# Marcel J. Castro-Sitiriche Electrical and Computer Engineering Department University of Puerto Rico at Mayagüez Call Box 9000 – Mayagüez, Puerto Rico 00681-9000 787-832-4040 Ext. 6190; marcel.castro@upr.edu

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# a. Professional Preparation

University of Puerto Rico at Mayagüez (UPRM) Electrical Engineering B.S., 2000 Howard University Electrical Engineering Ph.D., 2007

#### **b.** Appointments

- 2014 2015, Fulbright Scholar, Dept of Sustainable Energy Science and Engineering, Nelson Mandela African institution of Science and Technology, Arusha, Tanzania
- 2014- Associate Professor, Electrical and Computer Engineering Department, University of Puerto Rico at Mayagüez, Puerto Rico
- 2008-2014 Assistant Professor, Electrical and Computer Engineering Department, University of Puerto Rico at Mayagüez, Puerto Rico
- Summer 2013 and Summer 2010, Visiting Faculty, Decision and Information Sciences Division, U.S. Department of Energy, Argonne National Laboratory, Argonne, IL
- 2007-2008 Adjunct Faculty, Electrical and Computer Engineering Department, Howard University, Washington, D.C.

## c. Publications

- Castro-Sitiriche, M. J., Ozik, J. (2014) "Rural Electrification Pathways to Wellbeing", *Proceedings of the 6th International Conference of Appropriate Technology: Knowledge and Technology Transfer Session*, Nairobi, Kenya, pages 54-63.
- Castro-Sitiriche, M. J., Jiménez-Rodríguez, L. (2014) "Responsible Wellbeing and Energy Threshold". *ETHOS Gubernamental: Revista del Centro para el Desarrollo del Pensamiento Ético*, Oficina de Ética Gubernamental, No. VII, San Juan, Puerto Rico.
- Medina, T., Chacón-Hurtado, D., Castro-Sitiriche, M.J., Papadopoulos, C., Irizarry-Rivera, A. (2014) "Appropriate Planning and Design of a Sustainable Rural Microgrid", *1st Annual GEARED Student Research Conference 2014 Utility Solar Conference*, Newport Beach, CA.
- Castro-Sitiriche, M. J., Ndoye, M. (2013) "On The Links Between Sustainable Wellbeing And Electric Energy Consumption", *African Journal of Science, Technology, Innovation and Development* (AJSTID), Taylor & Francis.
- Castro-Sitiriche, M.J., Beauchamp-Báez, G., Jiménez-Rodríguez, L. (2013) "Solar Microgrids and Energy Poverty: Conceptual Framework for Sustainable Wellbeing and Technology Justice Assessment". *Proceedings of the 12th World Wind Energy Conference & Renewable Energy Exhibition* (WWEC), La Habana, Cuba.
- Papadopoulos, C., Frey, W., Castro-Sitiriche, M., Rodríguez, J; Santiago, J; Medina, T; Maldonado, R; Rivera-Vélez, C.,; Chacón-Hurtado, D.,; Acevedo, P.J. (2014) "Sponsoring Research in Appropriate Technology", *Proceedings of the ASEE Annual Conference and Exposition*, Indianapolis, IN.
- Maldonado, R., Gomez, C., Castro-Sitiriche, M.J. (2012) "Simulation, design, hardware implementation, and control of a 9-level Flying Capacitor Multilevel Inverter with Particle Swarm Optimization algorithm," IEEE Workshop on Control and Modeling for Power Electronics (COMPEL).

William, F., Papadopoulos, C., Castro-Sitiriche, M., Zevallos, F., Echevaría, D. (2012) "On Integrating Appropriate Technology Responsive to Community Capabilities: A Case Study from Haiti", *Proceedings of the ASEE Annual Conference and Exposition*, San Antonio, TX.

Rubaai, A., Young, P., Ofoli, A., Castro-Sitiriche, M.J. (2010) "Fuzzy Logic Applications in Eletrical Drives and Power Electronics", in *Power Electronics Handbook: Devices, Circuits, and Applications*, edited by Muhammad H. Rashid, 3<sup>rd</sup> edition, Oxford, UK: Butterworth-Heinemann, Chapter 37, pp. 1115-1137.

Rubaai, A., Castro-Sitiriche, M.J., Ofoli, A. (2008) "Design and Implementation of Parallel Fuzzy PID Controller for High Performance Brushless Motor Drives: An Integrated Environment for Rapid Control"; *IEEE Trans. on Industry Applications*, vol. 44 pp. 1090-1098.

### d. Synergistic Activities

Co-coordinator of the Social, Ethical, and Global Issues (SEGI) in Engineering Group, College of Engineering, UPRM, 2010-

Member of the Scientific Review Committee of the International Conference of Appropriate Technology (ICAT), 2010-

Chair of Society on Social Implications of Technology and Education Society Joint Chapter of the Western Puerto Rico Section of the Institute of Electrical and Electronics Engineers (IEEE), 2010-2014.

Associate editor of IEEE Trans. on Industry Applications 2010-2012

### e. Collaborators & Other Affiliations

### (i)Collaborators

P.J. Acevedo, University of Puerto Rico at Mayagüez; G. Beauchamp-Báez, University of Puerto Rico at Mayagüez; D. Chacón-Hurtado, Purdue University; D. Echevaría, University of Puerto Rico at Mayagüez; W. Frey, University of Puerto Rico at Mayagüez; C.Gomez, University of Puerto Rico at Mayagüez; H.J. Huyke, University of Puerto Rico at Mayagüez; L. Jiménez-Rodríguez, University of Puerto Rico at Mayagüez; R. Maldonado, Raytheon; T. Medina, University of Puerto Rico at Mayagüez; M. Ndoye, Electrical Engineering Department, Tuskeegee University; J. Ozik, Argone National Laboratory; C. Papadopoulos, University of Puerto Rico at Mayagüez; J. Rodríguez, University of Puerto Rico at Mayagüez; J. Santiago, University of Puerto Rico at Mayagüez; F. Zevallos, University of Puerto Rico at Mayagüez.

#### (ii) Graduate and Postdoctoral Advisors

A. Rubaai, Electrical Engineering, Howard University, graduate advisor.

### (iii) Thesis Advisor and Postgraduate Sponsor

P.J. Acevedo, University of Puerto Rico at Mayagüez; D. Chacón-Hurtado, Purdue University;; R. Maldonado, Raytheon; T. Medina, University of Puerto Rico at Mayagüez; C. Rivera-Vélez, University of Puerto Rico at Mayagüez; J. Rodríguez, University of Puerto Rico at Mayagüez; J. Santiago, University of Puerto Rico at Mayagüez. Total number of graduate students advised is 2, no postdoctoral scholars sponsored.