

## CURRICULUM VITAE – ERIK ZACKRISSON

**RESEARCH PROFILE**      Extragalactic astronomy (50% theoretical, 50% observational)  
**Main topics:** The first stars and galaxies, gravitational lensing, dark matter  
**Homepage:** <http://www.astro.uu.se/~ez>

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- HIGHLIGHTS**
- Author of 27 first-author journal papers (including one invited review)
  - Lead author of the *Yggdrasil* spectral synthesis code for the modelling and analysis of high-redshift galaxies
  - Observing time on the ESO Very Large Telescope as principal investigator and on ALMA, the Hubble Space Telescope, the Spitzer Space Telescope, FUSE and Gemini as co-investigator
  - Research grants of 11.4 million SEK (1.14 million EUR, 1.3 million USD) as main applicant and 15.8 million SEK (1.58 million EUR, 1.8 million USD) as co-applicant
  - Member of science teams connected to three of the largest telescopes of the 2020s: the Extremely Large Telescope, the Square Kilometer Array and WFIRST
  - Supervisor/co-supervisor of 10 PhD students, 10 MSc students and 9 BSc students
  - Solely responsible (design, teaching, examination) for the course that, out of all on-site astronomy courses offered at Stockholm/Uppsala University, attracted the most students at Stockholm University in 2012, 2013 & 2014, and at Uppsala University in 2015 & 2017
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**ACADEMIC AWARDS AND DEGREES**

**DISTINGUISHED UNIVERSITY TEACHER**  
2019, Uppsala University, Sweden

**ASSOCIATE PROFESSOR (DOCENT) IN ASTRONOMY**  
2009, Stockholm University, Sweden

**PHD IN ASTRONOMY**  
2005, Uppsala University, Sweden

## RESEARCH GROUP

Martin Sahlén (Research fellow, Uppsala University, 2016—)  
Matías Suazo (PhD student, Uppsala University, 2019—)  
Anton Vikaeus (PhD student, Uppsala University, 2018—)  
Christian Binggeli (PhD student, Uppsala University, 2015—)  
Hannes Jensen (Postdoc, Uppsala University, 2015—2016)  
Juan González (Postdoc, Stockholm University, 2013—2014)  
Saghar Asadi (PhD student, Stockholm University, 2012—)  
Claes-Erik Rydberg (PhD student, Stockholm University, 2010—2015)

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## ACADEMIC POSITIONS

- Senior Lecturer (tenured), Uppsala University, Feb 2019—
  - Associate Senior Lecturer (tenure track), Uppsala University, Jan 2015 – Jan 2019
  - Senior Research Fellow, Stockholm University, Sweden, Feb 2013—Dec 2014
  - Assistant Professor, Stockholm University, Sweden, Sep 2008—Feb 2013
  - Postdoc, Tuorla Observatory, Finland, 25 months, 2006—2008
  - Guest Researcher, Dark Cosmology Centre, Denmark, May 2006
  - Guest Researcher, Stockholm University, Sweden, Nov—Dec 2005
  - PhD position, Uppsala University, Sweden, 2000—2005
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## LEAVE OF ABSENCE

A total of 12 months of parental leave in 2006—2013

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## PUBLICATIONS

- Refereed journal articles: 90 papers (27 as 1st author, 18 as 2nd author)
  - Invited reviews: 1 paper (as first author)
  - Refereed conference proceedings: 5 papers (2 as first author)
  - Non-refereed conference proceedings: 33 papers (16 as first author)
  - Popular articles: 4 (as first author)
  - h-index: 29/32 (ADS/Google scholar)
  - Citations: 2600+/3000+ (ADS/Google scholar)
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## SUPERVISION

**PhD students:** Primary supervisor of 3 PhD students with ongoing projects. Primary supervisor of 1 PhD student and co-supervisor of 6 PhD students with completed projects.

**MSc students:** Supervision of 10 completed MSc projects. 7 of the students with completed projects ( $\approx 70\%$ ) were subsequently accepted into Swedish PhD programmes in astronomy, where typically  $\approx 30-60$  applicants compete for every position.

