

Benjamin Bach, Ph.D

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Research

Benjamin has been a Lecturer in Design Informatics and Visualisation at the School of Informatics, University of Edinburgh since 2017 and is now leading the VisHub Group (<http://visualinteractivedata.github.io>). His research focuses on making data visualisation more effective and usable, which includes creating and evaluating interactive visualisations for complex datasets (e.g., networks and temporal data) and researching methods to effectively communicate and present data. Many of his projects involve interdisciplinary collaborations with researchers in neuroscience, history, archaeology, law, and biology. In 2019, Benjamin was awarded the Eurographics Young Researcher Award, highlighting his “broad and original contributions” and his “high rate of well-cited publications”. In 2014, Benjamin’s PhD dissertation was awarded a Best Thesis Honorable Mention by the Technical Committee of the primary international forum for visualisation, the VGTC. His research on data comics and visual storytelling has also been awarded an internal Visual communication award by the Scottish Government.

Prior to joining the University of Edinburgh, Benjamin was a research assistant at the Visual Computing Group at Harvard University, the Immersive Analytics Lab at Monash University, a visiting researcher at Microsoft Research, Redmond, and the Integrated Brain Imaging Center at the University of Washington. Benjamin has over 60 publications and is regularly publishing at top-tier conferences and journals such as ACM Conference on Human Factors in Computing Systems (CHI) and IEEE Transactions on visualisation and Computer Graphics (TVCG).

Education

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|-----------|--|
| 2011-2014 | Ph.D. in Computer Science (Docteur en Informatique) Jan. 2011 - May 2014, with honors. <i>Connections, Changes, and Cubes: Unfolding Dynamic Networks for Visual Exploration</i> .
Co-supervised by Pr Jean-Daniel Fekete (Inria, France) and Dr Emmanuel Pietriga (Inria, France)
Université Paris-Sud Saclay, France |
| 2013 | Big Data Information Visualization (summer school) University of St. Andrews, United Kingdom |

- 2011 Brains and Minds: The perceptual and computational bases of higher cognitive processes (summer school)
Central European University Budapest, Hungary
- 2004-2010 Master in Computer Science and Media (Diplom Medieninformatik)
Oct. 2004 - Dec. 2010, with honors
Faculty of Computer Science Technische Universität Dresden
Dresden, Germany
- 2004-2009 Art and Design (complementary side curses)
Aug. 2004 - May 2009
Technische Universität Dresden, and
Dresden Academy of Fine Arts Dresden
- 2007-2008 Communication Design (student exchange)
Aug. 2007 - Jul. 2008 Faculty of Fine-Arts,
Universidade de Lisboa, Lisbon, Portugal
- 2003-2004 Mandatory German civil-service (military-service equivalent)
- 2003 High School Diploma ("Abitur", 12 grades)
Staatliches Gymnasium am Anger,
Jena, Germany

Employment and Internships

- Since Apr 2017 Lecturer (Assistant Professor, tenured) in Design Informatics and Visualisation
School of Informatics
University of Edinburgh, UK
- Oct 2016 - Mar 2017 Post-doctoral researcher
Visual Computing Group
Harvard University, Cambridge MA
- Apr 2016 - Sep 2016 Post-doctoral researcher
Monash University Caulfield, VIC, Australia
- Feb 2015 - Oct 2015 Visiting Scientist Feb. - Nov. 2015
Integrated Brain Imaging Center (IBIC), University of Washington, and
Microsoft Research, Seattle, WA, USA
- Jun 2014 - Oct 2015 Post-doctoral researcher
Interactive Network Visualization
Microsoft Research - Inria Joint Center Saclay, France

Jan 2011 - May 2014 Ph.D. Student
Aviz Group, Inria Saclay, France

Nov 2009 - Apr 2010 Research Internship InSitu Group, Inria,
Saclay, France

Awards and Grants

2021 EPSRC (CoI): RAMP VIS: Making Visual Analytics an Integral Part of the Technological Infrastructure for Combating COVID-19, ~£427,000

2021 Scottish Funding Council (SCF): Data Visualization Online Course for Upskilling, £45,000 (PI)

2021 EPSRC (PI): Visoverly: Semi-automatic Data Tours to Support Data Exploration and Visualisation Literacy, ~£320,000

2020 Data Driven Innovation (DDI), Co-I: Outbreak Science and Policy: A Sentiment-based Mathematical Model Repository (SER) for disease emergency decision-making and long-term resilience to future One Health threats; £89,754.30

