

# Andreas Bollin

## Curriculum Vitae and List of Publications (v2.4)

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### PERSONAL DETAILS

First name: Andreas  
Last name: BOLLIN  
Academic degrees: Dipl.-Ing., Dr. techn., Priv. Doz.

Date/place of birth: 16. Oct. 1971, Graz/Austria  
Marital status: Married since 16.5.1997, two children

Profession: Full Professor in Informatics and Informatics-Didactics  
(Inst. of Informatics-Didactics / AAU Klagenfurt)



### EDUCATION

26. Nov. 2012 Venia Docendi in „Applied Informatics“  
May 2000 – Apr 2004 University of Klagenfurt (Alpen-Adria-Universität Klagenfurt)  
Dr. tech. (PhD) **with distinction** in Informatics. Thesis: “Specification Comprehension – Reducing the Complexity of Formal Specifications” (Apr. 2004, Supervisor: Prof. Roland T. Mittermeir).  
Oct 1989 – Apr 2000 Technische Universität Graz.  
Dipl.-Ing. (MSc.) in the fields of Telematics. Thesis: “Dialogue Classification and Specification” (Dec. 1999, Supervisor: Prof. Peter Lucas).  
Sep 1981 – Jun 1989 Realgymnasium Pestalozzi/Graz  
Passed the school leaving examination **with distinction** in Jun. 1989.

### WORK HISTORY

Oct 2015 – present Full Professor (Alpen-Adria-Universität Klagenfurt, Informatics-Didactics)  

- Research Areas: Computer Science Education, Informatics Didactics
- Projects: COOL-VS, CT-VS, AMEISE, ViZ

Nov 2012 – Sep 2015 Assoc. Professor (Alpen-Adria-Universität Klagenfurt, ISYS / SERG)  

- Research Areas: Computer Science Education, Software Engineering
- Projects: ViZ, AMEISE, WTZ-Slowakei

May 2004 – Nov 2012 Ass. Professor (Institute for Informatics-Systems, Alpen-Adria-Universität Klagenfurt, Research group of Prof. Roland T. Mittermeir).  

- Research Areas: Software Eng., Formal Methods, CS Education
- Projects: ViZ, AMEISE, CRISTEL

May 2000 – Apr 2004 University Assistant (Inst. for Informatics-Systems, University of Klagenfurt, Research group of Prof. Roland T. Mittermeir).  

- Research Areas: E-Learning, SW Comprehension, Formal Methods
- Projects: Planet-ET, AMEISE

Oct 1998 – Jan 2000 Graduate Assistant (Institute for Information Systems and Computer Media, Graz University of Technology, Head: Prof. Hermann Maurer).  

- Teaching Assistant, Practical Classes (Programming courses)
- Coordinator of development team (WEB-based systems)

Oct 1993 – May 2000 Assistant (Institute of Software-Technology, Graz University of Technology, Working Group of Prof. Peter Lucas).  

- Member of research team, Coordinator of technical staff
- Conference organization (FM'97 conference, Austrian-Hungarian Seminar on Software Technology 1996)

## SECONDARY EMPLOYMENTS

- Nov 1998 – May 1999 International Software Consulting Network Ltd. (Bray/Ireland). EU – EPIC Project. Area of responsibility:
- Technical expert (development of a video conference system)
- Oct 1994 – Oct 1996 International Software Consulting Network Ltd. (Graz/Austria). Areas of responsibility:
- Communication Expert, Leader of development team

## ORGANISATIONS

- Since 2017 – present Childs Congress, „Sommerwerkstatt“, Informatics-Camp, University for Children, Catalyst Coding Contest, Informatik-Lab, Biber-Award (2018), IT-FFG “Ferialpraktikum” (usually 15-20 pupils for one month)

