Georges Hattab

Curriculum Vitae

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visualization.group

Nationality: French. Born Sep. 1988

Degrees

2022 **Habilitation (*Doctor habilitatus* or *Privatdozent*), Computer Science**, *Department of Mathematics and Computer Science, Philipps-Universität Marburg*, Marburg, Germany, (submitted Oct. 2021, defended Nov. 2022).

2018 **PhD (*Doctor rerum naturalium*), Bioimage Informatics, Bioinformatics**, *Faculty of Technology, Universität Bielefeld*, Bielefeld, Germany, (submitted Sep. 2017, defended May 2018).

2014 **Master of Science, Technology, Healthcare, Bioinformatics**, *Université Paris VII, Denis Diderot, Université Sorbonne Paris Cité*, Paris, France.

2012 **Bachelor of Science, Technology, Healthcare, Bioinformatics**, *Université Paris VII, Denis Diderot, Université Sorbonne Paris Cité*, Paris, France.

Education & Development

2023–2025 **Adjunct Professor of Computer Science**, *Privatdozent, Freie Universität Berlin, Department of Mathematics and Computer Science*, Berlin, Germany.

2022–2025 **Research Group Leader**, *Center for Artificial Intelligence in Public Health Research (ZKI-PH), Robert Koch Institute*, Berlin/Wildau, Germany.
Develop computational solutions at the intersection of Visualization and Artificial Intelligence (AI) in the context of public health and biomedical research.

2019–2022 **Lecturer**, *Philipps-Universität Marburg, Department of Mathematics and Computer Science*, Marburg, Germany.

2019–2022 **Junior Research Group Leader**, *Data Analytics and Visualization Group. Philipps-Universität Marburg, Department of Mathematics and Computer Science, Molecular Storage for Long term Archiving (MOSLA)*, Marburg, Germany.
Develop automatic workflows and visualizations for molecular storage media-based systems.

2019–2022 **Postdoctoral Researcher**, *Head of Bioinformatics Division, Data Science in Biomedicine Group. Philipps-Universität Marburg, Department of Mathematics and Computer Science*, Marburg, Germany.
Machine Learning and Bioinformatics for Omics data. Advisor: Prof. Dominik Heider

2017–2018 **Postdoctoral Researcher**, *National Center for Tumor Diseases (NCT), Deutsches Krebsforschungszentrum (DKFZ), University Hospital Carl Gustav Carus, Technische Universität*, Dresden & Heidelberg, Germany.
Biomechanical analysis and computer vision for mixed reality of human organs in the field of computer- and robot-assisted surgery. Advisor: Prof. Stefanie Speidel

2014–2017 **Postdoctoral Researcher**, *Universität Bielefeld, German-Canadian DFG International RTG GRK 1906*, Bielefeld, Germany.

2014–2017 **Doctorate Study**, *Universität Bielefeld, Biodata Mining Group, Computational Methods for the Analysis of the Diversity and Dynamics of Genomes (DiDy), German-Canadian DFG International Research Training Group (RTG)*, Bielefeld, Germany.
Analyzing colony dynamics and visualizing cell diversity in spatiotemporal experiments. Supervisors: Prof. Tim W. Nattkemper & Prof. Tamara Munzner

2016 **Visiting Graduate Student**, *Information Visualization Group, University of British Columbia (UBC)*, Vancouver, BC, Canada.
Development of an efficient algorithm and data abstractions to analyze bacterial colony growth in time-lapse image data. Supervisor: Prof. Tamara Munzner

2016 **Visiting Graduate Student**, *Database and Data Mining Group, School of Computing Science, Simon Fraser University (SFU)*, Burnaby, BC, Canada.
Scientific exchange. Advisor: Prof. Martin Ester

2014 **Master**, *Laboratoire Évolution, Génomes et Spéciation (LEGS), CNRS UPR 9034, Université Paris Denis Diderot*, Gif-sur-Yvette, France.
Detection and analysis of trajectory patterns of *Drosophila melanogaster* in a spatial system based on the Morris water maze. Supervisor: Dr. Frédéric Mery

