



CURRICULUM VITAE

Dr. Werner Retschitzegger

Associate Professor

Business Address:

Johannes Kepler University Linz

Institute of Bioinformatics

Information Systems Group

Altenbergerstraße 69, A-4040 Linz

Tel: +43-732-2468-8883, Fax: +43-732-2468-9308

E-Mail: werner.retschitzegger@jku.at

<http://www.ifs.jku.at>

Home Address:

Punzenberg 13a

A-4210 Gallneukirchen

(as of February 2012)

Personal Record

- Date of Birth:** July 19, 1966, Kirchdorf/Krems, Upper Austria
- Citizenship:** Austria
- Children:** Veronika (geb. 2001), Franziska (geb. 2003)
- 1986-1991:** Studies of Economics and Computer Science, Johannes Kepler University Linz, Austria.
Graduation: May 17, 1991.
- 1991-1996:** PhD studies, Johannes Kepler University Linz, Austria.
Graduation: November 13, 1996.
Title of PhD thesis: "A Tour On TriGS – Development of an Active System and Application of Rule Patterns for Active Database Design".
Richard Büche Award for the thesis in 1997.
- 2000:** Venia docendi in Applied Computer Science, Faculty of Natural Sciences and Engineering, Johannes Kepler University Linz, Austria.
Graduation: October 13, 2000.
Title of postdoctoral thesis: "Databases in Non-Standard Application Areas".

Professional Experience

- Feb. 91 – Sept. 91:** Research and teaching associate ("Vertragsassistent") at the Department of Database and Expert Systems, Johannes Kepler University Linz, Austria, headed by Prof. Dr. Roland Wagner.
- Oct. 91 – Sept. 93:** Junior researcher at the Research Institute for Applied Knowledge Processing, Hagenberg, headed by Prof. Dr. Roland Wagner, being mainly responsible for an EU ESPRIT project named "KBL" (Development of a Knowledge Based Leitstand on the basis of Object-Oriented Database Systems). Besides that, involved in several industrial projects in the area of relational and object-oriented databases, software configuration management and CIM.
- Oct. 93 – Dec. 01:** Research and teaching associate ("Universitätsassistent") at the Department of Information Systems, Johannes Kepler University Linz, Austria, headed by Prof. Dr. Gerti Kappel.
- Jan. 02 – June 02:** Temporary full professorship ("Vertretungsprofessor") for Business Informatics at the Vienna University of Technology (TU Vienna). The main activity was in setting up the newly founded Business Informatics Group (BIG).
- since July 02:** Head of the Information Systems Group (IFS) at the Institute of Bioinformatics, Johannes Kepler University Linz, Austria.
- July 04 – Feb. 06:** Chair of the Institute of Bioinformatics, Johannes Kepler University Linz, Austria.
- Oct. 08 – Sept. 09:** Guest professorship for Workflow Systems at the Faculty of Informatics, University of Vienna, Austria.
- Feb. 09:** Ranked first on the appointment list for a full professorship in Workflow Systems at the Faculty of Informatics, University of Vienna.
- May 10:** Invited for a candidate lecture for a full professorship in Business Informatics out of 94 applicants at the Department of Informatics, Technische Universität München (TUM).
- Feb. 11:** Invited for a candidate lecture for a full professorship in Information Systems at WU Vienna.
- June 11:** Ranked second on the appointment list of a full professorship in Applied Software Engineering at TU Graz.
- Septemger 11:** Ranked third on the appointment list of a full professorship in Information Systems at University Salzburg.

Research Record

My research record comprises more than 140 publications, among them 16 publications in internationally renowned journals, 2 books and 3 co-editorships. In the following, a brief overview of my research in *applied software engineering* focusing on *database systems* and *information systems* is given, along with important publications in each field. A full list of publications can be found at the end of this CV.

I. Database Systems

- a. Active Object-oriented Database Systems:** Development of a trigger system for an object-oriented database system, especially exploiting object-oriented concepts such as inheritance and overriding for realising a composite event model and providing parameterised rule patterns for proper design support.
- "TriGS – Making a Passive Object-Oriented Database System Active". Co-Authors: G. Kappel, S. Rausch-Schott, S. Vieweg, in: JOURNAL OF OBJECT-ORIENTED PROGRAMMING (JOOP), July/August 1994.
 - "From Rules to Rule Patterns". Co-Authors: G. Kappel, S. Rausch-Schott, M. Sakkinen, in: PROC. OF THE CONF. ON ADVANCED INFORMATION SYSTEMS ENGINEERING (CAISE), Springer LNCS# 1080, Heraklion, May 1996.
 - "The TriGS Active Object-Oriented Database System – An Overview". Co-Author: G. Kappel, in: ACM SIGMOD RECORD, Vol. 27/3, Sept. 1998.
 - "Rule Patterns – Bottom-up Design of Active Object-Oriented Databases". Co-Authors: G. Kappel, S. Rausch-Schott, M. Sakkinen, in: COMMUNICATIONS OF THE ACM (CACM), Vol. 44/4, April 2001.

