

PERSONAL INFORMATION

Philipp Haslinger, Dr.

Technische Universität Wien

Atominstitut
Stadionallee 2
1020 Vienna, Austria
+436804020759
philipp.haslinger@tuwien.ac.at

ORCID ID: 0000-0002-2911-4787
Date of birth: 1. December 1982
Nationality: Austria
<http://www.haslingerlab.com>

- **EDUCATION**

11/2022 **Habilitation** “Experimental Physics”
2002 – 2013 Studies of **Physics** (Univ. of Vienna, AUT)
 Diploma thesis: „Pulsed molecular beam sources for matter wave interferometry “
 PhD thesis: “A universal matter-wave interferometer with optical gratings”
 both under the supervision of Prof. M. Arndt
2002 – 2013 Studies of **Mathematics** (Univ. of Vienna, AUT)

- **CURRENT POSITIONS**

11/2018 – now **Junior group leader**, Department of Physics, **TU Wien, AUT**
Correlated electron photon pairs, Atom interferometry, Blackbody radiation induced force; **Full member** of the *Wolfgang Pauli Institute (WPI) Vienna, AUT*

- **PREVIOUS POSITIONS**

01/2018 – 11/2018 **Post-Doctoral Fellow**, Department of Physics, **TU Wien, AUT**
Many-body systems, Atom interferometry Advisor: Prof. Jörg Schmiedmayer
08/2014 – 12/2017 **Post-Doctoral Fellow**, Department of Physics, **UC Berkeley, USA**
Dark Energy, Blackbody radiation induced forces Advisor: Prof. Holger Müller
08/2013 – 08/2014 **Post-Doctoral Fellow**, *Department of Physics, Univ. of Vienna, AUT*
Interferometry with large molecular clusters Advisor: Prof. Markus Arndt
05/2011 – 09/2011 **Research exchange Fellow**, *Department of Physics, UC Berkeley, USA*
Atom interferometry, Coriolis compensation Advisor: Prof. Holger Müller
10/2008 – 08/2013 **Research/Teaching Assistant**, *Department of Physics, Univ. of Vienna, AUT*
Talbot-Lau interferometry in the time-domain Advisor: Prof. Markus Arndt

- **FELLOWSHIPS, FUNDING AND AWARDS**

11/2022 **FFG R&D INFRASTRUCTURE** “Austrian Quantum Transmission Electron
Microscope” (4.6 M€), AUT
10/2022 **FWF standalone P 36041** “Quantum Optics with Electron-Photon Pairs”
(400 k€), AUT
07/2022 **FWF standalone P 35953** “Quantum Klystron - QUAK”
(535 k€), AUT
10/2021 **Anerkennungspreis** (recognition award) of Lower Austria, AUT
07/2020 **ESQ Discovery grant** “A source for correlated electron-photon pairs” (100 k€), AUT
06/2019 **ESQ Discovery grant** “Quantum Klystron” (100 k€), AUT
04/2019 **Young Scientist Prize 2019** of the European Physical Society (ESP), EU
07/2018 **START- Prize** (FWF, 1 200 k€) “Lattice atom interferometry”, AUT

07/2017 Winner of the 2017 **Stanford Art of Science** competition, USA
10/2016 **ASciNA Award** in the category “Young Scientists”, AUT
02/2015 – 12/2018 **Erwin Schrödinger Fellowship** (FWF, J3680, 150 k€), AUT

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2018 – now 2 PostDocs, 4 PhD and 3 Master Students, Dept. of Physics, TU Wien, AUT
2014 – 2017 2 PhD and 2 Master Students, Dept. of Physics, UC Berkeley, USA
2009 – 2014 3 PhD and 3 Master Students, Dept. of Physics, Univ. of Vienna, AUT

- **TEACHING ACTIVITIES**

2020 – now Lecturer on Quantum Technologies 1,2, TU Wien, AUT
2020 – now Lecturer on Physics 2, TU Wien, AUT
2018 – 2019 Lecturer on Quantum Technology, TU Wien, AUT
2013 – 2014 Assistant lecturer on “Physics for chemists”, Univ. of Vienna, AUT
2010 – 2011 Responsible for Proseminar in „Experimental Physics 3”, Univ. of Vienna, AUT
2008– 2010 Supervisor practical work for students in quantum optics, Univ. of Vienna, AUT
2003– 2004 Tutor of „Analysis for Physicists“, Dept. of Mathematics, Univ. of Vienna, AUT

