

## Emmanuel Pietriga, Ph.D., HDR

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**Phone:** +33-1-69-15-34-66 (office) / +33 6 86 26 77 01 (cell)  
**Nationality:** French  
**Date of birth:** November 30th, 1976  
3 children

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## Current Position

Since Oct. 2015: DR2  
Jan. 2007 - Sep. 2015: CR1  
Oct. 2004 - Dec. 2006: CR2

### Senior Research Scientist - DR2 INRIA (Institut National de Recherche en Informatique et en Automatique)



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#### Since August 2014

- **Team leader:** ILDA, INRIA Saclay - Île-de-France / LRI (Université Paris-Sud & CNRS)
  - Average of 4 faculty members, 6 PhD students, 1 post-doc, 2 engineers
- **Scientific advisor:** Visualization lab, INRIA Chile

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#### July 2012 - July 2014

- **Team leader:** Project Massive Data
- INRIA Chile, Santiago de Chile
- Average of 1 faculty member, 1 PhD student (visiting), 4 engineers over the period.
- Large proportion of engineers as INRIA Chile is oriented towards transfer activities.



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#### August 2010 - July 2012

- **Interim team leader** (*responsable par interim*): In-Situ
- INRIA Saclay - Île-de-France / LRI (Université Paris-Sud & CNRS)
- Average of 8 faculty members, 3 postdocs, 7 PhD students, 3 engineers over the period.

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#### October 2004 - July 2010

- **Team member:** In-Situ
- INRIA Saclay - Île-de-France / LRI (Université Paris-Sud & CNRS)

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## Working Experience

September 2003 -  
September 2004

### Software Engineer, Nuxeo

Development of Web-based enterprise content management applications (Python, Zope, CPS)  
Paris, France

nuxeo

December 2002 -  
August 2003

### Postdoctorate Fellow, MIT (Massachusetts Institute of Technology) / W3C (World Wide Web Consortium)

Visual transformation of Semantic Web data represented as node-link diagrams

Member of the Semantic Web Advanced Development team, World Wide Web Consortium (W3C) and of the Decentralized Information Group at MIT CSAIL.  
Boston, MA, USA



March 1999 -  
September 2002

### Research Engineer, Xerox Research Centre Europe

Development of a zoomable user interface toolkit and a visual language environment for XML document transformations  
CIFRE Ph.D. contract funded by ANRT  
Grenoble, France



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## Education

2012

### HDR (Habilitation à Diriger des Recherches) in Computer Science, Université Paris-Sud

*Languages and Interaction Techniques for the Visualization and Manipulation of Massive Datasets*

INRIA Saclay - Île-de-France / Laboratoire de Recherche en Informatique

Jury Members:

- Lynda Hardman, CWI (Centrum Wiskunde & Informatica), examinateur
- Robert J.K. Jacob, Tufts University, rapporteur
- David R. Karger, MIT (Massachusetts Institute of Technology), examinateur
- Wendy E. Mackay, INRIA, examinateur
- Laurence Nigay, Université Joseph Fourier Grenoble I, rapporteur
- Christine Paulin, Université Paris-Sud, président
- Claude Puech, Université Paris-Sud & INRIA Chile, examinateur
- Mary Beth Rosson, Penn State University, rapporteur



1999-2002

### Ph.D. in Computer Science, INPG (Institut National Polytechnique de Grenoble)

*Visual programming languages and environments applied to structured document processing*

Xerox Research Centre Europe / INRIA Rhône-Alpes (research team Opéra)

Grenoble, France

Advisors: Vincent Quint and Jean-Yves Vion-Dury

Jury Members:

- Christine Collet, Institut National Polytechnique de Grenoble, président
- Paolo Bottoni, Università di Roma Sapienza, rapporteur
- Jacques Le Maitre, Université de Toulon, rapporteur
- Vincent Quint, INRIA Rhône-Alpes, directeur de thèse
- Jean-Yves Vion-Dury, Xerox Research Centre Europe, examinateur



1996-1999

### Engineering Degree in Computer Science and Control, ESIA (Ecole Supérieure d'Ingénieurs d'Annecy)

*Computer Science, control (automation, electronics), mechanics*

Section A2I: Automatique et Informatique Industrielle

Annecy, France



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## Short-Term Visits (funded by hosting organization)

December 2010,  
June 2011,  
November 2011

### ALMA (Atacama Large Millimeter/submillimeter Array), ESO (European Southern Observatory)

Chajnantor plateau, Chilean Andes, Chile



March 2011

### Expanded Very Large Array, NRAO (National Radio Astronomy Observatory)

Socorro, NM, USA



February 2011

### JAIST (Japan Advanced Institute of Science and Technology)

Nomi, Ishikawa, Japan



November 2010

### SKA (Square Kilometer Array) South Africa

Cape Town, South Africa



December 2009

### ALMA (Atacama Large Millimeter/submillimeter Array) and VLT (Very Large Telescope), ESO (European Southern Observatory)

Chajnantor plateau (ALMA) and Mount Paranal (VLT), Chilean Andes, Chile



March 2006

### Universitat Politècnica de València

Valencia, Spain



September 2001 -  
January 2002






### MIT (Massachusetts Institute of Technology) / W3C (World Wide Web Consortium)

Boston, MA, USA



## Publications

Click on one of the icons to get the document (multiple icons indicate multiple sources)












 (ACM Digital Library)  IEEE (IEEE Xplore)  (IEEE Computer Society Digital Library)  (Springer Link)  HAL (HAL-INRIA Open Archive)
















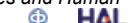



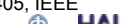

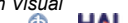
Note: in the field of Human Computer Interaction, conferences are considered the primary method of publication. The ACM CHI and UIST conferences are particularly selective and are considered journal level work by the ACM/SIGCHI.

