**Martine Ceberio**

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| **Professional experience** |

**2012 – now. Associate Professor of Computer Science**

The University of Texas at El Paso

**2004 – 2012. Assistant Professor of Computer Science**

The University of Texas at El Paso

**2003 – 2004. Visiting Assistant Professor of Computer Science**

The University of Texas at El Paso

**1999 – 2003. Instructor of Computer Science (while a Ph.D. Student)**

The University of Nantes, France

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| **Education** |

**2003. Ph.D. in Computer Science**

*Thesis on “Contributions to Global Optimization via Symbolic Computations*

*and Soft Constraints” The University of Nantes, France*

**1999. D.E.A. in Computer Science**

*The University of Nantes, France*

**1997. “Maîtrise” of Mathematics**

*The University of Nantes, France*

**1995. Bachelor’s Degree of Mathematics**

*The University of Poitiers, France*

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| **Research Projects** |

Major research projects I have been involved in are as follows:

**(PI) NSF CAREER research project, 2009-2016 ($600K):** on **numerical constraint solving and optimization** using interval computations to handle uncertainty.

*Notable results of this project include the design of speculative algorithms for global optimization as well as for multi-criteria decision-making. A number of articles were published to disseminate these results and an annual workshop, CoProD, has been held to further enhance sharing results and discovering new problems from domain scientists.*

*Throughout the 7 years of the project, about 30 students have been trained (at all levels from high-school to Ph.D. students).*

**(PI) ARL research project within Stanford’s Army High Performance Computing Research Center (AHPCRC), 2013-now ($1M):** on reduced-order modeling for **large-scale numerical simulations**.

*Notable results of this project so far include the design and implementation of new algorithms to handle uncertainty in the process of model-order reduction. This is really important as results from large simulations (all the more when they undergo reduction) need to be guaranteed. The methods that we proposed are guaranteed.*

*Another professor (M. Argaez), one Ph.D. student, and two post-doctoral researchers have contributed so far to this project.*

**(PI) AAAS research project, 2012-2015 ($20K):** on using argumentation frameworks to model and solve **multi-criteria decision-making problems**.

*Most notable results include the definition of a model for multi-criteria decision making using argumentation frameworks. This provided a completely different way to address multi-criteria decision-making, allowing to satisfy constraints on the solutions, which were not possible earlier with traditional optimization approaches.*

*This project was an international collaboration with Dr. S. Bistarelli from the University of Perugia, Italy. The project has ended but the collaboration is on-going. One Master’s student participated in this project and now works at ARL.*

Other research projects (as Co-PI) include projects funded by:

* NSF – PI. M. Taufer 2006-2009 (~$600K), PI. E. Villa 2012-2016 (~$400K), PI. A. Gates 2016-2021 (~$5M),
* Raytheon – PI. D. Pennington 2013-2014 (~$30K).

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| **Research Activities** |

Evidence of research leadership:

* **Vice-President** of the North American Fuzzy Information Processing Society
* Invited **plenary speaker** at SCAN’16, the International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics, Uppsala, Sweden
* **Co-Chair** of Constraint Solving and Decision Making CoProD annual workshop (coprod.constraintsolving.com) since 2008; Co-Chair of SCAN’08 (the 13th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics); Co-Chair of NAFIPS’11 & NAFIPS’16
* Creator and **webmaster** of constraintsolving.com
* Member of the **program committee** of, e.g., ACM Symposium on Applied Computing, track on Constraint Programming (2007-2015), ACM Symposium on Applied Computing, track on Knowledge Representation KRR (2016), World Conference on Soft Computing 13, IJCAI 16
* **Reviewer for conferences** such as AI\*IA 16, PPAM, NAFIPS, SIGAI CNC; for **journals** such as: the journal of Experimental and Theoretical Artificial Intelligence, Information Sciences, the journal of Logic and Algebraic Methods in Programming, the journal of Computing; for NSF **panels**

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| **Skills** |

* Accustomed to **working in teams**, to **managing and supervising** team members
  + Currently managing a team of 7 research students (up to 15 at some point) and a team of 15 students working on outreach
  + Experienced in leading initiatives and faculty committees in varied areas
* Strong **communication** skills:
  + Used to presenting research to a wide audience (from non-technical to very focused on research topics)
  + Accustomed to writing proposals and articles
* **Technical** skills:
  + Proficient in **Java** and **C++**
  + Strong CS foundation skills: **algorithms**, logic
  + Some experience with functional and logic programming
* Other skills:
  + Fluent (oral and written) in **English**, **French**, and **Spanish**

*Extended Curriculum Vitae, including a list of publications and a more detailed list of activities, is available at* [*http://martineceberio.fr/martine-cv.pdf*](http://martineceberio.fr/martine-cv.pdf)*.*