

Yareni P Lara-Rodríguez
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EDUCATION:

2017- Present (Expected Graduation Date: May 2021)

University of Puerto Rico Mayagüez Campus (UPRM).

PhD Student in Mechanical Engineering (INME). Specialization: Bio/Micro Scale Engineering.

Dissertation Topic:

Study of Collagen Type I Synthesis Via Mechanical Stimulus.

2010-April 2013

University of Puerto Rico Mayagüez Campus (INME-UPRM).

Master's in science mechanical engineering. Specialization: Manufacturing and Materials.

2008-2010

Autonomous University of Nuevo León, México (UANL).

Master's in science in Systems Engineering.

2002-2006

Autonomous University of Nuevo León, México (UANL).

BSc in Manufacturing Engineering.

EMPLOYMENT HISTORY:

Teaching:

2017 Aug-2019 May. Senior Laboratory Instructor in Manufacturing Process Laboratory INME 4056. Mechanical Engineering Department (INME). UPRM

2016 Aug-Dec. Instructor: Selected Topics: Bio-devices and Biological Geometric Design Courses. Mechatronic Engineering Department. UANL

2014 Aug-Dec. Instructor: Computer and Informatics Literacy Course GEIC 1010. Mathematics and Applied Science Department. Interamerican University San Germán Campus, Puerto Rico

2014 Jan-May. Instructor: Introduction to Fluid Mechanics Course INGE 4016. General Engineering Department (INGE) UPRM

2013 Aug-Dec. Instructor: Engineering Graphics Course INGE 3011. INGE-UPRM

2010 Jan-2012 Dec. Teacher Assistant in Manufacturing Process Laboratory INME 4056. Mechanical Engineering Department (INME). UPRM

2010 Oct-Dec. Teacher Assistant in Design of Experiments Graduated Course ININ 6005. Industrial Engineering Department UPRM

Industry and Research Laboratory:

2016 Apr-2017 Jan Research Assistant in the Biocompatible Material Research Group. UANL.

2016 Feb-Mar Research Assistant in the Enzymes Immobilization Research Group. UANL.

2014 Oct-2015 Sep Quality Engineer. Biomedical Device co. "Zimmer Biomet Inc.", Ponce, Puerto Rico.

2014 Jan-May Supervisor at the laboratory of Manufacturing Process at INME-UPRM.

2013 Apr-Dec Research Support in the Laboratory of Microbiology and Cancer of Cells at UPRM.

SKILLS:

Computers: Minitab, NXT, LEGO Robots, AutoCAD.

Technique: Manufacturing Lab Machines and CNC lathe, Characterization Materials Techniques.

Languages:

English: Listening and speaking: **Very Proficient**, Writing and reading: **Very Proficient**.

Spanish Native Speaker.

Others: GMPs, GDPs, Basics Validations, detail oriented, experience in experiment design (DOE), teamwork and leadership skills.

HONORS:

- 2020 Travel Grant-Society of Women Engineers. WE Local Meeting, Feb 2020, Raleigh, North Carolina (\$250.00).
- 2019 Boost Grant. Puerto Rico Science, Technology and Research Trust (\$1000.00).
- 2019 International Fellowship 2019-20. American Association of University Women. Doctoral Studies (\$20,000).
- 2011 Travel Award Great Minds in STEM-HENAAC 2011. Poster Competition, Orlando FL. (\$800.00)
- 2009 National Scholarship CONACyT México, towards independent research in Puerto Rico (\$10,000).
- 2008 National Scholarship CONACyT towards Master Studies in Mexico (\$10,000).

PROFESSIONAL AFFILIATIONS AND ROLES:

- Association of International University Community (Since January 2020). Role: **Spokesperson** (UPRM)
- American Association of University Women (Since October 2019).
- American Society for Engineering Education (Since October 2019).
- Biomedical Engineering Society (Since November 2019).
- Society of Women Engineers (Since December 2018). Role: **Mentoring Lead** of Latin Affinity Community FY20.

CONFERENCE PROCEEDINGS PUBLICATIONS:

