

Personal information

Name Davide Martinenghi
Citizenship Italian
Web page <http://home.dei.polimi.it/martinen/>
Languages Italian (mother tongue), English (fluent), French (fluent), Danish (basic)

Employment

12/2008 – present Politecnico di Milano (Italy). Assistant professor.
10/2007 – 11/2008 Politecnico di Milano (Italy). Post-doc researcher, 14.5 months.
1/2006 – 09/2007 Free University of Bozen-Bolzano (Italy). Research fellow, 21 months.
10/2005 – 09/2007 Politecnico di Milano (Italy). Research collaborator, 2 years.
09/2005 – 11/2005 Cefriel/Politecnico di Milano (Italy). Consultant, 3 months.
12/2002 – 11/2005 Roskilde University (Denmark). Ph.D. student, 3 years.
09/2002 – 11/2002 Fiditalia (loan company in Milan, Italy). Project Manager, 3 months.
03/2001 – 09/2002 Altoprofilo (consulting company in Milan, Italy). Software Engineer, 19 months.
12/1999 – 01/2001 SOPRA (consulting company in Paris, France). Software Engineer, 14 months.
10/1997 – 11/1999 Roskilde University (Denmark). Research assistant, 2 years.

Education

2005 Roskilde University (Denmark), Department of Computer Science.
Ph.D. study under the program “Design and Management of Information Technology”.
Period: December 2002 – November 2005. Advisor: Professor Henning Christiansen.
Ph.D. thesis: “Advanced Techniques for Efficient Data Integrity Checking”.

1998 Habilitation to the profession of Engineer (“Esame di Stato”, mark 100/100).

1998 Politecnico di Milano (Italy), Dept. of Electronic Engineering and Information Sciences.
B.Sc. and M.Sc. *Summa cum Laude* as Computer Engineer in “Computer systems and applications” (“laurea in ingegneria informatica, voto: 100/100 e lode”).¹
The Master’s thesis was written in collaboration with the Technical University of Denmark and defended both in Denmark and in Italy. Title: “Object-Oriented Logic Programming”.

1996 Technical University of Denmark: one year of study abroad within the Erasmus program.

¹In 1998, to earn the Italian *Laurea in ingegneria*, the student had to complete five years of university courses as well as a thesis. The *Laurea in ingegneria* title is equivalent to a Bachelor of Science plus a Master of Science.

Research Projects

- *Search Computing (SeCo)*, ERC GRANT
Funding from European Research Council (Grant agreement no. 227793).
Project start: November 1, 2008. Duration: 5 years.
Role: coordinator of the “Theory and methods” group.
- *Entity-Aware Search Engines (EASE)*, ITALIAN PRIN[†] PROJECT
Funding from MIUR (Italian Ministry for University and Research).
Project start: February 4, 2009. Duration: 2 years.
- *New Generation Search (NGS)*, ITALIAN PRIN[†] PROJECT
Full project title: “New technologies and tools for the integration of Web search services”.
Funding from MIUR (Italian Ministry for University and Research).
With D. Calvanese at the Free University of Bozen-Bolzano in the period January 2006 – September 2007.
With S. Ceri at Politecnico di Milano in the period October 2007 – February 2009.
- *Thinking ONtologiES (TONES)*, EU FP6-7603
Funding from European Commission, 6th Framework Programme.
At the Free University of Bozen-Bolzano in the period January 2006 – September 2007, with D. Calvanese.
- *The Demo System*
Funding from the Danish Research Council within the DART project (Design, Analysis and Reasoning about Tools).
With H. Christiansen at Roskilde University in the period October 1997 – November 1999.

Research visits

- Politecnico di Milano (Italy), DEI. Host: Prof. Stefano Ceri. Period: December 2004 – June 2005
- Instituto Tecnológico de Informática, Valencia. Host: Prof. Hendrik Decker. Period: May 2005.
- Computing Lab, University of Oxford, Valencia. Host: Prof. Michael Benedikt. Period: May 2011.

Awards

Winner of the Best Student Paper Award at ADBIS 2004, Budapest, Hungary for the paper [C-27].

Research interests

Major research interests: top-k queries, integrity checking, access patterns for web querying.
Other research interests: incomplete data, data taxonomies, logic programming.

[†]“Progetti di Rilevante Interesse Nazionale” (Research Projects of Relevant National Interest).

