



education

- Spring 2000 Ph.D. in Geography, University of Colorado at Boulder, Boulder, CO, U.S.A.
Advisor: Dr. Barbara Buttenfield.
- Spring 1996 M.S. in Geography (dipl. geogr.), University of Zürich, Zürich, Switzerland. Advisor:
Dr. Robert Weibel. Included: two years of cartography training at the Institute of
Cartography of the Swiss Federal Institute of Technology (ETH), supervised by
Dr. E. Spiess.
- 1993 One year graduate studies in Geographic Information Systems (GIS) and Remote
Sensing, University of Canterbury, Christchurch, New Zealand (Rotary Ambassadorial
Scholarship). Advisor: Dr. Pip Forer.

related training

- 11/2008- 5/2009 UZH Weiterbildung für universitäre Führungskräfte (UZH Management Seminar).
- May 1999 Graduate Teacher Training Certification, Boulder, CO. Two-year training through the
Graduate Teacher Program, University of Colorado, Boulder.
- Nov. 1998 Environmental Systems Research Institute (ESRI) Boulder, CO. One-day seminar: GIS
Management and Planning, with Dr. R. F. Tomlinson.
- Oct. 1997 Urban Regional Information Systems Association (URISA), Cincinnati, OH. One-day
workshop: Introduction to Object Oriented GIS Technology, with Dr. D. Arctur,
Laser-Scan, Inc.
- Apr. 1994 IBM Switzerland, Zürich. One-week training: Introduction to AIX and Advanced AIX.

employment

- Sep. 2017- Founding Member of the Board of Directors of the Digital Society Initiative, University
of Zurich, Switzerland.
- Aug. 2016- Member of the Executive Board (Head Teaching), Department of Geography,
University of Zurich, Switzerland.
- Aug. 2016-2018 Head Teaching of the Department of Geography, University of Zurich, Switzerland.
- Aug. 2014-2016 Head of the Department of Geography, University of Zurich, Switzerland.
- 2013-2014 Visiting Scholar, UCSB Center for Spatial Studies, University of California, Santa
Barbara, Santa Barbara (CA), sabbatical stay, Nov. 2013–Feb. 2014.
- 2013 Visiting Scholar, Center for Geographic Analysis, Harvard University, Cambridge (MA),
& Visual Attention Lab, Brigham and Women's Hospital, Harvard University, Cambridge
(MA), sabbatical stay, Oct. 2013.
- Included lab visits at the Massachusetts Institute of Technology (MIT): Civic Data Design
Lab & SENSEable City Lab at the Urban Planning Department; Affective Computing
Group at the Media Lab; Perceptual Science Group at the Computer Science and
Artificial Intelligence Lab.
- 2013 Full Professor at the University of Zürich, Zürich, Switzerland.

- 2005-2013 Associate Professor at the University of Zürich, Zürich, Switzerland.
- 2008 Adjunct Professor, San Diego State University, CA.
- 2000 – 2005 Assistant Professor at the University of California-Santa Barbara, Santa Barbara, CA.
- 1999/2000 Visiting Assistant Professor at the State University of New York, Buffalo, NY.
- Jan. – Aug. 1999 ARGWorld Project (Association of American Geographers), University of Colorado, Boulder. Research assistant with Dr. D. Hill.
- Jun. – Aug. 1998 Alexandria Digital Library (ADL) Project, University of Colorado, Boulder.
- Jun. – Aug. 1997 Research assistant with Dr. B. P. Battenfield.
- Aug. 1997 Geological Society of America's Earth and Space Science Technological Education Project (ESSTEP), University of Colorado, Boulder. GIS workshop assistant.
- Aug.'96 – Dec. '99 Department of Geography, University of Colorado, Boulder. Teaching assistant.
- May – Aug. 1996 ESEC SA, Cham, Switzerland. Corporation in the semiconductor industry. Marketing Division. Responsible for project on information access and dissemination within the company.
- Jul. '94 – Aug. '95 Department of Electronic Production at the Institute of Industrial Engineering and Management at the Federal Institute of Technology (ETH) Zürich. Research assistant with Dr. M. B. Meier.
- Mar. – Jul. 1994 IBM Switzerland, Zürich. Member of the project team "Science, Research and Education". Paid internship.
- Jul. – Sep. 1992 Department of Geography at the Federal Institute of Technology (ETH) Zürich. Research assistant in human ecology with Dr. D. Steiner.
- Jun. – Dec. 1992 Department of Geography at the Federal Institute of Technology (ETH) Zürich. Research assistant in hydrology with Dr. B. Sevruck.

teaching experience

UZH:

- regular courses BSc: Intro. Cartography & Geovisualization (GEO123), Statistics in Geography (GEO246: 2006-2013), Small Group Teaching.
- MSc: Geovisualization (GEO878), Cognitive Issues in GIScience (GEO873)
- other courses Thinking Geographically (GEO410), Ringvorlesung (GEO891)
PhD: Promotion Seminar II (2006-2010).

UCSB:

- regular courses Maps & Mapping (GEOG12), Cartographic Design (GEOG118), Geographic Visualization (GEOG184C), GIS Applications & Design (GEOG176C).
- Seminar in cartography (GEOG234): mapping cyberspace, HCI & GIScience, Information Visualization, Web mapping & SVG (co-taught with Andreas Neumann), Dynamic geovisualization/Animation
- other courses Cognitive Science Seminar. Internal/External Visualizations (INT 200B). Co-taught with Dr. Mary Hegarty (Psychology).

Buffalo (SUNY):

- Spring 2000 Instructor. Cartographic Design (GEO 381/550) and Seminar in GeoVisualization (GEO 655): Graphical User Interface Design & Information Visualization.
- Fall 1999 Instructor. Maps and Mapping (GEO 120) and Geographic Visualization (GEO 485/551).

CU Boulder:

- Fall 1998 Teaching assistant, Maps and Mapping (GEOG 2053), with A. Mulder.
- Spring 1998 Teaching assistant, Cartography 1 (GEOG 3053), with T. M. Gayon

- Fall 1997 Teaching assistant, Introduction to GIS (GEOG 4103/5103), with
 Spring 1997 Dr. B. P. Buttenfield.
- Fall 1996 Teaching assistant, Cartography 2 (GEOG 4043/5043), with
 Dr. B. P. Buttenfield.

Zürich, Switzerland:

- Nov. '95 – May '96 Internet World Café, Zürich. Instructor.
- Fall 1992 Department of Geography, University of Zürich. Lead teaching assistant,
 Introduction to Geostatistics, with Dr. K. Brassel.
- Spring 1992 Department of Geography, University of Zürich. Teaching assistant Cartography,
 Fall 1991 with Dr. H. Kishimoto.

academic honors and achievements

- Spring 2018 Elected Associate Fellow of the UZH|ETH|ZHdK Collegium Helveticum
- Fall 2017 Elected Fellow of the Digital Society Initiative
- Fall 2015 Swiss Science and Innovation Council (SSIC): Elected Member.
- Summer 2015 International Cartographic Association: Elected Vice President
 and member of the Executive Committee
- 2011-2015 International Cartographic Association: Cognitive Visualization Commission.
 Elected Chair.
- Fall 2008-2010 Inter-University Partnership for Earth Observation and Geoinformatics (IPEG).
 Elected President.
- Spring 2006 Association of American Geographers Cartography Specialty Group. Elected
 Academic Councilor (2006-2008).
- Spring 2006 Association of Geographic Information Laboratories in Europe (AGILE). Elected council
 member (2006-2009)
- Spring 2003 Association of American Geographers GIS Specialty Group. Elected Academic
 Councilor (2003-2005).
- Spring 1998 Award: Association of the American Geographers, GIS Specialty Group. Best
 Student Paper (see Fabrikant, S.I. 2000).
- Spring 1998 National Geographic Society Geography Award. An Interactive map animation on
 Sea Surface Brightness Temperatures won first place. Co-authored with Michael J.
 Rock.
- 1997 – 1998 Department of Geography, University of Colorado, Boulder. Elected Graduate
 Student Representative.
- 1996 – 1999 Department of Geography, University of Colorado, Boulder. Three-year teaching
 assistantship.
- 1993 Rotary International, Ambassadorial Scholarship to study GIS for one year at
 Canterbury University, Christchurch, New Zealand.

publications

(supervised at the time of publication: †MSc student, *PhD student, §Post Doc)

publication profiles GoogleScholar: <http://tinyurl.com/fabs-gs>; Scopus: <http://tinyurl.com/fabs-sc>

journal papers *Lokka, I., §Çöltekin, A., Wiener, J., **Fabrikant, S.I.**, and Röcke, C. (2018). Virtual
 refereed environments as memory training devices in navigational tasks for older adults.
 Scientific Reports, vol. 8, no. 10809. DOI: 10.1038/s41598-018-29029-x

[140] §Çöltekin, A., §Janetzko, H., and **Fabrikant, S.I.** (2018). Geovisualization. The
 Geographic Information Science & Technology Body of Knowledge (2nd Quarter 2018
 Edition), John P. Wilson (Ed). DOI: 10.22224/gistbok/2018.2.6.