2020 Data Driven Innovation (DDI), Co-I: Data-driven personalised recovery care pathways after COVID-19, £85,814

2019 Scottish Funding Council (SCF): Data Visualization Online Course for Upskilling, £80,000 (PI)

2019 Global Challenges Research Fund (GCRF): Peacetech Initiative: partnership for interactive mediation, £46,000

2018 EPSRC Capital Investment Grant: VisHub—A Collaborative Data Visualisation Space for Interdisciplinary Research, Teaching, and Public *Engagement*. £200k (Co-I)

2018 Edinburgh Futures Institute Research Grant: *Visualizing Inequalities* £5k (PI)

2017 IGS (School internal) PhD scholarship funding: ~£60k over 3 years (PI)

2017 Principal's Teaching Award: Towards Real-world teaching in Data Science, £15k (PI)

2014 Microsoft Research - Inria Joint Centre 18 month position

2010-2014 French Government Ph.D. grant: \$100.000, over 3 years

Prizes

2019 Eurographics Young Researcher 2019

2014 VGTC Best Ph.D. Thesis 2014, Honorable Mention

2013 Best Paper (top 1%), ACM Conference on Human Computer Interaction (CHI) 2013, Best Paper

Professional Activities (selection)

- ACM CHI Paper Associate Chair (2018, 2019, 2020)
- ACM CHI Late Breaking Work Associate Chair (2017)
- ACM CHI Work-in-Progress Program Committee (2015)
- IEEE InfoVis Program Committee (2018, 2019, 2020)
- IEEE InfoVis Organizing Committee (2019, 2020)
- IEEE VAST Program Committee (2018)

- GraphDrawing Program Committee
- TransImage Conference: Conference Co-chair 2018

Scientific / Conference Workshops

- [IEEE VIS Workshop on Data Vis Activities to Facilitate Learning, Reflecting, Discussing, and Designing](#). Samuel Huron, **Benjamin Bach**, Uta Hinrichs, Mandy Keck, Jonathan C. Roberts. IEEE VIS 2020
- [VisGuides: 3rd Workshop on the Creation, Curation, Critique and Conditioning of Principles and Guidelines in Visualization](#). Alfie Abdul-Rahman, Alexandra Diehl, **Benjamin Bach**, IEEE VIS 2020
- [Envisioning Future Productivity for Immersive Analytics](#): Barrett Ens, Benjamin Bach, Maxime Cordeil, Ulrich Engelke, Marcos Serrano, Wesley Willett. ACM CHI 2020
- [Interactive Visualization of Dynamic Multivariate Networks with the Vistorian](#): **Benjamin Bach**, Workshop at The Connected Past, University of Oxford, 2018
- [VisGuides: 2nd Workshop on the Creation, Curation, Critique and Conditioning of Principles and Guidelines in Visualization](#): Alexandra Diehl, **Benjamin Bach**, Alfie Abdul-Rahman, IEEE VIS 2018, Berlin
- [Storyboards for Science: Combining the Visual and Verbal to Create Engaging Communication](#): David Rogers, Francesca Samsel, Sean Cunningham, **Benjamin Bach**, IEEE VIS 2018, Berlin
- [Interactive Visualization of Dynamic Multivariate Networks with the Vistorian](#): **Benjamin Bach**, Jean-Daniel Fekete, Nicole Dufournaud, Open workshop, EHESS, Paris, 2018
- [Interactive Visualization of Dynamic Multivariate Networks with the Vistorian](#): **Benjamin Bach**, Workshop at CAA conference, University of Tübingen, 2018
- [Immersive Analytics: Exploring Future Visualization and Interaction Technologies for Data Analytics](#): **Benjamin Bach**, Maxime Cordeil, Tim Dwyer, Bongshin Lee, Bahador Saket, Alex Endert, Christopher Collins, Sheelagh Carpendale, IEEE VIS 2017 Phoenix, AZ
- [Discovery Jam](#): David Rogers, Dan Keefe, Francesca Samsel, Miriah Meyer, Cecilia Aragon, **Benjamin Bach**: IEEE VIS 2017, Phoenix, AZ
- [Interactive Visualization of Dynamic Multivariate Networks with the Vistorian](#): **Benjamin Bach**, Workshop at The Connected Past, University of Bournemouth, 2017
- [Immersive Analytics: Exploring Future Interaction and Visualization Technologies for Data Analytics](#): **B Bach**, R Dachsel, S Carpendale, T Dwyer, C Collins, B Lee. Proceedings of the 2016 ACM on Interactive Surfaces and Spaces, 529-533