TOP- k QUERIES

When posing a query over multiple sources, a user is often interested in determining the k most relevant results that match given conditions. Relevance is usually expressed as a function that combines the scores of the data from each single source into an aggregate score. The naive approach to address these queries consists in first computing *all* the query results, then sorting them by relevance. This process is very expensive. Fortunately, the sources are often endowed with special access modes that allow retrieving only a small fraction of the available tuples, yet guaranteeing that the top k results are found.

I have been focusing on several top- k query scenarios. In *proximity rank join* [IJ-1, IJ-4], the objects returned by the sources are equipped with a score as well as with a real-valued feature vector, which represents the “geometry” of the problem, e.g., the location of the object in the space. Here, the vector space plays a distinctive role in the computation of the overall score of a result and makes the problem more challenging than in the traditional case. When multiple sources are joined, and both random and sorted accesses are available, suitable execution strategies can be devised so as to further speed up the computation of the top k results [IJ-2, TR-62]. The topology of the join between two sources (in parallel or in a sequence) is also a relevant factor that determines the most promising execution strategy for a top- k query [IW-39]. Often, users are unable to precisely specify the scoring functions (e.g., weighted sums) used to rank the results of a query. Adopting uncertain/incomplete scoring functions (e.g., weight ranges) can better capture user’s preferences. Semantics of ranking queries and sensitivity of computed results to refinements made by the user in the presence of uncertainty are studied in [C-14]. All these optimization opportunities are especially relevant in the context of search [BC-33, NC-52, NC-54].

DATA AND CONSTRAINTS

Integrity checking. In the context of relational as well as deductive databases, correct and efficient integrity checking is a crucial issue: without any guarantee of data consistency, the answers to queries cannot be trusted. Checking integrity constraints from scratch may be prohibitively time consuming, as databases may contain huge quantities of data. However, a procedure that generates “simplified” incremental checks for given update patterns can be adopted: simplified versions of the constraints can be automatically derived at database design time and tested before the execution of any update. In this way, virtually no time is spent for optimization or rollbacks at run time [IJ-12, BC-35, BC-37, C-24, C-25, C-26, C-27, C-28, C-30, T-59]. The simplification procedure may also be adapted to several other contexts, such as data integration systems [C-29], automatic generation of repairs for inconsistent data [IW-47], and XML data collections [IW-48, IW-49, NC-58, BC-36]. It is also possible to reconsider the whole approach in an “inconsistency-tolerant” way, i.e., without requiring full data integrity (which is indeed very unlikely in real cases): in this case one can guarantee, through simplified checking, that no new inconsistencies are introduced by updates [IJ-3, C-20, C-22, C-23, NC-57, IW-40, IW-43, IW-45, IW-46, BC-34].

Access patterns. An access pattern is a constraint indicating which attributes of a relation schema are used as input and which ones are used as output. In this respect, access patterns may suitably characterize several relevant contexts, such as Web forms, legacy data, Web services, and the so-called Deep Web [C-16, C-17, BC-31]. Query processing under access patterns requires specialized techniques. Among these, static optimization, including query containment, has been studied for limited forms of conjunctive queries [IJ-6, IJ-10, IJ-11, C-19, C-21, IW-41, IW-42, IW-44, NC-55, NC-56]. More general cases are covered in the context of dynamic optimization [IJ-9], where results are available for schemata with functional dependencies and simple full-width inclusion dependencies. The latter kind of dependencies, albeit simple, can be used to state equivalence, and thus captures the notion of relations with multiple access patterns.

Data enriched with taxonomies. Traditional information search, in which queries are posed against a known and rigid schema over a structured database, is shifting towards a Web scenario in which exposed schemas are vague or absent, and data comes from heterogeneous sources. In this framework, query answering cannot

be precise and needs to be relaxed, with the goal of matching user requests with accessible data. Suitable models and languages are needed for querying data sets with vague schemas. When additional information about the data is available (in the form of simple classifications of terms arranged in a hierarchical structure or contextual information), extensions of relational algebra addressing these issues become possible [C-15, C-18, BC-32, NC-53, TR-61].

Taxonomical information can be provided via the notion of context. When answering a query, it is important to remove all the data that are not relevant with respect to the context in which they are used. This process, known as context-aware data tailoring, is obtained in [IW-38] via Answer Set Programming techniques.

