

Curriculum Vitae

Priv.-Doz. Dr. Thorsten Lisker

Contact:

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Date & Place of Birth:

December 21, 1978 Erlangen, Germany

EDUCATION AND EMPLOYMENT

- 05/2007 – present** Heidelberg University, Germany
01/2012 Habilitation in Astronomy (university lecturer qualification)
05/2007 – 04/2013 Independent junior research group leader
10/2004 – 04/2007 Ph.D. (grade *summa cum laude*), University of Basel, Switzerland
Early-type Dwarf Galaxies in the Virgo Cluster: Nature or Nurture?
Advisor: Prof. Dr. Eva K. Grebel
10/2003 – 09/2004 ETH Zürich, Switzerland
Graduate student
10/1998 – 09/2003 Diploma in Physics, University of Erlangen-Nürnberg, Germany
Thesis: *Hot subdwarf stars from the Supernova Ia Progenitor Survey*
Advisor: Prof. Dr. Ulrich Heber

AWARDS AND HONOURS

- 2011** Ludwig Biermann Award of the Astronomische Gesellschaft
2010 Selected as Associate of the Heidelberger Akademie der Wissenschaften
2009 Klaus-Georg and Sigrid Hengstberger Prize for Young Scientists
at Heidelberg University
2009 Karl Freudenberg Award, Heidelberger Akademie der Wissenschaften
2008 Swiss Physical Society Award for excellent research work (general physics)
2007 Camille & Henry Dreyfus Award, University of Basel

PUBLICATIONS

44 refereed articles, 11 as first author, 1700+ citations, *h*-index 23

RESEARCH AREAS

- ★ Dwarf galaxies in high- and low-density environments
- ★ Cluster galaxy populations in observations and simulations
- ★ Evolution of massive galaxies from high redshift to the present
- ★ Hot subdwarf stars and binary stellar evolution

RESEARCH GRANTS

(Including student fellowships obtained by individual application)

- ★ *What caused star formation in dwarf galaxies to cease?*, 2014–2015 (€90k)
Innovation Fund FRONTIER, Heidelberg University
- ★ *ESO studentship*, 2011–2013, Ph.D. student Stefan Lieder (€45k)
- ★ *The Importance of Binary Systems for Stellar Population Studies of Early-type Galaxies* (with Dr. Zhongmu Li), 2011–2012 (€10k)
Funded by the Sino-German Center for Research Promotion and the DFG
- ★ *The progenitors of dwarf elliptical galaxies*, 2009–2011 (€82k)
Funded by the German Research Foundation (DFG)
- ★ *Daimler Benz foundation fellowship*, 2009–2011, Ph.D. student Joachim Janz (€29k)
- ★ *LGFG fellowship*, 2009–2011, Ph.D. student Alexander Hansson (€31k)

SCIENCE MANAGEMENT

Scientific Manager of the Collaborative Research Center “The Milky Way System” at Heidelberg University (since 01/2015)

INTERNATIONAL TEAM PROJECTS

- ★ Core team member of the Fornax Deep Survey (FDS, P.I. R. Peletier), since 2013
- ★ P.I. of SMAKCED: Stellar Populations, Masses & Kinematics of Cluster Early-type Dwarf Galaxies (<http://smakced.net>), 2009–2015

INVITED VISITOR

ESO Scientific Visitor Programme (Feb./Mar. 2012)

SUCCESSFUL OBSERVING PROPOSALS

- **P.I. T. Lisker:**
 - ★ ESO VLT/MUSE, 2014 (094.B-0895)
 - ★ WHT/PFIP, 2014 (SW2014a02)
 - ★ WHT/PFIP, 2012 (OPT/2012B/045)
 - ★ ESO VLT/FORS, 2010 (085.B-0971)
 - ★ CAHA 3.5m/LAICA, 2010 (H10-3.5-056)
 - ★ NOT/NOTCam, 2009 (38-424)
 - ★ ESO VLT/FORS2, 2007 (078.B-0178)
 - ★ ESO 2.2m/WFI, 2006 (077.B-0785)
 - ★ NOT/MOSCA, 2006 (32-041)
- **Co-I. T. Lisker:** 30 proposals
- **Ph.D. students of T. Lisker:**
 - ★ NOT/NOTCam, 2012 (Janz et al., 44-036)
 - ★ ESO VLT/FORS, 2011 (Paudel et al., 087.B-0841)
 - ★ NOT/NOTCam, 2011 (Janz et al., 43-038)
 - ★ NOT/NOTCam, 2011 (Janz et al., 42-047)
 - ★ ESO VLT/FORS, 2010 (Hansson et al., 086.B-0873)
 - ★ ESO NTT/SOFI, 2010 (Janz et al., 085.B-0919)
 - ★ CAHA 3.5m/Omega2000, 2010 (Hansson et al., F10-3.5-070)