## PROJECTS

- Mar 2016 – present HRSM 2016 (Gender meets Informatics), BMBF.  
Position: Project Applicant/Deputy Lead, (**100.000 €**)
- Nov 2015 – present CT-VS (Computational Thinking in Primary Schools), Austrian Federal Ministry of Education and Women's Affairs  
Position: Project Applicant/Lead, (**4.000 €**)
- Nov 2015 – present COOL-VS Applied Neurodidactics for Primary Schools, Austrian Federal Ministry of Education and Women's Affairs,  
Position: Project Applicant/Lead, (**4.000 €**)
- Nov 2015 – present Safe-RTSE Safe Round-Trip Software Engineering for Improving the Maintainability of Legacy Software Systems, FFG Bridge 1 Project,  
Position: Applicant/Lead/now Deputy Lead (**429.200 €**)
- Jan 2015 – present Informatik – A Child's Play (Sparkling Science Project)  
Position: Member of Research Team  
Research Part: Software Engineering in Primary and Secondary Schools
- Jan 2013 – Feb 2015 WTZ-Slowakei (Advanced SW Engineering Education – Methods and Tools),  
Position: Leader of Project (ÖAD 03/2013, **3,577 €**)
- Aug 2011 – Dec 2012 HiStories Project (Interactive Historical Media center of AAU Klagenfurt).  
Member of editorial board (Personal Contribution)  
Link: <http://www.aau.at/histories>
- May 2004 – present ViZ Project (Visualization of Z specifications)  
Topics: Reverse Engineering, Formal Specifications, Concept Location, Visualization, Clustering (Personal Contribution)  
Link: <http://viz.uni-klu.ac.at>
- Dec 2003 – 2005 CRISTEL (EU - TEMPUS-MEDA, Algeria, France, Tunisia).  
Position: Member of research team.  
Topics: Curriculum development (Software Engineering)
- Jan 2001 – present AMEISE – A Media Education Initiative for Software Engineering (**225,000 €**)  
Position: Project Lead, Developer, Member of research team.  
Topics: New Media in Education, Simulation-System, Software Project Management, SESAM (Software Engineering Simulation durch Animierte Modelle, Prof. Ludewig, Univ. Stuttgart)  
Link: <http://ameise.uni-klu.ac.at>
- Oct 2001 – Nov 2002 Planet-ET - Platform and Network for Educational Technologies (**211,000 €**)  
Position: Member of research team.  
Topics: E-Learning, Education program, curriculum development  
Link: <http://www.planet-et.at>

## AWARDS

- 2009 eLearning/Blended Learning Certificate  
Award for outstanding blended-learning lecture 2009
- 2004 Best Lecturer Award Summer-Term 2004  
Award for teaching the most innovative course at AAU Klagenfurt

## CONFERENCE/WORSHOP ORGANISATIONS

- June 2015 1st Formal Methods in SW Engineering Education and Training Workshop.  
Co-located with FM 2015, June 23rd, 2015.

April 2014	<ul style="list-style-type: none"> <li>• General Chair and Organizer</li> </ul> 27th IEEE Conference on Software Engineering Education and Training, Klagenfurt, Austria. <a href="http://conferences.computer.org/cseet/2014">http://conferences.computer.org/cseet/2014</a>
April 2009	<ul style="list-style-type: none"> <li>• General Chair and Organizer</li> </ul> 1st CSMW (Computer Science and Mobility Workshop), Klagenfurt, Austria Link: <a href="http://csmw.uni-klu.ac.at">http://csmw.uni-klu.ac.at</a>
June 2003	<ul style="list-style-type: none"> <li>• General Chair and Organizer</li> </ul> CAiSE'03 (Conference on Advanced Information Systems Engineering), Velden, Austria. Link: <a href="http://www2.ifi.uni-klu.ac.at/caise03/01_home">http://www2.ifi.uni-klu.ac.at/caise03/01_home</a>
Sep 1997	<ul style="list-style-type: none"> <li>• Member of Organizing Committee</li> </ul> Formal Methods Europe (FME) 1997, Graz, Austria. Link: <a href="http://www.ist.tugraz.at/fme97">http://www.ist.tugraz.at/fme97</a>
Sep 1995	<ul style="list-style-type: none"> <li>• Member of Organizing Committee</li> </ul> ESI (European Strategies for Software Process and Product Improvement) ISCN Conference 1995, Vienna, Austria Link: <a href="http://www.iscn.ie/conferences/iscn95/gen_info.html">http://www.iscn.ie/conferences/iscn95/gen_info.html</a>

