

CV of Georg Gottlob

Name: Georg GOTTLOB FRS **Web:** <http://www.cs.ox.ac.uk/people/georg.gottlob/>

Academic Degrees: • Doctor (PhD), Computer Science, TU Vienna 1981. • Diplom-Ingenieur (MSc), Computer Science, TU Vienna, 1979. • Master of Arts (MA) by special resolution, Oxford, 2006.

Current Positions: Royal Society Research Professor, University of Oxford (since March 2020)
Professor of Informatics and Professorial Fellow of St John's College, Univ. of Oxford
Adjunct Professor of Computer Science, Vienna University of Technology

Previous Positions

- Jan. 2006 - Dec. 2011 Professor of Computing Science, Oxford University; Fellow of St Anne's College.
- Mar. 1988 - Dec. 2005: Professor of Computer Science at the Vienna Univ. of Technology – TU Vienna.
- Jan. 1985 - Feb. 1988: Researcher at the Institute of Applied Mathematics of the C.N.R., Genoa, Italy.
- Sep. 1982 - Dec. 1984: Research Associate at Politecnico di Milano, Milan, Italy.
- May 1980 - April 1982: University Assistant (Assistant Professor) at TU Vienna.

Previous Visiting Positions (selection): • 2016: UPC, Barcelona, Spain. • 2002: Université Paris VII • Spring term 1999: McKay Visiting Professor, U. of California, Berkeley. • 1993: ETH Zurich, Switzerland. • Summer terms 1985, 1986, 1987: Research Scholar and Lecturer at Stanford University.

Personal Awards, Distinctions, and Memberships in Academies

- 2021 The Alonzo Church Award for Outstanding Contributions to Logic and Computation,
- 2020-25 Royal Society Research Professor
- 2020 Doctor honoris causa, Univ. of Vienna
- 2019 Web Intelligence Consortium (WIC) Outstanding Research Contributions Award
- 2017 Ada Lovelace Medal, Brit. Comput. Soc.
- 2017 Honorary Degree “Laurea” (dottore), Univ. of Calabria, Cosenza, Italy
- 2016 Dr. honoris causa, Univ. Klagenfurt
- 2013 Cardinal Innitzer Award (Austria)
- 2012 Honorary Fellow, St Anne's Coll., Oxford
- 2010 Fellow of the Royal Society (FRS)
- 2010 James Martin Fellow
- 2009 ERC Advanced Investigators Award
- 2007 Fellow of ACM
- 2006 Selected Highly Cited Scientist, Inst. of Scientific Information (ISI, Batch of 2001-2013).
- 2006 Elected Member of the European Academy of Sciences *Accademia Europaea* (London).
- 2006 Royal Soc. Wolfson Research Merit Award.
- 2006 Elected Member of the German National Academy of Sciences ‘Leopoldina’.
- 2004 Elected Full Member of the Austrian National Academy of Sciences.
- 2002 Fellow of ECCAI, the European Artificial Intelligence Society: “*For Pioneering Work in the Field of Artificial Intelligence...*”
- 2000 Honorary Scientist of the Guizhou Acad. of Sciences, Guyang, China.
- 1998 Wittgenstein Award, FWF Fund, Austria

Awards for Research Papers

- 2019 Alberto Mendelzon Test-of-Time award for paper [7] (10-year highest impact paper at ACM-PODS).
- 2011 Best Research Paper Award for conference version of [6], which solved a long-standing AI problem.
- 2009 Best Paper Award for the conference version (ACM PODS 2009) of paper [20] referenced below.
- 2009 Alberto Mendelzon Test-of-Time award for the conference version of paper [21] referenced below.
- 2008 IJCAI-JAIR Best Paper Prize for [8] (given to an outstanding JAIR paper within past 5 years).
- 2007 Best Paper Award for the conference version of paper [19] referenced below.
- 2002 Best Paper Award for the conference version of [9] referenced below.
- 1999 Best Paper Award for the conference version of paper [11] referenced below.

Chair Functions at International Conferences (Selection of 2 major conferences among several)

- Program Chair of IJCAI'03, International Joint Conference on Artificial Intelligence, Acapulco, Mex., 2003.
- Program Chair of the ACM PODS 2000 Symposium on Principles of Database Systems, Dallas, Texas

Editorial Boards (selection). Present: Philosophical Transactions A (Royal Society), J. of Computer and System Sciences, Logic Journal of the IGPL, **Past:** Journal of the ACM, Artificial Intelligence, J. of AI Research, Web Intelligence and Agent Systems, Communications of the ACM (CACM).

Major Recent Research Grants (selection): • Royal Society Research Professorship (2020-2025, possibly renewable until 2030) • PI of the EPSRC Programme Grant VADA – Value Added Data Systems (2015-2020), involving the universities of Edinburgh, Manchester, and Oxford, total value (inclusive of departmental and industrial co-funding) of approx. £6,500,000. • From 2009-2015 PI of the ERC Advanced Investigator's Grant: DIADEM - Domain-based Intelligent Automated Data Extraction Methodology of €2,400,000, which was topped up with the ERC POC grant Extralytics (€150,000).

