

Selected Publications Stefan Schulz

June 12th, 2017

This publication list constitutes a selection out of approximately 300 publications of different kinds (see Publication lists at ResearchGate [<https://goo.gl/t63gpi>] and Google Scholar [<https://goo.gl/WS42f6>]).

This selection is driven by the fact that in Biomedical Informatics and related areas peer-reviewed papers very often appear in books and proceedings volumes. They are largely bypassed by the SCI for impact factor computation, although indexed by MEDLINE. On the other hand, both SCI and MEDLINE occasionally count and index separately papers with largely overlapping content such as conference papers and derived “full” journal versions.

This is the reason for this list of “original work” under strict criteria:

- Peer review as a condition for paper acceptance
- As far as known, the conference should have a significant rejection rate
- Minimum length 4 pages
- Essential parts of the content are not fully included in any other paper of the list

The list is split by original and review papers, divided into first, last, and co-authorship. Impact factors are taken from the SCI database.

	Number	Cumulative Impact Factor
Total number:	212	129.0
Original Papers (peer reviewed):	203	125.4
Review papers (peer reviewed):	9	3.9

Original Papers

Original Papers – First authorships

IF

1. Schulz S, Rodrigues JM, Rector A, Chute CG. Interface Terminologies, Reference Terminologies and Aggregation Terminologies: A Strategy for Better Integration. *Studies in Health Technology and Informatics*. 2017 (MEDINFO 2017). Accepted for publication
2. Schulz S, Boeker M, Martinez-Costa C. The BioTop Family of Upper Level Ontological Resources for Biomedicine. *Studies in Health Technology and Informatics*. 2017; 235:441-445.
3. Schulz S, Martínez-Costa C. Harmonizing SNOMED CT with BioTopLite: An Exercise in Principled Ontology Alignment. *Studies in Health Technology and Informatics* 2015;216:832-826
4. Schulz S, Rodrigues JM, Rector A, Spackman K, Campbell J, Ustün B, Chute CG, Solbrig H, Della Mea V, Millar J, Brand Persson K. What's in a Class? Lessons Learnt from the ICD – SNOMED CT Harmonisation. *Studies in Health Technology and Informatics* 2014; 205: 1038-1042.
5. Schulz S, Martinez-Costa C; Kreuzthaler M, Miñarro-Giménez JA, Andersen U; Jensen AB, Maegaard B. Semantic Relation Discovery by using Co-occurrence Information.

- Proceedings of the fourth Workshop on Building and Evaluating Resources for Health and Biomedical Text Processing; May 31, 2014; Reykjavik, Iceland.
6. Schulz S, Martínez-Costa C, Karlsson, D, Cornet R, Brochhausen M, Rector A. An Ontological Analysis of Reference in Health Record Statements. Proceedings of the 8th International Conference on Formal Ontology in Information Systems (FOIS); Sept 22-25, 2014; Rio de Janeiro, Brazil. IOS press. *Frontiers in Artificial Intelligence and Applications* 267; 289 – 302
 7. Schulz S, Martínez-Costa, C. How Ontologies Can Improve Semantic Interoperability in Health Care. *Lecture Notes in Computer Science*. 8268: Berlin Heidelberg: Springer International Publishing 1-10. 2013
 8. Schulz S, Jansen, L. Formal ontologies in biomedical knowledge representation. *Yearbook of Medical Informatics* 2013; 8(1):132-146
 9. Schulz S, Boeker, M. BioTopLite: An Upper Level Ontology for the Life Sciences. *Evolution, Design and Application*. Informatik 2013. IOS Press; 2013
 10. Schulz S, Bernhardt-Melischnig, J, Kreuzthaler M, Daumke, P, Boeker, M. Machine vs. human translation of SNOMED CT terms. *Studies in Health Technology and Informatics* 2013; 192:581-584
 11. Schulz S, Balkanyi L, Cornet R, Bodenreider, O. From concept representations to ontologies: a paradigm shift in health informatics? *Healthcare Informatics Research* 2013; 19(4): 235-242.
 12. Schulz S, Rector, A, Rodrigues JM, Chute C, Üstün B, Spackman K. Ontology-based convergence of medical terminologies: SNOMED CT and ICD 11. *eHealth 2012 – Health Informatics meets eHealth*; May 10-11, 2012; Vienna, Austria.
 13. Schulz S, Rector A, Rodrigues JM, Spackman K. Competing interpretations of disorder codes in SNOMED CT and ICD. *AMIA Annual Symposium Proceedings* 2012; 2012(3):819-827
 14. Schulz S, Spackman K, James A, Cocos C, Boeker M. Scalable representations of diseases in biomedical ontologies. *Journal of Biomedical Semantics*. 2011; 2 Suppl 2:S6-S6
 15. Schulz S, Seddig T, Hanser S, Zaiss A, Daumke P. Checking coding completeness by mining discharge summaries. *Studies in Health Technology and Informatics* 2011;169:594-598
 16. Schulz S, Karlsson, D. Records and situations. Integrating contextual aspects in clinical ontologies. *The 14th Annual Bio-Ontologies Meeting*. Vienna, Austria, 2011. ISCB; 49-52.
 17. Schulz S, Cornet R, Spackman K. Consolidating SNOMED CT's ontological commitment. *Applied Ontology*. 2011; 6: 1-11 1.105
 18. Schulz S, Brochhausen M, Hoehndorf R (2011) Higgs Bosons, Mars Missions, and Unicorn Delusions: How to Deal with Terms of Dubious Reference in Scientific Ontologies. *International Conference on Biomedical Ontologies, ICBO 2011, Buffalo NY, July 26, 2011. Proceedings*: 183-190.
 19. Schulz S, Schober S, Tudose I, Stenzhorn H: The Pitfalls of Thesaurus Ontologization – the Case of the NCI Thesaurus. *AMIA Annual Symposium Proceedings*, 2010: 727-731
 20. Schulz S, Schober D, Daniel C, Jaulent MC: Bridging the semantics gap between terminologies, ontologies, and information models. *Studies in Health Technology and Informatics* 2010; 160 (Pt 2): 1000-1004
 21. Schulz S, Suntisrivaraporn B, Baader F, Boeker M: SNOMED reaching its adolescence: Ontologists' and logicians' health check. *International Journal of Medical Informatics*, 2009; 78 Suppl. 1 3.126
 22. Schulz S, Stenzhorn H, Boeker M, Smith B: Strengths and limitations of formal ontologies in the biomedical domain. *RECIIS – Electronic Journal in Communication, Information and Innovation in Health*, 2009; 3 (1): 31-45:
 23. Schulz S, Karlsson D, Daniel C, Cools H, Lovis C: Is the "International Classification for Patient Safety" a classification? *Studies in Health Technology and Informatics* 2009;150:502-6
 24. Schulz S, Jansen L. Molecular interactions: on the ambiguity of ordinary statements in biomedical literature. *Applied Ontology* 2009; 4(1):21-34
 25. Schulz S, Daumke P, Stenzhorn H, Markó K, Poprat M: Incremental Semantic Enrichment of Narrative Content in Electronic Health Records. *World Congress on Medical Physics and Biomedical Engineering*, 2009, Munich
 26. Schulz S, Boeker M, Stenzhorn H, Niggemann J: Granularity Issues in the Alignment of 1.69