- “Improvement of Student Performance in Manufacturing Processes Laboratory by Applying Spaced Practice Strategy”
Y. P. Lara-Rodríguez, R. Báez and P. Quintero.
Proceedings of the American Society for Engineering Education Annual Conference (Forthcoming June 2020).
- “Optimizing PMMA Surface: Roughness Study by CNC Milling”
William García-Rodríguez, **Y. P. Lara-Rodríguez**, Edwin López-Ramos, Andrés Saavedra-Ruiz, Jonathan Victoria-Camacho, Nazario Ramírez.
Proceedings of the Institute of Industrial and Systems Engineers Annual Conference (Forthcoming November 2020).
- “Metamodeling-based optimization for true experiments”
Z. E. Hernández, **Y. P. Lara-Rodríguez**, E. Niño, M. G. Villarreal-Marroquín, J. M. Castro y M. Cabrera-Ríos.
Proceedings of the Institute of the Industrial Engineering Annual Conference, pp. 1-6, Cancún, México, (June 2010).
- “Experimental optimization of nanomagnetic properties”
Y. P. Lara-Rodríguez, Y. Cedeño-Mattei, M. L. Sánchez-Peña, O. Perales y M. Cabrera-Ríos.
Proceedings of the Industrial Engineering Research Conference, pp. 1489-1493, Miami, EUA, (June 2009).
- “Simulation optimization studies in injection molding”
Y. P. Lara-Rodríguez, M. G. Villarreal-Marroquin, R. Mulyana, J. M. Castro y M. Cabrera-Ríos.
Proceedings of the Industrial Engineering Research Conference, pp. 1459-1463, Miami, EUA, (June 2009).

PUBLICATIONS PEER REVIEWED:

- “Cases of statistical analysis in materials science: difficulties and solutions”
Y. Lara-Rodríguez, M. Sánchez-Peña, Y. Cedeño Mattei , O. Perales , H.E. Calderón, O. Marcelo Suarez, O. Chacón , M. Cabrera-Ríos. *Revista Mexicana de Ingeniería Química*. Volume 14 No. 2 (August 2015)
- “A Case Study on Statistical Characterization and Optimization of Coercivity in Cobalt Ferrite Nanoparticles”
Y. Cedeño-Mattei, M.L. Sánchez-Peña, **Y. Lara-Rodríguez**, O. Perales-Pérez, M. Cabrera-Ríos.
Proceedings of the Institution of Mechanical Engineers, Part B, Journal of Engineering Manufacture, Volume 226 No.1. (January 2012)

PUBLICATIONS NON-PEER REVIEWED:

- “Magnetic Composites: Synthesis and Characterization”
Y. P Lara-Rodríguez, Marleth Mena Montoya, Sugeheidy Yaneth Carranza Bernal, Marco Antonio Garza Navarro, Moisés Hinojosa Rivera, Virgilio González González. *Revista Ingenierías* Vol. VIII, No. 29. UANL Internal Journal (December 2005).

POSTER PRESENTATIONS AND COLABORATIONS:

- “Collagen Type I Synthesis Via Mechanical Stimulus Towards Wound Healing Acceleration” BMES-Cell and Molecular Bioengineering Conference (CMBE). **Y. P. Lara-Rodríguez**, Nanette Diffoot, Paul Sundaram. Rio Grande, Puerto Rico. (January 2020).
- “Study of Collagen Type I Synthesis Via Mechanical Stimulus”. The NASA HBCU/MSI Technology Infusion Road Tour at University of Puerto Rico. **Y. P. Lara-Rodríguez**, Nanette Diffoot, Paul Sundaram (November 2019).
- “Viability and Cytotoxicity in cells with wollastonite-coating on Ti6Al4V-alloy: Preliminary Study” International Association for Dental Research. M. Garza Ramos, L. López Sosa, B. Beltrán Salinas, D.M. Ortiz Martínez, Á. Rodríguez Sáenz, D. Rubiano Mejía, J. Munevar Niño, **Y. P. Lara-Rodríguez**, G. Contreras, M.A.L. Hernández Rodríguez, San Francisco. (March 2017).
- “Synthesis of silver nanoparticles by redox method and the characterization of the size and shape for semiconductor devices applications” **Y. P. Lara-Rodríguez**, Pedro O. Quintero, Andrés Velasco. Conference HENAAC, Poster Competition, Orlando FL, (October 2011).
- “Method to obtain the prediction of size and shape of synthesis of Ag and Cu nanoparticles” **Y. P. Lara-Rodríguez**, Pedro O. Quintero, Andrés Velasco. 8th Poster Fair, Industrial Engineering Department. University of Puerto Rico at Mayagüez. Mayagüez, Puerto Rico, (May 2011).
- “Comparison of Simulation Optimization Strategies based on Metamodels” **Y.P Lara-Rodríguez**, Poster Presented by AB Rodríguez, collaboration with MG Villarreal, SM Rojas, E Niño-Pérez, M Cabrera-Ríos. SHPE Annual Meeting Technical Poster Competition, Cincinnati OH, (October 2010).
- “Introducing statistical analysis in materials science projects at different points in time” **Y. P. Lara-Rodríguez**, Y. Cedeño-Mattei, H. E. Calderón-Arteaga, M. L Sánchez-Peña, O. L. Chacón, O. Perales, O. M. Suárez and M. Cabrera-Ríos. INFORMS Annual Meeting, San Diego, EUA. (October 2009).
- “Metamodeling-based optimization studies: Simulations and experiments” **Y. P. Lara-Rodríguez**, E. Niño-Pérez, S. Rojas, M. G. Villarreal-Marroquin, and M. Cabrera-Ríos. INFORMS Annual Meeting, San Diego, EUA, (October 2009).