2013 **Internship**, *Institut de Biologie Physico-Chimique (IBPC), CNRS UMR 7099, Université Paris Denis Diderot*, Paris, France.
Proteome and metabolome study of the bacterium strain C43(DE3) throughout membrane proliferation in *Escherichia coli*. Supervisor: Prof. Bruno Miroux

2013 **Research Assistant**, *Necker-Enfants Malades Hospital, Necker Proteomics (PPN), Université Paris René Descartes, Inserm US 24 CNRS UMS 3633*, Paris, France.
Software deployment and data mining for label-free proteomics. Supervisor: Dr. Chiara Guerrera

2012 **Bachelor**, *IBPC, CNRS UMR 7099, Université Paris Denis Diderot*, Paris, France.
Establishment of a bibliographic and bioinformatics mining tool to research the over-expression of heterologous membrane proteins. Supervisor: Prof. Bruno Miroux

2010 **Internship**, *Institut Jacques Monod (IJM), CNRS UMR 7592*, Paris, France.
Gene expression profiling and database creation to assess genetic regulations in iron homeostasis in *Saccharomyces cerevisiae*. Supervisor: Dr. Denis Mestivier.

Selected Further Experience

2023 **Workshop** 'Responsible and Open Foundation Models'. Princeton University. Stanford University. Stanford, CA, USA

2022 **Workshop** 'Bringing AI and Robotics to the Hospital'. Hospital Smart development based on AI. Eindhoven, Netherlands

2022 **Workshop** 'The 2nd Workshop on Visualization for Social Good.' IEEE VIS 2022. Oklahoma City, OK, USA

2021 **Workshop** 'The 11th Workshop on Visual Computing for Biology and Medicine.' The Eurographics Association. Paris, France

2021 **Workshop** 'Evidence-Based Approaches to Improve Your Teaching – Designing Assessments.' Meredith, D., Soto, P. The Biophysical Society

2020 **Workshop** DNA, polymers and big data from the Transdisciplinary Technology and Health Meetings, 'Colloque ADN, polymères et big data.' CNRS and Académie des Technologies. Paris, France

2019 **Workshop** 'Computational Pan-Genomics.' Center for Interdisciplinary Research. Stoye, J., Schönhuth, A. Universität Bielefeld. Bielefeld, Germany

2019 **Workshop** 'Perceptual Capacities and Constraints in Augmented and Virtual Reality for the visualization of 3D biomedical image data.' Computer Assisted Radiology and Surgery (CARS). Hattab, G., Eagleson, R., Eck, U., Preim. B. Rennes, France

2019 **Workshop** 'Surgical Data Science.' Le Couvent des Jacobins Center. Maier-Hein, L., Jannin, P., Speidel, S. Rennes, France

2015 **Workshop** 'Intense Course on Data Mining and Visualization'. M. Ester, T.W. Nattkemper, and B. Hammer. Universität Bielefeld. Bielefeld, Germany

2015 **Workshop** 'Intense Course on Cancer Genomics.' Morin, R., Wang, Y., Cherkasov, A., Volik, S., Brinkman, R., Wyatt, A., Shah, S., and Bouchard, A. Simon Fraser University. Burnaby, BC, Canada

2014 **Volunteer Project Manager**, United Nations Development Programme (UNDP). Lead curator and manager for an international collaborative publication: Reversality

2012 **Volunteer Project Manager**, United Nations Children's Fund, UNICEF France. Lead curator and organizer for an international exhibition at PLÂTRE émoi. Paris, France

2011–2014 **Volunteer Rescuer**, French Red Cross, Croix-Rouge Française (CRF). Paris, France.

