

Curriculum Vitae of Priv. Doz. Dr. Henrik Beuther

- Date of Birth: May 10th, 1971, Cologne/Germany
Nationality: German
Marital Status: Married since June the 15th, 2001, with Christina Beuther (birth name: Jürgens);
3 children: Johann *10th Dec. 2003, Elisa *28th April 2005, Philip *5th Oct. 2007.
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- National Service: 10/1990–9/1991 Navy: Navigation of Minesweepers in the Baltic See
- Education: 10/1992–2/1999 Physics Diploma (summa cum laude), University of Cologne,
Thesis: *On-the-fly mapping and multi-line analysis of the
interstellar molecular cloud Cepheus B*
4/1999–3/2002 PhD (summa cum laude) at the Max-Planck-Institute
for Radioastronomy and the University of Bonn,
Thesis: *Early stages of massive star formation*
July 2008 Habilitation at the University of Heidelberg
- Post-Doc time: 4/2002–3/2003 Post-Doc at the Max-Planck-Institute for Radioastronomy
4/2003–8/2005 Post-Doc at the Harvard-Smithsonian Center for Astrophysics,
Emmy-Noether Fellow of the Deutsche Forschungsgemeinschaft
9/2005–9/2009 Head of the Emmy-Noether Research Group “The Formation
of Massive Stars” at the Max-Planck-Institute for Astronomy
9/2009– Scientific staff member of the Max-Planck-Institute for Astronomy
- Research exp.: **High-mass star formation:** Study the physics and chemistry of the earliest stages
of massive star formation. Investigate the properties of molecular outflows, large-
and small-scale dust and gas emission, accretion disks, chemical characteristics
of massive cores, initial core fragmentation, and magnetic field properties.
Low-mass star formation: Molecular outflows/jets and their association with the
accretion disks.
Molecular cloud studies: Multi-line studies and modeling of molecular cloud
conditions at the interface with star-forming regions.
Extragalactic star formation: Masers in external galaxies. Star formation in
the vicinity of black holes.
Observational experience:
Interferometers: SMA, IRAM PdBI, VLA, ATCA, CARMA;
Single-dish telescopes: IRAM 30m, Eff. 100m, CSO, JCMT, KOSMA, APEX, VLT;
Space telescopes: Spitzer, Chandra, Herschel.
Software development: On-the-fly mode implementation at KOSMA telescope.
Experience in Fortran, Perl, Python and GILDAS, IDL, AIPS, MIRIAD, CIAO.
Philosophy: Studying the impact of physics on philosophical concepts: Essay
on possible implications from string theory.

- Awards:
- 10/2000–3/2002: Fellowship of the German National Science Foundation (DFG) in program 471 *Physics of Star Formation*.
 - Dec. 2002: Emmy-Noether fellowship (phase I) from the German Science Foundation (DFG) to work at the Harvard-Smithsonian Center for Astrophysics (Cambridge/USA) for two years (04/2003 – 03/2005).
 - Oct. 2002: Feodor-Lynen fellowship from the Humboldt foundation (declined because of above Emmy-Noether fellowship).
 - Dec. 2004: Emmy-Noether fellowship (phase II) from the German Science Foundation (DFG) to build a Junior research group at the Max-Planck-Institute for Astronomy/Heidelberg (started 09/2005).
 - 2007: Short-listed for professorships in Heidelberg and Munich.
 - September 2007: Ludwig-Biermann Förderpreis of the German Astronomical Society (german equivalent to AAS Newton Lacy Pierce early career price).
 - 2008: Short-listed for professorships in Zürich, Vienna and Cologne.
- Some scientific highlights:
- 37 refereed first author publications with >1200 citations (two >190 citations).
 - Established that molecular outflows from massive star-forming regions are qualitatively similar to their low-mass counterparts, just with significantly enhanced energetics. → Similar formation scenarios (Beuther et al. 2002, 2004).
 - Resolving a massive young cluster in cold dust emission into its sub-sources at a very early evolutionary stage. The resulting core mass function resembles the IMF. → The IMF is consistent with early fragmentation (Beuther & Schilke 2004).
 - Analyzing the kinematics of the dense circum-protostellar gas. → Evidence for rotationally supported disk-like structures (Beuther et al. 2004, 2005, 2008, 2009).
 - Combining high-spatial resolution mm and mid-infrared data (PdBI, Spitzer, Herschel) for Infrared Dark Clouds (IRDCs). → Constraining the physical conditions at the onset of massive star formation (Beuther et al. 2005, 2007, 2010).
 - Spatially resolving the chemical diversity in massive star-forming regions. → This is important for the chemistry itself and allows us to use molecules as tools to study the associated physical processes (e.g., Beuther et al. 2005, 2007, 2009).
 - Constraining magnetic fields in massive cores and outflows (Beuther et al. 2010).
- Large projects:
- Member of Herschel key project "The earliest phases of star formation".
 - Member of ESO/MPG large program ATLASGAL on the APEX telescope.
 - Member of JWST/MIRI science consortium.
- Teaching exp. & additional qualification:
- Lecturing at University Heidelberg.
 - Lectures at several summer schools.
 - Supervising five PhD students.
 - Organizing the international conference "Massive Star Formation: Observations confront theory" in the Heidelberg Convention Center, Sept. 2007.
 - (Co-)organizing several meetings with 50 to 100 participants at CfA and MPIA.
 - Refereeing 3-5 papers in international journals per year (e.g., Nature, ApJ, A&A).
 - ESO OPC panel member 2008/2009.
 - MPI APEX Time Allocation Committee member since 2008.
 - IRAM PC member since 2009.
 - ERC Referee.
 - Participation in MPG seminar "Führung von Projekten und Arbeitsgruppen".