

# Andreas Metzger

Curriculum Vitae

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## Objective

Seeking challenging position as a researcher and/or lecturer in the area of software engineering with the specialization in automated software engineering and model driven development of complex reactive systems (embedded systems).

## Personal data

Born April 4th, 1973 in Annweiler am Trifels, Germany,  
German citizen

## Education

University  
10/1992 – 11/1998

University of Kaiserslautern

- major: computer science (“Informatik”)
- minor: economic science
- degree: Dipl.-Inform. (“M.S.”)
- grade: “very good” (U.S. grade equivalent: A)
- topic: “Tool Supported Prototyping for the Specification and the Design of Building Automation Systems”

High school  
1992

Trifelsgymnasium Annweiler am Trifels

- degree: Abitur
- grade: “very good” (U.S. grade equivalent: A)

## Academic experience

Ph.D.  
expected end of 2004

University of Kaiserslautern, Computer Science Department

- topic: “Software Quality Improvement through Automation – A Model-based Approach” (in German)
- advisor and 1st reviewer: Prof. Dr. G. Zimmermann
- 2nd reviewer: N/A
- degree: Dr.-ing.
- grade: N/A

Jr. research and  
teaching assistant  
 (“Wiss. Mitarbeiter“)  
from 12/1998

University of Kaiserslautern, Computer Science Department,  
Research Group Prof. Dr. G. Zimmermann

- participation in Special Collaborative Research area SFB 501 “Development of Large Systems with Generic Methods” of the German Science Foundation DFG.
- modeling and prototyping of reactive Systems (SDL, UML)
- creation of tools for automated software development and model-driven development (UML, Java)
- maintenance and extension of a physical testbed for building automation

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Curriculum Vitae

Visiting scientist  
03–04/1999 Carnegie Mellon University, Department of Architecture,  
Pittsburgh, USA  
– development of an interlinking component for reactive  
system prototypes and building simulators (Java, CORBA)

Student worker  
10/1995–11/1998 University of Kaiserslautern, Computer Science Department  
– installation of a physical testbed for experiments in the area  
of building automation systems (8-Bit microcontroller,  
sensors, actuators, CAN)

## Teaching experience

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Courses taught  
and developed Practical course on the development of embedded systems  
– specification and implementation of a complex traffic light  
controller (UML, Java); cf. publication #6  
(avg. student rating: 2.1\*)

Practical course on the development of parallel computers (with  
Prof. Dr. G. Zimmermann)  
– schematic entry and simulation of an MIMD architecture

Exercises supervised  
and developed Lecture “Modeling of Reactive Systems“  
– specification of an automotive controller (SDL)  
– development of a vehicle dynamics simulator (MATLAB/  
Simulink, SDL)

Lecture “Computer Architectures”  
– concepts of parallel computing (Pipelining, MIMD, SIMD)  
(avg. student rating: 1.6\*)

Lecture “Principles of Electrical Engineering for Computer  
Scientists”

\* (1.0 is best, 5.0 is worst rating; rates or provided if they were  
available)

Diploma theses  
supervised T. Disper “Development of Reliable CAN Sensors based on the  
80C592 Microcontroller” 2001 (in German)

W. Hanke “Model-based Consistency Checks of Development  
Documents and their Correction” 2003 (in German)

D. Rehm “Automated Execution of Experiments using Software  
Models” 2004 (in German)

## Professional activities

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Membership German Informatics Society (GI)

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Curriculum Vitae

Work on standards ITU-T User Requirements Notation (URN, Z.150) Focus Group

- Administrative positions
- University of Kaiserslautern, Computer Science Department
    - representative of research and teaching assistants in the council of the department
    - member of the committee on studies and teaching

