

MEREL VAN 'T HOFF

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CURRENT POSITION

09.2019 - now **Postdoctoral Fellow in the Michigan Society of Fellows**
University of Michigan, Ann Arbor, MI, USA

EDUCATION

10.2015 - 10.2019 **PhD Astronomy**, Leiden University, Leiden, NL
Huygens Fellowship
Supervisors: Dr. John Tobin & Prof. Ewine van Dishoeck
Chemistry in embedded disks: setting the stage for planet formation

2012 - 2015 **MSc Astronomy**, Leiden University, Leiden, NL (cum laude)

- Research project supervised by Prof. Ignas Snellen:
Assessment of the false positive rate of Kepler planet candidates
- Thesis project supervised by Dr. Mihkel Kama, Dr. Catherine Walsh & Prof. Ewine van Dishoeck:
Tracing the CO snowline in protoplanetary disks with N₂H⁺

2007 - 2012 **BSc Astronomy**, Leiden University, Leiden, NL

- Research course including four nights observing with the Isaac Newton Telescope, La Palma.
- Research project at MPA, Garching, supervised by Prof. Henk Spruit: *Kinematic simulation of a magnetic field in a turbulent flow*

2011 - 2015 **MSc Life Science & Technology**, Leiden University, Leiden, NL (summa cum laude)

2006 - 2012 **BSc Life Science & Technology**, Leiden University, Leiden, NL and Delft University of Technology, Delft, NL (cum laude)

AWARDS & GRANTS

2021 **ALMA Ambassador** (\$10,000)

2019 **Postdoctoral Fellowship in the Michigan Society of Fellows**
from the University of Michigan, Ann Arbor, MI, USA

2019 **SMA Fellowship** (declined)

2019 **51 Pegasi b Fellowship** (declined)

2015 - 2019 **Huygens PhD Fellowship**, Leiden Observatory, Leiden, NL

Poster prizes

- Star and Planet Formation in the Southwest (Oracle, AZ, USA)
- IAU 332: Astrochemistry VII (Puerto Varas, Chile)
- Bad Honnef summer school (Bad Honnef, Germany)

2016 Award for 'best slide design and visuals' for my talk at the Leiden Observatory Science Day

Accepted observing proposals as PI

- 2022
- ALMA Cycle 9 A-priority (2 hr; 2022.1.01408.S)
Carbon grain sublimation: a new top-down component of protostellar chemistry
 - ALMA Cycle 9 B-priority (27 hr; 2022.1.01253.S)
H₂CO as thermometer for young embedded disks
 - ALMA Cycle 9 C-priority (12 hr; 2022.1.01775.S)
Following the water trail to the planet forming zone
- 2021
- ALMA Cycle 8 A-priority (15 hr; 2021.1.01366.S)
Direct constraints on ionizing agents from an edge-on young circumstellar disk
 - ALMA Cycle 8 B-priority (10 hr; 2021.1.00508.S)
Following the water trail to the planet forming zone
 - ALMA Cycle 8 C-priority (5 hr; 2021.1.00442.S)
Carbon grain sublimation: a new top-down component of protostellar chemistry
 - NOEMA summer 2021 B-priority (4.5 hr)
The water content and D/H ratio of protostellar envelopes
 - NOEMA winter 2021 B-priority (5 hr)
Tracing the conditions at t=0 of solid body formation in protostellar systems
 - GBT (23.5 hr)
Tracing the conditions at t=0 of solid body formation in protostellar systems
- 2020
- NOEMA winter 2020 B-priority (16.5 hr)
Carbon-grain sublimation: a new top-down component of protostellar chemistry
 - NOEMA winter 2020 B-priority (13 hr)
Connecting scales in protostellar disk formation
 - NOEMA winter 2020 B-priority (2.5 hr)
The water content and D/H ratio of protostellar envelopes
- 2019
- ALMA Cycle 7 A-priority (2 hr; 2019.1.00171.S)
First ALMA images of the water snowline on disk scales
- 2018
- ALMA Cycle 6 C-priority (10 hr; 2018.1.00863.S)
Chemistry unveils the physics of embedded disks
 - ALMA Cycle 6 C-priority (3.5 hr; 2018.1.01062.S)
Calibrating the CO snowline measuring stick
 - ALMA Cycle 6 C-priority (5 hr; 2018.1.01510.S)
Hot or cold? Characterizing the temperature structure of young disks in Perseus
- 2017
- ALMA Cycle 5 B-priority (10 hr; 2017.1.01413.S)
Chemistry unveils the physics of embedded disks
 - ALMA Cycle 5 B-priority (7.5 hr; 2017.1.01371.S)
Imaging the water snowline in low-mass protostellar cores

