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# James Richard Heron Steel

## Personal Information

- Nationality: Australian
- Born: 25 July, 1978, Honiara (Solomon Islands)
- Marital Status: Single
- Languages spoken: English (native), French (fluent)

## Experience

1999–2004                      DSTC, Pty Ltd                      Brisbane, Australia

### Research Scientist/Software Engineer

- Member of the Pegamento project: Developing techniques, standards and tools for Model-Driven Engineering.
- OMG standardization activities for Human-Usable Textual Notation (as editor & FTF chair), MOF 2.0 Query/View/Transformation, Enterprise Distributed Object Computing, Organisational Structure. Attended OMG Technical Committee meetings in Denver, USA in March 2000 and Toronto, Canada in September, 2001.
- Development of various proof-of-concept research prototypes, including TokTok & Tarzan/Tefkat.
- Supervised various student projects, including vacation projects, semester distributed computing projects, and one Hons thesis (D.Hearnden).
- Various training & consulting roles.

1997–1999                      DSTC, Pty Ltd                      Brisbane, Australia

### Vacation Student Project

- Developing a MOF-based parser & repository for defense messaging system (summer 1997-98).
- Developing a generalized parser & printer for XML-Based Model Interchange draft OMG standard (summer 1998-99).

## Education

2004–present                      INRIA/Université de Rennes 1                      Rennes, France

### Doctorat en Informatique (PhD)

- Type Systems approaches for improving modularity and reusability in Model-Driven Engineering.
- Participated in various research group activities, including design of Kermet model engineering environment.
- Attended OMG Technical Committee meeting in Athens, Greece in April, 2005.
- Taught tutorial class (in French) in software engineering at ENST Bretagne, September – December 2004.
- Award anticipated Q1 2007.

1996–1999                      University of Queensland                      Brisbane, Australia

### Bachelor of Information Technology (Hons 1)

- Honours (1<sup>st</sup> class) thesis on the generation of human-usable textual notations for information models, including implementation of a tool for the parsing and

printing of models. This work came out of an OMG Request for Proposal and later formed the basis of the final specification.

- Cumulative GPA: 5.7 (of possible 7), Final year GPA: 6.2
- Focus on software engineering & distributed systems

## Publications

### International Journals & Book Chapters

- Jim Steel & Jean-Marc Jézéquel. On Model Types, International Journal of Software & System Modeling (SoSyM). Springer-Verlag. To appear.
- Keith Duddy, Anna Gerber, Michael J. Lawley, Kerry Raymond & Jim Steel. Declarative Transformation for Object-Oriented Models, In Transformation of Knowledge, Information, and Data: Theory and Applications, P. van Bommel (Editor). Idea Group Publishing. 2004.

### International Conferences

- E. Brottier, F. Fleurey, J. Steel, B. Baudry & Y. Le Traon. Metamodel-based Test Generation for Model Transformations: an Algorithm and a Tool. In Proc., 17<sup>th</sup> Intl Symposium on Software Reliability Engineering (ISSRE 2006). Raleigh, USA. November, 2006.
- J. Steel & J-M Jézéquel. Model Types for Improving Reuse in Model-Driven Engineering. In Proc., 8<sup>th</sup> Intl Conference on Model-Driven Engineering, Languages and Systems (MoDELS 2005). Montego Bay, Jamaica. October, 2005.
- J. Steel & M.J. Lawley. Model-Based Test Driven Development of the Tefkat Model-Transformation Engine. In Proc., 15<sup>th</sup> Intl Symposium on Software Reliability Engineering (ISSRE 2004). St Malo, France. November, 2004.
- K. Duddy, A. Gerber, M.J. Lawley, K. Raymond & J. Steel. Model Transformation: A declarative, reusable patterns approach. In Proc., 7<sup>th</sup> Intl Enterprise Distributed Object Computing Conference (EDOC 2003). Brisbane, Australia. September, 2003.
- D. Hearnden, K. Raymond & J. Steel. MQL: a Powerful Extension to OCL for MOF Queries. In Proc., 7<sup>th</sup> Intl Enterprise Distributed Object Computing Conference (EDOC 2003). Brisbane, Australia. September, 2003.
- D. Hearnden, K. Raymond & J. Steel. Anti-Yacc: MOF-to-Text. In Proc., 6<sup>th</sup> Intl Enterprise Distributed Object Computing Conference (EDOC 2002). Lausanne, Switzerland. September, 2002.
- A. Gerber, M.J. Lawley, K. Raymond, J. Steel & A. Wood. Transformation: The Missing Link of MDA. In Proc., 1<sup>st</sup> Intl Conference on Graph Transformation (ICGT 2002). Barcelona, Spain. October, 2002.
- J. Steel & K. Raymond. Generating Human-Usable Textual Notations for Information Models. In Proc., 5<sup>th</sup> Intl Enterprise Distributed Object Computing Conference (EDOC 2001). Seattle, USA. September, 2001.