- b. Multi-parent Subtransactions:** Extension of the well-known nested transaction model towards so-called multi-parent subtransactions that address workflows involving complex control structures, by using controlled upward and downward inheritance of locks.
 - "A Transaction Model for Handling Composite Events". Co-Authors: G. Kappel, S. Rausch-Schott, M. Sakkinen, in: PROC. OF THE 3RD INT. WORKSHOP OF THE MOSCOW ACM SIGMOD CHAPTER ON ADVANCES IN DATABASES AND INFORMATION SYSTEMS (ADBIS), Moscow, Sept. 1996.
 - "Multi-Parent Subtransactions – Covering the Transactional Needs of Composite Events". Co-Authors: G. Kappel, S. Rausch-Schott, M. Sakkinen, in: PROC. OF THE INT. WORKSHOP ON ADVANCED TRANSACTION MODELS AND ARCHITECTURES (ATMA), in conjunction with VLDB, Goa, India, Sept. 1996.
- c. Coupling Database Systems and Expert Systems:** Exploration of various issues in the context of coupling database systems with expert systems and development of a rule-based approach for integrating components in CIM systems.
 - "Rule-based Integration of Business Oriented and Technical Components in CIM Systems", Co-Authors: W. Wöss, R.R. Wagner, in: JOURNAL OF INTELLIGENT AND ROBOTIC SYSTEMS, Vol 26/3-4, Kluwer Academic Publishers, The Netherlands, 1999.
- d. Interoperability of Relational Data Model and OO Data Model:** Development of a relational meta database for transparently connecting object-oriented applications to relational databases.
 - "COMan, Coexistence of Object-Oriented and Relational Technology". Co-Authors: G. Kappel, S. Preishuber, E. Pröll, S. Rausch-Schott, R.R. Wagner, Ch. Gierlinger, in: PROC. OF THE 13TH INT. CONF. ON THE ENTITY-RELATIONSHIP APPROACH (ER), Manchester, UK, Dec. 1994.
- e. Interoperability of Relational Data Model and XML:** In-depth investigation of integration alternatives and introduction of a generic approach based on a relational meta database and a set of mapping patterns to facilitate the integration of heterogeneous, independently defined schemata.
 - "X-Ray – Towards Integrating XML and Relational Databases". Co-Authors: E. Kapsammer, G. Kappel, S. Rausch, in: PROC. OF THE 19TH INT. CONF. ON CONCEPTUAL MODELING (ER), Salt Lake City, Oct. 2000.
 - "Speicherung von XML-Dokumenten". Co-Authors: M. Klettke, H. Meyer, R. Unland, in: WEB UND DATENBANKEN, E. Rahm, G. Vossen (eds.), dpunkt.verlag, Sept. 2002.
 - "Integrating XML and Relational Database Systems". Co-Authors: G. Kappel, E. Kapsammer, in: WORLD WIDE WEB JOURNAL (WWWJ), Vol. 7/4, Kluwer Academic Publishers, Dec. 2004.
- f. Interoperability of Relational Data Model and the Web:** An approach for a database-to-web page mapping is suggested, utilizing fragmentation techniques from distributed databases and XML as an intermediate layer, ensuring low page-regeneration costs and efficient consistency maintenance.
 - "Ready for Prime Time – Pre-Generation of Web Pages in TIScover". Co-Authors: B. Pröll, H. Sighart, H. Starck, in: PROC. OF THE 8TH INT. ACM CONF. ON INFORMATION AND KNOWLEDGE MANAGEMENT (CIKM), Kansas City, Missouri, Nov. 1999.
 - "Self-Maintaining Web Pages". Co-Authors: M. Schrefl, M. Bernauer, E. Kapsammer, B. Pröll, Th. Thalhammer, in: INFORMATION SYSTEMS (IS), International Journal, Vol. 28/8, Elsevier Science Ltd., Dec. 2003.

II. Information Systems

- a. Active Workflow Systems:** Development of a workflow system based on an object-oriented database, employing trigger mechanisms, role concepts and extended transactions for allowing event-driven processing, transactional consistency and weak coupling between activities and agents.
 - "Coordination in Workflow Management Systems – A Rule-Based Approach". Co-Authors: G. Kappel, S. Rausch-Schott, in: COORDINATION TECHNOLOGY FOR COLLABORATIVE APPLICATIONS, G. Neumann et. al (eds.), Springer LNCS# 1364, 1998.
 - "Framework Technology Applied To Workflow Management Systems". Co-Authors: G. Kappel, S. Rausch-Schott, in: IMPLEMENTING APPLICATION FRAMEWORKS: OBJECT-ORIENTED FRAMEWORKS AT WORK, M. Fayad (ed.), Wiley&Sons, 1999.
 - "A Framework for Workflow Management Systems Based on Objects, Rules and Roles". Co-Authors: G. Kappel, S. Rausch-Schott, in: ACM COMPUTING SURVEYS SYMPOSIUM ON OBJECT-ORIENTED APPLICATION FRAMEWORKS, March 2000.
- b. Interorganisational Workflow Systems:** A UML2-based approach for platform-independent modelling of web service collaborations at different abstraction levels comprising interactions, transactions and collaborations, together with mappings to target technologies (e.g., ebXML and BPEL).