### Refereed Papers in International Journals and Magazines


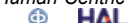
- M.-J. Lobo, C. Appert, E. Pietriga, **MapMosaic: Dynamic Layer Compositing for Interactive Geovisualization**, *International Journal of Geographical Information Science (IJGIS)*, pages 1-28, May 2017. 
- A.-S. Dadzie, E. Pietriga, **Visualisation of Linked Data – Reprise**, *Semantic Web Journal (SWJ)*, Introduction to the special issue on Linked Data Visualization, Volume 8, Number 1, pages 1-21, 2017. 
- C. Appert, O. Chapuis, E. Pietriga, M.-J. Lobo, **Reciprocal Drag-and-Drop**, *ACM Transactions on Computer-Human Interactions (ToCHI)*, Volume 22, Issue 6, pages 29:1-29:36, September 2015. 
- M. Nancel, E. Pietriga, O. Chapuis, M. Beaudouin-Lafon, **Mid-air Pointing on Ultra-Walls**, *ACM Transactions on Computer-Human Interactions (ToCHI)*, Volume 22, Issue 5, pages 21:1--21:62, August 2015. 
- B. Bach, E. Pietriga, J.-D. Fekete, **GraphDiaries: Animated Transitions and Temporal Navigation for Dynamic Networks**, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, Volume 20, Issue 5, pages 740-754, May 2014.  
- B. Bach, E. Pietriga, I. Liccardi, **Visualizing Populated Ontologies with OntoTrix**, *International Journal on Semantic Web and Information Systems*, Volume 9, Issue 4, pages 17-40, IGI, 2013.  
- M. Beaudouin-Lafon, O. Chapuis, J. Eagan, T. Gjerlufsen, S. Huot, C. Klokmoose, W. Mackay, M. Nancel, E. Pietriga, C. Pillias, R. Primet, J. Wagner, **Multi-surface Interaction in the WILD Room**, *IEEE Computer*, Volume 45, Issue 4, pages 24-32, April 2012.  
- J. Zhao, F. Chevalier, E. Pietriga, R. Balakrishnan, **Exploratory Analysis of Time-series with ChronoLenses**, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, Volume 17, Issue 12, pages 2422-2431, December 2011.  
- E. Pietriga, O. Bau, C. Appert, **Representation-Independent In-Place Magnification with Sigma Lenses**, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, Volume 16, Issue 3, pages 455-467, May/June 2010.  

### Refereed Papers in International Conference Proceedings


- R. Morales, C. Appert, G. Bailly, E. Pietriga, **Passive yet Expressive TouchTokens**, *CHI '17: Proceedings of the 35th SIGCHI conference on Human Factors in computing systems*, pages 3741-3745, May 2017, Denver, CO, USA. 
- E. Pietriga, F. del Campo, A. Ibsen, R. Primet, C. Appert, O. Chapuis, M. Hempel, R. Muñoz, S. Eyheramendy Duerr, A. Jordan, H. Dole, **Exploratory Visualization of Astronomical Data on Ultra-high-resolution Wall Displays**, invited paper, *Astronomical Telescopes and Instrumentation, SPIE*, pages 0W:1-0W:15, June 2016, Edinburgh, UK.  
- I. Sadeh, I. Oya, J. Schwarz, E. Pietriga, **Prototyping the Graphical User Interface for the Operator of the Cherenkov Telescope Array**, *Astronomical Telescopes and Instrumentation, SPIE*, pages 0X:1-0X:9, June 2016, Edinburgh, UK.  
- R. Morales, C. Appert, G. Bailly, E. Pietriga, **TouchTokens: Guiding Touch Patterns with Passive Tokens**, *CHI '16: Proceedings of the 34th SIGCHI conference on Human Factors in computing systems*, pages 4189-4202, May 2016, San Jose, CA, USA - **Best paper award nominee (honorable mention)**.  
- M.-J. Lobo, E. Pietriga, C. Appert, **An Evaluation of Interactive Map Comparison Techniques**, *CHI '15: Proceedings of the 33rd SIGCHI conference on Human Factors in computing systems*, pages 3573-3582, April 2015, Seoul, South Korea - **Best paper award nominee (honorable mention)**.  
- J. Alvina, C. Appert, O. Chapuis, E. Pietriga, **RouteLens: Easy Route Following for Map Applications**, *AVI '14: Proceedings of the 12th working conference on Advanced visual interfaces*, pages 125-128, May 2014, Como, Italy.  
- B. Bach, E. Pietriga, J.-D. Fekete, **Visualizing Dynamic Networks with Matrix Cubes**, *CHI '14: Proceedings of the 32nd SIGCHI conference on Human Factors in computing systems*, pages 877-886, April 2014, Toronto, Canada.  
- E. Pietriga, G. Filippi, L. Veliz, F. del Campo, J. Ibsen, **A Web-based Dashboard for the High-level Monitoring of ALMA**, invited paper, *Astronomical Telescopes and Instrumentation, SPIE*, pages 1B:1-1B:12, June 2014, Montréal, Canada.  
- D. Spelmezan, C. Appert, O. Chapuis, E. Pietriga, **Controlling Widgets with one Power-Up Button**, *UIST '13: Proceedings of the 26th Symposium on User Interface Software and Technology*, pages 71-74, October 2013, St Andrews, UK.  
- C. Pindat, E. Pietriga, O. Chapuis, C. Puech, **Drilling into Complex 3D Models with Gimlenses**, *VRST '13: Proceedings of the 19th Symposium on Virtual Reality Software and Technology*, pages 223-230, October 2013, Singapore - **Best paper award**.  
- D. Spelmezan, C. Appert, O. Chapuis, E. Pietriga, **Side Pressure for Bidirectional Navigation on Small Devices**, *MobileHCI '13: Proceedings of the 15th International Conference on Human Computer Interaction with Mobile Devices and Services*, pages 11-20, August 2013, Munich, Germany.  
- M. Nancel, O. Chapuis, E. Pietriga, X.-D. Yang, P. Irani, M. Beaudouin-Lafon, **High-Precision Pointing on Large Wall Displays using Small Handheld Devices**, *CHI '13: Proceedings of the 31st SIGCHI conference on Human Factors in computing systems*, pages 831-840, April 2013, Paris, France.  
- C. Pindat, E. Pietriga, O. Chapuis, C. Puech, **JellyLens: Content-Aware Adaptive Lenses**, *UIST '12: Proceedings of the 25th Symposium on User Interface Software and Technology*, pages 261-270, October 2012, Cambridge, USA.  
- E. Pietriga, P. Cubaud, J. Schwarz, R. Primet, M. Schilling, D. Barkats, E. Barrios, B. Vila Vilario, **Interaction Design Challenges and Solutions for ALMA Operations Monitoring and Control**, invited paper, *Astronomical Telescopes and Instrumentation, SPIE*, pages 10:1-10:16, July 2012, Amsterdam, the Netherlands.  

