

## **ANDREAS PIERIS - LIST OF PUBLICATIONS**

**(authors are given in alphabetical order)**

### **EDITED VOLUMES**

- [1] Mario Alviano and Andreas Pieris. Datalog 2.0 2019 – 3<sup>rd</sup> International Workshop on the Resurgence of Datalog in Academia and Industry. CEUR Workshop Proceedings 2368, 2019

### **BOOK CHAPTERS**

- [2] Pablo Barceló, Gerald Berger, Georg Gottlob and Andreas Pieris. Guarded Ontology-Mediated Queries. Hajnal Andréka and István Németi on Unity of Science: From Computing to Relativity Theory Through Algebraic Logic, Series on Outstanding Contributions to Logic, Springer, 2019
- [3] Andrea Cali, Georg Gottlob and Andreas Pieris. The Return of the Entity-Relationship Model: Ontological Query Answering. Semantic Search over the Web, Springer, 2012

### **JOURNAL PAPERS**

#### **2018**

- [4] Marcelo Arenas, Georg Gottlob and Andreas Pieris. Expressive Languages for Querying the Semantic Web. ACM Transactions on Database Systems, 43(3): 13:1-13:45
- [5] Georg Gottlob, Andreas Pieris and Mantas Šimkus. The Impact of Active Domain Predicates on Guarded Existential Rules. Fundamenta Informaticae, 159(1-2): 123-146

#### **2017**

- [6] Pablo Barceló, Andreas Pieris and Miguel Romero. Semantic Optimization in Tractable Classes of Conjunctive Queries. SIGMOD Record, 46(2): 5-17

#### **2016**

- [7] Pierre Bourhis, Marco Manna, Michael Morak and Andreas Pieris. Guarded-Based Disjunctive Tuple-Generating Dependencies. ACM Transactions on Database Systems, 41(4): 27:1-27:45

#### **2014**

- [8] Georg Gottlob, Giorgio Orsi and Andreas Pieris. Query Rewriting and Optimization for Ontological Databases. ACM Transactions on Database Systems, 39(3): 25:1-25:46

#### **2013**

- [9] Georg Gottlob, Marco Manna and Andreas Pieris. Combining Decidability Paradigms for Existential Rules. Theory and Practice of Logic Programming, 13(4-5): 877-892

## 2012

- [10] Andrea Cali, Georg Gottlob and Andreas Pieris. Towards More Expressive Ontology Languages: The Query Answering Problem. *Artificial Intelligence*, 193: 87-128
- [11] Andrea Cali, Georg Gottlob and Andreas Pieris. Ontological Query Answering under Expressive Entity-Relationship Schemata. *Information Systems*, 37(4): 320-335

## 2011

- [12] Giorgio Orsi and Andreas Pieris. Optimizing Query Answering under Ontological Constraints. *Proceedings of the VLDB Endowment (PVLDB)*, 4(11): 1004-1015
- [13] Andrea Cali, Georg Gottlob and Andreas Pieris. A Logical Toolbox for Ontological Reasoning. *SIGMOD Record*, 40(3): 5-14

## 2010

- [14] Andrea Cali, Georg Gottlob and Andreas Pieris. Advanced Processing for Ontological Queries. *Proceedings of the VLDB Endowment (PVLDB)*, 3(1): 554-565
- [15] Rainer Feldmann, Marios Mavronicolas and Andreas Pieris. Facets of the Fully Mixed Nash Equilibrium Conjecture. *Theory of Computing Systems*, 47(1): 60-112

## CONFERENCE PAPERS

## 2019

- [16] Marco Calautti, Marco Console and Andreas Pieris. Counting Database Repairs under Primary Keys Revisited. 38<sup>th</sup> Symposium on Principles of Database Systems (PODS): 104-118
- [17] Gerald Berger, Georg Gottlob, Andreas Pieris and Emanuel Sallinger. The Space-Efficient Core of Vadalog. 38<sup>th</sup> Symposium on Principles of Database Systems (PODS): 270-284
- [18] Pablo Barceló, Cristina Feier, Carsten Lutz and Andreas Pieris. When is Ontology-Mediated Querying Efficient? 34<sup>th</sup> Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)
- [19] Marco Calautti and Andreas Pieris. Oblivious Chase Termination: The Sticky Case. 22<sup>nd</sup> International Conference on Database Theory (ICDT) 17:1-17:18  
**(invited to a special issue of Theory of Computing Systems, collecting the best of ICDT 2019)**
- [20] Gerald Berger, Martin Otto, Andreas Pieris, Dimitri Surinx and Jan Van den Bussche. Additive First-Order Queries. 22<sup>nd</sup> International Conference on Database Theory (ICDT): 19:1-19:14
- [21] Georg Gottlob, Andreas Pieris and Emanuel Sallinger. Vadalog: Recent Advances and Applications. 16<sup>th</sup> European Conference on Logics in Artificial Intelligence (JELIA): 21-37