- Upper Ontologies. *Methods of Information in Medicine* 2009; 48 (2): 184-189
27. Schulz S, Beisswanger E, van den Hoek L, Bodenreider O, van Mulligen EM: Alignment of the UMLS semantic network with BioTop: methodology and assessment. *Bioinformatics*, 2009; 25 (12): i69-i76 4.926
 28. Schulz S, Stenzhorn H, Boeker M. The ontology of biological taxa. *Bioinformatics* 2008; 24 (13): i313-i321 4.328
 29. Schulz S, Markó K, Suntisrivaraporn B. Formal representation of complex SNOMED CT expressions. *BMC Medical Informatics and Decision Making* 2008; 8 Suppl. 1 (online): S9
 30. Schulz S, Daumke P, Fischer P, Müller ML. Evaluation of a document search engine in a clinical department system. *AMIA Annual Symposium Proceedings*; 2008; 647-651
 31. Schulz S, Stenzhorn H. Ten theses on clinical ontologies; *Studies in Health Technology and Informatics*; 2007; 127:268-275
 32. Schulz S, Markó K, Hahn U. Spatial location and its relevance for terminological inferences in bio-ontologies. *BMC Bioinformatics* 2007; 8 (1): 8:134 3.493
 33. Schulz S, Johansson I. Continua in biological systems; *The Monist*; 2007; 90 (4), 499 - 522
 34. Schulz S, Hahn U; Towards the ontological foundations of symbolic biological theories; *Artificial Intelligence in Medicine*; 2007; 39(3): 237-250 1.825
 35. Schulz S, Kumar A, Bittner T. Biomedical ontologies: What part-of is and isn't; *Journal of Biomedical Informatics*; 2006; 39 (3): 350-361 2.346
 36. Schulz S, Hanser S, Hahn U, Rogers J. The semantics of procedures and diseases in SNOMED CT; *Methods of Information in Medicine*; 2006; 45 (4): 354-358 1.684
 37. Schulz S, Beisswanger E, Wermter J, Hahn U. From GENIA to BioTop -- Towards a top-level ontology for biology; *Frontiers in Artificial Intelligence and Applications*; 2006; 150:103-114
 38. Schulz S, Hahn U. Part-whole representation and reasoning in formal biomedical ontologies; *Artificial Intelligence in Medicine*; 2005; 34 (3): 179-200 1.882
 39. Schulz S, Daumke P, Smith B, Hahn U. How to distinguish parthood from location in bioontologies; *AMIA Annual Symposium Proceedings*; 2005; 669-673
 40. Schulz S, Markó K, Sbrissia E, Nohama P, Hahn U. Cognate mapping – a heuristic strategy for the semi-supervised acquisition of a Spanish lexicon from a Portuguese seed lexicon; *The 20th International Conference on Computational Linguistics*; 2004; Geneva, 23.-27.8.2004
 41. Schulz S, Hahn U. Representing natural kinds by spatial inclusion and containment. 16th European Conference on Artificial Intelligence; 2004; Valencia, 22.-27. 8, 403-410
 42. Schulz S, Hahn U. Parthood as spatial inclusion. Ninth International Conference on the Principles of Knowledge Representation and Reasoning; 2004; Whistler, BC, Canada, June 2-5, 2004: 55-63
 43. Schulz S, Hahn U. Ontological foundations of biological continuants. *Formal Ontology in Information Systems. Proceedings of the 3rd International Conference – FOIS 2004*; 2004; Amsterdam: IOS Press, 319-330 (*Frontiers in Artificial Intelligence*)
 44. Schulz S, Hahn U. A description logics approach to CGPS. *Studies in Health Technology and Informatics* 2004;101:137-141
 45. Schulz S, Honeck M, Hahn U. Biomedical text retrieval in languages with a complex morphology. *Proceedings of the ACL-02 Workshop on Natural Language Processing in the Biomedical Domain*; 2002; Philadelphia, July 11, Association for Computational Linguistics (www.aclweb.org); 61-68
 46. Schulz S, Hahn U. Necessary parts and wholes in bio-ontologies. *Proceedings of the 8th International Conference – KR 2002*; 2002; Toulouse, France, April 22-25, Morgan Kaufmann Publishers, 387-394
 47. Schulz S, Hahn U. A knowledge representation view on biomedical structure and function. *AMIA Annual Symposium Proceedings*; 2002; 687-691
 48. Schulz S. Bidirectional mereological reasoning in anatomical knowledge bases. *Journal of the American Medical Informatics Association*; 2001:S, 607-11 0.794
 49. Schulz S, Klar R, Auhuber T, Schrader U, Koop A, Kreutz R, Oppermann R, Simm H. Qualitätskriterien für Elektronische Publikationen in der Medizin – Kriterienkatalog der GMDS-AG CBT. *Informatik, Biometrie und Epidemiologie in Medizin und Biologie*; 2001; 31 (4): 153-166
 50. Schulz S, Honeck M, Hahn U; Indexing medical WWW documents by morphemes. *Studies in Health Technology and Informatics*; 2001; 84: 266-270

