

**Österreichische Kartographische Kommission
in der Österreichischen Geographischen Gesellschaft**

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Vorsitzender: Univ.-Prof. i.R. DI Dr. Wolfgang Kainz

E-Mail: wolfgang.kainz@univie.ac.at

Stv. Vorsitzender: Univ.-Prof. Mag. Dr. Georg Gartner

E-Mail: georg.gartner@tuwien.ac.at

Dr. Thomas Schulz
Secretary-General and Treasurer of ICA
Federal Department of Home Affairs FDHA
Swiss Federal Statistical Office FSO
Espace de l'Europe 10
CH-2010 Neuchâtel
Switzerland

Vienna, 7 March 2023

Re.: Nomination of Dr. Florian Ledermann as Co-Chair of the ICA **Commission on Geovisualization**
for the period of 2023 – 2027

Dear Thomas,

As National Member of the ICA, the Austrian Cartographic Commission in the Austrian Geographic Society has the pleasure to nominate Dr. Florian Ledermann as co-chair for the ICA Commission on **Geovisualization** (currently under the name **Visual Analytics**) for the term 2023 – 2027, together with co-chair Prof. Dr. Arzu Çöltekin, Switzerland.

Attached please find the proposed terms of reference of the commission, a declaration by Dr. Ledermann, and a brief CV of Dr. Ledermann.

Best regards



Prof. Wolfgang Kainz
Chair, Austrian Cartographic Commission

Attachments

- Terms of reference of the Commission on Geovisualization
- Statement by Dr. Ledermann that he is willing to serve as co-chair
- Brief CV of Dr. Ledermann

Dipl.-Ing. Dr.techn. Florian Ledermann — Curriculum Vitæ

Personal Information

Date & Place of Birth April 7, 1976 in Salzburg, Austria
Nationality Austrian (EU)
Place of Residence Vienna, Austria
E-Mail florian.ledermann@tuwien.ac.at
Online Profiles Google Scholar: [Florian Ledermann](#)
Research Gate: [Florian Ledermann](#)
Fediverse: ._@floledermann@mapstodon.space
Twitter: [@floledermann](#)
Stack Overflow: [Florian Ledermann](#)
Github: [floledermann](#)



Education

2022 **PhD degree** (Dr.techn.), TU Wien, with distinction
2017 – 2022 PhD studies (Cartography and Geoinformation), TU Wien
2004 **MSc degree** (Dipl.-Ing., Computer Science), with distinction
1996 – 2004 Computer Science studies, TU Wien
1994 – 1996 Architecture studies, TU Wien
1994 *Matura*, with distinction
1986 – 1994 *Gymnasium*, informatics branch, BRG Akademiestraße, Salzburg

Awards & Honours

2022 **Henry Johns Award**, British Cartographic Society (most outstanding paper of the year in “The Cartographic Journal”) for paper *The Effect of Display Pixel Density on the Minimum Legible Size of Fundamental Cartographic Symbols*
2018 **Best Paper Award**, GI_Forum 2018 (best student paper) for paper *Analysing Digital Maps Online: A Reverse Engineering Approach*
2017 **Best Teaching Award**, TU Wien (best lecture of the faculty) for course + lab *Web Mapping*
2017 **1st prize, International Cartographic Exhibition** for project *genderAtlas* in category “Educational Products”
2008 **Best of Google Maps 2008** (Maps Mania Blog) for online novel *Senghor on the Rocks*
2008 **Europrix Quality Seal** for online novel *Senghor on the Rocks*
2007 **Web 2.0 Austria Award Nominee** for startup *Maptales*
1999 **AT Award** for online game *Netcaptn*
1999 **Macromedia Site of the Day** for online game *Netcaptn*

