# Georges Hattab

*Curriculum Vitae*

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✉ *hattabg@rki.de*
🖮 *visualization.group*

*Nationality: French. Born 2$^{nd}$ Sep. 1988*

*Artificial Intelligence, Data Mining, Visualization*

## Degrees

**2022** **Habilitation (*Doctor habilitatus* or *Privatdozent*), Computer Science**,
*Department of Mathematics and Computer Science, Philipps-Universität Marburg*,
Marburg, Germany, *scilicet* submitted (10.2021), *venia legendi* (11.2022).

**2018** **PhD (*Doctor rerum naturalium*), Bioimage Informatics, Bioinformatics**,
*Faculty of Technology, Universität Bielefeld*, Bielefeld, Germany, *sc.* s. (09.2017),
*viva voce* (05.2018).

**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

**2024** **Adjunct Professor (Privatdozent)**, *Freie Universität Berlin, Department of Mathematics and Computer Science*, Berlin, Germany.

**2022–2024** **Research Group Leader**, *Visualization Group. Center for Artificial Intelligence in Public Health Research, Zentrum für Künstliche Intelligenz in der Public Health-Forschung (ZKI-PH), Robert Koch Institute (RKI)*, Berlin/Wildau, Germany.
Develop computational solutions at the intersection of visualization and Artificial Intelligence (AI) in the context of Public Health 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 information storage systems that rely on molecular storage media.

**2019–2022** **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. Advised by Prof. Dominik Heider

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| 2018–2019 | **Postdoctoral Researcher**, *National Center for Tumor Diseases (NCT), Deutsches Krebsforschungszentrum (DKFZ), University Hospital Carl Gustav Carus, Technische Universität*, Dresden, Germany.<br>Biomechanical analysis and computer vision for mixed reality of human organs in the field of computer- and robot-assisted surgery. Advised by Prof. Stefanie Speidel |
| 2014–2017 | **PhD**, *Universität Bielefeld, Biodata Mining Group, Computational Methods for the Analysis of the Diversity and Dynamics of Genomes (DiDy), German-Canadian DFG Int. Research Training Group*, Bielefeld, Germany.<br>Analyzing colony dynamics and visualizing cell diversity in spatiotemporal experiments. Supervised by Prof. Tim W. Nattkemper and Prof. Tamara Munzner |
| 2016 | **Visiting Graduate Student**, *Information Visualization Group, University of British Columbia (UBC)*, Vancouver, BC, Canada.<br>Development of an efficient algorithm and data abstractions to analyze bacterial colony growth in time-lapse image data. Supervised by Prof. Tamara Munzner |
| 2016 | **Visiting Graduate Student**, *Database and Data Mining Group, School of Computing Science, Simon Fraser University (SFU)*, Burnaby, BC, Canada.<br>Scientific exchange. Advised by Prof. Martin Ester |
| 2014 | **Master**, *Laboratoire Évolution, Génomes et Spéciation (LEGS), CNRS UPR 9034, Université Paris Denis Denis Diderot*, Gif-sur-Yvette, France.<br>Detection and analysis of trajectory patterns of *Drosophila melanogaster* in a spatial system based on the Morris water maze. Supervised by Dr. Frederic Mery |
| 2013 | **Internship**, *Institut de Biologie Physico-Chimique (IBPC), CNRS UMR 7099, Université Paris Denis Diderot*, Paris, France.<br>Proteome and metabolome study of the bacterium strain C43(DE3) throughout membrane proliferation in *Escherichia coli*. Supervised by 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.<br>Software deployment and data mining for label-free proteomics. Supervised by Dr. Chiara Guerrera |
| 2012 | **Bachelor**, *Institut de Biologie Physico-Chimique (IBPC), CNRS UMR 7099, Université Paris Denis Diderot*, Paris, France.<br>Establishment of a bibliographic and bioinformatics mining tool to research the overexpression of heterologous membrane proteins. Supervised by Prof. Bruno Miroux |
| 2010 | **Internship**, *Institut Jacques Monod (IJM), CNRS UMR 7592*, Paris, France.<br>Gene expression profiling and database creation to assess genetic regulations in iron homeostasis in *Saccharomyces cerevisiae*. Supervised by Dr. Denis Mestivier. |

## Further Experience

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| 2023 | **Workshop** 'Responsible and Open Foundation Models'. Princeton University. Stanford University. Online. |
| 2023 | **Workshop** 'Open Science for One Health'. Amano Grand Central. Berlin, Germany |
| 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 11<sup>th</sup> Workshop on Visual Computing for Biology and Medicine.' The Eurographics Association. Paris, France

