVERSITY Nov 2007 – present  
Assistant Professor  
Department of Astronomy

HERZBERG INSTITUTE OF ASTROPHYSICS 2006 – 2007  
National Research Council Canada  
Plaskett Fellow

THE OBSERVATORIES OF THE CARNEGIE INSTITUTION OF WASHINGTON 2003 – 2006  
Hubble Fellow

LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL) 1998 – 1999  
Postgraduate Researcher

**Education**

UNIVERSITY OF CALIFORNIA AT SANTA CRUZ 1999 – 2003  
Ph.D. Astronomy & Astrophysics, awarded June 2003.  
Dissertation: “Kinematics of Dwarf Elliptical Galaxies”  
Supervisor: Professor Raja Guhathakurta

NEW MEXICO STATE UNIVERSITY 1995 – 1998  
M.S. in Astronomy, awarded 1998

CORNELL UNIVERSITY 1991 – 1995  
B.S. in Applied and Engineering Physics, awarded June 1995.  
Research Project: ”Building a Near-Infrared Camera”  
Supervisor: Professor Jim R. Houck

**Research Interests**

Multi-wavelength studies of dwarf galaxy formation and evolution  
Kinematics of resolved stellar populations in the Local Group  
Instrumentation and optical design

**Awards**

Plaskett Fellowship, HIA/DAO, 2006 – 2007  
Hubble Fellowship, NASA/STScI, 2003 – 2006  
Presidential Fellowship, University of California, Santa Cruz, 2003  
Whitford Prize, UCSC, 2000  
Sigma Xi Student Research Award, NMSU, 1997  
Academic Excellence Scholarship, Cornell University, 1993-1995

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## Recent Invited Colloquia and Seminars

ASTRONOMY COLLOQUIUM	University of Massachusetts, November 2007
ACKS SEMINAR	KIPAC, Stanford University, October 2007
ASTRONOMY COLLOQUIUM	UC Santa Cruz, October 2007
ASTRONOMY COLLOQUIUM	Columbia University, September 2007
KICP SEMINAR	University of Chicago, April 2007
ASTRONOMY COLLOQUIUM	University of Wisconsin-Madison, April 2007
ASTRONOMY COLLOQUIUM	Yale University, February 2007
ASTRONOMY COLLOQUIUM	University of Washington, January 2007
ASTRONOMY SEMINAR	HIA/DAO, October 2006
ASTRONOMY COLLOQUIUM	Carnegie Observatories, May 2006
ASTRONOMY COLLOQUIUM	UC Berkeley, April 2006
ASTROPHYSICS SEMINAR	LLNL, April 2006
ASTRONOMY COLLOQUIUM	Ohio State, April 2006
PHYSICS COLLOQUIUM	University of Pennsylvania, February 2006

## Recent Conferences and Workshops

THE GLOBULAR CLUSTER-DWARF GALAXY CONNECTION	Ann Arbor, MI, August 2007
IAU 244: DARK GALAXIES AND LOST BARYONS	Cardiff, UK, June 2007
GALAXIES IN THE COSMIC WEB	Las Cruces, NM, May 2006
HUBBLE SYMPOSIUM	STScI, May 2006
DWARF GALAXIES AS ASTROPHYSICAL AND COSMOLOGICAL PROBES	Ringberg Castle, Germany, March 2006
DECONSTRUCTING THE LOCAL GROUP	Aspen, Feb 2006
NEARLY NORMAL GALAXIES IN A LCDM UNIVERSE	Santa Cruz, August 2005
HUBBLE SYMPOSIUM	STScI, April 2005
NATIONAL ACADEMY OF SCIENCE: FRONTIERS OF SCIENCE SYMPOSIUM	Irvine, June 2005

