Pooneh **Nazari**

Personal website
Email: **nazari@strw.leidenuniv.nl**
Niels Bohrweg 2, 2333 CA, Leiden

Positions

ESO Fellow 2023–2026
Garching, Germany

IAU Gruber Foundation Fellow 2023–2025

Education

Leiden University Leiden, Netherlands
Ph.D. in Astrophysics 2019–expected 2023
Supervisor: Prof. Ewine van Dishoeck
- Thesis: "Complex organic molecules around low- and high-mass protostars"

University of Cambridge Cambridge, UK
MPhil in Astrophysics 2018–2019
Supervisor: Prof. Cathie Clarke
- Thesis: "Observational consequences of planet migration"

MASt (Part III) in Astrophysics 2017–2018

University of St Andrews St Andrews, UK
B.Sc. in Astrophysics 2013–2017

Research experience

Graduate research assistant, Leiden University 2019–Present

Extended research visit, Harvard University Oct 2022–Nov 2022

Graduate research assistant, University of Cambridge Oct 2018–Aug 2019

Research assistant, Universities of St Andrews, Cambridge and Harvard University Summers 2015-2018

Research Interests

Interstellar molecules, Planet formation, Submillimetre and infrared astronomy, Astrochemistry

Awards

- Gruber Foundation Fellowship 2023–2025
- ESO Fellowship 2023–2026
- Awarded funding from Leids Kerkhoven-Bosscha Fonds (LKBF) 2022
- Sheepshanks Scholarship and Studentship in Astronomy (Trinity College, Cambridge) 2017–2018
- Harvard Origins of Life Initiative Undergraduate Research Award 2017
- The Astrophysics Project Prize (University of St Andrews) 2017
- Royal Astronomical Society Undergraduate Research Bursary (University of St Andrews) 2015

Presentations

I have given 22 talks, including 7 ***invited*** talks.

- ***Invited talk*** **at Workshop on Interstellar Catalysis** Aarhus, 2023
  'Complex organic molecules around protostars'
- **NOVA Network II seminar** Netherlands, 2023
  'Complex organic molecules around protostars'
- **Blaauw workshop** University of Groningen, 2023
  'Evidence for ubiquitous carbon grain destruction around young protostars'
- **Origins seminar series** University of Arizona, 2022
  'Complex organic molecules around low- and high-mass protostars'
- **Lunch talk** University of Virginia/NRAO, 2022
  'Complex organic molecules around low- and high-mass protostars'
- **Star and planet formation meeting** University of Michigan, 2022
  'Complex organic molecules around low- and high-mass protostars'
- **Star formation journal club** Harvard University, 2022
  'Complex organic molecules around low- and high-mass protostars'
- **Disk and Astrochemistry meeting** Harvard University, 2022
  'Complex organic molecules around low- and high-mass protostars'
- ***Invited talk*** **at Niels Bohr Legacy Symposium in Astrochemistry** Copenhagen University, 2022
  'Complex organic molecules toward low- and high-mass protostars'
- ***Invited talk*** **at Astrochemistry Seminar** Leiden University, 2022
  'Can disks explain lack of COM emission from low-mass protostars?'
- ***Invited talk*** **at Iranian National Observatory workshop** Online, 2022
  'Astrochemistry in the embedded phase of star formation'
- ***Invited talk*** **at InterCat Centre meeting** Online, 2021
  'N-bearing complex organic molecules: From low- to high-mass protostars'
- **Star formation meeting** Leiden University, 2021
  'Methanol emission from protostars: Can disks explain lack of emission from some sources?'
- **Informal seminar at Centre for Star and Planet Formation** Copenhagen University, 2021
  'Complex organic molecules: From low- to high-mass protostars'
- **Contributed talk at Chemical processes in Solar-type star forming regions** Torino, 2021
  'Complex organic molecules: From low- to high-mass protostars'
- **Contributed talk at Astrochemical Frontiers** Online, 2021
  'Methanol emission from protostars: Can disks explain lack of emission from some sources?'
- ***Invited talk*** **at Astrochemistry Seminar** Leiden University, 2021
  'Complex organic molecules in low-mass protostars'
- **Contributed talk at ALMA day** Leiden University, 2021
  'Complex organic molecules in low-mass protostars'
- **Contributed talk at Five Years After HL Tau** Online, 2020
  'Observational consequences of planet migration'
- **Seminar at Institute of Astronomy** University of Cambridge, 2020
  'N-bearing complex organic molecules in low-mass protostars'
- **Contributed talk at Trinity forum, Trinity college** University of Cambridge, 2019
  'Observational consequences of planet migration'
- ***Invited talk*** **at Kavli Institute** University of Cambridge, 2019
  'Observational consequences of planet migration'

First author and significant contributor publications

9. **P. Nazari**, B. Tabone, M. L. R. van't Hoff, J. K. Jørgensen, and E. F. van Dishoeck, "Evidence for ubiquitous carbon grain destruction in hot protostellar envelopes", *Submitted to ApJ Letters*, 2023

8. Y. Chen, M. L. van Gelder, **P. Nazari**, *et al.*, "CoCCoA: Complex Chemistry in hot Cores with ALMA, Selected oxygen-bearing species", *Submitted to A&A*, 2023

7. **P. Nazari**, B. Tabone, and G. P. Rosotti, "Importance of source structure on complex organics emission. III. Effect of disks around massive protostars", *A&A*, vol. 671, A107, 2023