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

2020 **Workshop** on 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. J. Stoye, A. Schönhuth. Universität Bielefeld. Bielefeld, Germany

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

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

2017 **Springer Cover design** for 'Comparative Genomics: Methods and Protocols.' Stoye et al. 2017

2016 **Workshop** 'Algorithms for Comparative Genomics.' C. Chauve, J. Stoye. Simon Fraser University. Burnaby, Canada

2016 **Workshop** 'Academic Writing in Natural Sciences.' M. Gould. Universität Bielefeld. Bielefeld, Germany

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.' R. Morin, Y. Wang, A. Cherkasov, S. Volik, R Brinkman, A. Wyatt, S. Shah, and A. Bouchard. Simon Fraser University. Burnaby, Canada

2015 **Workshop** '13<sup>th</sup> Bioinformatics Research and Education Workshop (BREW).' University of Tartu. Tartu, Estonia

2015 **Workshop** 'Biodata Visualization and Subcellular localization'. W. Duddy, J. Krüger, S. Müller, and T. Wallmeyer. Universität Bielefeld. Bielefeld, Germany

2014 **Volunteer curator** for the United Nations Development Programme (UNDP). Lead curator and book designer for an international collaborative publication: Reversality

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

2011–2014 **Volunteer rescuer** at the French Red Cross (Croix-Rouge Française). Paris, France.

## Publications

2024 **TBD**, *Further information available on the Publications page*.

2023 **Ilgen, B., Pilic, A., Harder, T., Hattab, G.**, *Pre-Training to Identify Immunization-Related Entities from Systematic Reviews*, ACM Natural Language Processing and Information Retrieval (NLPIR), doi.org/10.1145/3639233.3639355.

2023 **Anžel, A., Heider, D., Hattab, G.**, *Interactive Polar Diagrams for Model Comparison*, Computer Methods and Programs in Biomedicine, doi.org/10.1016/j.cmpb.2023.107843.

2023 **Weckbecker, M., Neziri, S., Hattab, G.**, *Supporting Mathematical Education with Interactive Visual Proofs*, IEEE VIS Workshop on Visualization for Social Good (VIS4Good), doi.org/10.1109/VIS4Good60218.2023.00011.

2023 **Yin, Z., Dai, X., Yang, Z., Shen, Y., Hattab, G., Zhao, H.**, *Learning-based Control for PMSM Using Distributed Gaussian Processes with Optimal Aggregation Strategy*, Conference of the IEEE Industrial Electronics Society (IECON), doi.org/10.1109/IECON51785.2023.10312503.

2023 **Ezekannagha, C., Welzel. M., Heider, D., Hattab, G.**, *DNAsmart: Multiple Attribute Ranking Tool for DNA Data Storage Systems*, Computational and Structural Biotechnology, doi.org/10.1016/j.csbj.2023.02.016.

2023 **Hattab, G., Anžel, A., Spänig. S., Neumann, N., Heider, D.**, *A parametric approach for molecular encodings using multilevel atomic neighborhoods applied to peptide classification*, NAR genomics and bioinformatics, doi.org/10.1093/nargab/lqac103.

2022 **Hattab, G.**, *Ten Challenges and Explainable Analogs of growth functions and distributions for statistical literacy and fluency*, IEEE Workshop on Visualization for Social Good (VIS4Good), doi.org/10.1109/VIS4Good57762.2022.00006.

2022 **Sperlea, T., Heider, D., Hattab, G.**, *A Theoretical Basis for Bioindication in Complex Ecosystems*, Ecological Indicators, doi.org/10.1016/j.ecolind.2022.109050.

2022 **Ezekannagha, C., Becker, A., Heider, D., Hattab, G.**, *Sustainable Design for long-term Archiving of information with DNA as green Storage Medium*, Materials Today Bio, doi.org/10.1016/j.mtbio.2022.100306.

2022 **Kaya, G., Ezekannagha, C., Heider, D., Hattab, G.**, *Context-Aware Phylogenetic Trees for Phylogeny-based Taxonomy Visualization*, Frontiers in Genetics, doi.org/10.3389/fgene.2022.891240.

2022 **Anžel, A., Heider, D., Hattab, G.**, *MOVIS: A Multi-Omics Software Solution for Multi-modal Time-Series Clustering, Embedding, and Visualizing Tasks*, Computational and Structural Biotechnology, doi.org/10.1016/j.csbj.2022.02.012.