STUDENTS & THESIS SUPERVISION

Primary Thesis Advisor (at Heidelberg University unless otherwise noted):

Ph.D. students:

- ★ Carolin Wittmann, 08/2014–present, *The faint dwarf galaxy population in clusters*
- ★ Daniel Bialas, 08/2012–09/2014 (left for industry), *Modelling the population of small galaxies under the influence of different environments*
- ★ Stefan Lieder, 09/2010–06/2014, *Dwarf galaxies and star clusters in the group and cluster environment*, partly hosted at ESO Chile
- ★ Isabel Franco Rico, 03/2009–02/2011, *The origin of low-mass early-type galaxies: A combined view from stellar populations and N-body simulations*
- ★ Joachim Janz, 01/2009–01/2013, *The puzzling nature of dwarf-sized gas-poor disk galaxies*, joint Ph.D. of Heidelberg University and University of Oulu, Finland
- ★ K. S. Alexander Hansson, 09/2008–02/2012, *The dependence of present-day galaxy properties on environment and mass*
- ★ Hagen T. Meyer, 04/2008–12/2012, *The progenitors of early-type dwarf galaxies*
- ★ Sanjaya Paudel, 01/2008–06/2011, *The stellar populations of early-type dwarf galaxies and their nuclei*

Master and Diploma students:

- ★ Carolin Wittmann, 04/2013–06/2014, *The dwarf galaxy population of the Perseus cluster core*
- ★ Karina Voggel, 09/2012–08/2013, *The past environmental influence on present-day satellite galaxies*
- ★ Philip Saur, 10/2011–12/2012, *The evolutionary history of galaxy clusters in a model universe*
- ★ Stefan Lieder, 07/2009–07/2010, *A deep view on Virgo cluster dwarf galaxies*
- ★ Oliver Hielscher, 06/2008–06/2009, *Stellar populations of early-type dwarf galaxies – clues to their origin?*
- ★ Joachim Janz, 03/2008–12/2008, *The family of elliptical galaxies*
- ★ Mischa Vodička, 02/2006–08/2006, *The color magnitude relation of dwarf elliptical galaxies in the Virgo cluster*, University of Basel (with E. K. Grebel)

Bachelor students:

- ★ Daniel Györi, 10/2015–present, *Tidal perturbations of faint dwarf galaxies in the Perseus cluster*
- ★ Jonas Becker, 10/2015–present, *Detecting low surface brightness objects in deep imaging data*
- ★ Linda Urich, 02/2015–07/2015, *Population gradients of early-type dwarf galaxies in the Virgo cluster*
- ★ Thomas Beisitzer, 03/2010–07/2010, *Infall and gas stripping of star-forming galaxies in clusters*

Co-Advisor and Related Functions (at Heidelberg University unless otherwise noted):

- ★ Second referee and examiner for about 15 Diploma, Master, and Ph.D. students (including students at the Universities of Innsbruck and Basel)
- ★ Member of Ph.D. advisory committee: M. Alfaro-Cuello (with N. Neumayer, 2015–present), L. Liu (with R. Spurzem, 2012–2013), A. Yildirim (with G. van de Ven, 2011–2015), V. Kalinova (with G. van de Ven, 2010–2014), Y.-Y. Chang (with A. van der Wel & H.-W. Rix, 2010–2013), M. Cisternas (with K. Jahnke, 2008–2011), S. Lianou (with E. Grebel, 2007–2010), D. Crnojevic (with E. Grebel, 2007–2010)
- ★ Co-Advisor: Diploma student J. Ludwig (with E. Grebel), 06/2008–08/2009
- ★ Advisor of summer students: Daniel Györi (2015), Jonas Becker (2015), G. Calistro (2010), V. Böhm (2010), S. Helmbold (2010), T. Gerner (2009)
- ★ Advisor for high-school interns: J. Götz (10/2010), R. Brunngräber (08/2008)

TEACHING EXPERIENCE

Lectures and Courses (at Heidelberg University unless otherwise noted):