## **SPECIAL ASSIGNMENTS**

Committees/Reviews:	PC Member ACM ITICSE Conference Series (since 2017) Reviewer IEEE Transactions on Learning Technologies (since 2016) PC Member „ECCSE 2016 European Conference Software Engineering Education“ (since 2016) Reviewer FIE – Frontiers in Education (since 2016) Steering Committee Member International Conference on Informatics in Schools: Situation, Evolution and Perspectives – ISSEP (since 2015) PC Member „IEEE COMPSAC Symposium on Computer Education and Learning Technologies (CELT)“ (since 2014) Steering Committee Member IEEE Conference on Software Engineering Education and Training (since 2014) Reviewer Journal “Information and Software Technology”, Elsevier (2014) Reviewer Journal „Software: Evolution and Process“, Wiley (since 2014) PC Member CSMR-WCRE (The European Conference on Software Maintenance and Reengineering - Working Conference on Reverse Engineering) (2014) PC Member „IEEE EDUCON Global Engineering Education Conference“ (since 2014) PC Member FormalISE (since 2013) Reviewer “IEEE Teaching, Assessment and Learning for Engineering” (2012) Reviewer “Periodica Polytechnica / Budapest University of Technology” (2012) PC Member Informatics (since 2011) PC Member IEEE Conference on Software Engineering Education and Training (since 2012) PC Member International Conference on e-Learning For All (since 2010) PC Member Management, Engineering and Informatics (since 2010) PC Member Teaching and Learning, (2008, 2009) Program Committee Member CSEDU series (since 2008) PC Member IADIS ELearning Conference Series (since 2007) PC Member AACE ELearn Conference Series (since 2005)
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Responsibilities:	Administrative and scientific activities: <ul style="list-style-type: none"> <li>• Head of the Institute of Informatics-Didactics (since 2016)</li> <li>• Head of Study Program Informatics Teachers Education (since 2016)</li> <li>• Deputy Head of Study Program Informatics (since 2016)</li> <li>• Member of the Teachers Education Curriculum CUKO (since 2016)</li> <li>• Member of the Doctorate Advisory Council (since 2015)</li> <li>• Member of the ELearning Commission @ AAU (since 2010)</li> <li>• Mentor for Students in the Mentor@AAU program (since 2016)</li> <li>• Head of Double Degree Program TU Poznan (until 2013)</li> <li>• Erasmus/Erasmus+ Coordinator for Computer Science (since 2003)</li> <li>• Feedback Respondent for Junior Lecturers at Alpen-Adria-Universität Klagenfurt (since 2011)</li> </ul>
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Memberships: ACM (since 2000), ACM SIGSOFT (since 2004), IEEE (since 2001)  
GI and OCG (since 2013), Universitätsbund AAU Klagenfurt (since 2014),  
Förderverein Technische Fakultät Klagenfurt (since 2001)

## **TEACHING**

Related to my fields of interest I am giving lectures and laboratory classes on several topics. The numbers in square brackets, when available, indicate the average results of the students' evaluation concerning the course benchmark (scale from 1 to 5, with 1 indicating "very good", 5 indicating "very bad"). The mean at the University of Klagenfurt in the past years is 1.73 with a standard deviation of 0.48):