### Peer-reviewed International Workshops

- M.J. Lawley & J. Steel. Practical Declarative Model Transformation with Tefkat. In Proc., Satellite Events at the MoDELS 2005 Conference. Montego Bay, Jamaica. October, 2005.
- F. Fleurey, J. Steel & B. Baudry. MDE and validation: Testing model transformations. In Proc. of the SIVOES (Specification, Implementation and Validation Of Embedded Systems)-MoDeVa (Model Design and Validation) Workshop. Rennes, France. November 2004.
- J. Steel & J-M Jézéquel. Typing Relationships in MDA. In Proc., 2<sup>nd</sup> European Workshop on Model-Driven Architecture: Methodologies and Transformations. Kent, United Kingdom. September, 2004.

- K. Duddy, M.J. Lawley, K. Raymond, J. Steel. Modelware for Middleware. In Proc., 1<sup>st</sup> Workshop on Model-Driven Approaches to Middleware Applications Development (MAMAD 2003). Rio de Janeiro, Brazil. June, 2003.
- J. Steel. A Textual Notation Generator for MOF Models. UML in the .com Enterprise: Modeling CORBA, Components, XML/XMI and Metadata Workshop. Palm Springs, USA. November, 2000.

#### Other Publications

- Object Management Group (OMG). Human-Usable Textual Notation, V1.0. OMG Document No. formal/2004-08-01.
- J. Steel. Generating Human-Usable Textual Notations for Information Models. Honours Thesis, University of Queensland. October, 1999.

#### Conference Participation

In addition to my publications, I have participated in conferences and workshops in various other ways

- Assisted with conference organization: EDOC '03, ISSRE '04, SPLC '05
- Contributed reviews for papers: SoSyM, EDOC '02-03, ASE '04, ISSRE '04, FMCO '04, ASWEC '04, ECOOP '05, MoDeVa '05, MoDELS '05-06, LMO '06
- Program committee: MoDeVa '06
- Roundtable chair: EWMDA-2 '04

#### Research Interests

I am primarily interested in modelling languages, their definition and subsequent use for the development of software systems. In particular, I am interested in the automated construction of tools for the manipulation, presentation and storage of models, and in techniques for improving the maintainability and reuse of model-driven software artefacts.

I am also interested in the application of these techniques to real-world software engineering issues, in particular for the development and assembly of enterprise distributed systems.

#### Technical Expertise

I have expertise in the following technologies:

MOF, MDA, Eclipse/EMF, Java & J2EE, XMI, XML, ANTLR, UML, Ruby, Python, Smalltalk.

Java, Ruby, Python, Smalltalk, XML, UML, XMI, MOF, MDA, ANTLR, J2EE, Eclipse/EMF.

#### Referees

The following persons may be contacted as referees.

- Professor Jean-Marc Jézéquel  
Professor, Team Leader – Triskell Research Team (INRIA)  
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Campus Universitaire de Beaulieu  
35042 Rennes CEDEX, France  
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- Professor Kerry Raymond  
Professor

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