

Curriculum Vitae Johann Gamper

Professor for Database Systems
Faculty of Computer Science
Free University of Bozen-Bolzano
Dominikanerplatz 3, Room 2.15
39100 Bozen-Bolzano, Italy

Phone: +39-0471-016140

Email: gamper@inf.unibz.it

Web: <http://www.inf.unibz.it/~gamper>



Education

- 1976–1981 High school (“Realgymnasium”) in Brixen, Italy
- 1981–1987 BSc study in Data System Engineering, TU Vienna
- 1983–1989 Diploma study in Computer Science (5 years, “Diplom-Ingenieur”), TU Vienna. Thesis: HEPAXPERT-I: *An Expert System for Automatic Interpretation of Hepatitis A and B Serology Findings*. (Supervisor: Prof. K.P. Adlassnig)
- 1993–1996 PhD study in Computer Science (*summa cum laude*), RWTH Aachen. PhD thesis: *A Temporal Reasoning and Abstraction Framework for Model-Based Diagnosis Systems*. (Supervisor: Prof. W. Nejdl)

Present Appointment

Since 10/2018, I am a full professor at the Faculty of Computer Science of the Free University of Bozen-Bolzano (UNIBZ).

Main responsibilities: Vice-Rector for Research, member of the Study Committee for the PhD in Computer Science, head of the Database Systems Group.

Professional Experience

2018–	Vice-Rector for Research, UNIBZ
2018–	Full professor, Faculty of Computer Science, UNIBZ
2014–2018	Vice-Dean for Studies, Faculty of Computer Science, UNIBZ
2008–2018	Associate professor, Faculty of Computer Science, UNIBZ
2015–	Head of the Database Systems Group, Faculty of Computer Science, UNIBZ
2015–2015	Coordinator of the IDSE research area, Faculty of Computer Science
2003–2008	Assistant professor, Faculty of Computer Science, UNIBZ
2000–2003	Coordinator of the establishment of the Faculty of Computer Science, UNIBZ
1996–2000	Senior researcher and coordinator of the Knowledge Engineering Group, EURAC Research, Bozen-Bolzano
1995–1996	University assistant, Institute for Knowledge-Based Systems, University of Hannover (Prof. W. Nejdl)
1993–1995	ERASMUS scholarship, Institute for Knowledge-Based Systems, RWTH Aachen (Prof. W. Nejdl)
1991–1993	University assistant, Department of Medical Computer Sciences, University of Vienna (Prof. K.P. Adlassnig)
1990–1991	Basic military service, Italy
1989–1990	Scientific collaborator, Department of Medical Computer Sciences, University of Vienna (Prof. Klaus-Peter Adlassnig)
1991–1993	of Vienna (Prof. Klaus-Peter Adlassnig)

Main Research Interests

- Database systems with a focus on managing and processing temporal data
- Data analytics, aggregation and summary structures for multidimensional data
- Approximate matching and similarity search for tree- and graph-structured data
- Query processing in road and transport networks
- In the past: model-based diagnosis and e-learning

Awards

- *VLDB 2017 – PVLDB volume 10 Best Reviewer Award* for outstanding efforts during the reviewing and decision making for papers submitted to PVLDB volume 10.
- *Best paper award*: M. Shekelyan, A. Dignös, J. Gamper. *Sparse prefix sums*. 21st European Conference on Advances in Databases and Information Systems (ADBIS), Nikosia, Cyprus, 2017.
- *Best paper award*: D. Piatov, S. Helmer, J. Gamper. *Interactive time series subsequence matching*. 21st European Conference on Advances in Databases and Information Systems (ADBIS), Nikosia, Cyprus, 2017.
- The following paper was selected for the *21st Annual Best of Computing 2016 – Notable Books and Articles, by ACM Computing Reviews*: A. Dignös, M.H. Böhlen, J. Gamper, C.S. Jensen. *Extending the kernel of a relational DBMS with comprehensive support for sequenced temporal queries*. *ACM Transactions on Database Systems (TODS)*, 41(4), 2016.
- *Best paper award*: D.B. Blumenthal, J. Gamper. *Exact computation of graph edit distance for uniform and non-uniform metric edit costs*. 11th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition (GbRPR), Anacapri, Italy, 2017.
- *Honorable Mention Award* for the work in the Quality Committee of the Free University of Bozen-Bolzano, awarded by UNIBZ at the Dies Academicus 2016.
- *Honorable Mention Award* for the scientific contributions to database research, awarded by UNIBZ at the Dies Academicus 2015.
- *Outstanding Paper Award*: A. Abel, J. Gamper, J. Knapp, V. Weber. *Describing verb valency in an electronic learner's dictionary: linguistic and technical implications*. World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA), Honolulu, Hawaii, 2003.
- *"Anerkennungspreis 2002 für Forschungs- und Studienprojekte der Eduard-Wallnöfer-Stiftung"* for the ELDIT system, Innsbruck, Austria, 2002.
- *"Borchers-Plakette"* for the excellent research in my PhD thesis, awarded by "Freunde und Förderer der RWTH Aachen", Germany, 1997.

Languages

- German (mother tongue)
- Italian and English (level C1)

Research Projects and Funds

During my time at the UNIBZ, I was able to acquire more than 1.8 Mio. project funding, including funding from the EU (6FP IST STREP, INTERREG-IV), international companies (Oracle Research), national public administrations (Italian Ministry, Health Authority South Tyrol, Municipality of Bozen-Bolzano, Province of Bozen-Bolzano), and local companies (ACS Data Systems, Athesia Group).

Some projects are on *fundamental research* in database systems (e.g., DASTS, AQUiST, TPG, SYRA), while many others are on *interdisciplinary research* with partners from different application domains, such as agriculture (DASA, DASA2), manufacturing (TASMA), e-government (EBZ, EMAYOR, PEOPLE), tourism (O-STAR, FITTS), finance (ISMARD), and medicine (MEDAN).

The interdisciplinary research projects contributed significantly to the *technology and know-how transfer* from the faculty to the local territory and stakeholders.

The research method adopted in my projects aims for *high quality* and combines *foundational studies* with *systems engineering* and *empirical evaluations*. Many projects are done in close *collaboration with leading researchers* in the (temporal) database community. The obtained research results are published in the *most prestigious outlets* of the database systems community. (More about research achievements in the sections “Publications” and “Statement of interest”)

Summary of Research Funds

Project name	Period	Funding	Funding agency	Role
ISMARD	08/2018–04/2020	120,000	UNIBZ ID call 2018	PM
TASMA	01/2018–12/2019	66,000	UNIBZ CRC call 2017	PI
DASTS	09/2017–08/2018	74,000	Oracle Research	PI
HAIL RISK	05/2017–05/2020	43,000	UNIBZ ID call 2016	CI
EMMA	01/2017–12/2018	70,000	UNIBZ CRC call 2016	PI
TPG	11/2015–10/2018	50,000	UNIBZ CRC call 2015	CI
DASA2	01/2015–12/2016	50,000	UNIBZ CRC call 2014	PI
DASA	03/2014–02/2015	25,000	UNIBZ Foundation	PI
BZ-TRAFFIC	07/2013–02/2014	24,000	Municipality of Bolzano	CI
SYRA	08/2012–01/2015	20,000	UNIBZ CRC call 2012	CI
O-STAR	01/2012–12/2014	63,000	INTERREG-IV	PI _{unibz}
AQUiST	04/2011–03/2014	117,000	Province of Bozen-Bolzano	PI
FITTS	07/2011–12/2012	75,000	ACS Data Systems SpA	PI
MEDAN	07/2009–06/2012	187,000	Health Authority South Tyrol	PI
OPTIMuN	07/2010–06/2011	25,000	UNIBZ CRC call 2010	PI
TTDBT	01/2005–11/2007	10,000	UNIBZ	PI
EMAYOR	01/2004–02/2006	110,000	6FP IST STREP	PI _{unibz}
EBZ 2015	01/2006–12/2010	232,000	Municipality of Bolzano	PI
PEOPLE	01/2003–12/2004	130,000	Italian Ministry	PI _{unibz}
EBZ – DIGITAL CITY	01/2002–06/2005	151,000	Municipality of Bolzano	PI
MiRIS	06/2001–06/2003	45,000	EURAC Research	PI _{unibz}
2 MSc bursaries	2005–2006	14,000	Municipality of Bolzano	PI
Total funding acquired		1,701,000		

PI = principal investigator, CI = co-investigator, PI_{unibz} = principal investigator on behalf of UNIBZ

PM = project member

Publications

In the following, GRIN refers to the classification of journals and conferences of the Italian Association of Computer Science professors.