Invited Talks and Lectures: Invited Speaker at over 90 events, among which major AI, Logic, and Database conferences. Examples: CPAIOR 2020, IJCAI 2017, KR 2014, FLOC 2010, PODS'04, LICS'02.

Teaching and Supervising. For over 30 years I have been teaching courses across the entire spectrum of Computer Science and AI. I have supervised about 30 PhD or DPhil Students, and about 30 PDRAs.

Entrepreneurial Experience as Leading Co-Founder of Research-Based Spinouts:

- 2018: Oxford spin-out *DeepReason.AI*, currently active in the Knowledge Graph area; based on [1,2].
- 2015: Oxford spin-out *Wrappiness*, fully automated AI-based web data extraction [4], acquired in 2016 by Meltwater Corporation. This patented AI technology has since been very successfully used at Meltwater.
- 2001: Vienna TU spin-out *Lixto Software*, Semi-Automated web data extraction using supervised learning, see publications [9,10]. Acquired by McKinsey & Company in 2014. Lixto's patented technology has since been successfully deployed as an important module of McKinsey's *Periscope* solution.

Selected Publications (Full list & detailed references: <https://dblp.uni-trier.de/pers/g/Gottlob:Georg.html>)

- [1] Bellomarini, Sallinger, Gottlob: The Vatalog System: Datalog-Based Reasoning for Knowledge Graphs. *Proceedings of the VLDB Endowment (PVLDB)* 11(9) 2018.
- [2] Bellomarini, Gottlob, Pieris, Sallinger: Swift Logic for Big Data and Knowledge Graphs. *IJCAI 2017*.
- [3] Arenas, Gottlob, Pieris: Expressive Languages for Querying the Semantic Web. *ACM TODS* 2019.
- [4] Furche, Gottlob, et al.: DIADEM: Thousands of Websites to a Single Database. *PVLDB* 7(14) 2014.
- [5] Cali, Gottlob, Kifer: Taming the Infinite Chase: Query Answering under Expressive Relational Constraints. *Journal of Artificial Intelligence Research* 48, 2013.
- [6] Georg Gottlob: On Minimal Constraint Networks. *Artificial Intelligence* 191-192, 2012. The conference version of this paper appeared at *Intl. Conference on Constraint Processing 2011 (CP'11)*.
- [7] Cali, Gottlob, Lukasiewicz: A General Datalog-Based Framework for Tractable Query-Answering over Ontologies. *Journal of Web Semantics* 14: 5, 2012. Conference version: *ACM PODS 2009*.
- [8] Gottlob, Greco, Scarcello: Pure Nash Equilibria: Hard and Easy Game. *J. of Art. Intell. Research*, 2005.
- [9] Gottlob & Koch: Monadic Datalog and the Expressive Power of Languages for Web Data Extraction. *Journal of the ACM (J.ACM)* 51, 2004. Conference version: *ACM PODS 2002*.
- [10] Baumgartner, S. Flesca, Gottlob: Visual Web Information Extraction with Lixto. *Proc. VLDB* 2001.
- [11] Gottlob, Scarcello, Sideri: Fixed-Parameter Complexity in AI and Nonmonotonic Reasoning. *Artificial Intelligence* 138.1-2 (2002); conference version in *Proc. LPNMR'99*, El Paso, Texas, 1999.
- [12] Georg Gottlob: Complexity Results for Nonmonotonic Logics. *J. of Logic and Computation* 1992
- [13] Eiter & Gottlob: Propositional Circumscription and Extended Closed-World Reasoning are Π_2 -Complete. *Theoretical Computer Science* 114(2), 1993.
- [14] Eiter & Gottlob: On the Complexity of Propositional Knowledge Base Revision, Updates, and Counterfactuals. *Artificial Intelligence*, 75:2-3, 1992.
- [15] Eiter & Gottlob: The Complexity of Logic-Based Abduction. *Journal of the ACM* 42(1) 1995
- [16] Georg Gottlob.: NP Trees and Carnap's Modal Logic. *Journal of the ACM (J.ACM)* 42(2) 1995.
- [17] Georg Gottlob: Translating Default Logic into Standard Autoepistemic Logic. *J.ACM*,42(4) 1995.
- [18] S. Ceri, G. Gottlob, L.Tanca: Logic Programming and Databases (Book.) Springer 1989.
- [19] Gottlob, Miklós, Schwentick: Generalized Hypertree Decompositions, NP Hardness and Tractable Variants. *Journal of the ACM* 56:6, 2009. Conference Version: *ACM PODS 2007*.
- [20] G. Gottlob, S. T. Lee, G. Valiant, G., & P. Valiant (2012). Size and Treewidth Bounds for Conjunctive Queries. *Journal of the ACM (J.ACM)*, 59(3), 1-35. Conference Version: *ACM PODS 2009*.
- [21] Gottlob, Leone, Scarcello: Hypertree decompositions and tractable queries. *Journal of Computer and System Sciences* 64.3 (2002): 579-627. Conference Version: *ACM PODS 1999*