- Stachoň, Z., Šašinka, Č, Čeněk, J., Štěřba, Z., Angsuesser, S., **Fabrikant, S.I.**, Štampach, R., Morong, K. (2018). Cross-cultural differences in figure-ground perception of cartographic stimuli. To appear in: *Cartography and Geographic Information Science*. DOI: 10.1080/15230406.2018.1470575.
- Boo, G., Leyk, S., Brunsdon, C., Graf, R., Pospischil, A., **Fabrikant, S.I.** (2018). The importance of regional models in assessing canine cancer incidences in Switzerland. *PLoS ONE* 13(4): e0195970. <https://doi.org/10.1371/journal.pone.0195970>
- Schito, J. and **Fabrikant, S.I.** (2018). Exploring Maps by Sounds: Using Parameter Mapping Sonification to Make Digital Elevation Models Audible. To appear in *International Journal of Geographic Information Science*. DOI: 10.1080/13658816.2017.1420192.
- ŞÇöltekin, A., Francelet, R., Richter, K.-F., Thoresen, J., **Fabrikant, S.I.** (2017). The effect of visual realism, spatial abilities, and competition on performance in map-based route learning in men. *Cartography and Geographic Information Science*, DOI: 10.1080/15230406.2017.1344569
- [135] *Boo, G., Leyk, S., **Fabrikant, S.I.**, Pospischil, A., Graf, R. (2017). Assessing effects of structural zeros on models of canine cancer incidence: a case study of the Swiss Canine Cancer Registry, *Geospatial Health*, DOI: 10.4081/gh.2017.539.
- Griffin, A.L., White, T., Fish, C., Tomio, B., Huang, H., Robbi Sluter, C., Meza Bravo, J.V., **Fabrikant, S.I.**, Bleisch, S., Yamada, M., Picanço, Jr., P., Jr. (2017). Designing across map use contexts: A research Agenda, *International Journal of Cartography*, DOI: 10.1080/23729333.2017.1315988.
- Kraak, M.-J. and **Fabrikant, S.I.** (2017). Of Maps, Cartography, and the Geography of the International Cartographic Association. *International Journal of Cartography*, DOI: 10.1080/23729333.2017.1288535.
- Grüntzig, K., Graf, R., *Boo, G., Guscetti, F., Hässig, Axhausen, K., **Fabrikant, S.I.**, Welle, M., Meier, D., Folkers, G., Pospischil, A. (2016) Swiss Canine Cancer Registry 1955–2008: Occurrence of the Most Common Tumor Diagnoses and Influence of Age, Breed, Body Size, Sex and Neutering Status on Tumour Development. *Journal of Comparative Pathology*, DOI:10.1016/j.jcpa.2016.05.011
- *Brügger, A., **Fabrikant, S.I.**, ŞÇöltekin, A. (2016). An Empirical Evaluation of three Elevation Change Symbolization Methods along Routes in Bicycle Maps. *Cartography and Geographic Information Science*. DOI: 10.1080/15230406.2016.1193766.
- [130] Thoresen, J. C., Francelet, R., ŞÇöltekin, A., ŞRichter, K.-F., **Fabrikant, S.I.**, Sandi, C. (2016). Not all anxious individuals get lost: Trait anxiety and mental rotation ability interact to explain performance in map-based route learning in men. *Neurobiology of Learning and Memory*, Vol. 132: 1–8.
- *Bruggmann, A., and **Fabrikant, S.I.** (2016). How does GIScience support spatio-temporal information search in the humanities? Special Issue on Spatial Approaches to Information Search in Spatial Cognition and Computation. DOI: 10.1080/13875868.2016.1157881
- Graf, R., Grüntzig, K., *Boo, G., Hässig, M., Axhausen, K.W., **Fabrikant, S.**, Welle, M., Meier, D., Guscetti, F., Folkers, G., Otto, V., Pospischil, A. (2016). The Swiss Feline Cancer Registry: the Influence of Sex, Breed and Age on Tumour Types and Tumour Locations. *Journal of Comparative Pathology*, Vol. 154, No. 2-3: 195-210. DOI: 10.1016/j.jcpa.2016.01.008
- ŞReichenbacher, T., De Sabbata, S., Purves, R.S., **Fabrikant, S.I.** (2016). Assessing geographic relevance for mobile search: a computational model and its validation via crowd sourcing. *Journal of the Association for Information Science and Technology*. DOI: 10.1002/asi.23625.
- Graf, R., Grüntzig, K., Hässig, M., Axhausen, K.W., **Fabrikant, S.**, Welle, M., Meier, D., Guscetti, F., Folkers, G., Otto, V., Pospischil, A. (2015). The Swiss Feline Cancer Registry: a retrospective study on the occurrence of tumours in cats in Switzerland from 1955-2008. *Journal of Comparative Pathology*. Vol., 153, No. 4: 266-277. DOI:10.1016/j.jcpa.2015.08.007.

- [125] *Maggi, S., **Fabrikant, S.I.**, Imbert, J.-P., Hurter, C. (2015). How do Display Design and User Characteristics Matter in Animations? An Empirical Study with Air Traffic Control Displays. *Cartographica*, vol. 51, no. 1: 25-37.
- *Maggi, S., **Fabrikant, S.I.**, Imbert, J.-P., Hurter, C. (in press). Principes cartographiques et caractéristiques utilisateurs dans la visualisation dynamique d'information. French translation of "How do Display Design and User Characteristics Matter in Animations? An Empirical Study with Air Traffic Control Displays?" for Le Comité Français de Cartographie (LECFC).
- *Ory, J., Christophe, S. and **Fabrikant, S.I.**, Bucher, B. (2015). How Do Map Readers Recognize a Topographic Mapping Style? *The Cartographic Journal*, vol. 52, no. 2: 193-203. [Henry Johns Award for best Article in the *Cartographic Journal* 2016]
- *Ory, J., Christophe, S. and **Fabrikant, S.I.**, Bucher, B. (in press). Comment les utilisateurs reconnaissent-ils un style topographique? French translation of "How Do Map Readers Recognize a Topographic Mapping Style?" for Le Comité Français de Cartographie (LECFC).
- Salvini, M.M., **Fabrikant, S.I.** (2015). Spatialization of user-generated content to uncover the multifunctional world city network. *Environment and Planning B*, vol. 47: 1-21. DOI:10.1177/0265813515603868. [Michael Breheny Prize for the Best Paper in *Environment and Planning B* 2016]
- [120] **Fabrikant, S.I.**, Gabathuler, C., Skupin, A. (2015). SOMViz: Web-based Self-Organizing Maps. *Kartographische Nachrichten*, vol. 65, no. 2: 81-91.
- Grüntzig, K., Graf, R. Hässig, M., Welle, M., Meier, D., Lott, G., Erni, D., Schenker, N.S., Guscetti, F., *Boo, G., Axhausen, K., **Fabrikant, S.I.**, Folkers, G., Pospischil, A. (2015). The Swiss Canine Cancer Registry: a retrospective study on the occurrence of tumours in dogs in Switzerland from 1955-2008. *Journal of Comparative Pathology*, vol. 152: 161-171. DOI 10.1016/j.jcpa.2015.02.005
- Ooms, K., [§]Coltekin, A., De Maeyer, P., Dupont, L., **Fabrikant, S.I.**, Incoul, A., Kuhn, M., Slabbinck, H., Vansteenkiste, P., Van der Haegen, L. (2014). Combining user logging with eye tracking for interactive and dynamic applications, *Behavior Research Methods*, DOI 10.3758/s13428-014-0542-3.
- *Bruggmann, A., *Salvini, M.M., **Fabrikant, S.I.** (2014). Agglomerationen mit nutzergenerierten Inhalten neu definiert - Visualisierung der Nordostschweiz mithilfe von Wikipedia. [Agglomerations newly defined with crowd-sourced data: visualizing North Eastern Switzerland based on Wikipedia content]. *disP – The Planning Review*, Vol. 49, No. 4: 37-45.
- Hurter, C., Ersoy, O., **Fabrikant, S.I.**, Telea, A. (2013). Bundled Visualization of Dynamic Graph and Trail Data. *IEEE Transactions on Visualizations and Computer Graphics*, Vol. 20, No. 8: 1141-1157.
online Nov. 2013: [doi.ieeecomputersociety.org/10.1109/TVCG.2013.246](https://doi.org/10.1109/TVCG.2013.246).
- [115] Opach, T., Golebiowska, I., **Fabrikant, S.I.** (2014). How Do People View Multi-Component Animated Maps? *Cartographic Journal*, online Oct. 2013: dx.doi.org/10.1179/1743277413Y.0000000049.
- Barth, L., **Fabrikant, S.I.**, Kobourov, S. Lubiw, A., Nöllenburg, M., Okamoto, Y., Pupyrev, S., Squarcella, C., Ueckerdt, T., Wolff, A. (2013). Semantic Word Cloud Representations: Hardness and Approximation Algorithms. ArXiv eprint: arXiv:1311.4778 [cs.CG].
- Christen, M., Vitacco, D. A., Huber, L., Harboe, J., **Fabrikant, S.I.**, Brugger, P. (2013). Colorful brains: 14 Years of Display Practice in Functional Neuroimaging, *NeuroImage*, Vol. 73: 30-39.
- *Wilkening, J. and **Fabrikant, S.I.** (2013). How Users Interact With a 3D Geo-Browser under Time Pressure, *Cartography and Geographic Information Science*, Vol. 40, No. 1: 40-52.
- Pospischil, A., Hässig, M., Vogel, R., *Salvini, M.M., **Fabrikant, S.I.**, Axhausen, K., Schenker, N.S., Erni, D., Guscetti, F. (2013). Hundepopulation und Hunderassen in der Schweiz von 1955 bis 2008. *Schweizer Archiv für Tierheilkunde*, Vol. 155, No. 4: 219-228.

