

Curriculum Vitae

Personal Information

Name : **María Cecilia Bastarrica Piñeyro**
Birth date : Montevideo, April 22nd, 1966
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Work address : Departamento de Ciencias de la Computación
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Education

- PhD Computer Science and Engineering, University of Connecticut, 2000.
- Magister en Ciencias de la Ingeniería, Pontificia Universidad Católica de Chile, 1994.
- Ingeniero en Informática, Universidad Católica del Uruguay, 1991.
- Analista Programador, Universidad de la República Oriental del Uruguay, 1987.

Working experience

- Assistant professor, Departamento de Ciencias de la Computación, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile, since March, 2000.
- Academic Director of the Graduate Degree in Software Engineering and Quality, Computer Science Department, Universidad de Chile, since March, 2003.
- Director of the Chilean Computer Science Society (SCCC) since November 2008.
- Project Manager in CeSEC, Computer Science Department, Pontificia Universidad Católica de Chile, between February and November, 1995.
- Software Engineer, MicroSystem, Chile, between September 1994 and February 1995.
- Software Engineer, SeCIU (Servicio Central de Informática Universitaria), Universidad de la República Oriental del Uruguay, between March 1991 and January 1992.

Research Projects

- INRIA-Conicyt Collaboration Project 2009, “Towards a systematic development of model transformations”, Chief researcher.
- FDI Project Nacional Interest, 2006 - 2009, “Tutelkán: Obtención de Altos Estándares de Calidad en la Industria de Software Nacional, Utilizando Procesos de Desarrollo de Referencia”, Associate senior researcher.
- Fondecyt Project 1050642, 2005 - 2008, “Procesamiento y Análisis Semántico de Servicios Web”, Associate researcher (Chief researcher: Carlos Hurtado).
- “XML and Web Services Infrastructure for Intermediate-Level Organizations of Chilean Government (associate researcher). Project funded by ITCC Chile-Korea Center, 2004 - 2005.
- Initiation Project DID 2001 - 2003, I 01-2/2001, “Integración de Input/Output Automatas e I⁵ como un Framework de Especificación para Sistemas Distribuidos”. funded by Universidad de Chile. Chief researcher.

Some Publications

International Journals

- Contreras, F., Hitschfeld-Kahler, N., Bastarrica, M. C., Lillo, C., “Balancing Flexibility and Performance in Three Dimensional Meshing Tools”, Advances in Engineering Software, Elsevier Ltd., Volume 41, Issue 3, March 2010, Pages 471-479.
- Simmonds, J., Bastarrica, M. C., Hitschfeld-Kahler, N., and Rivas, S. “A Tool based on DL for UML Model Consistency Checking”. International Journal of Software Engineering and Knowledge Engineering, IJSEKE, World Scientific Publishing Company, Volume 18, Number 6, pages 713-735, September 2008.
- Hurtado, J. and Bastarrica, M.C. “Implementing CMMI using a Combination of Agile Methods”. Clei Electronic Journal, June 2006.
- Bastarrica, M. C. and Hitschfeld-Kahler, N. “Designing a Product Family of Meshing Tools”. Advances in Engineering Software, Elsevier Ltd., Volume 37, Issue 1, Pages 1-10, January 2006.
- Bastarrica, M. C., Demurjian, S. A., Shvartsman, A. A. “A Framework for Architectural Specification of Distributed Object Systems.” Studia Informatica Universalis, Hors Series, Vol. 1, pp. 127-148, 2000.

Regional Journals

- Gutiérrez, C., Bastarrica, M. C., Frez, R., Fuenzalida, C., Ochoa, S., Rossel, P., and Villena, A. “Gobierno Electrónico en Chile. Desafíos, Perspectivas y Oportunidades, Revista Chilena de Ingeniería, Volume 117, Number 2, pp. 67 - 79, August 2005.
- Bastarrica, M. C., Gómez, D., and Wilckens, C. “Input/Output Automata as an Architecture Description Language”(en Español). Revista Facultad de Ingeniería, U.T.A., Chile, Vol 13, N°1, pp. 77 - 87, April 2005.
- Rossel P., Contreras R., and Bastarrica M. C. “Graphic Specification of Abstract Data Types”. Revista Facultad de Ingeniería, U.T.A., Chile, Vol 12, N°1, pp. 15-23, 2004.
- Bastarrica, M. C., Bertossi, L., Valdivia, R. “Optimización Semántica de Consultas: Un Caso Práctico.”. Revista de la Sociedad Chilena de Ciencia de Computación, 1,1, pp. 31-44, 1996.

