

Jose L. Ruiz Duarte

CURRICULUM VITAE

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Current Appointment:

- **Assistant Professor**, Department of Marketing and Business Analytics, San José State University, 07/2020 – Present.

Education:

- **Ph.D.**, Systems & Industrial Engineering, University of Arizona, 08/2016 – 05/2020
(cumulative GPA: 3.79/4.0).
Minor: Computer Science, Information.
Dissertation Title: *Sustainable Operations of Production and Service with Onsite Renewables Integration*.
- **M.S.**, Industrial Engineering, University of Sonora, Mexico, 08/2011 – 08/2013
(cumulative GPA: 98.94/100).
- **B.E.**, Industrial and Systems Engineering, University of Sonora, Mexico, 08/2006 – 04/2011
(cumulative GPA: 96.36/100).

Research Interests:

- Optimization under uncertainty (modeling and algorithm development for robust and stochastic optimization);
- Sustainable operations management (operations of manufacturing and service organizations);
- Renewable energy integration and electricity market liberalization (demand-side management, distributed generation, power grid-scale integration)

Publications:

- Journal papers:
 - (J) D.A. Zuniga Vazquez, **J. L. Ruiz Duarte**, N. Fan, F. Qiu, *N-1-1 Contingency-constrained unit commitment with renewable integration and corrective actions*. *Annals of Operations Research*, DOI: 10.1007/s10479-021-04204-y, 2021.
 - (J) **J. L. Ruiz Duarte**, N. Fan, T. Jin, *Multi-process production planning with variable renewable integration and demand response*. *European Journal of Operational Research*, Vol. 281, 186-200, DOI: 10.1016/j.ejor.2019.08.017, 2020.
 - (J) **J. L. Ruiz Duarte**, N. Fan, *Operations of a microgrid with renewable energy integration and line switching*, *Energy Systems*, Vol. 10(2), 247–272, DOI: 10.1007/s12667-018-0286-8, 2019.

- Conference papers:
 - (P) **J. L. Ruiz Duarte**, S. Hou, N. Fan, Water-constrained optimal operations of power grid with renewable integration, In: *Proceedings of the 2019 IISE Annual Conference* (H.E. Romeijn, A. Schaefer, R. Thomas, eds.), 5/2019.
 - (P) D.A. Zuniga Vazquez, **J. L. Ruiz Duarte**, N. Fan, F. Qiu, J. Wang, Reliable power grid expansion considering $N-1-1$ contingencies, *The Eleventh Conference on Innovative Smart Grid Technologies (ISGT 2020)*, accepted, 11/2019.

Presentations:

- A Microgrid Approach to Secure Energy Access for Healthcare Facilities, *MSOM Conference 2021*, Track title: Data-Driven Energy Operations, Jun 08, 2021.
- Greener Food Production: Using Renewable Energy for Vertical Farming, *POMS 31st Annual Conference*, Track title: Sustainable Operations, May 05, 2021.
- Operations of a Power Grid with Embedded Networked Migrogrids, *INFORMS Virtual Annual Meeting*, Session title: Power System Operations under Uncertainties, November 12, 2020.
- Sustainable Operations of Vertical Farm with Onsite Renewables Integration, *INFORMS Annual Meeting Poster Competition Session*, October 21, 2019, Seattle, WA, *Systems and Industrial Engineering Homecoming Poster Session*, November 1, 2019, Tucson, AZ, and *Arizona Student Energy Conference (AzSEC)*, November 14, 2019, Tucson, AZ.
- Multi-process Production Scheduling with Onsite Renewable Energy Integration and Demand Response, *INFORMS Annual Meeting*, Session title: Operations Management V, October 22, 2019, Seattle, WA.
- Operations Management for a Vertical Farm with Onsite Renewable Energy Integration and Demand Response, *INFORMS Annual Meeting*, Session title: Enhancing Renewable Energy Integration through Optimization Techniques, October 20, 2019, Seattle, WA.
- Sustainable Management of Data Centers with Onsite Renewables Considering Reduction of Greenhouse Gases Emissions, *INFORMS Annual Meeting*, Session title: Energy Pricing for Demand Response, October 20, 2019, Seattle, WA.
- Water-Constrained Optimal Operations of Power Grid with Renewable Integration, *IISE Annual Conference & Expo*, in Session: Renewable Energy, May 19, 2019, Orlando, FL.
- Renewable energy integration in energy systems via optimization, *Los Alamos - Arizona Days*, April 20, 2019, Biosphere 2, Tucson, AZ.
- Renewable energy integration in energy systems via optimization, 4 Foro de Ingenierías UK 2019, April 11, 2019, Hermosillo, Sonora, México (in Spanish), *invited presentation*.
- Multi-Process Production Planning with Variable Renewable Integration and Demand Response, *Systems and Industrial Engineering Homecoming Poster Session*, October 26, 2018, Tucson, AZ, and *Arizona Student Energy Conference (AzSEC)*, November 8, 2018, Tucson, AZ
- Optimal Multi-Process Production Planning with Renewable Integration and Demand Response, *INFORMS Annual Meeting*, Session title: Integer Programming for Network Optimization and Applications, November 05, 2018, Phoenix, AZ.