- "Towards Using UML2 for Modelling Web Service Collaboration Protocols". Co-Authors: G. Kappel, G. Kramler, E. Kapsammer, in: PROC. OF THE 1ST INT. CONF. ON INTEROPERABILITY OF ENTERPRISE SOFTWARE AND APPLICATIONS, (INTEROP-ESA), Geneva, Switzerland, Feb. 2005.
- c. Model-Driven Engineering Techniques:** A semantic infrastructure for tool integration and versioning as well as model transformation techniques using colored petri nets and reusable mapping operators.
- "Lifting Metamodels to Ontologies: A Step to the Semantic Integration of Modeling Languages". Co-Authors: G. Kappel, E. Kapsammer, H. Kargl, G. Kramler, T. Reiter, W. Schwinger, M. Wimmer, PROC. OF THE ACM/IEEE 9TH INT. CONF. ON MODEL DRIVEN ENG. LANGUAGES AND SYSTEMS (MODELS), Genova, Oct. 2006.
 - "An Example is Worth a Thousand Words: Composite Operation Modeling By-Example". Co-Authors: P. Brosch, P. Langer, M. Seidl, K. Wieland, M. Wimmer, G. Kappel, W. Schwinger, in: PROC. OF THE ACM/IEEE 12TH INT. CONF. ON MODEL DRIVEN ENG. LANGUAGES AND SYSTEMS, Denver, Oct. 2009 [13 % accept. rate].
 - "A Petri Net based Debugging Environment for QVT Relations". Co-Authors: M. Wimmer, G. Kappel, W. Schwinger, in: PROC. OF THE 24TH IEEE INT. CONF. ON AUTOMATED SW ENGINEERING (ASE), 2009.
- d. OO and Aspect-Oriented Modeling:** OO modelling with UML2 and development of a reference architecture for aspect-oriented modelling approaches and evaluation thereof.
- "UML@Work – Objektorientierte Modellierung mit UML2". Co-Authors: M. Hitz, G. Kappel, E. Kapsammer, DPUNKT-VERLAG, 2005. ISBN 3-89864-261-5
 - "A Survey on Aspect-Oriented Modelling Approaches". Co-Authors: G. Kappel, E. Kapsammer, A. Schauerhuber, W. Schwinger, M. Wimmer, accepted in: ACM COMPUTING SURVEYS, 2011.
- e. Data-intensive Web-based Tourism Information Systems:** Concepts and techniques in the context of the official Austrian destination information and booking system TIScover.
- "Beyond Traditional Tourism Information Systems – TIScover". Co-Authors: B. Pröll, R.R. Wagner, A. Ebner, in: JOURNAL OF INFORMATION TECHNOLOGY AND TOURISM (ITT), Cognizant, 1998.
 - "Discovering Next-Generation Tourism Information Systems – A Tour on TIScover". Co-Author: B. Pröll, in: JOURNAL OF TRAVEL RESEARCH (JTR), Vol. 39/2, Sage Publications, Inc., 2000.
 - "TIScover – Eine generische Plattform für Web-basierte Tourismus-informationssysteme". Co-Authors: B. Pröll, R.R. Wagner, in: INFORMATIK FORSCHUNG UND ENTWICKLUNG, Vol. 16/1, Springer Verlag, 2001.
- f. Ubiquitous Web Applications:** Development of a customisation framework for providing context-aware services and application to the tourism domain.
- "Towards Modeling of DataWeb Applications – A Requirement's Perspective". Co-Author: W. Schwinger, in: PROC. OF THE AMERICAS CONF. ON INFORMATION SYSTEMS (AMCIS), Long Beach, California, Aug. 2000. **Selected as best paper in the technical track of AMCIS 2000.**
 - "Ein UML-basiertes Framework zur Modellierung ubiquitärer Web-Anwendungen". Co-Authors: M. Hitz, G. Kappel, W. Schwinger, in: WIRTSCHAFTSINFORMATIK VOL. 44/3, Vieweg-Verlag, June 2002.
 - "Customisation for Ubiquitous Web Applications – A Comparison of Approaches". Co-Authors: B. Pröll, G. Kappel, W. Schwinger, in: JOURNAL OF WEB ENG. & TECHNOLOGY (IJWET), Inderscience, May 2003.
 - "Pinpointing Tourism Information onto Mobile Maps". Co-Authors: Ch. Grün, B. Pröll, H. Werthner, in: PROC. OF THE 13TH INT. CONF. ON COMM. TECHN. FOR TOURISM (ENTER), Lausanne, Jan. 2006.
 - "A survey on web modeling approaches for ubiquitous web applications", Co-Authors: MDWenet Consortium, INT. JOURNAL OF WEB INFORMATION SYSTEMS (IJWIS), Emerald Group, Vol. 4/3, Oct/Dec. 2008
 - "Context-Awareness in Mobile Tourist Guides". Co-Autors: W. Schwinger, Ch. Grün, B. Pröll, in: HANDBOOK OF RESEARCH ON MOBILE MULTIMEDIA, 2nd Edition, Information Science Reference, 2009.
- g. Web Engineering Techniques:** By considering Web application development from an engineering point of view, methods and techniques for systematic Web application development are discussed.
- "Web Engineering – Systematische Entwicklung von Web-Anwendungen". Co-Editors: G. Kappel, B. Pröll, S. Reich, DPUNKT-VERLAG, 2004. ISBN 3-89864-234-8
 - "Web Engineering – Old Wine in New Bottles?". Co-Authors: G. Kappel, E. Michlmayr, B. Pröll, S. Reich, in: PROC. OF THE 4TH INT. CONF. ON WEB ENGINEERING (ICWE), Springer LNCS# 3140, Munich, July 2004.
 - "Web Engineering – The Discipline for a Systematic Development of Web Applications". Co-Editors: G. Kappel, B. Pröll, S. Reich, WILEY PUBLISHERS, 2006. ISBN 0-470-01554-3
- h. Semantic Technologies for Situation Awareness:** Usage of semantic technologies for achieving situation awareness in road traffic control systems.

- "Of Situations and Their Neighbors: Evolution and Similarity in Ontology-based Approaches to Situation Awareness". Co-Authors: N. Baumgartner, W. Schwinger, in: PROC. OF THE INT. INTERDISCIPLINARY CONF. ON MODELING AND USING CONTEXT (CONTEXT), Springer, LNAI, Roskilde, Denmark, August 2007.
- "Situation Prediction Nets – Playing the Token Game for Ontology-Driven Situation Awareness". Co-Authors: N. Baumgartner, W. Gottesheim, S. Mitsch, W. Schwinger, in: PROC. OF THE 29TH INT. CONF. ON CONCEPTUAL MODELING (ER), Vancouver, November 2010.
- "Situation Awareness – The Ontology-driven Way", Co-Authors: N. Baumgartner, W. Schwinger, S. Mitsch, W. Gottesheim, accepted in: DATA AND KNOWLEDGE ENGINEERING JOURNAL (DKE), Elsevier, 2010.

Conference Activities

Programme Chair:

- Int. Conference on Expert Systems Applications (DEXA03)

Programme Committee Memberships:

- EurAsian Conference on Advances in Information and Communication Technology (EURASIA-ICT02)
- GI Workshop Modellierung (99-01, 10)
- Wirtschaftsinformatik (WI 11) – Entwicklung/Architektur von IS
- IASTED Int. Conf. on Software Engineering (SE04-11)
- IASTED Int. Conf. on Software Engineering and Applications (SEA03- 11)
- IASTED Int. Conf. on Web Technologies, Applications, and Services (WTAS05-06)
- IEEE Int. Conf. on Next Generation Web Services Practices (NWeSP05-11)
- Educational Technology Track of the Inform. Resources Management Assoc. Conf. (IRMA06-07)
- Int. Workshop of the GI-Working Group "Web and Databases" (01-02)
- Int. Conf. on Information Integration and Web-based Applications & Services (iiWAS01-11)
- Int. Conf. on Expert Systems Applications (DEXA04-06)
- Int. DEXA Workshop on Electronic Business Hubs (WEBH01-02)
- Int. Conf. on Electronic Commerce and Web Technologies (ECWEB04-07)
- Int. Conf. on Web Information Systems and Technologies (WEBIST05-10)
- Int. Conf. on Web Engineering (ICWE05-06, 10); Doctoral Consortium (ICWE10)
- Int. Conf. on Bioinformatics Research and Development (BIRD06-07)
- Int. Conf. on Software and Data Technologies (ICSOFT07-10)
- Int. Conf. on Knowledge Science, Engineering & Management (KSEM10-11)
- Int. Conf. on Model Driven Engineering Languages & Systems (MODELS10-11), Educators Symposium
- Int. Conference on Computational Aspects of Social Networks (CASON10)
- Open Space Symposium for Business Strategy Based Software Engineering (01)
- Web Engineering Track of the Int. World Wide Web Conf. (WWW-WE03-04, 07)

Other Conference Activities:

- Member of the organizing committee of ECOOP96
- Tutorial chair at iiWAS01
- Best Paper Awards Chair of WI 2009

Editorial Boards

- INTERNATIONAL JOURNAL OF WEB ENGINEERING AND TECHNOLOGY (IJWET)
Publisher: Inderscience, UK (ISSN: 1476-1289)
- INTERNATIONAL JOURNAL OF WEB ENGINEERING (JWE)
Publisher: Rinton Press, USA (ISSN: 1540-9589)
- INTERNATIONAL JOURNAL OF E-BUSINESS RESEARCH (IJEBR)
Publisher: Idea Group, USA (ISSN: 1548-1131)
- RADIOMATICS JOURNAL OF COMMUNICATION ENGINEERING
Publisher: Bandung Institute of Technology, Indonesia (ISSN: 1693-5152)

The following provides an overview of my university teaching activities during the last 20 years.

		Winter Term (w) / Summer Term (s)																																																			
		University		91		92		93		94		95		96		97		98		99		00		01		02		03		04		05		06		07		08		09		10		11									
				w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s	w	s										
Courses	E	Data Engineering	JKU Linz																																																		
	E	Object-Oriented DB Systems	JKU Linz																																																		
	L	Object-Oriented DB Systems	JKU Linz																																																		
	E	Object-Oriented Design	JKU Linz																																																		
	E	Project Management & Presentation Technique	JKU Linz																																																		
	L	Information Systems (IFS) II(*)	JKU Linz																																																		
	E	Information Systems (IFS) II	JKU Linz																																																		
	L	IFS for Bioinformatics	JKU Linz																																																		
	L	Enterprise Modelling/ Business Engineering	TU Vienna																																																		
	E	Enterprise Modelling /Business Engineering	TU Vienna																																																		
	L	Modeling of Web Applications	JKU Linz																																																		
	E	Modeling of Web Applications	JKU Linz																																																		
	L	Model Engineering	JKU Linz																																																		
	S	Master Seminar	JKU Linz																																																		
	S	Doctoral Seminar	JKU Linz																																																		
	S	Information Systems	JKU Linz																																																		
	P	Information Systems	JKU Linz																																																		
	L	Economy for Computer Science	JKU Linz																																																		
	L	Workflow Technologies	University of Vienna																																																		
	C	Evolution of IFS	University of Vienna																																																		
L	IFS Engineering	University of Vienna																																																			
C	Interoperability	University of Vienna																																																			

Types of Courses: L ... Lecture E ... Exercise S ... Seminar P ... Practical Training C ... Combined Courses (L+E)

(*)NB: The courses Information Systems II and Economy for Computer Science are obligatory lectures for all computer science students at JKU Linz.

External Teaching

Tutorials on object-oriented development with the Unified Modelling Language (UML) at:

- ECOOP'99
- CAISE'99
- ER'99
- GI'01
- ER'05

Industrial seminars / Consulting in the areas of:

- Object-oriented development
- Object-oriented/relational database systems
- Conceptual modelling
- XML technologies

Lecturer at the University of Applied Sciences, Hagenberg since 1994.

Study courses:

- Software Engineering
- Bioinformatics
- Software Engineering in Medicine
- Software Engineering in Business & Finance
- Mobile Computing

Teaching areas:

- Data Engineering
- XML Technologies
- UML
- Model-Driven Development

Theses Supervision

Supervision of Doctoral Theses

1999	1	Metadata-Based Middleware for Integrating Information Systems	Kapsammer Elisabeth
2000	2	TIScover – Eine Generische Plattform für Web-basierte Tourismusinformationssysteme	Pröll Birgit
2001	3	Modelling Ubiquitous Web Applications – Requirements and Concepts	Schwinger Wieland
	4	Active Data Warehouses: Complementing OLAP with Analysis Rules	Thalhammer Thomas
2003	5	Model-Driven Development of Inter-organisational Workflows	Kramler Gerhard
2004	6	Design and implementation of a platform independent framework for reusable authentication, authorization and auditing components	Probst Stefan
	7	Web Scheme-Transformers by Example	Lechner Stefan
2007	8	Applying Aspect-Oriented to the Model-Driven Development of Ubiquitous Web Applications	Schauerhuber Andrea (TU Vienna)
2008	9	T.R.O.P.I.C.: Transformations on Petri-Nets in Color	Reiter Thomas
	10	From Mining to Mapping and Roundtrip Transformations – A Systematic Approach to Model-based Tool Integration	Wimmer Manuel (TU Vienna)
	11	Flexible and Selective Indexing in XML Databases	Grün Katharina
	12	BeAware! An Ontology-Driven Framework for SA Applications	Baumgartner Norbert
	13	Horizontal and Vertical Integration of Object Oriented Information Systems Behaviour	Grossmann Georg (University of South Australia – UNISA)
2011	14	Constraint-based Automated Service Discovery and Composition	Rajesh Thiagarajan (University of South Australia – UNISA)

Ongoing	15	Reusable Mapping Operators for Model Transformations	Kusel Angelika
	16	Petri Net-based Model Transformations	Schönböck Johannes
	17	Situation Prediction in Road Traffic Control	Miksch Stefan
	18	Duplicate Detection for Situation Awareness in Road Traffic Control	Gottesheim Wolfgang