## 2018

- [22] Marco Calautti, Leonid Libkin and Andreas Pieris. An Operational Approach to Consistent Query

Answering. 37<sup>th</sup> Symposium on Principles of Database Systems (PODS): 239-251

- [23] Pablo Barceló, Gerald Berger and Andreas Pieris. Containment for Rule-Based Ontology Mediated Queries. 37<sup>th</sup> Symposium on Principles of Database Systems (PODS): 267-279
- [24] Pablo Barceló, Gerald Berger, Carsten Lutz and Andreas Pieris. First-Order Rewritability of Frontier-Guarded Ontology-Mediated Queries. 27<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 1707-1713
- [25] Georg Gottlob, Marco Manna and Andreas Pieris. Finite Model Reasoning in Hybrid Classes of Existential Rules. 27<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 1831-1817
- [26] Luigi Bellomarini, Georg Gottlob, Andreas Pieris and Emanuel Sallinger. Swift Logic for Big Data and Knowledge Graphs – Overview of Requirements, Language, and System. 44<sup>th</sup> International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM): 3-16

## **2017**

- [27] Mario Alviano, Michael Morak and Andreas Pieris. Stable Model Semantics for Tuple-Generating Dependencies Revisited. 36<sup>th</sup> Symposium on Principles of Database Systems (PODS): 377-388
- [28] Pierre Bourhis, Michael Morak and Andreas Pieris. Making Cross Products and Guarded Ontology Languages Compatible. 26<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 880-886
- [29] Luigi Bellomarini, Georg Gottlob, Andreas Pieris and Emanuel Sallinger. Swift Logic for Big Data and Knowledge Graphs. 26<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 2-10
- [30] Georg Gottlob, Christoph Koch and Andreas Pieris. Logic, Languages, and Rules for Web Data Extraction and Reasoning over Data. 11<sup>th</sup> International Conference on Language and Automata Theory and Applications (LATA): 27-47

## **2016**

- [31] Pablo Barceló, Georg Gottlob and Andreas Pieris. Semantic Acyclicity under Constraints. 35<sup>th</sup> Symposium on Principles of Database Systems (PODS): 343-354
- [32] Gerald Berger and Andreas Pieris. Ontology-Mediated Queries Distributing over Components. 25<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 943-949
- [33] Georg Gottlob, Andreas Pieris and Mantas Šimkus. The Impact of Active Domain Predicates on Guarded Existential Rules. 10<sup>th</sup> International Conference on Web Reasoning and Rule Systems (RR): 94-110

## **2015**

- [34] Mario Alviano and Andreas Pieris. Default Negation for Non-Guarded Existential Rules. 34<sup>th</sup> Symposium on Principles of Database Systems (PODS): 79-90

- [35] Marco Calautti, Georg Gottlob and Andreas Pieris. Chase Termination for Guarded Existential Rules. 34<sup>th</sup> Symposium on Principles of Database Systems (PODS): 91-103
- [36] Marco Manna, Georg Gottlob and Andreas Pieris. Polynomial Rewritings for Linear Existential Rules. 24<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 2992-2998
- [37] Georg Gottlob and Andreas Pieris. Beyond SPARQL under OWL 2 QL Entailment Regimes: Rules to the Rescue. 24<sup>th</sup> International Joint Conference on Artificial Intelligence (IJCAI): 2999-3007
- [38] Thomas Lukasiewicz, Maria Vanina Martinez, Andreas Pieris and Gerardo I. Simari. From Classical to Consistent Query Answering under Existential Rules. 29<sup>th</sup> Conference on Artificial Intelligence (AAAI): 1546-1552
- [39] Georg Gottlob, Giorgio Orsi and Andreas Pieris. Consistency Checking of Re-Engineered UML Class Diagrams via Datalog+/- . 9<sup>th</sup> International Web Rule Symposium (RuleML): 35-53