Professional Experience

2023 – ongoing	Senior Lecturer (PostDoc, full time) TU Wien, Research Group Cartography
2017 – 2022	University Assistant (PreDoc, part time) TU Wien, Research Group Cartography <u>Research</u> : PhD Project “ <i>Minimum Dimensions for Cartographic Symbolism on High-Resolution Screens</i> ” (JavaScript, Node.js) Research Project “ <i>Reverse Engineering Online Maps</i> ” (JavaScript, Node.js)
2014 – 2017	Researcher TU Wien, Research Group Cartography <u>Research</u> : Technical lead, conceptualization and implementation of the <i>genderAtlas</i> (http://genderatlas.at), an online thematic atlas on gender equality issues in Austria (JavaScript, SVG, HTML/CSS, D3.js, Python)
2005 – 2014	Lecturer (part time) TU Wien, Institute for Software Technology & Interactive Media <u>Teaching</u> : <i>Multimedia Interfaces</i> (Lectures+Lab); <i>Virtual & Augmented Reality</i> (Lab)
2007 – 2014	Freelance IT Consultant Web Applications, Web-based GIS, Digital Cartography, Augmented Reality
2007 – 2008	Co-founder & lead developer Startup Maptales.com (now offline) Geo-Blogging on Google Maps
2002 – 2007	Researcher TU Wien, Institute for Software Technology & Interactive Media <u>Research</u> : Workpackage manager & local coordinator for the <i>Virtual Showcases</i> EU-funded research project; Implementing the <i>Virtual Showcase</i> , a novel augmented reality (AR) display; <i>APRIL</i> , a XML-based language for authoring AR presentations <u>Teaching</u> : <i>Virtual & Augmented Reality</i> (Lab assistant)
2001 – 2002	Software Engineer (part time) UMA Information Technology AG
1998 – 1999	Researcher TU Wien, Institute for Design and Assessment of Technology <u>Research</u> : Workpackage manager for the <i>DESARTE</i> EU-funded research project, building inspirational tools for architects and landscape planners. Lead developer on <i>Wunderkammer</i> , a virtual multimedia world

Selected Publications

REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS

- F. Ledermann: **Minimum Dimensions for Cartographic Symbolism – History, Rationale, Relevance and Future**. *International Journal of Cartography* (Special Issue on the State of the Art and Science in Cartography, to appear 2023) DOI: 10.1080/23729333.2023.2165218 (*in press*)
- F. Ledermann: **The Effect of Display Pixel Density on Minimum Legible Size of Fundamental Cartographic Symbols**. *The Cartographic Journal* (2022). DOI: 10.1080/00087041.2022.2055938 — *Henry Johns Best Paper Award*
- F. Ledermann, M. Schmidt: **Wiens Straßennamen**. *UND – Heft für Alternativen, Widersprüche und Konkretes*, 10 (2021).
- F. Ledermann: **Analysing Digital Maps Online: A Reverse Engineering Approach**. *GI_Forum* 2018 (2). DOI: 10.1553/giscience2018_02_s119 — *Best Student Paper Award*
- F. Ledermann: **From Data Commons to (Critical) Cartography - Linking Data Sources for a Gender Street Map of Vienna**. In: *This is not an Atlas - A global collection of counter cartographies*. kollektiv orangotango+ (ed.); transcript, Bielefeld, Germany, 2018.
- F. Ledermann, G. Gartner: **mapmap.js: A Data-Driven Web Mapping API for Thematic Cartography**. *Brazilian Journal of Cartography*, 67 (2015), 5 (Special Issue ICC2015). DOI: 10.14393/rbcv67n5-44626
- M. Riegler, M. Wenk, E. Aufhauser, F. Ledermann, M. Schmidt, G. Gartner: **genderAtlas Österreich - Entwicklung eines zielgruppenorientierten Online-Tools**. *Mitteilungen der Österreichischen Geographischen Gesellschaft*, 157 (2015). DOI: 10.1553/moegg157s323

F. Ledermann, A. Exner: **Vivir Bien — Eine offene Karte des „Guten Lebens“**. In: *Solidarische Räume & kooperative Perspektiven. Praxis und Theorie in Lateinamerika und Europa*; kollektiv orangotango+ (ed.), 2010.

F. Ledermann, I. Barakonyi, D. Schmalstieg: **Abstraction and Implementation Strategies for Augmented Reality Authoring**. In: B. Thomas, M. Billinghurst, M. Haller (eds). *Emerging Technologies of Augmented Reality: Interfaces and Design*; Idea Group Publishing, 2007.

