

# Juan Sequeda

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## Education

<b>University of Texas at Austin</b> <i>PhD Student in Computer Science</i> Advisor: Daniel P. Miranker	<b>2008 - Present</b>
<b>University of Texas at Austin</b> <i>Bachelor of Science in Computer Science</i>	<b>2006 - 2008</b>
<b>Universidad del Valle - Cali, Colombia</b> <i>90 credits towards System and Computer Engineering</i>	<b>2003 - 2006</b>

## Fellowships

NSF Graduate Research Fellowship	2010 - 2013
University of Texas Graduate School Diversity Fellowship	2008 - 2009
National Instruments Endowed Scholarship for Excellence	2007 - 2008
Intel Foundation Undergraduate Research Fellowship	2007

## Academic Experience

<b>Graduate Research Assistant - University of Texas at Austin</b>	<b>September 2008 - Present</b>
<ul style="list-style-type: none"><li>■ Ultrawrap: created a novel approach that exposes legacy data in relational databases as a RDF without the need of replicating the data. Our approach demonstrates that existing commercial SQL query engines already subsume all the algorithms need to support effective query rewriting from the SPARQL language (query language for the Semantic Web) to SQL. Furthermore, our experimental results showed that our approach is better than all SPARQL-to-SQL wrappers.</li><li>■ Morphster: this project facilitates systematic biologist to create ontologies through the novel concept of Image Driven Ontology editing. My participation in this project has been in the creation of a web based image ontology browser tool and translations between OBO and OWL ontological languages.</li></ul>	
<b>Invited Researcher - Pontificia Universidad Catolica de Chile</b>	<b>March 2011, June 2011</b>
<ul style="list-style-type: none"><li>■ Developed and formalized a direct mapping between relational databases to RDF and OWL and proved fundamental and desirable properties. Advised by Marcelo Arenas.</li></ul>	
<b>Invited Researcher - Universidad Politecnica de Madrid</b>	<b>May 2009 - August 2009</b>
<ul style="list-style-type: none"><li>■ Developed a method to automatically extract ontologies from sensor network data. Presented a proposal of representing sensor stream data following linked data principles. Advised by Asuncion Gomez-Perez and Oscar Corcho.</li></ul>	
<b>Undergraduate Research Assistant - University of Texas at Austin</b>	<b>October 2006 - May 2008</b>
<ul style="list-style-type: none"><li>■ Developed a mapping from relational schemas to ontologies and presented a completeness theorem. This work was the starting point for my PhD research.</li></ul>	

## Work Experience

### Lead Technical Architect - Smartbridge

January 2007 – November 2009

- Was the first employee. Designed, developed and coordinated a web-based project management system for temporal staff agencies which enables them to have online access to all their projects, staff planning, salaries, statistics and communication with employees. Interacted and communicated in a cross-cultural environment between with the management team in Switzerland and the development team in Colombia.

## Publications

### Journal

- Juan Sequeda, Syed Hamid Tirmizi, Oscar Corcho, Daniel P. Miranker: (2011) Survey of directly mapping SQL databases to the Semantic Web. *Knowledge Eng. Review* 26(4): 445-486
- Tirmizi, S.H., Aitken, S., Moreira, D., Mungall, C., Sequeda, J.F., Shah, N.H., Miranker, D.P. (2011) Mapping between OBO and OWL ontology languages. *Journal of Biomedical Semantics*, 2(Suppl 1): S3

### Referred Conference

- Juan F. Sequeda, Marcelo Arenas and Daniel P. Miranker. (2012) On Directly Mapping Relational Databases to RDF and OWL. In *Proceedings of 21th World Wide Web Conference (WWW2012)*. Lyon, France. Acceptance Rate 18%
- Juan F. Sequeda, J.F. Alexander Garcia-Castro, Oscar Corcho, Syed H. Tirmizi and Daniel P. Miranker (2009) Overcoming databases heterogeneity to facilitate social networks: the Colombian displaced population as a case study. In *Proceedings of 18th World Wide Web Conference (WWW2009)*. WWW in Iberoamerica Track. Madrid, Spain
- Syed H. Tirmizi, Juan F. Sequeda and Daniel P. Miranker (2008) Translating SQL Applications to the Semantic Web. In *Proceedings of the 19th International Database and Expert Systems Application Conference (DEXA2008)*. Turin, Italy

### Proceedings Editor

- Olaf Hartig, Andreas Harth and Juan F. Sequeda (2011). *Proceedings of the Second International Workshop on Consuming Linked Data (COLD2011)*, in conjunction with the 10<sup>th</sup> International Semantic Web Conference (ISWC2011). CEUR Workshop Proceedings. Vol-782. ISSN 1613-0073
- Olaf Hartig, Andreas Harth and Juan F. Sequeda (2010). *Proceedings of the First International Workshop on Consuming Linked Data (COLD2010)*, in conjunction with the 9<sup>th</sup> International Semantic Web Conference (ISWC2010). CEUR Workshop Proceedings. Vol-65. ISSN 1613-0073