2016 - 2022

Accepted observing proposals as co-I

- ALMA A-priority: 5 proposals (42 hr total)
- ALMA B-priority: 10 proposals (122 hr total)
- ALMA C-priority: 12 proposals (161 hr total)
- NOEMA B-priority: 1 proposal (43 hr)
- SMA A-priority: 1 proposal (6 tracks)
- VLA A-priority: 1 proposal (30 hr)
- JWST (GO): 1 proposal (17.7 hr)

TEACHING & SUPERVISION

09.2022 - 12.2022	Co-teaching astronomy introductory course for non-science majors (ASTRO 102) at the University of Michigan – 250 students
10.2020	Guest lecture about my research for an undergraduate course at the University of Michigan
09.2021 - now	Co-supervision of graduate student Levi Walls (main advisor: Prof. Edwin Bergin)
09.2021 - 06.2021	Remote supervision of a research project by Master's students Penelope Riley from DePaul University (USA)
11.2020 - 06.2021	Remote supervision of a research project by a student who had to postpone the start of his undergrad at the University of Michigan due to COVID-19.
09.2018 - 08.2019	Co-supervision of the Master's thesis project of Margot Leemker (main advisor: Prof. Ewine van Dishoeck)
2016, 2018 2008, 2009, 2013	Teaching assistant for the Master's course Astrochemistry Teaching assistant for several Bachelor's and Master's lab courses on physics, biochemistry, genetics, microscopy, image processing, and programming

ADDITIONAL EDUCATION & TRAINING

Summer school	SMA Interferometry winter school (2020) IRAM Interferometry summer school (2016) Bad Honnef summer school : 'Extrasolar planets: their formation and evolution' (2016) NOVA Fall school : soft skills and advance course on ISM physics (2015)
Training	JWST proposal preparation workshop (2020) GBT observer training workshop (2021) ALMA Ambassador training workshop (2021) ALMA data reduction training day (2017, 2018)
Soft skills	Postdoctoral short course on college STEM teaching (by the Center for Research on Learning and Teaching at the University of Michigan – 70 hours, 2021) Workshop on inclusive recruitment and hiring (by The Committee on Strategies and Tactics for Recruiting to Improve Diversity and Excellence at the University of Michigan, 2021) Workshop on 'How to talk about mental health' (2020) Speed reading (2018) NOVA 3rd year PhD weekend : communication/presentation (2017) Communication in science : presenting and writing (2017) Effective communication : generic communication (2017) Time management (2017) Ethics course 'On being a scientist' (2016)

