

CURRICULUM VITAE

NAME Priv.-Doz. Dr.-Ing. Christoph Ewald Benzmüller
ACADEMIC DEGREES Habilitation, Doctorate, Diploma
NATIONALITY German
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EDUCATION

Habilitation, computer science, *Theorem Proving in Classical Higher-Order Logic*, Saarland University 2007
PhD (Dr.), computer science, *Equality and Extensionality in Automated Higher-Order Theorem Proving* (advisors: J. Siekmann, F. Pfenning, M. Kohlhase), Saarland University 1999
Diploma, computer science (and economics), *Eine Fallstudie zur Spezifikation von Systemanforderungen in der Spezifikationsprache OBSCURE* (advisors: J. Loeckx, K. Gersonde), Saarland University 1995
Abitur (A-levels), Auguste Victoria Gymnasium, Trier, Germany 1988

PRESENT/RECENT AFFILIATIONS

University of Luxemburg, visiting scholar 3/2017–9/2017
Freie Universität Berlin, Privatdozent, *venia legendi* in Mathematics and Computer Science 2012–
Stanford University, CSLI/Cordula Hall (Philosophy), CA, USA, visiting scholar 10/2015–06/2016
Saarland University, Privatdozent, *venia legendi* in Computer Science 2007–

PAST AFFILIATIONS AND APPOINTMENTS

Articulate Software, Angwin, CA, USA, senior researcher, DFG research grant 2008–2011
Intl. University in Germany, Bruchsal, full professor for Artificial Intelligence (AI) & Formal Methods 2008–2009
The University of Cambridge, UK, senior research fellow, Computer Science 12 months in 2006/2007
Saarland University, associate professor (C2, 2004–2008), assistant professor (C1, 2001–2004), AI 2001–2008
The University of Birmingham & The University of Edinburgh, UK, postdoc, AI 8 + 4 months in 2000
Graduate College Cognitive Science, Saarland University, postdoc, Cognitive Science 1999–2000
Carnegie Mellon University, Pittsburgh, USA, short term scholar, Mathematics 8 months in 1996/1997
Saarland University, research assistant, Computer Science and AI 1995–1999
Saarland University and DFKI, Germany, student researcher, Computer Science and AI 1990–1995
Newspaper 'Trierischer Volksfreund', Trier, Germany, freelancer 1988/1989

AWARDS AND HONORS

FU Berlin's central teaching award for the lecture concept on *Computational Metaphysics*, 2015
Visiting scholar for 9 months at Stanford University in 2015/2016
PC and conference co-chair of the Global Conference on Artificial Intelligence 2016 in Berlin
Conference chair of the 25th jubilee edition of the CADE conference in 2015 in Berlin
Nominated in 2014 for *Dan David Prize* in the category *Future: Artificial Intelligence – Digital Minds*, Israel
Nominated in 2013 for *Amalia Preis für Neues Denken*, Weimar, Germany
Heisenberg fellowship of the DFG since 2012
Member of the Berlin Mathematical School since 2012
World champion in higher-order automated theorem proving in 2010 with LEO-II prover
Visiting scholar for 12 months in 2006/2007 at St. Edmund's College of Cambridge University
Member of the DFG collaborative research center SFB 378 from 2001 to 2008
Postdoctoral research fellow of the Graduate College Cognitive Science at Saarland University in 1999 and 2000
Short term scholar in 1996/1997 at Maths Department of Carnegie Mellon University (invitation by P. Andrews)
PhD scholarship from 1996 to 1998 of the Studienstiftung des Deutschen Volkes

MEMBERSHIPS IN ORGANIZATIONS

Gesellschaft für Informatik, Berlin Mathematical School, Deutscher Hochschulverband, Association for Automated Reasoning, American Association for Artificial Intelligence, Deutsche Vereinigung für Mathematische Logik und für Grundlagenforschung der Exakten Wissenschaften, Kurt Gödel Gesellschaft, Scandinavian Logic Society

RESEARCH AREAS (SELECTION) Logic in CS, AI, philosophy, maths, computational linguistics; Automated and interactive theorem proving; Computational metaphysics and theoretical philosophy; Artificial intelligence, knowledge representation and reasoning, formal ontologies; Theoretical computer science; Formal languages, type theory, programming languages; Computer-supported maths; Computational humanities

BOARD MEMBERSHIPS (PRESENT AND PAST)

Conference on Automated Deduction (CADE), elected trustee (2008-2011, 2015–), vice-president	2015–
Association of Automated Reasoning (AAR), board member	2015–
Spokesman of the section Deduction Systems of the Gesellschaft für Informatik	2014–
Berlin Mathematical School (BMS), mentoring, gender and diversity committee	2014–2016
The International Federation for Computational Logic (IFCoLog), executive board	2010–
Logic Journal of the IGPL, editorial board	2008–
Journal of Applied Logic, editorial board	2006–
User Interfaces for Theorem Provers, permanent steering committee member	2006–
Journal of Applied Logic, special issue invited editor	2006
International Joint Conference for Automated Reasoning, steering committee	2004
Symbolic Computation and Mechanized Reasoning, conference and network, trustee	2004–2006

GRANTS (PRINCIPAL INVESTIGATOR OR PRINCIPAL CO-INVESTIGATOR)

FU Berlin, central teaching award, lecture concept <i>Computational Metaphysics</i> , 10,000 €	2016
DFG Heisenberg fellowship (BE 2501/9-2), <i>Towards Computational Metaphysics</i> , ~130,000 €	2015–2017
DFG grant LEO-III (BE 2501/11-1), <i>Automation of Higher-order Logic</i> , 276,218 €	2014–2017
DFG, conference support grant (BE 2501/12-1) for CADE-25 in Berlin in 2015, 21,600 €	2014–2015
CADE-25 supporting grants: FU Berlin 5000 €, AI Journal 3000 €, Microsoft Research 2500 €, ECCAI 1000 €	2014–2015
DFG Heisenberg fellowship (BE 2501/9-1), <i>Autom. Reasoning in Expressive Ontologies</i> , ~180,000 €	2012–2015
DFG research grant <i>Ontology Reasoning</i> , (BE 2501/6-1) ~90,000 €, (BE 2501/8-1) ~12,000	2009–2011
EU, FP7 Marie-Curie grant (PIIF-GA-2008-219982), <i>International Infrastructure for the Automation of Higher-order Logic</i> , with G. Sutcliffe, University of Miami, ~130,000 €	2008/2009
DFG travel grant (BE 2501/4-1), IJCAR 2008 in Australia, ~2500 €	2008
DFG Collaborative Research Center SFB 378 principal co-investigator of projects	
OMEGA (MI 04), <i>Agent-oriented Proof Planning</i> , ~900,000 €	2001–2008
DIALOG (MI 03), <i>NL-based Interaction with a Mathematics Assistance System</i> , ~900,000 €	2001–2008
UK/DAAD ARC exchange grant, principal co-investigator, ~7,000 €	2004
EU, IST grant for CALCULEMUS autumn school in Pisa, principal investigator, ~20,000 €	2002
EU, Comenius grants (DE-228-PA-01-2002), CALCULEMUS autumn school in Pisa, ~30,000 €	2002
Ph.D. scholarship of the Studienstiftung des Deutschen Volkes	1996–1998

