

Richard D. Leyton-Romero

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Education

University of the Witwatersrand – PhD Electrical Engineering 2026

- **Research Focus:** Motorsport and Optimal Control
- **Supervised by:** Professor David J.N. Limebeer
- **Thesis:** The Usage of Optimal Control for the Analysis of Motorsport Performance.

Oxford Brookes University – MSc Motorsport Engineering 2023

- **Dissertation:** The Effects of Race Vehicle Setup on Lap-by-Lap Tire Warm-Up Response

University of South Florida – BSME Mechanical Engineering 2020

- **Minor:** Entrepreneurship
- **Senior Design:** Mazda BP4W Camshaft Design

Publications

Limebeer, D. J. N., Leyton Romero, R. D., and Massaro, M. (2025). An optimal control approach to the generation of yaw-moment diagrams. *Vehicle System Dynamics*, 1–25.
doi.org/10.1080/00423114.2025.2471344

Experience

Owner/Operator, Tampa Dynamics LLC – Tampa, Florida 2019 – 2023

Provided engineering support to motorsport organizations such as Pirelli Motorsport, Ian Lacy Racing, Ferrari of North America, Riley Technologies, and Multimatic Motorsports.

- Optimized vehicle setups by assessing car and driver stability characteristics, leading to increased driver confidence.
- Leveraged driver-in-the-loop simulation to pinpoint location-specific performance and stability issues, ensuring thorough preparation before arrival to an event.
- Evaluated and optimized tire usage during track events by monitoring thermal activity and wear ensuring maximum vehicle performance.

Powertrain Engineering Intern, Comp Cams – Memphis, TN Summer 2019

- Solved a common Chrysler engine failure by identifying critical point of defect and redesigning hydraulic valvetrain lifter to allow for free flow of oil.
- Tuned control parameters for vintage Chevrolet engine retrofitted with modern electronic fuel injection by monitoring and adjusting air:fuel ratios and spark timing.
- Provided powertrain consulting for race teams across various motorsport categories from professional drag racing to boat racing.

Skills

Mechanical Design and Simulation: SOLIDWORKS (certified), CATIA V5, LS-DYNA, STAR-CCM+
Programming and Data Analysis MATLAB, Python (certified), C++ , Excel VBA, JASP
Motorsport Data Visualization: MoTeC i2, Cosworth Pi, WinTax4