

Bryan Rodríguez

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Skills

Rotordynamics and vibrations: Conduct dynamic load tests to characterize mechanical systems in the frequency domain using data acquisition and instrumentation systems (Matlab, LabView). Assembly, revamping and operation of fluid film bearing and damper test rigs. Predict rotordynamic performance using FEA (XLTRC2).

Mechanical design: Solidworks, Fusion 360, CAE, CAM, FEA structural and thermal analyses (ANSYS). Basic GD&T

Conventional manufacturing: Supervised operation of CNC centers, mill and lathe. Unsupervised use of shop tools.

Additive manufacturing: Manufacture rapid prototypes with FDM and SLA (Cura™).

Education

[Texas A&M University\(TAMU\)](#)

College Station, TX (Spring 2019-Fall 2021)

Master of Science in Mechanical Engineering, GPA: 3.75/4.0

[Monterrey Institute of Higher Education\(ITESM\)](#)

Querétaro, México (2013-2018)

Bachelor of Science in Mechanical Engineering GPA: 4.0/4.0

- Summa Cum Laude , High Performance Academic Program scholar.
- Diploma of Integral Formation and Excellence, American football student-athlete.
- International exchange program: Baylor University, Waco, TX (Spring 2017).

Professional Experience

Graduate Research Assistant [TAMU Turbomachinery Laboratory](#)

College Station, TX, (Jan 2019-Current)

- Experimentally characterize the dynamic force performance of O-ring sealed Squeeze Film Dampers (SFDs).
- Quantify the reliability of gas journal bearings undergoing transient loads.
- Analyze, report and present new knowledge to industry sponsors and relevant journals of engineering.

Research Intern [ETU R&D](#)

Querétaro, México, (Feb. 2018-Dec. 2018)

- Perform an aerothermodynamic analysis to a 50 hp steam turbine.
- Conduct static structural and thermal FEA analyses to determine product reliability.
- Assist in hydrostatic, mechanical and vibration tests to a 50 hp steam turbine.

Quality Control Intern [Mabe Technology and Projects](#)

Querétaro, México, (Aug 2015, Jul 2016)

- Assist quality engineers in performing 50+ supplier process audits.
- Visit 10+ manufacturing sites to inspect supplier products and 800+ engineering drawings.
- Manage two engineers' audit schedules and assist conducting five lean 6 σ trainings.

Research Projects

- Maneuver Load Experiments on a Motor-Rotor Hybrid Gas Bearing System (ASME Journal of Engineering for Gas Turbines Paper [#GTP-20-1430](#)).
- On the experimental dynamic force performance of a squeeze film damper supplied through a check valve and sealed with O-rings (Recommended journal paper at ASME Turbo Expo 2021 [#GT2021-28627](#))
- Identification of force coefficients in a sealed ends SFD (Technical report to Turbomachinery Research Consortium Project [#TRC-SFD-02-20](#)).
- Evaluation of Directed Lubrication Methods on the Performance of Tilting Pad Journal Bearings (Sponsored by Elliott Group).
- Overhauling/troubleshooting of rotordynamic experimental facilities: SFDs, journal gas bearings and thrust gas bearings (TAMU Turbomachinery Laboratory).

Involvement/Leadership

- Society of Tribologists and Lubrication Engineers (STLE) member.
- Provide training and leadership to undergraduate student workers (TAMU, 2019-2021).
- Mentor and guide undergraduate students (ITESM, 2015 – 2021).

Additional Software

Word processing: MS Office, LaTeX.

Languages

- Spanish (native), English (native)

Work Authorization

- Eligible to work in the U.S. without sponsorship with Optional Practical Training (OPT) up to 36 months

(More information available in hyperlinks)