CONFERENCES & TALKS

- 10.2022 From Clouds to Planets II – **Contributed talk**
- 02.2022 Astrochemistry Group meeting at NRAO – **Invited talk**
- 01.2022 Origins Workshop – ISM, star and cluster formation (talks meant to be given at the cancelled Winter AAS) – **Contributed talk**
- 12.2021 Lorentz Center workshop “The volatile content of planets that form early” – **Invited review talk**
- 09.2021 Star and Planet Formation group at University College, London – **Invited talk**
- 07.2021 IAU Astrochemical Frontiers: Quarantine Edition 2 – **Contributed talk**
- 06.2021 Astrochemistry Group Meeting 2021: Astrochemistry in the JWST era – **Contributed talk**
- 05.2021 Colloquium at the Green Bank Observatory – **Invited talk**
- 04.2021 American Chemical Society Spring meeting – **Contributed talk**
- 03.2021 Colloquium at the California Institute of Technology – **Invited talk**
- 03.2021 Colloquium at the University of Arizona – **Invited talk**
- 01.2021 Colloquium at Queen’s University (Canada) – **Invited talk**
- 12.2020 5 years after HL Tau – **Contributed talk**
- 09.2020 Europlanet Science Congress – **Contributed talk**
- 07.2020 European Astronomical Society Annual Meeting – **Contributed talk**
- 06.2020 IAU Astrochemical Frontiers – **Contributed talk**
- 06.2020 Virtual Colloquium series Astrochemistry Discussions – **Invited talk**
- 12.2019 ALMA Workshop 2019: Early Planet Formation in Embedded Disks – **Invited Talk**
- 06.2019 From Stars to Planets II – **Contributed talk**
- 11.2018 Netherlands ALMA Science Day – **Contributed talk**
- 09.2018 7th National Capital Area Disk Meeting – **Contributed talk**
- 07.2018 COSPAR 2018 – **Contributed talk**
- 07.2018 Astrochemistry: past, present & future – **Contributed talk**
- 05.2018 Dutch Astronomy Conference – **Contributed talk**
- 03.2018 Star and Planet Formation in the Southwest – **Poster** (prize)
- 02.2018 Water Workshop Zurich – **Contributed talk**
- 02.2018 Disks & Planets group meeting Amsterdam – **Invited talk**
- 07.2017 Disk workshop Leiden – **Invited talk**
- 03.2017 IAU 332: Astrochemistry VII – **Contributed talk & Poster** (prize)
- 02.2017 Dutch NOVA Network II meeting – **Contributed talk**
- 11.2016 European Conference on Laboratory Astrophysics – **Poster**
- 09.2016 Leiden Observatory Science Day – **Invited talk**
- 08.2016 Star Formation 2016, Exeter – **Poster**
- 04.2016 Workshop on Young Solar Systems, Sant Cugat

OUTREACH & DEI ACTIVITIES

- 10.2022 - now Postdoc representative on the Michigan Astronomy Department **DEI committee**
- 06.2021 **Co-facilitator for the workshop ‘Change it up’** for students and postdocs in the Michigan Astronomy Department.
- 10.2019 - now **DEI Certificate Program**, University of Michigan (USA) – 30 hr
- 2017 - 2019 **Organization of Astronomy on Tap Leiden**, a monthly event in a bar with two astronomy talks and astronomy related quizzes (± 150 attendees). We also organize activities at other (scientific) events.
- 2019 - 2020 **Organization of Astronomy on Tap Ann Arbor** - currently on hold due to COVID-19.
- 2016 **Organization of the Dutch Astronomy Olympiade** for high school students.
- 04.2019 **One-minute outreach movie** for the project ‘Eyeopeners’ from the Royal Dutch Chemistry Society (KNCV) (<https://www.eyeopeners.nl/nl/meetthecrew/merel-van-t-hoff>).
- 05.2019 **Invited talk at the Science Honours Academy** of Utrecht University (NL) for Bachelor students in the Honours program.
- 11.2017 **Role model at Physics Ladies’ Day** for high school students.
- 2015 - 2019 **Outreach talks** at the Leiden Science Family Day, Astronomy on Tap Leiden (<http://bit.ly/astronomyontap>), the open day of the Leiden Old Observatory, the Master’s open day of Leiden University, during Leiden Museum Night and for international high school students visiting Leiden University.
- 11.2015, 2018 **Volunteer** at the annual open day of the Leiden Old Observatory

SERVICES

- 2019 - now **Referee** for the Astrophysical Journal and Astronomy & Astrophysics
- 2020 - now **Application review** for Postdoctoral Fellowships in the Michigan Society of Fellows (University of Michigan, USA)
- 2020 - now **Application review** for the ProQuest Distinguished Dissertation Awards (University of Michigan, USA)
- 2020, 2022 **NRAO review panel** for ALMA Development Studies
- 2022 **NASA XRP review panel**
- 2021 **Review panel** for ALMA Archival Student Project proposals
- 2021 **Application review** for the ALMA Ambassador Program
- 2020 - 2021 **Colloquium organizer** for the Michigan Astronomy Department
- 2020 - 2021 Michigan internal IRAM NOEMA/30m **Time Allocation Committee**
- 2021 - now Member of the NRAO working group for making short (5 min) videos on ALMA data reduction