D. Schmalstieg, G. Schall, D. Wagner, I. Barakonyi, G. Reitmayr, J. Newman, F. Ledermann: **Managing Complex Augmented Reality Models**. *IEEE Computer Graphics and Applications*, 27 (2007), 4. DOI: 10.1109/MCG.2007.85

F. Ledermann, C. Breiteneder: **Towards a Taxonomy of Display Styles for Ubiquitous Multimedia**. In: I. K. Ibrahim (ed). *Handbook of Research on Mobile Multimedia*; Idea Group Publishing, 2006.

REFEREED CONFERENCE PAPERS (SELECTION)

F. Ledermann: **Investigating the Effect of Display Pixel Density on the Minimal Legible Size of Cartographic Symbols**. 30th International Cartographic Conference (ICC 2021), Firenze, Italy. In: *Abstracts of the ICA, Vol. 3, December 2021*. DOI: 10.5194/ica-abs-3-174-2021

F. Ledermann, G. Gartner. **Towards Reproducible User Studies and Behavioral Experiments for Cartography With the stimsrv Framework**. 30th International Cartographic Conference (ICC 2021), Firenze, Italy. In: *Abstracts of the ICA, Vol. 3, December 2021*. DOI: 10.5194/ica-abs-3-175-2021

F. Ledermann: **Small differences: Limits of Legibility of Cartographic Symbols on High- and Ultra-High-Resolution Mobile Displays**. In: *LBS 2021: Proceedings of the 16th International Conference on Location Based Services*, November 2021. DOI: 10.34726/1785

F. Ledermann, G. Gartner. **Towards Conducting Reproducible Distributed Experiments in the Geosciences**. In: *Open-access proceedings of the Association of Geographic Information Laboratories in Europe, AGILE 2021. GIScience Series, 2 (2021)*. DOI: 10.5194/agile-giss-2-33-2021

G. Molzer, F. Ledermann: **Interactive 3D Time-Integrated Solar Shadow Maps**. *Proceedings of the 29th International Cartographic Conference (ICC 2019)*; Tokyo, Japan, July 2019.

F. Ledermann: **Towards Automatic Extraction of Cartographic Metadata from the Code of Online Maps**. *Geospatial Technologies for All: 21th AGILE Conference on Geographic Information Science*; Lund, Sweden, 2018.

F. Ledermann: **Extracting the Essential Cartographic Functionality of Programs on the Web**. *Proceedings of the 28th International Cartographic Conference (ICC 2017)*; Washington DC, July 2017.

F. Ledermann, G. Gartner: **mapmap.js: a High-Level Client-Side Cartographic API for Thematic Cartography**. *Proceedings of the 27th International Cartographic Conference (ICC 2015)*; Rio de Janeiro, Brazil, August 2015.

F. Ledermann, C. Benda: **Senghor on the Rocks: A Georeferenced Electronic Novel**. *Conference on Electronic Literature in Europe*; Bergen, Norway, September 2008.

D. Wagner, T. Pintaric, F. Ledermann, D. Schmalstieg: **Towards Massively Multi-User Augmented Reality on Handheld Devices**. *Proceedings of the third International Conference on Pervasive Computing (PERVASIVE 2005)*; Munich, Germany, May 2005.

F. Ledermann, D. Schmalstieg: **APRIL: A High-level Framework for Creating Augmented Reality Presentations**. *Proceedings of IEEE Virtual Reality 2005*; Bonn, Germany, March 2005.

F. Ledermann, D. Schmalstieg: **Presenting an Archaeological Site in the Virtual Showcase**. *Proceedings of the fourth International Symposium on Virtual Reality, Archeology, and Intelligent Cultural Heritage (VAST 2003)*; Brighton, UK, November 2003.

F. Ledermann, G. Reitmayr, D. Schmalstieg: **Dynamically Shared Optical Tracking**. *Proceedings of the IEEE First International Workshop on ARToolKit*; Darmstadt, Germany, September 2002.

S. Veigl, A. Kaltenbach, F. Ledermann, G. Reitmayr, D. Schmalstieg: **Two-Handed Direct Interaction with ARToolKit**. *Proceedings of the IEEE First International Workshop on ARToolKit*; Darmstadt, Germany, September 2002.