2022 **Sperlea, T., Schenk, J.P., Dreßler, H., Beisser, D., Hattab, G., Boenigk, J., Heider, D.**, *The relationship between land cover and microbial community composition in European lakes*, Science of the Total Environment, doi.org/10.1016/j.scitotenv.2022.153732.

2021 **Hattab, G.**, *Data Abstractions for Visual Analytics in Computational Life Sciences*, (Habilitation).

2021 **Hannah, L. F., Welzel, M., Hattab, G., Hauschild, A. C., Heider, D.**, *Fractal Construction of Constrained Code Words for DNA Storage Systems*, Nucleic Acids Research, doi.org/10.1093/nar/gkab1209.

2021 **Martin, R., Dressler, H., Hattab, G., Hackl, T., Fischer, M. G., & Heider, D.**, *MOSGA 2: Comparative Genomics and Validation Tools*, Computational and Structural Biotechnology, doi.org/10.1016/j.csbj.2021.09.024.

2021    **Anžel, A., Heider, D., Hattab, G.**, *The Visual Story of Data Storage: From Storage Properties to User Interfaces*, Computational and Structural Biotechnology Journal, 19, 4904, doi.org/10.1016/j.csbj.2021.08.031.

2021    **Arnold, M., Speidel, S., Hattab, G.**, *Towards improving edge quality using combinatorial optimization and a novel skeletonize algorithm*, BMC Medical Imaging, 21 (1), 1-9, doi.org/10.1186/s12880-021-00650-z.

2021    **Hattab, G., Hatzipanayioti, A., Klimova, A., Pfeiffer, M., Klausing, P., Breucha, M., . . . , & Speidel, S.**, *Investigating the utility of VR for spatial understanding in surgical planning: Evaluation of head-mounted to desktop display*, Scientific Reports, 11(1), 1-11, doi.org/10.1038/s41598-021-92536-x.

2021    **Spänig, S., Mohsen, S., Hattab, G., Hauschild, A. C., & Heider, D.**, *A large-scale comparative study on peptide encodings for biomedical classification*, NAR genomics and bioinformatics, 3(2), doi.org/10.1093/nargab/lqab039.

2021    **Sperlea, T., Kreuder, N., Beisser, D., Hattab, G., Boenigk, J., & Heider, D.**, *Quantification of the covariation of lake microbiomes and environmental variables using a machine learning-based framework*, Molecular Ecology, 30(9), 2131-2144, doi.org/10.1111/mec.15872.

2021    **Wagner, D., Heider, D., & Hattab, G.**, *Mushroom data creation, curation, and simulation to support classification tasks*, Scientific reports, 11(1), 1-12, doi.org/10.1038/s41598-021-87602-3.

2021    **Hattab, G., Rhyne, T. M., & Heider, D.**, *Correction: Ten simple rules to colorize biological data visualization*, PLoS Computational Biology, 17(4), doi.org/10.1371/journal.pcbi.1008901.

2021    **Hufsky, F., Lamkiewicz, K., Almeida, A., Aouacheria, A., Arighi, C., Bateman, A., . . . , Hattab, G., . . . & Marz, M.**, *Computational strategies to combat COVID-19: useful tools to accelerate SARS-CoV-2 and coronavirus research*, Briefings in bioinformatics, 22(2), 642-663., doi.org/10.1093/bib/bbaa232.

2020    **Martin, R., Hackl, T., Hattab, G., Fischer, M. G., & Heider, D.**, *MOSGA: Modular Open-Source Genome Annotator*, Bioinformatics, 36 (22-23), 5514–5515, doi.org/10.1093/bioinformatics/btaa1003.

2020    **Hattab, G., Rhyne, T. M., & Heider, D.**, *Ten simple rules to colorize biological data visualization*, PLoS Computational Biology, 16(10), doi.org/10.1371/journal.pcbi.1008259.

2020    **Martin, R., Löchel, H. F., Welzel, M., Hattab, G., Hauschild, A. C., & Heider, D.**, *CORDITE: the curated CORona drug InTERactions database for SARS-CoV-2*, Iscience, 23(7), 101297, doi.org/10.1016/j.isci.2020.101297.

2020    **Hattab, G., Ahlfeld, T., Klimova, A., Koepp, A., Schuerer, M., & Speidel, S.**, *Uniaxial compression testing and Cauchy stress modeling to design anatomical silicone replicas*, Scientific Reports, 10(1), 1-7, doi.org/10.1038/s41598-020-68886-3.