Book Chapters

- Smarkusky, D., Demurjian, S., Bastarrica, M, y Ting, T.C., *"Role-Based Security and Java"*, in Database Security, XII: Status and Prospects, Capítulo 13. S. Jajodia (ed.), Kluwer, 1999.

International Conferences

2010

- Julio A. Hurtado, Alejandro Lagos, Alexandre Bergel and María Cecilia Bastarrica. *"Software Process Model Blueprints"*, Accepted for publication in the International Conference on Software Processes, ICSP'2010, Paderborn, Germany.

2009

- Julio A. Hurtado and María Cecilia Bastarrica. *"Process Model Tailoring as a Mean for Process Knowledge Reuse"*. 2nd Workshop on Knowledge Reuse, KREUSE 2009, September 27, 2009, Falls Church, Virginia, USA.
- Pedro O. Rossel, Daniel Perovich and Mara Cecilia Bastarrica. *"Architectural Knowledge Evolution and Reuse in SPL Development"*. 11th International Conference on Software Reuse, ICSR 2009, pages 191 - 200, September 27 - 30, 2009, Falls Church, Virginia, USA.
- Daniel Perovich, Pedro O. Rossel and María Cecilia Bastarrica. *"Feature Model to Product Architectures: Applying MDE to Software Product Lines"*. Joint Working IEEE/IFIP Conference on Software Architecture 2009 & European Conference on Software Architecture 2009, WICSA/ECSA2009, pages 201 - 210, Cambridge, UK, September 2009.
- Andrés Vignaga and María Cecilia Bastarrica. *"Typing ATL Models in Global Model Management"*, 1st International Workshop on Model Transformation with ATL, MtATL2009, pages 47 - 62, Nantes, France, July 2009.
- Pedro Rossel, María Cecilia Bastarrica and Nancy Hitschfeld-Kahler. *"A Systematic Process for Defining a Meshing Tool Software Product Line Domain Model"*, 12th Workshop on Requirements Engineering, WER2009, pages 103 - 114, Valparaiso, Chile, July 2009.
- María Cecilia Bastarrica, Nancy Hitschfeld-Kahler, Pedro O. Rossel, Csar Castro. *"Rapidly Generating Different Meshing Tools"*. 2.18.3 Trends in unstructured mesh generation in 10th US International Congress on Computational Mechanics, Columbus, Ohio, July 2009.
- Andrés Vignaga, Frederic Jouault, María Cecilia Bastarrica, and Hugo Bruneliere. *"Typing in Model Management"*. In R. Paige, editor, ICMT 2009, 2nd International Conference on Model Transformation, LNCS 5563, pages 197 - 212, ETH Zurich, Switzerland, June 2009.
- Daniel Perovich, María Cecilia Bastarrica, Cristián Rojas. *"Model-Driven Approach to Software Architecture Design"*. To appear in 4th International Workshop on Sharing and Reusing Architectural Knowledge, SHARK 2009, Vancouver, Canada, May 2009.

2008

- Thais Batista, María Cecilia Bastarrica, Sergio Soares, Lyrene Fernandes. *"A Marriage of MDD and Early Aspects in Software Product Line Development"*. Early Aspects Workshop at 12th International Software Product Line Conference, SPLC 2008 Proceedings, Second Volume; Steffen Thiel and Klaus Pohl (Eds.), pp. 97-103. Limerick, Ireland, September 2008.

