Curriculum Vitae

Personal Background

Name **Ute Schmid**

Nationality German
married, one daughter

Address office: Faculty Information Systems and Applied Computer Science, University of Bamberg, 96045 Bamberg, Germany
phone: ++49-951-863-2860
email: ute.schmid@uni-bamberg.de
Homepage: http://www.uni-bamberg.de/kogsys/schmid/

Education/Academic Degrees

2002 **Habilitation for "Computer Science"** at the Dept. of Electrical Engineering and Computer Science, Technical University Berlin (TUB)
Habilitation thesis: "Inductive Synthesis of Functional Programs – Learning Domain-Specific Control Rules and Abstract Schemes" (submitted May 2001); Board of Reviewers: Prof. Dr. F. Wysotzki (TUB), Prof. Dr. B. Mahr (TUB), Prof. Dr. P. Pepper (TUB), Prof. Jaime Carbonell (Carnegie Mellon University, Pittsburgh, PA, USA)

1994 **Dr. rer. nat. (Ph. D.)**, Dept. of Computer Science, TUB (*summa cum laude*)
Ph.D. thesis: "Erwerb rekursiver Programmiertechniken als Induktion von Konzepten und Regeln" (*Acquisition of Recursive Programming Skills as Induction of Concepts and Rules*); Advisors: Prof. Dr. B. Mahr, Computer Science; Prof. Dr. K. Eyferth, Psychology

1989–1994 **Diploma in Computer Science** at TUB
March 1992 Vordiplom (B. Sc.) (Grade 1.2)
Nov. 1994 Diplom (M. Sc.) (Grade 1.0)
Main Subjects: Artificial Intelligence, Theoretical Computer Science, Programming Languages
Diploma Thesis: "Implementation eines kognitiven Modells zum Textverstehen" (*Implementation of a Cognitive Model for Text Comprehension*); Supervisor: Prof. Dr. B. Mahr

1984–1989 **Diploma in Psychology** at EWH Landau and TUB
Oct. 1986 Vordiplom (B. Sc.), EWH Landau (Grade 1.0)
(only student to receive best grade in this term)
March 1989 Diplom (M. Sc.), TUB (*sehr gut*, Grade 1.1)
(finished after 9 semesters, standard period: 10 semesters)
Main Subjects: Cognitive Psychology, Empirical Research Methods and Statistics
Diploma Thesis: "Deskription und Analyse komplexer Verhaltenssequenzen: Benutzerstrategien beim Arbeiten mit CAD-Systemen" (*Description and Analysis of Complex Behavioral Sequences: User Strategies in Working with CAD-Systems*); Supervisor: Prof. Dr. A. Upmeyer

1984 Abitur, St. Thomas Gymnasium, Wettenhausen, Bavaria, Grade 1.6
(second best of year)

Academic Positions/Professional Experience

since Sept. 2004	**Professor of Applied Computer Science/Cognitive Systems** (C3) Faculty Information Systems and Applied Computer Science, University of Bamberg
8/2003–8/2004	Maternity Leave
2001–2004	**Akademische Rätin** ("Lecturer") Institute of Computer Science, Dept. of Mathematics and Computer Science, Universität Osnabrück Associated member of the Institute of Cognitive Science
1994–2001	**Wissenschaftliche Assistentin ("Assistant Professor")** Dept. of Computer Science, TUB, Group "Methoden der Künstlichen Intelligenz" (*Methods of Artificial Intelligence*, group of Prof. Dr. Fritz Wysotzki)
1998-2000	Research Visits at Carnegie-Mellon University, invited by Prof. Jaime Carbonell, funded by a DFG research scholarship (Oct.'98–March '99, March '00–Aug.'00)
1989–1994	**Wissenschaftliche Mitarbeiterin (Teaching Associate)** Institute for Psychology, TUB, Group "Cognitive Psychology" ("Allgemeine Psychologie", group of Prof. Dr. Klaus Eyferth)
1989	**Wissenschaftliche Mitarbeiterin (Research Associate)** in the DFG-Forschergruppe "Konstruktionshandeln", Teilprojekt: "Softwareevaluierung" (Project "Software Evaluation" as part of a DFG Research Group) (project supervisor: Prof. Dr. A. Upmeyer)
1987–1989	**studentische Hilfskraft (Research Assistant)** DFG-Forschergruppe "Konstruktionshandeln", Teilprojekt: "Softwareevaluierung" (Project "Software Evaluation" as part of a DFG Research Group) (project supervisor Prof. Dr. A. Upmeyer)
1987	**studentische Hilfskraft (Research Assistant)** DFG-Schwerpunktprojekt "Einstellung und Verhalten" (Research Project "Attitudes and Behavior", funded by the German Research Community (DFG) as part of a priority program, project supervisor Prof. Dr. A. Upmeyer)
1987	6 week internship at Max-Planck Institute for Human Development, Berlin, Research Project "Action, Control, and Task Performance" (supervisor: E. Skinner, Ph. D.)

