

CURRICULUM VITAE – Thomas K. Henning (Director – Max Planck Institute for Astronomy)

Personal Information

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Education

1989 Habilitation, University of Jena
1984 PhD in Astrophysics, University of Jena
1981 Diploma Degree in Physics, University of Jena
1976 - 1980 Studies in Physics and Mathematics, University of Greifswald

Current Position(s)

2002 - present Professor for Astrophysics, University of Jena
2001 - present Director at the Max Planck Institute for Astronomy & Head of Planet and Star Formation Department, Heidelberg

Previous Positions

2000 - 2002 Director of the Astrophysical Institute & University Observatory, Univ. of Jena
1999 - 2002 Chair for Astrophysics, University of Jena
1992 - 1998 Professor for Astrophysics, University of Jena
1991 - 1996 Head of the Max Planck Research Unit “Star Formation”, Jena
1989 - 1990 Research Fellow, Max Planck Institute for Radioastronomy, Bonn
1986 - 1988 Assistant Professor at the Astrophysical Institute and University Observatory, Jena
1984 - 1985 Postdoc, Charles University, Prague

Fellowships & Awards

2024 Group Achievement Award of the RAS for JWST/MIRI as German Co-PI
2023 Science Award of the German Association of Photographers for JWST/MIRI
2023 Karl Schwarzschild Medal & Schwarzschild Lecture
2021 Honorary Doctor – University of Lund
2020 Gay Lussac Humboldt Award
2019 Honorary Member – Hungarian Academy of Science
2019 ERC Advanced Grant
2019 - 2021 Fellow of the Max Planck School Matter to Life
2019 Adjunct Professor TokyoTech
2018 Cozzarelli Prize (PNAS)
2017 Invited Professor - University of Copenhagen
2016 - 2020 Adjunct Professor - Tata Institute of Fundamental Research, Mumbai, India
2016 Invited Professor - Sapporo University
2015 Invited Professor - ESO Chile
2014 Marker Lecture, Pennstate University
2012 JWST Significant Achievement Award
2011 Littrow Lecture, Austrian Academy of Sciences
2009 30882 Tomhenning: Designation of minor planet 1992 SG2
2001 Scientific Member of the Max Planck Society
1999 Member of the German Academy of Sciences Leopoldina
1999 Invited Professor - University of Amsterdam
1997 Fundamental Research Award of the Federal State of Thuringia

Supervision of Graduate Students & Postdoctoral Fellows

1988-2022 20 (Jena) and 55 (Heidelberg) Postdocs/ 87 PhD Students/ 27 Master Students
25 of former group members now occupy tenured(-track) faculty/research positions
(see also: <http://www.mpia.de/henning/professors>)

Teaching

2002 - present Honorary Professor for Astronomy, University of Heidelberg

ORGANIZATION OF SCIENTIFIC MEETINGS (Selection)

(PI as organizer or in SOC, 2012+, participants at conferences ~100, at Ringberg Castle ~60)

2012 Extrasolar Planetary Atmospheres, Heidelberg, Germany
2013 Protostars and Planets VI, Heidelberg, Germany (~850 participants)
2014 Chemical Diagnostics in the ALMA/NOEMA Era, Heidelberg, Germany
2015 The Magneto-Rational Instability confronts Observations, Ringberg Castle, Germany
2016 Exoplanets I, Davos, Switzerland
2017 Resolving Planet Formation in the Era of ALMA and Extreme AO, Santiago de Chile
2018 Exoplanets II, Cambridge, UK
2020 Exoplanets III, Heidelberg, Germany (900 participants, online)
2022 Towards Molecular Complexity, Heidelberg, Germany
2023 Protostars & Planets VII; Kyoto, Japan

Co-Organizer of Conference Series: “Early Phase of Star Formation (EPOS)” - 9th Meeting in 2024

Harvard-Heidelberg Meeting on Star Formation - 5th Meeting in Harvard in 2023

Tokyo-Heidelberg Meeting on Planet Formation - 4th Meeting in Edesheim, Germany in 2018