Summary

- 28 journal publications (including 2 TODS, 4 VLDB Journal, 2 PVLDB, 1 TKDE, 4 Information Systems, 1 BMC Bioinformatics, 1 TCBB, 1 AIM)
- 90+ conference/workshop publications (including 2 SIGMOD, 2 VLDB, 4 ICDE, 6 EDBT, 4 CIKM, 1 KDD, 1 WWW, 1 IJCAI, 1 ECAI)
- 12 books/book chapters/edited books/edited conference proceedings
- 40 of my publications (15 journal and 25 conference publications) are in class A outlets according to the GRIN classification
- Bibliometric data (as of October 2019):

Source	Citations	h-index	i10-index
Google Scholar	1737	22	48
Scopus	667	14	19

Journal Publications

- [1] D. B. Blumenthal, N. Boria, J. Gamper, S. Bougleux, and L. Brun. Comparing heuristics for graph edit distance computation. *VLDB Journal*, 2019. [GRIN A]
- [2] V. Del Fatto, A. Dignös, G. Raimato, L. Maccioni, Y. Borgianni, and J. Gamper: Visual time period analysis: a multimedia analytics application for summarizing and analyzing eye-tracking experiments. *Multimedia Tools and Applications*, 2019.
- [3] A. Dignös, B. Glavic, X. Niu, J. Gamper and M. H. Böhlen. Snapshot semantics for temporal multiset relations. *PVLDB*, 12(6): 639-652, 2019. [GRIN A]
- [4] M. Shekelyan, A. Dignös, and J. Gamper. Sparse prefix sums: constant-time range sum queries over sparse multidimensional data cubes. *Information Systems*, 82: 136–147, 2019. [GRIN A]
- [5] D. Piatov, S. Helmer, A. Dignös, and J. Gamper. Interactive and space-efficient multi-dimensional time series subsequence matching. *Information Systems*, 82: 121–135, 2019. [GRIN A]
- [6] D. Blumenthal and J. Gamper. On the exact computation of the graph edit distance. *Pattern Recognition Letters*, 2018. In press. [GRIN C]
- [7] D. Blumenthal and J. Gamper. Improved lower bounds for graph edit distance. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 30(3): 503–516, 2018. [GRIN A]
- [8] M. Shekelyan, A. Dignös, and J. Gamper. DigitHist: a histogram-based data summary with tight error bounds. *PVLDB*, 10(11): 1514–1525, 2017. [GRIN A]
- [9] G. Mahlknecht, A. Dignös, and J. Gamper. A scalable dynamic programming scheme for the computation of optimal k -segments for ordered data. *Information Systems (IS)*, 70:2–17, 2017. [GRIN A]

- [10] A. Dignös, M.H. Böhlen, J. Gamper, and C.S. Jensen. Extending the kernel of a relational DBMS with comprehensive support for sequenced temporal queries. *ACM Transactions on Database Systems (TODS)*, 41(4): 26:1–26:46, 2016. [GRIN A]
- [11] D. Taliun, J. Gamper, U. Leser, and C. Pattaro. Fast sampling-based whole-genome haplotype block recognition. *IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)*, 13(2):315–325, 2016. [GRIN B]
- [12] N. Krismer, D. Silbernagl, J. Gamper, and G. Specht. osmPti2mmds – Erstellung von multimodalen Datensets aus OpenStreetMap und ÖPNV-Informationen. *AGIT Journal*, 2:185–190, 2016.
- [13] D. Taliun, J. Gamper, and C. Pattaro. Efficient haplotype block recognition of very long and dense genetic sequences. *BMC Bioinformatics*, 15(10), 2014. [GRIN A]
- [14] N. Augsten, and M.H. Böhlen, and J. Gamper. The address connector – noninvasive synchronization of hierarchical data sources. *Knowledge and Information Systems (KAIS)*, 37(3):639–663, 2013.
- [15] J. Gordevičius, J. Gamper, and M. H. Böhlen. Parsimonious temporal aggregation. *The VLDB Journal*, 21(3): 309–332, 2012. [GRIN A]
- [16] N. Augsten, M. H. Böhlen, C. Dyreson, and J. Gamper. Windowed pq-grams for approximate joins of data-centric XML. *The VLDB Journal*, 21(4): 463–488, 2012. [GRIN A]
- [17] M. Khayati, J. M. Anderson, M. H. Böhlen, J. Gamper, and M. Mitterer. Similarity of chemotherapy histories based on imputed values. *International Journal of Medical Engineering and Informatics (IJMEI)*, 4(3): 282–298, 2012.
- [18] I. Timko, M. H. Böhlen, and J. Gamper. Sequenced spatiotemporal aggregation for coarse query granularities. *The VLDB Journal*, 20(5): 721–741, 2011. [GRIN A]
- [19] M. Akinde, M. H. Böhlen, D. Chatziantoniou, and J. Gamper. θ -Constrained multi-dimensional aggregation. *Information Systems (IS)*, 36(2): 341–358, 2011. [GRIN A]
- [20] N. Augsten, M. H. Böhlen, and J. Gamper. The pq-gram distance between ordered labeled trees. *ACM Transactions on Database Systems (TODS)*, 35(1):1–36, 2010. [GRIN A]
- [21] M. H. Böhlen, J. Gamper, and C. S. Jensen. An algebraic framework for temporal attribute characteristics. *Annals of Mathematics and Artificial Intelligence (AMAI)*, 46(3): 349–374, March 2006. [GRIN B]
- [22] P. Brusilovsky, J. Knapp, and J. Gamper. Supporting teachers as content authors in intelligent educational systems. *International Journal of Knowledge and Learning*, 2(3/4): 191–215, 2006.
- [23] J. Gamper and J. Knapp. A review of intelligent CALL systems. *Computer Assisted Language Learning*, 15(4):329–342, October 2002. [GRIN C]
- [24] J. Gamper and J. Knapp. Adaptation in a vocabulary acquisition system. *Zeitschrift Künstliche Intelligenz*, 3(2):27–30, 2002.
- [25] J. Gamper and O. Stock. Corpus-based terminology. *TERMINOLOGY*, 5(2):147–159, 1998/1999.
- [26] J. Gamper and W. Nejd. Abstract temporal diagnosis in medical domains. *Artificial Intelligence in Medicine (AIM)*, 10(3):209–234, 1997. [GRIN A]

- [27] J. Gamper and K.P. Adlassnig. Fuzzy-Mengen in der Medizin. *GIT Labor-Medizin*, 15:409–410, October 1992.
- [28] C. Chizzali-Bonfadin, K.P. Adlassnig, W. Horak, and J. Gamper. Das integrierte Datenbank- und Expertensystem HEPAXPERT-II: Automatische Interpretation von Hepatitis-A- und B-Serologie-Befunden. *GIT Labor-Medizin*, 15:408, October 1992.

Conference/Workshop Publications

- [1] A. Behrend, A. Dignös, M. Rottmann, J. Gamper, P. Schmiegelt, K. Kahl, and H. Voigt. Period index: a learned 2D hash index for range and duration Queries. In *Proc. of the 16th International Symposium on Spatial and Temporal Databases (SSTD)*, pages 100–109, Vienna, Austria, August 19–21, 2019.
- [2] N. Duran, G. Mahlknecht, A. Dignös, and J. Gamper. HOTPERIODS: visual correlation analysis of interval data. In *Proc. of the 16th International Symposium on Spatial and Temporal Databases (SSTD), Demo track*, pages 178–181, Vienna, Austria, August 19–21, 2019.
- [3] D. B. Blumenthal, S. Bougleux, J. Gamper, and L. Brun. GEDLIB: A C++ library for graph edit distance computation. In *Proc. of the 12th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition (GbrPR)*, pages 14–24, Tours, France, June 19-21, 2019.
- [4] T. Chondrogiannis, P. Bouros, J. Gamper, U. Leser, and D.B. Blumenthal. Finding k-dissimilar paths with minimum collective length. In *Proc. of the 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*, pages 404–407, Seattle, Washington, USA, November 6–9, 2018.
- [5] M.H. Böhlen, A. Dignös, J. Gamper, and C.S. Jensen. Database technology for processing temporal data. In *Proc. of the 25th International Symposium on Temporal Representation and Reasoning (TIME)*, pages 2.1–2:7, Warsaw, Poland, 15–17 October, 2018. (Invited paper). [GRIN A]
- [6] V. Del Fatto, A. Dignös, and J. Gamper. Time^odiff: a visual approach to compare period data. In *Proc. of the 22nd International Conference Information Visualisation (iV)*, pages 38–43, Salerno, Italy, 10–13 July, 2018.
- [7] D.B. Blumenthal, É. Daller, S. Bougleux, L. Brun, and J. Gamper. Quasimetric graph edit distance as a compact quadratic assignment problem. In *Proc. of the 24th International Conference on Pattern Recognition (ICPR)*, pages 934–939, Beijing, China, August 20–24, 2018. [GRIN A]
- [8] D.B. Blumenthal, S. Bougleux, J. Gamper, and L. Brun. Ring based approximation of graph edit distance. In *Proc. of the Joint IAPR International Workshop on Structural, Syntactic, and Statistical Pattern Recognition (S+SSPR)*, pages 293–303, Beijing, China, August 17–19, 2018.
- [9] M. Shekelyan, A. Dignös, and J. Gamper. Sparse prefix sums. In *Proc. of the 21st European Conference on Advances in Databases and Information Systems (ADBIS)*, pages 120–135, Nicosia, Cyprus, September 24–27, 2017. (Best paper award)
- [10] D. Piatov, S. Helmer, and J. Gamper. Interactive time series subsequence matching. In *Proc. of the 21st European Conference on Advances in Databases and Information Systems (ADBIS)*, pages 73–87, Nicosia, Cyprus, September 24–27, 2017. (Best paper award)

