

# Dr. David A. Monge

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## Curriculum Vitae

### Personal Information

Born on October 22, 1983

Mendoza, Argentina

### Education

#### *Degree Titles*

Ph.D. in Computer Science, National University of Central Buenos Aires (UNICEN), Tandil, Buenos Aires, Argentina, December 2013. Thesis title: *A Scheduling Approach for the Efficient Execution of Scientific Workflows on Grid Sites*. (highest score)

Systems Engineer, Facultad Regional Mendoza, Universidad Tecnológica Nacional, Mendoza, Argentina, July 2007. Thesis title: *Endovelicus, A framework for the simulation of human organs*.

#### *Languages*

*Spanish* Native language.

*English* Reads: very good. Writes: very good. Speaks: very good. Understands: very good.

### Grants and Fellowships

Post-doctoral fellowship, granted by the National Council for Scientific and Technical Research (CONICET), Argentina, April 2014-March 2016.

Ph.D. fellowship Type I, granted by CONICET, Argentina, April 2008-March 2011.

Ph.D. fellowship Type II, granted by CONICET, Argentina, April 2011-March 2013.

SPSAS e-SciBioenergy, *São Paulo School of Advanced Science on e-Science for Bioenergy Research*, Brazilian Bioethanol Science and Technology Laboratory (CTBE), Campinas, Brazil, October 22-26, 2012. <http://www2.bioetanol.org.br/escibioenergy/>

Latin American eScience Workshop 2013, *Turning Data into Insight*, Microsoft Research & FAPESP, São Paulo, Brazil, May 13-15, 2013. <http://research.microsoft.com/en-us/events/latamescience2013/>

IJCAI School 2014, International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, September 1-5, 2014. <https://sites.google.com/site/ijcaischool2014/>

AWS in Education Grant award for the course Introduction to Cloud Computing, Valparaiso, Chile, October 13-17, 2014. <http://carla2014.hpclatam.org/>

## Teaching

Assistant professor. *Distributed Operating Systems*. Faculty of Natural and Exact Sciences (FCEN). National University of Cuyo. Since May 2014. Resolution: 9/2013-CA.

Postgraduate Course: Introduction to Cloud Computing. In the *3rd School on High Performance Computing in Latin America (ECAR 2014)*, Universidad Técnica Federico Santa María. Valparaíso, Chile, July 13-17 2014. Scientific and Technological Center Valparaíso and Chilean Laboratory for High Performance Computing. <http://ecar2014.hpclatam.org>

## Research Interests

My research interests are focused on:

Big Data Analytics and Machine Learning.

Scheduling and optimization.

Performance evaluation and prediction techniques.

Grid and Cloud Computing.

## Journal Articles and LNCS/CCIS

David A. Monge, Matěj Holec, Filip Železný and Carlos García Garino. *Ensemble Learning of Run-time Prediction Models for Data-intensive Scientific Workflows*, In *High Performance Computing*, volume 485 of *Communications in Computer and Information Science*, pages 83-97. Springer Berlin Heidelberg, 2014.

David A. Monge and Carlos García Garino. *Adaptive Spot-instances Aware Autoscaling for Scientific Workflows on the Cloud*, In *High Performance Computing*, volume 485 of *Communications in Computer and Information Science*, pages 13-27. Springer Berlin Heidelberg, 2014.

David A. Monge, Carlos García Garino. *LOGOS: Enabling Local Resource Managers for the Efficient Support of Data-intensive Workflows Within Grid Sites*. *Computing and Informatics*. Vol. 33, Number 1, pp. 109-130. Slovak Academy of Sciences. February 2014. ISSN 1335-9150. [IF JCR2013 = 0.337]

Carlos García Garino, Elina Pacini, David A. Monge, Claudio Careglio, Aníbal Mirasso. *Computational-Mechanics Software-as-a-Service Project*. *Journal of Computer Science and Technology*. Vol. 13, Number 3, pp. 160-166. Universidad Nacional de La Plata. December 2013. [Latindex]

