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# Emily M. Levesque

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## Education

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- 01/08 – Present**     **University of Hawaii’s Institute for Astronomy, Honolulu, HI**  
Pursuing a Ph.D. in Astronomy  
*Ph.D. topic:* Exploring the Environments of Long-Duration  
Gamma-Ray Bursts
- 08/06 – 12/07**     **University of Hawaii’s Institute for Astronomy, Honolulu, HI**  
M.S., Astronomy  
Pursuing a Ph.D. in Astronomy
- 09/02 – 06/06**     **Massachusetts Institute of Technology, Cambridge, MA**  
S.B., Physics  
*Senior Thesis:* Physical Properties of Red Supergiants: The Effects  
of Metallicity  
*Minors:* Astronomy, Creative Writing

## Primary Research Interests

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- **Physical properties of long-duration GRB and core-collapse SN progenitors**
- **ISM properties of long- and short-duration GRB host galaxies**
- **Evolution of massive stars as a function of metallicity**
- **Mass loss, stellar yields, and variability in evolved massive stars**

## Fellowships, Awards, and Grants

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- May 2008**     Smithsonian Astrophysical Observatory Predoctoral Fellow,  
Harvard University
- Apr 2008**     University Research Council Excellence in Research – Masters  
Level Student Award (\$750)
- Apr 2008**     Ford Foundation Predoctoral Diversity Fellow (\$66,000)
- Apr 2008**     NSF Graduate Research Fellowship – Honorable Mention
- Jan 2008**     IAU Travel Grant for IAU Symposium 255 (1100 CHF)
- July 2007**     Friends Research Award, U. Hawaii Institute for Astronomy  
(\$100)
- Jan 2007**     Honorable Mention, Chambliss Astronomy Achievement Student  
Awards (AAS 209)
- June 2006**     Alan H. Barrett Prize in Astrophysics, MIT Physics Department  
(\$1000)
- June 2006**     Joel Matthew Orloff Research Award for most outstanding senior  
thesis, MIT Physics Department (\$1000)
- 2004 – 2005**     MIT Burchard Scholar
- 2002 – 2003**     MIT Emerson Scholar

## **Research Experience**

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- 10/06 – Present**      **AST 699-1 Research Project/Ph.D. Thesis**  
Adviser: Dr. Lisa Kewley  
Project: Environments of Extremely Metal-Poor Galaxies and GRB Host Galaxies
- 06/04 – Present**      **NSF Research Experience for Undergraduates**  
Adviser: Dr. Philip Massey (Lowell Observatory)  
Project: The Physical Properties of Red Supergiants
- 07/06 – 08/07**      **Research Assistantship**  
Adviser: Dr. Ann Boesgaard  
Project: Beryllium in Metal-Deficient Stars
- 06/05 – 10/06**      **NSF Research Experience for Undergraduates**  
Adviser: Dr. Vincent Fish (NRAO, Socorro)  
Project: Search for Interstellar OD
- 09/04 – 05/06**      **Undergraduate Research Opportunities Program**  
Adviser: Dr. Sebastian Heinz  
Project: Modeling Relativistic Jets from AGN
- 09/03 – 05/04**      **Undergraduate Research Opportunities Program**  
Adviser: Dr. Walter Lewin  
Project: Broadband Analyses of GX 3390-43 and XTE J1650-500
- 01/04 – 02/04**      **MIT Astronomy Field Camp**  
Adviser: Dr. Sally Oey  
Project: Analysis of Ionized Gas in SINGG Objects
- 02/03 – 08/03**      **Undergraduate Research Opportunities Program**  
Adviser: Dr. Paul Joss  
Project: Techniques of Chandra X-Ray Observatory Data Analysis

## **Teaching Experience**

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- 02/06 – 05/06**      **TA, Hands-On Astronomy Seminar**  
Instructor: Dr. Susan Kern
- 02/06 – 05/06**      **Grader, Introduction to Astronomy**  
Instructor: Dr. Saul Rappaport
- 09/05 – 12/06**      **TA, Observational Techniques of Optical Astronomy**  
Instructor: Dr. Scott Burles
- 02/04 – 05/04**      **TA, Hands-On Astronomy Seminar**  
Instructor: Dr. James Elliot