- R. A. de Almeida, C. Pillias, E. Pietriga, P. Cubaud, **Looking behind Bezels: French Windows for Wall Displays**, *AVI '12: Proceedings of the 11th working conference on Advanced visual interfaces*, pages 124-131, ACM Press, May 2012, Capri, Italy 
- C. Appert, O. Chapuis, E. Pietriga, **Dwell-and-Spring: Undo for Direct Manipulation**, *CHI '12: Proceedings of the 30th ACM SIGCHI conference on Human Factors in computing systems*, 10 pages, ACM Press, May 2012, Austin, USA 
- E. Pietriga, S. Huot, M. Nancel, R. Primet, **Rapid Development of User Interfaces on Cluster-Driven Wall Displays with jBricks**, *EICS '11: Proceedings of the 3rd ACM SIGCHI symposium on Engineering interactive computing systems*, pages 185-190, June 2011, Pisa, Italy 
- M. Nancel, J. Wagner, E. Pietriga, O. Chapuis, W. Mackay, **Mid-air Pan-and-Zoom on Wall-sized Displays**, *CHI '11: Proceedings of the 29th ACM SIGCHI conference on Human Factors in computing systems*, pages 177-186, ACM Press, May 2011, Vancouver, Canada - **Best paper award** 
- B. Bach, E. Pietriga, I. Liccardi, G. Legostaev, **OntoTrix: A Hybrid Visualization for Populated Ontologies**, *WWW '11: Proceedings of the 20th international conference companion on World wide web*, pages 177-180, ACM Press, March 2011, Hyderabad, India 
- C. Appert, O. Chapuis, E. Pietriga, **High-precision Magnification Lenses**, *CHI '10: Proceedings of the 28th ACM SIGCHI conference on Human Factors in computing systems*, pages 273-282, ACM Press, April 2010, Atlanta, USA 
- O. Chapuis, J.-B. Labrune, E. Pietriga, **DynaSpot: Speed-Dependent Area Cursor**, *CHI '09: Proceedings of the 27th ACM SIGCHI conference on Human Factors in computing systems*, pages 1391-1400, ACM Press, April 2009, Boston, USA - **Best paper award nominee (honorable mention)** 
- T. Moscovich, F. Chevalier, N. Henry, E. Pietriga, J.-D. Fekete, **Topology-Aware Navigation in Large Networks**, *CHI '09: Proceedings of the 27th ACM SIGCHI conference on Human Factors in computing systems*, pages 2319-2328, ACM Press, April 2009, Boston, USA 
- E. Pietriga, C. Appert, **Sigma Lenses: Focus-Context Transitions Combining Space, Time and Translucence**, *CHI '08: Proceedings of the 26th ACM SIGCHI conference on Human Factors in computing systems*, pages 1343-1352, ACM Press, April 2008, Florence, Italy 
- E. Pietriga, C. Appert, M. Beaudouin-Lafon, **Pointing and Beyond: an Operationalization and Preliminary Evaluation of Multi-scale Searching**, *CHI '07: Proceedings of the 25th ACM SIGCHI conference on Human Factors in computing systems*, pages 1215-1224, ACM Press, April 2007, San Jose, CA, USA 
- E. Pietriga, C. Bizer, D. Karger, R. Lee, **Fresnel: A Browser-Independent Presentation Vocabulary for RDF**, *Lecture Notes in Computer Science (LNCS 4273), Proceedings of the 5th International Semantic Web Conference (ISWC 2006)*, pages 158-171, Springer, November 2006, Athens, GA, USA  
- E. Pietriga, **Semantic Web Data Visualization with Graph Style Sheets**, *Proceedings of the ACM Symposium on Software Visualization (SoftVis'06)*, pages 177-178, ACM Press, September 2006, Brighton, UK 
- S. Cohen-Boulakia, C. Froidevaux, E. Pietriga, **Selecting Biological Data Sources and Tools with XPR, a Path Language for RDF**, *Pacific Symposium on Biocomputing (PSB), Session Semantic Webs for Life Sciences*, pages 116-127, January 2006, Maui, Hawaii, USA 
- E. Pietriga, **A Toolkit for Addressing HCI Issues in Visual Language Environments**, *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'05)*, pages 145-152, IEEE Computer Society, September 2005, Dallas, TX, USA  
- J.-Y. Vion-Dury, V. Lux and E. Pietriga, **Experimenting with the Circus language for XML modeling and transformation**, *ACM Symposium on Document Engineering*, pages 82-87, ACM Press, November 2002, Mc Lean (VA), USA 
- E. Pietriga, V. Quint and J.-Y. Vion-Dury, **VXT: A Visual Approach to XML Transformations**, *ACM Symposium on Document Engineering*, pages 1-10, ACM Press, November 2001, Atlanta, USA 
- E. Pietriga and J.-Y. Vion-Dury, **VXT: Visual XML Transformer**, *IEEE Symposium on Human Centric Computing*, pages 404-405, IEEE Computer Society, September 2001, Stresa, Italy  
- J.-Y. Vion-Dury and E. Pietriga, **A Formal Study of a Visual Language for Document Type Definitions**, *IEEE Symposium on Visual Languages and Formal Methods (HCC)*, pages 52-59, IEEE Computer Society, September 2001, Stresa, Italy  




## Proceedings Editing

- Christopher Hundhausen, E. Pietriga, P. Díaz, M. B. Rosson, *Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC '10)*, 276 pages, September 2010  

## Refereed Papers in National Journals

- E. Pietriga, R. Lee, **Langages et outils pour la visualisation et la manipulation de données du Web sémantique**, *Technique et Science Informatiques (TSI), Vol. 28(2)*, pages 173-197, March 2009, Hermès, Lavoisier 