H. Hauser, F. Ledermann, H. Doleisch: **Angular Brushing of Extended Parallel Coordinates**. *Proceedings of the IEEE Symposium on Information Visualization 2002 (InfoVis 2002)*; Boston, MA, October 2002.

EDITORIALS, NON-REFEREED PAPERS AND MAPS (SELECTION)

- F. Ledermann, M. Schmidt, M. Riegler, E. Aufhauser: **Map of Street Names and Gender in Vienna**. In: "This is not an Atlas - A global collection of counter cartographies", kollektiv orangotango+ (ed.); transcript, Bielefeld, Germany, 2018.
- A. Hirschmann, R. Kiczka, F. Ledermann: **A Guideline for Solidary Mapping**. In: "This is not an Atlas - A global collection of counter cartographies", kollektiv orangotango+ (ed.); transcript, Bielefeld, Germany, 2018.
- F. Ledermann: **Web-GIS: Grundlagen, Anwendungen und Implementierungsbeispiele (Rezension)** In: Österreichische Zeitschrift für Vermessung und Geoinformation (VGI), 2017 (3)
- F. Ledermann, M. Schmidt, G. Gartner, E. Aufhauser, S. Békési: **Gendergerechtigkeit im Straßenbild?** In: „Wien von oben - Die Stadt auf einen Blick“, S. Békési, E. Doppler (ed.); issued by: Wien Museum; Metroverlag, Wien, 2017.
- F. Ledermann: **Spatio-semantic systems for ubiquitous access to spatially structured information**. In: "Semantic Technologies Showcase - The Austrian Situation", issued by: OCG; Österreichische Computer Gesellschaft, Wien, 2006.

INVITED TALKS & WORKSHOPS (SELECTION)

- Animated transitions between cartographic and graphic space**. Workshop "CODE/GEO/GRAPHIC"; Berlin, Germany, April 2018.
- Analyzing processes of transformation and representation in modern web maps**. Guest lectures at the Institute of Cartography of TU Dresden and the Leibniz Institute for Regional Geography (IfL); Leipzig/Dresden, Germany, November 2017.
- Finding Europe on the Map**, Guest lecture at Urban Strategies Postgraduate Course; Universität für Angewandte Kunst, Vienna, Austria, 2012.
- Kritische Kartografie – Kritisches Kartenmachen**, Winter School on Solidarity Economy; Villach, Austria, 2012.
- Maps without Borders**, Trans-University Seminar on Solidarity Economy, Vienna, Austria, 2011.
- Making Maps With Fabric**, Python Northwest User Group, Manchester, UK, 2011.
- Die Leere Karte**, „Geo Data City“, Wiener Planungswerkstatt, Vienna, Austria, 2011.
- Mapping the Good Life on Vivir Bien**, Elevate Festival & Conference, Graz, Austria, 2010.
- Mapping Solidarity Economy**, Workshop on Solidarity Economy, Graz, Austria, 2009.
- Advanced GPolyline Usage (Editing, Clustering) on Google Maps**, Web2Open, Berlin, Germany, 2007.

ACADEMIC THESES

- F. Ledermann: **Empirical assessment of minimum dimensions for cartographic symbology on smartphone displays**. PhD Thesis, TU Wien, December 2022. DOI: 10.34726/hss.2023.53486
- F. Ledermann: **An Authoring Framework for Augmented Reality Presentations**. Master Thesis, TU Wien, May 2004.

Academic workshops & events organized

- 2022 **PhD Colloquium "Next Generation Cartographers"** at EuroCarto 2022, Vienna, Austria
- 2018 Workshop **Digitale Kartographie: Praxis und Ausblick** (2 days), Netzwerk Digitale Geographien, Vienna, Austria
- 2018 Workshop **CODE/GEO/GRAPHIC**, Netzwerk Digitale Geographien, Berlin (with Francis Harvey and Till Straube)
- 2017 Founding Member of **Netzwerk digitale Geographien** (Research Network on Digital Geographies, a DFG-funded research network of Geographers, Cartographers and GIScientists)
- 2016 Workshop **Code Loves Maps**, AGILE 2016, Helsinki (with Pyry Kettunen and Nadia Panchoaud)
- 2013 Workshop **Solidarisches Kartieren**, Kongress Solidarische Ökonomie, Wien (with Anna Hirschmann and Raphael Kiczka)

