

Nicola Maria **SCHNEIDER**

German

Languages: German (mother tongue), english and french fluently

**I. Physik. Institut, University of Cologne**

Zùlpicher Str. 77, 50937 Cologne

Germany, phone +49 (0)221 470 8353

email: nschneid@ph1.uni-koeln.de

web: <https://hera.ph1.uni-koeln.de/~nschneid/>



EDUCATION: HDR<sup>1</sup> (Habilitation à diriger des recherches) Université de Bordeaux, 23.5.2011

1990-1995: Ph.D. in astrophysics at the University of Cologne (27.4.1995).

Title: "Strukturanalyse des Rosette-Molekülwolkenkomplexes" (Advisor : Prof. J. Stutzki)

1988-1990: Diploma in Physics at the University of Cologne (30.3.1990).

Title: "CO-Messungen in der Cygnus Region" (Advisor : Prof. G. Winnewisser)

1984-1988: University education in physics at the University of Cologne.

PROFESSIONAL EXPERIENCE:

since 2015: Researcher I. Physik. Institut, University of Cologne (Germany).

2012-2015: Researcher LAB, OASU Bordeaux (France).

2006-2012: Researcher-engineer CEA Saclay (France).

1999-2005: Post-doc LAB Bordeaux (France).

1998-1999: Post-doc LAOG Grenoble (France).

1995-1998: Post-doc KOSMA University of Cologne.

1988-1995: Assistant KOSMA University of Cologne.

KEY WORDS:

- ★ Interstellar medium, star-formation.
- ★ Ground-based, airborne and spatial (sub)mm/FIR astronomy.
- ★ Observations with single-dish antennas and interferometers.
- ★ Exploitation of large instruments (*Herschel*, *SOFIA*).

TECHNICAL EXPERTISES:

- ★ Observing astronomer for upGREAT/SOFIA.
- ★ Software development for SPIRE/*Herschel* (ICC member).
- ★ Commissioning, maintenance, and regular observations with KOSMA.
- ★ Software development in IDL, Jython/Python.

---

<sup>1</sup>cf. Glossary

#### OTHER EXPERTISES AND RESPONSIBILITIES:

- \* PI of SOFIA legacy program FEEDBACK ([astro.uni-koeln.de/stutzki/research/feedback.html](http://astro.uni-koeln.de/stutzki/research/feedback.html))
- \* PI of DFG/ANR (german-french) project GENESIS ([www.astro.uni-koeln.de/genesis.html](http://www.astro.uni-koeln.de/genesis.html)).
- \* PI of program 'Pillars' (*Herschel* open time).
- \* PI of several observational programs with the JCMT, IRAM 30m, Plateau de Bure.
- \* Co-I of Cygnus X *Spitzer legacy program*.
- \* Co-I of several programs with *Herschel* (HOBYS, Gould Belt, Hi-GAL).
- \* Member of the SOFIA/GREAT consortium (2015-).
- \* Member of the SAG3/Herschel consortium (2006-).
- \* Member of time allocation committee for SOFIA (2014-2015).
- \* OPC member of time allocation committee for ESO (2014-2015).
- \* Referee for A&A, ApJ, AJ, MNRAS.
- \* Regular successful preparation of telescope time and funding proposals.

#### ORGANISATION AND PUBLIC OUTREACH:

- \* Organisation of the KOSMA (observing schedule, USER's Guide etc.) during 5 years.
- \* Supervision of students and guest observers at KOSMA and at the LAB.
- \* Public Outreach at KOSMA and LAB (guided tours, talks).
- \* Organisation of conferences (e.g., AG in Cologne, workshops in Rome, Cologne).

#### TALKS 2015 - 2022:

- 23.03. 2022 SOFIA teletalk (online)
- 15.09. 2021 AG-Tagung, contributed talk (online)
- 03.09. 2021 DPG-Tagung, invited Hauptvortrag talk (online)
- 23.09. 2020 AG-Tagung, contributed talk (online)
- 21.02. 2019 Ringberg, contributed talk SOFIA conference
- 18.10. 2018 Paris, SOFIA Draco short presentation
- 10.10. 2018 SOFIA teletalk on S106
- 06.03. 2017 Ringberg, contributed talk SOFIA conference
- 19.10. 2016 Asilomar, highlight talk conference 'The local truth'
- 26.09. 2016 Rom, contributed talk VIALACTEA
- 16.05. 2016 Pasadena, JPL, invited colloquium talk
- 12.05. 2016 San Diego, CASS, invited colloquium talk
- 20.04. 2016 Bochum, public outreach talk at the Planetarium Bochum
- 27.01. 2016 Santiago/Chile, invited seminar
- 24.11. 2015 Bordeaux, INRIA invited talk
- 04.11. 2015 Hamburg, invited seminar
- 09.09. 2015 Zermatt symposium, contributed talk
- 03.06. 2015 Cologne, seminar talk
- 23.03. 2015 Munich, filament workshop, invited talk
- 06.02. 2015 Cologne, seminar talk

## Publications

188 refereed articles in journals, 24 first author, H-index=55, G-index=112.

