





Jan Heck

PhD Researcher in Photonics and Microfluidics at Cambridge University

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Education

- 2002 – 2011  Richard-Wagner-Gymnasium, Baden-Baden, Germany
Abitur diploma, final grade 1.0, graduated 1st out of 88 students
- 2012 – 2015  Royal Holloway College, University of London, United Kingdom
BSc Physics, First Class Honours, 88.3%, graduated 1st out of 63 students
- 2015 – 2017  Japanese-German scholarship of the Studienstiftung and the 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 sociology of science
- 2017 – Now  Christ's College, University of Cambridge, Departments of Physics and Chemistry, UK
Master of Advanced Study in the Physics Tripos, graduated with Merit
Sensor Centre for Doctoral Training MRes, graduated with Distinction, and PhD (ongoing)

Awards

- 2011 High school class **top-of-the-year**, additional awards for best English and Physics exam results
- 2012 Admitted into the German National Academic Foundation ("**Studienstiftung**") with scholarship
- 2013 *Lilian Heather Faculty Prize* in Mathematical Science (**1st year BSc prize**)
International undergraduate scholarship by the Studienstiftung (€10,000 p.a. for over 3 years)
- 2014 Physics Department *Pincherle prize*, awarded for **best academic results in the second year**
- 2015 *University of London Driver Prize* for **best academic results in the final undergraduate year**
- 2017 **Graduate Bursary** from Christ's College during MAST degree
- 2018 Granted an **EPSRC NPIF studentship**, providing stipend and full funding for my doctorate, with an additional £6,000 research budget
- 2018 Admitted to the Cambridge Trust as a **Honorary Scholar**
- 2019 Awarded the **Sensor CDT "Champion" prize** for work undertaken during the MRes degree
- 2021 Prize for **best poster presentation** at the Cavendish Laboratory Graduate Conference 2021
- 2022 Prize for **best speaker** at the Sensors Day 2022 conference
- 2022 Award by the **Christ's College Monica Kornberg Memorial Fund** to enable a research visit to Japan

Abilities

Languages

German Native speaker
English Fluent (8 years residence in the UK)
Japanese Fluent (JLPT N1, 13 months residence)

Strengths

Organised, well-structured, dependable working style
Problem solving ability in research and programming
Presenting talks and teaching in academic contexts

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

Experienced in hardware design for creating custom PCBs. Programming and application of microcontrollers in research and automation

Programming

Primary languages Python and C/C++. Experienced Linux system administrator (self-hosting my cloud services and webpages). ARM assembler, FPGA (verilog) programming

Teaching

Undergraduate laboratory demonstrator. Undergraduate admissions interviewer for Christ's College. Training and supervision of students. See next page for details

Personal

Volunteering

Mentorship for university applicants (African Society of Cambridge University, 2021–2022); Science workshops for preschoolers (Germany, 2015) and children (Japan, 2016–2017); Environmental volunteering (UK, 2013–2015)

Interests

Literature Authors that particularly influenced me are Kafka, Goethe and Hesse
Philosophy Especially in the context of science, e.g. Wittgenstein, Popper and Russell
Cooking Whenever I can find the time, trying out new dishes or ingredients is a beloved pastime of mine

References available upon request. See also my webpage, jan-heck.net, for more information and contact details.

Experience

- June 2022
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December 2022 **Organising Committee, Cavendish Graduate Conference 2022**
In the organising committee members of the Cavendish Laboratory's graduate conference, I evaluated the submitted talks and posters, organising the committee's vote and decision on the most suitable and engaging programme for the conference, as well as being responsible for communication with the delegates.
- November 2021
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December 2022 **Admissions Interviewer, Christ's College, University of Cambridge**
I interview prospective undergraduate students in Economics, assessing their analytical reasoning skills in one-on-one discussion sessions, giving recommendation reports to the director of studies. I interviewed the 2021 applicants and was asked to return for 2022.
- October 2022
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March 2023 **Cambridge Judge Business School, EnterpriseTECH**
I was admitted with fully-funded scholarship to the University of Cambridge Judge Business School's EnterpriseTECH programme, centered on entrepreneurial skills for researchers.
- January 2021
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Current **Associate Student Investment Partner at Creator Fund**
As part of Creator Fund's Cambridge team, I talk to founders of university startups and spinouts. I evaluate technological potential and product-market fit, creating due diligence reports and take part in investment committees. For example, I initiated and facilitated the investment in a recent Cambridge spinout developing photonic materials for augmented reality applications. I began as Student Analyst, and continue as Associate Student Investment Partner in my second year.
- January 2020
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Current **Undergraduate Teaching, Cavendish Laboratory, University of Cambridge**
I supervise groups of second year undergraduate students in their practical laboratory work; advising on experimental techniques, reviewing student reports and giving feedback.
- October 2021
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February 2022 **Medtech Foundation 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
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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
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August 2014 **Research Internship, Royal Holloway College, University of London**
For six weeks, I learned and applied methods of quantum field theory to theoretical particle physics through a combination of self-study and supervisory meetings with Dr. Nikolas Kauer, delivering calculations of the cross section of an electron-positron collision.
- Earlier than 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. If you would like more detailed information, feel free to contact me for the complete list.

Right to work

I hold permanent right to work in all of the EU (German nationality) and the UK (granted EU Settled status).

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