- ★ *Astronomical Techniques* (Physics Core Course for Master students), summer 2013; summer 2014 & 2015 (shared with A. Koch)
- ★ *Observational Astronomy* (Physics Core Course for Master students), summer 2012, shared with S. Wagner
- ★ *Stellar Astronomy and Astrophysics*, summer 2010, shared with S. Jordan
- ★ *From tiny galaxies to huge clusters*, summer 2010, XXIV Physics Graduate Days
- ★ *Galaxy types and their evolution*, January 2010, HGSP Winterschool, Obergurgl, Austria
- ★ *Dwarf galaxies*, winter 2009/2010
- ★ *Astronomical CCD data: reduction and characteristics*, summer 2008 & March 2009 (block)

Labs and Exercises:

- ★ *Physics II tutorial*, summer 2011, Heidelberg University
- ★ *Exercises to Stellar Astronomy and Astrophysics*, summer 2010, Heidelberg University, with S. Jordan
- ★ *Physics I tutorial*, winter 2008/2009, Heidelberg University
- ★ *Exercises to Galactic and Extragalactic Astronomy*, winter 2007/2008, Heidelberg University
- ★ *Astronomical lab course*, winter 2006/2007, University of Basel
- ★ *Exercises to Astrophysics & Cosmology*, summer 2006, University of Basel
- ★ *Astronomical lab course*, winter 2005/2006, University of Basel
- ★ Design of new computer experiment (*Galaxy Formation*) for the astronomical lab course, 10/2005, University of Basel
- ★ *Astronomical lab course*, winter 2004/2005, University of Basel
- ★ Teaching assistant, *Physik I für Erd-, Umwelt-, Agrar- und Forstwissenschaften*, summer 2004, ETH Zürich
- ★ Teaching assistant, *Physik I für Physiker und Mathematiker*, winter 2003/ 2004, ETH Zürich
- ★ Teaching assistant, *Astronomical lab course*, winter 2002/2003, University of Erlangen-Nürnberg

Seminars (at Heidelberg University unless otherwise noted):

- ★ *Galaxy clusters*, winter 2014/2015, with other lecturers
- ★ *Galaxy Evolution, Stellar Dynamics, Interstellar Matter* (Advanced Seminar for Master students), winter 2013/2014, with other lecturers
- ★ *The physical processes shaping galaxies* (Advanced Seminar for Master students), winters 2011/2012 & 2012/2013
- ★ *IMPRS seminar*, winter 2009/2010, summer 2010 & winter 2014/2015, with other lecturers
- ★ *Dwarf galaxies*, winter 2009/2010
- ★ *Kepler's laws*, summer 2009, with other lecturers
- ★ *Introduction to Astronomy & Astrophysics III*, winter 2008/2009, with other lecturers

SERVICE

- ★ Referee for peer reviewed journals A&A, AJ, ApJ, MNRAS
- ★ Referee for the DFG (2009, 2013) and the Research Foundation Flanders (2011, 2014)
- ★ ZAH Internal Scientific Council Member (2012–2013)
- ★ ESO Observing Programmes Committee Panelist (Oct. 2011–June 2012)
- ★ MPIA Heidelberg Strategic Time Allocation Committee (2009–2011)
- ★ Heidelberg Joint Astronomical Colloquium Selection Committee (2009–2011)
- ★ Referee for Ph.D. studentship applications to the International Max Planck Research School Heidelberg (2010, 2015)
- ★ Interviewer for applicants to the physics Bachelor/Master programme of Heidelberg University (2010, 2011, 2014)

MEMBERSHIPS

- ★ American Astronomical Society (International Affiliate Member)
- ★ Astronomische Gesellschaft
- ★ European Astronomical Society
- ★ European Physical Society

ORGANIZATION OF CONFERENCES, WORKSHOPS & SCHOOLS

- ★ Principal Organizer, *The Journey of Dwarf Galaxies*, Symposium at the European Week of Astronomy and Space Science, June 22–26, 2015, La Laguna, Tenerife
- ★ Scientific Organizing Committee, *Nuclear Clusters in Galaxies, and the Role of the Environment*, June 30–July 04, 2014, Lorentz Center, Leiden, Netherlands
- ★ Scientific Organizing Committee, *Small Stellar Systems in Tuscany*, June 10–14, 2013, Prato, Italy
- ★ Principal Organizer, *Does the redshift-zero universe look as predicted by models?*, Splinter meeting of the Annual AG Meeting, September 21–22, 2011, Heidelberg
- ★ Principal Organizer, *Early-type Dwarf Galaxies: Origin, Evolution, Characteristics*, October 18–20, 2010, Heidelberg
- ★ Scientific Organizing Committee, *Dwarf Galaxies: Keys to Galaxy Formation and Evolution*, JENAM 2010, September 06–10, 2010, Lisbon
- ★ Principal Organizer, *Heidelberg Mini-Workshop on Galaxy Clusters*, November 19, 2008
- ★ Organizing Committee, *Heidelberg Physics Graduate Days*,
 - April 06–09, 2010
 - October 05–09, 2009
 - March 23–27, 2009
 - September 29–October 02, 2008
 - March 31–April 04, 2008
- ★ Local Organizing Committee, IAU Colloquium 198: *Near-field cosmology with dwarf elliptical galaxies*, Les Diablerets, Switzerland, March 14–18, 2005