- [11] M.H. Böhlen, A. Dignös, J. Gamper, and C.S. Jensen. Temporal data management – an overview. In *Business Intelligence and Big Data – 7th European Summer School, eBISS 2017, Bruxelles, Belgium, July 2-7, 2017, Tutorial Lectures*, LNBIP 324, vol. 324, pages 51–83, Springer 2017.
- [12] G. Mahlknecht, A. Dignös, and J. Gamper. VISOR: Visualizing summaries of ordered data. In *Proc. of the 29th International Conference on Scientific and Statistical Database Management (SSDBM)*, pages 40:1–40:5, Chicago, IL, USA, June 27–29, 2017. (Demo paper)
- [13] N. Krismer, D. Silbernagl, G. Specht, and J. Gamper. Computing isochrones in multimodal spatial networks using tile regions. In *Proc. of the 29th International Conference on Scientific and Statistical Database Management (SSDBM)*, pages 33:1–33:6, Chicago, IL, USA, June 27–29, 2017.
- [14] D. B. Blumenthal and J. Gamper. Correcting and speeding-up bounds for non-uniform graph edit distance. In *Proc. of the 33rd IEEE International Conference on Data Engineering (ICDE)*, pages 131–134, San Diego, CA, USA, April 19–22, 2017. [GRIN A]
- [15] D.B. Blumenthal and J. Gamper. Exact computation of graph edit distance for uniform and non-uniform metric edit costs. In *Proc. of the 11th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition (GbrPR)*, pages 211–221, Anacapri, Italy, May 16–18, 2017. (Best paper award)
- [16] K. Wellenzohn, M.H. Böhlen, A. Dignös, and J. Gamper. Continuous imputation of missing values in streams of pattern-determining time series. In *Proc. of the 20th International Conference on Extending Database Technology (EDBT)*, pages 330–341, Venice, Italy, March 21–24, 2017. [GRIN A]
- [17] T. Chondrogiannis, P. Bouros, J. Gamper, and U. Leser. Exact and approximate algorithms for finding k-shortest paths with limited overlap. In *Proc. of the 20th International Conference on Extending Database Technology (EDBT)*, pages 414–425, Venice, Italy, March 21–24, 2017. [GRIN A]
- [18] T. Chondrogiannis, J. Gamper, R. Cavaliere, and P. Ohnewein. MoTrIS: a framework for route planning on multimodal transportation networks. In *Proc. of the 24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*, pages 82:1–82:4, 2016. [GRIN B]
- [19] T. Chondrogiannis and J. Gamper. ParDiSP: a partition-based framework for distance and shortest path queries on road networks. In *Proc. of the 17th IEEE International Conference on Mobile Data Management (MDM)*, pages 242–251, Porto, Portugal, June 13–16, 2016.
- [20] T. Chondrogiannis, P. Bouros, J. Gamper, and U. Leser. Alternative Routing: k-Shortest Paths with Limited Overlap. In *Proc. of the 23rd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*, pages 68–71, Seattle, Washington, USA, November 3–6, 2015. [GRIN B]
- [21] G. Mahlknecht, A. Dignös, and J. Gamper. Efficient computation of parsimonious temporal aggregation. In *Proc. of the 19th East European Conference on Advances in Databases and Information Systems (ADBIS)*, LNCS 9282, pages 320–333, Poitiers, France, September 8–11, 2015.
- [22] A. Dignös, M.H. Böhlen, and J. Gamper. Overlap interval partition join. In *Proc. of the ACM SIGMOD Conference (SIGMOD)*, pages 1459–1470, Snowbird, UT, USA, June 22–27, 2014. [GRIN A]

- [23] M. Khayati, M.H. Böhlen, and J. Gamper. Memory-efficient centroid decomposition for long time series. In *Proc. of the 30th International Conference on Data Engineering (ICDE)*, pages 100–111, Chicago, USA, March 31 – April 4, 2014. [GRIN A]
- [24] P. Bolzoni, S. Helmer, K. Wellenzohn, J. Gamper, and P. Andritsos. Efficient itinerary planning with category constraints. In *Proc. of the 22nd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*, Dallas, Texas, USA, November 4–7, 2014. [GRIN B]
- [25] B. Cadonna, J. Gamper, M.H. Böhlen. A Robust Skip-Till-Next-Match Selection Strategy for Event Pattern Matching. In *Proc. of the 18th East European Conference on Advances in Databases and Information Systems (ADBIS)*, pages 177–191, Ohrid, Republic of Macedonia, September 7-10, 2014.
- [26] T. Chondrogiannis and J. Gamper. Exploring graph partitioning for shortest path queries on road networks. In *Proc. of the 26th GI-Workshop "Grundlagen von Datenbanken"*, pages 71–76, Bozen, Italy, October 21–24, 2014.
- [27] N. Krismer, G. Specht, and J. Gamper. Incremental calculation of isochrones regarding duration. In *Proc. of the 26th GI-Workshop "Grundlagen von Datenbanken"*, pages 41–46, Bozen, Italy, October 21–24, 2014.
- [28] K. Wellenzohn, H. Mitterer, J. Gamper H.M. Böhlen, and M. Khayati. Missing value imputation in time series using top-k case matching. In *Proc. of the 26th GI-Workshop "Grundlagen von Datenbanken"*, pages 77–82, Bozen, Italy, October 21–24, 2014.
- [29] A. Dignös, M. H. Böhlen, and J. Gamper. Query time scaling of attribute values in interval timestamped databases. In *Proc. of the 29th International Conference on Data Engineering (ICDE)*, pages 1304–1307, Brisbane, Australia, April 8-12, 2013. [GRIN A]
- [30] C. Ammendola, M.H. Böhlen, and J. Gamper. Efficient evaluation of ad-hoc range aggregates. In *Proc. of the 15th International Conference on Data Warehousing and Knowledge Discovery (DaWaK)*, pages 46–59, Prague, Czech Republic, August 26–29, 2013. [GRIN B]
- [31] M. Innerebner, M.H. Böhlen, and J. Gamper. ISOGA: a system for geographical reachability analysis. In *Proc. of the 12th International Symposium on Web and Wireless Geographical Information Systems (W2GIS)*, pages 180–189, Banff, Alberta, Canada, April 4-5, 2013.
- [32] A. Dignös, M.H. Böhlen, and J. Gamper. Temporal alignment. In *Proc. of the ACM SIGMOD Conference (SIGMOD)*, pages 433–444, Scottsdale, Arizona, USA, May 20–24, 2012. [GRIN A]
- [33] B. Cadonna, J. Gamper, and M.H. Böhlen. Efficient event pattern matching with match windows. In *Proc. of the ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, pages 471–479, Beijing, China, August 12–16, 2012. [GRIN A]
- [34] J. Gamper, M.H. Böhlen, and M. Innerebner. Scalable computation of isochrones with network expiration. In *Proc. of the 24th International Conference on Scientific and Statistical Database Management (SSDBM)*, LNCS 7338, pages 526–543, June 25–27, 2012, Chania, Crete, Greece.
- [35] M. Kacimi and J. Gamper. MOUNA: mining opinions to unveil neglected arguments. In *Proc. of the 21th ACM Conference on Information and Knowledge Management (CIKM)*, pages 2722–2724, Maui Hawaii, Oct 29 – Nov 2, 2012. [GRIN C]