- [110] Andrienko, G., Andrienko, N., Demsar, U., Dransch, D., Dykes, J., **Fabrikant, S.I.**, Jern, M., Kraak, M.-J., Schumann, H., Tominski, C. (2010). Space, Time, and Visual Analytics, *International Journal of Geographical Information Science*, vol. 24, no. 10: 1577-1600.
- §Çöltekin, A., **Fabrikant, S.I.**, and †Lacayo, M. (2010) Exploring the efficiency of users' visual analytics strategies based on sequence analysis of eye movement recordings, *International Journal of Geographical Information Science*, vol. 24, no. 10: 1559-1575.
- Hegarty, M., Canham, M., and **Fabrikant, S.I.** (2010). Thinking about the Weather: How Display Saliency and Knowledge Affect Performance in a Graphic Inference Task. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, vol., 36, no. 1: 37-53.
- Fabrikant, S.I.**, *Rebich-Hespañha, S., Hegarty, M. (2010). Cognitively inspired and perceptually salient graphic displays for efficient spatial inference making. *Annals of the Association of American Geographers*, vol. 100, no. 1: 1-17. (doi 10.1080/00045600903362378, 2009)
- Fabrikant, S.I.**, Montello, D. R., and Mark, D. M. (2010). The Natural Landscape Metaphor in Information Visualization: The Role of Commonsense Geomorphology. *Journal of the American Society for Information Science and Technology*, vol. 61, no. 2: 253-270. (<http://dx.doi.org/10.1002/asi.21227>, 2009)
- [105] Kramis, M., †Gabathuler, C., **Fabrikant, S.I.**, Waldvogel, M. (2009). An XML-Based Infrastructure to Enhance Geographic Visual Analytics. *Cartography and Geographic Information Science*, vol. 36, no. 3: 281-293.
- §Çöltekin, A., †Heil, B., †Garlandini, S., **Fabrikant, S.I.**, (2009). Evaluating the Effectiveness of Interactive Map Interface Designs: A Case Study Integrating Usability Metrics with Eye-Movement Analysis, *Cartography and Geographic Information Science*, vol. 36, no. 1: 5-17.
- Fabrikant, S.I.**, *Rebich-Hespañha, S., Andrienko, N., Andrienko, G., Montello, D. R. (2008). Novel Method to Measure Inference Affordance in Static Small Multiple Displays Representing Dynamic Processes. *The Cartographic Journal*, vol. 45, no. 3: 201-215.
- Fabrikant, S.I.**, and Montello, D. R. (2008). The Effect of Instructions on Distance and Similarity Judgments in Information Spatializations. *International Journal of Geographic Information Science*, vol. 22, no. 4: 463-478.
- *Leuthold, H., *Herrman, M., **Fabrikant, S.I.** (2007). Making the Political Landscape Visible: Mapping and Analyzing Voting Patterns in an Ideological Space. *Environment and Planning B: Planning and Design*, vol. 34, no. 5: 785-807.
- [100] **Fabrikant, S.I.**, Montello, D. R., and Mark, D. M. (2006). The Distance-Similarity Metaphor in Region-Display Spatializations, *IEEE Computer Graphics & Application*. July/August 2006: 34-44.
- Fabrikant, S.I.** Montello, D.R., †Ruocco, M., *Middleton, R.S. (2004). The Distance-Similarity Metaphor in Network-Display Spatializations. *Cartography and Geographic Information Science*, vol. 31, no. 4, 237-252.
- Fabrikant, S.I.** (2003). Distanz als Raummetapher für die Informationsvisualisierung. Distance as a Spatial Metaphor for the Visualisation of Information. *Kartographische Nachrichten*, vol. 52, no 6: 276-282.
- Skupin A. and **Fabrikant, S.I.** (2003). Spatialization Methods: A Cartographic Research Agenda for Non-Geographic Information Visualization. *Cartography and Geographic Information Science*, vol. 30, no. 2, 95-119.
- Fabrikant, S.I.** (2003). Commentary on "A History of Twentieth-Century American Academic Cartography" by Robert McMaster and Susanna McMaster, Special Issue: Exploratory Essays: History of Cartography in the Twentieth Century, *Cartography and Geographic Information Science*, Vol. 30, No. 1:81-84.
- [95] **Fabrikant, S. I.** and Buttenfield, B. P. (2001). Formalizing Spaces for Information Access. *Annals of the Association of American Geographers*, 91(2): 263-280.

Received the 3rd highest citation count (based on the ISI Citation Database) amongst the most cited "Methods, Models, and Geographic Information Systems" (MMGIS) papers that appeared in the Annals of the Association of American Geographers during the period 2001-2009.

Fabrikant, S. I. (2000). Spatialized Browsing in Large Data Archives. *Transactions in GIS*, vol. 4, no. 1: 65-78.

conference papers
(full paper review)

Johannsen, I. M., **Fabrikant, S. I.**, Evers, M. (2018) How do texture and color communicate uncertainty in climate change map displays? *Proceedings (Short Papers) 10th International Conference on Geographic Information Science (GIScience) 2018*, Aug. 28-31-2018, Melbourne, Australia.

‡Spielhofer, R., Fabrikant, S.I., Vollmer, M., Rebsamen, J. Grêt-Regamey, A., Wissen Hayek, U. (2017). Integrating 3D Point Cloud Data and Audio Recordings for Representing Landscape Changes, Digital Landscape Architecture Conference (DLA 2017), June 7-10, 2017, Anhalt University in Dessau/Bernburg, Germany. *Journal of Digital Landscape Architecture*, No. 2: 206-213.

*Boo, G., **Fabrikant, S. I.**, Leyk, S. (2015). A Novel Approach to Veterinary Spatial Epidemiology: Dasymetric Refinement of the Swiss Dog Tumor Registry Data, ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 9th International Symposium on Spatial Data Quality (ISSDQ 2015), Sep. 28-30, Montpellier, France.

- [90] *Ory, J., Christophe, S., **Fabrikant, S. I.**, Bucher, B. (2014) Caractérisation visuelle d'un style topographique, Actes du Colloque International de Géomatique et d'Analyse Spatiale (SAGEO 2014), Grenoble, France, Nov. 24-27, 2014.

Fabrikant, S. I., *Maggi, S., Montello, D. R. (2014). 3D network spatialization: Does it add depth to 2D representations of semantic proximity? Duckham, M., Pebesma, E., Stewart, K., Frank, A.U. (eds.) *Proceedings, GIScience 2014*, Wien, Sep. 23-26, 2014, Lecture Notes in Computer Science (LNCS) 8728, Springer, Berlin, Germany: 34-47.

Barth, L., **Fabrikant, S. I.**, Kobourov, S., Lubiw, A., Nöllenburg, M., Okamoto, Y., Pupyrev, S., Squarcella, C., Ueckerdt, T., and Wolff, A. (2014). Semantic Word Cloud Representations: Hardness and Approximation Algorithms. Pardo, A. and Viola A. (eds.) *Proceedings, Latin American Theoretical Informatics Symposium (LATIN) 2014*, Mar. 31- Apr. 4, 2014. Lecture Notes in Computer Science (LNCS) 8392, Springer, Berlin, Germany: 514-525.

Shiple, T., **Fabrikant, S.I.**, and *Lautenschütz, A.-K. (2013). *Creating perceptually salient animated displays of spatially coordinated events*. In: Raubal, M., Mark, D. M., Frank, A. U. (Eds.). *Cognitive and Linguistic Aspects of Geographic Space: New Perspectives on Geographic Information Research*, Springer Lecture Notes of Geoinformation and Cartography, Springer, Berlin, Germany: 259-270.

- [85] *Wilkening, J., **Fabrikant, S.I.** (2011). How do decision time and realism affect map-based decision making? Conference on Spatial Information Theory (COSIT 2011), Belfast, ME, USA, Sep. 12-16, 2011, *Proceedings*, Lecture Notes in Computer Science 6899. Egenhofer, M. (Ed.) Springer, Berlin, Germany: 1-19.

‡Garlandini, S. and **Fabrikant, S.I.** (2009). Evaluating the Effectiveness and Efficiency of Visual Variables for Geographic Information Visualization. In: *Spatial Information Theory: 9th International Conference, COSIT 2009, Aber Wrac'h, France*, Sep. 21-25, 2009, *Proceedings*, Lecture Notes in Computer Science 5736. Stewart Hornsby, K., Claramunt, C., Denis, M. and Ligozat, G. (Eds.), Springer, Berlin, Germany: 195-211.

§Çöltekin, A., †Heil, B., †Garlandini, S., **Fabrikant, S.I.** (2008) Evaluating the Effectiveness of Interactive Map Interface Designs: a Case Study with Eye Movement Analysis. *Proceedings, AutoCarto 2008*, Shepherdstown, WV, Sep. 8-11, 2008 (CD-ROM).