Incomplete data. Incompleteness in databases is a central topic in the field of logic in databases [IJ-7, IJ-8]. Data incompleteness is likely to occur in several application scenarios, such as data integration. When querying incomplete data, reasoning on the schema is often necessary in order to provide the correct answers. A query answering algorithm addressing incomplete data under constraints is described in [IJ-5]. There, the schema is expressed with an extended version of the Entity-Relationship model, and the initial query is rewritten as a recursive Datalog query that encodes the information about the schema.

LOGIC PROGRAMMING AND META-PROGRAMMING

Logic programming, with its declarative bias as well as unification and the direct representation of linguistic structures, is well qualified for meta-programming, i.e., programs working with representations of other programs as their data. However, constraint techniques seem necessary in order to fully exploit this paradigm. In the Demo System, the language of Constraint Handling Rules (CHR) has been used to provide a functionality that appears difficult to obtain without such means. For example, reversibility of a meta-interpreter, which can be obtained by means of constraints, turns it into a powerful program generator; in the same way, negation-as-failure implemented by means of constraints provides an incremental evaluation of integrity constraints [IJ-13]. The Demo System has also been used as a platform to formulate problems in the Event Calculus [TR-63].

Organizational Activities

PROGRAM CHAIR OR CO-CHAIR

- Program Co-Chair of the Fifth International Workshop on Ranking in Databases (DBRank 2011).
- Program Co-Chair of the Second International Workshop on Logic in Databases (LID 2008).
- Program Co-Chair of the Second International Workshop on Logical Aspects and Applications of Integrity Constraints (LAAIC 2006).
- Program Chair of the First International Workshop on Logical Aspects and Applications of Integrity Constraints (LAAIC 2005).

STEERING COMMITTEE MEMBER

- Steering Committee member for the 4th International Workshop on Logic in Databases (LID 2011).
- Steering Committee member for the 3rd International Workshop on Logic in Databases (LID 2009).

PROGRAM COMMITTEE MEMBER

- PC member for the 27th International Conference on Logic Programming (ICLP 2011).
- PC member for the 9th International Conference on Flexible Query Answering Systems (FQAS 2011).

- PC member for the 1st International Workshop on Data, Logic and Inconsistency (DALI 2011).
- PC member for the 8th International Conference on Flexible Query Answering Systems (FQAS 2009).
- PC member for the 15th Intelligent Symposium on Methodologies for Intelligent Systems (ISMIS 2005).
- PC member for the 6th Intelligent Conference on Flexible Query Answering Systems (FQAS 2004).

ORGANIZING COMMITTEE MEMBER

- Organizing Committee member for the 20th International Workshop on Description Logics (DL 2007).

REVIEWER FOR CONFERENCES AND JOURNALS (SELECTION)

- ACM Transactions on Database Systems (TODS), 2011.
- Transactions on Knowledge and Data Engineering (TKDE), 2011.
- 29th ACM SIGMOD International Conference on Management of Data (SIGMOD 2010).
- 13th International Conference on Extending Database Technology (EDBT 2010).
- Data and Knowledge Engineering Journal (DKE), 2010.
- 18th International World Wide Web Conference (WWW 2009).
- 34th International Conference on Very Large Data Bases (VLDB 2008).
- 11th International Conference on Database Theory (ICDT 2007).
- 23rd International Conference on Data Engineering (ICDE 2007).
- 32nd International Conference on Very Large Data Bases (VLDB 2006).
- 25th ACM SIGMOD International Conference on Management of Data (SIGMOD 2006).

REVIEWER FOR ACADEMIC RESEARCH PROPOSALS

- External reviewer for the Research Grants Council, Hong Kong, 2010–2011.

Invited talks and seminars

- *Query Optimization in the Deep Web*, Università Roma Tre, Rome, Italy, June 11, 2010.
- *Query answering under access limitations*, Universidade Nova de Lisboa, Portugal, Dec. 15, 2008.
- *Query answering and containment under access limitations*, Free University of Bozen-Bolzano, Italy, November 3-4, 2008.
- *Advanced Techniques for Efficient Integrity Checking*, Free University of Bozen-Bolzano, Italy, November 18, 2005.
- *Efficient integrity checking: from deductive databases to XML*, Politecnico di Milano, Italy, December 15, 2004.