51. Schulz S, Hahn U; Parts, locations, and holes – formal reasoning about anatomical structures. Lecture Notes In Artificial Intelligence; 2001; 2101: 293-303	
52. Schulz S, Hahn U. Mereotopological reasoning about parts and (w)holes in bio-ontologies; Formal Ontology in Information Systems: Proceedings of the 2nd International Conference (FOIS'01); 2001; 210-221	
53. Schulz S, Hahn U. Medical Knowledge Reengineering – Converting major portions of the UMLS into a terminological knowledge base; International Journal of Medical Informatics; 2001; 64 (2-3): 207-221	1.459
54. Schulz S, Hahn U; Morpheme-based, cross-lingual indexing for medical document retrieval; International Journal of Medical Informatics; 2000; 58-59: 87-99	0.699
55. Schulz S, Hahn U, Romacker M. Modeling anatomical spatial relations with description logics. Journal of the American Medical Informatics Association; 2000; S:779-783	3.089
56. Schulz S, Romacker M, Faggioli G, Hahn U. From knowledge import to knowledge finishing. Automatic acquisition and semi-automatic refinement of medical knowledge. Proceedings of the 12th Workshop on Knowledge Acquisition, Modeling and Management; 1999; Banff, Alberta, Canada.16.-21.10.1999	
57. Schulz S, Zaiss A, Brunner R, Spinner D, Klar R. Conversion problems concerning automated mapping from ICD-10 to ICD-9; Methods of Information in Medicine; 1998; 37: 254-259	0.651
58. Schulz S, Romacker M, Hahn U. Part-whole reasoning in medical ontologies revisited: introducing SEP triplets into classification-based description logics. Journal of the American Medical Informatics Association; 1998; S: 830-834	2.462
59. Schulz S, Klar R. Wartungsfreundliche On-Line-Bibliothek in einem Klinikumsdatennetz; Medizinische Informatik, Biometrie und Epidemiologie: GMDS '97; 1997; MMV Medizin Verlag: 209-214	
60. Schulz S. Knowledge representation of pathological states. Data Analysis and Information Systems – Proceedings of GfKL 1995, Springer-Verlag, 447-456	
61. Schulz S, Kroeger A. Soil contamination with ascaris lumbricoides eggs as an indicator for environmental hygiene in urban areas of North-East Brazil; Journal of Tropical Medicine and Hygiene; 1992; 95: 95-103	
Sum of IF	35.559
Sum of IF in the last 5 years	0

Original Papers – Last authorships

	IF
1. Martínez-Costa C, Andrade AQ, Brochhausen M, Spackman K, Almeida M, Schulz S. The Ontology of Clinical Life Phases, Clinical Conditions, and Clinical Information. Applied Ontology. Accepted for publication	0.526
2. Santana da Silva F, Jansen L, Freitas F, Schulz S. Ontological Interpretation of biomedical database content. J Biomed Semantics. 2017, Accepted for publication	1.620
3. Oleynik M, Kreuzthaler M, Schulz S. Unsupervised Abbreviation Expansion in Clinical Narratives. Studies in Health Technology and Informatics. 2017 (MEDINFO 2017). Accepted for publication	
4. Kreuzthaler, M; Martínez-Costa, C; Kaiser, P; Schulz, S: Semantic Technologies for Re-Use of Clinical Routine Data. Studies in Health Technology and Informatics. 2017;236:24-31	
5. Miñarro-Giménez JA, Martínez-Costa C, López-García P, Schulz S. Building SNOMED CT Post-Coordinated Expressions from Annotation Groups. Studies in Health Technology and Informatics. 2017;235:446-450.	
6. Mary M, Soualmia LF, Gansel X, Darmoni S, Karlsson D, Schulz S. Ontological Representation of Laboratory Test Observables: Challenges and Perspectives in the SNOMED CT Observable Entity Model Adoption. Artificial Intelligence in Medicine Europe (AIME 2017). Accepted for publication.	
7. Martínez-Costa C, Schulz S. HL7 FHIR: Ontological Reinterpretation of Medication Resources. Studies in Health Technology and Informatics. 2017;235:451-455.	
8. Kasáč Z, Schulz S. Analysis of historical medical phenomena using large n-gram corpora. Studies in Health Technology and Informatics. 2017 (MEDINFO 2017). Accepted for publication	
9. Miñarro-Giménez JA, Martínez MQ, Fernández-Breis JT, Schulz, S. Publishing Biomedical Predication Repository About MeSH Co-Occurrences in MEDLINE. Studies in Health	

- Technology and Informatics. 2016; 228(1):765-769
10. López-García P, Schulz S. Structural Patterns under X-Rays: Is SNOMED CT Growing Straight? PLoS One. 2016; 11(11):e0165619-e0165619 3.057
 11. López-García P Schulz S. Can SNOMED CT be squeezed without losing its shape? J Biomed Semantics. 2016; 7(1):56 1.620
 12. Kreuzthaler M, Oleynik M, Avian A, Schulz S. Unsupervised Abbreviation Detection in Clinical Narratives. Proceedings of the Clinical Natural Language Processing Workshop. 2016; COLING 2016; Dec 11, 2016; Osaka, 91 – 98
 13. Kreuzthaler M, Miñarro-Giménez, JA, Schulz, S. MapReduce in the Cloud: A Use Case Study for Efficient Co-Occurrence Processing of MEDLINE Annotations with MeSH. Studies in Health Technology and Informatics. 2016; 228(1):582-586
 14. Boeker M, França F, Bronsert, P; Schulz S. TNM-O: ontology support for staging of malignant tumours. J Biomed Semantics. 2016, 7(1):64-64 1.620
 15. Uribe GA, Blobel B, Lopez DM, Schulz S. A generic architecture for an adaptive, interoperable and intelligent type 2 diabetes mellitus care system. Studies in Health Technology and Informatics 2015;211:121-31
 16. Miñarro-Giménez, JA; Hellrich, J; Schulz S. Acquisition of Character Translation Rules for Supporting SNOMED CT Localizations. Studies in Health Technology and Informatics 2015; 210: 597-601.
 17. Krieger HU, Schulz S. A Modal Representation of Graded Medical Statements. Springer Lecture Notes in Computer Science 2015 (980): 130-146
 18. Kreuzthaler M, Schulz S. Detection of sentence boundaries and abbreviations in clinical narratives. BMC Medical Informatics and Decision Making 2015; 15 Suppl 2: S4-S4 1.830
 19. Kreuzthaler M, Daumke, P; Schulz S. Semantic retrieval and navigation in clinical document collections. Studies in Health Technology and Informatics 2015; 212: 9-14.
 20. Cheetham E; Gao Y; Goldberg B; Hausam R; Schulz S. Formal representation of disorder associations in SNOMED CT. Proc. of International Conference on Biomedical Ontology (ICBO); JUL 27-30, 2015; Lisbon, Portugal.
 21. Miñarro-Gimenez JA; Kreuzthaler M, Schulz S. Knowledge Extraction from MEDLINE by Combining Clustering with Natural Language Processing. AMIA Annual Symposium Proceedings 2015; AMIA Annual Symposium Proceedings; 2015; San Francisco, CA. 2014
 22. Martínez-Costa C, Schulz S. Ontology Content Patterns as Bridge for the Semantic Representation of Clinical Information. Applied Clinical Informatics 2014 Jul 23;5(3):660-9 1.610
 23. Martínez-Costa C, Schulz S. An example of approximating DL reasoning by ontology-aware RDF querying. Proceedings of the 11th International Workshop on OWL: Experiences and Directions (OWLED 2014). 2014; Oct 17-18, 2014; Riva del Garda, Italy.
 24. Martínez-Costa C, Karlsson, D. Schulz S. Ontology Patterns for Clinical Information Modelling. Proceedings of the 5th Workshop on Ontology and Semantic Web Patterns (WOP 2014). 2014; 61-72.-5th Workshop on Ontology and Semantic Web Patterns (WOP); OCT 19, 2014; Riva del Garda, Italy.
 25. Martínez-Costa C, Kalra, D; Schulz S. Improving EHR Semantic Interoperability: Future Vision and Challenges. Studies in Health Technology and Informatics 2014; 205: 589-593.
 26. Kreuzthaler M, Schulz S. Disambiguation of Period Characters in Clinical Narratives. Proceedings of the 5th International Workshop on Health Text Mining and Information Analysis (Louhi)@ EACL. 2014 96-100. April 27, 2014; Göteborg, Sweden
 27. Jansen L, Schulz S. Crisp Islands in Vague Seas: Cases of Determinate Parthood Relations in Biological Objects. Calosi C, Graziani P. Mereology and the Sciences. Parts and Wholes in the Contemporary Scientific Context. Synthese Library 371. Springer International, 2014, 163-188 0.739
 28. Martínez-Costa C, Schulz S. Ontology-based reinterpretation of the SNOMED CT context model. Proceedings of the 4th International Conference on Biomedical Ontology. CEUR Workshop Proceedings. 2013; 1040: 90-95.-International Conference on Biomedical Ontology; JUL 8-9, 2013; Montreal, Canada.
 29. Martínez-Costa C, Karlsson, D, Schulz S. Semantic Interoperability by ontology-based representations of clinical information. Health Informatics meets eHealth – von der Wissenschaft zur Anwendung und zurück. Big Data – eHealth von der Datenanalyse bis zum Wissensmanagement, 2013; 65-71
 30. Boeker M, Jansen L, Grewe N, Röhl J, Schober D, Seddig-Raufie D, Schulz S. Effects of guideline-based training on the quality of formal ontologies: a randomized controlled trial. PLoS One. 2013; 8(5):e61425-e61425 3.534