## Refereed Posters, Demos, Workshop Papers (archived in proceedings)






- T. Onorati, P. Isenberg, A. Bezerianos, E. Pietriga, P. Diaz, **WallTweet: A Knowledge Ecosystem for Supporting Situation Awareness**, *DEXIS: Workshop on Data Exploration for Interactive Surfaces at ITS '15*, November 2015, Madeira, Portugal 
- T.-C. Shen, R. Soto, N. Ovando, S. Fuica, A. Robles, A. Schemrl, G. Vélez, J. F. Ibsen, G. Filippi, E. Pietriga, **Exploring Remote Operation for ALMA Observatory**, *Astronomical Telescopes and Instrumentation, SPIE*, June 2014, Montréal, Canada 
- B. Bach, E. Pietriga, J.-D. Fekete, **Visualizing Dense Dynamic Networks with Matrix Cubes**, *VisWeek (SciVis/InfoVis/VAST) Poster Program*, October 2013, Atlanta, USA - **Best poster award** 
- B. Bach, E. Pietriga, J.-D. Fekete, **Animated Transitions and Navigation in Dynamic Networks**, *VisWeek (SciVis/InfoVis/VAST) Poster Program*, October 2012, Seattle, USA
- M. Schilling, R. Primet, E. Pietriga, J. Schwarz, **Human Computer Interaction in the ALMA Control Room**, *Astronomical Data Analysis Software and Systems (ADASS)*, November 2011, Paris, France
- J. Schwarz, E. Pietriga, M. Schilling, P. Grosbol, **Goodbye to WIMPs: A Scalable Interface for ALMA Operations**, *Astronomical Data Analysis Software and Systems (ADASS 2010)*, November 2010, Boston, USA

- B. Bach, G. Legostaev, E. Pietriga, **Visualizing Populated Ontologies with OntoTrix**, *Proceedings of the ISWC 2010 Posters & Demonstrations Track: Collected Abstracts*, pages 85-88, November 2010, Shanghai, China  
- C. Bizer, R. Lee, E. Pietriga, **Fresnel: A Browser-Independent Presentation Vocabulary for RDF**, *Second International Workshop on Interaction Design and the Semantic Web*, November 2005, Galway, Ireland  

### Specialized Journals and Magazines (dissemination of scientific knowledge)

- G. Ribat, J.-P. Cointet, E. Pietriga, **Les stratégies de recherche agronomique révélées par l'analyse des publications**, *La Recherche*, December 2016
- E. Pietriga, F. del Campo, A. Ibsen, R. Primet, C. Appert, O. Chapuis, M. Hempel, R. Muñoz, S. Eyheramendy Duerr, A. Jordan, H. Dole, **Ultra-high-resolution walls for visualizing very large datasets**, *SPIE Newsroom*, May 2016 
- M.-J. Lobo, E. Pietriga, C. Puech, **Visualización de Big Data en Alta Resolución a Disposición de la Comunidad Científica y la Industria Chilena**, *Bits de Ciencia*, pages 46-51, January 2015 
- M. Beaudoin-Lafon, E. Pietriga, W. Mackay, S. Huot, M. Nancel, C. Pillias, R. Primet, **131 millions de pixel qui font le mur**, *Plein Sud Spécial Recherche 2010-2011*, pages 140-147, 2011
- E. Pietriga, **Styling RDF Graphs with GSS**, *XML.com*, 3 december 2003  

### Other Publications

- E. Pietriga, **Languages and Interaction Techniques for the Visualization and Manipulation of Massive Datasets**, *Université Paris-Sud* (HDR dissertation), June 2012, Paris, France 
- M. Nancel, E. Pietriga, M. Beaudouin-Lafon **Precision Pointing for Ultra-High-Resolution Wall Displays**, *INRIA Research Report RR-7624*, May 2011 
- E. Pietriga, **Fresnel Selector Language for RDF (FSL)**, *Semantic Web Interest Group*, 18 November 2005 
- C. Bizer, R. Lee, E. Pietriga, **Fresnel - Display Vocabulary for RDF - User Manual**, *Semantic Web Interest Group*, 30 June 2005 
- E. Pietriga, **Environnements et langages de programmation visuels pour le traitement de documents structurés**, *Institut National Polytechnique de Grenoble (Ph.D. thesis)*, November 2002, Grenoble, France 

## Prizes and Awards

- **Honorable mention at ACM CHI 2016** for *TouchTokens: Guiding Touch Patterns with Passive Tokens*. Awarded to the top 5% of all 2325 submissions.
- **Honorable mention at ACM CHI 2015** for *An Evaluation of Interactive Map Comparison Techniques*. Awarded to the top 5% of all 2150 submissions.
- **PEDR** (Prime d'Encadrement Doctoral et de Recherche) INRIA, *catégorie chercheurs confirmés*, 2015-2018.
- **Best paper award at ACM VRST 2013** for *Drilling into Complex 3D Models with Gimlenses*.
- **Best poster award at IEEE InfoVis 2013** for *Visualizing Dense Dynamic Networks with Matrix Cubes*.
- **Best paper award at ACM CHI 2011** for *Mid-air Pan-and-Zoom on Wall-sized Displays*. Awarded to the top 1% of all 1540 submissions.
- **Honorable mention at ACM CHI 2009** for *DynaSpot: Speed-Dependent Area Cursor*. Awarded to the top 5% of all 1130 submissions.
- **PhD thesis prize (Prix de thèse) INPG 2004**, awarded on May 12th, 2005

## Talks

Invited talks and other talks, excluding talks given at conferences to present papers.

- E. Pietriga, **Advances in Human-Computer Interaction for Operations Monitoring and Control & Exploratory Data Analysis**, *III Taller Astroingeniería*, November 2015, Santiago de Chile
- E. Pietriga, **Interactive, collaborative visualization of large datasets on ultra-high-resolution wall-sized displays**, March 2015, Viseo R&D, Grenoble, France
- E. Pietriga, **Large Data Visualization**, *Jornada anual de computación visual*, December 2013, Universidad de los Andes, Bogotá, Colombia
- E. Pietriga, **Development of a Dashboard for the ALMA radio-observatory using Open Source Web Technologies**, *Data Tuesday CI*, June 2013, Universidad Diego Portales, Santiago de Chile
- E. Pietriga, **Interagir avec l'invisible**, *Unithé ou café*, INRIA Saclay -- Ile-de-France, February 2013, Palaiseau, France
- E. Pietriga, **Information Visualization and the Web of Data**, *Seminario Open Data*, January 2013, Santiago de Chile
- E. Pietriga, **Information Visualization and the Web of Data**, *Data Tuesday CI*, January 2013, Movistar Innova, Santiago de Chile
- E. Pietriga, **Interactive Visualization of Massive Datasets on Ultra-high-resolution Wall-sized Displays**, *SCIAN Lab, Facultad de Medicina, Universidad de Chile*, December 2012, Santiago de Chile
- E. Pietriga, **Interfaces innovantes pour la visualisation de masses de données et le contrôle de systèmes complexes**, *SIGCHI Toulouse Local Chapter*, June 2012, Toulouse, France
- E. Pietriga, **Mid-air Interaction with Wall-sized Displays**, *Workshop Ubimedia, Institut Telecom / Alcatel Lucent*, December 2011, Paris, France
- E. Pietriga, **Interacting with Wall-sized Displays**, *New York University*, September 2011, NYC, USA
- E. Pietriga, **Making ALMA's Operations Monitoring & Control Graphical User Interfaces Scalable**, *Universidad de Chile*, June 2011, Santiago de Chile
- E. Pietriga, **Interacting with Wall-sized Displays**, *IT University of Copenhagen*, June 2011, Copenhagen, Denmark
- E. Pietriga, **HCI and Information Visualization Research Overview and its application to ALMA**, *National Radio Astronomy Observatory*, March 2011, Socorro, NM, USA



