Pooneh **Nazari**

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Niels Bohrweg 2, 2333 CA, Leiden

Positions

ESO fellow — Oct 2023–Oct 2026
Garching, Germany

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 — Oct 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

- 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 21 talks, including 6 ***invited*** talks.

- **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**
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- **Dr. Giovanni Rosotti**
  Department of Physics, Università degli Studi di Milano, Via Giovanni Celoria, Milano, Italy 20133
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- **Prof. Cathie Clarke**
  Institute of Astronomy, University of Cambridge, Madingley Road, Cambridge, England CB3 0HA
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