- **ORGANISATION OF SCIENTIFIC MEETINGS**

02/2023 “Blackbody radiation induced effects and phenomena” multidisciplinary scientific workshop for AMO-physicists and Astro-physicists (~100 pax), organisation, Erwin-Schrödinger Institut, Vienna, AUT
09/2019 “Generation $|Y\rangle$ projected in Austria” multidisciplinary scientific and network meeting (~35 pax), organisation, Ramsau, AUT
11/2017 Workshop “Dark Energy in the Laboratory” (~50 pax), Co-organiser Lorentz-center at Leiden, NL
05/2017 Bay Area Erwin-Schrödinger Scholar Meeting, multidisciplinary meeting (~15 pax), organization and acquisition of funding, UC Berkeley, USA

- **INSTITUTIONAL RESPONSIBILITIES**

11/2018 – now Full member of the Wolfgang Pauli Institute (WPI) Vienna, AUT
11/2018 – now Member of the TU Wien Faculty, Vienna, AUT

- **REVIEWING ACTIVITIES**

Reviewer for various journals, including Nature Physics, New Journal of Physics, PRA, Atoms.

- **PUBLICATIONS (selection)**

< **25 publications in peer reviewed journals** (Science, Nat. Phys., Nat. Com., PRX, PRL, ...) and one **patent application** “Multi-pass Microscopy”.

< **40 invited or contributed talks** at international conferences/workshops/seminars

P. Haslinger, M. Jaffe, V. Xu, O. Schwartz, M. Sonnleitner, M. Ritsch-Marte, H. Ritsch, H. Müller
“*Attractive force on atoms due to blackbody radiation*”
Nature Physics, 14, 257-260 (2018) DOI:10.1038/s41567-017-0004-9

P. Haslinger, N. Dörre, P. Geyer, J. Rodewald, S. Nimmrichter, M. Arndt
“*A universal matter-wave interferometer with optical ionization gratings in the time domain*”
Nature Physics, 9, 144–148 (2013) DOI: 10.1038/nphys2542

S. Lan, P. Kuan, B. Estey, P. Haslinger, H. Müller
“Influence of the Coriolis force in atom interferometry”
Phys. Rev. Lett. 108, 090402-5 (2012) DOI: 10.1103/PhysRevLett.108.090402

P. Hamilton, M. Jaffe, P. Haslinger, Q. Simmons, H. Müller, J. Khoury
“Atom-interferometry constraints on dark energy”
Science 349, 849 (2015) DOI: 10.1126/science.aaa8883

M. Jaffe*, P. Haslinger*, V. Xu, P. Hamilton, A. Upadhye, B. Elder, J. Khoury, H. Müller
“Testing sub-gravitational forces on atoms from a miniature in-vacuum source mass”
Nature Physics, 13, 938-942 (2017) DOI: 10.1038/nphys4189 *co-first authors

D. Rätzel, D. Hartley, O. Schwartz, P. Haslinger
“Controlling Quantum Systems with Modulated Electron Beams”
Phys. Rev. Research, 3, 023247 (2021) DOI:10.1103/PhysRevResearch.3.023247

M. Maiwöger, M. Sonnleitner, T. Zhang, I. Mazets, M. Mallweger, D. Rätzel, F. Borselli, S. Erne, J. Schmiedmayer, P. Haslinger
“Observation of Light-Induced Dipole-Dipole Forces in Ultracold Atomic Gases”
Phys. Rev. X, 12, 031018 (2022)

- **OUTREACH**

09/2022

Wiener Forschungsfest

“Photography at the Speed of Light und der sportliche Versuch die Lichtgeschwindigkeit zu messen”, Using an adapted Fizeau–Foucault apparatus (rear tire of a racing bike), the speed of the light is measured in a sporty and child-friendly setting.

<https://wirtschaftsagentur.at/forschungsfest>



12/2020

Punkt eins auf Ö1 „Vom Lied zur Lichtgeschwindigkeit und zurück“, <https://oe1.orf.at/programm/20201210/621108/Vom-Lied-zur-Lichtgeschwindigkeit-und-zurueck>

2015 – now

Kunst & Wissenschaft: **Photography at the speed of light** www.seecphotography.com

Exhibitions:

Aggregate Space Gallery, Oakland, USA (2016);
Ars Electronica, Linz, AUT (2016); Science@Cal, UC Berkeley, USA (2016, 2017),
Uni Campus (Altes AKH) Wien (2018),
Naturhistorisches Museum Wien, AUT (2019)
[Musikvideo](#) in collaboration with the austrian band “5/8erl in Ehr’n” (2020)



5/8terl in Ehr'n at the speed of light

2016 – 2017 **Bay Area Chapter Head von der ASciNA** (Austrian scientists and scholars in North America)