Institutional Responsibilities

2020-present Managing Director – Max Planck Institute for Astronomy
2002-present Faculty member, Heidelberg University, Germany
2001-present Director, MPA Research Department *Planet and Star Formation*
2001-present Scientific Member of the Chemistry, Physics & Technology Section of the Max Planck Society (MPG)
2019-present Scientific Member of the Structures Excellence Cluster – Heidelberg University
2020-present European Astrobiology Institute – Board Member
2023- Scientific Associate of the Fraunhofer Institute for Optics and Precision Mechanics, Jena

Commissions of Trust (Selection)

2001-2008 President of the Scientific Council of the European Interferometry Initiative
2006-2007 Advisory Committee of the Kiepenheuer Institute for Solar Physics
2007-2016 ESO Council Member (Vice President for one election period)
2008-2010 Panel Chair of the European Research Council for Advanced Investigator Grants
2008-present Advisory Committee of the Thuringian State Observatory Tautenburg
2010-2016 ESO Strategic Working Group
2011-2017 COSPAR National Committee
2012-2019 Stern - Gerlach Prize Committee
2012-2015 Steering Committee of IAU Division H Interstellar Matter and the Local Universe
2015-present IAU Laboratory Astrophysics Commission
2015 & 2022 Evaluation Panel for Turku University
2015-present Coordinator – Heidelberg Initiative for the Origins of Life (HIFOL)
2015-2017 CAHA Executive Board
2015-2017, 2020-2023 LBT Board Member Representative and LBTB Chair
2016 Visiting Committee – Royal Belgium Observatory
2017-2019 Founding Committee – MPI for the Chemical Evolution of Life
2019-2020 ALMA Visiting Committee
2016-2020 IAU Special Nominating Committee
-- Referee for UK, Belgian, Canadian, Belgian, Danish, Dutch, French, Hungarian, Romanian, Swedish, Swiss, Russian, Israeli, Japanese, Spanish, Indian, Norwegian and US funding organizations
2021 Evaluation Committee – Institute for Computational Science, Zurich University
2022-2023 Member of Evaluation Committee for Physics in Sweden
2023 Member of Evaluation Committee for new Helmholtz Institute
2023-2026 Selection Committee – Kavli Prize

Memberships in Scientific Societies

1990-present	Member of Astronomische Gesellschaft (AG)
1990-present	Member of Deutsche Physikalische Gesellschaft (DPG)
1991-present	Member of International Astronomical Union (IAU)

Editor of Journals

Living Reviews in Computational Astrophysics, Sterne und Weltraum (popular journal, main editor), Star Formation Newsletter

Major Collaborations (selected)

Consortium collaborations

2006-2014	PanSTARRS1 (Kaiser, Chambers)
2007-present	Chemistry in Disks (Dutrey, Gorti, Guilloteau, Wakelam, Piétu, Semenov)
2010-present	HatSouth Planet Search (Bakos, Bayliss, Jordan)
2015-2023	SPHERE Exoplanet SHINE & Disk Program (VLT) - (Chauvin, Dominik)
2016-present	ISPY Exoplanet Survey (VLT) - (Quanz, Queloz, Segrasan, Quirrenbach)
2018-2023	Carmenes Exoplanet Search Program
2019-2022	EDEN Transit Survey for Rocky Planets (Apai)
2020-	Member of the “Structures” Excellence Cluster of the University of Heidelberg
2021-2023	ExoGravity Program
2020-	WINE TESS Exoplanet Search Project (Jordan)
2021-	MINDS JWST Disk Chemistry Program (PI, Dishoeck, Kamp)
2021-	JWST/MIRI GTO Exoplanet Program (Lagage)
2021-	JWST ERS Transiting Exoplanet Survey and Direct Imaging & Characterization Program

Instrument Consortia (Selection)