Latest Publications (2018–present)

- [Visualizing and Interacting with Geospatial Networks: A Survey and Design Space](#): Sarah Schöttler, Yalong Yang, Hanspeter Pfister, Benjamin Bach. EG/IEEE Computer Graphics Forum. (2021). [\[WEB\]](#)
- [Grand Challenges in Immersive Analytics](#): Barrett Ens, Benjamin Bach, Maxime Cordeil, Ulrich Engelke, Marcos Serrano, Wesley Willett, Arnaud Prouzeau, Christoph Anthes, Wolfgang Büschel, Cody Dunne, Tim Dwyer, Jens Grubert, Jason H. Haga, Nurit Kirshenbaum, Dylan Kobayashi, Tica Lin, Monsurat Olaosebikan, Fabian Pointecker, David Saffo, Nazmus Saquib, Dieter Schmalstieg, Danielle Albers Szafir, Matthew Whitlock, Yalong Yang. ACM Conference on Human Factors in Computing Systems (CHI). (2021).
- [Sketchnote Components, Design Space Dimensions, and Strategies for Effective Visual Note Taking](#): Rebecca Zheng, Marina Fernández Camporro, Hugo Romat, Nathalie Henry Riche, Benjamin Bach, Fanny Chevalier, Ken Hinckley, Nicolai Marquardt. ACM Conference on Human Factors in Computing Systems (CHI). (2021). [\[VIDEO\]](#)