- 2021 Co-organizer of the ALMA Ambassador virtual workshop series on ALMA proposal preparation
- 2016, 2017 Co-organizer of the first-year PhD weekend, and PhD interview days at Leiden Observatory

EXPERTISE & SKILLS

Observations	(Sub-)mm interferometry (ALMA , NOEMA , SMA) and single dish (IRAM-30m). Data reduction in CASA , GILDAS and MIR .
Models	Radiative transfer modeling (LIME , RADEX , RATRAN) Physical-chemical modeling of protoplanetary disks (DALI) Modeling of small chemical networks
Programming	Python, IDL, R, C (basic), C++ (basic), MatLab (basic)
Software	LaTeX, Microsoft Office, Adobe Photoshop and Illustrator, Inkscape
Languages	Dutch (native), English (fluent), German (basic)

PUBLICATION LIST

31 refereed papers in total, 9 first-author papers

First author

9. *The young embedded disk L1527 IRS: Constraints on the water snowline and cosmic-ray ionization rate from HCO⁺ observations.*
[van 't Hoff, M.L.R.](#), Leemker, M., Tobin, J.J., Harsono, D., Jørgensen, J.K., & Bergin E.A. 2022, ApJ, 932, 6.
8. *Imaging the water snowline around protostars with water and HCO⁺ isotopologues.*
[van 't Hoff, M.L.R.](#), Harsono, D., van Gelder, M.L., Hsieh, T.-H., Tobin, J.J., Jensen, S.S., Hirano, N., Jørgensen, J.K., Bergin, E.A., & van Dishoeck, E.F. 2022, ApJ, 924, 5.
7. *Temperature structures of embedded disks: young disks in Taurus are warm.*
[van 't Hoff, M.L.R.](#), Harsono, D., Tobin, J.J., Bosman, A.D., van Dishoeck, E.F., Jørgensen, J.K., Miotello, A., Murillo, N.M., & Walsh, C. 2020, ApJ, 901, 166.
6. *Carbon-grain sublimation: a new top-down component of protostellar chemistry.*
[van 't Hoff, M.L.R.](#), Bergin, E.A., Jørgensen, J.K., & Blake, G.A. 2020, ApJL, 897, L38.
5. *Temperature profiles of young disk-like structures: The case of IRAS 16293A.*
[van 't Hoff, M.L.R.](#), van Dishoeck, E.F., Jørgensen, J.K., & Calcutt, H. 2020, A&A, 633, A7
4. *Methanol and its relation to the water snowline in the disk around the young outbursting star V883 Ori.*
[van 't Hoff, M.L.R.](#), Tobin, J.J., Trapman, L., Harsono, D., Sheehan, P.D., Fischer, W.J., Megeath, S.T., & van Dishoeck, E.F. 2018, ApJL, 864, L23
3. *Unveiling the physical conditions of the youngest disk. A warm embedded disk in L1527.*
[van 't Hoff, M.L.R.](#), Tobin, J.J., Harsono, D., & van Dishoeck, E.F. 2018, A&A, 615, A83
2. *Imaging the water snowline in a protostellar envelope with H¹³CO⁺.*
[van 't Hoff, M.L.R.](#), Persson, M.V., Harsono, D., Taquet, V., Jørgensen, J.K., Visser, R., Bergin, E.A., & van Dishoeck, E.F. 2018, A&A, 613, A29
1. *Robustness of N₂H⁺ as tracer of the CO snowline.*
[van 't Hoff, M.L.R.](#), Walsh, C., Kama, M., Facchini, S., & van Dishoeck, E.F. 2017, A&A, 599, A101

Led by co-supervised students

1. *Chemically tracing the water snowline in protoplanetary disks with HCO⁺.*
Leemker, M., [van 't Hoff, M.L.R.](#), Trapman, L., van Gelder, M.L., Hogerheijde, M.R., Ruíz-Rodríguez, D., & van Dishoeck, E.F., 2021, A&A, 646, 3.