Awards

Winner of the Energy for Education Award of GVS with the project experimental box for computer science education (with Anja Gärtig-Daugs and Silvia Förtsch; Award Ceremony 15.9.2015)

ITCO Graduate Award 2013 for the master thesis of Matthias Linhardt, in cooperation with docufy

ITCO Graduate Award 2011 for the bachelor thesis of Christophe Quignon, in cooperation with docufy

2009 Kurzweil Best AGI Paper Prize for
Crossley, Neil, Kitzelmann, Emanuel, Hofmann, Martin, and Schmid, Ute (2009). Combining Analytical and Evolutionary Inductive Programming. In: B. Goertzel, P. Hitzler, and M. Hutter (Eds.), *Proceedings of the Second Conference on Artificial General Intelligence* (AGI-09, Arlington, Virginia March 6-9 2009). Amsterdam-Paris: Atlantis, 19-24.

Nomination (2nd position) for the Best Paper Award of the German Cognitive Science Society 2008 for
Wiese, Eva, Konerding, Uwe and Schmid, Ute (2008). Mapping and inference in analogical problem solving – As much as needed or as much as possible? In: B.C. Love and K. McRae, and V.M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Sociecty* (Washington, D.C. July 23 - 26, 2008). Mahwah, NJ: Lawrence Erlbaum, 927-932.

Nomination (2nd position) for the Brain Products Poster Award of the German Cognitive Science Conference KogWis'08 for
Hieber, Thomas, Hofmann, Martin, Kitzelmann, Emanuel, and Schmid, Ute (2008). Programming Recursive Functions By Examples (Abstract). In: L. Urbas and T. Goschke, and B. Velichkovsky (Eds.): Proceedings der 9. Jahrestagung der Gesellschaft für Kognitionswissenschaft (KogWis 2008 TU Dresden 28.9.-1.10. 2008). S. 81.

Award for "Excellence in Teaching" 2002 of the University of Osnabrück

Professional Activities

Editorships

- Guest editor of the special issue *Complex Cognition* of *Cognitive Systems Research* (with Marco Ragni,Coty Gonzalez, Jochen Funke) (2010)
- Guest Editor of the German AI Journal KI 1/08, special topic Cognition
- Action Editor for JMLR *Special Topic Approaches and Applications of Inductive Programming* (with Roland Olsson) (2007)
- Member of the Editorial Board of KI (Sept. 2007–Sept. 2015)
  - Supervised special topics: Deduction (1/10, guest editor Jürgen Giesl), AI Languages (1/12, guest editor Petra Hofstedt), Transfer Learning (1/14, guest editor Daniel Kudenko), Complex Cognition (3/15 guest editor Marco Ragni und Frieder Stolzenburg)
  - Supervised contribution category: Discussion
- Member of the Editorial Board of *Journal of Artificial General Intelligence* (JAGI) (since 2008)
- Member of the Editorial Board of *Frontiers in Cognitive Science* (since 2010)

Program Committee Memberships

- Annual German AI Conference, KI Jahrestagungen: 1997, 2002, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
- AAAI'14, AAAI'16 (Cognitive Systems Track)
- KiK (AI and Cognition) Workshops of the GI Special Interest Group Cognition (2012, 2013, 2014, 2015)
- International Conference on Cognitive Modeling (ICCM): 2003, 2010, 2012, 2015
- Cognitive Science Conference: 2012, 2013, 2014
- AAAI Fall Symposium Advances in Cognitive Systems, 2011; ACS 2012, ACS 2013, ACS 2015, ACS 2016
- LWA/KDML: 2013, 2014, 2015
- 10th International Web Rule Symposium, (RuleML-2016), Rule Induction and Learning Track
- European Semantic Web Conference (ESWC) 2013, 2014
- Workshop Computational Creativity, Concept Invention, and General Intelligence (ECAI'12, IJCAI'13)
- ECAI'12 Workshop SAMAI: Similarity and Analogy-based Methods in AI
- ECAI'16 Workshop on Evaluating General-purpose AI
- Conferences of the German Cognitive Science Society (KogWis): 2005, 2010
- AIMSA'2014 (16th International Conference on Artificial Intelligence: Methodology,Systems, Applications), AIMSA'2016
- Artificial General Intelligence (AGI): 2009, 2010, 2011, 2012, 2013, 2014
- AAMAS: 2006, 2007

- Spatial Cognition: 2008, 2010, 2012
- Committee member for the *Higher-level Cognition Modeling Award* of CogSci'08
- Special Session on Industrial Applications of Data Mining at IEA-AIE'2010
- International Conference on Artificial Intelligence, ICAI 2010
- Recommendation Technologies for Lifestyle Change 2012 at RecSys'12
- 27th Qualitative Reasoning Workshop QR 2013
- Synt 2015, 4th Workshop on Synthesis (with CAV), 18 July 2015, San Francisco, California
- International Conference on Man-Machine Interactions ICMMI'15