- [It's a Wrap: Toroidal Wrapping of Network Visualisations Supports Cluster Understanding](#): Kun-Ting Chen, Tim Dwyer, Benjamin Bach, Kim Marriott. ACM Conference on Human Factors in Computing Systems (CHI). (2021).
- [The Public Life of Data: Investigating Reactions to Visualizations on Reddit](#): Tobias Kauer, Arran Ridley, Marian Dörk, Benjamin Bach. ACM Conference on Human Factors in Computing Systems (CHI). (2021)/
- [Data Comics for Reporting Controlled User Studies in Human-Computer Interaction](#): Zezhong Wang, Jacob Ritchie, Jingtao Zhou, Fanny Chevalier, Benjamin Bach. IEEE Transactions on Visualization and Computer Graphics (TVCG) 2021 (IEEE VIS, 2020). (2021). [\[WEB\]](#) [\[VIDEO\]](#)
- [A Generic Framework and Library for Exploration of Small Multiples through Interactive Piling](#): Fritz Lekschas, Xinyi Zhou, Wei Chen, Nils Gehlenborg, Benjamin Bach, and Hanspeter Pfister. IEEE Transactions on Visualization and Computer Graphics (TVCG) 2021 (IEEE VIS, 2020). (2021). [\[WEB\]](#)
- [What Makes a Data-GIF Understandable?](#): Xinhuan Shu, Aoyu Wu, Junxiu Tang, Benjamin Bach, Yingcai Wu, and Huamin Qu. IEEE Transactions on Visualization and Computer Graphics (TVCG) 2021 (IEEE VIS, 2020). (2021).
- [The VisTools Marketplace: An Activity to Understand the Landscape of Visualisation Tools](#): Arran Ridley, Sarah Schöttler, Aba-Sah Dadzie, Benjamin Bach. Workshop on Vis Activities @ IEEE VIS conference. (2020). [\[WEB\]](#)
- [Interactive Time-Series of Measures for Exploring Dynamic Networks](#): Liwenhan Xie, James O'Donnel, Benjamin Bach, Jean-Daniel Fekete. International Conference on Advances Interfaces (AVI). (2020).
- [Visual Encodings for Networks with Multiple Edge Types](#): Athanasios Vogogias, Daniel Archambault, Benjamin Bach, Jessie Kennedy. International Conference on Advances Interfaces (AVI). (2020).
- [Cheat Sheets for Data Visualization Techniques](#): Zezhong Wang, Lovisa Sundin, Dave Murray-Rust, Benjamin Bach. ACM Conference on Human Factors in Computing Systems (CHI). (2020). [\[VIDEO\]](#)
- [Embodied Axes: Tangible, Actuated Interaction for 3D Augmented Reality Data Spaces](#): Maxime Cordeil, Benjamin Bach, Andrew Cunningham, Bastian Montoya, Ross T. Smith, Bruce H. Thomas, Tim Dwyer. ACM Conference on Human Factors in Computing Systems (CHI). (2020).
- [DoughNets: Visualising Networks Using Torus Wrapping](#): Kun-Ting Chen, Tim Dwyer, Kim Marriott, Benjamin Bach. ACM Conference on Human Factors in Computing Systems (CHI). (2020).
- [Augmenting Static Visualizations with PapARVis Designer](#): Zhutian Chen, Wai Tong, Qianwen Wang, Benjamin Bach, Huamin Qu. ACM Conference on Human Factors in Computing Systems (CHI). (2020).
- [Pattern-Driven Navigation in 2D Multiscale Visualizations with Scalable Insets](#): Fritz Lekschas, Michael Behrisch, Benjamin Bach, Peter Kerpedjiev, Nils Gehlenborg, Hanspeter Pfister. IEEE Transactions on Visualization and Computer Graphics (TVCG) 2020 (IEEE VIS, 2019)). (2020).
- [IATK: An Immersive Analytics Toolkit](#): Maxime Cordeil, Andrew Cunningham, Benjamin Bach, Christophe Hurter, Bruce H. Thomas, Kim Marriott, Tim Dwyer. IEEE VR (2019). (2019). [\[WEB\]](#)
- [PaxVis: Visualizing Peace Agreements](#): Lucy Havens, Mengting Bao, Larissa Pschetz, Benjamin Bach, Christine Bell. ACM Conference on Human Factors in Computing Systems (CHI). (2019). [\[WEB\]](#)
- [Comparing Effectiveness and Engagement of Data Comics and Infographics](#): Zezhong Wang, Shunming Wang, Matteo Farinella, Dave Murray-Rust, Nathalie Henry Riche. ACM Conference on Human Factors in Computing Systems (CHI). (2019).
- [DataToon: Drawing Data Comics About Dynamic Networks with Pen + Touch Interaction](#): Nam Wook Kim, Nathalie Henry Riche, Benjamin Bach, Guanpeng Xu, Matthew Brehmer, Ken Hinckley, Michel Pahud, Haijun Xia, Michael J. McGuffin, Hanspeter Pfister. ACM Conference on Human Factors in Computing Systems (CHI). (2019).
- [Teaching Data Visualization and Storytelling with Data Comic Workshops](#): Zezhong Wang, Harvey Dingwal, Benjamin Bach. ACM Conference on Human Factors in Computing Systems (CHI), Extended Abstracts. (2019).