FURTHER RESEARCH GRANTS (PROJECT COORDINATOR OR MAIN RESEARCHER)

UK, EPSRC grant LEO-II (EP/D070511/1), <i>Automation of Higher-order Logic</i> , with L. Paulson as principal investigator, Cambridge University, 92,512 £	2006–2007
EU, research training network CALCULEMUS (HPRN-CT-2000-00102), <i>Integration of Symbolic Reasoning and Symbolic Computation</i> , scientific and administrative co-coordinator, ~1,500,000 €	2001–2004
UK, EPSRC grant (GR/M99644), <i>Agent-oriented Reasoning</i> , with M. Kerber, Birmingham, 55,944 £	2000

OTHER ACTIVITIES

Basic military service in sports supporting group (Sportsoldat), Warendorf, Germany	10/1988–12/1989
Best German participant in Military Cross Country World Championships, Tunis, Tunisia	1989
Elected ombudsman of company, basic military service	1989
German national champion, long distance running, cross country team	1990
Member/athlete of the German Olympic Center in Saarbrücken, Germany	1989–1992

ABSENSE Parental leave (3 children, 13 + 3 months in 2009–2012), care service (mother, 2 months in 2011)
LANGUAGES German, English, (Latin, Luxemburgian)

SELECTED PUBLICATIONS (TEN MOST IMPORTANT, PERSONAL CHOICE)

- C. Benzmüller. Cut-Elimination for Quantified Conditional Logic, *Journal of Philosophical Logic*, 2016. doi:10.1007/s10992-016-9403-0
- C. Benzmüller and B. Woltzenlogel Paleo, The Inconsistency in Gödel's Ontological Argument: A Success Story for AI in Metaphysics. In *IJCAI 2016*, 2016. <http://www.ijcai.org/Proceedings/16/Papers/137.pdf>
- C. Benzmüller, N. Sultana, F. Theiss and L. Paulson, The Higher-Order Prover LEO-II, *Journal of Automated Reasoning*, (2015) 55(4):389404. doi:10.1007/s10817-015-9348-y
- C. Benzmüller and D. Miller, Automation of Higher-Order Logic. *Handbook of the History of Logic, Volume 9 — Computational Logic*, North Holland, Elsevier, pp. 215-254, 2014. doi:10.1016/B978-0-444-51624-4.50005-8
- C. Benzmüller and L.C. Paulson. Quantified Multimodal Logics in Simple Type Theory. *Logica Universalis*, (2013) 7(1):7-20. doi:10.1007/s11787-012-0052-y
- C. Benzmüller, C.E. Brown, and M. Kohlhase, Higher Order Semantics and Extensionality. *Journal of Symbolic Logic*, (2004) 69(4):1027-1088. doi:10.2178/jsl/1102022211
- C. Benzmüller, C. E. Brown, and M. Kohlhase, Cut-Simulation and Impredicativity, *Logical Methods in Computer Science*, (2009) 5(1:6):1-21. doi:10.2168/LMCS-5(1:6)
- C. Benzmüller, Leon Weber and B. Woltzenlogel Paleo, . In *Logica Universalis*, (2017) 11(1):139-151. doi:10.1007/s11787-017-0160-9.
- C. Benzmüller and B. Woltzenlogel Paleo. Automating Gödel's Ontological Proof of God's Existence with Higher-order Automated Theorem Provers. In *Proceedings of ECAI 2014*, Praha, Czech Republic, 2014. doi:10.3233/978-1-61499-419-0-93
- C. Benzmüller, M. Schiller and J. Siekmann. Resource-Bounded Modelling and Analysis of Human-Level Interactive Proofs. Chapter in *Resource-Adaptive Cognitive Processes*, Cognitive Technologies, Springer, 2010. doi:10.1007/978-3-540-89408-7_13

INVITED KEYNOTES/PRESENTATIONS AT SCIENTIFIC EVENTS (SELECTION)

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| (Invited keynote) tba—XX Brazilian Symposium on Formal Methods (SMBF), Recife, Brazil | 1. Dec 2017 |
| (Invited keynote) tba—3. BMG Tag, Berliner Mathematische Gesellschaft e.V., Berlin | 9. Nov 2017 |
| (Invited talk) tba—Symposium on the History and Philosophy of Computation (HaPoC), Rio de Janeiro, Brazil | Jul 2017 |
| (Invited public outreach talk) Calculemus!: Analyse von Kurt Gödel's Gottesbeweis mit dem Computer—Urania, Berlin | Jun 2017 |
| (Invited talk) Computational Metaphysics: The Virtues of Formal Proofs Beyond Maths—Colloquium of the Berlin Mathematical School (BMS Fridays), Berlin | Dec 2016 |
| (Invited keynote panelist) AI can, will and should replace teachers? The OEB Plenary Debate, The global, cross-sector conference on technology supported learning and training, Berlin | Dec 2016 |
| (Big ideas invited keynote) Künstliche Intelligenz – Wohin geht die Reise? —Shared Services & Outsourcing Woche (http://www.sharedserviceswoche.de), Berlin | Nov 2016 |
| (Invited talk) Uniform Proofs via Shallow Semantic Embeddings?—Dagstuhl Seminar on Universality of Proofs (16421), Dagstuhl | Oct 2016 |
| (Invited lecture) Computational Metaphysics—Thematic trimester 'Current Issues in the Philosophy of Practice of Mathematics & Informatics', Centre International de Mathématiques et d'Informatique de Toulouse (CIMI), France | Jun 2016 |
| (Invited lecture course) Higher-Order Modal Logic: Automation and Applications—Logic Summer School, ANU Canberra, Australia | 2015 |
| (Keynote) Experiments in Computational Metaphysics—9th All India Students' Conference on Science and Spiritual Quest (AISSQ-2015), IIT Kharagpu, India | 2015 |
| (Keynote) On a (Quite) Universal Theorem Proving Approach and its Application to Metaphysics—TABLEAUX Conference, Wroclaw, Poland | 2015 |
| (Invited talk) Higher-Order Proofs and Models: Examples from Meta-Logical Reasoning and Metaphysics—Dagstuhl Seminar 15381 on Information from Deduction: Models and Proofs, Dagstuhl, Germany | 2015 |
| (Invited tutorial) Higher-Order Modal Logic: Automation and Applications—The 11th Reasoning | 2015 |