- *Application of Integrity Checking Techniques to Data Integration*, Arise Workshop on Exchange and Integration of Data, Toronto, Canada, September 7-9, 2004.
- *Simplified Integrity Checking for Data Integration*, Roskilde University, February 12, 2004.
- *Integrity checking for combined databases*, CoLogNET Workshop on Logic-based Methods for Information Integration, Technische Universität Wien, Vienna, Austria, August 23, 2003.
- *Simplified Integrity Checking*, Søminen's research seminars, Søminen, Denmark, May 2003.
- *Achieving reversibility and incrementality in meta-logic programming*, The Logic & Constraints Seminar, CWI, Amsterdam, The Netherlands, October 2000.

Teaching activity

AS LECTURER – PH.D. COURSES

Spring 2012

The Impact of Logic: from Proof Systems to Databases, Politecnico di Milano, spring 2012, 20 hours.

Spring 2010

The Impact of Logic: from Proof Systems to Databases, Politecnico di Milano, spring 2010, 20 hours.

Fall 2008

The Impact of Logic: from Proof Systems to Databases, Politecnico di Milano, fall 2008, 20 hours.

AS LECTURER – GRADUATE AND UNDERGRADUATE LEVEL

2011-2012

Theoretical foundations of computer science (“Algoritmi e principi dell’informatica – modulo di informatica teorica”), Politecnico di Milano (in Milan), 5 credits. In Italian.

Databases 2, Politecnico di Milano, 5 credits. In Italian.

2010-2011

Theoretical foundations of computer science (“Algoritmi e principi dell’informatica – modulo di informatica teorica”), Politecnico di Milano (in Milan), 5 credits. In Italian.

Theoretical foundations of computer science (“Algoritmi e principi dell’informatica – modulo di informatica teorica”), Politecnico di Milano (in Como), 5 credits. In Italian.

Databases 2, Politecnico di Milano, 5 credits. In Italian.

2009-2010

Computational Logic (jointly with Prof. Nutt), Free University of Bozen-Bolzano, 8 credits.

Databases 2, Politecnico di Milano, 5 credits. In Italian.

Applied informatics (“Informatica applicata”) 2009/2010, Politecnico di Milano, 5 credits. In Italian.

2008-2009

Computational Logic, Free University of Bozen-Bolzano, 4 credits.

Databases 2, Politecnico di Milano, 5 credits. In Italian.

2006-2007

Computational Logic, Free University of Bozen-Bolzano, 4 credits.

2004-2005

Advanced Topics in Databases, Roskilde University, 7.5 credits.

2003-2004

Advanced Topics in Databases (jointly with Prof. Villadsen), Roskilde University, 7.5 credits.

AS TEACHING ASSISTANT

2009-2010

Technologies for Information Systems (Prof. Schreiber), Politecnico di Milano, 5 credits.

2008-2009

Informatics (“Informatica 1”) (Prof. Bruschi), Politecnico di Milano, 10 credits. In Italian.

Informatics (“Informatica A”) (Prof. Campi), Politecnico di Milano, 10 credits. In Italian.

2007-2008

Informatics (“Informatica 1”) (Prof. Bruschi), Politecnico di Milano, 7.5 credits. In Italian.

Computer infrastructures (“Impianti di elaborazione”) (Prof. Ardagna), Politecnico di Milano, 5 credits. In Italian.

Algorithms and complexity (“Informatica 3”) (Prof. Spoletini), Politecnico di Milano, 5 credits. In Italian.

Informatics (“Informatica A”) (Prof. Guinea), Politecnico di Milano, 10 credits. In Italian.

Informatics (“Informatica A”) (Prof. Campi), Politecnico di Milano, 10 credits. In Italian.

Databases, labs, (Prof. Ceri), Politecnico di Milano, 5 credits. In Italian.

2006-2007

Introduction to Programming (Prof. Calvanese), Free University of Bozen-Bolzano, 8 credits.

Informatics (“Informatica 1”) (Prof. Bruschi), Politecnico di Milano, 7.5 credits. In Italian.

2005-2006

Informatics (“Informatica 1”) (Prof. Bruschi), Politecnico di Milano, 7.5 credits. In Italian.

Informatics (“Informatica B”), labs, (Prof. Spoletini), Politecnico di Milano, 7.5 credits. In Italian.