Claudio Careglio, David A. Monge, Elina Pacini, Cristian Mateos, Anibal Mirasso, Carlos García Garino: *Sensibilidad de Resultados del Ensayo de Tracción Simple Frente a Diferentes Tamaños y Tipos de Imperfecciones*. *Mecánica Computacional (Selected papers from the II South American Congress on Computational Mechanics, MECOM-CILAMCE 2010)*. Vol. 29, Number 41, pp. 4181-4197. AMCA. Buenos Aires, Argentina, November 2010. ISSN 1666-6070. [Latindex]

Carlos Catania, Claudio Careglio, David A. Monge, Paula Martinez, Carlos García Garino and Aníbal Mirasso. *Estudios Paramétricos de Mecánica de Sólidos en Entornos de Computación Distribuida*. Mecánica Computacional. Vol. 27, pp. 1063-1084. AMCA. San Luis, Argentina, November 2008. ISSN 1666-6070. [Latindex]

## Articles in Conference Proceedings

David A. Monge, Jiří Bělohradský, Carlos García Garino, Filip Železný. *A Performance Prediction Module for Workflow Scheduling*, proceedings of the 4th Symposium on High-Performance Computing in Latin-America (HPCLatAm 2011), Jornadas Argentinas de Informática (40 JAIIO). Number 4, pp. 130-144. SADIO. Córdoba, Argentina, September 2011. ISSN 1851-9326.

Jiří Bělohradský, David A. Monge, Matěj Holec, Filip Železný, Carlos García Garino. *Template-Based Semi-Automatic Workflow Construction for Gene Expression Data Analysis*, in proceedings of the 24th IEEE International Symposium on Computer Based Medical Systems (CBMS 2011). Number 24, pp. 1-6. Bristol, UK, June 2011. ISBN 978-1-4577-1189-3. [ISI Proceedings]

David A. Monge and Carlos García Garino. *Improving Workflows Execution on DAGMan by a Performance-driven Scheduling Tool*, proceedings of the 3rd Symposium on High-Performance Computing in Latin-America (HPCLatAm 2010), Jornadas Argentinas de Informática (39 JAIIO). Number 3, pp. 3271-3285. SADIO. Buenos Aires, Argentina, August 2010. ISSN 1851-9326.

David A. Monge and Carlos García Garino. *A Constraint Optimization based Scheduler for Distributed Computing Workflows*, proceedings of the 2nd Symposium on High-Performance Computing en Latin-America (HPCLatAm 2009), Jornadas Argentinas de Informática (38 JAIIO). Number 2, pp. 159-174. SADIO. Mar del Plata, Argentina, August 2009. ISSN 1851-9326.

## Research Reports

David A. Monge, Matěj Holec, Filip Železný, Carlos García Garino. *Automatic Generation of Models for Run-time Prediction of Scientific Workflow Tasks on Grids and Clouds*. Technical Report ITIC-TR0014, ITIC Research Institute, National University of Cuyo (UNCuyo) and Intelligent Data Analysis (IDA) Research Group, Czech Technical University (ČVUT). Mendoza, Argentina, June 2013.

David A. Monge. *A Proposal for Workflow Scheduling in Local Grid Environments*. Thesis Proposal, National University of Central Buenos Aires (UNICEN). Tandil, Buenos Aires, Argentina, May 2011.

David A. Monge. *Workflow Scheduling on Grid Environments*. Qualifying Exam, National University of Central Buenos Aires, Tandil, Buenos Aires (UNICEN). Tandil, Buenos Aires, Argentina, April 2011.

David A. Monge and Jiří Bělohradský. *DDMF: A Framework for Distributed Data Mining Applications*. Technical Report ITIC-TR0010, ITIC Research Institute, National University of Cuyo (UNCuyo) and Intelligent Data Analysis (IDA) Research Group, Czech Technical University (ČVUT). Prague, Czech Republic, December 2010.