## Teaching Experience

CO-INSTRUCTOR, UNIVERSITY OF VICTORIA	2006
Astronomy 580: Graduate Seminar in Galaxy Formation	
CO-SUPERVISOR	2005-present
Graduate students Kirsten Howley, Evan Kirby (UC Santa Cruz)	
INSTRUCTOR, CALIFORNIA SUMMER SCHOOL FOR MATH AND SCIENCE	2003-2004
TEACHING ASSISTANT, UNIV. OF CALIFORNIA, SANTA CRUZ	1999-2000
Astronomy 2: Introductory Astronomy	
TEACHING ASSISTANT, CORNELL UNIVERSITY	1994-1995
Engineering 274: Computer Instrumentation	

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## Public Outreach

GUEST LECTURER, ROYAL ASTRONOMICAL SOCIETY OF CANADA 2007  
OPINION PIECE ON THE RENAMING OF PLUTO 2006  
Published in *The Nation*  
<http://www.thenation.com/doc/20060925/pluto>  
ASTRONOMY LECTURE SERIES LECTURER 2005  
Huntington Gardens, Pasadena, CA  
“Dark Matter and the Galaxy: Searching For The Unseen In The Milky Way”  
PROJECT ASTRO SCIENTIST, SANTA CRUZ ELEMENTARY SCHOOL 2002-2003  
LECTURER, LICK OBSERVATORY SUMMER VISITOR PROGRAM 2001-2003

## Scientific and Departmental Activities

SEMINAR COMMITTEE, HERZBERG INSTITUTE FOR ASTROPHYSICS, 2006-2007  
TAC MEMBER SPITZER CYCLE 4  
LUNCH TALK ORGANIZER, CARNEGIE OBSERVATORIES, 2003–2006  
MEMBER, AMERICAN ASTRONOMICAL SOCIETY (AAS)  
MEMBER, CANADIAN ASTRONOMICAL SOCIETY (CASCA)  
REFEREE, *Astronomical Journal*, *Astronomy & Astrophysics*, *Monthly Notices of the Royal Astronomical Society*

## Grants

M. GEHA (PI), GUHATHAKURTA AND VAN DER MAREL  
“Direct Age Determination of the dE Galaxies NGC 147 and NGC 185”  
Hubble Space Telescope Proposal, 60 orbits Cycle 15, funded 2006-7

HUBBLE FELLOWSHIP, J. MULCHAEY SPONSOR  
“The Nature and Origin of Dwarf Elliptical Galaxies”  
NASA Funded 2003-2006

PRINCIPAL INVESTIGATOR ON AWARDED TELESCOPE ALLOCATIONS: Hubble Space Telescope (WFPC2, ACS), Keck Observatory (ESI, DEIMOS, LRIS), Gemini Observatories (GMOS-N), Kitt Peak (RCSPM), AAT (2dF), Magellan Telescopes (IMACS, LDSS3, PANIC), Very Large Array (L-Band), Arecibo Observatory, Green Bank Telescope

MARLA C. GEHA  
*Publications*

**Submitted Publications**

TESTING COLD DARK MATTER WITH THE LOW MASS TULLY-FISHER RELATION  
Blanton M., **Geha M.**, West A.. ApJ, submitted (astro-ph/0707.3813)

DARWIN TAMES AN ANDROMEDA DWARF: UNRAVELING THE ORBIT OF NGC 205  
USING A GENETIC ALGORITHM  
Howley K., **Geha M.**, Guhathakurta P., Montgomery R., Laughlin G., Johnston K.. ApJ,  
submitted

THE MOST DARK MATTER DOMINATED GALAXIES: PREDICTED GAMMA-RAY SIGNALS  
FROM THE FAINTEST MILKY WAY DWARFS  
Strigari L., Koushiappas S., Bullock J., Kaplinghat M., Simon J., **Geha M.**, Willman B..  
ApJ, astro-ph/0709.1510

**Primary Author Refereed Publications**

THE KINEMATICS OF THE ULTRA-FAINT MILKY WAY SATELLITES: SOLVING THE MISS-  
ING SATELLITE PROBLEM  
Simon J. D. & **Geha M.**. 2007, ApJ, 670, 313

THE BARYON CONTENT OF EXTREMELY LOW LUMINOSITY DWARF GALAXIES  
**Geha M.**, Blanton M. R., Masjedi M., West, A. A.. 2006, ApJ, 653, 240