2004-2005

Advanced Topics in Information Systems (“Argomenti avanzati di sistemi informativi”) (Prof. Ceri), Politecnico di Milano, 2.5 credits. In Italian.

Publication list

INTERNATIONAL JOURNALS

- [IJ-1] D. Martinenghi and M. Tagliasacchi. *Proximity measures for rank join*. **ACM Transactions on Database Systems**. To appear.

- [IJ-2] D. Martinenghi and M. Tagliasacchi. *Cost-Aware Rank Join with Random and Sorted Access*. **IEEE Transactions on Knowledge & Data Engineering**. [doi:10.1109/TKDE.2011.161]. Preprint.
- [IJ-3] H. Decker and D. Martinenghi. *Inconsistency-tolerant Integrity Checking*. **IEEE Transactions on Knowledge & Data Engineering**, 23(2):218–234, 2011. [doi:10.1109/TKDE.2010.87].
- [IJ-4] D. Martinenghi and M. Tagliasacchi. *Proximity Rank Join*. **Proceedings of the VLDB Endowment**, 3(1):352–363, 2010. Available at <http://www.comp.nus.edu.sg/~vlldb2010/proceedings/files/papers/R31.pdf>.
- [IJ-5] A. Cali and D. Martinenghi. *Querying incomplete data over extended ER schemata*. **Theory and Practice of Logic Programming**, 10(3):291–329, 2010. [doi:10.1017/S1471068410000104].
- [IJ-6] S. Ceri, A. Abid, M. Abu Helou, A. Bozzon, D. Braga, M. Brambilla, A. Campi, F. Corcoglioniti, E. Della Valle, D. Eynard, P. Fraternali, M. Grossniklaus, D. Martinenghi, S. Ronchi, M. Tagliasacchi and S. Vadacca. *Search Computing: an Approach for Managing Complex Search Queries*. **IEEE Internet Computing**, 14(6):14–22, 2010. [doi:10.1109/MIC.2010.106].
- [IJ-7] A. Cali, L. V. S. Lakshmanan and D. Martinenghi. *Selected papers from the Logic in Databases Workshop 2008*. **Journal of Applied Logic**, 8(2):151–152, 2010. [doi:10.1016/j.jal.2009.09.003].
- [IJ-8] A. Cali, L. V. Lakshmanan and D. Martinenghi. *Logic In Databases: Report on the LID 2008 Workshop*. **SIGMOD Record**, 38(3):44–49, 2009. [doi:10.1145/1815933.1815946].
- [IJ-9] A. Cali, D. Calvanese and D. Martinenghi. *Dynamic Query Optimization under Access Limitations and Dependencies*. **Journal of Universal Computer Science**, 15(21):33–62, 2009. Available at http://www.jucs.org/jucs_15_1/dynamic_query_optimization_under.
- [IJ-10] D. Braga, S. Ceri, F. Daniel and D. Martinenghi. *Optimization of Multi-Domain Queries on the Web*. **Proceedings of the VLDB Endowment**, 1(1):562–573, 2008. Available at <http://www.vldb.org/pvldb/1/1453918.pdf>.
- [IJ-11] D. Braga, S. Ceri, F. Daniel and D. Martinenghi. *Mashing up Search Services*. **IEEE Internet Computing**, 12(5):16–23, 2008. [doi:10.1109/MIC.2008.105].
- [IJ-12] H. Christiansen and D. Martinenghi. *On Simplification of Database Integrity Constraints*. **Fundamenta Informaticae**, 71(4):371–417, 2006. Available at <http://iospress.metapress.com/openurl.asp?genre=article&issn=0169-2968&volume=71&issue=4&page=371>.
- [IJ-13] H. Christiansen and D. Martinenghi. *Symbolic Constraints for Meta-Logic Programming*. **Applied Artificial Intelligence**, 14(4):345–367, 2000.

INTERNATIONAL CONFERENCES

- [C-14] M. A. Soliman, I. F. Ilyas, D. Martinenghi and M. Tagliasacchi. *Ranking with Uncertain Scoring Functions: Semantics and Sensitivity Measures*. In *Proceedings of the 2011 ACM SIGMOD/PODS Conference – SIGMOD 2011, Athens, Greece, June 12–16, 2011*, pages 805–816, 2011. [doi:10.1145/1989323.1989408].
- [C-15] D. Martinenghi and R. Torlone. *Querying Databases with Taxonomies*. In *Proceedings of Conceptual Modeling - ER 2010, 29th International Conference on Conceptual Modeling, Vancouver, BC, Canada, November 1-4, 2010*, pages 377–390, 2010. [doi:10.1007/978-3-642-16373-9_27].