- P. Cubaud, E. Pietriga, **HCI and Information Visualization Research: an Overview**, *SKA South Africa*, November 2010, Cape Town, South Africa
- E. Pietriga, **HCI state-of-the-art and what it means for ALMA**, *European Southern Observatory*, March 2010, Garching, Germany
- E. Pietriga, **Visualisation interactive de données massives sur mur d'écran très haute résolution**, *Thales Research & Technology*, November 2009, France
- E. Pietriga, **WILD : une plate-forme pour la visualisation interactive de grandes masses de données scientifiques**, *Séminaire Apple Research and Technology Support (ARTS)*, November 2009, Paris, France
- E. Pietriga, **Visualisation et manipulation de données du Web sémantique**, *INRIA Sophia Antipolis*, October 2007, France
- E. Pietriga, **Semantic Web Technologies and Human-Computer Interaction Techniques applied to Bioinformatics**, *Universidad Politécnica de Valencia*, March 2006, Valencia, Spain
- W.E. Mackay and E. Pietriga, **Project In Situ + Presenting Semantic Web data**, *Xerox Research Centre Europe*, March 2005, Grenoble, France
- J. Kahan, M.-R. Koivunen, E. Pietriga, R. Swick, **Cross-Application Data Interaction: Shared Bookmarks and IsaViz**, *WWW 2003, the 12th World Wide Web Conference (Developer's day)*, May 2003, Budapest, Hungary
- E. Pietriga **IsaViz: a Visual Environment for Browsing and Authoring RDF Models**, *WWW 2002, the 11th World Wide Web Conference (Developer's day)*, May 2002, Hawaii, USA
- E. Pietriga, **Visual Languages and Interactive Architectures Applied to Structured Document Transformations**, *Oregon State University*, September 2000, Corvallis, OR, USA

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## Evaluation of Research

### Guest Editor or Editorial Board (Journals)

SWJ	Semantic Web Journal: 2015-2016 (guest editor, special issue on Visual Exploration and Analysis of Linked Data)
IJSWIS	International Journal on Semantic Web and Information Systems: (editorial board, special issue on Visualisation of and Interaction with Semantic Web Data) 2012
JVLC	Journal of Visual Languages and Computing: 2006, 2010 (guest editor, special issue on VL/HCC'10 best papers)

### Program / Subcommittee Chair (Conferences)

CHI 2018	36th ACM SIGCHI Conference on Human Factors in Computing Systems, subcommittee co-chair with Jennifer Mankoff
CHI 2017	35th ACM SIGCHI Conference on Human Factors in Computing Systems, subcommittee co-chair with James Fogarty
VL/HCC 2010	IEEE Symposium on Visual Languages and Human-Centric Computing, co-chair with Chris Hundhausen

### Program Committee Member (Conferences)

ISWC 2017	16th International Semantic Web Conference
VOILA @ ISWC 2017	Visualizations and User Interfaces for Ontologies and Linked Data, workshop co-located with ISWC 2017
Immersive Analytics @ IEEE Vis 2017	Exploring Future Interaction and Visualization Technologies for Data Analytics, workshop co-located with IEEE Vis 2017
JDSEParis 2017	2nd Paris-Saclay Junior Conference on Data Science and Engineering
CHI 2016	34th ACM SIGCHI Conference on Human Factors in Computing Systems - Associate Chair and Best Papers Committee
EICS 2016	8th ACM SIGCHI Symposium on Engineering Interactive Computing Systems
SSDBM 2016	28th International Conference on Scientific and Statistical Database Management
VOILA @ ISWC 2016	Visualizations and User Interfaces for Ontologies and Linked Data, workshop co-located with ISWC 2016
Immersive Analytics @ ISS 2016	Exploring Future Interaction and Visualization Technologies for Data Analytics, workshop co-located with ACM ISS 2016
CHI 2015	33rd ACM SIGCHI Conference on Human Factors in Computing Systems - Associate Chair
VL/HCC 2015	32nd IEEE Symposium on Visual Languages and Human-Centric Computing
DocEng 2015	15th ACM SIGWEB International Symposium on Document Engineering
VOILA @ ISWC 2015	Visualizations and User Interfaces for Ontologies and Linked Data, workshop co-located with ISWC 2015
VL/HCC 2014	31st IEEE Symposium on Visual Languages and Human-Centric Computing
CHI 2013	31st ACM SIGCHI Conference on Human Factors in Computing Systems - Associate Chair
VL/HCC 2013	30th IEEE Symposium on Visual Languages and Human-Centric Computing
INTERACT 2013	14th IFIP TC13 Conference in Human-Computer Interaction
BeRSys 2013	1st International Workshop on Benchmarking RDF Systems, co-located with ESWC 2013
SIGRAD 2012	Interactive Visual Analysis of Data (Eurographics)
VL/HCC 2012	29th IEEE Symposium on Visual Languages and Human-Centric Computing
NordiCHI 2012	7th Nordic Conference on Human-Computer Interaction
CHI 2012	30th ACM SIGCHI Conference on Human Factors in Computing Systems - Associate Chair
WWW 2012 (Tutorials)	21st International Conference on World Wide Web
VL/HCC 2011	28th IEEE Symposium on Visual Languages and Human-Centric Computing
CHI 2011	29th ACM SIGCHI Conference on Human Factors in Computing Systems - Associate Chair
VINCI'10	Visual Information Communications International
VL/HCC 2009	26th IEEE Symposium on Visual Languages and Human-Centric Computing
VINCI'09	Visual Information Communications International
INTERACT 2009	12th IFIP TC13 Conference in Human-Computer Interaction
VL/HCC 2008	25th IEEE Symposium on Visual Languages and Human-Centric Computing
SoftVis 2008	3rd ACM Symposium on Software Visualization
VL/HCC 2007	24th IEEE Symposium on Visual Languages and Human-Centric Computing
HICSS 2007	Visual Interactions in Software Artifacts Mini-track in the Software Technology Track of HICSS-40
VL/HCC 2006	23rd IEEE Symposium on Visual Languages and Human-Centric Computing
VL/HCC 2005	22nd IEEE Symposium on Visual Languages and Human-Centric Computing