Co-author

21. *A measurement of the water D/H ratio and snowline in a proto-planetary disk.*
Tobin, J.J., [van 't Hoff, M.L.R.](#), Leemker, M., van Dishoeck, E.F., Paneque-Carreño, T., Furuya, K., Harsono, D., Persson, M.V., Cleeves, L.I., Sheehan, P.D., & Cieza, L. *Nature*, under review.

20. *A VLA view of the flared, asymmetric disk around the Class 0 protostar L1527 IRS.*
Sheehan, P.D., Tobin, J.J., Li, Z.-Y., [van 't Hoff, M.L.R.](#), Jørgensen, J.K., Kwon, W., Looney, L.W., Ohashi, N., Takakuwa, S., Williams, J.P., Aso, Y., Gavino, S., de Gregorio-Monsalvo, I., Han, I., Lee, C.W., Plunkett, A., Sharma, R., Aikawa, Y., Lai, S.-P., Lee, J.-E., Lin, Z.-Y. D., Saigo, K., Tomida, K., & Yen, H.-W. 2022 ApJ, 934, 95.
19. *Disks and outflows in the intermediate-mass star-forming region NGC 2071 IR.*
Cheng, Y., Tobin, J.J., Yang, Y.-L., [van 't Hoff, M.L.R.](#), Sadavoy, S.I., Osorio, M., Díaz-Rodríguez, A.K., Anglada, G., Karnath, N., Sheehan, P.D., Li, Z.-Y., Reynolds, N., Murillo, N.M., Zhang, Y., Megeath, S.T., & Tychoniec, Ł 2022, ApJ, 933, 178.
18. *A novel way of measuring the gas disk mass of protoplanetary disks using N_2H^+ and $C^{18}O$.*
Trapman, L., Zhang, K., [van 't Hoff, M.L.R.](#), Hogerheijde, M., & Bergin, E.A. 2022, ApJ, 926, 2.
17. *THE VLA/ALMA Nascent Disk and Multiplicity (VANDAM) survey of Orion protostars. V. A characterization of protostellar multiplicity.*
Tobin, J.J., Offner, S.S.R., Kratter, K.M., Megeath, S.T., Sheehan, P.D., Looney, L.W., Díaz-Rodríguez, A.K., Osorio, M., Anglada, G., Sadavoy, S.I., Furlan, E., Segura-Cox, D., Karnath, N., [van 't Hoff, M.L.R.](#), van Dishoeck, E.F., Li, Z.-Y., Sharma, R., Stutz, A.M., & Tychoniec, Ł 2022, ApJ, 925, 39.
16. *Which molecule traces what: Chemical diagnostics of protostellar sources.*
Tychoniec, Ł., van Dishoeck, E.F., [van 't Hoff, M.L.R.](#), van Gelder, M.L., Tabone, B., Chen, Y., Harsono, D., Hull, C.L.H., Hogerheijde M.R., Murillo, N.M., & Tobin J.J. 2021, A&A, 655, 65.
15. *Molecules with ALMA at Planet-forming Scales (MAPS). XIX. Spiral arms, a tail and diffuse structures traced by CO around the GM Aur disk.*
Huang, J., Bergin, E.A., Öberg, K.I., Andrews, S.M., Teague, R., Law, C.J., Kalas, P., Aikawa, Y., Bae, J., Bergner, J.B., Booth, A.S., Bosman, A.D., Calahan, J.K., Cataldi, G., Cleeves, L.I., Czekala, I., Ilee, J.D., Le Gal, R., Guzmán, V.V., Long, F., Loomis, R.A., Ménard, F., Nomura, H., Qi, C., Schwarz, K.R., Tsukagoshi, T., [van 't Hoff, M.L.R.](#), Walsh, C., Wilner, D.J., Yamato, Y., & Zhang, K. 2021, ApJS, 257, 19.
14. *Molecules with ALMA at Planet-forming Scales (MAPS). XVII. Determining the 2D thermal structure of the HD 163296 disk.*
Calahan, J.K., Bergin, E.A., Zhang, K., Schwarz, K.R., Öberg, K.I., Guzmán, V.V., Walsh, C., Aikawa, Y., Alarcón, F., Andrews, S.M., Bae, J., Bergner, J.B., Booth, A.S., Bosman, A.D., Cataldi, G., Czekala, I., Huang, J., Ilee, J.D., Law, C.J., Le Gal, R., Long, F., Loomis, R.A., Ménard, F., Nomura, H., Qi, C., Teague, R., [van 't Hoff, M.L.R.](#), Wilner, D.J., & Yamato, Y. 2021, ApJS, 257, 17.
13. *Molecules with ALMA at Planet-forming Scales (MAPS). XV. Tracing protoplanetary disk structure within 20 au.*
Bosman, A.D., Bergin, E.A., Loomis, R.A., Andrews, S.M., [van 't Hoff, M.L.R.](#), Teague, R., Öberg, K.I., Guzmán, V.V., Walsh, C., Aikawa, Y., Alarcón, F., Bae, J., Bergner, J.B., Booth, A.S., Cataldi, G., Cleeves, L.I., Czekala, I., Huang, J., Ilee, J.D., Law, C.J., Le Gal, R., Liu, Y., Long, F., Ménard, F., Nomura, H., Pérez, L., Qi, C., Schwarz, K.R., Sierra, A., Tsukagoshi, T., Yamato, Y., Wilner, D.J., & Zhang, K. 2021, ApJS, 257, 15.
12. *Molecules with ALMA at Planet-forming Scales (MAPS). VIII. CO gap in AS209 – Gas depletion or chemical processing?*
Alarcón, F., Bosman, A.D., Bergin, E.A., Zhang, K., Teague, R., Bae, J., Aikawa, Y., Andrews, S.M., Booth, A.S., Calahan, J.K., Cataldi, G., Czekala, I., Huang, J., Ilee,

