Tim de Jongh Curriculum Vitae

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

tel (office): +33 144323802
e-mail: tim.dejongh@lkb.ens.fr
ORCID: 0000-0002-3414-0461
Google Scholar | Research Gate

Highest Degrees

03-2021 **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

2020 – present **École Normale Supérieure – Laboratoire Kastler Brossel**
Close co-supervision of 4 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)**
Classical Mechanics, Electromagnetism, Wave Mechanics and Quantum Mechanics – Tutorials, 1st year Bachelor

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

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)

Collaborators

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

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

PUBLICATIONS

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

1. *In-situ Imaging of a Single-Atom Wave Packet in Continuous Space*
   J. Verstraten, K. Dai, M. Dixmerias, B. Peaudecerf, **T. de Jongh** and T. Yefsah
   arXiv:2404.05699 [quant-ph]
2. *Multi-Purpose 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
   Phys. Rev. Research **6**, 013158 (2024)
3. *Simultaneous Sub-Doppler Laser Cooling of ^{6}Li and ^{7}Li Isotopes*
   G. Dash., **T. de Jongh**, M. Dixmerias, C. Salomon and T. Yefsah
   Phys. Rev. A. **106**, 033105 (2022)
4. *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)
5. *Experimental and Theoretical Investigation of Resonances in Low-Energy NO-H_2 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)
6. *Correlations in Rotational Energy Transfer for NO-D_2 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)
   Selected as Editor's Pick
7. *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)
   Featured in a Perspective Article: Science **368**, 582-583 (2020)
8. *Imaging Diffraction Oscillations for Inelastic Collisions of NO Radicals with He and D_2*
   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)

TALKS

Int. Conf. DPG SAMOP, Freiburg, DE (2024) | **Invited Talk** TU Dortmund; Group of E. Narevicius, DE (2023) **Int. Conf.** DAMOP, Orlando, Florida, USA (2022) | **Contributed Talk** Physics@Veldhoven, NL (2020) **Invited Talk** HESMNI Symposium, Manchester, UK (2019) | **Invited Talk** University of Bristol; Groups of M. Ashfold and A. Orr-Ewing, UK (2017) | **Int. Conf.** DMC, Granlibakken, California, USA (2017)

SELECTED POSTER PRESENTATIONS

2023 Workshop on Ultracold Molecules (PL) – EGAS54 (FR) – PMBP (FR) | **2022** QuanTiP (FR) | **2019** NNV AMO (NL) – Physics@Veldhoven (NL) | **2018** TULIP (NL) – FOM Veldhoven (NL) | **2017** ISMB (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