- [C-16] A. Cali and D. Martinenghi. *Optimizing Query Processing for the Hidden Web (Tutorial)*. In *Advances in Web Technologies and Applications, Proceedings of the 12th Asia-Pacific Web Conference, APWeb 2010, Busan, Korea, 6-8 April 2010*, page 397, 2010. [doi:10.1109/APWeb.2010.83].
- [C-17] A. Cali and D. Martinenghi. *Querying the deep web (Tutorial)*. In *EDBT 2010, 13th International Conference on Extending Database Technology, Lausanne, Switzerland, March 22-26, 2010, Proceedings*, pages 724–727, 2010. [doi:10.1145/1739041.1739138].
- [C-18] D. Martinenghi and R. Torlone. *Querying Context-Aware Databases*. In *Flexible Query Answering Systems, 8th International Conference, FQAS 2009, Roskilde, Denmark, October 26-28, 2009. Proceedings*, pages 76–87, 2009. [doi:10.1007/978-3-642-04957-6_7].
- [C-19] A. Cali and D. Martinenghi. *Conjunctive Query Containment under Access Limitations*. In *Proceedings of Conceptual Modeling - ER 2008, 27th International Conference on Conceptual Modeling, Barcelona, Spain, October 20-24, 2008*, pages 326–340, 2008. [doi:10.1007/978-3-540-87877-3_24].
- [C-20] H. Decker and D. Martinenghi. *Classifying Integrity Checking Methods with regard to Inconsistency Tolerance*. In *Proceedings of the 10th International ACM SIGPLAN Conference on Principles and Practice of Declarative Programming, July 15-17, 2008, Valencia, Spain*, pages 195–204, 2008. [doi:10.1145/1389449.1389474].
- [C-21] A. Cali and D. Martinenghi. *Querying Data under Access Limitations*. In *Proceedings of the 24th International Conference on Data Engineering, ICDE 2008, April 7-12, 2008, Cancún, México*, pages 50–59, 2008. [doi:10.1109/ICDE.2008.4497413].
- [C-22] H. Decker and D. Martinenghi. *A Relaxed Approach to Integrity and Inconsistency in Databases*. In *Logic for Programming, Artificial Intelligence, and Reasoning, 13th International Conference, LPAR 2006, Phnom Penh, Cambodia, November 13-17, 2006, Proceedings*, volume 4246 of *Lecture Notes in Computer Science*, pages 287–301. Springer, 2006. [doi:10.1007/11916277_20].
- [C-23] H. Decker and D. Martinenghi. *Checking Violation Tolerance of Approaches to Database Integrity*. In *Advances in Information Systems, 4th International Conference, ADVIS 2006, Izmir, Turkey, October 18-20, 2006, Proceedings*, volume 4243 of *Lecture Notes in Computer Science*, pages 139–148. Springer, 2006. [doi:10.1007/11890393_15].
- [C-24] H. Christiansen and D. Martinenghi. *Incremental Integrity Checking: Limitations and Possibilities*. In *Logic for Programming, Artificial Intelligence, and Reasoning, 12th International Conference, LPAR 2005, Montego Bay, Jamaica, December 2-6, 2005, Proceedings*, volume 3835 of *Lecture Notes in Computer Science*, pages 712–727. Springer, 2005. [doi:10.1007/11591191_49].
- [C-25] D. Martinenghi and H. Christiansen. *Efficient Integrity Checking for Databases with Recursive Views*. In *Advances in Databases and Information Systems, 9th East European Conference, ADBIS 2005, Tallinn, Estonia, September 12-15, 2005, Proceedings*, volume 3631 of *Lecture Notes in Computer Science*, pages 109–124. Springer, 2005. [doi:10.1007/11547686_9].
- [C-26] D. Martinenghi and H. Christiansen. *Transaction Management with Integrity Checking*. In *Advances in Databases and Information Systems, 9th East European Conference, ADBIS 2005, Tallinn, Estonia, September 12-15, 2005, Proceedings*, volume 3588 of *Lecture Notes in Computer Science*, pages 606–615. Springer, 2005. [doi:10.1007/11547686_9].
- [C-27] D. Martinenghi. *Optimal Database Locks for Efficient Integrity Checking*. In *Eighth East-European Conference on Advances in Databases and Information Systems (ADBIS 2004), Budapest, Hungary, 22-25 September 2004, local proceedings*, pages 64–77, 2004. Available at <http://www.sztaki.hu/conferences/ADBIS/6-Martinenghi.pdf>. **Best Student Paper Award.**

