

Education

- 2023 – now  University of Tokyo, Research Centre for Advanced Science and Technology (RCAST)
JSPS fellowship by nomination from the UK Royal Society, hosted in the Ota laboratory
- 2017 – 2023  Christ's College, University of Cambridge, Departments of Physics and Chemistry
PhD in Physics, with a focus on photonics, microfluidics, and biophysics (jan-heck.net/phd)
Master of Research with Distinction at the Sensor Centre for Doctoral Training
Master of Advanced Study with Merit in the Physics Tripos
- 2015 – 2017  Japan–Germany international scholarship by the Studienstiftung and Haniel Foundation
Two M.A. degrees, graduated with final grades A and 1.1
One year each at Keio University (Tokyo) and Martin-Luther Universität (Halle), with research dissertations in Japanese and German on the international history and philosophy of science
- 2012 – 2015  Royal Holloway College, University of London
BSc Physics with First Class Honours, 88.3%, graduated **1st out of 63 students**
- 2002 – 2011  Richard-Wagner-Gymnasium Baden-Baden
Abitur high school diploma, final grade 1.0, graduated **1st out of 88 students**

Awards

- 2024 Awarded a **Kakenhi research grant** by JSPS (¥2 million)
- 2024 Admitted to the **German Scholar's Organization Leadership Academy** (ca. €10 000 by the KTS)
- 2023 Awarded the **JSPS fellowship by nomination from the UK Royal Society** (2 years)
- 2023 Awarded the **Studienstiftung-RIKEN postdoctoral fellowship** (declined to accept other offer)
- 2023 Grant of £2500 by the **Great Britain Sasakawa Foundation** for establishing a Japan-UK collaboration
- 2023 Award of \$1450 by **SPIE** to present a conference paper at Future Sensing Technologies 2023 in Japan
- 2022 Award by the **Christ's College Monica Kornberg Memorial Fund** to give research seminars in Japan
- 2022 Prize for **best speaker** at the Sensors Day 2022 conference
- 2021 Prize for **best poster presentation** at the Cavendish Laboratory Graduate Conference 2021
- 2019 Awarded the **Sensor CDT "Champion" prize** for work undertaken during the MRes degree
- 2018 Admitted to the Cambridge Trust as a **Honorary Scholar**
- 2018 Granted an **EPSRC studentship**, providing stipend and full funding for my doctorate
Awarded an additional £6,000 research budget
- 2017 **Graduate Bursary** from Christ's College during MAST degree
- 2015 *University of London Driver Prize* for **best academic results in the final undergraduate year**
- 2014 Physics Department *Pincherle prize*, awarded for **best academic results in the second year**
- 2013 **Lilian Heather Faculty Prize** in Mathematical Science (1st year BSc prize)
International undergraduate scholarship by the Studienstiftung (approx. €14 000 per year)
- 2012 Admitted into the German National Academic Foundation ("**Studienstiftung**")
- 2011 High school class **top-of-the-year**, additional awards for best English and Physics exam results

Skillsets

Languages

German Native speaker
English Fluent (8 years residence in the UK)
Japanese Fluent (JLPT N1, 2 years residence)

Strengths

Organised, well-structured, dependable working style
Bias for problem solving in research and organisation
Passionate about academic teaching and mentorship

- Teaching** Undergraduate laboratory teaching and admissions interviewer for Christ's College. Training and supervision of research students. See next page for details
- Engineering** Design, construction and assembly of metalwork for research prototyping; trained and experienced in use of lathe and 3-axis milling; 3D printing; CAD engineering
- Electronics** Designing and implementing custom PCBs and microcontrollers in research and automation
- Programming** Experienced Linux system administrator (self-hosting my cloud services and webpages). Python, C, C++, ARM assembler, FPGA (verilog) programming
- Mentorship** Science workshops for preschoolers (Germany, 2015), for young children (Japan, 2016–2017), and for high school students (UK, 2019–2023); Mentorship for university applicants (African Society of Cambridge University, 2021–2022)

Research & Publications

For an introduction to my research, including publications, please refer to jan-heck.net/research.

Experience

- January 2020 — February 2023 **Undergraduate Teaching** for the Cavendish Laboratory, University of Cambridge
I supervised groups of second year undergraduate students in their practical laboratory work; advising on experimental techniques, reviewing student reports and giving feedback.
- November 2021 — December 2022 **Admissions Interviewer** for Christ's College, University of Cambridge
I interviewed prospective undergraduate students, assessing their analytical reasoning skills in one-on-one discussions, and gave recommendation reports to the Director of Studies. I interviewed the 2021 applicants and was asked to return for 2022.
- January 2021 — October 2023 **Associate Student Investment Partner** at Creator Fund
As part of [Creator Fund's](#) Cambridge team, I engaged with founders of university startups and spinouts. I evaluated technological potential, authored due diligence reports and deliberated decisions in investment committees. I initiated and facilitated the investment in a Cambridge spinout developing photonic materials (review on landscape.vc). I began as Student Analyst, and became Associate Student Investment Partner in my second year.
- June 2022 — December 2022 **Conference Organising Committee** of the Cavendish Graduate Conference 2022
In the organising committee of the Cavendish Laboratory's annual graduate conference, I evaluated the submitted talks and posters, and organised the committee's decision on the most suitable and engaging programme for our conference's audience of over one hundred.
- October 2022 — March 2023 **Cambridge Judge Business School** attending EnterpriseTECH
I was awarded a scholarship and admitted to the University of Cambridge Judge Business School's [EnterpriseTECH](#) programme, centered on entrepreneurial skills for researchers.
- October 2021 — February 2022 **MedTech Foundation** attending the MedTech Innovation Programme
I got accepted for the [Cambridge MedTech Foundation Innovation Programme](#), working on medical device development and commercialisation. In my team, I led the ideation and concept development of a novel metabolic sensor.
- August 2019 — June 2020 **Research Assistant** in the group of Prof. Phillip Stanley-Marbell
Research on an uncertainty-propagating processor architecture (details under NDA). Related to Prof. Stanley-Marbell's startup, [Signaloid](#), and resulting in a [publication](#).
- July 2014 — August 2014 **Research Intern** at Royal Holloway College, University of London
I studied and applied methods of quantum field theory to theoretical particle physics, delivering calculations of the cross section of an electron-positron collision.
- Before 2014 **Internships** during and after high school
For several summers during my high school years, and in the year before starting university, I worked: as a programmer; in circuit design and quality control; in the chemical analytics department of a power plant; and more. Feel free to contact me for the complete list.

I hold a permanent **right to work** in all of the EU (nationality) and the UK (settled status).