- Special courses
- Impulse Lectures for pupils (boys and especially girls):
- Computational Thinking for Primary and Secondary School Teachers, Juni 2017
  - Einführung in die Informatik für Schülerinnen und Schüler / Geschichte der Informatik, Mai 2014/15
  - Einführung in die Informatik für Schülerinnen und Schüler / Peripherie, April 2013
  - Schnuppervorlesung Speichermedien, Mai 2012
  - Frauen in die Technik 2008 – Thema "Scheibenweise Musik - Optische Speicher unter der Lupe"
- Courses developed and taught:
- Compulsory lectures for Informatics students:
- System Development Process, 2014-2017
  - Project Management, since 2014
  - Software Engineering II [1.2], 2010-2016
  - Introduction to Computer Science [1.1], since 2005
  - Specification and Verification [1.1], 2009 - 2016
- Optional lectures for Informatics students:
- Current Topics in SW Engineering: SW Quality [1.2], 2013-2016
  - Selected Topics: Systematic SW Development (The Use of FM in SW Development) [1.1], 2008-2016
  - Propädeutikum Programming in Java [1.0], 2001 – 2008
- Courses taught:
- In cooperation with others:
- Formal Specification and Verification [1.1], lab class, 2000-2012
  - IT-Management and Change [1.5], lab class, 2006-2016
  - Object-Oriented Programming of Algorithms and Data Structures [2.1], 2004 – 2005
  - Databases [1.1], lab class, 2003 – 2011
  - E-Learning Platforms, 2002 (together with Dr. Steinberger)
  - Algorithms and Data Structures, lab class, 2001 – 2003
  - Project Management, lab class, 2001
- External lectures:
- Lectures at the University of Technology, Graz:
- SW Development in Java, lab class, 1998, 1999
  - SW Paradigms, lab class, 1999
- Other lectures:
- Software Project Management, Kosice, 3 times since 2013
  - Project Management, Emden, Germany, 2007
  - Object-Oriented Programming using JAVA, Shkoder University, Albania, 2005
  - Project Management. ENIT, Tunis, 2004 (together with Prof. Roland Mittermeir)
  - Project Management. SEZ, Villach, Austria, 2004 (together with Prof. Roland Mittermeir)

The Informatics-curriculum at the University of Klagenfurt contains a software project (either 4 or 8 hours per week). I was the supervisor of the following students' projects:

Projects, related to the AMEISE (project-management simulation) environment:

- ScrumVR, Teaching Scrum Terminology in 3D and VR (for Sek I/II), Marco Huber, 2017.
- Walk-In PC, PC-Component Game in 3D and VR (for Sek I/II), Leitner Daniel, 2017.
- Reelle Zahlen für AnfängerInnen, Plattner, Moser, Fußi, Shekhovtsov, 2016.
- Assessment and Feedback Generation (AMEISE Project), Oleh Tovstokorenko, 2015.
- Ameise64 (Mapping AMEISE to 64 bit), Vladimir Fejercsak, 2014.
- AmeiseAndroid (Handheld Version) to support PM Teaching, Erika Marco, 2013.
- AmeisePDX (Slovakian Language Support), Pavol Dano, 2013.
- A2PPT (assessment-report generator). Domanska Z., Sielach T., Skibinski G., 2008.
- AMEISE Portal. Re-design and re-launch. Nagy M., 2007.
- SPEED (reverse-engineering and performance assessment). Schippel S., Zeppitz N., 2004.
- AMICO (AMEISE Modules for Installation and Copyright protection). Berlinger S., Glawischnig M., 2004.
- RIETA (Rule Insertion and Editing Tool for AMEISE). Gratzer W., Seidl J, Vorraber W., 2004.
- TVi (Tree View Plugin). Rudifieria H., Weissegger S., 2003.
- AORTA (Analysis of Relevant Tree Aspects). Fandrey M., Moitzi H., Unterberger R., 2003.
- GINA (AMEISE state and monitoring toolkit), Hafner C., Hardank M., Mätzler G., 2003.
- GDVA (Generic diagram viewer), Ebner R., Innerwinkler D., 2003.