Web Summer School, Berlin, Germany	
(Keynote) Gödel’s Ontological Argument Revisited – Findings from a Computer-supported Analysis— 1st World Congress on Logic and Religion, João Pessoa, Brazil	2015
(Keynote) On Logic Embeddings and Gödel’s God—21st Annual Meeting of the section Logic in Computer Science of the Gesellschaft für Informatik, Kassel, Germany	2014
(Keynote) On Logic Embeddings and Gödel’s God—22nd International Workshop on Algebraic Development Techniques, Sinaia, Romania	2014
(Invited tutorial) Higher-order Automated Theorem Provers —International Workshop $\forall X.X\pi$ at Vienna Summer of Logic, Austria	2014
(Keynote) Gödel’s God on the Computer—10th International Workshop on the Implementation of Logics, Stellenbosch, South Africa	2013
(Invited talk) A Benchmark Problem Repository for Qualitative Spatial and Temporal Reasoning: Reasoning within and about Combinations of Logics in Simple Type Theory (talk and system demonstration)—Dagstuhl Seminar 10412, Germany	2010
(Invited talk) QSTRLib Use Case: Educational Question Answering on Spatial Configurations of Countries, States, and Cities—Dagstuhl Seminar 10412	2010
(Invited talk) Adaptive Assertion-Level Proofs—IJCAR Workshop EMS+QMS, Edinburgh, UK	2010
(Invited lecture course) Semantics of Higher-Order Logic, ESSLLI, Malaga, Spain	2006
(Invited talk) A Structured Set of Higher-Order Problems—Dagstuhl Seminar 05431	2005
(Invited tutorial) From Natural Deduction to Sequent Calculus and back, CALCULEMUS Autumn School 2002, Pisa	2002
(Keynote) An Agent-based Approach to Reasoning—Joint invited plenary speaker of AISB Convention on Agents and Cognition and the Automated Reasoning Workshop, University of York, UK	2001

INVITED LECTURES AND SEMINARS, OTHER INVITED EVENTS (SELECTION)

Computational Metaphysics: The Virtues of Formal Proofs Beyond Math, ILIAS Distinguished Lectures, University of Luxembourg	2017
Erwachen der Roboter – Lernende Maschinen und die Intelligenz der Zukunft, Bundeszentrale für politische Bildung – bpb, Berlin	2016
Automatisierung von Gödel’s Gottesbeweis im Computer, Auticon GmbH, Berlin	2016
Computational Metaphysics, Central Teaching Award Acceptance Speech at FU Berlin	2016
The Inconsistency in Gödel’s Ontological Argument: An Application of Mathematical Proof Assistants in Metaphysics—Mathematical logic seminar, Stanford University, USA	2016
A Universal Logic Theorem Proving Approach—Hands-on tutorial, Berkeley-Stanford Circle in Logic and Philosophy, San Francisco, USA	2016
A Success Story of Higher-Order Theorem Proving in Computational Metaphysics—Logic Colloquium, UC Berkeley, USA	2016
Experiments in Computational Metaphysics—SRI International, Menlo Park, USA	2015
Experiments in Computational Metaphysics—Computational Logic Seminar (MUGS), Stanford University, USA	2015
“Gottesbeweis” reloaded—Lange Nacht der Wissenschaften, Berlin	2015
Gödel’s God on the Computer—Institute of Computer Science, University of Innsbruck, Austria	2014
Gödel’s God on the Computer—IT University of Copenhagen, Denmark	2014
Kurt Gödel’s Gottesbeweis auf dem Computer—Lange Nacht der Wissenschaften, Berlin	2014
Utilizing Church’s Type Theory as a Universal Logic—Collegium Logicum, Kurt Gödel Society, Vienna, Austria	2012
Utilizing Higher-order Automated Theorem Provers as Universal Logic Engines—Peter Andrews’ Retirement Celebration, Carnegie Mellon University, Pittsburgh, USA	2012
Automating Expressive Classical and Non-Classical Logics with LEO-II— Colloquium Series of the Department of Computer Science, Freie Universität Berlin	2012
Automating Expressive Non-classical Logics and their Combinations in Classical Higher Order Logic— Potsdam University, Germany	2011
Intelligente Werkzeuge zur Erhebung, Bereitstellung, Analyse und Kommunikation von diversifiziertem, personifiziertem, interoperablen semantischen Wissen—Deutsches Inst. f. Wirtschaftsforschung, Berlin	2011
Higher-Order Logic, Theorem Proving, and Ontologies—Relevant for Configuration? Siemens AG Österreich (CT CEE), Vienna, Austria	2010