- [DXR: A Toolkit for Building Immersive Data Visualizations](#): Sicat, Ronell, Jiabao Li, JunYoung Choi, Maxime Cordeil, Won-Ki Jeong, Benjamin Bach, and Hanspeter Pfister. IEEE transactions on visualization and computer graphics (2019) (IEEE VIS 2018). (2019).
- [Multisensory immersive analytics](#): McCormack, Jon, Jonathan C. Roberts, Benjamin Bach, Carla Dal Sasso Freitas, Takayuki Itoh, Christophe Hurter, and Kim Marriott. In Immersive Analytics, pp. 57-94. Springer, Cham. (2018).
- [Information Visualization Evaluation Using Crowdsourcing](#): Borgo, Rita, L. Micallef, B. Bach, F. McGee, and B. Lee. In Computer Graphics Forum, vol. 37, no. 3, pp. 573-595. (2018).
- [Ways of Visualizing Data on Curves](#): Bach, Benjamin, Charles Perin, Qiuyuan Ren, and Pierre Dragicevic. In TransImage 2018-5th Biennial Transdisciplinary Imaging Conference, pp. 1-14. (2018). [\[WEB\]](#)
- [Narrative Design Patterns for Data-Driven Storytelling](#): Bach, Benjamin, Moritz Stefaner, Jeremy Boy, Steven Drucker, Lyn Bartram, Jo Wood, Paolo Ciuccarelli, Yuri Engelhardt, Ulrike Koeppen, and Barbara Tversky. In Data-Driven Storytelling, pp. 125-152. AK Peters/CRC Press. (2018). [\[WEB\]](#)
- [VisGuides: A forum for discussing visualization guidelines](#): Diehl, Alexandra, Alfie Abdul-Rahman, Mennatallah El-Assady, Benjamin Bach, Daniel Keim, and Min Chen. IEEE/CGD EuroVis Shortpapers. (2018).
- [Towards Open-World Scenarios: Teaching the Social Side of Data Science](#): Corneli, Joseph, Dave Murray-Rust, and Benjamin Bach. In Proceedings of Cybernetic Serendipity Reimagined Symposium, Proc. Annual Convention of the Society for the Study of Artificial Intelligence and Simulation of Behaviour (AISB). (2018)
- [Picturing Science: Design Patterns in Graphical Abstracts](#): Hullman, Jessica, and Benjamin Bach. International Conference on Theory and Application of Diagrams. Springer, Cham. (2018).
- [Animated Edge Textures in Node-Link Diagrams: a Design Space and Initial Evaluation](#): Romat, Hugo, Caroline Appert, Benjamin Bach, Nathalie Henry-Riche, and Emmanuel Pietriga. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, p. 187. ACM. (2018).
- [Design patterns for data comics](#): Bach, Benjamin, Zezhong Wang, Matteo Farinella, Dave Murray-Rust, and Nathalie Henry Riche. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, p. 38. ACM. (2018).
- [Visualizing Nonlinear Narratives with Story Curves](#): Kim, Nam Wook, Benjamin Bach, Hyejin Im, Sasha Schriber, Markus Gross, and Hanspeter Pfister. IEEE Transactions on Visualization & Computer Graphics. (2018).
- [The Hologram in My Hand: How Effective is Interactive Exploration of 3D Visualizations in Immersive Tangible Augmented Reality?](#): Bach, Benjamin, Ronell Sicat, Johanna Beyer, Maxime Cordeil, and Hanspeter Pfister. IEEE Transactions on Visualization & Computer Graphics. (2018).
- [HiPiler: visual exploration of large genome interaction matrices with interactive small multiples](#): Lekschas, Fritz, Benjamin Bach, Peter Kerpedjiev, Nils Gehlenborg, and Hanspeter Pfister. IEEE transactions on visualization and computer graphics 24, no. 1 (2018): 522-531. (2018)
- [Alignment Cubes: Towards Interactive Visual Exploration and Evaluation of Multiple Ontology Alignments](#): Valentina Ivanova, Benjamin Bach, Emmanuel Pietriga, Pierre Lambrix. International Semantic Web Conference, 400-417. (2017).
- [Understanding the Use of The Vistorian: Complementing Logs with Context Mini-Questionnaires](#): Verena S. Molinero, Benjamin Bach, Catherine Plaisant, Nicole Dufournaud, Jean-Daniel Fekete. Workshop on Visualization for the Digital Humanities IEEE VIS. (2017).
- [Crowdsourcing for Information Visualization: Promises and Pitfalls](#): Rita Borgo, Bongshin Lee, Benjamin Bach, Sara Fabrikant, Radu Jianu, Andreas Kerren, Stephen Kobourov, Fintan McGee, Luana Micallef, Tatiana von Landesberger, Katrin Ballweg, Stephan Diehl, Paolo Simonetto, Michelle Zhou. Evaluation in the Crowd. Crowdsourcing and Human-Centered Experiments, 96-138. (2017).
- [Drawing into the AR-CANVAS: Designing Embedded Visualizations for Augmented Reality](#): Benjamin Bach, Ronell Sicat, Hanspeter Pfister, Aaron Quigley. IEEE VIS, Workshop on Immersive Analytics. (2017).