Other projects, related to my fields of research:

- RE of Legacy Systems (Erasmus Project), Pavol Dano, 2014-15.
- CMF4Z (Content Management Framework for Z Specifications). Steindorfer M., 2010.
- ViZUML (Force-based graph-layout algorithm for drawing UML diagrams). Palecka G., Zietek J., Ziebinska M. 2008.
- Z2WEB (Teaching and training platform for Z). Jurevica I., 2008.
- BASTA (Basic search tree animation toolkit). Schutte M., 2008.
- JTeE (Java Testing Environment). Wurzer P., Streit M., Tessars P., 2004.
- Fulltext-search for HyperWave. Schüttenkopf M., Wallner J., 2003.

Since 2003, I supervised several master theses at our working group. The thesis of MSc. Daniela Pohl (supervised by Prof. Roland Mittermeir and me) got the **outstanding thesis award** from the OCG (Austrian Computer Society) in 2009. Since 2013, I also supervise PhD thesis.

PhD. Thesis:

- Pasterk S.: Competence Models for Computational Thinking. Since April 2016.
- Elisa Reci: Teaching Maturity Model for Primary, Secondary and Higher Education. Since Feb. 2016.
- Amir Mujkanovic: Adaptive Group Formation. Since Aug. 2015.
- Genci Berati: Introduction of International Standards in the process of teaching and learning Informatics in the 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> grade in Albania. Since 2012.
- Harrer P.: (in German) Blended Design Thinking. Potentiale und Grenzen der Digitalisierung eines Innovationsprozesses zur Erstellung eines informationstechnologischen Bildungsproduktes in der neuen Pädagog/innenbildung (together with Univ.-Prof. Dr. Sabitzer). Since 2017.

MSc. Thesis (since 2016):

- Rauter M.: Evaluierung des Lernpotenzials von Simulationsspielen. Seit Oktober 2016.
- Probsdorfer S.: Das Konzept von eXtreme Programming und dessen Einsatz im Unterricht. October 2016
- Kraschl S.: Das Konzept von Scrum und dessen Einsatz im Unterricht. October 2016.
- Huber M.: Serious Games – Scrum in der virtuellen Welt. Abschluss voraussichtlich April 2018.
- Kesselbacher M.: Porting 32 Bit-Systems – Worth the Effort? Abschluss voraussichtlich April 2018.

MSc. Thesis (supervised together with Prof. Mirsolaw Staron, IT-Universitetet I Göteborg):

- Tabareh A.: Predictive Software Measures Based on Formal Z Specifications. Sep. 2011. (Supervised together with Prof. Mirsolaw Staron, IT-Universitetet I Göteborg)

MSc. Thesis (until 2013 supervised together with Prof. Roland Mittermeir):

- Kesselbacher M.: Using bug prediction models to aid the assignment of GUI test resources. June 2015.
- Gutman M.: Dynamic Localization of Program Features based on a generic multi-purpose Graph Structure. May 2015.
- Radl. F.: Specification Metrics. Complexity and Quality Metrics of Formal Specifications. December 2014.
- Rama A.: Slicing of Object-Oriented Java Programs. December 2012.
- Palecka G.T.: WEB-Service for Plagiarism Detection. July 2008.
- Pohl D.: Concept Location – Administration of Concepts identified within State-based Specifications. Jun 2008. (Best MSc. Award, OCG Austria, November 2009)
- Jelitsch P.: Metric-based Analysis of JAVA Programs. April 2008.
- Lessacher J.: UML Transformation of State-based Specifications. April 2008.
- Andrzejewski K.: Time-Wall for Simulated SW Project Traces. Jun 2006.
- Kury M.: Explanation Component for Simulated SW Projects. Mai 2006.
- Urbanowski M.: Assessment Component for Simulated SW Projects. Jun. 2006.
- Putzer P.: Trace Representation of Simulated SW Development Processes. Dec 2005.
- Wohlfahrt R.: Komponenten-basierte Kurserstellung - Konzeption und Implementierung eines Autorenwerkzeugs für die Hyperwave eLearning Suite zur Erzeugung und Verwaltung von feingranularen Lerneinheiten. Mar 2004.
- Wakounig D.: Reverse Engineering of Rule-based Systems. Aug 2003.
- Jäger S.: Entwicklung eines elektronischen Tutors zur Analyse von Projektverläufen. Apr 2003.
- Nusser M.: SW-Agenten zur Analyse von Projektverläufen. Apr 2003.