- Andrés Vignaga, Daniel Perovich and María Cecilia Bastarrica. “*Extracting Object Interactions out of Software Contracts using Model Transformations*”, ICMT’2008 - International Conference on Model Transformation. Theory and Practice of Model Transformations, in Antonio Vallecillo, Jeff Gray and Alfonso Pierantonio (Eds.) LNCS Vol. 5063, pp. 245-259, 1-2 July 2008, ETH Zurich, Switzerland.

2007

- María Cecilia Bastarrica, Nancy Hitschfeld-Kahler and Pedro O. Rossel. “*Architecting a Family of Meshing Tools*”, Second Chilean Workshop on Numerical Analysis of Partial Differential Equations (WONAPDE 2007), Concepción, January 2007.
- Andrés Vignaga and María Cecilia Bastarrica. “*Transforming System Operations Interactions into a Design Class Diagram*”. Proceedings of the ACM Symposium on Applied Computing, SAC07, Model Transformation track, March 11 - 15, 2007, pp. 993 - 997, Seoul, Korea.

2006

- Bastarrica, M. C., Hitschfeld-Kahler, N., Rossel, P. “*Meshing Tool Product Line Architecture*”, Advanced Software Engineering: Expanding the Frontiers of Software Technology IFIP 19th World Computer Congress, First International Workshop on Advanced Software Engineering, August 25, 2006, Santiago, Chile. Series: IFIP International Federation for Information Processing, volume 219, pp 1 -15.
- Hitschfeld-Kahler, N., Lillo, C., Cáceres, A., Bastarrica, M. C., Rivara, M. C. “*Building a 3D Meshing Framework Using Good Software Engineering Practices*”, Advanced Software Engineering: Expanding the Frontiers of Software Technology IFIP 19th World Computer Congress, First International Workshop on Advanced Software Engineering, August 25, 2006, Santiago, Chile. Series: IFIP International Federation for Information Processing, volume 219, pp 162 - 169.
- Bastarrica, M. C., Hurtado, C., Vaisman, A. “*Version Management in Semantic Web Services Using OWL-S*”, J. Eder, S. Dustdar et al. (Eds.): BPM 2006 Workshops, LNCS 4103, pp. 475486, 2006. Springer-Verlag Berlin Heidelberg 2006.
- Bastarrica, M. C., Hitschfeld-Kahler, N., Rossel, P. “*Product Line Architecture for a Family of Meshing Tools*”, 9th International Conference on Software Reuse, ICSR 2006, Turin, Italia, June 2006, LNCS 4039, pp. 403 - 406.
- Ochoa, S., Rossel, P., and Bastarrica, M. C. “*Software Architecture to Support Digital Document Interchange for the Chilean Government*”. 8th International Conference on Advanced Communication Technology (ICACT 2006), Phoenix Park, Korea, February 2006.
- Bastarrica, M. C., Hitschfeld-Kahler, N., and Rossel, P. “*Product Line Architecture for a Family of Meshing Tools*”. Accepted for the 9th International Conference on Software Reuse, ICSR’2006, Torino, Italy, June 2006.
- Hitschfeld-Kahler, N., Lillo, C., Cáceres, A., Bastarrica, M. C., Rivara, M. C. “*Building a 3D Meshing Framework Using Good Software Engineering Practices*”. Accepted for the International Workshop on Advanced Software Engineering, IWASE’2006, IFIP World International Conference, Santiago, Chile, August 2006.
- Bastarrica, M. C., Hitschfeld-Kahler, N., and Rossel, P. “*A Meshing Tool Product Line Architecture*”. Accepted for the International Workshop on Advanced Software Engineering, IWASE’2006, IFIP World International Conference, Santiago, Chile, August 2006.

2005

- Simmonds J., Bastarrica, M. C. *A Tool for Automatic UML Model Consistency Checking*. 20th IEEE International Conference on Automated Software Engineering (ASE2005), Long Beach, California, USA, pp. 431 - 432, November 7-11, 2005, ACM Press.
- Gutiérrez C., Bastarrica, M. C., Frez, R., Fuenzalida, C., Ochoa, S., Rossel, P., Villena, A. *"E-Government in Chile and the Adoption of XML as Standard"*. Workshop de EGOV05, International Conference on E-Government, Copenhagen, Denmark, pp. 110 - 120, 22-26 August, 2005.

