

GUSTAVO A. SANCHEZ

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PERSONAL PROFILE

19 years of experience as a consultant, lecturer and researcher in the field of Optimization and Control Systems. BS degree in 1994 from University of Metz (France) and PhD degree in 2011 from Simon Bolivar University (Venezuela). 22 scientific articles in peer-reviewed journals and conference proceedings. In 2010 he was honored with the *IEEE Computational Intelligence Society Best Paper Award*. He is currently with the Process and Systems Department at Simon Bolivar University (Full Professor). In 2015 he was invited by University of Maryland, USA, to give a course on Machine Learning applications to industrial problems. Research interests: *Control Systems, Multiobjective Optimization and Computational Intelligence*.

EDUCATION

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| 2011 | PhD in Science
Simon Bolivar University, Venezuela |
| 1996 | BS in Industrial Systems Engineering
University of Metz, France |

ACADEMIC APPOINTMENTS

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| 2015 | Visiting Research Professor
Calce – University of Maryland, USA. |
| 2013 – present | Full Professor
Simon Bolivar University, Venezuela |
| 2008 – 2013 | Associate Professor
Simon Bolivar University, Venezuela |
| 2007 | Visiting Research Professor
Cinvestav – IPN, Mexico |
| 1999 – 2008 | Aggregate Professor
Simon Bolivar University, Venezuela |

Courses: Linear Systems Theory, Industrial Automation, Optimal and Robust Control, Optimization, Operational Research, Machine Learning

PUBLICATIONS

Sanchez, G. Castillo, E. Strefezza, M. Villegas, T. Reyes, O. *A multivariable fuzzy controller for a CSTR*. IASTED International Conference on Intelligent System Control. Tampa, Florida, USA. 2001

Sanchez, G. Strefezza, M. Reyes, O. Castillo, E. *Using fuzzy logic to tune optimization parameters in neural model based predictive control technique*. Artificial Neural Networks Intelligent Engineering (ANNIE) 2002. Saint Louis, Missouri. USA. 2002

Ginart, A. **Sanchez, G.** *Fast defuzzification method based on centroid estimation*. IASTED International Conference on Applied Modelling and Simulation. Cambridge, Mass. USA. 2002

Sanchez, G; Ferrer, J. *A new approach for approximating the free transfer function in Q-parametrization*. IEEE Conference on Control Applications/International Symposium on Intelligent Control/International Symposium on Computer Aided Control Systems Design (CCA / ISIC / CACSD04).Taipei. Taiwan. 2004

Sanchez, G; Villasana, M. Strefezza, M. *Multi-Objective Pole Placement with Evolutionary Algorithms*. Lectures Notes on Computer Science. Vol. 4403. Springer-Verlag. 2007.

Sanchez, G; Villasana, M. Strefezza, M. *Solving Multi-Objective Linear Control Design Problems Using Genetic Algorithms*. 17th IFAC World Conference. Seoul, Korea. 2008.

Schuetze, O; **Sanchez, G;** Coello Coello, C (2008). *A New Memetic Strategy for the Numerical Treatment of Multi-Objective Optimization Problems*. Genetic and Evolutionary Computation Conference. Atlanta, Georgia, USA.

Reyes, O; **Sanchez, G;** Strefezza, M (2008). *Using Genetic Algorithms to Design a Fuzzy Logic Controller for a pH Reactor: an object Approach*. 10th IASTED International Conference on Control and Applications. Quebec, Canada

Reyes, O; Rebolledo, A; **Sanchez, G** (2008). *An algorithm to describe the ideal spur gear profile*. Proceedings of ICME 2008 WCE, World Congress on Engineering 2-4 July, 2008, London, U.K.

Reyes, O; **Sanchez, G;** Strefezza, M (2009). *Multi-objective GA-Fuzzy controller*. Proceedings of the 6th International Conference on Informatics in Control, Automation and Robotics. Volume 1. Intelligent Control Systems and Optimization

Sanchez, G; Reyes, O; Strefezza, M (2009). *A Muti-objective Approach to Approximate the Stabilizing Region for Linear Control Systems*. Proceedings of the 6th International Conference on Informatics in Control, Automation and Robotics. Volume 1. Intelligent Control Systems and Optimization

Lara, A; **Sanchez, G;** Coello-Coello, C; Schuetze, O. (2010) *HCS: A New Local Search Strategy for Memetic Multiobjective Evolutionary Algorithms*. IEEE Trans. on Evol. Comput. Vol. 14. pp: 112 - 132.

Sanchez, G; González O., (2010). *A low-cost control system for hydraulic applications*. IEEE ANDESCON. September 14-17. Bogota D.C., Colombia

Sanchez, G; Strefezza, M and Villasana, M. *Genetic solutions to mixed H2/Hinf problems: Limits of Performance*. International Conference on Evolutionary Computation Theory and Applications (ECTA 2011). Paris, France. October, 24-26, 2011.

Sanchez, G. *The Hill-Climber with Side-Step for Constrained Problems*. Evolve 2012 Conference. Mexico City, Mexico, August 07-09 2012. ISBN 978-2-87971-112-6

González O., C; **Sánchez, G.** *A study of the complexity of respiratory signals during wake and sleep.* IV ECCOMAS. Funchal, Portugal. October, 2013. CD. pp. 1 - 4.

Valero, C; **Sanchez, G.** *A new glucose regulation model.* IASTED International Conference. Modelling, Identification and Control. MIC 2014. February 1 - 1, 201 Innsbruck, Austria

Requez; Strefezza; **Sanchez;** Granado, E. *Sensitivity analysis of an algorithm to estimate switched linear systems L2 norm.* Revista de la Facultad de Ingenieria-UCV. 2015. Venezuela.

Teaching and research skills

- delivering lectures, seminars and tutorials in the field of Industrial Control Systems, both in classic or virtual environments; developing and implementing new methods of teaching.
- assessing students' coursework, supporting students through an advisory role;
- undertaking personal research projects and contributing to the institution's research profile;
- writing up research and preparing it for publication;
- supervising students' research activities;
- carrying out administrative tasks related to the department and involvement in committees and boards;
- managing and supervising staff ;
- representing the institution at professional conferences and seminars, and contributing to these as necessary;
- establishing collaborative links outside the university with industrial, commercial and public organisations

Research Projects

2015	Batteries in Portable Electronic Devices Funded by University of Maryland, USA
2015	Optimization of Risk Abatement Actions Selection for Project Management Funded by Simon Bolivar University, Venezuela
2012	A low-cost control system for hydraulic applications Funded by FONACIT, Venezuela
2005	Solving Controller Design Problems using Evolutionary Algorithms Funded by Simon Bolivar University, Venezuela
2001	Controller Design for a CSTR Funded by Simon Bolivar University, Venezuela

Consulting Projects

2015	Automation of a Service Station Facility General Electric - PDVSA
2013	SCADA system design for brewery plants POLAR

2013 SCADA system design for a boiler station
Bigott

2012 Automation of a Packing Line
Pepsi-Cola

Administrative service

2013-2014 Chief of Process and System Department
Simon Bolivar University

2003-2005 Career Coordinator: Electronic Technology
Simon Bolivar University

Awards

2010 Computational Intelligence Society Best Paper Award
IEEE

References

Dr. Michael Pecht
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