- [36] A. Pitman, M. Zanker, J. Gamper, and P. Andritsos. Individualized hiking time estimation. In *Proc. of the 23rd International Workshop on Database and Expert Systems Applications*, pages 101–105, Vienna, Austria, September 3–7, 2012.
- [37] M. Kacimi and J. Gamper. Diversifying search results of controversial queries. In *Proc. of the 20th ACM Conference on Information and Knowledge Management (CIKM)*, pages 93–98, Glasgow, UK, October 24–28, 2011. [GRIN C]
- [38] J. Gamper, M.H. Böhlen, W. Cometti, and M. Innerebner. Defining isochrones in multimodal spatial networks. In *Proc. of the 20th ACM Conference on Information and Knowledge Management (CIKM)*, pages 2381–2384, Glasgow, UK, October 24–28, 2011. [GRIN C]
- [39] B. Cadonna, J. Gamper, and M.H. Böhlen. Sequenced event set pattern matching. In *Proc. of the 14th International Conference on Extending Database Technology (EDBT)*, pages 33–44, Uppsala, Sweden, March 22–24, 2011. [GRIN A]
- [40] J. Gordevičius, F.J. Estrada, H.C. Lee, P. Andritsos, and J. Gamper. Ranking of evolving stories through meta-aggregation. In *Proc. of the 19th ACM Conference on Information and Knowledge Management (CIKM)*, pages 1909–1912, Toronto, Canada, October 26–30, 2010. [GRIN C]
- [41] S. Marciuska and J. Gamper. Determining objects within isochrones in spatial network databases. In *Proc. of the 14th East European Conference on Advances in Databases and Information Systems (ADBIS)*, pages 392–405, Novi Sad, Serbia, September 20–24, 2010.
- [42] R. Kasperovics, M.H. Böhlen, and J. Gamper. On the efficient construction of multislices from recurrences. In *Proc. of the 22nd International Conference on Scientific and Statistical Database Management (SSDBM)*, pages 42–59, Heidelberg, Germany, June 30–July 2, 2010.
- [43] J. Gordevičius, J. Gamper, and M.H. Böhlen. Parsimonious temporal aggregation. In *Proc. of the 12th International Conference on Extending Database Technology (EDBT)*, pages 1006–1017, Saint Petersburg, Russia, March 24–26, 2009. [GRIN A]
- [44] I. Timko, M.H. Böhlen, and J. Gamper. Sequenced spatio-temporal aggregation in road networks. In *Proc. of the 12th International Conference on Extending Database Technology (EDBT)*, pages 48–59, Saint Petersburg, Russia, March 24–26, 2009. [GRIN A]
- [45] R. Kasperovics, M.H. Böhlen, and J. Gamper. Evaluating exceptions on time slices. In *Proc. of the 28th International Conference on Conceptual Modeling (ER)*, LNCS 5829, pages 251–264, 2009.
- [46] V. Bauer, J. Gamper, R. Loperfido, S. Profanter, S. Putzer, and I. Timko. Computing isochrones in multi-modal, schedule-based transport networks. In *Proc. of the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*, pages 1–2, Irvine, CA, USA, November 5–7, 2008. (Demo paper) [GRIN B]
- [47] J. Gordevičius, J. Gamper, and M.H. Böhlen. A greedy approach towards parsimonious temporal aggregation. In *Proc. of the 15th International Symposium on Temporal Representation and Reasoning (TIME)*, pages 88–92, Montreal, Canada, June 16–18, 2008. [GRIN A]
- [48] R. Kasperovics, M.H. Böhlen, and J. Gamper. Representing public transport schedules as repeating trips. In *Proc. of the 15th International Symposium on Temporal Representation and Reasoning (TIME)*, pages 54–58, Montreal, Canada, June 16–18, 2008. [GRIN A]

- [49] N. Augsten, M.H. Böhlen, C. Dyreson, and J. Gamper. Approximate joins for data centric XML. In *Proc. of the 24th International Conference on Data Engineering (ICDE)*, pages 814–823, Cancun, Mexico, April 7-12, 2008. [GRIN A]
- [50] M.H. Böhlen, J. Gamper, and C.S. Jensen. Towards general temporal aggregation. In *Proc. of the 25th British National Conference on Databases (BNCOD)*, LNCS 5071, pages 257–269, Cardiff, UK, July 7–10, 2008. (Invited paper) [GRIN C]
- [51] N. Augsten, M.H. Böhlen, and J. Gamper. An incrementally maintainable index for approximate lookups in hierarchical data. In *Proc. of the 32nd International Conference on Very Large Databases (VLDB)*, pages 247–258, Seoul, Korea, September 12–15, 2006. [GRIN A]
- [52] M.H. Böhlen, J. Gamper, and C.S. Jensen. How would you like to aggregate your temporal data? In *Proc. of the 13th International Symposium on Temporal Representation and Reasoning (TIME)*, pages 121–136, Budapest, Hungary, June 15–17, 2006. (Invited paper) [GRIN A]
- [53] M.H. Böhlen, J. Gamper, and C.S. Jensen. Multi-dimensional aggregation for temporal data. In *Proc. of the 10th International Conference on Extending Database Technology (EDBT)*, LNCS 3896, pages 257–275, Munich, Germany, March 2006. [GRIN A]
- [54] N. Augsten, M.H. Böhlen, and J. Gamper. Approximate matching of hierarchical data using *pq*-grams. In *Proc. of the 31th International Conference on Very Large Databases (VLDB)*, pages 141–152, Trondheim, Norway, Aug./Sep. 2005. [GRIN A]
- [55] N. Augsten, M.H. Böhlen, and J. Gamper. Reducing the integration of public administration databases to approximate tree matching. In *Proc. of the 3rd International Conference on Electronic Government (EGOV)*, LNCS 3183, pages 102–107, Zaragoza, Spain, Aug/Sept 2004.
- [56] J. Knapp, J. Gamper, and P. Brusilovsky. Multiple use of content in a web-based language learning system. In *Proc. of the 4th International Conference on Advanced Learning Technologies (ICALT)*, pages 750–752, Joensuu, Finland, August 30 – September 1, 2004.
- [57] J. Knapp, J. Gamper, and P. Brusilovsky. Reuse of lexicographic examples in a web-based learners' dictionary. In *Proc. of the World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education (ELEARN)*, pages 776–783, Washington, DC, USA, November 1–5, 2004.
- [58] A. Trifonova, J. Knapp, M. Ronchetti, and J. Gamper. Mobile ELDIT: Transition from an e-learning to an m-learning system. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 188–193, Lugano, Switzerland, June 21–26, 2004.
- [59] J. Gamper and N. Augsten. The role of web services in digital government. In *Proc. of the 2nd International Conference on Electronic Government (EGOV)*, LNCS 2739, pages 161–166, Prague, Czech Republic, September 2003.
- [60] J. Gamper and J. Knapp. A data model and its implementation for a web-based language learning system. In *Proc. of the 12th International World Wide Web Conference (WWW)*, pages 217–225, Budapest, Hungary, May 2003.
- [61] J. Gamper and P. Dongilli. Towards a portal for minority rights in Europe. In *Proc. of the IADIS International Conference on e-Society (IADIS)*, pages 313–320, Lisbon, Portugal, June 2003.

- [62] J. Gamper and N. Augsten. The "eBZ – Digital city" initiative. In *Proc. of the IADIS International Conference on e-Society (IADIS)*, pages 156–162, Lisbon, Portugal, June 2003.
- [63] A. Abel, J. Gamper, J. Knapp, and V. Weber. Evaluation of the web-based learners dictionary ELDIT. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 1210–1217, Honolulu, Hawaii, June 2003.
- [64] A. Abel, J. Gamper, J. Knapp, and V. Weber. Describing verb valency in an electronic learner's dictionary: Linguistic and technical implications. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 1202–1209, Honolulu, Hawaii, June 2003. (Outstanding Paper Award).
- [65] A. Abel, J. Gamper, J. Knapp, and V. Weber. New answers to old questions about lexicon acquisition and dictionary use. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 1218–1224, Honolulu, Hawaii, June 2003.
- [66] P. Dongilli and J. Gamper. MIRIS unleashed. In *Proc. of the 16th Annual Int. Conference on Legal Knowledge and Information Systems (JURIX)*, pages = 131–139, 2003.
- [67] J. Gamper and J. Knapp. A web-based language learning system. In *Proc. of the 1st International Conference on Web-based Learning (co-located with VLDB)*, LNCS 2436, pages 106–118, Hong Kong, August 2002.
- [68] J. Gamper and J. Knapp. XML for an electronic learners' dictionary. In *Proc. of the IADIS International Conference on WWW/Internet (IADIS)*, pages 427–434, Lisbon, Portugal, November 2002.
- [69] J. Gamper and J. Knapp. A Web-based tandem system for language learning in South Tyrol. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 567–568, Denver, Colorado, June 2002.
- [70] J. Gamper and J. Knapp. Collaborative language learning with a Web-based tandem system in South Tyrol. In *Proc. of the 1st International Conference on Educational Technology in Cultural Context*, pages 91–104, Joensuu, Finland, September 2002.
- [71] J. Gamper and P. Dongilli. Towards a semantic portal for minority rights in Europe. In *Collected Posters of the 1st International Semantic Web Conference (ISWC-02)*, page 20, Sardinia, Italy, June 2002.
- [72] C. Qu, J. Gamper, and W. Nejdl. A collaborative courseware generating system based on WebDAV, XML, and JSP. In *Proc. of the IEEE International Conference on Advanced Learning Technologies (ICALT)*, Madison, Wisconsin, USA, August 2001.
- [73] J. Gamper and J. Knapp. New media in the design of a learners' dictionary. In *Proc. of the World Conference on Educational Multimedia, Hypermedia & Telecommunications (EDMEDIA)*, pages 541–546, Tampere, Finland, June 2001.
- [74] J. Gamper and J. Knapp. A review of call systems in foreign language instruction. In *Proc. of the 10th International Conference on Artificial Intelligence in Education (AIED)*, pages 377–388, San Antonio, Texas, May 19–23 2001.
- [75] C. Qu, J. Gamper, and W. Nejdl. Collaborative courseware authoring and publishing based on WebDAV, XML, and XSLT. In *Proc. of the IEEE International Conference on Trends in Communications (EUROCON)*, Bratislava, Slovak Republic, July 2001.