6. **P. Nazari**, J. D. Meijerhof, M. L. van Gelder, A. Ahmadi, E. F. van Dishoeck, B. Tabone, D. Langeroodi, N. F. W. Ligterink, J. Jaspers, M. T. Beltrán, G. A. Fuller, Á. Sánchez-Monge, and P. Schilke, "N-bearing complex organics toward high-mass protostars. Constant ratios pointing to formation in similar pre-stellar conditions across a large mass range", *A&A*, vol. 668, A109, 2022

5. M. L. van Gelder, J. Jaspers, **P. Nazari**, A. Ahmadi, E. F. van Dishoeck, M. T. Beltrán, G. A. Fuller, Á. Sánchez-Monge, and P. Schilke, "Methanol deuteration in high-mass protostars", *A&A*, vol. 667, A136, 2022

4. **P. Nazari**, B. Tabone, G. P. Rosotti, M. L. van Gelder, R. Meshaka, and E. F. van Dishoeck, "Importance of source structure on complex organics emission. II. Do disks explain lack of methanol emission from low-mass protostars?", *A&A*, vol. 663, A58, 2022

3. M. L. van Gelder, **P. Nazari**, B. Tabone, A. Ahmadi, E. F. van Dishoeck, M. T. Beltrán, G. A. Fuller, N. Sakai, Á. Sánchez-Monge, P. Schilke, Y.-L. Yang, and Y. Zhang, "Importance of source structure on complex organics emission. I. Observations of CH_3OH from low-mass to high-mass protostars", *A&A*, vol. 662, A67, 2022

2. **P. Nazari**, M. L. van Gelder, E. F. van Dishoeck, B. Tabone, M. L. R. van't Hoff, N. F. W. Ligterink, H. Beuther, A. C. A. Boogert, A. Caratti o Garatti, P. D. Klaassen, H. Linnartz, V. Taquet, and Ł. Tychoniec, "Complex organic molecules in low-mass protostars on Solar System scales. II. Nitrogen-bearing species", *A&A*, vol. 650, A150, A150, 2021

1. **P. Nazari**, R. A. Booth, C. J. Clarke, G. P. Rosotti, M. Tazzari, A. Juhasz, and F. Meru, "Revealing signatures of planets migrating in protoplanetary discs with ALMA multiwavelength observations", *MNRAS*, vol. 485, pp. 5914–5923, 2019

Other co-author publications

6. G. M. Williams, C. J. Cyganowski, C. L. Brogan, T. R. Hunter, **P. Nazari**, and R. J. Smith, "ALMA observations of the Extended Green Object G19.01–0.03: II. A massive protostar with typical chemical abundances surrounded by four low-mass prestellar core candidates", *Submitted to MNRAS*, 2023

5. N. G. C. Brunken, A. S. Booth, M. Leemker, **P. Nazari**, N. van der Marel, and E. F. van Dishoeck, "A major asymmetric ice trap in a planet-forming disk. III. First detection of dimethyl ether", *A&A*, vol. 659, A29, 2022, See press release

4. G. M. Williams, C. J. Cyganowski, C. L. Brogan, T. R. Hunter, J. D. Ilee, **P. Nazari**, J. M. D. Kruijssen, R. J. Smith, and I. A. Bonnell, "ALMA observations of the Extended Green Object G19.01-0.03 - I. A Keplerian disc in a massive protostellar system", *MNRAS*, vol. 509, no. 1, pp. 748–762, 2022

3. A. J. Cridland, G. P. Rosotti, B. Tabone, Ł. Tychoniec, M. McClure, **P. Nazari**, and E. F. van Dishoeck, "Early planet formation in embedded protostellar disks. Setting the stage for the first generation of planetesimals", *A&A*, vol. 662, A90, 2022

2. F. Meru, G. P. Rosotti, R. A. Booth, **P. Nazari**, and C. J. Clarke, "Is the ring inside or outside the planet?: the effect of planet migration on dust rings", *MNRAS*, vol. 482, pp. 3678–3695, 2019, See press release

1. J. D. Ilee, C. J. Cyganowski, **P. Nazari**, T. R. Hunter, C. L. Brogan, D. H. Forgan, and Q. Zhang, "G11.92-0.61 MM1: a Keplerian disc around a massive young proto-O star", *MNRAS*, vol. 462, pp. 4386–4401, 2016, See press release

Teaching and mentoring

- **Teaching Assistant** of 'Astrochemistry' course taught by Prof. Ewine van Dishoeck 2022
  Leiden Observatory
- **Daily supervisor** of a LEAPS student Summer 2021
  Leiden Observatory
- **Daily supervisor** of three MSc students 2020-2022
  Leiden Observatory
- **Teaching Assistant** of 'Star and Planet Formation' course taught by Prof. Ewine van Dishoeck and Dr. Melissa McClure 2020, 2021, 2022
  Leiden Observatory

Selected outreach and service activities

- **Organiser of the NOVA Network II seminars in the Netherlands, 2019-2022**
- **Main author of a CASSIS manual, 2022**
- **ALMA proposal reviewer, 2021-2022**
- **Invited talk at Astronomy on Tap, 2021**
- **Author at She Speaks Science, 2018**

REFERENCES

- **Prof. Ewine van Dishoeck**
  Leiden Observatory, Leiden University, P.O. Box 9513, Leiden, Netherlands 2300 RA
  ewine@strw.leidenuniv.nl
- **Dr. Giovanni Rosotti**
  Department of Physics, Università degli Studi di Milano, Via Giovanni Celoria, Milano, Italy 20133
  giovanni.rosotti@unimi.it
- **Prof. Cathie Clarke**
  Institute of Astronomy, University of Cambridge, Madingley Road, Cambridge, England CB3 0HA
  cclarke@ast.cam.ac.uk