SCIENTIFIC TALKS

Talks at International Conferences:

- ★ *Low-mass galaxies in the nearby universe*, 'Satellites and Streams in Santiago', ESO Chile, 2015 (**Invited Talk**)
- ★ *Identifying signatures of different evolutionary stages of dwarf galaxies and their nuclei*, 'Nuclear Clusters in Galaxies, and the Role of the Environment', Leiden, The Netherlands, 2014 (**Invited Talk**)
- ★ *The structure of early-type dwarf galaxies*, 'Deconstructing galaxies', Santiago de Chile, 2013 (**Invited Talk**)
- ★ *Early-type dwarf galaxies*, 'Small Stellar Systems in Tuscany', Prato, Italy, 2013 (**Invited Review**)
- ★ *The Importance of the Small for Understanding the Large: Dwarf Galaxies in Galaxy Clusters*, Biermann Award Lecture, AG Meeting, Heidelberg, Germany, 2011
- ★ *The dwarf galaxy content of present-day clusters: semi-analytic models vs reality*, 'Fornax, Virgo, Coma et al.', ESO Garching, Germany, 2011
- ★ *Exploring evolutionary links between nuclear star clusters and ultra-compact dwarf galaxies*, 'Star Clusters and Stellar Evolution', AG Meeting, Bonn, Germany, 2010
- ★ *Early-type dwarf galaxies*, 'A Universe of Dwarf Galaxies', Lyon, France, 2010 (**Invited Review**)
- ★ *Early-type dwarf galaxies as tests of cosmological models*, 'Recent advances in cosmology', AG Meeting, Potsdam, Germany, 2009
- ★ *Can the majority of Virgo cluster early-type dwarfs be of tidal origin?*, 'Tidal Dwarf Galaxies', Bonn/Bad Honnef, Germany, 2009
- ★ *Early-type dwarf galaxies: a mixed bag with various origins*, 'Matter Cycles of Galaxies in Clusters', JENAM, Vienna, Austria, 2008 (**Review**)
- ★ *On the stability of the Gini coefficient as a measure of galaxy structure*, 'Deconvolving Galaxy Evolution from High-z Surveys', JENAM, Vienna, Austria, 2008
- ★ *The many faces of early-type dwarfs*, 'IAU Symposium 241: Stellar populations as building blocks of galaxies', La Palma, Spain, 2006
- ★ *The zoo of early-type dwarf galaxies*, Mini-workshop, Lund, Sweden, 2006
- ★ *On the possible disk nature of bright early-type dwarfs*, 'Dwarf galaxies as astrophysical and cosmological probes', Ringberg Castle, Germany, 2006
- ★ *The colours of Virgo dEs as seen by SDSS*, 'IAUC 198: Near-field cosmology with dwarf elliptical galaxies', Les Diablerets, Switzerland, 2005
- ★ *Subdwarf B stars from SPY – observation versus theory*, '14th European Workshop on White Dwarfs', Kiel, Germany, 2004
- ★ *Spectroscopic analysis of sdB stars from SPY*, 'Extreme Horizontal Branch Stars and Related Objects', Keele, UK, 2003

Seminars and Colloquia:

- ★ *What caused star formation in dwarf galaxies to cease?*, ZAH/ITA, Heidelberg University, 2015
- ★ *Past and Present of Dwarf Galaxies in Clusters*, Instituto de Astrofísica de Canarias, 2014
- ★ *Did early-type dwarf galaxies form early or late?*, University of Groningen, 2013
- ★ *The history of galaxy populations in clusters*, MPIA Heidelberg, 2013
- ★ *The history of galaxy populations in clusters*, ZAH/ITA, Heidelberg University, 2013
- ★ *Did early-type dwarf galaxies form early or late?*, University of Oulu, 2013
- ★ *What is a dwarf galaxy?*, ZAH/ARI, Heidelberg University, 2012
- ★ *Formation of early-type dwarf galaxies: The semi-analytic/N-body view*, University of Vienna, 2012