Selected Conferences

2025 European Conference on Artificial Intelligence (ECAI). Workshop on Argumentation for eXplainable AI (ArgXAI). Bologna, IT

2024 ECAI. Workshop on Explainable Artificial Intelligence for the Medical Domain (EXPLIMED). Santiago de Compostela, ES

2024 Natural Language Processing and Information Retrieval Conference. Okayama, JP

2024 American Control Conference. Toronto, CA

2023 IEEE Visualization Conference (VIS). Melbourne, AU

2022 IEEE VIS. Oklahoma City, OK, USA

2020 Physics-Biology Interface. French National Alliance for Life Sciences and Health. Paris, FR

2020 Eurographics & Eurovis (EGEV) 2020. Norrköpping, SE

2019 The 33rd International Conference on Computer Assisted Radiology and Surgery (CARS). Rennes, FR (workshop talk and co-organizer)

2018 International Conference on Information Processing in Computer-Assisted Interventions (IJCAI). Berlin, DE

2015 The 7th Gender summit (GS7): Mastering gender in research performance, contexts, and outcomes. Berlin, DE

2015 Membrane Protein Structures 2015 Meeting (MPS): Advance Photon Source. Argonne National Laboratory. Lemont, IL, USA

2013 Bioenergetics: Gordon Research Conferences. Proctor Academy. Andover, NH, USA

Selected Invited Communications

2023 **Lecture** 'Artificial Intelligence in Public Health Research: Current status and future opportunities.' Business Administration. Department of Information Systems. Freie Universität Berlin. Berlin, Germany

2023 **Lecture** 'Computing Technologies in Medicine: Artificial Intelligence (AI) as a Computing Technology' Department of Psychiatry and Psychotherapy. Ludwig Maximilian University of Munich. Munich, Germany

2022 **Lecture** 'Causality in Machine Learning.' Department of Mathematics and Computer Science, Philipps-Universität Marburg. Marburg, Germany

2021 **Colloquium** 'Hidden Data Facets in Bioinformatics.' Colloquium for Bioinformatics and Systems Biology. Kolloquium für Bioinformatik und Systembiologie Mittelhessen (KoBiS). University of Applied Sciences Middle Hesse. Giessen, Germany

2019 **Lecture** 'Visual Computing.' Institute of Simulation and Graphics (ISG), Otto-von-Guericke-Universität Magdeburg. H. Theisel, B. Preim. Magdeburg, Germany

2019 **Workshop** 'The 9th Summer School on Surgical Robotics.' Laboratory of Computer Science, Robotics and Microelectronics Laboratory of Computer Science, Robotics and Microelectronics (LIRMM), CNRS. P. Poignet, N. Zemiti. Montpellier, France

Teaching

Freie Universität Berlin. Berlin, Germany

2025–2026 **Seminar** Domain-Specific AI and Customization (19336311) 1 Semester (Sem.)

2024–2026 **Seminar** Representation Learning (19337211). 2 Sem.

2024–2025 **Lecture and Practical** Advanced Data Visualization for Artificial Intelligence (19336901, 19336902). 2 Sem.

2024–2025 **Seminar** Visualization for Artificial Intelligence Explainability (19336311). 1 Sem.

2023 **Seminar** Biological Data Visualization (19334111). 1 Sem.

2023 **Seminar** Visual Computing with Information Theory (19333211). 1 Sem.

Philipps-Universität Marburg. Marburg, Germany

2020-2022 **Lecture and Practical** Data Visualization. (LV-12-079-333, LV-12-079-334). Bilingual (EN/DE). 4 Sem.

2020–2022 **Seminar** Biological Data Visualization. (LV-12-079-350). 3 Sem.

2021-2022 **Seminar** Information Theory Tools for Visual Computing. (LV-12-079-354). 2 Sem.

Universität Bielefeld. Bielefeld, Germany

2015–2016 **Seminar** Visualization approaches for biological data (BioVITAL). 2 Sem.