Fabrikant, S.I. (2005). Towards an understanding of geovisualization with dynamic displays. *Proceedings, American Association for Artificial Intelligence (AAAI) 2005 Spring Symposium Series: Reasoning with Mental and External Diagrams: Computational Modeling and Spatial Assistance*. Stanford University, Stanford, CA, Mar. 21-23, 2005: 6-11.

Klippel, A., Lee, P. U., **Fabrikant, S.I.**, Montello, D. R., & Bateman, J. (2005). The Cognitive Conceptual Approach as a Leitmotif for Map Design. *Proceedings*,

American Association for Artificial Intelligence (AAAI) 2005 Spring Symposium Series: Reasoning with Mental and External Diagrams: Computational Modeling and Spatial Assistance. Stanford University, Stanford, CA, Mar. 21-23, 2005: 90-95.

- [80] Montello, D. R., **Fabrikant, S. I.**, [†]Ruocco, M., *Middleton, R. S. (2003). Testing the First Law of Cognitive Geography on Point-Display Spatializations. In: **Spatial Information Theory: Foundations of Geographic Information Science (COSIT 2003)**, Lecture Notes in Computer Science 2825. Kuhn, W., Worboys, M., & Timpf, S. (Eds.) Springer, Berlin, Germany: 316-331.

Fabrikant, S.I. (2001). Evaluating the Usability of the Scale Metaphor for Querying Semantic Information Spaces. In: Montello, D. R., (Ed.), *Spatial Information Theory: Foundations of Geographic Information Science (COSIT 2001)*, Lecture Notes in Computer Science 2205, Berlin, Springer-Verlag: 156-172.

Fabrikant, S.I. (2004). Abstraction and Scale in Spatialization. *Proceedings, Second National Cartographic Conference (GeoCart 2003)*. Taupo, New Zealand, Feb. 12-14, 2003: 35-43.

Ancona, D. Freeston, M., Smith, T. R., **Fabrikant, S. I.** (2002): Visual Explorations for the Alexandria Digital Earth Prototype. In: *Visual Interfaces to Digital Libraries 2002 (JCDL 2002 Workshop)*, Börner, K., Chaomei C. (Eds.) Lecture Notes in Computer Science 2539, Springer Verlag, Berlin: 199-216.

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Montello, D. R., Fabrikant¹, S. I., †Ruocco, M., *Middleton, R. S. (2003). **Testing the First Law of Cognitive Geography on Point-Display Spatializations**. Conference on Spatial Information Theory (COSIT '03). Kartause Ittingen, Switzerland, Sep. 24-27, 2003. (†presenter).

Fabrikant, S. I., Montello, D. R., †Ruocco, M., *Middleton, R. (2003). **The First Law of Cognitive Geography and Knowledge Domain Maps**. Invited Poster presented at the Arthur M. Sackler Colloquium on Mapping Knowledge Domains, U.S. National Academy of Sciences, Irvine, CA, May 9-11, 2003.

Fabrikant, S. I. (with Phaedon Kyriakidis, 2002). **Geovisualization of Large Databases and Spatial Uncertainty**. 2002 Joint Statistical Meeting (JSM 2002), New York, New York, August 11-15, 2002.

Fabrikant, S. I., †Ruocco, M., *Middleton, R., Montello, D.R., Jörgensen, C. (2002). **The First Law of Cognitive Geography: Distance and Similarity in Semantic Space**. GIScience 2002, Boulder, CO, Sep. 25-28, 2002.

Fabrikant, S. I. (2001). **Visualizing Region and Scale in Semantic Spaces**. 20th ICA/ACI International Cartographic Conference, Beijing, China, Aug. 6-10, 2001, pp. 2522-2529.

Fabrikant, S. I. (2000). **The Geography of Semantic Information Spaces**. GIScience 2000, Savannah, GA Oct. 28-31, 2000.

Fabrikant, S. I. (2000). **The Ontology of Semantic Information Spaces**. EuroConference on Ontology and Epistemology for Spatial Data Standards - La Londe-les-Maures, France, Sep. 22-27, 2000.

Fabrikant, S. I. and Dodge, M. (2000). **Maps and Charts to Represent the Flows of Information**. Annual Meeting of the North American Cartographic Society, Knoxville, TN, Oct. 12-14, 2000.

Fabrikant, S.I., Jorgensen, C., and *Badurek, C. A. (2000). **Creating an Immersive Information Space Based on a Spatial Metaphor**. Annual Meeting of the American Society for Information Science and Technology 2000, Chicago, IL, Nov 13, 2000.

non refereed

Johannsen, I., Evers, M., Fabrikant, S.I. (2018). **What looks uncertain to you? An empirical study on how texture and color value communicate data quality in climate change maps?** Annual Meeting of the American Association of Geographers, New Orleans, LA, Apr. 12, 2018.

Kübler, I., Richter, K.-F., Fabrikant, S.I. (2017). **Does uncertainty visualization influence map-based reasoning about natural hazards?** Annual Meeting of the American Association of Geographers, Boston, MA, Apr. 6, 2017.

Fabrikant, S.I. (2016). **Of Color, Geography, and Brains**. Annual Meeting of the American Association of Geographers, San Francisco, CA, Mar. 31, 2016.

Fabrikant, S.I. (2015). **Affectively responsive visual display design**. Annual Meeting of the American Association of Geographers, Chicago, IL, Apr. 21-24, 2015.

Fabrikant, S.I. (2014). **E-motive map displays**. Annual Meeting of the Association of American Geographers, Tampa, FL, Apr. 8-12, 2014.

Fabrikant, S.I. (2014). **Geographic Information Visualization**. Symposium & Workshop: Applying of Principles of Cognitive Psychology in Practice, Brno, CZ, Mar. 15.-18, 2014.

*Maggi S. and Fabrikant, S.I. (2014). **Assessing Animated Air Traffic Control Displays**. Cartocon 2014, Olomouc, CZ, Feb. 25.-28, 2014.

Fabrikant, S. I. (2012). **Reflection and Celebration of Professor David Mark's Contributions to Geography and GIScience**. Annual meeting of the Association of American Geographers, Los Angeles, CA, Apr. 9-13, 2013.

- Fabrikant, S. I. (2012). *Animating Visual Analytics of Movement. Why, When, and How*. Annual Meeting of the Association of American Geographers, New York, NY, Feb. 22-27, 2012.
- Fabrikant, S. I. (2011). Assessing animated map displays for spatio-temporal inference making. Annual Meeting of the Association of American Geographers, Seattle, WA, Apr. 12-16, 2011.
- Fabrikant, S. I. (2011). Methodology and training in spatial cognition. Panel Moderator. Annual Meeting of the Association of American Geographers, Seattle, WA, Apr. 12-16, 2011.
- Fabrikant, S. I. (2010) Visual Analytics for Movement Data: Cognitive Issues. MOVE (COST Action IC0903) working group 4 "WG4: Visual Analytics for Movement Data" Meeting, Jun. 3rd 2010, Zürich, Switzerland.
- Fabrikant, S. I. and †Maggi, S. (2010) Assessing the Effectiveness of 3D Network-Display Spatializations. Annual Meeting of the Association of American Geographers, Washington, D.C., Apr. 14-18, 2010.
- Fabrikant, S. I. (2009) Spatial Concepts Curriculum for GIS and Design. Panelist. Annual Meeting of the Association of American Geographers, Las Vegas, NV, Mar. 14-18, 2009.
- Fabrikant, S. I. and †Garlandini, S. (2009). *Visual Change Detection in a Blink of the Eye*. (abstract) Special Session: Cognition, Behavior, and Representation I: Visualization. Annual Meeting of the Association of American Geographers, Las Vegas, NV, Mar. 14-18, 2009.
- Fabrikant, S. I. (2008). *Enduring Design for Fleeting Displays*. Special Session: Cognitive Issues in Geographic Information Visualization I: Methods. Annual Meeting of the Association of American Geographers, Boston, MA, Mar. 15-19, 2008.
- Fabrikant, S. I. 2007. *Sequence Analysis of Eye Movement Data*. Second Eye Tracking and Multimedia Workshop (ETMW '07), Dijon, France, Nov. 22-23, 2007.
- Fabrikant, S.I., Montello, D. R., S. Rebich (2007). *Seeing Through Small Multiple Map Displays*. ICA/ACI Commission on Visualization and Virtual Environment workshop: From Geovisualization towards Geovisual Analytics, Helsinki, Finland, Aug. 2-3, 2007.
- Fabrikant, S. I. (2007). *Seeing through small multiple map displays*. Special Session: Visual Analytics in Geography I. Annual Meeting of the Association of American Geographers, San Francisco, CA, Mar. 17-21, 2007.
- Fabrikant, S.I. (2007). *Aus der Werkstatt einer Kartenmacherin*. Invited talk. Interdisziplinäre Fachtagung, Alfred Krupp Wissenschaftskolleg Greifswald. Der Kartograph und sein Leser: Die Produktion und Rezeption von Karten von der frühen Neuzeit bis zur Gegenwart. Greifswald, Germany, Mar. 19-21, 2007.
- Fabrikant, S.I. (2007). *Karten & Raumkognition: empirische Forschungsbeispiele und Resultate*. Invited talk. 14. Internationale Geodätische Woche. Obergurgl, Austria, Feb. 11-17, 2007.
- Fabrikant, S.I. (2006). *Thematische Relevanz und Wahrnehmungssalienz in Karten*. GEOVIS 2006, Potsdam, Germany, Apr. 5-6, 2006.
- Fabrikant, S. I. (2006). *Thematic Relevance and Perceptual Salience in Static Weather Maps*. Special Session on Visualization III: Empirical and Education. Annual Meeting of the American Geographers, Chicago, IL, Mar. 7-11, 2006.
- Fabrikant, S.I. (2005). *Testing the Urban Landscape Metaphor in Spatialization*. Special Session on Mapping Humanity's Knowledge and Expertise in the Digital Domain. Annual Meeting of the Association of American Geographers, Denver, CO, Apr. 5-9, 2005.
- Fabrikant, S.I. (2004). *Karten als räumliche Metaphern*. Invited talk. 45. Deutscher Historikertag, Kiel, Germany, Sep. 14-17, 2004.
- Fabrikant, S.I. (2003). *Spatial Metaphors in Abstract Information Worlds*. Invited lecture. International Advanced Workshop on Virtual Geographic Environments and

Geocollaboration, The Chinese University of Hong Kong, Shatin, NT. Hong Kong SAR, Dec. 15-16, 2003.