2020    **Hattab, G., Ahlfeld, T., Klimova, A., Koepp, A., Schuerer, M., & Speidel, S.**, *Data from Uniaxial Compression testing and validation scripts for Cauchy stress modeling to design anatomical silicone replicas*, 10.24435/materialscloud:2020.0019/v2.

2020 **Hattab, G., Riediger, C., Weitz, J., & Speidel, S.**, *A case study: impact of target surface mesh size and mesh quality on volume-to-surface registration performance in hepatic soft tissue navigation*, International journal of computer assisted radiology and surgery, 15(8), 1235-1245, doi.org/10.1007/s11548-020-02123-0.

2020 **Hattab, G., Arnold, M., Strenger, L., Allan, M., Arsentjeva, D., Gold, O., . . . & Speidel, S.**, *Kidney edge detection in laparoscopic image data for computer-assisted surgery*, International journal of computer assisted radiology and surgery, 15(3), 379-387, doi.org/10.1007/s11548-019-02102-0.

2020 **Hattab, G., Meyer, F., Albrecht, R. D., & Speidel, S.**, *MODELAR: A MODular and EvaLuative framework to improve surgical Augmented Reality visualization*, The Eurographics Association, Eurographics & Eurovis 2020, 10.2312/evs.20201066.

2019 **Hattab, G., & Nattkemper, T. W.**, *SeeVis–3D space-time cube rendering for visualization of microfluidics image data*, Bioinformatics, 35(10), 1802-1804, doi.org/10.1093/bioinformatics/bty889.

2018 **Hattab, G.**, *Analyzing colony dynamics and visualizing cell diversity in spatiotemporal experiments*, Universität Bielefeld, (PhD, Doctor rerum naturalium).

2018 **Hattab, G., Wiesmann, V., Becker, A., Munzner, T., & Nattkemper, T. W.**, *A novel Methodology for characterizing cell subpopulations in automated Time-lapse Microscopy*, Frontiers in bioengineering and biotechnology, 6, 17, doi.org/10.3389/fbioe.2018.00017.

2017 **Hattab, G., Schlüter, J. P., Becker, A., & Nattkemper, T. W.** , *ViCAR: an adaptive and landmark-free registration of time lapse image data from microfluidics experiments*, Frontiers in genetics, 8, 69, doi.org/10.3389/fgene.2017.00069.

2016 **Hattab, G., Brink, B. G., & Nattkemper, T. W.**, *A mnemonic card game for your amino acids*, Emily Carr University of Art+Design, 1, 48, Information+ Conference.

2015 **Hattab, G., Warschawski, D. E., Moncoq, K., & Miroux, B.**, *Escherichia coli as host for membrane protein structure determination: a global analysis*, Scientific reports, 5(1), 1-10, doi.org/10.1038/srep12097.

2015 **Schlueter, J. P., McIntosh, M., Hattab, G., Nattkemper, T. W., & Becker, A.**, *Phase Contrast and Fluorescence Bacterial Time-Lapse Microscopy Image Data*, Universität Bielefeld, doi.org/10.4119/unibi/2777409.

2014 **Hattab, G., Moncoq, K., Warschawski, D., & Miroux, B.**, *Escherichia coli as host for membrane protein structure determination: A global analysis.*, Biophysical Journal, 106(2), 46a (abstract), doi.org/10.1016/j.bpj.2013.11.335.

2014 **Hattab, G.**, *Pattern recognition in a heat maze based spatial system adapted to Drosophila melanogaster*, Université Paris-Saclay. Université Paris Denis Diderot, (Master of Science).

2012 **Hattab, G.**, *Establishment of a bibliographic and bioinformatics mining tool to research the over-expression of heterologous membrane proteins*, Institute of Biological Physical Chemistry. Université Paris Denis Diderot, (Bachelor of Science).

## Books

**2022** **Marey, E. J.**, *The Graphic Method, La Méthode Graphique*, Information Graphic Visionaries, Translated and edited by Hattab, G. Co-edited by Andrews, R. J., Visionary Press. ISBN: 979-8-9861945-2-3.

**2015** **Hattab, G., Bahram, B., Nazar Pastor, K.**, *Reversality*, Lulu, Photobook archive. Center for Contemporary Art, Tehran, Iran. The International Center of Photography, New York, NY, USA.

**2014** **Hattab, G., Suisse, A. Y., Ilioaia, O., Casiraghi, M., Dezi, M., Warnet, X. L. . . . & Miroux, B**, *Membrane protein production in Escherichia coli: overview and protocols. Membrane Proteins Production for Structural Analysis*, Springer, 87-106, doi.org/10.1007/978-1-4939-0662-8_4.