- [C-28] D. Martinenghi. *Simplification of Integrity Constraints with Aggregates and Arithmetic Built-Ins*. In *Flexible Query Answering Systems, 6th International Conference, FQAS 2004, Lyon, France, June 24-26, 2004, Proceedings*, volume 3055 of *Lecture Notes in Computer Science*, pages 348–361. Springer, 2004. Available at <http://springerlink.metapress.com/openurl.asp?genre=article&issn=0302-9743&volume=3055&spage=348>.
- [C-29] H. Christiansen and D. Martinenghi. *Simplification of integrity constraints for data integration*. In *Foundations of Information and Knowledge Systems, Third International Symposium, FoIKS 2004, Wilhelminenburg Castle, Austria, February 17-20, 2004, Proceedings*, volume 2942 of *Lecture Notes in Computer Science*, pages 31–48. Springer, 2004. Available at <http://springerlink.metapress.com/openurl.asp?genre=article&issn=0302-9743&volume=2942&spage=31>.
- [C-30] H. Christiansen and D. Martinenghi. *Simplification of Database Integrity Constraints Revisited: A Transformational Approach*. In *Logic Based Program Synthesis and Transformation, 13th International Symposium LOPSTR 2003, Uppsala, Sweden, August 25-27, 2003, Revised Selected Papers*, volume 3018 of *Lecture Notes in Computer Science*, pages 178–197. Springer, 2004. Available at <http://springerlink.metapress.com/openurl.asp?genre=article&issn=0302-9743&volume=3018&spage=178>.

CHAPTERS IN INTERNATIONAL BOOKS

- [BC-31] D. Martinenghi. *Access pattern*. In H. C. van Tilborg and S. Jajodiathe, editors, *Encyclopedia of Cryptography and Security (Second Edition)*, pages A17–A20. Springer, 2011. [doi:10.1007/978-1-4419-5906-5].
- [BC-32] D. Martinenghi and R. Torlone. *A Logical Approach to Context-Aware Databases*. In A. D’Atri, M. D. Marco, A. Braccini and F. Cabiddu, editors, *Management of the Interconnected World*, pages 211–220. 2010. Extended version of [NC-53].
- [BC-33] I. F. Ilyas, D. Martinenghi and M. Tagliasacchi. *Rank-Join Algorithms for Search Computing*. In S. Ceri and M. Brambilla, editors, *Search Computing: Challenges and Directions*, pages 211–224. 2009. [doi:10.1007/978-3-642-12310-8_11].
- [BC-34] H. Decker and D. Martinenghi. *Inconsistency-Tolerant Integrity Checking*. In V. Ferraggine, J. Doorn and L. Rivero, editors, *Handbook of Research on Innovations in Database Technologies and Applications: Current and Future Trends*, volume II, chapter XXXVIII, pages 348–357. Information Science Reference, 2009.
- [BC-35] H. Decker and D. Martinenghi. *Database Integrity Checking*. In M. Khosrow-Pour, editor, *Encyclopedia of Information Science and Technology (Second Edition)*, volume II, pages 961–966. Information Science Reference, 2008.
- [BC-36] A. Campi, D. Martinenghi and A. Raffio. *XQBE: a Visual Language for XML Data Management*. In F. Ferri, editor, *Visual Languages for Interactive Computing: Definitions and Formalization*, chapter XVII, pages 353–383. Idea Group Publishing, 2008.
- [BC-37] D. Martinenghi, H. Christiansen and H. Decker. *Integrity Checking and Maintenance in Relational and Deductive Databases - and Beyond*. In Z. Ma, editor, *Intelligent Databases: Technologies and Applications*, chapter X, pages 238–285. Idea Group Publishing, 2006.

INTERNATIONAL WORKSHOPS

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