2004

- Bastarrica, M. C., López M., Ochoa S. F., and Rossel P. O., *"Using the Integrated Notation for Defining Product Line Architecture"*. First Conference on the Principles of Software Engineering, PRISE'2004, Buenos Aires, Argentina, Noviembre 22 - 27, 2004.
- Bastarrica M. C., Ochoa S. F., and Rossel P. O. *"Integrated Notation for Software Architecture Specification"*. Proceedings de la XXIV International Conference of the SCCC, SCCC'2004, pp 26-35, Arica, Chile, Noviembre 2004.
- Bastarrica M. C and Hitschfeld-Kahler, N. *"An Evolvable Meshing Tool Through a Flexible Object-Oriented Design"*. Proceedings de la 13th International Meshing Roundtable, pp 203-212, Williamsburg, Virginia, Septiembre 2004.

2003

- Ochoa, S., Bastarrica, M. C., Parra, G. *"Estimating the Development Effort of Web Projects in Chile"*, I Latin American Web Congress, La-Web, pp 114-122, Santiago, Chile, Noviembre 2003.

2002

- López M., Bastarrica, M. C. *"Business Case for a Product Line of Legacy Application Data Middleware"*, Proc. of the 6th IASTED International Conference on Software Engineering and Applications, SEA'2002, pp 791-796, Noviembre 4-6, 2002, Cambridge, Massachussets, USA.

2001

- Bastarrica, M. C., Caballero, R. E., Demurjian, S. A., Shvartsman, A. A. *"Two Optimization Techniques for Component-Based Systems Deployment"*. XIII International Conference on Software Engineering & Knowledge Engineering, SEKE'2001, pp. 153-162, Buenos Aires, Argentina, Junio, 2001.

2000

- Bastarrica, M. C., Demurjian, S. A., Shvartsman, A. A. *"Comprehensive Specification of Distributed Systems Using I⁵ and IOA."* Proc. of the XX International Conference of the Chilean Computer Science Society, IEEE Press, pp.74-82, Santiago, Chile, Noviembre, 2000.
- Bastarrica, M. C., Craig, S., Demurjian, S. A., Shvartsman, A. A. *"Structural Specification of a Distributed System Using I⁵."* Proc. of the 5th International Conference on Computer Science and Informatics, IC2000, Atlantic City, Febrero de 2000.

1999

- Bastarrica, M. C., Demurjian, S. A., Shvartsman, A. A. "*T⁵: A Framework for Specifying Object-Oriented Distributed Systems.*" Proc. of the 3rd International Conference on Principles of Distributed Systems, OPODIS'99, Hanoi, Vietnam, Octubre de 1999.

1998

- Bastarrica, M. C., Shvartsman, A. A., Demurjian, S. A. "*A Binary Integer Programming Model for Optimal Object Distribution.*" Proc. of the 2nd International Conference On Principles Of Distributed Systems, OPODIS'98, Amiens (Francia), Diciembre 1998.
- Bastarrica, M. C., Demurjian, S. A., Shvartsman, A. A. "*Software Architectural Specification for Optimal Object Distribution.*" Proc. of the XVIII International Conference of the Chilean Computer Science Society, IEEE Press, Antofagasta, Chile, Noviembre 1998.
- Smarkusky, D., Demurjian, S. A., Bastarrica, M. C., Ting, T. C. "*Security Capabilities and Potentials of Java.*", en Proc. of Twelfth IFIP WG 11.3 Working Conference on Database Security, Chalkidiki, Grecia, Julio 1998.

1993

- Straub, P. A., Eterovic, Y., Espinoza, H. A., Bastarrica, M. C. "*Integrated specification analysis*". XIII International Conference of the Chilean Computer Science Society, pag. 589 - 601, La Serena, Chile, Octubre 14-16, 1993.