- J.D., Law, C.J., Le Gal, R., Liu, Y., Long, F., Loomis, R.A., Ménard, F., Öberg, K.I., Schwarz, K.R., [van 't Hoff, M.L.R.](#), Walsh, C., & Wilner, D.J., 2021, ApJS, 257, 8.
11. *Molecules with ALMA at Planet-forming Scales (MAPS). VII. Substellar O/H and C/H and superstellar C/O in planet-feeding gas.*
Bosman, A.D., Alarcón, F., Bergin, E.A., Zhang, K., [van 't Hoff, M.L.R.](#), Öberg, K.I., Guzmán, V.V., Walsh, C., Aikawa, Y., Andrews, S.M., Bergner, J.B., Booth, A.S., Cataldi, G., Cleeves, L.I., Czekala, I., Furuya, K., Huang, J., Ilee, J.D., Law, C.J., Le Gal, R., Liu, Y., Long, F., Loomis, R.A., Ménard, F., Nomura, H., Pérez, L., Qi, C., Schwarz, K.R., Teague, R., Tsukagoshi, T., Yamato, Y., & Wilner, D.J. 2021, ApJS, 257, 7.
 10. *Molecules with ALMA at Planet-forming Scales (MAPS). V. CO gas distributions.*
Zhang, K., Booth, A.S., Law, C.J., Bosman, A.D., Schwarz, K.R., Bergin, E.A., Öberg, K.I., Andrews, S.M., Guzmán, V.V., Walsh, C., Qi, C., [van 't Hoff, M.L.R.](#), Long, F., Wilner, D.J., Huang, J., Czekala, I., Ilee, J.D., Cataldi, G., Bergner, J.B., Aikawa, Y., Teague, R., Bae, J., Loomis, R.A., Calahan, J.K., Alarcón, F., Ménard, F., Le Gal, R., Sierra, A., Yamato, Y., Nomura, H., Tsukagoshi, T., Pérez, L.M., Trapman, L., Liu, Y., & Furuya, K. 2021, ApJS, 257, 5.
 9. *Molecules with ALMA at Planet-forming Scales (MAPS). IV. Emission surfaces and vertical distribution of molecules.*
Law, C.J., Teague, R., Loomis, R.A., Bae, J., Öberg, K.I., Czekala, I., Andrews, S.M., Aikawa, Y., Alarcón, F., Bergin, E.A., Bergner, J.B., Booth, A.S., Bosman, A.D., Calahan, J.K., Cataldi, G., Cleeves, L.I., Furuya, K., Guzmán, V.V., Huang, J., Ilee, J.D., Le Gal, R., Liu, Y., Long, F., Loomis, R.A., Ménard, F., Nomura, H., Pérez, L., Qi, C., Schwarz, K.R., Soto, D., Tsukagoshi, T., Yamato, Y., [van 't Hoff, M.L.R.](#), Walsh, C., Wilner, D.J., & Zhang, K. 2021, ApJS, 257, 4.
 8. *Molecules with ALMA at Planet-forming Scales (MAPS). III. Characteristics of radial chemical substructures.*