31. Seddig-Raufie D, Jansen L, Schober D, Boeker M, Grewe N, Schulz S. Proposed actions are no actions: re-modeling an ontology design pattern with a realist top-level ontology. *Journal of Biomedical Semantics*. 2012; 3 Suppl 2(11):S2-S2
32. Nohama P, Pacheco EJ, Andrade RL, Bitencourt JL, Markó K, Schulz S. Quality issues in thesaurus building: a case study from the medical domain. *Brazilian Journal of Biomedical Engineering* 2012; 28(1): 11-22.
33. Martínez-Costa C, Queiroz de Andrade A, Karlsson D, Kalra D, Schulz S. Towards the Harmonization of Clinical Information and Terminologies by Formal Representation. *European Journal for Biomedical Informatics (EJBI)*. 2012 – 13th International HL7 Interoperability Conference (IHIC 2012). Science for Real World Applications; Sept 27-28, 2012; Vienna, Austria.
34. López-García P, Boeker M, Illarramendi A, Schulz S. Usability-driven pruning of large ontologies: the case of SNOMED CT. *Journal of the American Medical Informatics Association* 2012 Jun;19(e1):e102-9 3.571
35. Kreuzthaler M, Schulz S. Metonymies in medical terminologies. A SNOMED CT case study. *AMIA Annual Symposium Proceedings* 2012; 2012(6):463-467
36. Hastings J, Schulz S. Ontologies for human behavior analysis and their application to clinical data. *International Review of Neurobiology* 2012; 103(4):89-107 1.648
37. Boeker M, Schober D, Raufie D, Grewe N, Röhl J, Jansen L, Schulz S. Teaching good biomedical ontology design. *KR-MED Series CEUR Workshop Proceedings*. 2012; 897: 3rd International Conference on Biomedical Ontology (ICBO 2012); JUL 21-25, 2012; Graz, Austria.
38. Balke WT, Handels H, Kalet I, Kimura M, Kulikowski CA, Moura LA, Pommert A, Schulz S. Discussion of "spatial-symbolic query engine in anatomy". *Methods of Information in Medicine* 2012; 51(6): 479-488 1.600
39. Andrade AQ, Kreuzthaler M, Hastings J, Krestyaninova M, Schulz S. Requirements for semantic biobanks. *Studies in Health Technology and Informatics* 2012; 180(12):569-573
40. Andrade AQ, Blondé W, Hastings J, Schulz S. Process attributes in bio-ontologies. *BMC Bioinformatics*. 2012; 13(6):217 3.024
41. Andrade A, Almeida M, Schulz S. Revisiting ontological foundations of the OpenEHR Entry Model. *KR-MED Series CEUR Workshop Proceedings*. 2012; 897: 3rd International Conference on Biomedical Ontology (ICBO 2012); JUL 21-25, 2012; Graz, Austria.
42. Santana F, Schober D, Medeiros Z, Freitas F, Schulz S. Ontology patterns for tabular representations of biomedical knowledge on neglected tropical diseases. *Bioinformatics* 2011 Jul 1;27(13):i349-56 5.468
43. Kreuzthaler M, Schulz S. Truecasing clinical narratives. *Studies in Health Technology and Informatics* 2011; 169:589-593
44. Jansen L, Schulz S. Grains, components and mixtures in biomedical ontologies. *Journal of Biomedical Semantics*. 2011; 2 Suppl 4:S2-S2
45. Hastings J, Steinbeck C, Jansen L, Schulz J. Substance concentrations as conditions for the realization of dispositions *CEUR Workshop Proceedings*. 2011; 754: -KR-MED 2010 – Semantic Applications in Life Sciences. *Proceedings of the 4th International Workshop on Formal Biomedical Knowledge Representation, hosted by Bio-Ontologies 2010*; July 9-10, 2010; Boston, MA, USA
46. Hastings J, Batchelor C, Steinbeck C, Schulz S. Modularization Requirements in Bio-Ontologies: A Case Study of ChEBI. *Frontiers in Artificial Intelligence and Applications*. 2011: 230: Amsterdam, Berlin, Tokyo, Washington DC: IOS Press 63-70.
47. Boeker M, Tudose I, Hastings J, Schober D, Schulz S. Unintended consequences of existential quantifications in biomedical ontologies. *BMC Bioinformatics*. 2011; 12(1):456-456 2.751
48. Schober D, Raufie D, Boeker M, Schulz S: Pre-coordination vs. post-coordination: different ontology engineering requirements and patterns. 2010 – 2nd ECAI Workshop on Knowledge Representation for Health Care (KR4HC). Lisbon, 16.-20.8.2010
49. Oleynik M, Nohama P, Cancian PS, Schulz S: Performance analysis of a POS tagger applied to discharge summaries in Portuguese. *Studies in Health Technology and Informatics* 2010; 160 (Pt 2): 959-963
50. Hastings J, Steinbeck C, Batchelor C, Schulz S: What are chemical structures and their relations? *Frontiers in Artificial Intelligence and Applications*, 2010; 209: 257-270 – Sixth International Conference (FOIS 2010), Toronto.
51. Stenzhorn H, Pacheco EJ, Nohama P, Schulz S: Automatic mapping of clinical