## **AREAS OF RESEARCH**

Working in the field of Computer Science, my research interests cover a broad spectrum. Besides scientific challenges, a strong motivation for me is the conviction that a (computer) scientist has the **responsibility to pass over knowledge to others**. With this, not only the technical/scientific knowledge is relevant – also methodological and didactical issues do play a crucial role. For that reason, my areas of research include contributions from the field of *software engineering* (with the focus on software comprehension), and *informatics didactics/ methodologies* (by focusing on Didactics, Educational Trends and E-Learning Systems).

- Didactics and Methodology. The topics of research are related to the goal of improving lectures and lab-related classes at Universities and Schools, and with that to make computer science topics easier to understand and to assist (and improve) the learning process. This includes:
  - Applied Neuro-Didactics. Based on recent findings, the objectives are (a) to improve traditional classroom settings by applying brain-friendly methods, and (b) to verify the various methods to be found in literature. In 2012, one project started in form of a pilot study during my lecture “Introduction to Computer Science” and has been continued by the WTZ-Slowakei project with the Technical University of Kosice. Currently, we are using part of the approach to bring computational thinking to primary and secondary schools.
  - Didactical Aspects of E-Learning and New Media. The main topic is the efficient and effective use of new media. Another aspect is the question of how to transfer didactical and methodological knowledge.
  - Maturity Models in Teaching. As we know from other fields, maturity has a deep impact on what we are doing. The objective of this field of research is to foster the notion of teaching maturity and to integrate a maturity model. A first result is the introduction of a so called Team Model.
  - Project Management Simulation, where a simulator and a rule-based system are used to improve “classical” software-project management lectures. Such a system (called AMEISE, see <http://ameise.uni-klu.ac.at> for more details) has been developed due to grants from the Initiative of New Media in Education (bm:bwk Austria), and is still in use in Software Engineering courses at the University of Klagenfurt and partner institutions in Europe.

- E-Learning Systems. The focus is on systems that enable the reuse of existing learning components. One such project (called Planet-ET, see <http://www.planet-et.at> for more details) has been funded by the Initiative of New Media in Education (bm:bwk Austria).
- Software Comprehension. The objective is to support the combination of various development and analysis methodologies, especially for sustaining SW maintenance and comprehension (but again with the idea in mind *to use everything later on for improving lectures*). This includes:
  - Specification Comprehension, a topic rooted in my PhD thesis, where slicing and chunking techniques have been defined for formal (declarative!) specifications – in order to reduce the complexity of maintenance tasks. New contributions are the development of a concept location model, complexity and quality measures, and the use of a database for comprehension support.
  - Reverse Engineering and Specification Visualization, with the objective to make requirements and software easier to understand (and thus to comprehend and to teach). Different graphical notations and partitioning algorithms are used in order to bridge the gap between formal and semi-formal documents as well as to carve out prevalent concepts. Contributions are specification clustering and the transformation of Z to UML class and activity diagrams.

## **LIST OF PUBLICATIONS**

Working on the borderline between Computer Science Education, Software Engineering and Formal Methods, my conference publications try to reach all three communities. Due to an immune mediated disease (and severe problems with the adrenal glands) after a vaccination, research and travelling has been impeded between 2007 and 2011. The publication rate has therefore dropped a bit during this period. However, this period is over and the relevant publications are (an “S” indicates the field of SW-Engineering; an “E” indicates a focus on Education and Didactics – but all the publications try to bridge the gap between theory and comprehension and teaching):