## Language skills

Fluent in German and English

## Publications

- Refereed papers and conference presentations
1. G. Zimmermann, **A. Metzger** “A Software Generation Process for User-centered Dynamic Building System Models” to be published in ECPPM 2004. Proceedings of the European Conference of Product and Process Modeling, Istanbul, Turkey. September, 2004
  2. **A. Metzger** “Feature Interactions in Embedded Control Systems” in D. Amyot and L. Logrippo (Eds.) *Computer Networks*. 45(5). Special Issue on Directions in Feature Interaction Research. Elsevier Science. 2004 (acceptance rate: 37%\*)
  3. **A. Metzger** “Efficient Modeling through Automation” (in German) in *Modellierung 2004*. Proceedings of the Conference “Modellierung” (GI) Marburg, Germany. March, 2004. GI LNI P-45. 2004
  4. **A. Metzger**, C. Webel “Feature Interaction Detection in Building Control Systems by Means of a Formal Product Model” in *Feature Interactions in Telecommunications and Software Systems VII*. Proceedings International Workshop, Ottawa, Canada. June, 2003 (acceptance rate: 36%\*) IOS Press. 2003
  5. **A. Metzger**, S. Queins “Model-Based Generation of SDL Specifications for the Early Prototyping of Reactive Systems” in *Telecommunications and beyond: The Broader Applicability of SDL and MSC*. Springer LNCS 2599. 2003
  6. **A. Metzger** “Conception and Analysis of a Practical Course in Software Development” (in German) in *Software Engineering im Unterricht der Hochschulen SEUH 2003*. d-Punkt Verlag. Proceedings Workshop “SEUH” (GI) Berlin. February, 2003
  7. **A. Metzger**, S. Queins “Early Prototyping of Reactive Systems Through the Generation of SDL Specifications from Semi-formal Development Documents” in *Proceedings 3rd*

# Andreas Metzger

Curriculum Vitae

*International SAM (SDL And MSC) Workshop* (SDL Forum Society) Aberystwyth, Wales. June, 2002

8. **A. Metzger**, S. Queins “Specifying Building Automation Systems with PROBAnD, a Method Based on Prototyping, Reuse, and Object-orientation” in *OMER – Object-Oriented Modeling of Embedded Real-Time Systems*. GI LNI P-5. 2002
9. A. Mahdavi, **A. Metzger**, G. Zimmermann “Towards a Virtual Laboratory for Building Performance and Control” in *Proceedings Cybernetics and Systems 2002*. Conference “EMCSR” (ÖSGK). Vienna, Austria. April, 2002.
10. **A. Metzger**, S. Queins “A Reuse- and Prototyping-based Approach for the Specification of Building Automation Systems” in *Proceedings Workshop “OMER-2”*. Herrsching, Munich. May, 2001

\* (acceptance rates are provided if they are available)

Inited talks 11. **A. Metzger** “Automation of the Development of Reactive Systems by Employing a Product Model” (in German) Colloquium Presentation. Institute for Informatics. Humboldt-University, Berlin. January, 2003

12. **A. Metzger** “Specification and Prototyping of Building Automation Systems” Presentation. Department of Architecture. Carnegie Mellon University. Pittsburgh, USA. September, 1999

Technical reports 13. **A. Metzger** “Requirements Engineering by Generator-Based Prototyping” in *Software Reuse – Requirements, Technologies and Applications*. Proceedings of the International Colloquium of the SFB 501. Department of Computer Science. University of Kaiserslautern. March, 2003

14. **A. Metzger**. *A Flexible Testbed for Experiments in the Area of Building Automation and Simulation* (in German) SFB 501-Report. University of Kaiserslautern. 2001

15. **A. Metzger**. *An Interlink of Building Control System Prototypes and the Lighting Simulation Lumina*. Internal Report. Department of Computer Science. University of Kaiserslautern. 1999

Edited material 16. **A. Metzger**, G. Zimmermann. *Proceedings SFB 501-Colloquium. “Modeling of reactive Systems”* (partially in German) SFB 501-Report. University of Kaiserslautern. 2003

Other publications 17. S. Queins, **A. Metzger** “The PROBAnD Railway Crossing Specification” Contribution to the *SDL-2000 Design Contest*

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Curriculum Vitae

of the 3rd SAM (SDL And MSC) Workshop. Aberystwyth,  
Wales. June, 2002

Online versions available at <http://www.andreas-metzger.net/pub>  
of publications