- documentation to SNOMED CT. *Studies in Health Technology and Informatics* 2009;150:228-232
52. Pacheco E, Stenzhorn H, Nohama P, Paetzold J, Schulz S: Detecting Underspecification in SNOMED CT Concept Definitions Through Natural Language Processing. *AMIA Annual Symposium Proceedings* 2009 Nov 14;2009:492-496
 53. Hanser S, Zaiss A, Schulz S: Health Care Procedures. Comparison of the International Classification of Health Interventions (ICHI) with the CCAM Basic Coding System. *Methods of Information in Medicine* 2009; 48 (6): 540-545 1.690
 54. Cornet R, Schulz S. Relationship groups in SNOMED CT; *Studies in Health Technology and Informatics* 2009;150:223-227
 55. Boeker M, Stenzhorn H, Balzer F, Schulz S: Towards an Ontology of Biomedical Educational Objectives. 2009: 55-59 ICBO: International Conference on Biomedical Ontology; 2009, Buffalo NY, U.S.
 56. Niggemann JM, Gebert A, Schulz S. Modeling functional neuroanatomy for an anatomy information system; *Journal of the American Medical Informatics Association* 2008; 15 (5): 671-678 3.428
 57. Stenzhorn H, Beisswanger E, Schulz S. Towards a top-domain ontology for linking biomedical ontologies. *Studies in Health Technology and Informatics*; 2007; 129:1225-1229
 58. Markó K, Daumke P, Schulz S. Automatic lexeme acquisition for a multilingual medical subword thesaurus; *International Journal of Medical Informatics*; 2007; 76(2-3):184-189 1.579
 59. Bitencourt J, Pacheco E, Cancian P, Nohama P, Schulz S. Thesaurus anomaly detection by user action monitoring. *Studies in Health Technology and Informatics*; 2007; 129: 655-659
 60. Andrade R, Pacheco E, Cancian P, Nohama P, Schulz S. Corpus-based error detection in a multilingual medical thesaurus; *Studies in Health Technology and Informatics*; 2007; 129:529-534
 61. Markó K, Baud R, Zweigenbaum P, Borin L, Merkel M, Schulz S. Towards a multilingual medical lexicon; *AMIA Annual Symposium Proceedings*; 2006; 534-538
 62. Hahn U, Markó K, Schulz S. Subword clusters as light-weight interlingua for multilingual document retrieval; *Machine Translation Summit of the International Association for Machine Translation (MT Summit X)*, Phuket, Thailand; 2005;
 63. Poprat M, Hahn U, Wermter J, Markó K, Schulz S. An experimental assessment of direct vs. interlingual translation for cross-language information retrieval; *The 17th International FLAIRS Conference*; 2004; Miami Beach, Florida, 17.-19. May 2004
 64. Hahn U, Markó K, Schulz S. Mereological semantics for bio-ontologies; *The Nineteenth National Conference on Artificial Intelligence*; 2004; 25-29. July, San Jose, California. 257-262
 65. Hahn U, Markó K, Schulz S. Learning indexing patterns from one language for the benefit of others; *The Nineteenth National Conference on Artificial Intelligence*; 2004; 25-29. July, San Jose, California. 257-262
 66. Hahn U, Romacker M, Schulz S. Creating knowledge repositories from biomedical reports: the MEDSYNDIKATE text mining system; *Pacific Symposium on Biocomputing*; 2002; 7: 338-349
 67. Ceusters W, Desimpel I, Smith B, Schulz S. Using cross-lingual information to cope with underspecification in formal ontologies; *Studies in Health Technology and Informatics*; 2003; 95:391-396
 68. Beck R, Schulz S. Logic-based remodeling of the Digital Anatomist Foundational Model; *AMIA Annual Symposium Proceedings*; 2003; 71-75
 69. Honeck M, Hahn U, Klar R, Schulz S. Text retrieval based on medical subwords. *Studies in Health Technology and Informatics*; 2002; 90:241-245
 70. Hahn U, Romacker M, Schulz S. MEDSYNDIKATE – a natural language system for the extraction of medical information from findings reports; *International Journal of Medical Informatics*; 2002; 67 (1-3): 63-74 1.000
 71. Klar R, Schlachter S, Schulz S. Health Informatics World Wide – A WWW service for the health informatics community. *Studies in Health Technology and Informatics*; 2001; 84: 357-360
 72. Hahn U, Honeck M, Schulz S. A search engine for morphologically complex languages. *Lecture Notes in Computer Science*; 2001; 2189: 73-83 0.415
 73. Hahn U, Honeck M, Piotrowski M, Schulz S. Subword segmentation – leveling out morphological varieties for medical document retrieval. *Journal of the American Medical Informatics Association*; 2001 S:229-233 0.794

74. Hahn U, Romacker M, Schulz S. MedSynDiKATe – Design considerations for an ontology-based medical text understanding system. <i>Journal of the American Medical Informatics Association</i> ; 2000; S:330-334	3.089
75. Hahn U, Romacker M, Schulz S. How knowledge drives understanding – Matching Medical Ontologies with the Needs of Medical Language Processing; <i>Artificial Intelligence in Medicine</i> ; 1999; 15:25-52	1.026
76. Hahn U, Romacker M, Schulz S. Discourse structures in medical reports – watch out! The generation of referentially coherent and valid text knowledge bases in the medSYNDIKATE system; <i>International Journal of Medical Informatics</i> ; 1999; 53: 1-28	0.511
77. Klar R, Auhuber T, Schulz S. MicroPat – an example for integrating an atlas of digital images into a computer based training system; <i>Health Telematics Education</i> ; 1997; IOS Press, 214-220	
Sum of IF	47.750
Sum of IF in the last 5 years	16.156