Reviewer for further conferences

- Cognitive Science Conference (CogSci): 2001, 2002, 2006, 2007, 2008, 2009, 2010, 2011, 2016
- European Cognitive Science Conference (EuroCogSci): 2003, 2007
- Annual Meeting of the Special Interest Group Machine Learning (Jahrestreffen der Fachgruppe Maschinelles Lernen, Fachbereich KI der GI): 1997, 1998
- ECAI'98, SCI'01, IJCAI'01, AIED'03, KI'03, AIA'04, CI'05, JELIA'06, ADT'06, CiE 2010, IJCNN 2010, IJCNN 2011, ICCBR 2011, CIAI'11, IEEE-SSCI'13, ESWC'13, JELIA'14, AAAI'15

Reviewer for grant applications

- German Research Community (DFG) (Psychology, Computer Science)
- Stiftung Rheinland-Pfalz Innovation

Reviewer for Publishers/Book Contributions/Other

- Reviewer for contributions to book collections of the DFG Program Spatial Cognition (Springer)
- Reviewer for a Springer text book
- Oxford University Press/Series Cognitive Models and Architectures (Monograph)
- Research and Innovation Award of the Daimler AG (2011)
- Human Behavior Recognition Technologies: Intelligent Applications for Monitoring and Security (Editor: H. Guesgen and S. Marsland), IGI Global

Reviewer for Journal Contributions

- Spatial Cognition and Computation
- Annals of Mathematics in Artificial Intelligence
- Human Computer Interaction
- Advances in Cognitive Psychology
- Cognitive Systems Research
- Cognitive Processing
- Journal of Pattern Recognition Research (JPRR)
- International Journal of Geographical Information Science
- Constructivist Foundations

- Journal of Computational Science
- Topics in Cognitive Science
- Perceptual and Motor Skills
- Frontiers in Psychology

Organization/Chairing of Workshops

- Dagstuhl-Seminar 15442, *Approaches and Applications of Inductive Programming* with Jose Hernandez-Orallo (Polytechnic University of Valencia, ES), Stephen H. Muggleton (Imperial College London, GB), Benjamin Zorn (Microsoft Research – Redmond, US) (25.–30.10. 2015)
- Dagstuhl-Seminar 13502, *Approaches and Applications of Inductive Programming* mit Emanuel Kitzelmann (Palnuno, Universität Duisburg-Essen), Sumit Gulwani (Microsoft Research, CA), Marcus Hutter (Australian National University in Canberra) (8.-11.12.2013)
- Workshop Chair of KI'13, Koblenz
- Publicity Chair of CogSci'13, Berlin
- Chair of KogWis'12, Bamberg (Sept 30 - Oct 3 2012)
- Organisation of the workshop *Visibility in Information Spaces and in Geographic Environments*, KI'11 with Christoph Schlieder and Andreas Henrich
- Organisation of the 4th Workshop *Approaches and Applications of Inductive Programming* (AAIP'11) in cooperation with PPDP 2011, LOPSTR 2011 and WFLP 2011 (with Emanuel Kitzelmann)
- Organisation of the Invited Symposium *Complex Cognition* at KogWis'10
- Organizer of the 3rd Workshop *Approaches and Applications of Inductive Programming* at ACM SIGPLAN ICFP 2009 (with Emanuel Kitzelmann and Rinus Plasmeijer)
- Organizer of the KI'09 Workshop "Complex Cognition" with Markus Knauff and Marco Ragni
- Co-organizer of the KI'08 Workshop "Agent-Based Simulation: From Cognitive Modelling to Engineering Practice" (together with Franziska Klügl and Sabine Timpf)
- Organizer of the 2nd Workshop "Approaches and Applications of Inductive Programming" at the ECML 2007 (together with Emanuel Kitzelmann)
- Member of the Organizing Committee of KogWiss'07
- Initiator and organizer of the Workshop "Approaches and Applications of Inductive Programming" at the ICML 2005 (together with Emanuel Kitzelmann and Roland Olsson); in connection: Guest editor of the same special topic for the Journal of Machine Learning Research
- Organizing the Workshop "Algebraic Approaches to Reasoning" KI-03, Hamburg, together with Kai-Uwe Kühnberger, Helmar Gust and Claus Rollinger
- Organization Committee co-chair of EuroCogSci'03
- Tutorial co-chair of the EuroCogSci'03
- Co-Organizor of the Panel Discussion "Interdisciplinarity – Luxury or Future of the German Psychology?" (Podiumsdiskussion "Interdisziplinäre Zusammenarbeit – Luxus oder Zukunft der deutschen Psychologie?"), 41. Kongress der DGfP (Annual Congress of the German Association for Psychology), Dresden, Sept. 1998, with Robert Baggen, Klaus Eyferth und Martin Kindsmüller