Supervision of Diploma Theses

2000	1	WebUML – UML zur Modellierung von DataWeb Applikationen	Hartmann Werner
2001	2	Evaluierung alternativer Ansätze zur Integration von XML und Datenbanken	Steinmaurer Thomas
2002	3	Einsatz eines XML Publishing Frameworks zur Realisierung eines ubiquitären Kalendermanagers	Benda Martin
	4	Entwurf einer deklarativen XML Datenmanipulationssprache für X-Ray	Kimmerstorfer Eugen
2003	5	Interorganizational Workflow Management – Concepts, Requirements and Approaches	Pargfrieder Karin
	6	Customization zur Realisierung Ubiquitärer Web-Anwendungen – Eine Evaluierung existierender Ansätze	Eberle Martin
	7	Konzeption und Realisierung einer Entwicklungsumgebung zur Integration von XML und Datenbanken	Oberhammer Martin
	8	X-Ray QL – Implementation of a declarative query and data manipulation language for X-Ray	Hiebl Christian
2004	9	Evaluierung von OpenSource Software als Entwicklungsbasis für ein Web-basiertes, generisches Anmeldesystem	Rosenmayr Nikolaus
	10	Reengineering der Forschungsdokumentation der JKU Linz	Wiesinger Herwig
2005	11	Entwicklung einer webbasierten Forschungsdokumentation für die Kunsthochschule Linz unter besonderer Berücksichtigung von Multimedia-Daten	Daschiel Sabine
	12	Konzeption eines Metaschemas zur Integration von XML Schema und RDBS	Kraushofer Thomas
	13	Realisierung eines Frameworks zur Integration von XML Schema und RDBS	Christian Ortner
2006	14	Transformation of Web Service Specification Languages into UML Activity Diagrams	Reiter Thomas
	15	A Framework for the Development of location-based Services	Grün Christoph
2007	16	Konzeption und Realisierung einer Entwicklungsumgebung für ein Customisation Framework	Helmingner Norbert
	17	Evaluierung der Abfragemechanismen objektorientierter Persistenzmechanismen und Entwicklung eines Prototyps	Quatember Max
	18	Lifting MOF 2.0 to OWL – a small step towards intelligent Integration	Kusel Angelika
	19	Vergleich von MDA-basierten Werkzeugen zur modell-getriebenen Entwicklung von Web-Anwendungen	Geiseder Werner
2008	20	Towards Intelligent Support of Workflows	Praher Michaela
	21	Entwicklung eines Webseiten-Annotationseditors für Adaptierungsoperationen	Einböck Anita
2008	22	Semantic-based Conflict Detection for Model-Driven Engineering	Alexander Bergmayr

2009	23	Robustness of Web Information Extraction Approaches	Jandl Wolfgang (Universität Wien)
	24	Text-basierte Editoren für Modelltransformationen	Brunner Johannes (FH Hagenberg)
Ongoing	25	Information Integration in Bioinformatics – State of the Art and Case Study	Hobelsberger Karin
	26	Reengineering von Oracle/PL*SQL-Applikationen auf Basis von SOA	Kurz Kornelius
	27	Integration of Bioinformatics Data – Scenarios and Prototypical Realisation	Wischenbart Martin
	28	Erstellung des Bürgerportals für elektronische Anträge beim Land OOE	Schmidauer Helmut
	29	Konzeption und Realisierung eines GUI zur Definition von Situationstypen	Zöchbauer Günter
Co-Supervision of Diploma Theses			
1993	30	Ansätze zur Integration von Datenbanken und Expertensystemen	Resch Gerald
	31	Hyper ^{Reasoner} : Eine hypermedia-basierte Expertensystem-Shell	Bauer Wolfgang
	32	COMan (Complex Object Manager) – Ein konzeptueller Entwurf von Methoden zur Verwaltung von komplexen Objekten in einem RDBS	Preishuber Stefan
	33	COMan (Complex Object Manager) – Entwurf einer Meta-Datenbank zur Abbildung komplexer Objekte in einem RDBS	Pröll Elisabeth
	34	Ein Ansatz zur Anbindung eines RDBS an eine OO Programmiersprache	Racher Peter
	35	Evaluierung objektorientierter Modellierungstechniken in Non-Standard-Anwendungsbereichen	Erwin Schaumlechner
1994	36	Entwicklung eines Versionskonzepts für das objektorientierte DBS GemStone	Wipfel Michaela
	37	Realisierung aktiver Datenbankfunktionalität auf Basis des OODBS GemStone	Aichinger Bernhard
	38	KECMan: Entwurf und Design eines DB-basierten CM-Tools	Holzbauer Gerald
	39	KECMan: DB-basiertes Konfigurationsmanagement – Realisierung	Weißböck Andy
1995	40	VOMDraw – Ein Werkzeug zur visuellen Objektmodellierung	Oberlik Gabriele
	41	Vergleich der OO Analyse- und Entwurfsmethoden OMT, Objectory und OSA	Kirchmayr Barbara
1996	42	Komplexe Ereignisse in TriGS – Konzeption und Implementierung der Ereigniserkennung und Regelausführung	Hiebl Robert
	43	Evaluation of the OO Development Process by Means of the Development of an OO Database Application	Hammerle Roland
1997	44	TriGS _{flow} -Interface – Ein Entwurfs- und Ausführungswerkzeug für das Workflowmanagementsystem TriGS _{flow}	Böhmer Robert
	45	Der Einsatz von Intranet – Eine Betrachtung aus organisatorischer Sicht	Pichler Maria
	46	TriGS _{Designer} – Eine Entwicklungsumgebung zur Erstellung und Verwaltung von Regeln und Regelmuster	Brunner Petra
1998	47	Werkzeuge für den objektorientierten DB-Entwurf basierend auf Objekt/Verhaltensdiagrammen und deren Abbildung in OODBS	Dirlea Daniel
	48	Integration eines geschachtelten Transaktionsmodells in GemStone	Nader Andreas
1999	49	TriGS Debugger – Ein Debugger für das aktive objektorientierte DBS TriGS	Kramler Gerhard
	50	Einsatz und Evaluierung des Web Object Models am Beispiel eines Datenbank-basierten Tourismusinformationssystems	Artelsmair Christine