BOOKS:

- “Studies of Statistical Experimental Design in Materials Science: Experiences in new and ongoing projects”(Spanish Edition) by **Yareni P. Lara Rodríguez**, Karla M. Pérez-Pérez and Mauricio Cabrera-Ríos. (May, 2012).

CONERENCE ORAL PRESENTATIONS:

- “Metamodeling-based Optimization for True Experiments” **Y. P. Lara-Rodríguez**, Conference Presented by Z Hernández, collaboration with E Niño, MG Villarreal, JM Castro, M Cabrera-Ríos. Industrial Engineering Research Conference. Cancún MX Paper 584 (June 2010).
- “*Studies in Statistical Analysis in Materials Science*” **Y. P. Lara Rodríguez**. Master Thesis Dissertation, PISIS, UANL, (April 2010).
- “Simulation optimization studies in injection molding” **Y. P. Lara-Rodríguez**, M. G. Villarreal-Marroquin, R. Mulyana, J. M. Castro and M. Cabrera-Ríos. IIE Annual Conference and Expo 2009, Miami, EUA, (June 2009).
- “Experimental optimization of nanomagnetic properties” **Y. P. Lara-Rodríguez**, M. L Sánchez-Peña, Y. Cedeño-Mattei, O. Perales y M. Cabrera-Ríos. 29th Puerto Rico Interdisciplinary Scientific Meeting. Río Piedras, Puerto Rico (March 2009).
- “Scaling Properties of machined surfaces of glass fibred reinforced composites” XVI International Congress of Researchers of Materials, Advanced Structure Materials, Cancun, Mexico. **Y. P. Lara-Rodríguez**, Presented by N. Mohamed, M. Hinojosa, V. González, (August 2007).

MENTORING ACTIVITIES

May - Jul 2020. Mentoring an International Graduate Female Student (Pursuing a master's degree) through the **Grad SWE Mentoring Program** of the Society of Women Engineers.

Mar - Jun 2020. Mentoring a K-12 Female Student through the **Women Leaders in STEAM Program** of the US-Mexico Leaders Network Foundation.

VOLUNTEERING:

Sep 2019. Role: Panelist: Woman in STEM

Froebel Bilingual School at Puerto Rico.

Encourage young girls (K-12) to pursue STEM careers through my personal experience in engineering.

Aug 2019. Role: Mentor: Woman in STEM

Science Puerto Rico

Woman in STEM to inspire and support girls to pursue careers in STEM inside the project Seeds of Triumph at the University of Puerto Rico at Mayaguez.

Jun 2019. Role: Instructor at Girls Camp

University of Puerto Rico-Arecibo.

As instructor teaching a Bioengineering Simulation Workshop during one day in the Summer Camp Computer and Science for Girls 2019 at University of Puerto Rico at Arecibo. ISMUL Academy.

May 2019. Role: Speaker: Woman in STEM

Ecoexploratorio.

Speaker for the presentation "Woman in STEM" as part of the Scientific Fair of Girls in STEM in the Ecoexploratorio Puerto Rico.

May 2019. Role: Moderator

Puerto Rico Interdisciplinary Scientific Meeting (PRISM)

A day volunteer working as moderator in the 53rd ACS Junior Technical Meeting & 38th Puerto Rico Interdisciplinary Scientific Meeting.

Apr 2019. Role: Student Volunteer

Society of Women Engineers.

Conducting planification, design and construction of an engineering project for girls. WOW! that's Engineering! activity at University of Puerto Rico at Mayaguez.

Jan 2019 – May 2019. Role: Evaluator (Education)

University of Puerto Rico-Mayaguez.

ABET Assessment Experience for the Laboratory of Manufacturing Processes.

Jun 2016 – Jul 2016. Role: Qualifier Scientific Reviewer Committee (STEM Education)

Institute of Innovation and Technology Transference -Monterrey, México.

National Fair of Science and Engineering (FENACI) and Intel International Science and Engineering Fair.

Jul 2012. Role: Lego-Robot Instructor at K-12 Students Camp

Mechanical Engineering Department.

As instructor teaching a Lego-Robot workshop during one week in the Summer Camp for K-12 Students at University of Puerto Rico at Mayagüez.

Jul 2011. Role: Lego-Robot Instructor at K-12 Students Camp

Mechanical Engineering Department.

Sep 2007 – Nov 2007. Role: Volunteer Staff (Civil Rights and Social Action)

2007 Universal Forum of Cultures Monterrey, Mexico.

Supporting Activities in the Following Topics: Cultural Diversity, Sustainability, Knowledge Peace.