- Organizing the Workshop "Machine Learning and Concept Acquisition" ("Maschinelles Lernen und Konzepterwerb"), a joint workshop of the GI-Groups Cognition and Machine Learning), KI-98, Bremen
- Organizing the seminare "Qualitative and Metric Methods of Spatial Inference and Analyses of Movements" (Themencolloquium "Qualitative und metrische Verfahren zur räumlichen Inferenz und Bewegungsanalyse") in context with the DFG Priority Program "Spatial Cognition", June, 26.-27. 1997, TU Berlin
- Organizing the Workshop "Spatial Cognition" (Arbeitskreises "Raumkognition"), TeaP 1997, HU Berlin with Dr. Mark May
- Chair of the "First European Workshop on Cognitive Modeling" (14.-16.11.96, TUB) with Fritz Wysotzki und Josef Krems (now an biannual event, since 2000 as "International Conference on Cognitive Modeling")

Memberships

- Member of the governing board (chair of the conference of the society) of the Cognitive Science Society (October 2010 – 2012), President of the German Cognitive Science Society (March 2007 – September 2008); Vice-President of the German Cognitive Science Society (Sept. 2005 – March 2007); Member of the governing board (secretary) of the German Cognitive Science Society (2001 – 2003); Member of the Advisory Board of the German Cognitive Science Society (1997 – 2001; 2008 – 2010, 2012 –)
- Speaker of the Interest Group "Cognition" of the Dept. Artificial Intelligence of the German Association of Computer Scientists (GI Fachbereich KI, Fachgruppe Kognition)(2007–2012)
- Member of the German Cognitive Science Society (GK)
- Member of the Gesellschaft f. Informatik (GI), Fachbereich 1, KI (German Association of Computer Scientists, Dept. Artificial Intelligence)
- Member of the Cognitive Science Society
- Member of AAAI
- Member of the scientific committee of the International Board for Usability Qualification (IBUQ, since 2011)

Other Activities

- Reviewer for AQAS (HS Bielefeld, 2013), Reviewer for ACQUIN (Universität Freiburg, 2015)
- Lecturer at the Interdisciplinary Colleg (IK'13) at Günne
- Organizer of computer workshops for girls at Bamberg University (since 2005) and organizer of a mentoring program for female students of computer science
- Organizer of a computer science workshop day (FREAK-IT/BIT) for high-school students (since 2009)
- Teaching IT/Computer Science courses for pre-school and primary school children (since 2008)
- Cooperation with schools (P- and W-seminars)
- Jury member *Jugend forscht* Oberfranken for mathematics and computer science (since 2010)
- Member of the council of the Max Weber Programm of the Deutsche Studienstiftung (evaluating candidates for stipends, since 2008)

- Engagement in courses and presentation of computer science topics for high-school students (Kinderuni, Vorbildakademie, Schnupperstudium etc.)
- Contribution to computer science training course for secondary school teachers (2005)
- Member of the examination council for secondary school teachers (computer science and mathematics) in Niedersachsen (2001 – 2004)
- Mentor for the cognitive science bachelor programm, University of Osnabrück (2002 – 2004)
- Contributor to the "School goes University" courses for high-school studens in Osnabrück
- Contributor to preparatory courses and presentations of the university for high-school students at TUB and University of Osnabrück
- Conception and supervision of the computer science minor "Cognitive Science for Computer Scientists" at the Dept. of Computer Science, TUB (1998 – 2001)
- Initiator and organizer of the group "Cognitive Science at TUB" (1995-2000) with Prof. Dr. K. Eyferth und Prof. Dr. B. Mahr; including lecture series and seminars

Engagement in University Politics

- Vice dean of the the Faculty Information Systems and Applied Computer Science, Bamberg University (since October 2015), in this function member of the Research Council (FNK) of the University
- Elected women's representative of the Faculty Information Systems and Applied Computer Science, Bamberg University (since January 2005), in this function member of the faculty counsil, member in appointment committees of the faculty
- Chair of the "Kommission zur Konfliktlösung an wissenschaftlichen Arbeitsplätzen" (committee for solving conflicts at scientific workplaces; since 2012, member and since 2008)
- Member of the audit group "Familiengerechte Hochschule" (family friendly university) since 2006
- Member of the Council Board for the Dept. of Computer Science, TUB (Vertreterin für den Mittelbau im Fachbereichsrat) (1996–1997; 2000)
- Member of the Council Board for the Inst. of Applied Computer Science, (Vertreterin für den Mittelbau im Direktorium des Instituts für Angewandte Informatik der TUB (1995–2000)
- Member of various committees at TUB and University of Osnabrück