### Workshops

- Syed H. Tirmizi, Stuart Aitken, Dilvan A. Moreira, Chris Mungall, Juan F. Sequeda, Nigam H. Shah, Daniel P. Miranker: OBO & OWL: Roundtrip Ontology Transformations. In *Proceedings of SWAT4LS 2009*
- Juan F. Sequeda, Oscar Corcho and Asuncion Gomez-Perez. (2009) Generating Data Wrapping Ontologies from Sensor Networks: a case study. In *Proceedings of 2<sup>nd</sup> Semantic Sensor Network Workshop at ISWC2009*
- Juan F. Sequeda and Oscar Corcho (2009) Linked Stream Data: a position paper. In *Proceedings of 2<sup>nd</sup> Semantic Sensor Network Workshop at ISWC2009*

- Juan F. Sequeda, Syed H. Miranker and Daniel P. Miranker(2007) SQL Databases are a Moving Target. Position Paper for W3C Workshop on RDF Access to Relational Databases.

### Poster and Demos

- Juan F. Sequeda, Marcelo Arenas and Daniel P. Miranker. (2011) A Completely Automatic Direct Mapping of Relational Databases to RDF and OWL. In Proceedings of Posters and Demos at the 10<sup>th</sup> International Semantic Web Conference (ISWC2011)
- Juan F. Sequeda and Daniel P. Miranker. (2011) SPARQL Execution as Fast as SQL Execution on Relational Data. In Proceedings of Posters and Demos at the 10<sup>th</sup> International Semantic Web Conference (ISWC2011)
- Juan F. Sequeda, Rudy Depena and Daniel P. Miranker. (2009) Ultrawrap: Using SQL Views for RDB2RDF. In Proceedings of Posters and Demos at the 8<sup>th</sup> International Semantic Web Conference (ISWC2009)
- Juan F. Sequeda, Syed Hamid Tirmizi, Daniel P. Miranker. (2008) A Bootstrapping Architecture for Integration of Relational Databases to the Semantic Web. In Proceedings of Posters and Demos at the 7<sup>th</sup> International Semantic Web Conference (ISWC2008)

### Tutorial

- Olaf Hartig, Juan Sequeda, Jamie Taylor and Patrick Sinclair. (2010) How to consume linked data on the web: tutorial description. At WWW 2010: 1347-1348
- Juan F Sequeda, Olaf Hartig, Patrick Sinclair and Jamie Taylor. (2009) How to consume linked data on the web. At ISWC 2009

### Technical Reports

- Marcelo Arenas, Alexandre Bertails, Eric Prud'hommeaux and Juan F. Sequeda (Eds) (2012) A Direct Mapping of Relational Data to RDF. W3C Candidate Recommendation 23 February 2012.
- Juan Sequeda, Olaf Hartig:. (2011) Towards a Query Language for the Web of Data (A Vision Paper). arXiv:1110.3017
- S. Sahoo, W. Halb, S. Hellmann, K. Idehen, T. Thibodeau, S. Auer, J.F. Sequeda and A. Ezzat (2009). A Survey of Current Approached for Mapping of Relational Databases to RDF. W3C Incubator Report.
- Juan F. Sequeda. (2008) On Direct Mapping for Integrating SQL Databases to the Semantic Web. Bachelors Thesis. Technical Report 08-09. The University of Texas at Austin, Department of Computer Sciences

## Professional Services

### Academic

- Track Chair - 2012 Extended Semantic Web Conference
- Publicity Chair - 2011 International Semantic Web Conference
- Co-Chair - 2010, 2011 Consuming Linked Data Workshop co-located at ISWC
- Organizer - 2009, 2011 Linked Data-a-thon co-located at ISWC
- Program Committee Member for 2010, 2011, 2012 Extended Semantic Web Conference, 2009, 2010, 2011, 2012 I-Semantics Conference, 2011, 2012 International Conference on Web Engineering, 2009, 2010, 2011, 2012 Linked Data on the Web Workshop
- Reviewer for 2011 International Semantic Web Conference, 2012 IJAIC

## Industry

- Program Advisory Committee for 2011, 2012 Semantic Technology Conference
- Presentations given at 2010, 2011, 2012 Semantic Technology Conference
- Invited Expert at W3C RDB2RDF Working group
- Blogger on SemanticWeb.com

## Community

- Founder and Executive Director - Semantic Web Austin
- Founder of Empowering Leadership Alliance at UT Austin. Minority CS Student Organization

## Press

- The Enterprise Problem Linked Data May Solve - IT Business Edge - April 20, 2010
- 10 Ideas For Web of Data Apps - Read Write Web - April 15, 2010
- Interview with Juan Sequeda: "I believe Linked Data will enable new killer apps that are only possible thanks to Linked Data. " - Semantic Web Company - April 14, 2010
- An Open Letter to the City of Austin - Austin Startup - January 27, 2010
- Smart tech reconnects Colombians - BBC News - September 9, 2009
- Missing Colombians database - BBC Digital Planet Podcast - September 2009

## Other

- Language: English (native), Spanish (native), German (speak, read, write intermediate), Swiss German (speak intermediate)
- Dual citizenship: USA and Colombia