## **2014**

- [40] Marcelo Arenas, Georg Gottlob and Andreas Pieris. Expressive Languages for Querying the Semantic Web. 33<sup>rd</sup> Symposium on Principles of Database Systems (PODS): 14-26
- [41] Georg Gottlob, Marco Manna and Andreas Pieris. Polynomial Combined Rewritings for Existential Rules. 14<sup>th</sup> International Conference on Principles of Knowledge Representation and Reasoning (KR): 268-277
- [42] Pierre Bourhis, Michael Morak and Andreas Pieris. Towards Efficient Reasoning under Guarded-based Disjunctive Existential Rules. 39<sup>th</sup> International Symposium on Mathematical Foundations of Computer Science (MFCS): 99-110

## **2013**

- [43] Georg Gottlob, Andreas Pieris and Lidia Tendera. Querying the Guarded Fragment with Transitivity. 40<sup>th</sup> International Colloquium on Automata, Languages and Programming (ICALP): 287-298
- [44] Pierre Bourhis, Michael Morak and Andreas Pieris. The Impact of Disjunction on Query Answering Under Guarded-based Existential Rules. 23<sup>rd</sup> International Joint Conference on Artificial Intelligence (IJCAI): 796-802

## **2012**

- [45] Andrea Cali, Georg Gottlob, Giorgio Orsi and Andreas Pieris. Querying UML Class Diagrams. 15<sup>th</sup> International Conference on Foundations of Software Science and Computation Structures (FoSSaCS): 1-25
- [46] Georg Gottlob, Marco Manna, Michael Morak and Andreas Pieris. On the Complexity of Ontological Reasoning under Disjunctive Existential Rules. 37<sup>th</sup> International Symposium on Mathematical Foundations of Computer Science (MFCS): 1-18

## 2011

- [47] Georg Gottlob, Giorgio Orsi and Andreas Pieris. Ontological Queries: Rewriting and Optimization. 27<sup>th</sup> International Conference on Data Engineering (ICDE): 2-13
- [48] Andrea Cali, Georg Gottlob and Andreas Pieris. New Expressive Languages for Ontological Query Answering. 25<sup>th</sup> Conference on Artificial Intelligence (AAAI): 1541-1446
- [49] Andrea Cali, Georg Gottlob and Andreas Pieris. Querying Conceptual Schemata with Expressive Equality Constraints. 30<sup>th</sup> International Conference on Conceptual Modeling (ER): 161-174
- [50] Andrea Cali and Andreas Pieris. On Equality-Generating Dependencies in Ontology Querying (Extended Abstract). 19<sup>th</sup> Italian Symposium on Advanced Database Systems (SEBD): 95-102
- [51] Georg Gottlob, Giorgio Orsi and Andreas Pieris. Ontological Query Answering via Rewriting. 14<sup>th</sup> East European Conference on Advances in Databases and Information Systems (ADBIS): 1-18

## 2010

- [52] Andrea Cali, Georg Gottlob, Thomas Lukasiewicz, Bruno Marnette and Andreas Pieris. Datalog+/-: A Family of Logical Knowledge Representation and Query Languages for New Applications. 25<sup>th</sup> Annual IEEE Symposium on Logic in Computer Science (LICS): 228-242
- [53] Andrea Cali, Georg Gottlob, Michael Kifer, Thomas Lukasiewicz and Andreas Pieris. Ontological Reasoning with F-Logic Lite and its Extensions. 24<sup>th</sup> Conference on Artificial Intelligence (AAAI): 1660-1665
- [54] Andrea Cali, Georg Gottlob and Andreas Pieris. Query Answering under Expressive Entity-Relationship Schemata. 29<sup>th</sup> International Conference on Conceptual Modeling (ER): 347-361
- [55] Andrea Cali, Georg Gottlob and Andreas Pieris. Query Answering under Non-Guarded Rules in Datalog+/- . 4<sup>th</sup> International Conference on Web Reasoning and Rule Systems (RR): 1-17
- [56] Andrea Cali, Georg Gottlob and Andreas Pieris. Tractable Query Answering over Conceptual Schemata (Extended Abstract). 18<sup>th</sup> Italian Symposium on Advanced Database Systems (SEBD): 454-461

## 2009

- [57] Andrea Cali, Georg Gottlob and Andreas Pieris. Tractable Query Answering over Conceptual Schemata. 28<sup>th</sup> International Conference on Conceptual Modeling (ER): 175-190

## 2008

- [58] Rainer Feldmann, Marios Mavronicolas and Andreas Pieris. Facets of the Fully Mixed Nash Equilibrium Conjecture. 1<sup>st</sup> International Symp. on Algorithmic Game Theory (SAGT): 145-157  
**(invited to a special issue of Theory of Computing Systems, collecting the best of SAGT 2008)**