- ★ *Galaxies and Their Environment*, Heidelberg University, 2012
- ★ *Galaxies and Their Environment*, University of Erlangen-Nürnberg, 2012
- ★ *Past and Present of Dwarf Galaxies in Dense Environments*, University of Basel, 2011
- ★ *Probing galaxy evolution mechanisms with small galaxies*, University of Innsbruck, 2011
- ★ *Do present-day galaxy clusters look as predicted by models?*, ZAH/ARI, Heidelberg University, 2011
- ★ *Do galaxy clusters look as predicted by models?*, KIAA, Peking University, Beijing, 2011
- ★ *Do galaxy clusters look as predicted by models?*, NAOC, Chinese Academy of Sciences, Beijing, 2011
- ★ *Do galaxy clusters look as predicted by models?*, Yonsei University, Seoul, 2011
- ★ *Do galaxy clusters look as predicted by models?*, Korean Astronomy and Space Science Institute, Daejeon, 2011
- ★ *Do present-day galaxy clusters look as predicted by cosmological models?*, University of Oulu, 2011
- ★ *Early-type dwarf galaxies in clusters: recently formed – recently destroyed*, MPIA Heidelberg, 2010
- ★ *The relevance of early-type dwarf galaxies for understanding galaxy formation in a cosmological context*, ZAH/ARI, Heidelberg University, 2010
- ★ *Early-type dwarf galaxies*, University of Bonn, 2009
- ★ *Early-type dwarf galaxies*, University of Oulu, 2009
- ★ *Early-type galaxies: dwarfs, giants, and their stellar content*, University of Erlangen-Nürnberg, 2009
- ★ *When did the Virgo cluster early-type dwarf galaxies form?*, Institute of Astronomy, University of Vienna, 2008
- ★ *The various origins of early-type dwarf galaxies – an observer’s perspective*, University of Zürich, 2008
- ★ *Early-type dwarfs: multiple galaxy populations with different origins?*, Heidelberg Joint Astronomical Colloquium, 2007
- ★ *The many faces of early-type dwarf galaxies*, ZAH/ARI, Heidelberg University, 2007
- ★ *Dwarf and giant elliptical galaxies as tracers of structure formation in the Universe*, Graduate School of Fundamental Physics, Heidelberg University, 2007
- ★ *The zoo of early-type dwarf galaxies*, University College London, 2006
- ★ *Bright early-type dwarfs in the Virgo cluster: to be or to have a disk?*, MPIA Heidelberg, 2006
- ★ *Dwarf elliptical galaxies in SDSS: more colours & more questions*, University of Erlangen-Nürnberg, 2005
- ★ *How useful are ‘non-parametric parameters’ for galaxy morphology?*, MPA Garching, 2004
- ★ *How to make an extreme horizontal branch star*, ETH Zürich, 2003
- ★ *Spectroscopic analysis of sdB stars from SPY*, MPE Garching, 2003

PUBLIC OUTREACH AND SCIENCE EDUCATION ACTIVITIES

- ★ Principal organizer and lecturer in astrophysics seminar week for teachers, Madonna di Campiglio, Italy, 2009 & 2011
- ★ About 15 public talks on various topics, 1996 – present
- ★ Lecturer in teachers' seminars, Heidelberg (2011, 2015)
- ★ Popular science article *Die Welt der Zwerggalaxien*, Sterne und Weltraum, 2010
- ★ Lecturer in astronomical youth camp ASL, Schnett, 2010
- ★ Lecturer in teachers' seminar *Die Sterne in den Unterricht holen*, Bad Wildbad, 2010
- ★ Research project with high-school student: *Off-center nuclei in early-type dwarf galaxies?* (Facharbeit) 2009 – 2010
- ★ Astronomical research with school working groups (two projects), 2009
- ★ Talk and workshop for teachers, Regionale Lehrerfortbildung der mittelfränkischen Realschulen, Nürnberg, 2009
- ★ Teachers' seminar at the *Astronomia* exhibition Ravensburg, 2009
- ★ Talk and workshop for teachers at the University of Erlangen-Nürnberg, 2009
- ★ Expert astronomer at the *Astronomische Woche* in Madonna di Campiglio, Italy, 2008
- ★ Open house day of the museum *Papiermühle*, Basel, 2005
- ★ Assistant for the preparation of *Nacht der Physik & Physik für Primarschulen*, ETH Zürich, 2004
- ★ Public tours with observations at the Astronomical Institutes Basel and Bamberg 2002 – 2006
- ★ Public astronomy courses (Volkshochschule Erlangen, Eckental, and Bamberg) 2000 – 2003
- ★ Small play about gamma-ray bursts at the Albert-Schweitzer-Gymnasium Erlangen, 1998