Fabrikant, S. I. (2003). *Distance and Similarity in Semantic Networks*. Special Session on Spatialization. Annual Meeting of the Association of American Geographers, New Orleans, LA, Mar. 5-8, 2003.

Fabrikant, S. I. (2002). *Cognitively Plausible Information Visualization*. Exploring Geovisualization workshop. International Cartographic Assoc. Commission on Visualization and Virtual Environments, City University, London, U.K., Sep. 11-14, 2002.

Fabrikant, S. I. (2002). *Empirical Approaches to Semi-Immersive Spatialization Designs*. Annual Meeting of the Assoc. of the American Geographers, Los Angeles, CA, Mar. 20-23, 2002.

Haug, D. and Fabrikant, S. I. (2002). *Interactive Spatialized Visualization of Hierarchical Clustering*. Annual Meeting of the Assoc. of the American Geographers, Los Angeles, CA, Mar. 20-23, 2002.

Fabrikant, S. I. (2001). *The Use of Location-based Services in Distributed Collaborative Visualization Environments*. Position Statement, Specialist Meeting on Location-based Services, Center for Spatially Integrated Social Science (CSISS), Santa Barbara, CA, Dec. 14-15.

Fabrikant, S. I. (2001). *Building Task-Ontologies for GeoVisualization*. ICA Commission on Visualization and Virtual Environment Pre-conference Workshop: Geovisualization on the Web, Beijing, China, Aug. 3-4, 2001.

Fabrikant, S. I. (2001). *Regionalization and Scale Dependence in Semantic Information Spaces*. Annual Meeting of the Assoc. of the American Geographers, New York, NY, Feb. 27-Mar. 3, 2001.

Fabrikant, S. I. (2000). *Cartographic Considerations for Designing Information Spaces*. Annual Meeting of the Assoc. of the American Geographers, Pittsburgh, PA, Apr. 4-8, 2000.

Fabrikant, S. I. (1998). *Spatialized Browsing in Large Data Archives*. Annual Meeting of the Assoc. of the American Geographers, Boston, MA, Mar. 25 -29, 1998.

Fabrikant, S. I. (1994). *Alternative Visualisation of Spatial Data*. VI Annual EGEA Congress, Võsu, Estonia.

invited lectures

- 2018 Geotechnologies for All: Leaving the All for last. Keynote, 21st Conference on Geographic Information Science (AGILE) 2018. Jun. 12-15, Lund, Sweden.
- 2018 Responsive Geographic Information Displays to Support Mobility in the Digital Society. Invited CartoTalk, Department of Geodesy and Geoinformation, Cartography Research Group, TU Wien, Vienna, Jun. 6, 2018.
- 2018 Two invited guest lectures for the Erasmus Mundus Cartography M.Sc. TU Munich (GER), TU Vienna (A), TU Dresden (GER), and the University of Twente (NL). Vienna, Jun. 4-5, 2018.
- 2018 *What is a map and how to read it* and *Process of making a map*. Two invited lectures for UNOSAT Staff and within MSc Training on Geo-Information in Disaster Situations: United Nations Institute for Training and Research. CERN, European Organisation for Nuclear Research, Geneva, Switzerland, Mar. 12, 2018.
- 2017 Evidence-based, responsive geographic information display design. International Symposium "Neogeographie – Kompetente Partizipation oder Illusion von Demokratisierung?" Leibniz-Institut für Länderkunde, Leipzig, Germany, Nov. 16-17, 2017
- 2017 Informationslandschaften: Wie kartiere und navigiere ich das Datenmeer? International Symposium „Saisir le terrain / Terrain und Kultur II“, Wissensmedien des Raums, Department of Social Anthropology and Cultural Studies, University of Zurich, Jun. 15, 2017.

- 2017 Towards Human-Responsive Geographic Information Displays. Visual Attention Lab, Brigham and Women's Hospital, Harvard University, Boston, MA, Apr. 12, 2017.
- 2016 Geographic Information Displays for Effective and Efficient Reasoning and Decision Making. Keynote. International Workshop: Communicating Climate Change. Connecting Cognitive Science and Climate Science, British Computer Society, London, U.K., Nov. 10, 2016.
- 2016 Big Data–Smart City! Mehr Daten, mehr Information, mehr Weisheit? 1st PolitTalk Digitales Zürich, Kanton Zürich Volkswirtschaftsdirektion, Amt für Wirtschaft und Arbeit, University of Zurich, UniTurm, Jul. 5, 2016.
- 2016 Moving Visual Analytics of Movement. Keynote, 7th Int. Workshop on Visual Analytics, EuroVA 2016, Groningen, The Netherlands, Jun. 6, 2016.
- 2016 Decision Making with Visual Displays to Guide Movement. Department of Geography, San Diego State University, colloquium series, San Diego, CA, Apr. 8, 2016.
- 2016 Towards Responsive Visual Analytics Designs. Culture Analytics and User Experience Design Workshop, Institute for Pure & Applied Mathematics, NSF Math Institute at the University of California Los Angeles, CA., Apr. 12, 2016.
- 2016 Maps that answer or raise questions. University of Zurich Research Priority Program Language and Space, colloquium series, Department of Linguistics, University of Zurich, Zurich, Switzerland, Mar. 17, 2016.
- 2016 *What is a map and how to read it and Process of making a map*. Three invited lectures for UNOSAT Staff and within MSc Training on Geo-Information in Disaster Situations: United Nations Institute for Training and Research. CERN, European Organisation for Nuclear Research, Geneva, Switzerland, Mar. 2, 2016.
- 2016 Evidence-based Design. Invited talk at The Cartographic Summit. The Future of Mapping. Hosted by the International Cartographic Association (ICA) and Esri Inc., Redlands (CA), Feb. 9, 2016.
- 2015 Emotive Visual Display: Design through indoor & outdoor citizen science. Dagstuhl Seminar 15481: Evaluation in the Crowd: Crowdsourcing and Human-Centred Experiments International Conference and Research Center for Computer Science, Schloss Dagstuhl, Wadern, Germany, Nov. 23, 2015.
- 2015 Computer cartography depicts the world digitally. Do map users understand these display? Invited Panelist at the 2015 Center for Geographic Analysis Conference: The Lab for Computer Graphics and Spatial Analysis (1965-1991) and Its Legacy. Harvard University, Cambridge (MA), May 1st, 2015.
- 2015 Emotion in Motion: Visuo-spatial Decision Making with Dynamic Maps. Invited talk at The Pennsylvania State University, Department of Geography, State College (PA), Mar. 27, 2015.
- 2015 Eintauchen in die virtuelle Welt: Geographie der 4. Dimension. Invited talk at the 2. Hochschultag der Zürcher Mittelschulen, Department of Geography, University of Zurich, Zurich Switzerland, Jan. 29. 2015.
- 2015 Visuo-spatial Decision Making with Well Designed Displays. Invited talk at GeoViz Hamburg 2015. Expert Workshop on supporting decision making through geovisualization: A view from different perspectives. HafenCity University, Hamburg, Germany, Jan. 20. 2015.
- 2014 Karten schaffen Emotionen - Emotionen schaffen Karten. Invited talk at the UZH/ETHZ Collegium Helveticum research colloquium, Zurich, Mar. 20, 2014.
- 2014 The Art and Science of Charting Non-Spatial Data Landscapes. Invited talk at the Media Arts and Technology Graduate Program, University of California Santa Barbara, CA, Jan. 27, 2014 (cancelled due to illness).
- 2013 Emotive map displays. Invited talk at the Anthropology Forum, California State University, Chico, CA, Dec. 12, 2013.
- 2013 Mapping emotions to reason with visual displays. Invited talk at the UCSB Center for Spatial Studies, University of California, Santa Barbara, CA, Dec. 3, 2013.
- 2013 Affective and effective geographic information visualization, Center for Geographic Analysis, Harvard University, Cambridge, MA, Oct. 16, 2013.