- Operations of a Microgrid with Renewable Energy Integration and Line Switching, *Southwest Regional Energy Workshop*, March 13, 2018, Tucson, AZ.
- Microgrid Operations with Renewable Energy Integration, XVIII Simposio Internacional de Ingenierías AXIS “Re-Ingenia” 2018, March 01, 2018, Hermosillo, Sonora, México (in Spanish), *invited presentation*.
- Optimization of Microgrid Operations with Renewable Energy Integration, *INFORMS Annual Meeting*, Session title: Network Optimization 5, October 23, 2017, Houston, TX.
- Optimization of Microgrid Operations with Renewable Energy Integration, *Arizona Student Energy Conference (AzSEC)*, October 20, 2017, Phoenix, AZ.
- Session Chair, “Operations of Power Grids with Large Scale Renewable Integration and Edge Resources” of the INFORMS Virtual Annual Meeting 2020, November 10, 2020.
- Session Chair, “Enhancing Renewable Energy Integration through Optimization Techniques” of the INFORMS Annual Meeting 2019, October 20 – 23, Seattle, WA.

Honors, Achievements, and Awards:

- Selected as the **Outstanding Graduate Student in Systems & Industrial Engineering**, the University of Arizona, November 2019.
- **Grand challenge competition**, Second Place in Arizona Student Energy Conference (AzSEC), November, 2019.
- **Fast pitch competition**, First Place in Arizona Student Energy Conference (AzSEC), November, 2019.
- Representative of the Graduate Student Council for the SIE Department at the University of Arizona, fall 2019.
- **Best Poster Award**, First Place in Systems and Industrial Engineering Student Poster Presentation Day, University of Arizona, November 2019
- Participation in the 2019 INFORMS **Teaching Effectiveness Colloquium**, October 19, 2019, Seattle, WA.
- Graduate and Professional Student Council **Travel Award**, University of Arizona, March 2019 and October 2019
- **Best Poster Award**, Second Place in Systems and Industrial Engineering Student Poster Presentation Day, University of Arizona, October 2018
- Complementary scholarship for abroad studies for scholar year 2018 - 2019 by the Mexican Ministry of Education (SEP, for its acronym in Spanish), September 2018
- **University Fellows Professional Development Award**, University of Arizona, September 2017
- **CONACYT Scholarship**, Mexican National Council for Science and Technology to support pursuing the PhD (from Aug 2016 to May 2020), August 2016
- **University Fellows Award** 2016 - 2017, University of Arizona, March 2016
- Graduated with honors from Master’s degree, August 2013

- Graduated with honors from Bachelor's degree, April 2011
- *Reviewer for Energy Systems, Optimization Letters, Proceedings of the 2019 IISE Annual Conference.*

Teaching Experiences:

- **Assistant Professor**, Department of Marketing and Business Analytics, San José State University (Fall 2020 and Spring 2021)
Courses taught at SJSU: BUS2 194B - Business Analytics, two sections on Fall 2020 and two sections on Spring 2021, taught online, for a total of 105 students (41 students on Fall 2020 and 64 on Spring 2021).
- **Instructor**, Department of Systems & Industrial Engineering, University of Arizona (Summer 2019 and Fall 2019)
Courses taught: SIE 340: Deterministic Operations Research, for hybrid sections of both online and in-class students, with a total of 123 students (89 in-class, and 34 online students).
- **Teaching Assistant**, Department of Systems & Industrial Engineering, University of Arizona (Summer 2018), SIE 340: Deterministic Operations Research
- **Instructor**, Department of Industrial Engineering, University of Sonora (Aug 2011 – Dec 2015)
Courses taught:
 - Operations research (fall 2012, spring 2013, fall 2013, spring 2014, fall 2014, fall 2015),
 - Systems simulation (fall 2012, spring 2013, spring 2014 -two groups-, fall 2014, spring 2015),
 - Systems engineering (fall 2014),
 - Data analytics in engineering (spring 2012, fall 2013),
 - Design of experiments (spring 2015),
 - Reengineering (fall 2013),
 - Services management (fall 2015),
 - Manufacturing processes (fall 2013),
 - Entrepreneurial culture (fall 2011).

In total, 545 in-class students were formed in the courses of the University of Sonora.

Affiliations:

- Institute for Operations Research and the Management Sciences (INFORMS).
- Production and Operations Management Society (POMS).
- Manufacturing & Service Operations Management (MSOM).