## Reviewer (Journals)

ACM ToCHI	Transactions on Computer-Human Interaction: 2007, 2012, 2014 (2), 2015
ACM TiiS	Transactions on Interactive Intelligent Systems: 2014
ACM TAP	Transactions on Applied Perception: 2014
IEEE TVCG	Transactions on Visualization and Computer Graphics: 2010, 2011 (2), 2012, 2013, 2014, 2015
IJHCI	International Journal of Human-Computer Interaction: 2016
IWC	Interacting with Computers: 2015
SP&E	Software: Practice and Experience: 2011, 2012
Computers and Graphics	2010
IEEE Pervasive Computing	2017
IEEE Software	2009
DK&E	Data & Knowledge Engineering Journal: 2006
IJUAIS	International Journal on Universal Access in the Information Society: 2005
JASIST	Journal of the American Society for Information Science and Technology: 2008

## Reviewer (Conferences)

ACM CHI	2006 (WIP), 2007 (WIP), 2008 (Papers, Courses, WIP), 2009 (Papers), 2010 (Papers, WIP/SRC), 2011 (Papers [AC]), 2012 (Papers [AC]), 2013 (Papers [AC]), 2014 (Papers), 2015 (Papers [AC]), 2016 (Papers [AC])
ACM UIST	2005, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016
ACM CSCW	2010, 2011, 2012, 2013
ACM EICS	2011, 2012, 2013
ACM MobileHCI	2015
ACM IUI	2010, 2012
ACM ITS	2011, 2014
IEEE InfoVis	2009, 2010, 2011, 2012, 2015
IEEE VAST	2010, 2011, 2012
IEEE PacificVis	2009
IEEE Vis / SciVis	2009, 2012
ISWC	2013
Graphics Interface	2011, 2014
Interact	2011, 2015
IHM	2005, 2006, 2007, 2008, 2009, 2010

## Evaluation committees and invited expertise

- Evaluator for European Commission's H2020 Programme Leadership in Enabling and Industrial Technologies - Space RIA, 2017
- Evaluator for the Sponsored Program for Industrial Data Science (EDF & Thales) Fondation Mathématique Jacques Hadamard/IRSDI, 2016
- Evaluator for European Commission's H2020 Programme Future and Emerging Technologies Open Scheme RIA, 2015
- Referee for the appel générique, ANR (French National Research Agency), 2015
- Evaluator for European Commission's 7th Framework Programme Future and Emerging Technologies Open Scheme, 2013
- Expert reviewer for the New Eurasia Foundation Russian Federation's call Measures to Attract Leading Scientists to Russian Educational Institutions, 2011, 2013
- Referee for the PDOC call, ANR (French National Research Agency), 2011
- Expert reviewer for an ongoing European Commission 7th Framework Programme project Strategic Objective 4.2: Intelligent Content and Semantics, 2010, 2011
- Evaluator for the SEE-ERA.NET PLUS Joint Call for European Research Projects, 2010
- Referee for the Marsden Fund, Royal Society of New Zealand, 2009
- Evaluator for European Commission's 7th Framework Programme FP7 ICT Call 3, Strategic Objective 4.2: Intelligent Content and Semantics, 2008
- Evaluator for European Commission's 7th Framework Programme FP7 ICT Call 1, Strategic Objective 4.2: Intelligent Content and Semantics, 2007
- Expert reviewer for Paris Sciences et Lettres, Appel à projets structurants, 2014
- Participant in the evaluation of a project for research theme MIS (Modélisation, Interaction, Simulation), CPER (Contrat de Projet Etat-Région) for Région Lorraine 2007

## Habilitation (HDR) Jury Membership

- Guillaume Touya, IGN, Université Paris-Est (inspector/examineur - 2017)

## PhD Jury Membership

- Rémy Dautriche, Université Grenoble-Alpes (examiner/rapporteur - 2016)
- Pascal Goffin, INRIA / Université Paris-Saclay (président du jury - 2016)
- University of Melbourne, Australia (examiner/rapporteur - 2012)
- Shuo-Hsiu Hsu, Conservatoire National des Arts et Métiers, Paris (examiner/rapporteur - 2010)
- Arnaud Blouin, Université d'Angers (inspector/examineur - 2009)

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## Conference Organization

- IEEE VL/HCC, **Steering Committee member** (2010-2014), **vice-chair** (2010-2011), **chair** (2011-2013)
- Graduate Consortium: Expanding end user control in socio-technical systems (in conjunction with VL/HCC '11, funded by NSF), Pittsburgh, PA, USA, September 2011  
**Panelist and Submission Coordinator**
- IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC '10), Madrid, Spain, September 2010  
**Program co-chair**
- Graduate Consortium: Democratizing Computational Tools (in conjunction with VL/HCC '10, funded by NSF), Madrid, Spain, September 2010  
**Panelist**
- IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC '08), Herrsching am Ammersee, Germany, September 2008  
**Publicity chair**
- IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC '07), Coeur d'Alène, ID, USA, September 2007  
**Publicity chair**