- [76] J. Gamper and J. Knapp. Adaptation in a language learning system. In *Proc. of the ABIS-Workshop 2001 held in conjunction with "Lehren, Lernen, Wissen und Adaptivität"*, Dortmund, Germany, October 2001.
- [77] J. Gamper and J. Knapp. Towards an adaptive learners' dictionary. In *Proc. of the International Conference on Adaptive Hypermedia and Adaptive Web-based Systems (AH)*, LNCS 1892, pages 311–314, Trento, Italy, August 2000.
- [78] J. Gamper. A parallel corpus of Italian/German legal texts. In *Proc. of the 2nd International Conference on Language Resources & Evaluation (LREC-00)*, pages 531–538, Athens, Greece, June 2000. [GRIN B]
- [79] J. Gamper. Encoding a parallel corpus for automatic terminology extraction. In *Proc. of the 9th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*, pages 275–276, Bergen, Norway, June 1999. [GRIN B]
- [80] J. Gamper, W. Nejdl, and M. Wolpers. Combining ontologies and terminologies in information systems. In *Proc. of the 5th International Congress on Terminology and Knowledge Engineering (TKE)*, pages 152–168, Innsbruck, Austria, August 1999. [GRIN C]
- [81] J. Gamper. Improving textual knowledge representation through markup and ontologies. In *Proc. of the Symposium on Languages for Special Purposes (LSP)*, pages 114–125, Brixen, Italy, September 1999.
- [82] J. Gamper and P. Dongilli. Primary data encoding of a bilingual corpus. In *Proc. of the 11th Annual Meeting of the GLDV*, Frankfurt a/M, Germany, July 1999.
- [83] J. Gamper. Towards the creation of an Italian/German corpus of legal texts. In *Proc. of the SLE-Workshop on Language Technologies — Multilingual Aspects*, pages 31–38, Ljubljana, Slovenia, July 1999.
- [84] J. Gamper. Terminology and medical diagnosis systems. In *Proc. of the Twin Conference on Professional Communication and Knowledge Transfer (ProCom)*, Vienna, Austria, August 1998.
- [85] J. Gamper. Aufbau eines zweisprachigen Textkorpus für Terminologie-Extraktion. In *Proc. zur Tagung Rechtslinguistik des Deutschen und Italienischen: Ziele, Methoden, Ergebnisse*, Europäische Akademie Bozen, Italien, October 1998.
- [86] J. Gamper and W. Nejdl. Modellbasierte Diagnose und Zeitliches Schließen in der Medizin. In *Arbeitspapiere zum Workshop Informationsverarbeitung in der Biomedizin (Erkennung von Stoffwechselerkrankungen)*, pages 39–54, Leipzig, June 1996. Universität Leipzig, Institut für Informatik.
- [87] J. Gamper and W. Nejdl. Proposing measurements in dynamic systems. In *Proc. of the 14th International Joint Conference on Artificial Intelligence (IJCAI)*, pages 784–790, Montréal, Canada, August 1995. [GRIN A]
- [88] J. Gamper and W. Nejdl. Formalizing reasoning about change: A temporal diagnosis approach. In *4th Congress of the Italian Association for Artificial Intelligence (AI*IA)*, LNAI 992, pages 335–346, Firenze, Italy, October 1995. [GRIN B]
- [89] J. Gamper and W. Nejdl. Formalizing reasoning about change: A temporal diagnosis approach. In *Proc. of the 2nd Dutch/German Workshop on Non-Monotonic Reasoning*, pages 60–66, Utrecht, The Netherlands, March 1995.

- [90] W. Nejdl and J. Gamper. Harnessing the power of temporal abstractions in model-based diagnosis of dynamic systems. In *Proc. of the 11th European Conference on Artificial Intelligence (ECAI)*, pages 667–671, Amsterdam, The Netherlands, August 1994. [GRIN A] [GRIN 2] A-
- [91] W. Nejdl and J. Gamper. Model-based diagnosis with qualitative temporal uncertainty. In *Proc. of the 10th Conference on Uncertainty in Artificial Intelligence (UAI)*, pages 432–439, Seattle, Washington, July 1994. [GRIN A]
- [92] J. Gamper and W. Nejdl. Proposing measurements in dynamic systems. In *Working Papers of the 5th International Workshop on Principles of Diagnosis (DX)*, pages 114–120, New Paltz, NY, October 1994. [GRIN A]
- [93] W. Nejdl and J. Gamper. Qualitative temporal behavior description and temporal diagnosis using interval algebra. In *4th International Workshop on Principles of Diagnosis (DX)*, pages 91–104, Aberystwyth, Wales, September 1993. [GRIN A]
- [94] L.I. Kuncheva, R.Z. Zlatev, S.N. Neshkova, and J. Gamper. A combination scheme of artificial intelligence and fuzzy pattern recognition in medical diagnosis. In *8th Austrian Artificial Intelligence Conference (FLAI)*, LNAI 695, pages 157–164, Linz, Austria, June 1993.
- [95] M. Hiesmayr, J. Gamper, T. Neugebauer, P. Mares, K.-P. Adlassnig, and W. Haider. Clinical application of patient data management systems (PDMS): Computer-assisted weaning from artificial ventilation (KBWean). In *Patient Data Management in Intensive Care*, pages 129–138. 1993.
- [96] M. Hiesmayr, J. Gamper, P. Mares, T. Neugebauer, E. Donner, K.-P. Adlassnig, and W. Haider. Klinische Anwendung: Respiratorentwöhnung mit Datenübernahme aus dem PDMS (KBWEAN). In *Abstract Book of WIT-93, PDMS-Workshop, Wiener Intensivmedizinische Tage'93*, pages 39–40, 1993.

Books, Book Chapters, Edited Books, Conference Proceedings

- [1] T. Welzer, J. Eder, V. Podgorelec, R. Wrembel, M. Ivanovic, J. Gamper, M. Morzy, T. Tzouramanis, J. Darmont, A. Kamišalić, editors. *New Trends in Databases and Information Systems: ADBIS 2019 Short Papers, Workshops BBIGAP, QAUCA, SemBDM, SIMPDA, M2P, MADEISD, and Doctoral Consortium*, Bled, Slovenia, 2019.
- [2] J. Gamper and R. Wrembel, editors. *Special section on exploring complex and big data with selected papers from the the ADBIS 2017 Workshops, Nicosia, Cyprus, September 24–27, 2017*, International Journal of Applied Mathematics and Computer Science (AMCS), 29(1), 2019.
- [3] D. Sacharidis, J. Gamper, and M. H. Böhlen, editors. *Proceedings of the 30th International Conference on Scientific and Statistical Database Management (SSDBM)*, Bozen-Bolzano, Italy, July 09-11, 2018, ACM.
- [4] M. Kirikova, K. Nørnvåg, G.A. Papadopoulos, J. Gamper, R. Wrembel, J. Darmont, and S. Rizzi, editors. *New Trends in Databases and Information Systems - ADBIS 2017 Short Papers and Workshops, AMSD, BigNovelTI, DAS, SW4CH, DC, Nicosia, Cyprus, September 24–27, 2017, Proceedings*, Communications in Computer and Information Science 767, Springer.