- 2013 Geographic Information Visualization. Invited talks at: MIT SENSEable City Lab, Oct. 8 and MIT Perceptual Science Group at the Computer Science and Artificial Intelligence Lab, Cambridge, MA, Oct. 11, 2013.
- 2013 The complexity of design: creating effective and efficient displays. Invited talk at the Gordon Research Conference: Visualization in Science & Education, Bryant University, Smithfield, RI, Jul. 22, 2013.
- 2013 Geographic Information Visualization: Cognitively Inspired Display Design. Invited keynote at the Visualizing Biological Data (VIZBI) 2013 Conference Series by EMBO / NIH. Broad Institute of Harvard University and MIT, Cambridge, MA, Mar. 20, 2013.
- 2013 Cognitive Visualization: Displays that help people think spatially. Geography Department, colloquium series, University of California Santa Barbara, Santa Barbara, CA, Feb. 12, 2013.
- 2012 "Design Intuition Meets Science: Well Designed Map Displays", and "Cartography of Emotion: Color Choices in Maps". Two invited talks at the first InDOG doctoral conference, Department of Geoinformatics, Palacky University, Olomouc, Czech Republic, Oct. 29, 2012.
- 2012 Geographic Information Visualization. Invited talk at the Faculty of Science, University of Zurich, Zurich, Sep. 27, 2012.
- 2012 How we know that maps work. Invited keynote at the AutoCarto International Research Symposium 2012, Columbus, OH, Sep. 18, 2012.
- 2012 Of metaphors, maps and methods: Cognitively inspired and perceptually salient graphic displays. Invited keynote at EARLI: SIG 2 Comprehension of Text and Graphics Meeting 2012: Laboratory of Educational Sciences, Pierre-Mendès-France University, Grenoble, Aug. 29, 2012.
- 2012 Creating geovisual analytics displays that work. Invited keynote at GI_Forum Symposium & Fachmesse Angewandte Geoinformatik (AGIT) 2012, Salzburg, Jul. 4, 2012.
- 2012 Connecting the dots: network maps and graphs. Dagstuhl Seminar 12261: Putting Data on the Map. International Conference and Research Center for Computer Science, Schloss Dagstuhl, Wadern, Germany, Jun. 25, 2012.
- 2012 *What is a map and how to read it* and *Process of making a map*. Two invited lectures within MSc Training on Geo-Information in Disaster Situations: United Nations Institute for Training and Research. CERN, European Organisation for Nuclear Research, Geneva, Switzerland, Mar. 9, 2011.
- 2011 Where Art and Technology Meets Science: Map Displays for Effective and Efficient Spatial Decision-Making, Department of Informatics, colloquium series, University of Zurich, Switzerland, Nov. 10, 2011.
- 2011 The Art and Science of How to Depict Data in Visuo-Spatial Displays. Workshop: Visual Communication of Data in Neuroimaging (and elsewhere): Foundations and Public Perception, Universitärer Forschungsschwerpunkt Ethik, University of Zurich, Switzerland, Jun. 30, 2011.
- 2011 Realism and Perception of Data Quality in Digital Maps. Geodetic colloquium series, Leibniz University, Hannover, Jun. 21, 2011.
- 2011 Géovisualisation: cartographier les phénomènes évolutifs – Du cognitif au sensitif. Summer school lecture series, CNRS/GDR MAGIS, May, 2-6, 2011, Aussois, France.
- 2011 Cognitive Geography. Neuroscience Center Zurich, colloquium series for clinical and experimental neuro-psychology, Zurich, Switzerland, Mar. 31, 2011.
- 2011 *What is a map and how to read it* and *Process of making a map*. Two invited lectures within MSc Training on Geo-Information in Disaster Situations: United Nations Institute for Training and Research. CERN, European Organisation for Nuclear Research, Geneva, Switzerland, Mar. 8, 2011.
- 2010 Effective and Efficient Spatio-Temporal Inference Making with Gevisual Analytics Displays. Challenges of Visualizing Biological Data, Biotechnology and Biological Sciences Research Council (BBSRC), Arts and Humanities Research Council, Bristol, UK, Nov. 16, 2010.

- 2010 The Effect of Display Design on Spatio-Temporal Inference Making. Second International Workshop on Validation of Geo-Information Products for Crisis Management, European Commission Joint Research Centre, Ispra, Italy, Oct. 13, 2010.
- 2010 Spatialization – A Live Raft for the Data Tsunami? Alpbach Technology Talks, Working Group Digital vs. reale Worlds – The Limits of Computer Models? Alpbach, Austria, Aug. 27, 2010.
- 2010 Designing Cognitively Inspired Displays for Effective and Efficient Spatio-temporal Inference Making. Department of Geography, The Ohio State University, colloquium series, Columbus, OH, Apr. 22, 2010.
- 2010 Eyewitness News: Spatio-temporal Inference Making with Static and Animated Map Displays. Department of Geography, Michigan State University, colloquium series, East Lansing, MI, Apr. 20, 2010.
- 2009 Visuo-spatial displays. Geographic Information Visualization and Analysis. Invited lecture, Hauptseminar “Karten und Weltbilder in der Frühen Neuzeit”, Department of History, RWTH Aachen, Aachen, Germany, Dec. 1, 2009.
- 2009 Surfing the Data Tsunami with Spatial Metaphors. Invited talk, 7th FP's Workshop on Visualization of Controversies “Macospol”, Ecole Polytechnique Fédérale de Lausanne (EPFL) Lausanne, May 14, 2009.
- 2009 Designing Cognitively Inspired Geovisualization Displays, invited key note, 9th TheoQuant Meeting, Dijon, France, Mar. 4-6, 2009.
- 2008 Spatialization, die räumliche Darstellung von grossen nichträumlichen Datenbanken, colloquium series, Hochschule Karlsruhe - Technik und Wirtschaft Fakultät für Geomatik, Karlsruhe, Dec. 2008.
- 2008 Geographie, UZH Arbeitstelle für Hochschuldidaktik, colloquium series, University of Zürich, Zürich, Nov. 2008.
- 2008 Digitaler Planet Erde: Orientierungs- und Navigationshilfen im Datentsunami, Geographisch-Ethnographische Gesellschaft Zürich, colloquium series, Zürich, Oct. 2008.
- 2008 Visual Analytics of Visual Geographic Analytics Displays. Department of Geography, University of Basel, colloquium series, Basel, Oct. 2008.
- 2008 Designing Geovisualization Displays that Amplify Spatial Inference Making. Department of Development and Planning, Aalborg University, Lecture, Copenhagen, Denmark, Oct. 2008.
- 2008 Evaluation of Static and Animated Map Displays: An Eyewitness Report. Department of Geography, San Diego State University, colloquium series, San Diego, CA, Aug. 2008.
- 2007 Thematic relevance and perceptual salience in static weather maps. Guest lecture. Seminar on Eye Movement Research in Geovisualization (GEO453), University of Zürich, Zürich, Nov. 2007.
- 2007 Neue Ansätzen zur Visualisierung von Raumdaten. Ringvorlesung Geographie mit fachwissenschaftlicher Vertiefung (GEO891), University of Zurich/ETH Zürich, Sep. 2007.
- 2006 Looking through static and dynamic geovisualization displays. Institute for Geoinformatics, University of Münster, colloquium series, Münster, Germany, Dec. 2006.
- 2006 Mapping real and abstract spaces. Center for Cognitive Science, University of Freiburg, colloquium series, Freiburg, Germany, Jul. 2006.
- 2006 Thematic relevance and perceptual salience in static weather maps, Transregional Collaborative Research Center SFB/TR 8 Spatial Cognition: Reasoning, Action, Interaction, University of Bremen, colloquium series, Bremen, Germany, Jun. 2006
- 2006 Informationslandschaften im Datenmeer. Inaugural Lecture (Antrittsvorlesung), University of Zürich, Zürich, May 2006.
- 2005 *How can spatial cognition inform GIScience, and how can GIScience inform spatial cognition?* Dagstuhl Seminar 5491: Spatial Cognition: Specialization and Integration. International Conference and Research Center for Computer Science, Schloss Dagstuhl, Wadern, Germany, Dec. 4-9, 2005.