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## Funded Projects

- 2014-2017. **MapMuxing - Multi-dimensional Map Multiplexing**. 3 academic partners.  
Funded by the French National Research Agency (ANR), Programme générique: **208K€/499K€**.  
*Role: principal investigator for partner INRIA.*
- 2014. **Prototipo de visualizador de archivos FITS en muros de pantallas**.  
Funded by Millenium Institute of Astrophysics (MAS), **8.000.000CLP (10K€)**.  
*Role: principal investigator for partner INRIA Chile.*
- 2013-2014. **ANDES: INRIA Chile's Massive Data Visualization Wall**  
Funded by CORFO (Corporación de Fomento de la Producción, Chile) and INRIA Chile: **200K€**.  
*Role: coordinator/principal investigator.*
- 2010-2014. **ALMA Observatory Operations Monitoring and Control User Interfaces**.  
Funded by ALMA: **255K€**.  
*Role: coordinator/principal investigator.*
- 2008-2012. **WILD - Wall-sized Interaction with Large Datasets**. 4 academic partners.  
Funded by RTRA Digiteo and Région Île-de-France, Domaine d'Intérêt Majeur "Logiciels et systèmes complexes": **429K€**.  
*Role: coordinator/principal investigator.*
- 2009-2012. **MLSN - Multi-Level Social Networks**. 4 academic and industrial partners.  
Funded by the French National Research Agency (ANR), Programme VERSO: **177K€/738K€**.  
*Role: principal investigator for partner INRIA/In Situ.*
- 2009-2013. **HolyRisk - Scientific Uncertainty and Food Risk Regulation**. 5 academic partners.  
Funded by the French National Research Agency (ANR), Programme BLANC: **61K€/702K€**.  
*Role: principal investigator for partner INRIA/In Situ.*
- 2006-2009. **WebContent - The Semantic Web Framework**. 19 academic and industrial partners.  
Funded by the French National Research Agency (ANR), RNTL Plateforme: **58K€/2M€**.  
*Role: principal investigator for partner INRIA/In Situ.*

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## Teaching / Consulting

- Data Visualization  
Master Informatique Décisionnelle, 36 hours, 32 students, Université Paris Dauphine, since 2014.
- The Fresnel language, Semantic Web data presentation solutions  
To four senior consultants and software engineers, 2 days/16 hours, PCO Innovation, 2008
- Information Visualization  
TD Master Pro, 12 hours, Université Paris-Sud XI, 2005
- The Python language, Zope and CPS  
To three software engineers, 2 days/16 hours, Cap Gemini Belgium, 2003

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## Supervision of Research and Software Development Activities

### Group Manager

- Since January 2015: **team leader**, Equipe ILDA
  - INRIA Saclay team joint with LRI (Université Paris-Sud and CNRS)
  - The team officially started in January 2015 with 4 faculty member, 3 PhD students, 2 engineers from SED (part-time)
- Since July 2012: **team leader**, Project Massive Data
  - INRIA Chile team
  - Average of 1 faculty member, 1 PhD student (visiting), 3 engineers.
  - Large proportion of engineers as the team, and INRIA Chile as a whole, are oriented towards transfer activities.
- August 2010 - July 2012: **interim team leader** (*responsable par interim*) of EPI In Situ
  - INRIA Saclay team joint with LRI (Université Paris-Sud and CNRS)
  - Average of 8 faculty members, 3 postdocs, 7 PhD students, 3 engineers over the period.

### Post-docs

- André Spritzer  
*Interactive Visualization of Medium-scale Networks for Data Storytelling on Wall Displays*  
November 2015 - October 2016
- Daniel Spelmezan  
*Prototyping and implementing sensing systems and interaction techniques for mobile devices*  
September 2011 - August 2013



- Rodrigo de Almeida  
*Accelerated 2D graphics visualization pipeline for high-resolution displays*  
February 2011 - January 2012

## Ph. D. students

- Hugo Romat, co-advised with Caroline Appert - Bourse CIFRE/ANRT, with TKM  
*Visual exploration and interactive manipulation techniques for collections of heterogeneous data and documents*  
Started June 2016 (3 year funding).
- María-Jesús Lobo, co-advised with Caroline Appert - Bourse ANR, project MapMuxing  
*Interactive Transitions for Map Applications*  
Started October 2014 (3 year funding).
- Rafael Morales, co-advised with Caroline Appert - Bourse Digiteo  
*Surface Gestures for Advanced Graphical Interfaces*  
Started November 2014 (3 year funding).
- Benjamin Bach, co-advised with Jean-Daniel Fekete - Bourse INRIA CORDI  
*Navigation and Interactive Visualizations for Dynamic Network Exploration*  
Started January 2011, defended on May 9th, 2014.  
Now post-doc at Harvard University. Previously post-doc at Microsoft Research-INRIA joint research center, Monash University.  
**Awarded a honourable mention at the IEEE VGTC VPG Doctoral Dissertation Competition (November 2014).**
- Cyprien Pindat, co-advised with Claude Puech - Bourse MENRT  
*A Content-Aware Design Approach to Multiscale Navigation*  
Started October 2010, defended on December 20th, 2013.  
Now at eFront.
- Mathieu Nancel, co-advised with Michel Beaudouin-Lafon - Bourse Région Ile-de-France / Digiteo  
*Designing and Combining Interaction Techniques in Large Display Environments*  
Started October 2008, defended on December 5th, 2012.  
Now Chargé de Recherche at INRIA Lille-Nord Europe. Previously post-doc at University of Canterbury, University of Waterloo, Aalto University.

## Engineers

- Hande Özaygen, Software engineer - INRIA SED (Service d'Expérimentation et de Développement)  
*Design and development of a platform for the visualization of linked data on the Web.*  
Since February 2015
- All engineering activities of INRIA Chile team Massive Data (4 engineers).  
July 2012 to July 2014.
- Romain Primet, Software engineer - INRIA SED (Service d'Expérimentation et de Développement)  
*Adapting the ZVTM/ZUIST toolkit to work on computer clusters driving large wall-sized displays, and user interfaces for ALMA operations monitoring and control*  
March 2009 - January 2012
- Clément Pillias, Software engineer - Région Ile-de-France / Digiteo  
*Administration and development of the WILD visualization platform (wall-sized high-resolution display)*  
March 2009 to September 2011
- Julien Husson, Software engineer - INRIA Ingénieur Jeune Diplômé  
*Design and implementation of a ZUIST-based multi-scale interface for navigating large digital libraries such as HAL-INRIA*  
October 2009 to September 2011
- The Nhan Luong, Software engineer - ANR / RNTL  
*Development of interaction and information presentation components for the WebContent platform*  
October 2007 to September 2008