- [The Emerging Genre of Data Comics](#): Benjamin Bach, Nathalie Henry Riche, Sheelagh Carpendale, Hanspeter Pfister. IEEE Computer Graphics and Applications 38 (3), 6-13. (2017).
- [A Design Space for Spatio-Data Coordination: Tangible Interaction Devices for Immersive Information Visualisation](#): Maxime Cordeil, Benjamin Bach, Yongchao Li, Elliott Willson, Tim Dwyer. Proceedings of IEEE Pacific Visualization Symposium (Pacific Vis). (2017).
- [Evaluating Perceptually Complementary Views for Network Exploration Tasks](#): Chungli Chang, Benjamin Bach, Tim Dwyer, Kim Marriott. ACM Conference on Human Factors in Information Systems (CHI). (2017).
- [Magnostics: Image-based Search of Interesting Matrix Views for Guided Network Exploration](#): Michael Behrisch, Benjamin Bach, Michael Hund, Michael Delz, Laura von Rueden, Jean-Daniel Fekete, Tobias Scheck. IEEE Transactions on Visualization and Computer Graphics (TVCG). (2017).
- [Towards Unambiguous Edge Bundling: Investigating Confluent Drawings for Network Visualization](#): Benjamin Bach, Nathalie Henry Riche, Christophe Hurter, Kim Marriott, Tim Dwyer. IEEE Transactions on Visualization and Computer Graphics (TVCG). (2017). [\[WEB\]](#)
- [Telling Stories about Dynamic Networks with Graph Comics](#): Benjamin Bach, Nathalie Kerracher, Kyle W. Hall, Sheelagh Carpendale, Jessie Kennedy, Nathalie Henry Riche. Proceedings of the Conference on Human Factors in Information Systems (CHI). (2017).
- [A Descriptive Framework for Temporal Data Visualizations Based on Generalized Space-Time Cubes](#): Benjamin Bach, Pierre Dragicevic, Daniel Archambault, Christophe Hurter, Sheelagh Carpendale. Computer Graphics Forum. (2017).
- [Unfolding Dynamic Networks for Visual Exploration](#): Benjamin Bach. IEEE Computer Graphics and Applications 36 (2), 74-82. (2017).
- [Timelines Revisited: A Design Space and Considerations for Expressive Storytelling](#): Matthew Brehmer, Bongshin Lee, Benjamin Bach, Nathalie Henry Riche, Tamara Munzner. IEEE Transactions on Visualization and Computer Graphics (TVCG, Proceedings of InfoVis 2015). (2016).
- [Matrix Reordering Methods for Table and Network Visualization](#): Michael Behrisch, Benjamin Bach, Nathalie Henry Riche, Tobias Schreck, Jean-Daniel Fekete. EuroVis (State-of-the-Art) 35 (3). (2016).
- [Time Curves: Folding Time to Visualize Patterns of Temporal Evolution in Data](#): Benjamin Bach, Conglei Shi, Nicholas Heulot, Tara Madhyastha, Thomas Grabowski, Pierre Dragicevic. IEEE Transactions on Visualization and Computer Graphics (TCVG). (2016).
- [NetworkCube: Bringing Dynamic Network Visualizations to Domain Scientists](#): B Bach, NH Riche, R Fernandez, E Giannidakis, B Lee, JD Fekete. Proceedings of IEEE VIS Conference, posters. (2015).
- [Small MultiPiles: Piling Time to Explore Temporal Patterns in Dynamic Networks](#): B Bach, N Henry Riche, T Dwyer, T Madhyastha, JD Fekete, T Grabowski. Eurographics Conference on Visualization (EuroVis). (2015). [\[WEB\]](#)
- [Visual and Audio Monitoring of Island Based Parallel Evolutionary Algorithms](#): H Gilbert, W Cancino, B Bach, J Pallamidessi, P Parrend, P Collet. Journal of Grid Computing 3 (13), 309-327. (2015).
- [A Review of Temporal Data Visualizations Based on Space-Time Cube Operations](#): B Bach, P Dragicevic, D Archambault, C Hurter, S Carpendale. Eurographics Conference on Visualization. (2014).
- [Visualizing Dynamic Networks with Matrix Cubes](#): Benjamin Bach, Emmanuel Pietriga, Jean-Daniel Fekete. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI). (2014)
- [Gridvis: Visualisation of island-based parallel genetic algorithms](#): Lutton, Evelyne, Hugo Gilbert, Waldo Cancino, Benjamin Bach, Pierre Parrend, and Pierre Collet. European Conference on the Applications of Evolutionary Computation, pp. 702-713. Springer, Berlin, Heidelberg. (2014).
- [Visual and Audio Monitoring of Island Based Parallel Evolutionary Algorithms](#): E Lutton, H Gilbert, W Cancino, B Bach, J Pallamidessi, P Parrend. Journal of Grid Computing, 1-19. (2014).
- [GraphDiaries: Animated Transitions and Temporal Navigation for Dynamic Networks](#): B Bach, E Pietriga, JD Fekete. Transactions on Visualization and Computer Graphics (TVCG), 1-1. (2014)

- [Weighted graph comparison techniques for brain connectivity analysis](#): B Alper, B Bach, N Henry Riche, T Isenberg, JD Fekete. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. (2013).