- [5] F. Klan, G. Specht, and J. Gamper, editors. *Proceedings of the 26th GI-Workshop "Grundlagen von Datenbanken"*, Bozen-Bolzano, Italy, October 21–24, 2014. CEUR-WS.org 2014, CEUR Workshop Proceedings.
- [6] J. Gamper, M. Böhlen, and C.S. Jensen. Temporal aggregation. In Ling Liu and M. Tamer Özsu, editors, *Encyclopedia of Database Systems*, pages 2924–2929. Springer-Verlag, 2009.
- [7] M. Böhlen, J. Gamper, C.S. Jensen, and R. T. Snodgrass. SQL-based temporal query languages. In Ling Liu and M. Tamer Özsu, editors, *Encyclopedia of Database Systems*, pages 2762–2768. Springer-Verlag, 2009.
- [8] A. Mitrakas, P. Hengeveld, D. Polemi, and J. Gamper. Towards secure e-government. In *Secure E-Government Web Services*, pages 1–28. IDEA Group Publishing, Hershey, USA, 2007.
- [9] A. Mitrakas, P. Hengeveld, D. Polemi, and J. Gamper, editors. *Secure E-Government Web Services*. IDEA Group Publishing, Hershey, USA, 2007.
- [10] M. H. Böhlen, J. Gamper, W. Polasek, and M. Wimmer, editors. *Proceedings of the International Conference "E-Government: Towards Electronic Democracy" (TCGOV-2005)*. LNCS 3416, Bozen, Italy, March 2005. Springer-Verlag.
- [11] M. H. Böhlen, J. Gamper, W. Polasek, and M. Wimmer, editors. *Poster Proceedings of the TED Conference on e-Government – Electronic Democracy: The Challenge Ahead*. Volume 13 of *Schriftenreihe Informatik*, Bozen, Italy, March 2005. Universitätsverlag Rudolf Trauner.
- [12] J. Gamper. *A temporal reasoning and abstraction framework for model-based diagnosis systems*. Dissertationen zur Künstlichen Intelligenz, Band 136, ISBN 3-89601-136-7, July 1996. "infix"-Verlag, St. Augustin.

Publications in Scientific Magazines

- [1] W. Costanzi and J. Gamper. Serving the city safely. *Academia*¹, 40:56–57, April 2006.
- [2] J. Gamper and J. Knapp. Simple, fast and powerful. *Academia*, 26, 2001.
- [3] J. Gamper and J. Knapp. Implementation of an electronic dictionary. *Academia*, 22, 2000.
- [4] J. Gamper. Construction of a parallel text corpus — Encoding primary data. *Academia*, 18:32–33, 1999.
- [5] A. Abel, S. Cavagnoli, J. Gamper, A. Schweigkofler, and V. Weber. Sprachenzentrum: Eine Zusammenarbeit mit der Freien Universität Bozen. *Academia*, 19:5–7, 1999.
- [6] J. Gamper. Adaptive Hyperbücher — Wenn sich Lehrbücher auf ihre Benutzer einstellen können. *Academia*, 20, 1999.
- [7] A. Abel, S. Cavagnoli, B. Ciola, S. Coluccia, J. Gamper, F. Maganzi, F. Mayer, and D. Veronesi. Convegno di studi linguistica giuridica italiana e tedesca: obiettivi, approcci, risultati. *Academia*, 17, 1998/99.
- [8] J. Gamper. CATEX — A project proposal. *Academia*, 14:10–12, 1998.
- [9] J. Gamper and F. Steimann. Medizinische Expertensysteme — Eine kritische Betrachtung. *APIS — Zeitschrift für Politik, Ethik, Wissenschaft und Kultur im Gesundheitswesen*, 1996.

¹Academia is the Science Magazine of EURAC and UNIBZ

Invited and Keynote Presentations, Seminars, Tutorials

A few selected and more recent invited presentations are listed below.

- Keynote presentation: *Internationalisation at the Free University of Bozen-Bolzano*. 100th Anniversary of the Poznan University of Technology, Poznan, May 21, 2019.
- Keynote presentation: *Database Technology for Processing Temporal Data*. 25th International Symposium on Temporal Representation and Reasoning (TIME), Warsaw, Poland, 15–17 October, 2018.
- Keynote presentation: *Processing temporal data: existing technologies and open challenges*. Workshop on Data-Driven Approaches for Analyzing and Managing Scholarly Data, co-located with ADBIS 2017, Nikosia, Cyprus, September 24, 2017.
- Invited presentation: *Data analysis and monitoring for a smart agriculture*. Workshop on IoT, UNIBZ, July 11, 2017.
- Invited tutorial: *Temporal data management: an overview*. Seventh European Business Intelligence & Big Data Summer School (eBISS 2017), Brussels, Belgium, July 2–7, 2017.
- Invited presentation: *How to aggregate temporal data?* 3rd International Alexandria Workshop, co-located with the 20th International Conference on Theory and Practice of Digital Libraries (TPDL-16), Hannover, September 8–9, 2016.
- Invited presentation: *Benefits and experiences of being accredited – lessons learnt and changes implemented in the frame of an Euro-Inf accreditation procedure*. EQANIE Workshop, co-located with the ASIIN International Conference 2016 on “Quality Management in Higher Education – the Mystery of its Untapped Potential”, Berlin, May 3–4, 2016.
- Invited presentation: *New routing methods for the development of advanced information systems for mobility*. Mobilitätstagung 2016, Messe Bozen, March 17, 2016.
- Invited seminar: *A native solution for processing interval-timestamped data in a RDBMS*. Leibniz Universität Hannover, November 20, 2015.
- Invited presentation: *Datenanalyse und Monitoring für eine nachhaltige Landwirtschaft*. Research Day at the Free University of Bozen-Bolzano, October 8, 2015.
- Invited seminar: *Querying temporal data in SQL-based DBMSs – a principled solution*. Philipps University of Marburg, September 17, 2015.
- Invited seminar: *Native support for processing interval timestamped data in RDBMSs*. University of Trento, May 20, 2015.
- Invited seminar: *Native support for processing interval timestamped data in RDBMSs*. Humboldt Universität zu Berlin, March 30, 2015.
- Invited presentation: *Shortest path routing in continental scale networks*. EUREGIO Summerschool 2014 for high school students, jointly organized by the Universities of Trento and Bozen-Bolzano, August 28, 2014.
- Invited seminar: *Using isochrones for reachability analysis in multimodal networks*. University of Salzburg, October 28, 2013.
- Invited seminar: *Using isochrones for reachability analysis in multimodal networks*. University of Innsbruck, October 16, 2013.

- Invited presentation: *Isochrones in multimodal networks*. Vilnius University, September 10, 2013.
- Invited presentation: *Landmark-based estimation of shortest path*. Vilnius University, September 11, 2013.
- Invited presentation: *A general temporal aggregation framework*. Czech Technical University in Prague, December 18, 2008.

Experience in Academic Teaching

Courses

I taught courses in German, Italian, and English at the undergraduate, post-graduate and PhD level and at different universities: UNIBZ, University of Hannover (1994–1996), RWTH Aachen (1993–1994), University of Vienna (1992–1993).

While most of the teaching was for Computer Science students, I taught also introductory computer science courses for other faculties, e.g., *Foundations of Computer Science* for the BSc in Industrial Engineering (UNIBZ, 1999/2000–2001/02) and *Computing* for the BSc in Agricultural Science and the BSc in Economics (UNIBZ, 1999/2000–2002/03).

Free University of Bozen-Bolzano

- *Empirical and Experimental Computer Science Research Methods* in the module “Research Methods” for PhD students: 6 h lecture, 2015/16–2017/18
- *Advanced Data Management Technologies* (MSc): 2013/14–2018/19
48 h lecture and 24 h exercises
<http://www.inf.unibz.it/dis/teaching/ADMT>
- *Programming Paradigms* (BSc): 2013/14–2018/19
36 h lecture and 18 h exercises
<http://www.inf.unibz.it/dis/teaching/PP>
- *Data Warehousing* (MSc): 2009/10–2012/13
24 h lecture
<http://www.inf.unibz.it/dis/teaching/DWDM>
- *Temporal and Spatial Databases* (MSc): 2005/06–2008/09, 2011/12–2012/13
24 h lecture and 12 h exercise
<http://www.inf.unibz.it/dis/teaching/TSDB>
- *Database Management and Tuning* (MSc): 2012/13
24 h lecture and 12 h exercise
<http://www.inf.unibz.it/dis/teaching/DMT>
- *Distributed Database Systems* (MSc): 2007/08–2008/09
24 h lecture and 12 h exercise
<http://www.inf.unibz.it/dis/teaching/DDB>
- *Seminar in Databases* (MSc): 2008/09–2012/13
24 h lecture and 12 h exercise
<http://www.inf.unibz.it/dis/teaching/SDB1213/>
- *Database Management Systems* (BSc): 2004/05–2010/11
24 h lecture and 12 h exercise
<http://www.inf.unibz.it/dis/teaching/DMS>
- *Introduction to Programming* (BSc): 2001/02–2003/04
36 h lecture and 18 h exercise
<http://www.inf.unibz.it/dis/teaching/ITP>
- *Computing* (BSc in Agricultural Science and BSc in Economics): 1999/2000–2002/03
30 h lecture and 20 h exercise
- *Foundations of Computer Science* (BSc in Industrial Engineering): 1999/2000–2001/02
20 h lecture and 30 h exercise