Law, C.J., Loomis, R.A., Teague, R., Öberg, K.I., Czekala, I., Andrews, S.M., Huang, J., Aikawa, Y., Alarcón, F., Bae, J., Bergin, E.A., Bergner, J.B., Boehler, Y., Booth, A.S., Bosman, A.D., Calahan, J.K., Cataldi, G., Cleeves, L.I., Furuya, K., Guzmán, V.V., Ilee, J.D., Le Gal, R., Liu, Y., Long, F., Ménard, F., Nomura, H., Qi, C., Schwarz, K.R., Sierra, A., Tsukagoshi, T., Yamato, Y., [van 't Hoff, M.L.R.](#), Walsh, C., Wilner, D.J., & Zhang, K. 2021, ApJS, 257, 3.
 7. *Molecules with ALMA at Planet-forming Scales (MAPS). I. Program overview and highlights.*
Öberg, K.I., Guzmán, V.V., Walsh, C., Aikawa, Y., Bergin, E.A., Law, C.J., Loomis, R.A., Alarcón, F., Andrews, S.M., Bae, J., Bergner, J.B., Boehler, Y., Booth, A.S., Bosman, A.D., Calahan, J.K., Cataldi, G., Cleeves, L.I., Czekala, I., Furuya, K., Huang, J., Ilee, J.D., Kurtovic, N., Le Gal, R., Liu, Y., Long, F., Ménard, F., Nomura, H., Pérez, L., Qi, C., Schwarz, K.R., Sierra, A., Teague, R., Tsukagoshi, T., Yamato, Y., [van 't Hoff, M.L.R.](#), Waggoner, A.R., Walsh, C., Wilner, D.J., & Zhang, K. 2021, ApJS, 257, 1.
 6. *Complex organic molecules in low-mass protostars on Solar System scales. II. Nitrogen-bearing species.*
Nazari, P., van Gelder, M.L., van Dishoeck, E.F., Tabone, B., [van 't Hoff, M.L.R.](#), Ligterink, N.F.W., Beuther, H., Boogert, A.C.A., Caratti o Garatti, A., Klaassen, P.D., Linnartz, H., Taquet, V., & Tychoniec, Ł. 2021, A&A, 650, 150.

5. *THE VLA/ALMA Nascent Disk and Multiplicity (VANDAM) survey of Orion protostars. IV. Unveiling the embedded intermediate-mass protostar and disk within OMC2-FIR3/HOPS-370.*
Tobin, J.J., Sheehan, P.D., Reynolds, N., Megeath, S.T., Osorio, M., Anglada, G., Diaz-Rodriguez, A.K., Furlan, E., Kratter, K., Offner, S., Looney, L., Kama, M., Li, Z.-Y., **van 't Hoff, M.L.R.**, Sadavoy, S., & Karnath, N., 2020, ApJ, 905, 162.
4. *THE VLA/ALMA Nascent Disk and Multiplicity (VANDAM) survey of Orion protostars. II. A statistical characterization of Class 0 and I protostellar disks.*
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