## Selected Conferences

**2024** American Control Conference (ACC). Toronto, CA (proceedings paper)

**2024** The 23$^{rd}$ International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). Auckland, NZ (proceedings paper)

**2023** IEEE Conference on Decision and Control (CDC). Marina Bay Sands, Singapore, SG (proceedings paper)

**2023** IEEE Visualization Conference (VIS). Melbourne, AU (proceedings paper)

**2022** IEEE VIS. Oklahoma City, OK, USA (proceedings paper)

**2022** The 1$^{st}$ International Conference on Data Storage in Molecular Media (DSMM). Marburg, Germany. Virtual (organizer)

**2021** IEEE VIS. New Orleans, LA, USA (attendee)

**2021** The 29$^{th}$ German Conference on Bioinformatics (GCB). Virtual (proceedings paper)

**2020** Physics-Biology Interface. French National Alliance for Life Sciences and Health (Aviesan). Paris, FR (attendee)

**2020** IEEE VIS. Salt Lake City, UT, USA (attendee)

**2020** The 28$^{th}$ GCB. Frankfurt, DE (two proceedings papers)

**2020** Eurographics & Eurovis (EGEV) 2020. Norrköpping, SE (proceedings paper)

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

**2018** The 9$^{th}$ International Conference on Information Processing in Computer-Assisted Interventions (IPCAI). Berlin, DE (event assistant)

**2016** IEEE VIS. Baltimore, MD, USA (attendee)

**2016** Information+ conference. Emily Carr University. Vancouver, BC, CA (highlight talk and exhibition)

**2015** The 7$^{th}$ Gender summit (GS7): Mastering gender in research performance, contexts, and outcomes. Berlin, DE (attendee)

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

2014    The 22$^{nd}$ GCB. Bielefeld, DE (attendee)

2014    The 1$^{st}$ DYNAMO Labex Symposium: Evolution, biogenesis and dynamics of energy transducing membranes. Oceanographic Institute. Paris, FR (poster)

2014    Biophysical Society: The 58$^{th}$ Annual Meeting. Biophys J 106 (2, Suppl 1): 46a. San Francisco, CA, USA (poster and abstract in proceedings)

2013    Bioenergetics: Gordon Research Conferences. Proctor Academy. Andover, NH, USA (highlight talk).

## Invited Communications

### Verbal

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** 'Imagine All the People and Machines: How Improved Human and Machine Representations Can Drive Progress.' The 2$^{nd}$ Future Bioinformatics Workshop. Herborn Castle Meeting House and Theological Seminary. Herborn, 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 9$^{th}$ 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

2019    **Workshop** 'Perceptual Capacities and Constraints in AR/VR for the visualization of 3D biomedical image data.' The 33$^{rd}$ International Conference on Computer Assisted Radiology and Surgery (CARS). R. Eagleson, G. Hattab, B. Preim, U. Eck. Rennes, France

2015    **Lecture** 'Interdisciplinary vue d'ensemble.' At the Interface of Science and Art, Art 101. Department of Art, University of Oregon. F. Bahram. Eugene, OR, USA.

### Written

2021    **Article** 'A Snapshot View of IEEE Visualization (VIS) 2021.' ACM SIGGRAPH. T. M. Rhyne. G. Hattab. blog.siggraph.org

2020    **Article** 'A Snapshot View of IEEE Visualization (VIS) 2020.' ACM SIGGRAPH, the international Association for Computing Machinery's Special Interest Group on Computer Graphics and Interactive Techniques. T. M. Rhyne, G. Hattab. blog.siggraph.org

## Teaching

Freie Universität Berlin. Berlin, Germany

2024 **Lecture and Practical** Advanced Data Visualization for Artificial Intelligence (19336901, 19336902). 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). Four consecutive semesters (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.