Dr. Florian Ledermann
Research Division Cartography
TU Wien
Erzherzog-Johann-Platz 1 / E120-6
1040 Wien
Austria

To the
Secretary-General and Treasurer of the ICA
Thomas Schulz
Federal Department of Home Affairs FDHA
Swiss Federal Statistical Office FSO
Espace de l'Europe 10
CH-2010 Neuchâtel
Switzerland

Declaration of willingness to serve

Vienna, March 1, 2023

Dear Secretary-General, honored delegates of the General Assembly,

I hereby declare that I am willing to serve as a co-chair of the ICA Commission on Visual Analytics (to be renamed Commission on Geovisualization), for a period of four years, starting with and under the condition of election and instantiation of such commission by the ICA General Assembly in Cape Town, South Africa, on August 18, 2023.

Sincerely,

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Dr. Florian Ledermann
Senior Lecturer, TU Wien, Vienna, Austria

Current Terms of Reference

(2019-2023)

The Commission on Visual Analytics will:

1. Promote and advance visual analytics in cartography, which is the science of analytical reasoning as supported by interactive visual interfaces to spatio-temporal data.
2. Develop science, technology, and design approaches to address major challenges associated with geographic information analysis and synthesis that enable users to solve key societal and environmental problems.
3. Foster interdisciplinary and international collaboration between potential users of geospatial visual analytics and researchers, as well as between allied research communities in other disciplines and other ICA Commissions.

The Commission will achieve this vision by:

1. Actively disseminating technical and methodological advances in cartographic visual analytics through workshops, seminars, edited special issues of journals, and peer-reviewed publications - with linkages to other ICA Commissions and allied organizations in other fields.
2. Conducting annual meetings, workshops, or tutorials to develop research in key thematic areas, partnering with international conferences and other ICA commissions to expand our reach beyond traditional venues and audiences and to diversify who engages with visual analytics in the ICA.
3. Recruiting and retaining a co-chair and bolstering the core membership to help guide Commission activities and foster collaboration within and outside of the ICA.
4. Maintaining a dedicated web presence and engaging with members via social media to highlight Commission activities and promote participation beyond attendance at in-person meetings through new forms of distance collaboration.

Proposed Terms of Reference

(For the period 2023-2027)

The **Commission on Geovisualization*** will:

1. Promote and advance geovisualization in cartography, which is the science and technology of interactive visual interfaces for solving problems with spatio-temporal data. Geovisualization can take a variety of forms, ranging from desktop tools to virtual, immersive environments.

2. Develop science, technology, and design approaches to address major challenges associated with geographic information visualization, analysis, and synthesis that enable users to solve key societal and environmental problems.
3. Foster interdisciplinary and international collaboration between potential users of geovisualization and researchers, as well as between allied research communities in other disciplines and other ICA Commissions. Particular emphasis shall be put on forming an inclusive and truly global community of geovisualization practitioners and researchers, and on supporting the next generation of cartographers and early-career scholars to engage with the activities of the commission.

The Commission will achieve this vision by:

1. Actively disseminating technical and methodological advances in geovisualization through workshops, seminars, edited special issues of journals, and peer-reviewed publications - with linkages to other ICA Commissions and allied organizations in other fields.
2. Conducting annual meetings, workshops, or tutorials to develop research in key thematic areas, partnering with international conferences and other ICA commissions to expand our reach beyond traditional venues and audiences and to diversify who engages with geovisualization in the ICA.
3. Recruiting and retaining one or multiple vice-chairs and bolstering the core membership to help guide Commission activities and foster collaboration within and outside of the ICA.
4. Maintaining a dedicated web presence and engaging with members via social media to highlight Commission activities and promote participation beyond attendance at in-person meetings through new forms of distance collaboration.

* Note, we propose changing the name from *Visual Analytics* to **Geovisualization**. The former term was intended to draw closer connections to the burgeoning field in Computer Science and Visualization, but in the intervening period since the name change (beginning in 2015), Geovisualization has garnered greater interest within Cartography, and VA has not really grown beyond a small number of conferences. We also wish to more tightly focus on visualization as a tool and method used in *Cartography*.