

# Jacek Dobrzyniecki

## Curriculum Vitae

February 7, 2024

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## Education and degrees

- 2020 **PhD in Physics (pol. *dr nauk fizycznych*)**, Institute of Physics of the Polish Academy of Sciences.  
Supervisor: dr Tomasz Sowiński
- 2016 **MSc in Physics (pol. *mgr fizyki*)**, Faculty of Mathematics and Natural Sciences, Cardinal Stefan Wyszyński University.  
Supervisor: dr Tomasz Sowiński
- 2011–2016 **student**, at the Faculty of Mathematics and Natural Sciences, Cardinal Stefan Wyszyński University.

## Scientific experience

- 2021– **Assistant professor (pol. *adiunkt*)**, Faculty of Physics at the University of Warsaw, Warsaw.  
Quantum Molecular Systems Group
- 2021 **Physicist (pol. *fizyk*)**, Institute of Physics of the Polish Academy of Sciences, Warsaw.
- 2016–2020 **PhD Studies**, Institute of Physics of the Polish Academy of Sciences, Warsaw.
- 2014–2015 **Intern**, Institute of Physics of the Polish Academy of Sciences, Warsaw.  
Quantum Optics Theory Group

## Languages

- Polish Mother language
- English Advanced

## Publications

- J. Dobrzyniecki and M. Tomza.  
Quantum simulation of the central spin model with a Rydberg atom and polar molecules in optical tweezers.  
Phys. Rev. A **108**, 052618 (2023).
- J. Dobrzyniecki, G. Orso, and T. Sowiński.  
Unconventional pairing in few-fermion systems tuned by external confinement.  
Phys. Rev. Research **3**, 043105 (2021).
- J. Dobrzyniecki and T. Sowiński.  
Two Rydberg-dressed atoms escaping from an open well.  
Phys. Rev. A **103**, 013304 (2021).
- J. Dobrzyniecki and T. Sowiński.  
Simulating artificial 1D physics with ultra-cold fermionic atoms: three exemplary themes.  
Adv. Quantum Technol. **3**, 2000010 (2020).
- J. Dobrzyniecki and T. Sowiński.  
Momentum correlations of a few ultracold bosons escaping from an open well.  
Phys. Rev. A **99**, 063608 (2019).

J. Dobrzyniecki and T. Sowiński.

Dynamics of a few interacting bosons escaping from an open well.

Phys. Rev. A **98**, 013634 (2018).

J. Dobrzyniecki, X. Li, A. E. B. Nielsen, and T. Sowiński.

Effective three-body interactions for bosons in a double-well confinement.

Phys. Rev. A **97**, 013609 (2018).

J. Dobrzyniecki and T. Sowiński.

Effective two-mode description of a few ultra-cold bosons in a double-well potential.

Phys. Lett. A **382**, 394 (2018).

J. Dobrzyniecki and T. Sowiński.

Exact dynamics of two ultra-cold bosons confined in a one-dimensional double-well potential.

Eur. Phys. J. D **70**, 83 (2016).