Selected Projects:

- **REQUIREMENTS ENGINEERING NETWORK OF EXCELLENCE – RENOIR**
EU Programme: ESPRIT 20.800
Duration: October 1996 – May 2000
- **UBIQUITOUS WEB APPLICATIONS – UWA**
EU Programme: IST-2000-25131
Partners: 4 academic partners and 5 industrial partners
Duration: January 2001 – April 2003
- **INTERNET ACCESS FOR MEDITERRANIAN COUNTRIES – MEDINA**
EU Programme: EUMEDIS Sector 3 – IST B74100/2000/2165-071P314
Partner: 5 EU member states and 9 mediterranean countries
Duration: March 2002 – August 2006
- **WEB ENGINEERING NETWORK OF EXCELLENCE – WEE-NET**
EU Programme: alfa – EuropeAid II-0359-FA
Partner: 4 EU member states and 3 Latin American countries
Duration: October 2005 – September 2007
- **A SEMANTIC INFRASTRUCTURE FOR MODEL-BASED TOOL INTEGRATION – MODELCVS**
BMVIT: FIT-IT Programme Semantic Systems – FIT-IT 810806, 3rd Call
Partner: Computer Associates Partner Company, BMFLV, TU Vienna
Duration: January 2006 – December 2007
- **BEAWARE! LOST IN TIME, SPACE & MEANING OR HOW TO GAIN AWARENESS IN CONTROL SYSTEMS**
BMVIT: FIT-IT Programme Semantic Systems and Services, 4th Call
Partner: Frequentis – team Comm. Technology Mgmt. GmbH, Vienna,
Heusch-Boesefeldt GmbH, Aachen
Duration: March 2008 – February 2011
- **AMOR – ADAPTIVE MODEL VERSIONING**
BMVIT: FIT-IT Programme Semantic Systems and Services, 4th Call
Partner: Sparx Systems, TU Vienna
Duration: March 2008 – February 2011
- **TROPIC – A FRAMEWORK FOR MODEL TRANSFORMATIONS ON PETRI NETS IN COLOR**
FWF: “Einzelprojekt”
Partner: Prof. Dr. Gerti Kappel (TU Vienna), Prof. Dr. Jean Bézivin (Nantes),
Prof. Dr. Kurt Jensen (Aarhus), Prof. Dr. Andy Schürr (Darmstadt)
Duration: March 2008 – February 2012
- **THEHIDDENU – A SOCIAL NEXUS FOR PRIVACY-ENSURED PERSONALIZATION BROKERAGE**
BMVIT: FIT-IT Programme Semantic Systems and Services, 5th Call
Partner: Netural GmbH, FAW JKU Linz, TU Vienna
Duration: October 2010 – September 2012
- **CSI: COLLABORATIVE SITUATION AWARENESS**
BMVIT: FIT-IT Programme Semantic Systems and Services, 6th Call
Partner: Frequentis – team Comm. Technology Mgmt. GmbH, Vienna,
Heusch-Boesefeldt GmbH, Aachen, Comm. Navigation Surveillance Solutions GmbH (CNS),
ASFINAG, Linz Linien, Stadtpolizeikommando Linz, Magistrat Linz (Dir. Stadtentwicklung)
Duration: Oktober 2011 – September 2013
- **PROFLOW: SITUATION-AWARE PROCESS MANAGEMENT**
BMVIT: FFG BASISPROGRAMM
Partner: Prologics GmbH, Rail Cargo Austria, Österreichische Kontrollbank
Duration: Juni 2011 – Mai 2012

International Teaching and Research Cooperation

- **TU Prague**, Gerstner Lab. for Intelligent Decision Making and Control (Head: Prof. Dr. Vladimír Mária) in the area of databases and knowledge-based systems.
- **Politecnico di Milano (POLIMI)**, Open Hypermedia Center (Head: Prof. Dr. Paolo Paolini) in the area of ubiquitous Web applications and Web-based information systems for cultural heritage.
- **University of South Australia (UNISA) Adelaide**, School of Information and Computer Science (Prof. Dr. Michael Schrefl & Prof. Dr. Markus Stumptner) in the area of DB-driven web applications.
- **University of Jyväskylä**, Department of Computer Science and Information Systems (Prof. Dr. Markku Sakkinen) in the area of active database systems.
- **University College London (UCL)**, Department of Computer Science (Head: Prof. Dr. Anthony Finkelstein) in the area of requirements engineering for Web applications.
- **Technical University of Crete (TUC)**, Lab. of Distributed Multimedia IFS & Applications (Head: Prof. Dr. Stavros Christodoulakis) in the area of transactions for Web applications.
- **University of Business and Technology (UBT) Pristina**, Kosovo, Prof. Dr. Edmond Hajirzi in the area of advanced database systems and Web engineering.

Administrative Activities

- Dept. coordinator of the EU-SOCRATES programme for student exchange. Partner Universities:
 - University of Jyväskylä, FIN
 - Politecnico di Milano (POLIMI), IT
 - University of Southampton, UK
 - University of South Australia (UNISA), AUS
- Vice-chair of the curricular committee for the study of computer science ("Studienkommission Informatik"), Faculty of Natural Sciences and Engineering, JKU Linz, 2002.
- Member of the curricular committee for the study of business informatics ("Studienkommission Wirtschaftsinformatik"), faculty of business, economics & social sciences, JKU Linz, 1996-2003.
- Member of the curricular committee for the master study software engineering ("Entwicklungsteam Software Engineering") at the University of Applied Sciences, Hagenberg, 2003-2005.
- Member of several appointment committees ("Berufungskommissionen"), Faculty of Natural Sciences and Engineering, JKU Linz, Austria.