Summary of Teaching Experience

I have experience with academic teaching in psychology as well as in computer science on undergraduate (Grundstudium/Bachelor) as well as graduate (Hauptstudium/Master) level. At TU Berlin I newly introduced a lecture "Artificial Intelligence for Social Scientists" for students from different disciplines. At University of Osnabrück I read the main lecture for 2nd term students of computer science and mathematics and different lectures for cognitive science students. I am proud that I won the Award for "Excellence in Teaching" 2002 of the University of Osnabrück. I like to offer interdisciplinary seminar courses together with colleagues from psychology (e.g. "Cognitive Architectures" together with cognitive psychology) or from other domains of computer science (e.g. "AI and Software Engineering" together with software engineering; "Automatic Programming" together with compiler construction; "Automated Theorem Proving" together with theoretical computer science). I have experience in cross-disciplinary teaching. That is, I introduce aspects of cognitive psychology and empirical research methods for computer science students and I introduce basic aspects of AI methods and programming in Lisp and Prolog to psychology students. I wrote a text book which introduces AI methods to psychology students for which I still get positive feedback from lecturers. Furthermore I contributed to the text book "Allgemeine Psychologie" (edited by Müsseler, Spektrum Verlag).

- Teaching in Cognitive Psychology (TUB, Institute of Psychology, 1989 – 1994):
  undergraduate courses: Perception and Psychophysics, Thinking and Problem Solving, Learning and Memory, Psycholinguistics, Methods of Cognitive Modeling, Organization and supervision of student experimental lab courses

- Teaching in Methods of AI (TUB, Dept. of Computer Science, 1994–2001):
  practice for graduate courses (Hauptstudium): Foundations of Artificial Intelligence, Machine Learning; practice for undergraduate courses: Search Algorithms and Dynamic Data Structures (Informatik 3); seminar courses: Automatic Programming and Skill Acquisition, AI and Software Engineering; organization and supervision programming lab courses; lectures: Foundations of Artificial Intelligence (Problem Solving, Constraints, Deduction, Knowledge Representation, Machine Learning), AI for Social Scientists

- Teaching in Computer Science/Cognitive Science (UOS, Dept. of Mathematics and Computer Science, 2001–2003):
  practice course Distributed Systems; lecture Informatik B (Object-oriented programming with Java); lecture Functional Programming; lecture Methods of AI; seminar courses AI Planning, Cognitive Architectures; programming lab and seminar Automatic Programming

- Teaching in Applied Computer Science/Cognitive Systems (UBA, Faculty Information Systems and Applied Computer Science, since 2004):
  Intelligent Agents, Machine Learning, Cognitive Modeling, Human-Computer Interaction, Introduction to Applied Computer Science, Cognitive Informatics as Elective for Psychology Students; Introduction to Theoretical Computer Science; seminar courses Problem Solving and Planning, Analogy, reading clubs (Support Vector Machines; Automated Theorem Proving, together with Theoretical Computer Science; Similarity, together with Statistics; Algebraic Foundations of Functional Programming, together with Theoretical Computer Science; Cognitive Robotics; Emotion Mining; Programming NAO to (Inter-)Act; AI – Yesterday, Today, and Tomorrow with Smart Environments), seminar on Gender Aspects in Computer Science (with Social Networks), programming labs for different topics, research colloquium Cognitive Systems

For homepages for the courses see `http://www.uni-bamberg.de/kogsys/teaching`.

Supervision of Bachelor-, Master-, and Diploma-Theses

- AT TU Berlin
  - Diploma theses in Psychology(1991–1999): 5
  - Diploma theses in Computer Science (1997–2003): 17
- At University of Osnabrück (2002–2005)
  - Diploma theses in Computer Science: 2 as secondary supervisor, 1 as primary supervisor
  - Bachelor theses in Computer Science: 1 as secondary supervisor
  - Bachelor theses in Cognitive Science: 6 as secondary supervisor, 9 as primary supervisor
- At University of Bamberg
  - Bachelor theses: 2 Psychology, 23 Applied computer science, 6 Information Systems
  - Diploma theses in Psychology: 5
    (The thesis of Eva Wiese, 2008, was awarded as excellent achievement of a female student (PUSh award of the women representative of the University of Bamberg)
  - Diplom theses/ Master theses in Information Systems: 3/4
  - Diploma theses/Master theses in Business Education/Information Systems: 1/1
  - Master theses in Computing in the Humanities: 2
  - Master theses in Applied Computer Science: 18

Theses at University of Bamberg partially were realized in cooperation with industry and research institutes: Fraunhofer IIS/Medizinische Bildverarbeitung, Erlangen; Siemens, SAP, docufy, ebkon, European Media Laboratory, Penn State University (Frank Ritter).

see section "Theses" at `http://www.uni-bamberg.de/kogsys/schmid/`.