Combining Logics in Simple Type Theory—SRI International, Menlo Park, USA	2010
Automating Access Control Logics and Multimodal Logics in the Automatic Higher-Order Theorem Prover LEO-II—Pure and Applied Logic Seminar, Carnegie Mellon University, Pittsburgh, USA	2008
Automating Access Control Logics and Multimodal Logics in the Automatic Higher-Order Theorem Prover LEO-II—Kestrel Institute, Palo Alto, USA	2008
LEO-II: A Cooperative Prover for Classical Higher-Order Logic—Microsoft Research, Redmond, USA	2008
Tool Support for Formalized Mathematics: Cooperative Higher-Order Theorem Proving with LEO-II, Tutorial Dialogues on Proofs with the DIALOG demonstrator, and the PLATO/OMEGA Proof Assistant Plug-in for TeXmacs—Formal Mathematics Seminar, University of Bonn	2008
Exploring Properties of Multimodal Logics with the Cooperative Automatic Higher-Order Theorem Prover LEO-II—SRI International, Menlo Park, USA	2008
Challenges for Automated Theorem Proving in Classical Higher Order Logics—University of Edinburgh & University of St. Andrews & Heriot Watt University, UK	2007
Classical Higher-Order Logic – Semantics, Proof Theory and Automation, Potsdam University	2006
Can a Higher-Order and a First-Order Theorem Prover Cooperate?—LORIA, Nancy, France	2005
OMEGA: A Mathematical Assistance System, Automated Reasoning Group, Cambridge University, UK	2004
OMEGA: From Proof Planning towards Mathem. Knowledge Management, MKM Symposium, Edinburgh	2003
Tutorial Dialog with a Mathematical Assistant System—University of Birmingham, UK	2002
Agent-oriented Reasoning with O-ANTS—Carnegie Mellon University & Cornell University, USA	2001
Panel member of the IJCAR 2001 Workshop Future Directions in Automated Reasoning – Problems and Ideas for a New Millennium, Siena, Italy	2001
Resource Guided Concurrent Deduction with O-ANTS—University of Edinburgh, UK	2000
Towards Agent based Theorem Proving and Proof Planning in OMEGA—University of York, UK	2000
OANTS: Combining Interactive and Automated Theorem Proving—University of Manchester, UK	2000
Extensional Higher Order Resolution, Paramodulation and RUE-Resolution—University of Birmingham	1999

ORGANIZATION/CO-ORGANIZATION OF SCIENTIFIC EVENTS

Programme co-chair of the Global Conference on Artificial Intelligence (GCAI)	2017
Programme and conference co-chair of the Global Conference on Artificial Intelligence (GCAI)	2016
Conference on Automated Deduction (CADE)—conference chair of the 25th jubilee edition of CADE	2015
Meeting of the German Interest Group on Deduction Systems—co-organizer	2015, 2016, 2017
Automated Reasoning in Quantified Non-Classical Logics (ARQNL)—co-organizer/co-chair	2014, 2016
Workshop on User Interfaces for Theorem Provers (UITP)—co-organizer/co-chair	2006, 2008, 2014
Conference on Automated Deduction (CADE)—workshop and competition chair	2013
Conference on Intelligent Computer Mathematics (CICM)—doctoral program	2008
Workshop on Evaluation of Systems for Higher-Order Logic (ESHOL)—co-organizer/co-chair	2008
Conference on Automated Deduction (CADE)—workshop and tutorial chair	2007
Workshop on the Implementation of Logics (IWIL)—co-organizer/co-chair	2006
Workshop on Tutorial Natural Language Dialog in Mathematics (MathDialog)—co-organizer/co-chair	2006
Workshop on Empirically Successful Automated Higher-Order Reasoning (ESHOL)—co-organizer/co-chair	2005
Workshop on Mathematical Proof Assistants (Theorema-Ultra-Omega)—co-organizer/co-chair	2005
Workshop on Higher-Order Logics and Hybrid Logics, Saarbrücken-Nancy—co-organizer/co-chair	2005
Workshop on Computer-Supported Mathematical Theory Development—co-organizer/co-chair	2004
Evaluation of the Collaborative Research Center SFB378—co-organizer	2004
Workshop CALCULEMUS at the Symposium on Mathematics on the Semantic Web—organizer	2003
Meeting of the German Interest Groups on Deduction Systems & Logics in CS—co-organizer	2004
Midterm Review of the EU CALCULEMUS research training network—organizer/chair	2003
Autumn School of the EU CALCULEMUS research training network in Pisa —co-organizer	2002
Meeting of the German Interest Group on Deduction Systems	2000

MEMBERSHIPS IN PROGRAMME COMMITTEES

Conference on Automated Deduction (CADE)	2002, 2007, 2013, 2015, 2017
Conference Frontiers of Combining Systems (FroCoS)	2013, 2015, 2017
International Conference on Computer Science Applied Mathematics and Applications (ICCSAMA)	2017
Conference on Agents and Artificial Intelligence (ICAART)	2011, 2012, 2013, 2014, 2015

Conference on Formal Ontology in Information Systems (FOIS)	2014
Conference on Intelligent Computer Mathematics (CICM)	2011
Conference on Artificial Intelligence and Symbolic Computation (AISC)	2008, 2010
Conference on Automated Reasoning (IJCAR)	2004, 2008, 2010
Conference on Information Security (IFIP SEC)	2010
Conference on Artificial Intelligence and Applications (AIA)	2010
Conference on Theorem Proving in Higher Order Logics (TPHOLs)	2009
Conference on Automated Reasoning with Analytic Tableaux and Related Methods (Tableaux)	2009
Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR)	2005, 2006
Conference on Mathematical Knowledge Management (MKM)	2005
German Conference on Artificial Intelligence (KI)	2007
Symposium on Symbolic Computat. and Mechanized Reason. (CALCULEMUS)	2002, 2003, 2006, 2007, 2008
The ATP System Competition (CASC), panel member	2007, 2008
The 1st International ARCADE Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements	2017
Workshop Automated Theorem Proving meets Interactive Theorem Proving (AMI)	2015
Workshop on Acquisition, Representation and Reasoning with Contextualized Knowledge (ARCOE)	2011, 2012, 2013, 2014
Workshop on Practical Aspects of Automated Reasoning (PAAR)	2008, 2012, 2014, 2016
Workshop Enabling Domain Experts to use Formalised Reasoning (Do-Form)	2013
Workshop on Unification (UNIF)	2012, 2013
Workshop on User Interfaces for Theorem Provers (UITP)	2010, 2012
Workshop on Comparative Empirical Evaluation of Reasoning Systems (COMPARE)	2012
Workshop on the Implementation of Logics (IWIL)	2008, 2012, 2015
Workshop on Proof Exchange for Theorem Proving (PxTP)	2011, 2017
Workshop on Evaluation Methods for Solvers and Quality Metrics for Solutions (EMS+QMS)	2010
Workshop on Knowledge Exchange: Automated Provers and Proof Assistants (KEAPPA)	2008
Workshop on Logic for Automated Reasoning and Automated Reasoning for Logic (LARARL)	2006
Workshop on Inference in Computational Semantics (ICoS)	2006
Workshop on Agents and Automated Reasoning at IJCAI	2003
Workshop on Future Directions in Automated Reasoning at IJCAR	2001
Meeting of the German Interest Group on Deduction Systems (Deduktionstreffen)	2007, 2008, 2013, 2014
Joint Automated Reasoning Workshop and Deduktionstreffen (ARWDT)	2014