**BSc students:** Supervision of 9 completed BSc projects.

**Other student projects:** Supervision of 4 physics projects (10 weeks each) at Uppsala University (2015, 2016) and 2 summer students at Stockholm University (2012, 2014)

## TEACHING

### **Administration and leadership**

Coordinator of undergraduate studies at the Division of Astronomy & Space Physics within the Department of Physics and Astronomy, Uppsala University 2020—

Leader of 4 pedagogical development projects at Uppsala University (2015-2019)

### **Courses for PhD students:**

*Modern Cosmology* (2005, Uppsala University, 7.5 ECTS)

*Gravitational lensing* (2011, Stockholm University, 7.5 ECTS)

### **Advanced-level courses:**

*Physics of Galaxies* (2015—2020, Uppsala University, 10 ECTS)

*Cosmology* (2015—2017, 2019; Uppsala University, 10 ECTS)

*Cosmology* (2008—2011, Stockholm University, 7.5 ECTS)

*Galaxies* (2004, Uppsala University; 2012, Stockholm University, 7.5 ECTS)

Student evaluations (from 2008 onwards): 4.4—5.0 (out of 5)

### **Basic-level courses:**

*Fundamental Astronomy* (2004, 2016, 2018, Uppsala University; 2009, Stockholm University, 5/7.5 ECTS)

*Searching for extraterrestrial intelligence – Is there anybody out there?* (2012, 2013, 2014; Stockholm University, 7.5 ECTS). In these years, this course attracted more students than any other on-site astronomy course at Stockholm University.

*Searching for extraterrestrial intelligence* (2015, 2017; Uppsala University, 5 ECTS)

In these years, this course attracted more students than any other astronomy course at Uppsala University.

Student evaluations (from 2009 onwards): 4.6—4.8 (out of 5)

### **As invited lecturer:**

*Extragalactic Astronomy* (2012, MSc course, Lund University, Sweden, 2 lectures)

*Observational cosmology and the formation and evolution of galaxies* (2012, summer school for MSc/PhD students, Onsala Observatory, Sweden, 2 lectures)

The First Billion Years of the Universe Using Next-Generation Telescopes (2020, international course for MSc/PhD students, Indian Institute of Technology Indore, 2 lectures + gamification exercise session)

## GRANTS

- SPARC grant from the Ministry of Human Resource and Development, Government of India, for the project Imaging the first billion years of the universe with next-generation telescopes (Co-I Zackrisson, PI Suman Majumdar) in 2019, 810 000 SEK
- Faculty of Science and Technology pedagogical development grant in 2018 for the introduction of game-based learning in astronomy education at Uppsala University, 289 000 SEK
- Grant from the Swedish National Space Board for the project Cosmic Reionization with the James Webb Space Telescope in 2017, 2.96 million SEK
- Faculty of Science and Technology pedagogical development grant in 2017 for the introduction of virtual reality in astronomy education at Uppsala University, 289 000 SEK
- Grant from the Olle Engkvist Foundation for the project Physics of the first cosmic structures (co-I Zackrisson, PI Martin Sahlén) in 2016, 1.0 million SEK
- Faculty of Science and Technology pedagogical development grant in 2016 for the introduction of Fermi problem sessions in astronomy education at Uppsala University, 275 000 SEK
- Faculty of Science and Technology pedagogical development grant in 2015 for the introduction of smartphones in astronomy education at Uppsala University, 275 000 SEK
- Grants from the Magnus Bergvall foundation and Stiftelsen Nordenskjöldska Swedenborgsfonden in 2015 and 2020 for Project Hephaisotos, the first Swedish SETI initiative, 140 000 SEK in total
- Faculty of Science and Technology starting grant at Uppsala University, 500 000 SEK in 2015
- Wennergren & Swedish Research Council grants for organizing the international workshop *Lyman Continuum Leakage and Cosmic Reionization* (August 13-15, 2014) at the AlbaNova University Center, 154 000 SEK
- Wennergren stipend 2012—2013 for funding of a postdoc to work on the project *Gravitational lensing as a probe of the first stars and galaxies*: 600 000 SEK
- Research grant for Young Researchers from the Swedish Research Council, 2012—2015, for the project *The first stars and galaxies*, 3.66 million SEK