Refereeing Services, Scientific Committees and Societies

Reviewer

2014–2025 ***Elsevier:*** *Journal of Computational Science,* ***BioMed Central:*** *Bioinformatics, Biodata Mining,* ***IEEE:*** *Conference on Decision and Control, Transactions on Human-Machine Systems, Transactions on Visualization and Computer Graphics, Eurovis Eurographics,* ***Informa:*** *F1000Research,* ***Oxford:*** *Bioinformatics,* ***Public Library of Science:*** *PLOS One, Computational Biology,* ***Royal Society of Chemistry Publishing:*** *Digital Discovery,* ***Springer Nature:*** *International Journal of Computer Assisted Radiology and Surgery, Communications, Communications Engineering, Scientific Reports, Science China Information Sciences.* ***Wiley:*** *Acta Crystallographica Section D: Structural Biology, Public Health Challenges.*

Committees

2025 **Program committee**, The 33rd German Conference on Bioinformatics (GCB), Düsseldorf, Germany

2024 **Habilitation Committee**, H. Richard, Department of Mathematics and Computer Science. Freie Universität Berlin. Berlin, Germany

2024 **PhD committee**, Visual Analytics Approaches to Genomic Data Representation: From Molecular Storage to Multidimensional Projection by Chisom Ezekannagha. Philipps-Universität Marburg. Marburg, Germany

2023 **PhD committee**, A Tale of Two Approaches: Comparing Top-Down and Bottom-Up Strategies for Analyzing and Visualizing High-Dimensional Data by Aleksandar Anžel. Philipps-Universität Marburg. Marburg, Germany

2023 **PhD committee**, Interpretable Machine Learning for real-world application by Olivera Stojanovic. Universität Osnabrück. Osnabrück, Germany

2022 **Program committee**, VisGuides Workshop, the 4^{th} *Workshop on Visualization Guidelines in Research, Design, and Education*, IEEE VIS. Oklahoma City, OK, USA

2021–2022 **Habilitation Committee**, M. C. Thrun, Department of Mathematics and Computer Science. Philipps-Universität Marburg. Marburg, Germany

2015–2016 **Student Representative**, Graduate school 'Computational Methods for the Analysis of the Diversity and Dynamics of Genomes', Universität Bielefeld. Bielefeld, Germany.

Boards & Societies

2025–2027 **Board Member**, World Health Organization (WHO), Technical Advisory Group on Artificial Intelligence for Health (TAG-AI), WHO Europe Office, Copenhagen, Denmark

2024–2025 **Editor**, Nature Computational Science & Scientific Reports, Springer Nature Group

2022–2025 **Full member**, The German Association of University Professors and Lecturers, Deutscher Hochschulverband (DHV), Bonn, Germany

2021–2025 **Full member**, The Scientific Research Honor Society, *Sigma Xi*. Research Triangle Park. Morrisville, NC, USA

2021–2022 **Board Member**, Center for Synthetic Microbiology, (SYNMIKRO), Scientific Board, Philipps-Universität Marburg. Marburg, Germany

2019–2021 **Editor**, Nightingale, The Journal of the Data Visualization Society

2016–2017 **Member**, IEEE, Institute of Electrical and Electronics Engineers.

Programming

Python, Perl, C, C++, Mathematica, PL/PGSQL, PostgreSQL, xHTML, PHP, Javascript, R, LaTeX, ConTeXt.

Languages

French	**native speaker**	–
English	**near native**	*CEFR (C2)*
German	**very good command**	*CEFR (B2)*

References

Prof. Dr. Claudia Müller-Birn	clmb@inf.fu-berlin.de
Prof. Dr. Tim W. Nattkemper	tim.nattkemper@uni-bielefeld.de
Prof. Dr. Tamara Munzner	tmm@cs.ubc.ca
Prof. Dr. Jens Stoye	jens.stoye@uni-bielefeld.de
Prof. Dr. Bruno Miroux	bruno.miroux@ibpc.fr