University of Hannover

- Exercises in *Artificial Intelligence* (MSc): 1994/95–1995/96

RWTH Aachen

- Exercises in *Expert Systems* (MSc): 1993/94
- Seminar in *Distributed Artificial Intelligence* (MSc): 1993/94

University of Vienna

- Seminar in *Computer Applications in Medicine* (MSc): 1992/93

Other Teaching Experiences

- In the context of the *LLP Erasmus Programme for Staff Mobility*, I spent a week at the Vilnius University, Lithuania, in September 2013. The aim of this visit was to exchange experience and best practices in teaching, teaching organization and quality assurance for teaching. I also delivered the following two lectures to students:
 - *Isochrones in multimodal networks* (3 hours), BSc/MSc/PhD, Vilnius University, September 10, 2013.
 - *Landmark-based estimation of shortest path* (3 hours), BSc/MSc/PhD, Vilnius University, September 11, 2013.
- I regularly give *lectures at local high schools* in the context of advertising the faculty and attract students (see section “Other academic responsibilities” for details)
- I gave a lecture on *Shortest path routing in continental scale networks* at the *EUREGIO Summerschool 2014* for high school students, jointly organized by the Universities of Trento and Bozen-Bolzano, August 28, 2014
- I gave a tutorial on *Temporal data management* at the Seventh European Business Intelligence & Big Data Summer School (eBISS 2017) in Brussels. This Summer School is part of the *Erasmus Mundus Joint Master Degree Programme in Information Technologies for Business Intelligence (IT4BI)*.

Student Supervision

- 13 PhD theses
- 8 external reviewer of PhD thesis and/or final exam commission member
- 21 MSc theses
- 40 BSc theses

Supervision of PhD Students

- David Blumenthal: *Graph edit distance computation*, UNIBZ, 2016-2019.
- Giovanni Mahlknecht: *On the efficient computation of temporal aggregation*, UNIBZ, 2016-2019.
- Michael Shekelyan: *Reliable data summaries for multidimensional data using histograms*, UNIBZ, 2015-2018.

- Nikolaus Krismer: *Isochrones in multimodal spatial networks*, University of Innsbruck, 2014-2018. (Co-supervision with Prof. Günther Specht, University of Innsbruck)
- Theodoros Chondrogiannis: *Scalable solutions for distance and shortest path queries in road networks*, UNIBZ, 2013–2017.
- Daniel Taliun: *Efficient whole genome haplotype block partitioning using linkage disequilibrium*, UNIBZ, 2011–2015.
- Bruno Cadonna: *Sequenced event set pattern matching*, UNIBZ, 2008–2012.
- Markus Innerebner: *Computing isochrones in multi-modal network databases*, UNIBZ, 2007–2012.
- Juozas Gordevicius: *Summarizing temporal data with approximate temporal aggregation and ranking*, UNIBZ, 2007–2010.
- Romans Kasperovics: *Handling recurrent events in relational databases*, UNIBZ, 2005-2009. (Co-supervision with Prof. M.H. Böhlen)
- Nikolaus Augsten: *Approximate join of hierarchical data structures*, Aalborg University, Denmark, 2002–2006. (Co-supervision with Prof. M.H. Böhlen)
- Judith Knapp: *A new approach to CALL content authoring*, University of Hannover, 2000–2004. (Co-supervision with Prof. W. Nejdl)

External Examiner/Reviewer of PhD Theses

- Member of PhD Thesis Defense Committee for Saulius Astromskis, UNIBZ, November 2015. Thesis title: *A non-invasive approach to software development process analytics*.
- Member of PhD Thesis Defense Committee for Anton Georgiev, UNIBZ, November 2015. Thesis title: *Computing-oriented optimization techniques for energy-aware mobile software design*.
- Member of PhD Thesis Defense Committee for Ali Fawzi Najm Al-Shammari, UNIBZ, October 2014. Thesis title: *OVVM: Open vote verification technique for DRE systems*.
- Member of PhD Thesis Defense Committee for Yazmín Angélica Ibáñez García, UNIBZ, October 2014. Thesis title: *Reasoning over description logic ontologies under non-standard assumptions*.
- External reviewer and member of PhD Thesis Defense Committee for Benjamin Gufler, Technical University of Munich, March 2013. Thesis title: *Load-balanced massively parallel distributed data exploration*.
- External reviewer for the PhD Thesis of Cristian Peraboni, University of Milan, March 2009. Thesis title: *eParticipation technologies to support digital citizenship*.
- External reviewer and member of PhD Thesis Defense Committee for Khadija Abied Ali, Czech Technical University in Prague, Faculty of Electrical Engineering, December 2008. Thesis title: *A temporal extension of XML*.
- External examiner for the PhD mid-term exam of Pensiri Manomaisupat, University of Surrey, Department of Computing, UK, May 2004. Thesis title: *Automatic text categorisation using terminology resources*.

Advanced Training

- Participation in the 35-hour course *Academic Teaching Excellence – English as a Medium of Instruction*, delivered by the British Council, 28.09.2015–02.10.2015.
- Participation in the course “*Le procedure di accreditamento periodico e la valutazione dei requisiti di assicurazione qualità*”, prof. Massimo Tronci, Fondazione CRUI, Rome, July 2, 2015.

Academic Activities, Services, Memberships

PC Memberships at International Conferences and Workshops

- *International Conference on Very Large Data Bases (VLDB)*: 2020, 2019, 2018 (Demo track), 2017, 2015 (Demo track)
- *ACM SIGMOD International Conference on Management of Data (SIGMOD)*: 2019 (demo track), 2014 (demo track), 2011
- *IEEE International Conference on Data Engineering (ICDE)*: 2017, 2016, 2010
- *International Conference on Extending Database Technology (EDBT)*: 2019, 2017, 2016, 2015, 2013, 2011, 2009
- *ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (SIGSPATIAL/GIS)*: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011
- *IEEE International Conference on Mobile Data Management (MDM)*: 2018
- *International Conference on Information and Knowledge Management (CIKM)*: 2017
- *International Conference on Scientific and Statistical Database Management (SSDBM)*: 2015, 2014, 2012, 2011, 2010
- *International Conference on Database Systems for Advanced Applications (DASFAA)*: 2018, 2017, 2015, 2014
- *European Conference on Advances in Databases and Information Systems (ADBIS)*: 2020, 2015, 2014, 2013, 2012, 2009, 2008
- *International Symposium on Spatial and Temporal Databases (SSTD)*: 2019, 2017
- *International Workshop on Design, Optimization, Languages and Analytical Processing of Big Data (DOLAP)*: 2020, 2019, 2018
- *International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM)*: 2019, 2018, 2017, 2016, 2014, 2012, 2010
- *International Symposium on Temporal Representation and Reasoning (TIME)*: 2013, 2008
- *International Conference on Data Management Technologies and Applications (DATA)*: 2014
- *International Conference on Web-Age Information Management (WAIM)*: 2013, 2012, 2010
- *International VLDB Workshop on Ranking in Databases (DBRank)*: 2013
- *International Conference on Electronic Government and the Information Systems Perspective and International Conference on Electronic Democracy (EGOVIS and EDEM)*: 2015, 2014, 2013, 2012
- *International Conference on Electronic Government and the Information Systems Perspective (EGOVIS)*: 2011, 2010
- *ERP Future – Research*: 2015
- *International DEXA Workshop on Recommender Systems meet Databases (RSMEETDB)*: 2013, 2012

- *VLDB-07 PhD Workshop*: 2007
- *International Conference on Knowledge Management in Organisations (KMO)*: 2007
- Track “*Dienstleistungsprozesse im e-Government*” of the Multi-Conference “*Wirtschaftsinformatik 2006*”: 2006