### Most significant recent publications:

*Self-absorption in CII,  $^{12}\text{CO}$  and HI in RCW120*

Kabanovic S., Schneider N., Ossenkopf-Okada V., et al., 2022, A&A, 659, 36

*Description of turbulent dynamics in the ISM: multifractal/microcanonical analysis.*

*Part 1: application to Musca Herschel observation map (cover page)*

Yahia H., Schneider N., Bontemps S., et al., 2021, A&A, 649, 33

*Stellar feedback and triggered star formation in the prototypical bubble RCW 120*

Luisi M., Anderson A., Schneider N., et al., 2021, Science Advances, 9 Apr 2021, Vol. 7 **FEEDBACK: A SOFIA legacy program to study radiative and mechanical feedback in regions of massive star formation**

Schneider N., Simon R., Guevara C., et al., 2020, PASP, 132, 104301 *Anatomy of the massive star-forming region S106*

Schneider N., Röllig, M., Simon, R., et al., 2018, A&A, 617, 45.

*Globules and Pillars in Cygnus X: I. FIR-imaging of the Cyg OB2 environment*

Schneider N., Bontemps S., Motte F., et al., 2016, A&A, 591, 40.

*Understanding star formation in molecular clouds I.*

Schneider N., Ossenkopf V., Csengeri T., et al., 2015, A&A, 575, 79.

*Cluster-formation in the Rosette molecular cloud at the junctions of filaments*

Schneider N., Csengeri T., Hennemann M., et al., 2012, A&A Letter, 540, L11.

*The link between molecular cloud structure and turbulence*

Schneider N., Motte F., Bontemps S., et al., 2011, A&A 529, 1 (cover page).

*Dynamic star formation in the DR21 filament*

Schneider N., Csengeri T., Bontemps S., et al., 2010, A&A 520, 49.

## Teaching

**2016:** Practical course “Interstellar medium” (Cologne).

**2014:** direction of 3-month master 1 thesis of A. Vue (LAB/Bordeaux).

**2013:** direction of 4-month master 2 thesis of A. Blazere (LAB/Bordeaux).

Between **1988** and **1998**, I participated in the teaching activities (practical courses for bachelor and master level, lectures, and tutoring at the Cologne university).

**2007-2010**, co-direction of the PhD thesis of Timea Csengeri at CEA Saclay (advisor S. Bontemps) on high-angular resolution observations of massive stars in Cygnus X.

**2008-2011**, co-direction of the PhD thesis of Quang Nguyen-Luong (advisor F. Motte) on molecular cloud formation out of colliding flows.

**2009-2012**, participation in PhD thesis of Pascal Tremblin (advisor E. Audit) on numerical modelling and observations of pillars and globules.

**2017-2020**, co-direction of the PhD thesis of Lars Bonne (advisor S. Bontemps) on filament formation.

**2018-2022**, PhD thesis advisor (main advisor Prof. J. Stutzki) for Slawa Kabanovic (FEEDBACK).

**2021-**, PhD thesis advisor (main advisor Prof. J. Stutzki) for Eduard Keilmann (FEEDBACK).  
**2021-**, PhD thesis advisor (main advisor Prof. J. Stutzki) for Parit Metha (FEEDBACK).

## Glossary

**A&A:** Astronomy and Astrophysics (monthly journal for astrophysic)

**AG:** Astronomische Gesellschaft (German society for astronomy)

**ApJ:** Astrophysical Journal

**CEA:** Commissariat à l'Énergie Atomique et aux énergies alternatives

**HDR:** Habilitation à diriger des recherches (equivalent 'Privatdozent'/professorship)

**Hi-GAL:** The *Herschel* infrared Galactic plane survey (<https://hi-gal.ifs-roma.inaf.it/higal>)

**HOBYS:** *Herschel* Imaging survey of OB Young Stellar objects (<http://starformation-herschel.iap.fr/hobys>)

**ICC:** Instrument Control Center

**IRAM:** Institut de radioastronomie millimétrique

**JCMT:** James Clark Maxwell Telescope (radiotélescope à Hawaii)

**KOSMA:** Cologne Observatory for Submm-Astronomy (<http://www.astro.uni-koeln.de/kosma>)

**LAB:** Laboratoire d'astronomie de Bordeaux

**LAOG:** Laboratoire d'astrophysique de Grenoble

**MNRAS:** Monthly Notices of the Royal Astronomical Society

**SOFIA:** Stratospheric Observatory for Far-Infrared Astronomy (NASA/DLR airplane)