

Nicola Maria **SCHNEIDER**

German

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

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EDUCATION: HDR¹ (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-Molekülwolkenkomplex" (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.

¹cf. Glossary

OTHER EXPERTISES AND RESPONSIBILITIES:

- ★ PI of SOFIA legacy program FEEDBACK (astro.uni-koeln.de/stutzki/research/feedback.html)
- ★ PI of DFG/ANR (german-french) project GENESIS (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 - 2026:

may 2024 PCMI meeting Bordeaux
september 2024 AG-Tagung, contributed talk
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

225 refereed articles in journals, 30 first author, H-index=65, G-index=131.

Most significant publications:

Molecular cloud dispersal traced by the ionized carbon 158 μm line

Bonne L., Schneider N., et al., 2026, A&A, 711, 304

Globules and Pillars in Cygnus X IV. Velocity resolved [OI] 63 μm map of a proplyd-like object

Schneider N., Dannhauer S., Keilmann E., et al., 2025, A&A, 704, 271

First detection of the [CII] 158 μm line in an intermediate velocity cloud

Schneider N., Ossenkopf-Okada V., Keilmann E., et al., 2024, A&A, 686, 109

Ionized carbon tracing the assembly of interstellar clouds

Schneider N., Bonne L., Bontemps S., et al., 2023, Nature astronomy, vol. 7, p. 546

Self-absorption in CII, ^{12}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).

2021-2025, PhD thesis advisor (main advisor Prof. J. Stutzki) for Eduard Keilmann (FEEDBACK).

2024-, PhD thesis advisor (main advisor Prof. D. Riechers) for Simon Dannhauer (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’Energie 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)