## M. Sc./Eng. students

- M.Eng. student (Universidad de Chile) - Internship at INRIA Chile  
*Visualization of FITS images and Virtual Observatory data on ultra-high-resolution wall displays*  
April to December 2015
- M.Sc. student (Université Paris-Sud XI)  
*Collaborative Multi-scale Navigation on wall displays*  
April to August 2015
- M.Sc. student (EIT ICT Labs, Université Paris-Sud XI)  
*Navigating the Web of Data through the temporal dimension*  
April to July 2015
- Senior student (MIT, MIT-France internship)  
*Interactive Visualization of Training Sets for the Development of Gesture-based Interfaces*  
June to August 2015
- M.Sc. student (Universidad de la República, Uruguay) - Internship at INRIA for International Students  
*Adaptive Lenses: Content-aware Focus+Context Visualization*  
April to August 2010
- M.Sc. student (University of Technology Dresden, Germany) - Internship at INRIA for International Students  
*Visualization of OWL Semantic Web Ontologies with NodeTrix*  
November 2009 to March 2010
- M.Sc. student (St Petersburg State University, Russia) - Internship at INRIA for International Students  
*Visualization of OWL Semantic Web Ontology Graphs with Adjacency Matrices*  
October 2007 to March 2008
- M.Sc. student (St Petersburg State University, Russia) - Internship at INRIA for International Students  
*Development of a visual editor for OWL-PL ontologies*  
April to August 2007
- M. Eng. student (Master Pro, Université Paris-Sud XI)  
*Improving Human-Computer Interaction in ZGRViewer, a 2.5D Graph Visualization Tool*  
April to September 2005
- Two M. Eng. students (DESS, Université Joseph Fourier, Grenoble I)  
*Modeling XML Schema Structural Constraints and Datatypes with Circus' Type System*  
February to September 2002

- **Elected member** (since June 2015) of Université Paris-Saclay's Conseil Académique.
- **Member** (since Oct 2011) of INRIA's grant selection committee (GTAI-COST, Groupe de Travail Actions Incitatives - Comité d'Orientation Scientifique et Technologique)
- **Chair** of ACM SIGCHI Local Chapter Paris  
May 2010 - May 2012
- IEEE VL/HCC, **Steering Committee member** (2010-2014), **vice-chair** (2010-2011), **chair** (2011-2013)
- **Member** (since Feb 2016) of INRIA Saclay - Île de France's Bureau du Comité des Projets
- **Member** (Feb 2008 - Feb 2009) then **President** (Mar 2009 - Jul 2012 & since Dec 2015) of INRIA Saclay - Île de France's Commission for Technological Development (CDT: Commission de Développement Technologique)
- **Member** of INRIA's working group on experimental platforms, representing INRIA Saclay  
2008-2010
- **Member** of INRIA's working group on the 2nd generation of code forge  
2010-2013
- **Member** of INRIA's commission nationale des ingénieurs spécialistes  
2009-2010
- **Representative** of INRIA's personnel (représentant des utilisateurs), Digiteo Labs' architectural program  
2007-2008
- **Jury member** for INRIA's TR competitive selection process (research support positions, concours externe pour le recrutement d'ingénieurs et de personnels techniques)  
2006 (TR4)
- **Member** of INRIA Futurs' local commission evaluating proposals and applications for junior engineer positions (ingénieurs associés)  
2005-2007
- **Member** of the IziGFD working group (enabling INRIA personnel to access part of the GFD application)  
2005-2006
- **Elected member** of INRIA Futurs' CUR (Comité d'Unité de Recherche)  
December 2004 - December 2006

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## Software Writing and Distribution

- **ZVTM (Zoomable Visual Transformation Machine)** - <http://zvtm.sourceforge.net>  
*A Java2D-based zoomable user interface toolkit aimed at addressing Human-Computer Interaction issues in visual language environments and other types of advanced structured graphics editors.*
  - Principal developer. Contributions from 16 other individuals (INRIA engineers, research scientists, post-docs, PhD students, M.Sc. students).
  - One of the most popular applications based on ZVTM is ZGRViewer, a graph viewer for AT&T GraphViz, hosted by the same project.
  - Open-source project (LGPL license) hosted by SourceForge, average of **737 downloads per month** over the last 12 months (total of about 95 000 downloads), not including Maven dependency downloads. Cited by **96 research papers**, plus **82 additional citations** for ZGRViewer. Numbers collected on 2015-02-03.
  - Approx. 135 kLOC.
- **ALMA Operations Monitoring and Control Software** - <http://www.almaobservatory.org>  
*Development of advanced visualization components for the real-time control of the ALMA radio-observatory.*
  - Development of ALMA OMC plugins in collaboration with engineers from the SED of INRIA Saclay and from ESO.
  - Part of a very large code base (4 gigabytes of source code). High-quality code used daily for the control of the telescope, some of it based on ZVTM.
  - Approx. 20 kLOC so far.
- **IsaViz** - <http://www.w3.org/2001/11/IsaViz/>  
*A visual authoring tool for RDF models represented as node-link diagrams, with support for GSS (Graph Stylesheets) and FSL (Fresnel Selector Language). IsaViz uses ZVTM to render RDF graphs in a multiscale interface.*
  - Open-source project (W3C license) hosted by W3C, average number of downloads not available, cited by **136 research papers**, approx. 426 results returned by a Google Scholar search. Numbers collected on 2015-02-03.
  - Approx. 43 kLOC.
- **JFresnel** - <http://jfresnel.gforge.inria.fr/>  
*Fresnel is a presentation vocabulary for Semantic Web data designed to be application and representation paradigm independent. JFresnel is a Java library that implements the Fresnel specification for various RDF APIs, such as HP's Jena and Aduna's Sesame.*
  - Open-source project (LGPL license) hosted by InriaGforge, total number of 492 downloads, not including Maven repository downloads. Underlying research on Fresnel cited by **176 research papers**. Numbers collected on 2015-02-03.
  - Project with contributions from HP Laboratories Palo Alto, the Simile project at MIT, and Masaryk University.
  - Approx. 20 kLOC.

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## Miscellaneous

- Spoken languages : French (first language), English (fluent), Spanish (beginner)