Original Papers – Co-authorships

IF

1. Rodrigues JM, Dhingra-Kumar N, Schulz S, Souvignet J. A Patient Safety Information Model for Interoperability. <i>Studies in Health Technology and Informatics</i> . 2016; 223(1): 77-84.	
2. Mamou M, Rector A, Schulz S, Campbell J, Solbrig H, Rodrigues, JM. Representing ICD-11 JLMMS Using IHTSDO Representation Formalisms. <i>Studies in Health Technology and Informatics</i> . 2016; 228(1):431-435	
3. López-García P, Kreuzthaler M, Schulz S, Scherr D, Daumke P, Markó K, Kors JA, van Mulligen EM, Wang X, Gonna H, Behr E, Honrado Á. SEMCARE: Multilingual Semantic Search in Semi-Structured Clinical Data. <i>Studies in Health Technology and Informatics</i> . 2016; 223(1):93-99	
4. Fernandez-Luque L, Vilmarlund V, Borycki E, Schulz S, Kuziemy C, Marschollek M, Kulikowski CA. Social Media as Catalyzer for Connected Health: Hype or Hope? Perspectives from IMIA Working Groups. <i>Studies in Health Technology and Informatics</i> . 2016;225:602-604.	
5. Rodrigues JM, Schulz S, Souvignet J. Integrated care: an Information Model for Patient Safety and Vigilance Reporting Systems. <i>Studies in Health Technology and Informatics</i> 2015;210:434-438	
6. Rodrigues JM, Robinson D, Della Mea V, Campbell J, Rector A, Schulz S, Brear H, Üstün B, Spackman K, Chute CG, Millar J, Solbrig H, Brand Persson K. Semantic Alignment between ICD-11 and SNOMED CT. <i>Studies in Health Technology and Informatics</i> 2015;216:790-794	
7. Miñarro-Giménez JA; Kreuzthaler M Bernhardt-Melischinig J; Martínez-Costa C, Schulz S. Acquiring Plausible Predications from MEDLINE by Clustering MeSH Annotations. <i>Studies in Health Technology and Informatics</i> 2015; 216: 716-720.	
8. Martínez-Costa C, Cornet R, Karlsson D, Schulz S Kalra D. Semantic enrichment of clinical models towards semantic interoperability. The heart failure summary use case. <i>Journal of the American Medical Informatics Association</i> 2015; 22(3): 565-576	3.504
9. Kreuzthaler M, Schulz S, Berghold, A. Secondary use of electronic health records for building cohort studies through top-down information extraction. <i>Journal of Biomedical Informatics</i> 2015; 53: 188-195	2.126
10. Hellrich J. Schulz S, Buechel S, Hahn U. JuFiT: A Configurable Rule Engine for Filtering and Generating New Multilingual UMLS Terms. <i>AMIA Annual Symposium Proceedings</i> 2015; 2015: 604–610	
11. Rodrigues JM, Schulz S, Rector, A, Spackman, K, Millar, J, Campbell, J, Ustün, B, Chute, CG, Solbrig, H, Della Mea, V, Persson, KB. ICD-11 and SNOMED CT Common Ontology: Circulatory System. <i>Studies in Health Technology and Informatics</i> 2014; 205: 1043-1047.	
12. López-García P, Schulz S, Kern, R. Automatic Summarization for Terminology Recommendation: The Case of the NCBO Ontology Recommender. <i>Proceedings of the 7th International Workshop on Semantic Web Applications and Tools for Life Sciences</i> . 2014	
13. Legaz-García M del C; Martínez-Costa C, Miñarro-Giménez JA, Fernández-Breis JT, Schulz S, Menárguez-Tortosa M. Ontology patterns-based transformation of clinical information. <i>Studies in Health Technology and Informatics</i> 2014; 205:1018-1022	

14. Duque-Ramos A, Boeker M, Jansen L, Schulz S, Iniesta M, Fernández-Breis JT. Evaluating the Good Ontology Design Guideline (GoodOD) with the Ontology Quality Requirements and Evaluation Method and Metrics (OQuRE). *PLoS One*. 2014; 9(8): e104463-e104463 3.234
15. Braun M, Brandt AU, Schulz S, Boeker M. Validating archetypes for the Multiple Sclerosis Functional Composite. *BMC Medical Informatics and Decision Making* 2014; 14(8): 64-64 1.830
16. Balkanyi L, Schulz S, Cornet R, Bodenreider O. Medical concept representation: the years beyond 2000. *Studies in Health Technology and Informatics* 2013; 192(4):1011-1011
17. Ammenwerth E, Aly AF, Bürkle T, Christ P, Dormann H, Friesdorf W, Haas C, Haefeli WE, Jeske M, Kaltschmidt J, Menges K, Möller H, Neubert A, Rascher W, Reichert H, Schuler J, Schreier G, Schulz S, Seidling HM, Stühlinger W, Criegee-Rieck M. Memorandum on the use of information technology to improve medication safety. *Methods of Information in Medicine* 2014; 53(5): 336-343 2.248
18. Rodrigues JM, Schulz S, Rector A, Spackman K, Üstün B, Chute CG, Della Mea V, Millar J, Persson KB. Sharing ontology between ICD 11 and SNOMED CT will enable seamless re-use and semantic interoperability. *Studies in Health Technology and Informatics* 2013; 192(4):343-346
19. Duque-Ramos A, Boeker M, Jansen L, Schulz S, Iniesta M, Fernández-Breis JT. Evaluation of the OQUARE framework for ontology quality. *Expert Systems with Applications*. 2013 40: 2696–2703 2.240
20. Boeker M, Grewe N, Röhl J, Schober D, Schulz S, Seddig-Raufie D, Jansen L. Measuring the Effect of a Guideline-based Training on Ontology Design with a Competency Questions based Evaluation Approach. *Informatik 2013*. IOS Press 2013
21. Blondé W, Antezana E, Mironov V, Schulz S, Kuiper M, De Baets B. Using the relation ontology Metaref for modelling Linked Data as multi-digraphs. *Semantic Web*. 2013; 5(2): 115-126 1.786
22. Santamaria S, Fallon M, Green J, Schulz S, Wilcke J. Developing the Animals in Context Ontology. *KR-MED Series CEUR Workshop Proceedings*. 2012; 897: 3rd International Conference on Biomedical Ontology (ICBO 2012); Jul 21-25, 2012; Graz, Austria.
23. Rodrigues JM, Schulz S, Bousquet C, Souvignet J. The CEN ISO Standard Categorial Structure as a Top-Level Set of Constraints for Ontology Disambiguation. *KR-MED Series CEUR Workshop Proceedings*. 2012; 897: 3rd International Conference on Biomedical Ontology (ICBO 2012); Jul 21-25, 2012; Graz, Austria.
24. Hastings J, Batchelor C, Schulz S, Jansen L. Collective bio-molecular processes: The hidden ontology of systems biology. *Understanding and Modelling Collective Phenomena (UMoCoP)*. AISB/IACAP World Congress; JUL 2-6, 2012; Birmingham, UK.
25. Ouagne D, Nadah N, Schober D, Choquet R, Teodoro D, Colaert D, Schulz S, Jaulent MC, Daniel C: Ensuring HL7-based information model requirements within an ontology framework. *Studies in Health Technology and Informatics* 2010; 160 (Pt 2): 912-916
26. Daumke P, Schulz S, Müller ML, Dzeyk W, Prinzen L, Pacheco EJ, Secco Cancian P, Nohama P, Markó K: Subword-based Semantic Retrieval of Clinical and Bibliographic Documents. *Methods of Information in Medicine* 2010; 49 (2): 141-147 1.472
27. Marwede D, Daumke P, Marko K, Lobsien D, Schulz S, Kahn T: RadLex – German version: a radiological lexicon for indexing image and report information. *RöFo – Fortschritte auf dem Gebiet der Röntgenstrahlen und der bildgebenden Verfahren* 2009; 181 (1): 38-44 2.025
28. Freitas F, Schulz S, Moraes E: Survey of current terminologies and ontologies in biology and medicine. *Revista Eletrônica de Comunicação, Informação & Inovação em Saúde*, 2009; 3 (1): 7-18
29. Blobel B, Kalra D, Koehn M, Lunn K, Pharow P, Ruotsalainen P, Schulz S, Smith B. The role of ontologies for sustainable, semantically interoperable and trustworthy EHR solutions. *Studies in Health Technology and Informatics* 2009;150:953-957
30. Blobel B, Chronaki C, Stegwee R, Grain H, Hammond WE, Jaffe C, Kalra D, Koehn M, Macary F, Sabutsch S, Cheetham E, Schulz S, Tan M. HL7's comprehensive standards set and its international collaboration for enabling semantically interoperable eHealth and pHealth solutions. *Studies in Health Technology and Informatics* 2009;150:982-986
31. Weissenberger C, Jonassen S, Schultze-Seemann W, Schulz S, Matar H, Fischer C, Fogel J; Cultural differences among prostate cancer websites written in English, German, Hebrew or Arabic. *International Journal of Radiation Oncology* 2008; 72 (1) Suppl. S: S502-S503 4.639
32. Stenzhorn H, Schulz S, Boeker M, Smith B. Adapting clinical ontologies in real-world 0.488