## Presentations and Posters

### Invited and Contributed Talks (plus 10 poster presentations)

#### Professional

Nov 2008	<b>Invited Speaker, “Hot and Cool: Bridging Gaps in Massive Star Formation”</b> <i>Basic Parameters of Red Supergiants (review)</i>
Oct 2008	<b>Invited Speaker, “Hot, Massive Stars: A Lifetime of Influence”</b> <i>Physical Properties of Red Supergiants</i>
July 2008	<b>Invited talk, Oxford University</b> <i>Modeling the ISM Properties of Metal-Poor Galaxies and Gamma Ray Burst Hosts</i>
Jun 2008	<b>Invited Seminar, Geneva Observatory</b> <i>Modeling the ISM Properties of Metal-Poor Galaxies and Gamma Ray Burst Hosts</i>
Jun 2008	<b>Contributed Talk, IAU 255: Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies</b> <i>Modeling the ISM Properties of Metal-Poor Galaxies and Gamma Ray Burst Hosts</i>
Dec 2007	<b>Contributed Talk, IAU 250: Massive Stars as Cosmic Engines</b> <i>Metal-Poor Galaxies and GRB Hosts: Modeling the Low Metallicity Stellar Populations</i>
Oct 2007	<b>Contributed Talk, Institute for Astronomy Astrocoffee</b> <i>The Coolest Stars in the Clouds</i>
July 2007	<b>Keynote Speaker, The Biggest, Baddest, Coolest Stars</b> <i>The Coolest Stars in the Clouds: Unusual Red Supergiants in the Magellanic Clouds</i>
May 2007	<b>Invited Speaker, 210th AAS Meeting, Topical Session #40</b> <i>The Physical Properties of Red Supergiants: Cool, But Not As Cool As We Thought</i>

#### Public

Apr 2008	<b>Institute for Astronomy Open House Family Lecture</b> <i>The Second Biggest Bang: Gamma-Ray Burst Astronomy</i>
Jan 2008	<b>Friends of the IfA Research Award Talk</b> <i>Gamma-Ray Bursts and the Deaths of Stars: Nature vs. Nurture?</i>

### Professional Organizations & Service

April 2008	Volunteer, Institute for Astronomy Open House
Dec 2007	Local Organizing Committee member, <i>IAU 250: Massive Stars as Cosmic Engines, Kauai, HI</i>
Oct 2007	Telescope Time Allocation Committee <i>U. Hawaii Institute for Astronomy</i>
April 2007	Volunteer, Institute for Astronomy Open House
Jan 2007	Local Organizing Committee Member, <i>Metals 2007, Honolulu, HI</i>
Oct 2005 – Present	Junior Member: American Astronomical Society

**Telescope Time Awarded/Observing Experience**

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<b>Nov 2008</b>	<i>Keck</i>	3 nights	PI: Levesque
<b>Fall 2008</b>	<i>Gemini</i>	3 hours	PI: Levesque
<b>Aug 08</b>	<i>Magellan</i>	2 nights	PI: Levesque
<b>Spring 2008</b>	<i>Spitzer</i>	5.5 hours	PI: Clayton
<b>May 2008</b>	<i>Keck</i>	1 night	PI: Levesque
<b>May 2008</b>	<i>Keck</i>	1 night	PI: (Levesque)
<b>Mar 2008</b>	<i>Subaru</i>	1 night	PI: (Levesque)
<b>Mar 2008</b>	<i>Keck</i>	1 night	PI: Levesque
<b>Oct 2007</b>	<i>Subaru</i>	2 nights	PI: (Levesque)
<b>Oct 2007</b>	<i>Keck</i>	1 night	PI: Kewley
<b>Sep 2007</b>	<i>UH 88"</i>	2 nights	PI: Levesque
<b>Sep 2007</b>	<i>Keck</i>	2 nights	PI: (Levesque)
<b>June 2007</b>	<i>Keck</i>	1 night	PI: Boesgaard
<b>Mar 2007</b>	<i>Subaru</i>	3 nights	PI: Kewley
<b>Jan 2007</b>	<i>Keck</i>	1 night	PI: Boesgaard
<b>Oct 2006</b>	<i>MMT</i>	2 nights	PI: Massey
<b>Dec 2005</b>	<i>Blanco 4-m, CTIO</i>	3 nights	PI: Massey
<b>July 2005</b>	<i>VLA</i>	1 night	PI: Levesque
<b>Nov 2004</b>	<i>Blanco 4-m, CTIO</i>	4 nights	PI: Massey
<b>May 2004</b>	<i>KPNO 2.1m, KPNO</i>	5 nights	PI: Massey