Books authored

- 1997 [1] "A Tour On TriGS – Development of an Active System and Application of Rule Patterns for Active Database Design", INFIX-VERLAG, Germany, 1996. ISBN 3-89601-439-0
- 2005 [2] "UML@Work – Objektorientierte Modellierung mit UML2". Co-Authors: M. Hitz, G. Kappel, E. Kapsammer, DPUNKT-VERLAG, 2005. ISBN 3-89864-261-5

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- 2003 [3] Proceedings of the 14th International Conference on Expert Systems Applications (DEXA '03), Co-Editors: Vladimír Marík, Olga Stepánková, Prague, Czech Republic, SPRINGER LNCS 2736, September 2003. ISBN 3-540-40806-1
- 2004 [4] "Web Engineering – Systematische Entwicklung von Web-Anwendungen". Co-Editors: G. Kappel, B. Pröll, S. Reich, DPUNKT-VERLAG, 2004. ISBN 3-89864-234-8
- 2006 [5] "Web Engineering – The Discipline for a Systematic Development of Web Applications". Co-Editors: G. Kappel, B. Pröll, S. Reich, WILEY PUBLISHERS, 2006. ISBN 0-470-01554-3

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- 1994 [6] "TriGS – Making a Passive Object-Oriented Database System Active". Co-Authors: G. Kappel, S. Rausch-Schott, S. Vieweg, in: JOURNAL OF OBJECT-ORIENTED PROGRAMMING (JOOP), July/August 1994.
- 1998 [7] "Beyond Traditional Tourism Information Systems – TIScover". Co-Authors: B. Pröll, R.R. Wagner, A. Ebner, in: JOURNAL OF INFORMATION TECHNOLOGY AND TOURISM (ITT), Cognizant, 1998.
- 1999 [8] "Rule-based Integration of Business Oriented and Technical Components in CIM Systems", Co-Authors: W. Wöss, R.R. Wagner, in: JOURNAL OF INTELLIGENT AND ROBOTIC SYSTEMS, Vol 26/3-4, Kluwer Academic Publishers, The Netherlands, 1999.
- 2000 [9] "A Framework for Workflow Management Systems Based on Objects, Rules and Roles". Co-Authors: G. Kappel, S. Rausch-Schott, in: ACM COMPUTING SURVEYS SYMPOSIUM ON OBJECT-ORIENTED APPLICATION FRAMEWORKS, M. Fayad, (guest editor), March 2000.
- [10] "Discovering Next-Generation Tourism Information Systems – A Tour on TIScover". Co-Author: B. Pröll, in: JOURNAL OF TRAVEL RESEARCH (JTR), Vol. 39/2, Sage Publications, Inc., 2000.
- 2001 [11] "TIScover – Eine generische Plattform für Web-basierte Tourismus-informationssysteme". Co-Authors: B. Pröll, R.R. Wagner, in: INFORMATIK FORSCHUNG UND ENTWICKLUNG, Themenheft Electronic Commerce, Vol. 16/1, Springer Verlag, 2001.
- [12] "Rule Patterns – Bottom-up Design of Active Object-Oriented Databases". Co-Authors: G. Kappel, S. Rausch-Schott, M. Sakkinen, in: COMMUNICATIONS OF THE ACM (CACM), Vol. 44/4, April 2001.
- 2002 [13] "Ein UML-basiertes Framework zur Modellierung ubiquitärer Web-Anwendungen". Co-Authors: M. Hitz, G. Kappel, W. Schwinger, in: WIRTSCHAFTSINFORMATIK VOL. 44/3, Vieweg-Verlag, June 2002.
- 2003 [14] "Customisation for Ubiquitous Web Applications – A Comparison of Approaches". Co-Authors: B. Pröll, G. Kappel, W. Schwinger, in: INTERNATIONAL JOURNAL OF WEB ENGINEERING AND TECHNOLOGY (IJWET), Inaugural Volume, Inderscience Publishers, May 2003.
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- 1992 [22] "HYPER_{reasoner}: A Hypermedia-Based Expert System Shell". Co-Authors: W. Bauer, G. Quirchmayr, in: PROCEEDINGS OF THE FOURTH IITT-INTERNATIONAL CONFERENCE ON EXPERT SYSTEMS APPLICATIONS (EXPERTSYS), S. Hashemi et al. (eds.), Paris, France, October 1992.
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- [73] "An Example is Worth a Thousand Words: Composite Operation Modeling By-Example". Co-Authors: P. Brosch, P. Langer, M. Seidl, K. Wieland, M. Wimmer, G. Kappel, W. Schwinger, in: Proceedings of the ACM/IEEE 12th International Conference on Model Driven Engineering Languages and Systems, Denver, Colorado, USA, October 4-9, 2009 [13 % acceptance rate].
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Future Research & Teaching Focus *Semantic Information Systems Engineering*

The intended future research focus is based on my current research areas comprising "Data Engineering", "Model/Ontology Engineering", "Web Engineering" and "Process Engineering" and aims at engineering of semantic information systems – "*Semantic Information Systems Engineering (SeISE)*", cf. Fig. 1.