- environments. *Journal of Universal Computer Science* 2008; 14(22): 3767-3780
33. Hofmann-Apitius M, Fluck J, Furlong L, Fornes O, Kolarik C, Hanser S, Boeker M, Schulz S, Sanz F, Klinger R, Mevissen T, Gattermayer T, Oliva B, Friedrich CM. Knowledge environments representing molecular entities for the virtual physiological human. *Philosophical Transactions of the Royal Society Series A* 2008; 366 (1878): 3091-3110 2.282
 34. Beisswanger E, Stenzhorn H, Schulz S, Hahn U. BIOTOP: An upper domain ontology for the life sciences. A description of its current structure, contents, and interfaces to OBO ontologies. *Applied Ontology* 2008; 3(4): 205-212
 35. Beisswanger E, Lee V, Kim JJ, Rebholz-Schuhmann D, Splendiani A, Dameron O, Schulz S, Hahn U. Gene Regulation Ontology (GRO) – design principles and use cases; *Studies in Health Technology and Informatics*; 2008; 136:9-14
 36. Suntasirivaraporn B, Baader F, Schulz S, Spackman K. Replacing SEP-triplets in SNOMED CT using tractable description logic operators. *Lecture Notes In Artificial Intelligence*; 2007; 4594:287-291
 37. Markó K, Daumke P, Schulz S, Klar R, Hahn U. Large-scale evaluation of a medical cross-language information retrieval system. *Studies in Health Technology and Informatics*; 2007; 129: 392-396
 38. Daumke P, Markó K., Schulz S. Klar R. Biomedical information retrieval across languages; *Medical Informatics and the Internet in Medicine*; 2007; 32(2):131-147 0.490
 39. Boeker M, Stenzhorn H, Kumpf K, Bijlenga P, Schulz S, Hanser S. The @neurIST ontology of intracranial aneurysms: providing terminological services for an integrated IT infrastructure. *AMIA Annual Symposium Proceedings*; 2007; 56-60
 40. Weissenberger C, Müller D, Beranek-Chiu J, Neumann M, Jonassen S, Bartelt S, Schulz S, Witucki G, Henne K, Geissler M, Fogel J. Gastrointestinal cancer web sites: how do they address patients' concerns?; *International Journal of Colorectal Diseases*; 2006; 21: 1-10 2.006
 41. Rodrigues JM, Rector A, Zanstra P. Baud R, Innes K, Rogers J, Rassinoux AM, Schulz S, Trombert Paviot B, ten Napel H, Clavel L, van der Haring E, Mateus, C. An Ontology driven collaborative development for biomedical terminologies: from the French CCAM to the Australian ICHI coding system. *Studies in Health Technology and Informatics* 2006;124:863-868
 42. Smith B, Mejino JLV, Schulz S, Kumar A, Rosse C. Anatomical information science. *Lecture Notes in Computer Science*; 2005; 3693: 149-164 0.402
 43. Markó K, Schulz S, Medelyan O, Hahn U. Bootstrapping dictionaries for cross-language information retrieval. *Proceedings of the Twenty-Eighth Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*; 2005; August 15-19, 2005, Salvador, Brazil. New York: ACM Press, 528-535
 44. Markó K, Schulz S, Hahn U. Unsupervised multilingual word sense disambiguation via an interlingua. *Proceedings of the 20th National Conference on Artificial Intelligence (AAAI '05)*, Pittsburgh, Pennsylvania; 2005; Menlo Park, Calif.: AAAI Press, 2005; 1075-1080
 45. Markó K, Schulz S, Hahn U. Multilingual lexical acquisition by bootstrapping cognate seed lexicons; *International Conference on Recent Advances in Natural Language Processing (RANLP '05)*, Borovets, Bulgaria. 2005; 2005; 301-307
 46. Markó K, Schulz S, Hahn U. MorphoSaurus – Design and evaluation of an interlingua-based, cross-language document retrieval engine for the medical domain; *Methods of Information in Medicine*; 2005; 44 (4): 537-545 0.970
 47. Markó K, Schulz S, Hahn U. Automatic lexicon acquisition for a medical cross-language information retrieval system; *Studies in Health Technology and Informatics*; 2005; 116: 829-834
 48. Hahn U, Daumke P, Schulz S, Markó K. Cross-language mining for acronyms and their completions from the web; *Lecture Notes in Computer Science*; 2005; 3735: 113-123 0.402
 49. Baud R, Nystrom M, Borin L, Evans R, Schulz S, Zweigenbaum P. Interchanging lexical information for a multilingual dictionary. *AMIA Annual Symposium Proceedings* 2005:31-35
 50. Weissenberger C, Jonassen S, Beranek-Chiu J, Neumann M, Müller D, Bartelt S, Schulz S, Schulte-Mönting J, Henne K, Gitsch G, Witucki G. Breast cancer: patient information needs reflected in English and German web sites; *British Journal of Cancer*; 2004; 91: 1482-1487 3.742
 51. Markó K, Hahn U, Schulz S, Daumke P. Interlingual indexing across different languages. *Proceedings of RIAO'04 – 7th International Conference "Recherche d'Information*