REVIEWING FOR FUNDING ORGANIZATIONS AND UNIVERSITIES

Austrian Science Fund (FWF)	2013, 2017
Johannes Kepler Universität, Linz, Austria	2016, 2017
Cambridge University, UK	2016
King's College, London	2015
Deutsche Forschungsgemeinschaft (DFG)	2013
Czech Science Foundation (GACR)	2013
Natural Sciences and Engineering Research Council of Canada (NSERC)	2008, 2013
Recherche en sciences & technologies de l'information (DIGITEO), France	2009

(Due to lack of time I unfortunately had to decline various reviewing requests from organisations such as DFG, GACR, FWF, NSERC, etc. in 2016)

FURTHER REVIEWING

Studia Logica	2016
Review of Symbolic Logic	2015, 2016
International Journal of Software and Informatics	2015
Logica Universalis	2014
Zentralblatt Math	2013, 2014
Journal of Automated Reasoning (JAR)	2002, 2005, 2006, 2008, 2009, 2010, 2011, 2012, 2013

Fundamenta Informaticae	2012
International Journal of Semantic Web and Information Systems (IJSWIS)	2012
Journal of Web Semantics (JWS)	2011
Logical Methods in Computer Science (LMCS)	2010
AI Communications (AICom)	2009
Annals of Mathematics and Artificial Intelligence (AMAI)	2008
Mathematics in Computer Science (MCS)	2008, 2016
ACM Transactions on Computational Logic (ACM TOCL)	2007, 2008
Journal of Computation and Mathematics (LMS)	2004, 2005
Journal of Symbolic Computation (JSC)	2000, 2001

IEEE 47th International Symposium on Multiple-Valued Logic (ISVML)	2017
Conference on Types for Proofs and Programs (TYPES)	2016
Conference on Automated Reasoning (IJCAR)	2014, 2016
Conference on Foundations of Software Science and Computation Structures (FoSSaCS)	2013
Conference on Automated Deduction (CADE)	1996, 2002, 2005
Symposium on Symbolic and Algebraic Computation (ISSAC)	2008
Conference on Automated Deduction (CADE)	1996, 2002, 2005
European Conference on Artificial Intelligence (ECAI)	2000, 2002
Conference on Logic for Programming Artificial Intelligence and Reasoning (LPAR)	2002
German Conference on Artificial Intelligence (KI)	2001
Symposium on Logic in Computer Science (LICS)	2000, 2001
Conference on Computational Logic (CL)	2000
Conference on Logics in Artificial Intelligence (JELIA)	2000
The Florida Artificial Intelligence Research Society Conference (FLAIRS)	2000

Various other conferences and workshops not listed here

ADVISORY BOARDS

ARD: Accessible reasoning with diagrams, funded by the Leverhulme Trust; project at Cambridge University and University of Brighton, PIs: Mateja Jamnik and Gem Stapleton	2016-2018
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ADMINISTRATIVE ACADEMIC SERVICES

Chair of appointments committee for Professorship (W1) in Mobile Robotics at FU Berlin	2014-2015
Member of appointments committee for Professorship (W3) in Bioinformatics and Informatics	2015
Member of appointments committee for Professorship (W1) in AI at FU Berlin	2014-2015

SOCIAL AND POLITICAL COMMITMENT (SELECTION)

Invited panel “Erwachen der Roboter lernende Maschinen und die Intelligenz der Zukunft”, Bundeszentrale für politische Bildung, Berlin (url to event)	2016
Invitation to a parliamentary breakfast on topic: Lethal Autonomous Weapon Systems, Berlin	2015
Invited participant at symposium on the risk of autonomous weapon systems organized by Friedrich-Ebert-Stiftung, Berlin	2015
Parent representative of Kindergarten Roonstr., Berlin	2013–2015
Alumnus of the Studienstiftung des Deutschen Volkes	1999–

SYSTEM DEVELOPMENT (SMALL SELECTION)

I initiated and supervised the development of a Conference Management Tool for CADE-25 at FU Berlin by Benjamin Vetter. This development was further supported by Alexander Steen, Max Wisniewski and Julian Röder. This tool has become very successful and it has meanwhile been applied for several other conferences at FU Berlin.

Leo-III: automated theorem prover for classical higher-order logic (and various non-classical logics) Programming languages: Scala Role: project leader, supervisor	2014–
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LEO-II: automated theorem prover for classical higher-order logic (and various non-classical logics)	2007–2014
Programming languages: OCaml	
Role: project leader, supervisor and main developer	
Comments: World Champion 2010, LEO-II has been integrated with Isabelle/HOL and Hets	
DIALOG: demonstrator system on tutorial NL dialog on proofs, integrated with OMEGA	2000–2008
Programming languages: various programming languages	
Role: project leader, supervisor	
OANTS: agent-oriented reasoning system, integration platform for OMEGA	1998–2006
Programming languages: Lisp	
Role: project leader, co-supervisor and co-developer	
LEO: automated theorem prover for classical higher-order logic	1995–2005
Programming languages: Lisp	
Role: supervisor and main developer	
OMEGA: large AI based interactive proof assistant & automated proof planner, NL techniques	1992–2006
Programming languages: Lisp, Oz	
Role: developer and later project co-leader and co-supervisor of a team of approx. 8-10 developers	

TEACHING ACTIVITIES (SELECTION)