### ▪ Books and Chapters in a Book

- [5] E A. Bollin, T. Magraria, I. Perseil. Proceedings of the First Workshop on Formal Methods in Software Engineering Education and Training (FMSEE&T). Oslo, Norway. June, 2015.
- [4] S A. Bollin, E. Hochmüller, Csaba Szabo, Veronika Szaboova. Requirements Engineering & Fundamentals – The Art of Writing Down Requirements. Technical University of Košice. First Ed., E to appear in December 2015, 150 pages, ISBN 978-80-553-2286-5, 2015.
- [3] E Andreas Bollin, Elke Hochmüller, Roland T Mittermeir, Tony Cowling, and Richard LeBlanc. Proceedings of the IEEE 27th Conference on Software Engineering Education and Training (CSEE&T), Klagenfurt, Austria. Apr. 2014.
- [2] S Bollin A. Program Comprehension. Textbook Chapter: Software Engineering Fundamentals, Measure – Comprehend – Manage. L. Samuelis, A. Bollin, K. Frühauf, J. Ludewig, H. Sandmayr (Ed.). FEI TUKE, Slovakia. pp. 73-102. Jan. 2012.
- [1] E Bollin A., Bouchachia A. Proceedings CSMW’09. First Computer Science and Mobility Workshop 2009, AAU Klagenfurt, Austria, 9th-10th April, 2009.

### ▪ Journal Publications

- [8] E COOLe Informatik - Computational Thinking and COoperative Open Learning Informatics (COOL). Das OCG Journal - Der Weg zur Bildung 4.0; Ausgabe 02, 2016, Jg. 41.
- [7] E Andreas Bollin. Didaktik der Informatik: Herausforderungen und Blick in die Zukunft. Das OCG Journal - Der Weg zur Bildung 4.0; Ausgabe 02, 2016, Jg. 41.
- [6] E Szabo Cs., Bollin A.: Changing the Lecturing Style - The Good and the Bad of Mixed-up Schedules. Journal for Information Technology, Education Development and Teaching Methods of Technical and Natural Sciences. Volume 4, Number 1, July 2014.
- [5] S Bollin A.: Metrics for Quantifying Evolutionary Changes in Z Specifications. Journal on Software

Maintenance and Evolution: Research and Practice. 28 pages. Wiley and Sons Ltd., Jan. DOI: 10.1002/smr.1596. 2013.

- [4] S Bollin A.: Coupling-based transformations of Z specifications into UML diagrams. In International NASA Journal on Innovations in Systems and Software Engineering, Volume 7, Number 4, 283-292, 2012.
- [3] S Pohl D., Bollin A.: Concept Management: Identification and Storage of Concepts in the Focus of Formal Z Specifications. In: Communications in Computer and Information Science, 2010, Volume 69, II, 248-261. Berlin, Heidelberg, New York: Springer Verlag GmbH. 2010.
- [2] S Bollin A.: Concept Location in Formal Specifications. Journal on Software Maintenance and Evolution: Research and Practice. Wiley and Sons Ltd., Jan. 2008.
- [1] S Bollin A.: Crossing the Borderline - from Formal to Semi-Formal Specifications. IFIP Journal on Software Engineering Techniques: Design for Quality. Springer, 227:73–84, 2006.

▪ Springer Lecture Notes in Computer Science

- [2] S Bollin A.: Is There Evolution Before Birth? Deterioration Effects of Formal Z Specifications Lecture Notes in Computer Science, 6991 (Formal Methods and Software Engineering): 66–81, 2011.
- [1] S Mittermeir R., Bollin A.: Demand-Driven Specification Partitioning. In: Modular Programming Languages, JMLC 2003, Klagenfurt, August 2003, Proceedings. LNCS, 2789. 2003.

▪ Monograph

- [2] S Bollin A.: Advanced Software Comprehension Techniques. Habilitation Thesis. Alpen-Adria Universität Klagenfurt. Software Engineering and Soft Computing. Klagenfurt. Austria. 2012.
- [1] S Bollin A.: Specification Comprehension - Reducing the Complexity of Specifications. PhD Thesis. Institute for Informatics-Systems, University of Klagenfurt, April 2004.