For a full list of publications and my up-to-date [Google Scholar profile](#).

Recent Invited Talks

(Not including conference presentations)

- April 2021: Data Comics for Data-driven storytelling, DataViz Meetup, Toulouse, FR
- April 2021: [Visualization Empowerment](#), iLab University of Calgary, AB
- Jan 2021: [Visualization Empowerment](#), Open Lab, Newcastle University, UK.
- December 2020: The Immersive Canvas: Information Visualization in Immersive Environments, Keynote to Workshop ImAna at IEEE AIVR
- November 2020: Data Comics, Data Stories Symposium, Kings College London
- October 2020: Data Comics Guest Lecture, Kings College London
- January 2020: Keynote to Dealing with Data conference (Edinburgh): [Dealing vis Data](#)
- June 2019: Edinburgh Futures Seminar: Visualizing Peace and Conflicts
- May 2019: Kings College, London: Data visualization for exploration, explanation and beyond.
- December 2018: Shonan Seminar to Immersive Analytics (Tokio): Visualizing Space-Time Cubes in AR.
- October 2018: Tuto@Mate (online webinar): Interactive Visualization for Dynamic, Multivariate, and Geographic Networks.
- September 2018: University of Tilburg (Netherlands): Data Comics for Data-Driven Storytelling
- September 2018: Design Informatics Seminar Series (University of Edinburgh): Perspectives on Data Visualization.
- May 2018: Keynote for Workshop on Big Data Analytics and Business Applications, AVI Conference (Castiglione della Pescaia): Interaction Literacy for Data Visualization.
- May 2018: Tesco Bank: Data Visualization for Exploration, Explanation, and Engagement
- May 2018: OpenVis Conference (Paris): Drawing into the AR-Canvas: Designing Embedded Visualizations for Augmented Reality.
- March 2018: DataTech Fest Edinburgh: [Tools for Data Visualization](#)
- March 2018: Alan Turing Institute: Visualization for Interactive Data Exploration
- February 2018: Controversies in the Data Society Talk Series, (Edinburgh): Seven Myths about Data Visualization

Teaching

Ongoing (2020/22):

- Data Science for Design (10/20 Cts)
- Data Visualisation Online (0/10Cts)

Past:

- Data Visualisation (10/10Cts)
- The Human Factor, University of Edinburgh

- September 2017 – Data Science for Designers, University of Edinburgh
- December 2014 – [Interactive Information Visualization](#)
- Fall 2007 — Didactics and Media Psychology (TA)
- Fall 2006 — Didactics and Media Psychology (TA)

Supervision

PhD:

- Zezhong Wang (since May 2018, first supervisor),
- Tobias Kauer (since Sept 2019, first supervisor)
- Mashael Hamad Alkadi (since Sept 2019, first supervisor)
- Ryan Bowler (since Sept 2019, first supervisor)
- Lucy Havens (since April 2020, second supervisor)
- Josh Lee (since October 2019, third supervisor)
- Sarah Schöttler (since Jan 2021, first supervisor),
- Kun Ting Chen (since Oct 2019, third supervisor),

MSc by Research

- Vebjørn Halvfjerdvik (since 2019)
- Qiuyuan Ren (2017-2018)

Reviewing (*selection*)

- ACM CHI: since 2013
- IEEE InfoVis/Vast: since 2012
- TVCG: since 2011
- EuroVis: since 2012
- Graph Drawing
- Computer Graphics and Applications
- Creativity & Cognition 2021
- ISMAR 2021
- UIST 2021
- Workshop on Machine Learning and Visualization (EuroVis) 2020, 2021
- Vis4DH 2020
- Computer and Graphics 2021