## WORKSHOP PAPERS

### 2019

- [59] Pablo Barceló, Cristina Feier, Carsten Lutz and Andreas Pieris. PTime Combined Complexity and FPT in Ontology-Mediated Querying. 32<sup>nd</sup> International Workshop on Description Logics (DL)

### 2018

- [60] Marco Calautti, Leonid Libkin and Andreas Pieris. An Operational Approach to Consistent Query Answering. 12<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [61] Pablo Barceló, Gerald Berger, Carsten Lutz and Andreas Pieris. First-Order Rewritability of Frontier-Guarded Ontology-Mediated Queries. 12<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [62] Luigi Bellomarini, Georg Gottlob, Andreas Pieris and Emanuel Sallinger. The Vadalog System: Swift Logic for Big Data and Enterprise Knowledge Graphs. 12<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)

### 2017

- [63] Pablo Barceló, Gerald Berger and Andreas Pieris. Guarded Ontology-Mediated Queries Distributing Over Components. 11<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)

### 2016

- [64] Pablo Barceló, Georg Gottlob and Andreas Pieris. Semantic Acyclicity under Constraints. 10<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [65] Marcelo Arenas, Georg Gottlob and Andreas Pieris. A Datalog-Based Language for Querying RDF Graphs. 10<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)

### 2015

- [66] Marco Calautti, Georg Gottlob and Andreas Pieris. Chase Termination for Guarded Existential Rules. 9<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [67] Thomas Lukasiewicz, Maria Vanina Martinez, Andreas Pieris and Gerardo I. Simari. From Classical to Consistent Query Answering under Existential Rules. 9<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [68] Marco Manna, Georg Gottlob and Andreas Pieris. Polynomial Combined Rewritings for Linear Existential Rules and DL-Lite with n-ary Relations. 28<sup>th</sup> International Workshop on Description Logics (DL)

## **2014**

- [69] Marcelo Arenas, Georg Gottlob and Andreas Pieris. Expressive Languages for Querying the Semantic Web. 8<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [70] Pierre Bourhis, Michael Morak and Andreas Pieris. Acyclic Query Answering under Guarded Disjunctive Existential Rules and Consequences to DLs. 27<sup>th</sup> International Workshop on Description Logics (DL)

## **2013**

- [71] Pierre Bourhis, Michael Morak and Andreas Pieris. The Impact of Disjunction on Query Answering Under Guarded-based Existential Rules. 26<sup>th</sup> International Workshop on Description Logics (DL)

## **2011**

- [72] Andrea Cali and Andreas Pieris. On Equality-Generating Dependencies in Ontology Querying - Preliminary Report. 5<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)

## **2010**

- [73] Andrea Cali, Georg Gottlob and Andreas Pieris. Query Rewriting under Non-Guarded Rules. 4<sup>th</sup> Alberto Mendelzon International Workshop on Foundations of Data Management (AMW)
- [74] Andrea Cali, Georg Gottlob, Thomas Lukasiewicz and Andreas Pieris. Datalog+/-: A Family of Languages for Ontology Querying. 1<sup>st</sup> International Workshop on the Resurgence of Datalog in Academia and Industry (Datalog 2.0): 351-368

## **MISCELLANEOUS**

### **2015**

- [75] Georg Gottlob, Michael Morak and Andreas Pieris. Recent Advances in Datalog+/- . 11<sup>th</sup> Reasoning Web Summer School: 193-217

### **2013**

- [76] Andrea Cali, Georg Gottlob and Andreas Pieris. Tractable Reasoning in Description Logics with Functionality Constraints. Search of Elegance in the Theory and Practice of Computation – Essays Dedicated to Peter Buneman: 174-192

### **2012**

- [77] Georg Gottlob, Giorgio Orsi, Andreas Pieris and Mantas Šimkus. Datalog and Its Extensions for Semantic Web Databases. 8<sup>th</sup> Reasoning Web Summer School: 54-77
- [78] Andrea Cali, Georg Gottlob, Giorgio Orsi and Andreas Pieris. On the Interaction of Existential

## **THESES**

- [79] Ontological Query Answering: New Languages, Algorithms and Complexity. Doctoral thesis, Department of Computer Science, University of Oxford, 2011
- [80] Data Exchange and Schema Mappings. Master's thesis, Mathematical Institute, University of Oxford, 2007
- [81] The Fully Mixed Nash Equilibrium Conjecture. Bachelor's thesis, Department of Computer Science, University of Cyprus, 2006