INTERNAL DYNAMICS OF LOCAL GROUP DWARF ELLIPTICAL GALAXIES I. MAPPING  
THE DYNAMICS OF NGC 205 BEYOND THE TIDAL RADIUS  
**Geha M.**, Guhathakurta P., Rich R. M., Cooper M. C.. 2006, AJ, 131, 332

NGC 770: A COUNTER-ROTATING CORE IN A LOW-LUMINOSITY ELLIPTICAL GALAXY  
**Geha M.**, Guhathakurta P., van der Marel R.P.. 2005, AJ, 129, 2617

INTERNAL DYNAMICS, STRUCTURE AND FORMATION OF DWARF ELLIPTICAL GALAXIES:  
II. ROTATING VERSUS NON-ROTATING DWARFS  
**Geha M.**, Guhathakurta P., van der Marel R.P.. 2003, AJ, 126, 1794

VARIABILITY-SELECTED QUASARS IN MACHO PROJECT MAGELLANIC CLOUD FIELDS  
**Geha M.**, Alcock C., Allsman R.A., Alves D.R., Axelrod T.S., Becker A.C., Bennett D.P.,  
Cook K.H., Drake A.J., Freeman K.C., Griest K., Keller, S.C., Lehner M.J., Marshall S.L.,  
Minniti D., Nelson C., Peterson B.A., Popowski P., Pratt M.R., Quinn P.J., Stubbs C.W.,  
Sutherland W., Tomaney A., Vandehei T., Welch, D.L. (The MACHO Collaboration).  
2003, AJ, 125, 1

INTERNAL DYNAMICS, STRUCTURE AND FORMATION OF DWARF ELLIPTICAL GALAXIES:  
I. A KECK/HST STUDY OF SIX VIRGO CLUSTER DWARFS  
**Geha M.**, Guhathakurta P., van der Marel R.P.. 2002, AJ, 124, 3073

STELLAR POPULATIONS IN THREE OUTER FIELDS OF THE LARGE MAGELLANIC CLOUD  
**Geha M.**, Holtzman J., Mould J., Gallagher J., Watson A., Cole A., Grillmair C.,  
Stapelheldt K., Ballester G., Burrows C., Clarke J., Crisp D., Evans R., Griffiths R.,  
Hester J., Scowen P., Trauger J. Westphal J.. 1998, AJ, 115, 1045

## Co-Author Refereed Publications

DISCOVERY OF ANDROMEDA XIV: A DWARF SPHEROIDAL DYNAMICAL ROGUE IN THE LOCAL GROUP?

Majewski, S. R., Beaton, R. L., Patterson, R. J., Kalirai, J. S., **Geha, M.**, Muoz, R., Seigar, M. S., Guhathakurta, P., Bullock, J., Rich, R. M., Gilbert, K. M., Reitzel, D. ApJL, 670, 9

THE EXTENDED STAR FORMATION HISTORY OF THE ANDROMEDA SPHEROID AT 21 KPC ON THE MINOR AXIS

Brown T., Smith E., Ferguson H., Guhathakurta P., Kalirai J., Rich M., Renzini A., Sweigart A., Reitzel D., Gilbert K., **Geha M.**. 2007, ApJ, 658, 95

DYNAMICS AND STELLAR CONTENT OF THE GIANT SOUTHERN STREAM IN M31. I. KECK SPECTROSCOPY OF RED GIANT STARS

Guhathakurta P., Rich R. M., Reitzel D., Cooper M., Gilbert K. Majewski, S., Ostheimer, J., **Geha M.**, Johnston K. V., Patterson R.. 2006, AJ, 131, 2497

THE PROPER MOTION OF THE LARGE MAGELLANIC CLOUD USING HST

Kallivayalil N., van der Marel R.P., Alcock C., Axelrod T., Cook K.C., Drake A.J., **Geha M.**. 2006, ApJ, 638, 772