Supervised Doctoral Theses

Primary advisor:

- Daniel Hallmann, Einfluss der Qualität von User Stories auf das Verständnis von Anforderungsspezifikationen (Arbeitstitel, extern, Mayflower GmbH)
- Teena Hassan, Facial Expression Analysis (Arbeitstitel, extern, Fraunhofer IIS, Bildverarbeitung)
- Dominik Seuß, Facial Expression Analysis based on Sequence Learning (Arbeitstitelworking titel, external, Fraunhofer IIS, Image Processing Group)
- Michael Siebers, Transfer learning of domain knowledge in planning (working title, Faculty WIAI, University of Bamberg)
- Mark Wernsdorfer, Constructing symbolic representations from senumotor experience (working title, Faculty WIAI, University of Bamberg)
- Silvia Förtsch, Supporting Female Careers in Computer Science

- Martin Hofmann, Schema-Guided Inductive Functional Programming through Automatic Detection of Type Morphisms (Fakultät WIAI, Universität Bamberg, submitted October 2010, Disputation December 2010)
- Emanuel Kitzelmann, A Combined Analytical and Search-Based Approach to the Inductive Synthesis of Functional Programs (Faculty WIAI, University of Bamberg, submitted Mai 2010, Disputation Juli 2010)

Secondary advisor/reviewer:

- Tobias Fries, University-wide learning management systems as enabling technology for knowledge transfer and cooperations between small and medium-sized enterprises and universities (working titel, Faculty WIAI, University of Bamberg, secondary advisor, committee member)
- Peter Wullinger, Mapping Refinement through Model Comparison (working titel, Faculty WIAI, University of Bamberg, secondary advisor, head of committee, Kolloquium 14.12.2012)
- Olga Yanenko, Improving the Data Quality of Volunteered Geographic Information – The Case of Social Reporting, (Fakultät WIAI, Uni Bamberg, Zweitgutachterin, Kolloquium 3.2.16)
- Ulf Krumnack, On the Logical Formalization of Analogies and Theory Blending in the HDTP Framework (Institut für Kognitionswissenschaft, Universität Osnabrück; Gutachterin für die Dissertation, Juni 2015, Disputation Juli 2015)
- Andreas Sailer, Trace-based Reverse Engineering of Timing Models (working titel, Fakulty WIAI, Uni Bamberg, secondary advisor, committee member)
- Daniel Blank, Resource Description and Selection for Similarity Search in Metric Spaces – Problems and Problem-solving Approaches Using the Example of Content-based Image Retrieval in Distributed Information Retrieval Systems (Fakultät WIAI, Uni Bamberg, Zweitgutachterin, Kommissionsmitglied, Januar 2015)
- Tarek Besold, On Cognitive Aspects of Human-Level Artificial Intelligence (Institut für Kognitionswissenschaft, Universität Osnabrück; Gutachterin für die Zwischenevaluation Februar 2012; Gutachterin für die Dissertation, November 2014; Teilnahme an der Disputation, Dezember 2014)
- Linn Gralla, Verbalization of problem solving processes in unaided object assembly (FB Sprach- und Literaturwissenschaft, Universität Bremen, secondary advisor, Reviewer, March 2014)
- Robert Henderson, Cumulative Learning in the Lambda Calculus, Department of Computing, Imperial College London (Reviewer and Examiner, Januar 2014)
- Christian Matyas, Geographische Empfehlungssysteme (Fakultät WIAI, Universität Bamberg, secondary advisor, committee member, November 2013)
- Stefanie Siebers, Information Management for Digital Learners – Introduction, Challenges, and Concepts of Personal Information Management for Individual Learners (Fakultät WIAI, Universität Bamberg, secondary advisor, committee member, September 2013)
- Werner Zirkel, Ausfallvorhersage in der Medizintechnik – Serviceoptimierung durch agentenbasierte Ereigniskorrelation (Faculty WIAI, University of Bamberg, secondary advisor, committee member, Disputation November 2012)

- Sven Laumer, Resistance to IT-induced change (Faculty WIAI, University of Bamberg, secondary advisor, head of committee, Disputation Juni 2012)
- Stephan Frank, Integrating Constraint-Solving in imperative/functional programming languages (TU Berlin, secondary advisor, Disputation April 2011)
- Sebastian Matyas, Gemeinschaftliche Qualitätsgesicherte Erhebung und Semantische Integration von Raumbezogenen Daten (Fakultät WIAI, Universität Bamberg, secondary advisor, committee member, Disputation Februar 2011)
- Georg Zeissner, Die Seele im Gespräch mit sich selbst – Bewusstsein und die Fähigkeit zur Selbsterkenntnis und -veränderung (Fakultät Humanwissenschaft, Universität Bamberg, secondary advisor, abgegeben August 2010, Disputation Dezember 2010)
- Henrik Berg, Evolutionary Machine Learning: Neutrality, Diversity and Applications (Department of Informatics, University of Oslo, First Opponent, November 2009)
- Robert Mertens, Hypermediale Navigation in Vorlesungsaufzeichnungen – Nutzung und automatische Produktion hypermedial navigierbarer Aufzeichnungen von Lehrveranstaltungen (Universität Osnabrück, Institut für Kognitionswissenschaft, November 2007; secondary advisor)
- Carsten Gips, Anwendung von Verfahren des Maschinellen Lernens und von evolutionären Algorithmen bei der räumlichen Inferenz (TU Berlin, Juni 2007; secondary advisor)
- Timo Steffens, Case-based Retrieval of Visual Scenes (Universität Osnabrück, Institut für Kognitionswissenschaft, 2006, Zweitbetreuerin)