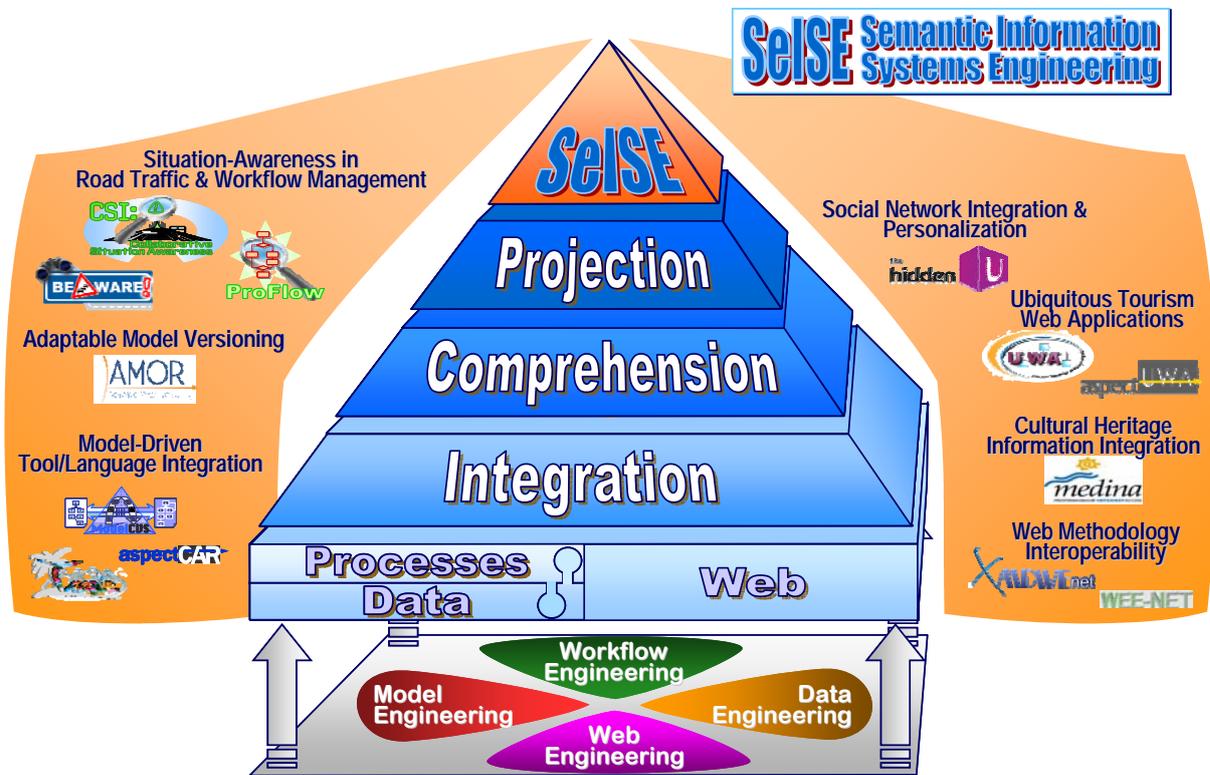


Figure 1: "*Semantic Information Systems Engineering (SeISE)*"

Semantic information systems provide means for representing the semantics of the queried and provided information and services in a machine-interpretable way. These semantics is manifested through spatio-temporal interrelationships of acquired information and its usage. The core tasks of semantic information systems comprise¹ (1) the perception and integration of data and processes from different heterogeneous and distributed (Web) sources (cf. "Integration" in Fig. 1) and built on that (2) the contextualisation of this integrated information base in order to achieve a holistic understanding of this information (cf. "Comprehension" in Fig. 1) and finally (3) the prediction of future states of the information base and of the impact of actions on these states (cf. "Projection" in Fig. 1). Semantic information systems allow for context-based services, situation assessment services and at the very end, situation projection services. From an engineering point of view, SeISE heavily build on the further development and usage of model-driven and ontology-driven methods and techniques.

Current application areas and project activities² in the realm of SeISE (cf., Fig. 1) range from *model-driven tool/language integration* (cf. [78], [97] and the FIT-IT project "ModelCVS" as well as the FWF project "TROPIC"), *semantic model versioning techniques* (cf., e.g., [73] and the FIT-IT semantic systems project "AMOR"), via *ubiquitous tourism Web applications* (cf., e.g., [18]), *social network integration and personalisation* (cf., e.g., [79] and the FIT-IT semantic systems project "TheHiddenU") to *situation awareness in road traffic management systems* (cf., e.g., [19] and the FIT-IT semantic systems projects "BeAware" and "CSI") and *workflow management systems* (cf., e.g., [80] and the FFG Basisprogramm project "ProFlow").

¹ This definition is based on Endsley, M. R. *Situation Awareness Analysis and Measurement – Theoretical Underpinnings of Situation Awareness: A Critical Review*, Lawrence Erlbaum Associates, 2000.

² Please note that the following references refer to the publications and projects listed in the curriculum vitae.

Besides future research and project activities, also the intended teaching focus lies in the realm of SeISE. In particular, based on my previous 20 years teaching expertise gained through various lectures at JKU Linz, TU Vienna, University of Vienna and University of Applied Sciences in Hagenberg, potential teaching areas can be divided into technologies, methods and systems/applications as depicted in Fig. 2.

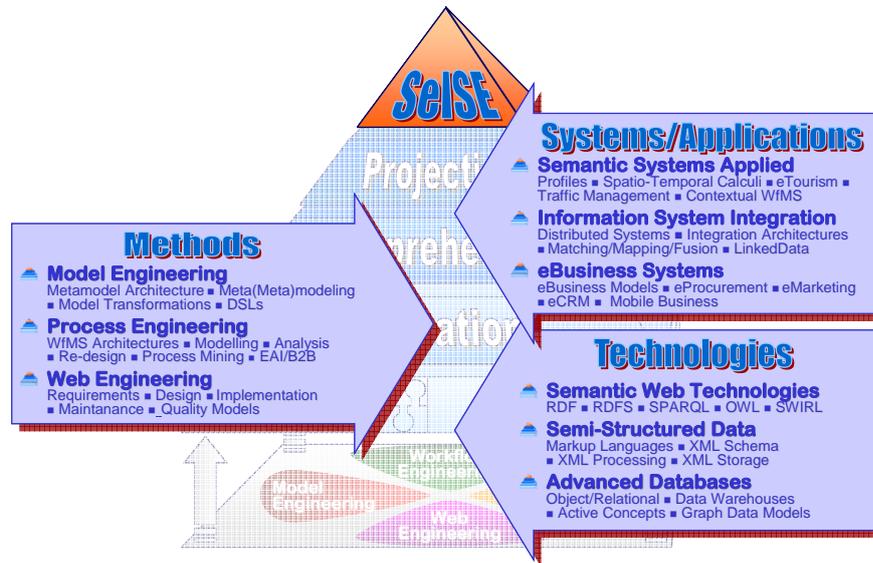


Figure 2: Potential Teaching Areas

Summarizing, it has to be emphasized that the teaching areas given in Fig. 2 do not necessarily represent lectures on their own, but should rather give an impression of the particular topics I was dealing with in previous lectures on the one hand, and which I consider relevant in the realm of my research focus on the other hand.