## Participation in Other Events

IJCAI School. International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, September 1-5, 2014. <https://sites.google.com/site/ijcaischool2014/>

First Big Data Workshop. Ministerio de Ciencia, Tecnología e Innovación Productiva (MINCyT) & Fundación Sadosky, Buenos Aires, Argentina, August 26-30, 2013. <http://www.fundacionsadosky.org.ar/jornadas-de-definicion-estrategica-en-big-data>

Latin American eScience Workshop 2013, *Turning Data into Insight*, Microsoft Research & FAPESP, São Paulo, Brazil, May 13-15, 2013. <http://research.microsoft.com/en-us/events/latamescience2013/>

SPSAS e-SciBioenergy, *São Paulo School of Advanced Science on e-Science for Bioenergy Research*, Brazilian Bioethanol Science and Technology Laboratory (CTBE), Campinas, Brazil, October 22-26, 2012. <http://www2.bioetanol.org.br/escibioenergy/>

## Stays in Foreign Centres

October-December 2010. Intelligent Data Analysis (IDA) Research Group, Department of Cybernetics, Czech Technical University (ČVUT), Prague, Czech Republic. This stay was part of the planned activities under the Czech-Argentinian bilateral project RC0904/MEB11105: *Processing of Data Mining Problems on Distributed Computing Environments*.

November-December 2011. Intelligent Data Analysis (IDA) Research Group, Department of Cybernetics, Czech Technical University (ČVUT), Prague, Czech Republic. This stay was part of the planned activities under the Czech-Argentinian bilateral project RC0904/MEB11105: *Processing of Data Mining Problems on Distributed Computing Environments*.

## Collaboration on Research Projects

Collaborator on the Project Mo04 *Análisis y procesamiento de grandes volúmenes de datos sobre entornos Cloud*, Secretaría de Ciencia Técnica y Postgrado (SeCTyP), National University of Cuyo. 2013-2015. Director: Carlos Catania.

Collaborator on the Project PICT-2012-2731 *Predicción localizada de heladas en la provincia de Mendoza mediante técnicas de aprendizaje de máquinas y redes de sensores*, Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT). 2013-2016. Director: Carlos García Garino.

Collaborator on the Czech-Argentinian bilateral project RC0904/MEB11105 *Processing of Data Mining Problems on Distributed Computing Environments*. Granted by: MINCyT (Ministerio de Ciencia, Técnica e Innovación Productiva), Argentina; and MEYS (Ministry of Education, Youth and Sports), Czech Republic. 2009-2010. Directors: Carlos García Garino and Železný.

Collaborator on the Project PAE-PICT 2312 *Métodos y Herramientas para Sistemas Masivamente Distribuidos*, Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT). 2009-2011. Director: Carlos García Garino.

Collaborator on the Project o6/Mo10 *Aplicación de técnicas de inteligencia artificial a la detección de anomalías en el tráfico de red*, Secretaría de Ciencia Técnica y Postgrado (SeCTyP), National University of Cuyo. 2009-2011. Director: Carlos Catania.

Collaborator on the Project o6/B194 *Simulación de problemas de mecánica de sólidos mediante herramientas de computación distribuida*, Secretaría de Ciencia Técnica y Postgrado (SeCTyP), National University of Cuyo. 2009-2011. Director: Carlos García Garino.

## Other Participation on Scientific Events

Member of the Technical Committee of the *VII Symposium on High Performance Computing in Latin America (CARLA 2014)*, Universidad Técnica Federico Santa María. Valparaíso, Chile, July 20-22 2014. <http://carla2014.hpclatam.org>

Member of the Organizing Committee of the *VI Symposium on High Performance Computing in Latin America (HPCLatAm 2013)*, National University of Cuyo (UNCuyo). Mendoza, Argentina, July 29-30 2013. <http://hpc2013.hpclatam.org>

Member of the Organizing Committee of the *II Escuela de Computación de Alto Rendimiento (ECAR 2013)*, National University of Cuyo (UNCuyo). Mendoza, Argentina, July 22-26 2013. <http://ecar2013.hpclatam.org>

Last updated: October 31, 2014  
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