Work in Ph.D. Committees

- Martin Sticht, Dialogical Logic and Games (Arbeitstitel, Fakultät WIAI, Uni Bamberg, Kommissionsvorsitz)
- Bernd Jahn, Einsatz eines Empfehlungssystems für Standardberichte (working title, Fakultät WIAI, Universität Bamberg, head of committee)
- Dominik Kremer, Kollaborative Produktion von Orten - Rechnergestützte Analyse der Lesarten und Wahrnehmungen städtischer Räume im Web 2.0 (working title, Faculty WIAI, University of Bamberg, committee member)
- Martin Eisenhardt, Effizientes und skalierbares Multimedia-Retrieval in P2P-Netzwerken (Faculty WIAI, University of Bamberg, committee member)
- Gerlinde Fischer, Ein aufgabenorientiertes Autorisierungssystem auf Basis eines erweiterten rollenbasierten Zugriffskontrollmodells (Fakultät WIAI, Universität Bamberg, committee chair)
- Alexander von Stetten, Effective Relationship Management in IS Nearshore Outsourcing – Elaborating on the Role of the Client-Vendor Distance (Fakultät WIAI, Kommissionsvorsitz, Eröffnungskolloquium Oktober 2014)
- Christian Maier, Technostress. Theoretical Foundation and Empirical Evidence (Fakultät WIAI, Kommissionsvorsitz, Oktober 2014)

- Corinna Baum, Die attentionale Verarbeitung schmerzbezogener Stimuli: Zusammenhang zur Schmerzsensibilität und Interaktionen mit inter-individuellen und situativen Faktoren (Fakultät Humanwissenschaften, Universität Bamberg, Prüfungskommission, Mai 2014)
- Eva Wiese, Making eyes with others: How context information modulates attentional orienting to gaze direction (external committee member, LMU München, June 2013)
- Martin Schmidt, Strategies and heuristics for computational models of analogical reasoning and concept blending (Reviewer for half-term evaluation, Universität Osnabrück, Oktober 2011)
- Raiko Eckstein, Interaktive Suchprozesse in komplexen Arbeitsinteraktionen (Faculty WIAI, University of Bamberg, committee member, Juli 2011)
- Peter Kiefer, Intention recognition from spatio-temporal behavior in spatially structured environments (Fakultät WIAI, Universität Bamberg, head of committee, April 2011)
- Marc Schönefeld, Refactoring of Security Antipatterns in Distributed Java Components (Faculty WIAI, University of Bamberg, committee member, Januar 2010)
- Susanne Starke, Führungskultur in High Risk Environments (Fakultät Humanwissenschaften, Universität Bamberg, external committee member, Januar 2010)
- Claudia Hess, Trust Management in Multi-Layer Networks with Semantically Rich Trust Concepts (Fakultät WIAI, Universität Bamberg, head of committee, Januar 2008)
- Christian Brosch, Konstruktion einer agilen Entwicklungsmethodik zum Einsatz im Software Engineering für Multiagentensysteme (Fakultät WIAI, Universität Bamberg, Oktober 2007, head of committee)
- Dajie Zhang, Learn a Word-Learning Constraint: Emergence of the Taxonomic Constraint and its Relationsship with Early Word Acquisition (Fakultät Pädagogik, Philosophie und Psychologie, Universität Bamberg, Prüfungskommission, Juli 2007)
- Bernd Kühl, Objekt-Orientierung im Compilerbaum (FB Mathematik/Informatik, committee member, Dezember 2002)

Mentoring/Reviews for Habilitations

- Joacquin Aguado (Faculty WIAI, University of Bamberg, since 2014)
- David White (Faculty WIAI, University of Bamberg, since 2014)
- Alexander Heussner (Faculty WIAI, University of Bamberg, since 2014)
- Reviewer for an habilitation at the Institute of Computer Science, University Augsburg (2016)
- Ulrike Starker (Psychology, Fakulty Humanities, University of Bamberg, completion March 2012)
- Bernd Ludwig (Informatik, Technischen Fakultät, Universität Erlangen-Nürnberg; completion September 2010)
- Kristin Paetzold (Konstruktionstechnik, Technischen Fakultät, Universität Erlangen-Nürnberg), Multidisziplinäre Ansätze zur Entwicklung kognitiver technischer Systeme (ab Juni 2005, Abbruch des Verfahrens 2008 aufgrund der Erteilung und Annahme eines Rufes auf die W3-Professur *Technische Produktentwicklung* der Universität der Bundeswehr München)