▪ Conference Publications

- [42] E Andreas Bollin, Elisa Recic, Csaba Szabo, Veronika Szaboova, Rudolf Siebenhofer. Applying a & Maturity Model during a Software Engineering Course - Experiences and Recommendations. S 2017 IEEE 30th Conference on Software Engineering Education and Training (CSEE&T), November 2017, Savannah, USA.
- [41] E Stefan Pasterk, Andreas Bollin. Graph-based Analysis of Computer-Science Curricula for Primary Education. Proceedings of the 2017 IEEE Frontiers in Education (FIE), October 2017, Indianapolis, USA.
- [40] E Stefan Pasterk, Andreas Bollin. Digital literacy or computer science: Where do information technology related primary education models focus on? 2017 15th International Conference on Emerging eLearning Technologies and Applications (ICETA), October 2017, Stary Smokovec, Slovakia.
- [39] E Peter Micheuz, Stefan Pasterk, Andreas Bollin. Basic Digital Education in Austria - One Step Further. 2017 World Conference on Computers in Education (WCCE), July 2017, Dublin, Irland.
- [38] E Stefan Pasterk, Andreas Bollin. A Graph-based Approach to Analyze and Compare Computer Science Curricula for Primary and Lower Secondary Education (Poster). Proceedings of the 2017 ACM Conference on Innovation and Technology in Computer Science Education (ITICSE); July 2017, Bologna, Italy.
- [37] E Elisa Recic, Andreas Bollin. A Model for Improving the Quality of Teaching in Informatics in Primary and Secondary Schools (Poster). The 10th International Conference on Informatics in Schools: Situation, Evolution and Perspectives (ISSEP), November 2017, Helsinki, Finland.
- [36] E Elisa Recic, Andreas Bollin. Managing the Quality of Teaching in Computer Science Education. 6th Computer Science Education Research Conference (CSERC 17), November 2017, Helsinki, Finland.



- [35] E Elisa Reci, Andreas Bollin. A Teaching Maturity Model for Informatics Teachers in Primary and Secondary Education. Proceedings of the The 9th International Conference on Informatics in Schools, ISSEP 2016, October 13-15, 2016, Münster, Germany.
- [34] E Stefan Pasterk, Barbara Sabitzer, Heike Demarle-Meusel, Andreas Bollin. Informatics-Lab: Attracting Primary School Pupils for Computer Science. Proceedings of the 14th LACCEI International Multi-Conference for Engineering, Education, and Technology: "Engineering Innovations for Global Sustainability", 20-22 July 2016, San José, Costa Rica.
- [33] E Andreas Bollin, Stefan Pasterk, Peter Antonitsch, and Barbara Sabitzer. Software Engineering in & Primary and Secondary Schools - Informatics Education is More Than Programming. Proceedings of the 29th IEEE Conference on Software Engineering Education and Training. Dallas, Texas. April 2016
- [32] E Amir Mujkanovic, Andreas Bollin. Improving Learning Outcomes Through Systematic Group Reformation - The Role of Skills and Personality in Software Engineering Education. 9th International Workshop on Cooperative and Human Aspects of Software Engineering. Collocated with ICSE 2016, Austin, Texas, USA. May 2016.
- [31] S Pavol Dano, Andreas Bollin. Down to Hades and Back – Experiences Gained in Comprehending a Distributed Legacy System. Proceedings of the 13th International Scientific Conference on Informatics. Poprad, Slovakia. November 2015.
- [30] E Peter Karl Antonitsch, Andreas Bollin, Stefan Pasterk, Barbara Sabitzer. Teaching Software Engineering in Primary and Secondary Schools (Workshop). Proceedings of the International Conference on Informatics in Schools ISSEP 2015, Sep. 28 - Oct. 1, Ljubljana, Slovenia, S. 70, University of Ljubljana, Faculty of Computer and Information Science, September 2015.
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Klagenfurt, February 17<sup>th</sup>, 2018