- Several Research grants (co-applicant; main applicant Göran Olofsson for 2010 and Göran Östlin for 2011—2014) from the Swedish National Space Board, 2010-2014: 13.5 million SEK in total
- 3-year research grant (co-applicant; main applicant Göran Östlin) from the Swedish Research Council, 2009—2011, for the project Galaxy evolution in the distant and local Universe, 750 000 SEK
- 3-year postdoctoral research grant from the Academy of Finland, 2007—2009, for the project *Dark Matter and Gravitational Lensing* (main applicant Zackrisson) at Tuorla Observatory, Finland, in total 1.7 million SEK. I terminated this position on September 1, 2008 to take up a position at Stockholm Observatory
- 7-month postdoctoral stipend from the Swedish Research Council, 2006, for the project *The Host Galaxies of Gamma-Ray Bursts* at the Dark Cosmology Centre, Copenhagen, 212 200 SEK (declined because of conflict with other successful applications)
- 1-year postdoctoral stipend from the Swedish Research Council, 2006, for the project *Dark Matter in the Form of MACHOs* at Tuorla Observatory, Finland, 289 300 SEK
- Research stipend from the Ingegerd Bergh foundation, 2006—2008, for the project The Red Halos of Galaxies, 220 800 SEK (declined because of conflict with other successful applications)
- 5-month postdoctoral stipend from the Royal Swedish Academy of Sciences, 2005, for the project Dark Matter in the Form of MACHOs, 100 000 SEK

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SUCCESSFUL  
OBSERVING  
PROPOSALS

**As principal investigator:** ESO VLT (39 hours), European VLBI Network (12 hours), ESO NTT (2.3 nights), ESO 2.2m (1.5 nights), AKARI (2 pointings), the 2.5m Nordic Optical Telescope (18 nights), APEX (10 hours)

**As co-investigator:** HST (60 orbits), Spitzer (8 hours), FUSE (428 hours), Gemini South (3 hours), ALMA (198 hours), ESO VLT (142 hours), Global VLBI (12 hours), VLA (6 hours), ESO NTT (14 nights), ESO 3.6m (5 nights), APEX (6 hours) and 2.5m Nordic Optical Telescope (64 nights)

## COMMITTEES

- Extremely Large Telescope HIRES spectrograph consortium: Member of core science team and deputy coordinator of the *Formation and evolution of galaxies and the intergalactic medium* science working group 2016—
  - Square Kilometer Array *Cosmic Dawn/Epoch of Reionization* science team: Core member and focus group coordinator 2015—
  - WFIRST: Member of the *Cosmic Dawn with WFIRST* Science Investigation Team 2015—
  - Telescope allocation committees:  
Onsala/APEX/LOFAR TAC 2013—2016 (chair from fall 2015)  
Nordic Optical Telescope TAC (deputy member) 2015—2019  
ESO OPC panel 2007—2008
  - PhD student recruitment committees:  
Stockholm University 2009, 2012; Uppsala University 2015, 2018, 2019
  - Postdoc recruitment committees:  
Stockholm University 2008, 2011
  - PhD thesis evaluation committees:  
Stockholm University 2014, 2016, 2019; Copenhagen University 2015;  
University of Sydney 2017
  - Scientific Organizing Committees:  
The first billion years of the Universe using next-generation telescopes 2020  
Galaxy evolution and star formation through cosmic time workshop 2017  
Astronomdagarna 2015  
Lyman continuum leakage and cosmic reionization 2014 (co-chair)
  - Local Organizing Committees:  
SKA key science workshop, Stockholm 2015  
Lyman continuum leakage and cosmic reionization, Stockholm 2014  
Blue Compact Galaxy workshop, Uppsala 2005
  - Member of Astronomy Division Council, Uppsala University, 2017—
  - Deputy member of Stockholm Observatory Board 2013—2014
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