FIFI-LS at SOFIA (CoI), PACS at Herschel (CoI), MIRI at JWST (CoPI), MATISSE at VLTI (CoPI), SHARK-IR at LBT (CoI), CARMENES, GRAVITY, METIS, Roman Space Telescope: Science Team Member, LUVOIR: International ESA Member – Science and Technology Definition Team; 2nd Earth Spectrograph (CoI), PRIMA Far-IR Telescope Proposal (CoI)

Science Fields:

Planet and Star Formation, Exoplanet Search and Characterization, Physics and Chemistry of the Interstellar Medium, Laboratory Astrophysics, Astrochemistry, Origins of Life, Infrared Instrumentation

Public Outreach:

Co-founder of the Heidelberg astronomy public outreach center “Haus der Astronomie”, Editor of the largest popular astronomy journal in German language “Sterne und Weltraum”, Numerous public talks in planetariums, “Astronomy on tap”, Science in the University Church Heidelberg, astronomy clubs and during other public events. Numerous press TV, radio and press interviews. Part of science movies.

Invited Talks (Selection for 2023, self-limited to approximately 10 per year):

Protostars and Planets VII, Kyoto; IAU-Kavli Symposium on Astrochemistry, Traverse City (USA); Hereaus Seminar “Laboratory Astrophysics in the Age of ALMA and JWST”, Heidelberg; BEACON – European Astrobiology Institute Meeting, La Palma; Space Telescope Science Institute Spring Meeting “Origins of Life”, Baltimore; Colloquium Talks: Fraunhofer-Institut Jena; Jet Propulsion Laboratory Pasadena; Universidad de Chile, Santiago; Universidad Adolfo Ibáñez, Santiago; Universidad de San Martín, Buenos Aires

Publication Impact:

> 2.500 refereed publications, >88. 000 citations, H-index: 128

10 Selected Publications (Last 5 years, PhD Students/postdocs in italics):

- Kepler, M.*, Benisty, M., *Müller, A.*, Henning, Th. et al.: Discovery of a planetary-mass companion within the gap of the transition disk around PDS 70. *Astron. Astrophys.* 617, 44, 2018.
- Yan, Fei*, Henning, Th.: An extended hydrogen envelope of the extremely hot giant exoplanet KELT-9b. *Nature Astronomy* 2, 714, 2018.
- Teague, R.*, Henning, Th., Guilloteau, S. et al.: Temperature, mass, and turbulence. A spatially resolved multiband non-LTE analysis of CS in TW Hya. *Astrophys. J.* 864, 133, 2018.
- Zhukovska, S., Henning, Th., Dobbs, C.: Iron and silicate dust growth in the galactic interstellar medium. Clues from elemental depletions. *Astrophys. J.* 857, 94, 2018.
- Dib, S.*, Henning, Th.: Star formation activity and the spatial distribution and mass segregation of dense cores in the early phases of star formation. *Astron. Astrophys.* 629, 135, 2018.
- Sarkis, P.*, Henning, Th., Kürster, M. et al.: The CARMENES search for exoplanets around M dwarfs: A low-mass planet in the temperate zone of the nearby K2-18. *Astron. J.* 155, 257, 2018.
- Henning, Th., Krasnokutski, S.A.: Experimental characterization of the energetics of low-temperature surface reactions. *Nature Astronomy* 3, 568, 2019.
- Molliere, P.*, *Molyarova, T.*, Bitsch, B., Henning, Th. et al.: Interpreting the atmospheric composition of exoplanets: sensitivity to planet formation assumptions. *Astrophys. J.* 934, 74, 2022.
- Asensio-Torres, R.*, Henning, Th., *Cantalloube, F.* et al.: Perturbers. SPHERE detection limits to planetary-mass companions in protoplanetary disks. *Astron. Astrophys.* 652, 101, 2021.
- Perotti, G.*, *Christaens, V.*, Henning, Th. et al.: Water in the terrestrial planet-forming zone of the PDS 70 disk. *Nature* 620, 516 (2023)