General Chair, PC Chair, Organization Chair

- Co-organization and track chair for “Data, Information and Knowledge Engineering” of the *47th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM)*, 2021, Bozen-Bolzano, Italy.
- PC co-chair of the *26th International Symposium on Temporal Representation and Reasoning (TIME)*, 2019, Malaga, Spain.
- Workshops co-chair of the *23rd European Conference on Advances in Databases and Information Systems (ADBIS)*, September 8–11, 2019, Bled, Slovenia.
- General chair of the *30th International Conference on Scientific and Statistical Database Management (SSDBM)*, July 9–11, 2018, Bozen-Bolzano, Italy.
- Workshops co-chair of the *21st European Conference on Advances in Databases and Information Systems (ADBIS)*, September 24–27, 2017, Nicosia, Cyprus.
- Organization co-chair and PC member of the *26. GI-Workshop “Grundlagen von Datenbanken”*, October 22–24, 2014, Ritten, Italy.
- Organization chair of the *Workshop series “Computer Science Research Meets Business”* (two annual workshops) to strengthen the collaboration between the Faculty and the local business, Free University of Bozen-Bolzano, Italy, 2013–present.
- PC co-chair and organization co-chair of the *3rd eBZ-Workshop on e-Government*, jointly organized by the Free University and the Municipality of Bozen-Bolzano, October 11–12, 2006, Bozen-Bolzano, Italy.
- PC co-chair and organization chair of the *International TED Conference on e-Government – Towards Electronic Democracy: The Challenge Ahead (TCGOV)*, March 2–4, 2005, Bozen-Bolzano, Italy.
- General Chair of the *eMayor Clustering Event on Secure Information Processing in the Public Sector (SIPPS)*, co-located with TCGOV, March 4, 2005, Bozen-Bolzano, Italy.
- PC co-chair and organization co-chair of the *2nd eBZ-Workshop on e-Government*, co-located with TCGOV and jointly organized by the Free University and the Municipality of Bozen-Bolzano, March 3, 2005, Bozen-Bolzano, Italy.
- PC co-chair and organization co-chair of the *1st eBZ-Workshop on e-Government*, jointly organized by the Free University and the Municipality of Bozen-Bolzano, Februar 13–14, 2003, Bozen-Bolzano, Italy.
- PC chair and organization chair of the *Workshop on Corpus-Based Terminology*, European Academy of Bozen-Bolzano, February 26–28, 1998, Bozen-Bolzano, Italy.
- PC co-chair and organization co-chair of the *PhD Workshop at the 8th Austrian Artificial Intelligence Conference (FLAI)*, Linz, Austria, 1993.

Reviewing Activities for Journals, Conferences, Research Grants

- Journals: TODS, VLDB Journal, TKDE, SIGMOD Record, Information Systems, DKE, AICOM, KI Journal, AIM Journal
- Conferences: SIGMOD-09, VLDB-07, NWeSP-06, SIGMOD-04, IJCAI, LinJus-99
- Reviewer of research grant applications for:
 - *Europeen Research Council, ERC Starting Grant*
 - *National Science Foundation, Division of Information & Intelligent Systems*
 - *The Research Council of Norway*
 - *“Deutsche Forschungsgemeinschaft (DFG)”*

Other Academic and Professional Services and Memberships

- Panelist in the closing round table at the *10th International Summer School for Community and Local Development in Latin America and the Caribbean*, OECD Trento, July 26, 2019. Topic: The Role of Universities in Supporting Innovation and Local Development.
- Member of the *Jury for the Young Researcher Award* at the European Forum Alpbach: 2019
- Member of the *Expert Panel of the EuregioLab 2019* on the topic “Research in the Euregio”: 2019
- Member of the *Advisory Board of Swiss Innovation Valley* (<http://swissinnovationvalley.com/>): 2017–present
- Founding member and member of *SIBIM* (“*Società Scientifica Italiana di Informatica Biomedica*”, <http://www.sibim.it>)
- Member of the *Expert Panel of EQANIE* (European Quality Assurance Network for Informatics Education) for the accreditation of university study programs: 2016–present
- Member of the *Expert Panel of AQ Austria* (Agency for Quality Assurance and Accreditation Austria) for the accreditation of university study programs: 2016–present
- Member of the *assessment committee* for assistant professors in Computer Science, *Aalborg University*: 2015
- Member of ACM and IEEE

Services to the Faculty and University

Services at UNIBZ

- *Vice-Rector* for Research: 2018–present
- Responsible coordinator on behalf of UNIBZ for the Framework Agreement (“Accordo quadro di collaborazione”) between UNIBZ and Municipality of Bozen-Bolzano to foster collaborations in research and education: 2018–present
- Representative of UNIBZ in the “Consiglio di Sorveglianza” of the SMACT Competence Center for Industry 4.0, a collaboration between eight universities, two research centers and 29 companies of North-East Italy: 2018–present
- Member of the *UNIBZ Studies Committee*: 02/2015–09/2018
- Member of the *Editorial Board of Bozen-Bolzano University Press*: 2012–present
- Member of the *Quality Committee of UNIBZ (“Presidio di Qualità”)*: 2013–2015
- Member of the *Selection Committee for Erasmus+ teaching staff mobility*: 2019, 2018, 2015

Internal Appointments to Faculty and University Boards

- *Vice-Dean* for Studies: 2014–2018
- Member of the *Study Committee for the PhD in Computer Science*: 2004–present
- *Course Council Director* of the BSc in Computer Science: 2009–2018
- Member of the *Selection Committee for the Admission to the Bachelor in Computer Science*: 2010–2018, 2006–2007
- Coordinator of the *Workshop series “Computer Science Research Meets Business”* (two annual workshops) to strengthen the collaboration between the Faculty and the local business, Free University of Bozen-Bolzano, Italy, 2013–present.
- Member of the *Course Council of the BSc in Applied Computer Science*: 2003–2006
- President of the “*Gruppo di Riesame*” for the BSc in Computer Science and Engineering: 2012–2016
- Member of the *Selection Committee for the Admission to the PhD in Computer Science*: 2004–2006, 2009–2011
- Member of the *Selection Committee for External Teachers and Teaching Assistants*: 2003–2012
- Coordinator of the *EQANIE Accreditation of the Bachelor in Computer Science and Engineering*: 2012
- Coordinator of the *EURO-INF Trial Accreditation of the Bachelor in Applied Computer Science*: 2008
- Member of the *Selection Commission for LLP Erasmus Student Exchange*: 2009
- Member of the *Commission for Exam Recognition and Student Exchange*: 2003–2005
- *Representative of the researcher* in the Faculty Council: 2003–2006
- Co-editor of the *Research Report 2001-2004*

Faculty Representative in External Commissions

- Delegate member of the Faculty in the *Technical-Scientific Committee of the HTB Course in Practical Informatics* (“HTB Kurs Praktische Informatik”), Landesberufsschule für Handwerk und Industrie Bozen: 2002–2004, 2005–2008
- Delegate member of the Faculty in the *Technical-Scientific Committee of the HTB Course for Database Developer* (“HTB Kurs Datenbankentwickler”), Landesberufsschule für Handwerk und Industrie Bozen: 2004–2005
- Delegate member of the Faculty in the *Technical-Scientific Committee of the HTB Course for Network Technicians* (“HTB Kurs Netzwerktechniker”), Landesberufsschule Brixen: 2003–2008

PR Activities and Lectures at High Schools

- Invited presentation on *Data Analytics for SMART Green Region* at the networking event Smart Green Region South Tyrol, organized by IDM Südtirol in collaboration with Camera di Commercio Italiana della Svizzera, Gottlieb Duttweiler Institute, Rschlikon/Zürich, November 21, 2018
- Lecture on *Shortest path routing in continental scale networks*: WFO Meran (May 2015), TFO Brixen (April 2015), TFO Meran (March 2015)
- Lecture on *Business intelligence and data warehousing*: RG Bozen (December 2015), WFO Meran (May 2015), WFO Meran (April 2014)
- Presentation of the *Bachelor in Computer Science (and Engineering)*: Landesberufsschule Bozen (April 2018), WFO Meran (November 2017), RG/TFO Brixen (April 2015), RG/TFO Meran (March 2015), WFO Meran (May 2015), WFO Meran (April 2014)
- Presentation of the *Faculty and the Bachelor in Computer Science and Engineering* to a group of high-school teachers from Poland during a visit at UNIBZ (September 2016)
- Presentation of the *Bachelor in Computer Science* at the Open Day of UNIBZ: 2010–2018
- Introductory lecture “*Von Bits und Bytes zum grössten gemeinsamen Teiler*” at the Open Day of the UNIBZ: 2004–2007
- Presentation of the *Bachelor in Computer Science* at the Orientation Days of UNIBZ: 2010–2018, 2003–2008
- Presentation of the *Bachelor in Applied Computer Science* at local high schools: ITC Battisi di Bolzano, Liceo scientifico “Albert Einstein” di Merano, ITI di Merano, 2003/04–2004/05
- Lecture “*Über Bits und Bytes und die Mechanisierung des Rechnens*” at the Liceo scientifico and Gewerbeoberschule of Meran, 2005
- Presentation of research results at *LUNA (Long Night of Research)*
 - LUNA 2010: *Computing isochrones in multi-modal schedule-based transport networks*
Partners: UNIBZ, Municipality of Bozen-Bolzano, CreaForm
 - LUNA 2012: “*FITTS – O-STAR: Routenplanung für touristische Applikationen*”

- LUNA 2014: *“Giro Challenge Martelltal”*
Partners: EURAC, UNIBZ, University of Klagenfurt, Amt für raumbezogene und statistische Informatik der Autonomen Provinz Bozen, Viva Latsch GmbH, Bad Kleinkirchheimer Tourismus Marketing GmbH

Bozen, October 2, 2019

Johann Gamper