Intelligente Lehr- und Lernsysteme	
Pro-/Seminar with Dr. C. Ullrich (DFKI) and Prof. Dr. C. Igel (DFKI)	2017
2 SWS, 5 ECTS, Freie Universität Berlin	
Künstliche Intelligenz	
Lecture course, 2 SWS, 5 ECTS, with R. Rojas, Freie Universität Berlin	2017
Computational Metaphysics	
Award winning lecture course (central teaching award of Freie Universität Berlin)	
2 SWS, 5 ECTS, Freie Universität Berlin	2016
Computational Metaphysics (in English)	
Invited lecture, thematic trimester 'Current Issues in the Philosophy of Practice of Mathematics & Informatics (CIPPMI)'	
Centre International de Mathématiques et d'Informatique de Toulouse (CIMI), France	Jun 2016
Künstliche Intelligenz	
Block lecture course, 2 SWS, 5 ECTS, with R. Rojas, Freie Universität Berlin	2016
Higher-Order Modal Logics: Automation and Applications (in English)	
Invited block lecture course, with B. Woltzenlogel-P.	
Logic Summer School, ANU Canberra, Australia	Dec 2015
Higher-Order Modal Logics: Automation and Applications	
Invited tutorial, with B. Woltzenlogel-P., Reasoning Web Summer School, Berlin, Germany	2015
Logik	
Proseminar, 2 SWS, 5 ECTS, Freie Universität Berlin	2015
Künstliche Intelligenz	
Lecture Course, 2 SWS, 5 ECTS, with R. Rojas, Freie Universität Berlin	2015
Entwicklung eines netzbasierten Editors zur Generierung von PDF-Dokumenten	
Softwareproject, 2 SWS, with P. Podlech, A. Steen and M. Wisniewski, Freie Universität Berlin	2015
Expressive Logiken – Theorie, Mechanisierung, Anwendungen	
Lecture Course, 2 + 2 SWS, 5 ECTS, Freie Universität Berlin	2014
Künstliche Intelligenz	
Lecture Course, 2 SWS, 5 ECTS, with R. Rojas, Freie Universität Berlin	2014
Expressive Klassische und Nichtklassische Logiken und deren Automatisierung	
Seminar, 2 SWS, 5 ECTS, Freie Universität Berlin	2013
Logik erster Stufe in Theorie und Praxis	
Lecture course, 2 SWS, 5 ECTS, Freie Universität Berlin	2013
Technologien für Frage-Antwort-Systeme (IBM Watson System)	
Seminar, 2 SWS, 5 ECTS, with R. Rojas and M. Block-Berlitz, Freie Universität Berlin	2012
Logik erster Stufe in Theorie und Praxis	
Lecture course, 2 SWS, 5 ECTS, Freie Universität Berlin	2012
Working with Automated Reasoning Tools (in English)	

Lecture course, 2 SWS, with G. Sutcliffe, Saarland University	2008
Semantics of Higher-Order Logic (in English)	
Invited block lecture course, IT University of Copenhagen, Denmark	2008
Semantics of Higher-Order Logic (in English)	
Invited block lecture course, with Dr. C. Brown, ESSLLI 2006, Malaga, Spain	2006
Automatisches Theorembeweisen in Logik höherer Stufe	
Invited lecture course (Gastvorlesung), 3 SWS + exercises, Technical University Darmstadt	2006
Semantics and Mechanization of Classical Higher-Order Logic (in English)	
Lecture course, 4 SWS + exercises, with Dr. C. Brown, Saarland University	2005
Introduction to Artificial Intelligence (in English)	
Lecture course, 4 SWS + exercises, with J. Siekmann and S. Autexier, Saarland University	2005
Mathematical Assistance Systems (in English)	
Lecture course, 4 SWS + exercises, with J. Siekmann and colleagues, Saarland University	2004
Automated Theorem Proving in First-Order and Higher-Order Logic (in English)	
Lecture course, 2 SWS + exercises, Saarland University	2004
Human-Oriented Theorem Proving (in English)	
Lecture course, 4 SWS + exercises, with C.P. Wirth and A. Fiedler, Saarland University	2003
Einführung in die Künstliche Intelligenz	
Lecture course, 4 SWS + exercises, with J. Siekmann and E. Melis, Saarland University	2003
From Natural Deduction Calculus to Sequent Calculus and back (in English)	
Lecture course, CALCULEMUS Autumn School, Pisa, Italy	2002
Automated Theorem Proving in First-Order and Higher-Order Logic (in English)	
Lecture course, 2 SWS + exercises, Saarland University	2002
Einführung in die Künstliche Intelligenz	
Lecture course, 4 SWS + exercises, with J. Siekmann, Saarland University	1999, 2001

Further teaching activities:

I held numerous seminars, pro-seminars, and programming labs between 1995 and 2007 at Saarland University

STUDENT (CO-)SUPERVISION, DOCTORATE COMMITTEES, SCIENTIFIC TUTORSHIPS

Recently I received many new requests for bachelor and masters projects as a result of the very successful lecture course on computational metaphysics.

Claude Fabre (Doctorate, Philosophy, Modellismus, technical reviewer)—FU Berlin	ongoing
Sebastian Böhne, (Doctorate, CS, Theorem Proving in Education, mentor)—Universität Potsdam	ongoing
Alexander Steen (Doctorate, CS, Higher-Order Theorem Proving, supervisor)—FU Berlin	ongoing
Max Wisniewski (Doctorate, CS, Agent-based Theorem Proving, supervisor)—FU Berlin	ongoing
Martin Riener (Doctorate, CS, Higher-Order Cut-Elimination, committee member)—TU Vienna	ongoing
Frank Theiss (Doctorate, CS, Higher-Order Termination, supervisor)—Saarland University	ongoing
David Streit (Masters, Maths, Mechanising Provability Logic, supervisor)—FU Berlin	ongoing
Fabian Schütz, (Masters, CS, Reconstruction of NL (Ontological) Arguments, supervisor)—FU Berlin	ongoing
Marco Ziener (Masters, CS, Machine Learning and ATP, supervisor)—FU Berlin	ongoing
Daniel Kirchner (Masters, Maths, Mechanisation of Principia Metaphysica, supervisor)—FU Berlin	ongoing
Hans-Jörg Schurr (Masters, CS, SAT Solving Techniques in HOL ATP, co-supervisor)—TU Vienna	ongoing
David Fuenmayor (Bachelor, Philosophy, Fitting's Ontological Argument, supervisor)—FU Berlin	ongoing
Hanna Lachnitt (Bachelor, CS, Higher-Order Intuitionistic Logic Cube, supervisor)—FU Berlin	ongoing
Tobias Gleissner (Bachelor, CS, Automation of Higher-Order Modal Logic, supervisor)—FU Berlin	ongoing
Irina Makarenko (Bachelor, CS, Automation of Higher-Order Free Logic, supervisor)—FU Berlin	2016
Samuel Gfrörer (Bachelor, CS, Parser for HOL ATP Leo-III, supervisor)—FU Berlin	2016
Robert Spangenberg (Doctorate, committee member) —FU Berlin	2016
Maximilian Claus (Masters, supervisor)—FU Berlin	2015
Kim Kern (Bachelor, supervisor)—FU Berlin	2015
Benjamin Eckstein (Masters, supervisor)—FU Berlin	2015
Dennis Griebach (Doctorate, committee member)—FU Berlin	2015
Shuiying Wang (Doctorate, committee member)—FU Berlin	2015
Thomas Raths (Doctorate, committee member)—Universität Potsdam	2014