Research Projects

Inductive Programming/Inductive Rule Acquisition

DFG project: *Efficient algorithms of inductive programming* (2007–2010)
Goal of the project was the development of an analytical, data-driven approach for the efficient synthesis of recursive functional programs from few, positive input/output examples. The approach allows to consider background knowledge. We conducted theoretical and empirical comparisons with alternative approaches. We explored new application domais such as learning XSL-transformations and data-driven method construction. Furthermore, we demonstrated that our approach can be applied to learning from planning experience and to model cognitive aspects of acquisition of productive rule sets for problem solving, reasoning, and natural grammars.

FNK project: *Inductive Programming*, 2006

DFG research stipend: *Combining Inductive Program Synthesis with Planning and Analogical Reasoning* at Carnegie Mellon University, Pittsburgh, PA, invited by Jaime Carbonell (10/98-3/99; 3/00-8/00)

TU-FIP *Cognitive processes in reading and understanding computer programs*, TU Berlin funded project, 1989–1991

Similarity Matching/Learning Structural Prototypes

BMBF Project "Mobility for older persons": Match-Making-Service, since 2011

Bavarian funded project *Aesthetic judgements as foundation of purchase decisions: Effects of noveltiy, familiarity, and prototypicality*, Bayerisches Staatsministerium für Wissenschaft, Forschung und Kunst, since 2011, with Claus-Christian Carbon (psychology) and Björn Ivens (marketing)

Transfer project *Structural Incident Mining*, collaboration with SAP Innovation & Research, since 2008
(Goal of the project is the development and application of an approach for automated classification of incident reports as a support system for help-desk engineers.)

Analogical Problem Solving and Learning

Internal project *Analogy via Abstraction*, since 2009

FNK project *Efficient realisation of an algorithm for solving proportional analogies*, 2005

Applications of Planning and Learning

IIFOP-T SCHMERZ *Evaluation of the Emotion-Analysis Approach SHORE for Pain Monitoring*, Fraunhofer-Kooperationsprojekt mit Fraunhofer IIS, Bildsensorik, Physiologische Psychologie und Kognitive Systeme, July 2015–Dec . 2015

FNK project *Automated identification of pain by image and computer-supported analysis of facial expressions* with Stefan Lautenbacher and Miriam Kunth (psychology), since 2009

FNK project *Requirement analysis for caring relatives of dementia patients for the development of a planning assistant* with Elmar Graessel, Clinic for Psychiatry and Psychotherapy, University Hospital Erlangen, 2007

Transfer project *Classifier learning for computer-assisted medical diagnosis of image data*,in collaboration with Medical Image Processing, Fraunhofer IIS, Erlangen, 2006–2009

FNK project *Collaborative Problem Solving in Rescue Scenarios*, 2007

Usability Studies

Transfer project *Analytical and empirical usability evaluation of a system for technical documentations*, with Docufy, since 2009

Transfer-Projekt *Tutorial redesign of two browser games and evaluation of its impact on short-term attractiveness and long-term player continuance* with upjers, 2011

Transfer project *Analytical and empirical usability evaluation of an information and communications platform* with GSD, 2009-2010

DFG project *Software-Evaluation* in the DFG research group design engineering, TU Berlin, 1987–1989 (as research associate)

Empirical Evaluation of Motivation/Success of Women/Girls in Computer Science

Computer Science in primary school, November 2015 – Oktober 2017, TAO-Grant

Career Coaching in MINT (Juli 2015 – Juni 2017), Adecco-Stiftung und TAO

FNK-Projekt *Informatik für die Vor- und Grundschule – Entwicklung und Erprobung von Lernmodulen* (Juli 2015– Juni 2016)

Experimentierkiste Informatik, Hermann-Guttmann Stiftung, 2015–2016

ESF project: Alumnae tracking – An empirical investigation of subjective and objective barriers of occupational careers of women in computer science

University project: Girls and Computer Science, since 2005

Spatial Cognition

DFG project *Modeling Inferences in Mental Models*, in the priority program Spatial Cognition, 1996-2000; contributing areas: Artificial Intelligence (Fritz Wysotzki, Ute Schmid) and Cognitive Psychology (Klaus Eyferth)

Interdisciplinary research project *Cognition and Context*, TU Berlin, 1993–1997; contributing areas: Computer Science/Formal Models (Mahr), Computer Science/Artificial Intelligence (Wysotzki/Schmid), Psychology (Eyferth/Schmid), Linguistics (Posner)