- 2006 Geovisualisierung und Raumkognition: Empirische Forschungsbeispiele und Resultate. Seminarreihe Geomatik an der ETH, Federal Institute of Technology (ETH) Zürich, May 2006.
- 2006 Spatialization - Explorative Datenanalyse mit räumlichen Metaphern. Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), colloquium series, Birmensdorf, Apr. 2006.
- 2004 Spatialization: Using spatial metaphors to represent non-spatial information. Center for Information Technology and Society (CITS), Faculty Lecture Series, University of California Santa Barbara, Santa Barbara, Oct. 2004.
- 2004 Spatialization: Explorative Daten-Analyse mit Räumlichen Metaphern. Invited lecture. Symposium: Perspektiven der Quantitativen Geographie im Bereich sozio-ökonomischer Aspekte der Mensch/Umwelt Beziehung. Universität Zürich, Zürich, May 2004.
- 2004 Spatialization: Using spatial metaphors to represent non-spatial information. University of Redlands/ESRI GIS colloquium series, Redlands, CA, Feb. 2004.
- 2003 Spatialization. Brown Bag Lunch Seminar Series. Geography Department of the University of Zürich, Switzerland, Sep. 2003.
- 2003 Cognitively Plausible Information Visualization. Invited lecture. Queen's University GIS Lab, Kingston, Canada, Mar. 25, 2003.
- 2003 Spatialized Browsing in Large Data Archives. Invited seminar. Queen's Centre for Knowledge-Based Enterprises, Kingston, Canada, Mar 26, 2003.
- 2003 Spatialization: Charting the Sea of Information. Invited keynote. Second National Cartographic Conference (GeoCart 2003). Taupo, New Zealand, Feb. 12-14, 2003.
- 2003 Design Principles for Information Visualization. Lecture. Cognitive Science Seminar on Visualizations as Internal Representations and as Augmentations of Cognition (INT 200B), University of California-Santa Barbara, Santa Barbara.
- 2002 Cartographic Representation. Lecture. Seminar on Internal/External Visualizations (PSY 594HV), University of California-Santa Barbara, Santa Barbara.
- 2002 GIScientifically Informed Information Visualization. Invited lecture. Centre for Advanced Spatial Analysis (CASA), University College London (UCL), London U.K.
- 2002 Information Visualization. Lecture. Interdisciplinary Seminar on Human-Computer Interaction (INT200B/CS 595A), University of California-Santa Barbara, Santa Barbara.
- 2002 RePresentation. Invited keynote. EuroConference on Methods to Define Geovisualisation Contents for Users Needs, Albufueira, Por., Mar. 9-14.
- 2000 Usability Evaluation of Spatial Metaphors for Browsing Large Document Collections. Talk. Department of Geography, University of California-Santa Barbara, Santa Barbara.
- 2000 Evaluation of Spatial Metaphors for Information Access. Invited lecture. Department of Geography, San Diego State University, San Diego.
- 1999 Spatial Metaphors for Browsing Large Data Archives. Invited lecture. Department of Geography, Pennsylvania State University, State College.
- 1999 Current Developments in Academic Cartography. Invited lecture. GEOG 3053 – Cartography I. University of Colorado, Boulder.
- Fall, Summer 1998 What is GIS? Invited lecture. GEOG 2053 – Maps and Mapping. University of Colorado, Boulder.
- Fall 1997
- 1998 Alltag als Doktorandin an der University of Colorado-Boulder. Invited lecture. Brown Bag Lunch Seminar Series. Geography Department of the University of Zürich, Switzerland.
- 1998 Visualization of Passenger Flows on the Swiss Federal Railways Network. Invited lecture. GEOG 5103/2 – Elements of GIS. University of Colorado, Boulder.

other professional activities

- 2013 Instructor: International Spatial Cognition Summer Institute (ISCSI) 2013, University of California Santa Barbara, Santa Barbara, CA, Aug 11-17, 2013.
- 2013 Co-Organizer: Pre-conference workshop on Eye Tracking at ICC Dresden, Aug. 25-30, 2013.
- 2013 Co-Organizer: GeoViz Hamburg 2013. International Workshop on Interactive Maps That Help People Think, HafenCity University, Hamburg, Germany, Mar. 6-8, 2013.
- 2013 Co-Organizer: Drawing Graphs and Maps with Curves. Interdisciplinary Dagstuhl, Seminar 13151, Schloss Dagstuhl, Wadern, Apr. 7-12, 2013.
- 2012 Co-Organizer: Pre-conference workshop on Experimental Methods at AutoCarto 2012, Columbus, OH, Sep. 16, 2012.
- 2009 U.S. NSF Spatial Intelligence and Learning Center (SILC) / DFG SFB/TR 8 Spatial Cognition. Workshop on Visualization and Navigation. New York, NY, Jul. 6-10, 2009.
- 2008 Specialist Meeting on Spatial Concepts in GIS and Design, Invited position statement, National Center for Geographic Information and Analysis (NCGIA), Santa Barbara, CA, Dec. 15-16, 2008.
- 2008 International Symposium on Geographic Information Science, Invited position statement, National Center for Geographic Information and Analysis (NCGIA), Santa Barbara, CA, Dec. 11-12, 2008.
- 2008 U.S. NSF Spatial Intelligence and Learning Center (SILC) / SFB/TR 8 Spatial Cognition. Workshop co-leader. Freiburg, Germany, Sep. 2008.
- 2005 National Summer Workshop: GIS and Population Science. Workshop Instructor. Center for Spatially Integrated Social Science (CSISS), University of California Santa Barbara, CA, Jun. 19-July 2, 2005.
- 2005 Image and Meaning 2. MIT School of Science. Workshop participant. The Getty Center, Los Angeles, CA, Jun. 23-25, 2005 (refereed abstract).
- 2005 EnVision05: Exploring a New Visualization Infrastructure Workshop. Invited position statement. Silicon Graphics Campus, Mountain View, CA, Jan. 19, 2005
- 2004 International Geographical Union (IGU). Spatialization of IGU Research Bodies 2000-2004: Connectedness and Reach.
(http://www.igu-net.org/uk/what_is_igu/comreachgraph26may.pdf)
- 2004/2005 National Summer Workshop: Spatial Analysis for the Undergraduate Social Science Curriculum. Workshop Coordinator and Instructor. Center for Spatially Integrated Social Science (CSISS), University of California Santa Barbara, CA.
- 2001/2002 National Summer Workshop: Map Making and Visualization of Spatial Data in the Social Sciences. Workshop Coordinator and Instructor. Center for Spatially Integrated Social Science (CSISS), University of California Santa Barbara, CA.

professional service

- editorial board Annals of the Association of American Geographers (2010-2014), Cartographic Perspectives (-2007, 2011-), Cartographica, Cartography and Geographic Information Science, Cartographic Journal, Computers, Environment and Urban Systems (CEUS), Int. Journal of Cartography, Journal of Spatial Information Science, Transactions in GIS (2000-2013), Revue Internationale de Géomatique.
- reviewing Annals of the Association of American Geographers, Applied Cognitive Psychology, Cartography and Geographic Information Science, Cartographic Journal, Cartographic Perspectives, Cognitive Research: Principles and Implications, Computers, Environment and Urban Systems, Conference on Visualization and Data Analysis (part of IS&T/ SPIE's International Symposium on Electronic Imaging), Int. Journal of Geographic Information Science, IEEE Computers and Graphics, IEEE Transactions in Visualization and Computer Graphics, IEEE Infovis, Information Visualization, ISPRS Photogrammetry and Remote Sensing, Journal of the

Association of American Information Science and Technology, PLOS ONE, Professional Geographer, Spatial Cognition Conference, Spatial Cognition and Computation, Transportation Research C: Emerging Technologies, Topics in Cognitive Science.

Austrian Science Fund, German National Science Fund (DFK), Norwegian Science Foundation Swiss National Research Fund (SNF), U.S. National Science Foundation: NSF Geography and Regional Science Research, CAREER grant program

U.S. National Bizarre Map Challenge, NACIS map competition.

program cmte. AGILE, AGIT, Asia-Pacific Symposium on Visualisation (APVIS), Cognitive Society Conference, Conference of Spatial Information Theory (COSIT), Conference on Geographic Information Science (GIScience), Diagrams, Eurographics Emerging area committee, International Conference on Spatial Analysis and Geostatistics (SAGEO), Int. Cartographic Association Conference, Conference on Information Visualization (IV), Geomatik Konferenz, Geoviz Hamburg, International Cartographic Conference, ICA geovis workshops, International Advanced Workshop on Virtual Geographic Environments & Geocollaboration 2003, Chinese University of Hong Kong, Int. Conference on Geoinformatics 2004, Gävle, Sweden, UCGIS Geospatial Visualization & Knowledge Discovery 2003, Lansdowne, VA.

program chairing Int. Conference on Spatial Information Theory (COSIT2015), Santa Fe, NM, Sep. 7-11, 2015.
Int. CartoCon 2014 Conference, Olomouc, Czech Republic, Feb. 24-28, 2014.
Int. Conference on Geovisualization (GeoViz 2013), Hamburg, Germany, Mar. 6-8, 2013.
Int. Conference on Geographic Information Science (GIScience 2010), Zurich, Switzerland, Sep. 14-17, 2010.
Int. Conference on Geographic Information Science (AGILE2007), Aalborg, Denmark, May 8-11, 2007.

session organizer Session Series on Cognition, Behavior, and Representation, Annual Meeting of the Assoc. of the American Geographers, Tampa, FL, 2014.
Session Series on Cognition, Behavior, and Representation, Annual Meeting of the Assoc. of the American Geographers, Los Angeles, CA, 2013.
Panel Session on GIScience and Cartography, GIScience 2012, Columbus, OH, Sep. 18, 2012.
Session Series on Cognition, Behavior, and Representation I-VII, Annual Meeting of the Assoc. of the American Geographers, New York, NY, 2012.
Panel Session on Tribute to Jacques Bertin, 25th International Cartographic Conference, International Cartographic Association, Jul. 3-8, 2011, Paris, France.
Session Series on Cognition, Behavior, and Representation I-IV, Annual Meeting of the Assoc. of the American Geographers, Seattle, WA, 2011.
Featured Symposium on Space-Time Integration in Geography and GIScience. Annual Meeting of the Assoc. of the American Geographers, Seattle, WA, 2011.
Session Series on Geovisualization, Geovisual Analytics, Cognition, Behavior and Representation I-III, Annual Meeting of the Assoc. of the American Geographers, Washington, DC, 2010.
Session Series on Cognition, Behavior, and Representation I-IV, Annual Meeting of the Assoc. of the American Geographers, Las Vegas, NV, 2009.
Cartography Specialty Group Student Paper Competition, Annual Meeting of the Assoc. of the American Geographers, Boston, MA, 2008.
Cognitive Issues in Geographic Information Visualization I & II, Annual Meeting of the Assoc. of the American Geographers, Boston, MA, 2008.
GIS Specialty Group Student Paper Competition, Emerging Themes in GIScience and Systems, Annual Meeting of the Assoc. of the American Geographers, Denver, CO, 2005.