Alexander Steen (Masters, supervisor)—FU Berlin	2014
Max Wisniewski (Masters, supervisor)—FU Berlin	2014
Marco Träger, (Diploma, committee member)—FU Berlin	2014
Daniel Kühlwein (Doctorate, ext. committee member)—Radboud University Nijmegen, Netherlands	2014
Sven Olufs (Doctorate, committee member)—FU Berlin	2014
Yves Müller (Master, supervisor)—FU Berlin	2013
Masood Ghayoomi (Doctorate, committee member)—FU Berlin	2013
Roman Guilboud (Doctorate, committee member)—FU Berlin	2013
Jens Otten (Doctorate, committee member)—University of Potsdam	2013
Marco Ziener (Bachelor, supervisor)—FU Berlin	2013
Priya Gopalan (Doctorate, committee member)—University of Edinburgh, UK	2013
Max Wisniewski (Bachelor, co-supervisor)—FU Berlin	2013
Dominik Dietrich (Doctorate, scientific tutor)—Saarland University, SFB 378	2011
Marvin Schiller (Doctorate, co-supervisor)—Saarland University, SFB 378, Studienstiftung	2010
Yecheng Gu (Bachelor, co-supervisor)—Saarland University	2009
Jürgen Zimmer (Doctorate, scientific tutor and co-supervisor)—Saarland University, SFB 378	2008
Valentin Dimitrov (Diploma, co-supervisor)—Saarland University	2008
Jonathan Osthof (Bachelor, co-supervisor)—Saarland University	2008
Stefano Zacchiroli (Doctorate, committee member)—University of Bologna, Italy	2007
Stephanie Ehrbächer (Masters, supervisor)—Saarland University, SFB 378	2007
Axel Schairer (Doctorate, scientific tutor)—Saarland University	2005
Dominik Dietrich (Diploma, co-supervisor)—Saarland University, SFB 378	2006
Marc Wagner (Diploma, co-supervisor)—Saarland University, SFB 378	2006
Robert Vollmann (Bachelor, co-supervisor)—Saarland University	2006
Tim Priesnitz (Doctorate, committee member)—Saarland University	2005
Marc Buckley (Diploma, supervisor)—Saarland University, SFB 378	2005
Marvin Schiller (Diploma, supervisor)—Saarland University, SFB 378	2005
Frank Theiss (Diplom, supervisor)—Saarland University, SFB 378	2005
Stephanie Ehrbächer (Bachelor, supervisor)—Saarland University, SFB 378	2005
Andreas Franke (Diploma, co-supervisor)—Saarland University, SFB 378	2005
Malte Hübner (Diploma, supervisor)—Saarland University, SFB 378	2005
Volker Sorge (Doctorate, committee member and scientific tutor)—Saarland University	2001
Armin Fiedler (Doctorate, committee member)—Saarland University, SFB 378	2001
Karsten Konrad (Doctorate, inofficial co-supervisor)—Saarland University, SFB 378	2000
Stephan Hess (Diploma, co-supervisor)—Saarland University	1999

RESEARCH CONTRIBUTIONS (SELECTION)

Framework for automating free logic (with D. Scott), detection of inconsistency in category theory textbook
 Framework for computational metaphysics resp. computer-assisted theoretical philosophy
 Formalisation, verification and automation of variants of Gödel's ontological argument
 Modeling of (parts of) Zalta's principia metaphysica in classical higher-order logic
 Modeling of Scott's free logic and axioms systems for category theory in classical higher-order logic
 Embedding and automation of various quantified non-classical logics in classical higher-order logic
 Automation of object-level and meta-level reasoning for various non-classical logics
 Cut-elimination in quantified non-classical logics
 Application of higher-order theorem proving to ontology reasoning
 Goal directed treatment of extensionality and equality reasoning in higher-order automated theorem proving
 Landscape of semantical notions (extensional and intensional) for classical higher-order logic
 Approach to higher-order extensional pre-unification
 Development of the higher-order automated theorem provers LEO, LEO-II, and Leo-III
 Development of effective data structures for higher-order automated theorem proving
 Cooperative higher-order-first-order automated theorem proving
 Blackboard architecture for agent-based interactive and automated theorem proving
 TPTP infrastructere for the advancement of higher-order automated theorem proving
 Study of cut-simulation and saturation in impredicative logics
 Automation of modal and temporal contexts in expressive ontologies

Development of the mathematical assistant system OMEGA
Integration of reasoning systems in the mathematical assistance system OMEGA
Proof exchange and reconstruction between reasoning systems
Development of a multi-modal user interface for OMEGA
Framework for tutorial natural language based interaction with a mathematical assistance system
Approach to assess and adapt the granularity of mathematical proofs
Corpora of tutorial natural language dialogs on mathematical proofs

MY WORK IN THE MEDIA (SELECTION)

Television (selection)

3sat, scobel (28.07.2016): Die Roboter-Rivalen; Experteninterview zum Thema
Künstliche Intelligenz und Bewusstsein (approx. min 47:00 at [url](#))
National Geographic Television (07.04.2016): Invitation to panel discussion on the occasion of the
Germany premiere of *Morgan Freeman's Story of God*. ([url1](#))([url2](#))
3sat, Germany (23.03.2015): D wie Deus ex Machina ([url](#))

Interviews in Newspapers and Magazines (selection)