THE GLOBULAR CLUSTER SYSTEM OF THE VIRGO DWARF ELLIPTICAL GALAXY VCC 1087

Beasley M., Strader J., Brodie J., Cenarro J., **Geha M.**. 2006, AJ, 131, 814

GALACTIC BULGE MICROLENSING EVENTS FROM THE MACHO COLLABORATION

Thomas, C. and The MACHO Collaboration (24 authors including **Geha M.**). 2005, ApJ, 631, 906

MICROLENSING OPTICAL DEPTH TOWARD THE GALACTIC BULGE USING CLUMP GIANTS FROM THE MACHO SURVEY

Popowski P. and The MACHO Collaboration (23 authors including **Geha M.**). 2005, ApJ, 631, 879

THE MACHO PROJECT LARGE MAGELLANIC CLOUD VARIABLE-STAR INVENTORY. XIII. FOURIER PARAMETERS FOR THE FIRST-OVERTONE RR LYRAE VARIABLES AND THE LMC DISTANCE

Alcock C. and The MACHO Collaboration (24 authors including **Geha M.**) . 2004,AJ,127,334

THE MACHO PROJECT LARGE MAGELLANIC CLOUD VARIABLE STAR INVENTORY. XI. FREQUENCY ANALYSIS OF THE FUNDAMENTAL-MODE RR LYRAE STARS

Alcock C. and The MACHO Collaboration (24 authors including **Geha M.**) . 2003, ApJ, 598, 597

GRAVITATIONAL MICROLENSING EVENTS DUE TO STELLAR-MASS BLACK HOLES

Bennett, D., and The MACHO Collaboration (31 authors including **Geha M.**). 2002, ApJ, 579, 639

BLUE VARIABLE STARS FROM THE MACHO DATABASE I: PHOTOMETRY AND SPECTROSCOPY OF THE LMC SAMPLE

Keller S., Bessell M., Cook K.H., **Geha M.**, Syphers D.. 2002, AJ, 124, 2039

DIRECT DETECTION OF A MICROLENS IN THE MILKY WAY

Alcock C. and The MACHO Collaboration (24 authors including **Geha M.**). 2001, Nature, 414, 617

ASTROMETRY WITH THE MACHO DATA ARCHIVE. I. HIGH PROPER MOTION STARS

TOWARD THE GALACTIC BULGE AND MAGELLANIC CLOUDS

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2001, ApJ, 562, 337

THE MACHO PROJECT: MICROLENSING DETECTION EFFICIENCY

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2001, ApJS, 139, 439

MACHO 96-LMC-2: LENSING OF A BINARY SOURCE IN THE LMC CLOUD AND CONSTRAINTS ON THE LENSING OBJECT

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2001, ApJ, 552, 259

THE MACHO PROJECT HUBBLE SPACE TELESCOPE FOLLOW-UP: PRELIMINARY RESULTS ON THE LOCATION OF THE LARGE MAGELLANIC CLOUD MICROLENSING SOURCE STARS

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2001, ApJ, 552, 1582

MACHO PROJECT LIMITS ON BLACK HOLE DARK MATTER IN THE  $1-30M_{\odot}$  RANGE

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2001, ApJ, 550, 169

THE MACHO PROJECT: MICROLENSING OPTICAL DEPTH TOWARD THE GALACTIC BULGE FROM DIFFERENCE IMAGE ANALYSIS

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2000, 541, 734

THE MACHO PROJECT: MICROLENSING RESULTS FROM 5.7 YEARS OF LARGE MAGELLANIC CLOUD OBSERVATIONS

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2000, ApJ, 542, 281

BINARY MICROLENSING EVENTS FROM THE MACHO PROJECT

Alcock C., and The MACHO Collaboration (61 authors including **Geha M.**). 2000, 119, 2194

THE MACHO PROJECT 9 MILLION STAR COLOR-MAGNITUDE DIAGRAM OF THE LARGE MAGELLANIC CLOUD

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 2000, AJ, 119, 2194

CALIBRATION OF THE MACHO PHOTOMETRY DATABASE

Alcock C., and The MACHO Collaboration (23 authors including **Geha M.**). 1999, PASP, 111, 1539