

Postdoctoral Researcher
Laboratoire Kastler Brossel
École Normale Supérieure
24 Rue Lhomond 75005 Paris

tel: +33 144323802
e-mail: tim.dejongh@lkb.ens.fr
ORCID: [0000-0002-3414-0461](https://orcid.org/0000-0002-3414-0461)
[Google Scholar](#) | [Research Gate](#)

HIGHEST DEGREES

- 03-2020 **Radboud University** – PhD in Atomic and Molecular Physics
08-2016 **Radboud University** – Master in Physics – Molecules and Materials track

RESEARCH EXPERIENCE

- 2020 – present **École Normale Supérieure – Laboratoire Kastler Brossel, CNRS (FR)**
Many-body phenomena in ultracold Fermi gases
Postdoc, Tarik Yefsah's group
- 2016 – 2020 **Institute for Molecules and Materials – Radboud University (NL)**
Probing the resonance regime in low-energy molecular collisions
PhD, Bas van de Meerakker's group
- 2016 **Department of Chemistry – University of Basel (CH)**
Discharge source for Stark deceleration and trapping of OH radicals
Research Internship, Stefan Willitsch's group
- 2015 – 2016 **Institute for Molecules and Materials – Radboud University (NL)**
Production and spectroscopy of NH radicals
Master Thesis Research, Bas van de Meerakker's group

SUPERVISION OF STUDENTS

- 2020 – present **École Normale Supérieure – Laboratoire Kastler Brossel**
Close co-supervision of 3 PhD students
Co-supervision of 4 Master and 2 Bachelor students
- 2016 – 2020 **Institute for Molecules and Materials – Radboud University**
Close co-supervision of 4 Bachelor students

TEACHING

- 2016 – 2020 **Radboud University (20 hours/year)**
Molecular Physics – Discussion Classes, 2nd year Master
- 2012 – 2015 **Radboud University – Teaching Assistant (178 hours)**
1st year courses: Class. Mech. – Electromagn. – Wave Mech. – Quantum Mech.

AWARDS AND SCHOLARSHIPS

- 2022 Marie Curie Seal of Excellence – European Commission, Horizon Europe
2021 Best Thesis Award – Institute of Molecules and Materials, Radboud University
2016 Beyond the Frontiers Scholarship – Radboud Honours Academy

ACADEMIC SERVICE

- 2023 – present Data steward – Ultracold Fermi Gases Team
2021 Referee for the Journal of Chemical Physics
2019 – 2020 Data management officer – Spectroscopy of Cold Molecules Department
2014 – 2015 Member of Think Tank on university curricula – Radboud Honours Academy
In collaboration with Rathenau Institute (NL). Report: [IJCDSE 5, 2401 \(2015\)](#)

RESEARCH COLLABORATIONS

Prof. Gerrit Groenenboom, Ad van der Avoird, Dr. Tijs Karman – Radboud University
Theory collaborators: Development of molecular interaction potentials

Prof. Arthur Suits – University of Missouri
3D Image reconstruction algorithms for scattering experiments

PUBLICATIONS

6 Peer-reviewed publications, **1** pre-print. **3** First author of which **2** in Science/Nat. Chem.

1. *A multi-purpose ^6Li platform for analog quantum simulation*
S. Jin, K. Dai, J. Verstraten, M. Dixmerias, R. Alhyder, C. Salomon, B. Peaudecerf,
T. de Jongh and T. Yefsah
[arXiv:2304.08433](https://arxiv.org/abs/2304.08433) [cond-mat.quant-gas]
2. *Simultaneous sub-Doppler laser cooling of ^6Li and ^7Li isotopes*
G. Dash., **T. de Jongh**, M. Dixmerias, C. Salomon and T. Yefsah
Phys. Rev. A. **106**, 033105 (2022)
3. *Mapping partial wave dynamics in scattering resonances by rotational de-excitation collisions*
T. de Jongh, Q. Shuai, G. Abma, S. Kuijpers, M. Besemer, A. van der Avoird, G. C. Groenenboom and S. Y. T. van de Meerakker
Nat. Chem. **14**, 538-544 (2022)
4. *Experimental and theoretical investigation of resonances in low-energy NO-H₂ collisions*
Q. Shuai, **T. de Jongh**, M. Besemer, A. van der Avoird, G. C. Groenenboom and S. Y. T. van de Meerakker
J. Chem. Phys. **153**, 244302 (2020)
5. *Correlations in rotational energy transfer for NO-D₂ inelastic collisions*
G. Tang, M. Besemer, **T. de Jongh**, Q. Shuai, A. van der Avoird, G. C. Groenenboom and S. Y. T. van de Meerakker
J. Chem. Phys., **153**, 064301 (2020)
6. *Imaging the onset of the resonance regime in low-energy NO-He collisions*
T. de Jongh, M. Besemer, Q. Shuai, T. Karman, A. van der Avoird, G. C. Groenenboom and S. Y. T. van de Meerakker
Science **368**, 626-630 (2020)
7. *Imaging diffraction oscillations for inelastic collisions of NO radicals with He and D₂*
T. de Jongh, T. Karman, S. N. Vogels, M. Besemer, J. Onvlee, A. G. Suits, J. O. F. Thompson, G. C. Groenenboom, A. van der Avoird and S. Y. T. van de Meerakker
J. Chem. Phys. **147**, 013918 (2017)

ORAL PRESENTATIONS

- 2022 **Int. Conf.** DAMOP, Orlando, Florida, USA
2020 **Contributed Talk** Physics@Veldhoven Conference, Veldhoven, NL
2019 **Invited Talk** International Symposium HESMNI, Manchester, UK
2017 **Invited Talk** University of Bristol, UK – Groups of M. Ashfold and A. Orr-Ewing
2017 **Int. Conf.** Dynamics of Molecular Collisions, Granlibakken, California, USA

SELECTED POSTER PRESENTATIONS

2023 EGAS54 (FR) – Precision Many Body Physics (FR) | **2022** QuanTiP Kick-Off (FR) | **2019** NNV AMO (NL) – Physics@Veldhoven (NL) | **2018** TULIP Summer School (NL) – FOM Veldhoven (NL) | **2017** International Symposium on Mol. Beams (NL)

OUTREACH

- 2020 Popular science article – Dutch Journal of Physics, (NTvN 86, 24)
2017 Popular science presentation – InScience International Film Festival (NL)
2016–2020 Frequent lab tours for high school and Bachelor students