Albert, Das Journal der Einstein Stiftung Berlin, Ausgabe Nr. 1, ISSN 2365-4066 (September 2015):
G(x) = Gott ([url](#))
PC Zoznam, Czech Republic (06.02.2014): Interview: Christoph Benzmueller ... the computer then
proved: there exists God (in english)
Marabilias, Spain (28.12.2013): Demostrado científicamente, Dios existe
Tendencias21, Spain (03.11.2013): 'Verificación informática de la existencia de Dios' ... y filosofía asistida por
ordenadores
Motherboard, Germany (24.09.2013): Gottesbeweis auf dem MacBook
Telepolis, Germany (26.08.2013): Computer beweist die Existenz Gottes

Radio Interviews and Radio Contributions (selection)

Ö1 (ORF) [oe1.orf.at](#): Radiokolleg – Die Welt begreifen: Warum wir nicht wie Maschinen lernen
(Gestaltung: Marianne Unterluggauer)
Teil 1 am 9.1.2017 (ab 9:37)
Teil 2 am 10.1.2017 (ab 9:39)
Teil 3 am 11.1.2017 (ab 9:34),
Die Evangelische Funkagentur, Hauptsache Mensch, Germany (28.09.2016): Es gibt einen Gott, sagt
der Computer
detektor.fm, Germany (10.09.2013): Mathematischer Gottesbeweis von Forschern bestätigt
ORF.at, Austria (09.09.2013): Computer bestätigt Gottesbeweis

Magazines, Newspaper Articles and Online Media (small selection)

Hohe Luft, Philosophie-Zeitschrift (01.12.2016): Christoph Benzmüller zur großen Frage ([url](#))
Bundeszentrale für politische Bildung bpb, Berlin (08.07.2016): Erwachen der Roboter – Lernende Maschinen
und die Intelligenz der Zukunft, ([url](#))
Campus.leben FU Berlin (28.04.2016): Forschen lernen im digitalen Zeitalter – Projekt von Informatiker
Christoph Benzmüller mit dem Lehrpreis der Freien Universität Berlin ausgezeichnet ([url](#))
Berlin Mathematical School (19.04.2016): Benzmüller receives FU Berlin's 2015 Teaching Award
Tagesspiegel.de (13.04.2016): FU-Lehrpreis für Christoph Benzmüller – Der Gottesbeweiser ([url](#))
https://twitter.com/fu_berlin (13.04.2016): Christoph Benzmüller erhält Lehrpreis für weltweit erste
Vorlesung zur Komputationalen Metaphysik
Brights Blog (13.04.2016): Christoph Benzmüller: Der Gottesbeweiser
Tagesspiegel.de (13.04.2016): Kurt Gödel: Das Logik-Genie
Tagesspiegel.de (12.04.2016): FU-Lehrpreis für Christoph Benzmüller: Studierende suchen den Geist in der
Maschine
Teleschau.de (08.04.2016): Hat Morgan Freeman den Lieben Gott getroffen?
Pressemitteilung FU Berlin (01.02.2016): Teaching Award of Freie Universität Berlin for 2015:
Logic Training 3.0

Spiegel Online, Germany (08.08.2015): Beweis-Software: Sind Computer die besseren Mathematiker?
Heise Online, Germany (01.08.2015): CADE-25: Computer-Logiker treffen sich in Berlin
Zeit Magazin, Germany (print, 18.09.2014, online 07.10.2014): Über Gott und die Welt der Journalisten
Zeit Online, Germany (22.08.2014): Math up your life!
Focus, Germany (26.04.2014): Warum sich Gott mathematisch nicht belegen lässt
Telepolis, Germany (31.12.2013): Ranking der am meisten gelesenen und kommentierten
Telepolis-Artikel 2013
Berliner Zeitung, Germany (23.12.2013): Gott existiert!
United Academics, USA (14.11.2013): God's Existence Theorem Is Correct
La Stampa, Italy (30.10.2013): Gödel e Dio: la dimostrazione adesso c'è
HNGN, USA (29.10.2013): Scientists 'Prove' God's Existence With A MacBook
Examiner, USA (29.10.2013): Scientists 'prove' God exists: Scientific theory states higher being must exist
La Vanguardia, Spain (28.10.2013): Dos científicos demuestran informáticamente la existencia de un ser superior
PC Zoznam, Czech Republic (28.10.2013): Gödelov dôkaz existencie Boha potvrdný
Saach, Pakistan (28.10.2013): Computer scientists prove God exists
23 abc, USA (28.10.2013): Computer Scientists 'Prove' God Exists
abc News, USA (27.10.2013): Computer Scientists 'Prove' God Exists
Delhi Daily News, India (27.10.2013): Researchers claim to have proven the existence of God
Il Post, Italy (26.10.2013): Gödel, Dio e Repubblica
zeenews, India (26.10.2013): Researchers use Apple MacBook to prove God exists
TODAY, Italy (24.10.2013): Dio c'è: ora ne abbiamo le prove
ilsussidiario, Italy (24.10.2013): Esistenza di Dio
La Repubblica, Italy (24.10.2013): 'Sì, il teorema di Dio è corretto': due matematici fanno rivivere l'opera di Gödel
United Press International (23.10.2013): Researchers say they used MacBook to prove Gödel's God theorem
Spiegel International (23.10.2013): Holy Logic: Computer Scientists 'Prove' God Exists
myScience, Austria (20.10.2013): Deus Ex Machina?
Kölner Stadtanzeiger, Germany (18.10.2013): Computer bestätigt Existenz Gottes
Berliner Morgenpost, Germany (18.10.2013): Göttliche Mathematik
Die Welt, Germany (print, frontpage, 18.10.2013): Göttliche Mathematik
Hamburger Abendblatt, Germany (17.10.2013): Forscher beweisen Existenz Gottes am Computer
Die Welt Online, Germany (17.10.2013): Forscher beweisen Existenz Gottes am Computer
Spiegel Online, Germany (09.09.2013): Formel von Kurt Gödel: Mathematiker bestätigen Gottesbeweis
Die Presse, Austria (09.09.2013): Mathematiker prüften Gödels Gottesbeweis
Wiener Zeitung, Austria (09.09.2013): Gottesbeweis eines Logikgenies
Frankfurter Allgemeine Feuilleton, Germany (02.09.2013): Gott lebt
Heise Online, Germany (26.08.2013): Computerprogramm bestätigt Gödels Gottesbeweis

A collection of further links to news articles and interviews can be found ([here](#)).