## Advising & Supervision

Freie Universität Berlin. Berlin, Germany

Chisom Ezekannagha, Postdoc. Computer Science (CS), 12.2026 (Advisor or A)

Aleksandar Anžel, Postdoc. CS, 09.2026 (A, tentative)

Ana Paula Gomes Ferreira, Ph.D. CS, 09.2026 (tentative)

Jannis Köckritz, Ph.D. CS, 09.2026 (tentative)

Vincent Schilling, Ph.D. CS, 09.2026 (tentative)

Akshat Dubey, Ph.D. CS, 07.2026 (tentative)

Andre Jatmiko Wijaya, Ph.D. CS, 06.2026 (tentative)

Bahar Ilgen, Postdoc. Computer Science (CS), 12.2025 (A, tentative)

Zewen Yang, Postdoc. Computer Science (CS), 12.2025 (A, tentative)

Ebenezer Oladimeji Awotoro, Research Assistant, 09.2024 (tentative)

Blessy Rajan, Intern. CS, 02.2024 (tentative)

Florian Suhre, M.Sc. CS, 01.2024

Moritz Weckbecker, Research Assistant, 09.2023

Philipps-Universität Marburg. Marburg, Germany

Chisom Ezekannagha, Ph.D. CS, 02.2024

Aleksandar Anžel, Ph.D. CS, 12.2023

Dilekcan Pamir, Research Project. CS, 10.2023

Xiao Langlotz, B.Sc. CS, 09.2023

Florian Schwarz, M.Sc. CS , 07.2023

Minh Nguyen, M.Sc. Business Informatics (BI), 04.2023

Ihsan Tri Heldian, Student Assistant, 04.2023

Liu Chang, M.Sc. BI, 12.2022

Marius Welzel, Ph.D. CS, 12.2022 (A)

Florian Schwarz, CS Projektarbeit, 11.2022

Xiao Chu, CS Fortgeschrittenenpraktikum (FoPra), 10.2022

David Sonnabend, CS Projektarbeit, 10.2022

Khawla Elhadri, CS Projektarbeit, 10.2022

Samuel Becker, CS Projektarbeit, 10.2022

Felix Klein, CS Projektarbeit, 10.2022

Raffael Schön, CS Projektarbeit, 10.2022

Leon Wimbes, CS Projektarbeit, 10.2022

Lucas Staus, CS Projektarbeit, 10.2022

Fabio Rougier, M.Sc. CS. 10.2022

Solida Neziri, B.Sc. CS, 10.2021

Yin Lanhan, M.Sc. BI, 10.2022

Jing Chen, B.Sc. BI, 10.2022

Roman Martin, Ph.D. CS, 07.2022 (A)

Gizem Kaya, B.Sc. BI, 10.2021

Theodor Sperlea, Ph.D. Natural Sciences, 09.2021 (A)

Freya Siv Dorn, B.Sc. CS, 04.2021

Sandra Clemens, CS Projektarbeit, 06.2021

Nils Neumann, M.Sc. CS, 11.2020

Johannes Tauscher, B.Sc. CS, 10.2020

Dennis Wagner, B.Sc. CS, 09.2020

University Hospital Carl G. Carus, Technische Universität. Dresden, Germany

Felix Meyer, CS Projektarbeit, 12.2019

Remke Dirk Albrecht, CS Projektarbeit, 12.2019

Peter Klausing, Student Assistant, 12.2019

Ljupka Titizova, CS Projektarbeit, 11.2019

Oliver Gold, B.Sc. CS, 10.2019

Oliver Gold, CS Projektarbeit, 07.2019

Marvin Arnold, CS Projektarbeit, 07.2019

Leon Strenger, CS Projektarbeit, 07.2019

Darja Arsentjeva, CS Projektarbeit, 07.2019

Lena Denne, CS Projektarbeit, 07.2019

Alexander Koepp, Medical Projektarbeit, 10.2018

## Refereeing Services, Scientific Committees and Societies

2014–2024 *Elsevier Journal of Computational Science, Eurovis Eurographics, F1000Research, BMC Bioinformatics, BMC Biodata Mining, IEEE Conference on Decision and Control, IEEE Transactions on Visualization and Computer Graphics, Oxford Bioinformatics, PLOS One, PLOS Computational Biology, Springer International Journal of Computer Assisted Radiology and Surgery, Springer Nature Communications Engineering, Springer Nature Scientific Reports, Springer Science Information China.*

Committees

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

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.

Societies

2022–2024 **Editorial board**, Scientific Reports *(Sci Rep)*, Nature Publishing Group, Nature

2022–2024 **Full member**, The German Association of University Professors and Lecturers, Deutscher Hochschulverband (DHV), Bonn, Germany

2021–2024 **Full member**, The Scientific Research Honor Society, *Sigma Xi*. Research Triangle Park. Morrisville, NC, USA

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 **Scientific board**, Center for Synthetic Microbiology, *Zentrum für Synthetische Mikrobiologie (SYNMIKRO)*, Philipps-Universität Marburg. Marburg, Germany

2019–2021 **Editorial board**, 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

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

## References

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|---|---|
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| 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 |