

# Cédric Walker, PhD

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## EDUCATION

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<b>University of Bern</b> <i>Post Doctoral Researcher in Biomedical Research</i>	11/2024 – present
<b>University of Bern</b> <i>PhD in Biomedical Engineering</i>	9/2019 – 11/2024
<b>University of Bern</b> <i>MSc in Bioinformatics and Computational Biology</i>	2/2017 – 8/2019
<b>University of Bern</b> <i>BSc in Computer Science with Minors in Mathematics and History</i>	9/2012 – 9/2016

## RESEARCH EXPERIENCE

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<b>Sven Rottenberg Lab at University of Bern (Therapy Escape of Cancer)</b> <i>Post Doctoral researcher in Biological Sciences</i>	11/2024 – present
<ul style="list-style-type: none"><li>• Continuation of Doctoral research projects</li></ul>	
<b>Sven Rottenberg Lab at University of Bern (Therapy Escape of Cancer)</b> <i>PhD Candidate in Biomedical Engineering</i>	9/2019 – 11/2024
<ul style="list-style-type: none"><li>• Analysed digital pathology whole slide images using deep learning models to identify prognostic biomarkers in ovarian cancer</li><li>• Developed methods for efficient processing, training and labeling of high dimensional digital pathology whole slide images</li><li>• Analysed single-cell- and bulk-RNA sequencing data to investigate differential therapy outcomes in ovarian cancer</li></ul>	
<b>The Netherlands Cancer Institute</b> <i>PhD Candidate in Biological Sciences (Guest researcher as part of PhD project)</i>	1/2020 – 1/2022
<ul style="list-style-type: none"><li>• Analysis of digital pathology whole slide images using computer vision and deep learning models</li><li>• Utilized single-cell and bulk RNA sequencing to investigate cellular heterogeneity and therapeutic responses</li></ul>	
<b>Cellular Dynamics Lab at the University of Bern</b> <i>MSc Candidate</i>	9/2018 – 7/2019
<ul style="list-style-type: none"><li>• Investigated cellular dynamics in response to single-gene knockdowns using time series data</li><li>• Development of a feature extraction pipeline for time series data from live-cell imaging</li></ul>	
<b>Department of Consumer Behavior at the University of Bern</b> <i>Research Assistant</i>	5/2018 – 7/2019
<ul style="list-style-type: none"><li>• Developed computer-assisted experiments for research studies</li><li>• Assisted with data analysis and visualization for research projects</li><li>• Managed Linux servers and web hosting services</li></ul>	

## PUBLICATIONS

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- **Walker, C.**, Talawalla, T., Toth, R., Ambekar, A., Rea, K., Chamian, O., Fan, F., Berezowska, S., Rottenberg, S., Madabhushi, A., Maillard, M., Barisoni, L., Horlings, H.M., Janowczyk, A., *PatchSorter: A High Throughput Deep Learning Digital Pathology Tool for Object Labeling*. npj Digital Medicine. (2024)
- Aronson, S.L.\*, **Walker, C.\***, Thijssen, B., van de Vijver, K.K., Horlings, H.M., Sanders, J., Alkemade, M., Koole, S.N., Lopez-Yurda, M., Lok, C.A.R., Rottenberg, S., van Rheenen, J., Sonke, G.S., van Driel, W.J., Kester, L.A., Hahn, K., *Tumour microenvironment characterisation to stratify patients for hyperthermic intraperitoneal chemotherapy in high-grade serous ovarian cancer (OVHIPEC-1)*. British Journal of Cancer. (2024)
- Janowczyk, A., Zlobec, I., **Walker, C.**, Berezowska, S., Huschauer, V., Tinguely, M., Kupferschmid, J., Mallet, T., Merkler, D., Kreutzfeldt, M., Gasic, R., Rau, T.T., Mazzucchelli, L., Eyberg, I., Cathomas, G., Mertz, K.D., Koelzer, V.H., Soldini, D., Jochum, W., Rösle, M., Henkel, M., Grobholz, R., on behalf of the Swiss Digital Pathology Consortium, *Swiss digital pathology recommendations: results from a Delphi process conducted by the Swiss Digital Pathology Consortium of the Swiss Society of Pathology*. Virchows Archiv. (2024)
- van Wagenveld, Lilian\*, **Walker, C.\***, Hahn, K., Sanders, J., Kruitwagen, R., van der Aa, M., Sonke, G., Rottenberg, S., Van de Vijver, K., Janowczyk, A., Horlings, H., *The prognostic value of tumor-stroma ratio and a newly developed computer-aided quantitative analysis of routine H&E slides in high-grade serous ovarian cancer*. Preprint at <https://doi.org/10.21203/rs.3.rs-3511087/v1> (2023)

## ADDITIONAL EXPERIENCE

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### Oral presentations:

- Artificial Intelligence in Oncology Virtual Symposium 2021 (virtual)
- 87th Annual Congress of the Swiss Society of Pathology 2021, Interlaken, Schweiz
- 18th European Congress on Digital Pathology 2022, Berlin, Germany
- 35th European Congress of Pathology 2023, Dublin, Ireland
- 12th Faculty & Staff Annual Retreat Swiss Cancer Center Leman 2023, Lausanne, Switzerland

### Poster presentations:

- 35th European Congress of Pathology 2023, Dublin, Ireland

### Cryptography Unit of the Swiss Armed Forces:

- Collaborated on various cryptography and cybersecurity projects.
- Applied deep learning models for various applications in cryptography.

## SKILLS

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**Analysis:** machine learning, model development, computer vision, high performance computing, data processing, Linux system administration

**Programming Languages, Tools and Libraries:** Python, R, Bash scripting, SQL, Git, Docker, Apptainer, Pytorch, SciPy, OpenCV, scikit-learn, Seurat, tidyverse

**Languages:** German (native), English (fluent), French (intermediate)

## REFERENCES

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**Sven Rottenberg** - Director Institute of Animal Pathology Vetsuisse Faculty, University of Bern  
Contact: [sven.rottenberg@unibern.ch](mailto:sven.rottenberg@unibern.ch)

**Jacco van Rheenen** - Senior Group leader, Division of Molecular Pathology, The Netherlands Cancer Institute  
Contact: [j.v.rheenen@nki.nl](mailto:j.v.rheenen@nki.nl)