Assistée par Ordinateur"; 2004; Avignon, 26.-28.4: 82-99	
52. Hahn U, Poprat M, Schulz S, Wermter J, Markó K. Crossing languages in text retrieval via an interlingua. Proceedings of RIAO'04 – 7th International Conference "Recherche d'Information Assistée par Ordinateur". 2004; Avignon, 26.-28.4: 100-115	
53. Marko K, Daumke P, Schulz S, Hahn U. Cross-language MeSH indexing using morpho-semantic normalization; AMIA Annual Symposium Proceedings; 2003; 425-429	
54. Weske-Heck G, Zaiss A, Zabel M, Schulz S, Giere W, Schopen M, Klar R. The German Specialist Lexicon. AMIA Annual Symposium Proceedings; 2002; 884-888	
55. Pschichholz H, Boeker M, Gaudes R, Schulz S, Klar R. InfoServerPlus: providing a medical library as application service. Studies in Health Technology and Informatics; 2002; 90:189-194	
56. Romacker M, Hahn U, Schulz S, Klar R. Semantic analysis of medical free texts. Studies in Health Technology and Informatics; 2000; 77:438-442	
57. Franz P, Zaiss A, Schulz S, Hahn U, Klar R. Automated coding of diagnoses – three methods compared. Journal of the American Medical Informatics Association; 2000 S:250-254	3.089
58. Evers C, Schulz S, Pschichholz H, Boeker M, Klar R. 4 Jahre InfoServer im Universitätsklinikum Freiburg. Ergebnisse einer Benutzerbefragung. Proceedings zum 5. Workshop der GMDS AG – Computergestützte Lehr- und Lernsysteme in der Medizin; 2000; Aachen: Shaker, 2000: 50-58	
59. Auhuber TC, Schaefer HE, Schulz S, Klar R. Computer in der Medizinischen Ausbildung – Kontrollierte Evaluation eines computerbasierten Atlas der Histopathologie; Medizinische Ausbildung. 2000; 17: 5-11	
60. Romacker M, Schulz S, Hahn U. Streamlining semantic interpretation for medical narratives. Journal of the American Medical Informatics Association; 1999; S:925-929	2.363
61. Romacker M, Schulz S, Hahn U. Small is beautiful – compact semantics for medical language processing. Lecture Notes In Artificial Intelligence; 1999; 1620: 400-410	0.530
62. Hahn U, Schulz S, Romacker M. Part-whole reasoning – a case study in medical ontology engineering; IEEE- Intelligent Systems & Their Applications; 1999; 59-67	0.220
63. Paul W, Schulz S, Schuler T, Marangos N. Ein Trainingsprogramm für die Felsenbeinchirurgie; 43. Jahrestagung der GMDS, Bremen; 1998; MMV Medizin & Medien Verlag: 278-281	
64. Romacker M, Schnattinger K, Hahn U, Schulz S, Klar R. A natural language understanding system for knowledge-based analysis of medical texts; Classification and Knowledge Organization; 1997; Springer, 499-508	
65. Kroeger A, Schulz S, Witte B, Skewes-Ramm R, Etzler A. Helminthiasis and cultural change in the Peruvian rainforest; Journal of Tropical Medicine and Hygiene; 1992; 95: 104-113	
Sum of IF	42.088
Sum of IF in the last 5 years	16.968

Reviews – First authorships

	IF
1. Schulz S, López-García P. Big data, medical language and biomedical terminology systems. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2015; 58(8): 844-852	1.422
2. Schulz S. Kontroversen in der Medizinischen Informatik. Wozu benötigen wir standardisierte Terminologien wie SNOMED CT? Swiss Medical Informatics. 2011; (73): 27-32.	
3. Schulz S. Standardisierung internationaler medizinischer Terminologien durch die IHTSDO. HL7-Mitteilungen. 2011 (28)	
4. Schulz S, Klar R. Chatten statt Jetten? Virtuelle Konferenzen in der Medizin. Zentralblatt für Gynäkologie 2001 123(8): 487-493	
5. Schulz S, Schrader U, Klar R. Computer-based training and electronic publishing in the health sector: tools and trends. Methods of Information in Medicine 1997 Feb;36(2):149-53	0.651
Sum of IF	2.073
Sum of IF in the last 5 years	1.422

Reviews – Last authorships

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|--|-------|
| | IF |
| 1. Brochhausen M, Burgun A, Ceusters W, Hasman A, Leong TY, Musen M, Oliveira JL, Peleg M, Rector A, Schulz S. Discussion of "biomedical ontologies: toward scientific debate". <i>Methods of Information in Medicine</i> 2011; 50(3):217-236 | 1,532 |
| 2. Fluck J, Hofmann M, Hahn U, Wermter J, Schulz S. Text Mining in den Life Sciences: Perspektiven der automatischen Informationsextraktion aus biomedizinischen Fachtexten; <i>Deutsche Zeitschrift für Klinische Forschung</i> ; 2005 | |
| 3. Klar R, Schulz S. Die Stecknadel im Heuhaufen. Suchen und Finden von Gesundheitsinformationen im Internet; <i>Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz</i> . 2003; 46(4):278-284 | |
| 4. Klar R, Schulz S. Große Expertensysteme in der Medizin und die Probleme ihrer praktischen Nutzung. <i>Proceedings of the workshop "Einsatz von Methoden und Konzepten der KI in der Medizinischen Informationsverarbeitung" im Rahmen der 21. Deutschen Jahrestagung für Künstliche Intelligenz. (KI-97); 1997; Albert-Ludwigs-Universität Freiburg, 9.-12.9.1997. Johannes Gutenberg Verlag, 12-19</i> | |

Sum of IF	1,532
Sum of IF in the last 5 years	0

Publication statistics

	Count	IF	IF of last 5 years
All publications	212	128.97	34.55
<i>First author</i>	70	37.60	1.42
<i>Last author</i>	80	49.28	16.16
<i>Co-author</i>	66	42.09	16.97
Original papers			
Total	203	125.40	33.12
<i>First author</i>	61	35.56	0.00
<i>Last author</i>	77	47.75	16.16
<i>Co-author</i>	65	42.09	16.97
Review papers			
Total	9	3.57	1.42
<i>First author</i>	5	2.04	1.42
<i>Last author</i>	4	1.53	0.00

Source	Personal h-Index	Citations / year	Avg. citations / publication
SCI	12	19	6.96
ResearchGate excl. self citations	26	2875 Citations / 25 Years = 115	2875 Citations / 307 publications = 9.36
Google Scholar	33	3935 Citations / 25 Years = 157.4	3935 Citations / 375 publications = 10.5