Emerging Themes in GIScience I+II, GIS Specialty Group Student Paper Competition, Annual Meeting of the Assoc. of the American Geographers, Philadelphia, PA, 2004.

Spatialization I & II. Annual Meeting of the Assoc. of the American Geographers, New Orleans, LA, 2003.

Spatialization. Annual Meeting of the Assoc. of the American Geographers, Los Angeles, CA, 2002.

Spatialization, Cognitive Issues in Visualization I & II. Annual Meeting of the Assoc. of the American Geographers, New York, NY, 2001.

scientific boards
-2017 Maison de Science de L'homme de Dijon (FRA)
Places and Spaces: Mapping Science (USA)
New Map Plus Advisory Board, University of Kentucky (USA).

university service UZH Digital Society Initiative: Steering Committee (2016-), UZH science faculty: student affairs cmt. (2016-), UZH science faculty board (2014–2016), UZH science faculty: research committee, teacher education committee, various science faculty search committees.

Search committee member for senior hire in GIScience at Harvard University (2008)

Tenure and promotion case reviewer (various).

Board member of the women scientist mentoring program "FrauschafftWissen"

department service Head Teaching (2016-2018), Head of Department (2014-2016), IT committee, teaching committee, graduate school advisory board, InnoPool review board, InVers delegate, teacher training board. Examiner for final MSc exams, with minors in geography (2005-2009)

organizer of the department colloquium (ZGK 2006), department excursion (2007), graduate school workshop on funding opportunities (2011), department workshop on performance assessment in teaching (2008).

outreach Stimmt es, dass? Navigationsgeräte unseren Orientierungssinn beeinflussen? Article in the UZH Journal, May 2015.

Boom von Navigationssystemen: Unser Orientierungssinn geht auf Krücken. Interview given for Süddeutsche Zeitung.

Navis sind heute für viele Autofahrer unverzichtbare Wegweiser. Verlieren wir durch die digitalen Helfer langsam unseren Orientierungssinn? Interview given for ADAC Motorwelt.

How to Make a Better Map—Using Neuroscience. Interview given for CityLab, The Atlantic.

Die wunderbare Welt der digitalen Karten? Interview given for SRF Wissen Digital.

Die Kartografie im 21. Jahrhundert. Interview given for matrix - computer & neue medien, oe1@ORF.

Examiner for high school final exams in geography (Matura) at local high schools.

Participant with a 3D geowall exhibit for national science and education fairs (basecamp09, Nationaler Zukunftstag).

Landkarten werden nicht aussterben, interview given for science@ORF.

Political realities are off the maps. Article and cartograms on the U.S. Presidential Elections 2004 published in the Santa Barbara News Press, Nov. 8, 2004.

Mapping the Census2000. Eight census maps published in the Santa Barbara News Press, March 30 and April 8, 2001.

(2000-2005) Regular talks at local elementary schools during Geography Awareness week.

grants¹

- 2017 UZH Teaching Fund (Lehrkredit: 40,000 CHF)
2017 PI: Swiss National Science Fund (2 years: CHF 102,819)
2017 PI: ERC Advanced Grant (5 years: 2,5 Mio EUR)
2016 UZH Teaching Fund (Lehrkredit: 8000 CHF)
2016 Co-I: Swiss National Science Fund (3 years: CHF)
2014 PI: Swiss National Science Fund (2 years: CHF 172,007)
2014 Co-PI: Swiss National Science Fund (3 years: CHF 176,876)
2013 Co-PI: Swiss National Science Fund (3 years: CHF 161,400).
2012 Co-Organizer: Drawing Graphs and Maps with Curves. Interdisciplinary Dagstuhl, Seminar 13151, Schloss Dagstuhl, Wadern, Jul. 4-12, 2013.
2011 Co-Investigator: Commission for Technology and Innovation (CTI) (1.5 years: CHF ~ 67'390)
2011 Primary Investigator: Swiss National Science Fund (3 years: CHF ~170,000)
2009 Primary Investigator: Swiss National Science Fund (2 years: CHF 97,475)
2008 Collaborator: EU FP7 VisMaster FET/225429: Visual Analytics - Mastering the Information Age (EUR 10,000)
2007 Lotteriefonds des Kantons Zürich for the Stiftung Erziehung zur Toleranz (SET) (6 years: CHF 360,000)
2006 Primary Investigator: Swiss National Science Fund (2 years: CHF 97,475)
2005 International Cartographic Association U.S. National Committee young scholar travel award
2004 Primary Investigator: National Geospatial Intelligence Agency (NGA) NURI (option year: 146,000)
2004 Primary Investigator: U.S. National Science Foundation, Geography and Regional Science (3 years: \$180,000)
2003 UCSB Junior Faculty Incentive award (summer salary)
2001 International Cartographic Association U.S. National Committee young scholar travel award
2000 Primary Investigator: National Geospatial Intelligence Agency (NGA) NURI (3 years: \$319,700.
2000 European Science Foundation: EURESCO young scientist travel grant
1999 Beverly Sears Dean's Small Grant. University of Colorado, Boulder.
1996 Canton of Zürich, U.S. travel grant.

advising

- UZH Habil./HDR external member: S. Christophe (IGN, France, 2017).
UZH Ph.D. chair (Fakultätsvertretung/Betreuung): S. Credé, A. Brügger
2018: K. Bektas, G. Boo (defense: Jun. 29)
2017: A. Bruggmann, S. Maggi.
2016: J. Ory (IGN, France), J. Stirnemann (U./HdK Berne).
2015: B. Weninger (HCU Hamburg, Germany). 2014: P. Crease; 2013: S. DeSabbata,

¹ Only grants as PI, and only a subset as Co-PI are listed. Complete list available here: <http://www.research-projects.uzh.ch/a1342.htm>

2012: M. Salvini, J. Wilkening; 2011: H. Kaspar, A-K. Lautschenschütz, 2009: F. Ostermann, 2007: D. Caduff, U.-J. Rüetschi, 2006: C. Keller-Lengen.

committee: S. Müller, W. Wei (UZH epidemiology/biostats.)

external member at ETH Zurich: A. Reuschel (2013), A. Neumann (2010), T. Dahinden (2008).

external examiner: Cecile Saint Marc, (Grenoble, France, 2017), J. Korpi (AaltoU, Finland, 2015), C. Hoarau (IGN/Paris Est, France, 2015), P. Kettunen (AaltoU, Finland, 2014), F. Dhee (IGN/Paris 1, France, 2013), K. Ooms (UGent, Belgium, 2012), Xia Li (ITC/UTwente, The Netherlands, 2011), E. Chesneau (IGN/Paris Est, France, 2006), S. Christophe (IGN/Paris Est, France, 2009), O. Swienty (TU München, 2008), A. Nielsen (UAalborg, 2008).

M.S. chair (Fakultätsvertretung/Betreuung): L. Mathis.

2018: I. Johansen (UBonn).

2017: I. Blatter, M. Korporaal, T. Ingold, T. Aders, V. Guidetti, Reto Spielhofer.

J. Durand, C. Meier. 2016: I. Kübler; 2015: P. Frei, J. Marx, O. Deseö,

2013: F. Ortner, F. Rouiller, J. Schito., A. Streit. 2012: A. Bruggmann, R.

Klausener, N. Kugelmeier, R. Lauer, M. Oliveri, R. Sonderegger, S. Tuggener;

2010: Y. Heinrich, A. Gnos, S. Maggi, S. Zanola; 2009: C. Gabathuler, S. Garlandini,

S., Hinn, 2008: M. Chopard.

committee member: C. Derungs (2007), J. Schneider (UZH History, 2013).

B.S./Dipl. chair (Betreuung): D. Grzetic-Zaman, M. Karcher (2011), S. Kaspar (2010); all School of Applied Science Karlsruhe (Germany)

UCSB Ph.D. committee member: A. Keuper (2004), K. Goldsberry (2007; chair until 2005)

M.A. chair: K. Goldsberry (2004), T. Pingel (2004), A. Boughmann (2006)

committee member: S. Rebich (2006), B. Norton (2002), E. Talassa (MAT, 2002),

M. Marsh (2003), A. Nürnberger (2003), J. Corbett (2004)

professional memberships

International Cartographic Association (ICA): Vice President and Member of the Executive Committee.

Geovisualization Commission: Corresponding Member;

Cognitive Visualization Commission: Past Chair.

Deutsche Kartographische Gesellschaft für Kartographie (DGfK). Kommission: Forschung in der Kartographie. Board Member.

Schweiz. Gesellschaft für Kartographie (SGK) (Swiss Society of Cartography)

North American Cartographic Society (NACIS)

Canadian Association of Cartography (CCA)

Association of American Geographers (AAG)

Registered in the Naturwissenschafterinnenkartei (NAWIKa) of the Swiss Academy of Sciences. A Database containing background information on Swiss women scientists.

SIF./JUL. 2018