We want our research to help companies better understand their control-oriented problems and to find optimized solutions based on the physical properties of the process.

Professor Christopher Onder
Engine Systems Laboratory
Institute for Dynamic Systems and Control

Based on first principles in physics, we bring a model-based approach to a wide range of environmental, commercial, social, and biomedical design challenges. Our primary objective is to combine scientific depth with relevant engineering applications. In close collaboration with our industrial partners, we aim to bridge the gap between theory and real-world problems.

Focus
- Control-oriented modeling
- Dynamic optimization
- Feedback control systems
- Engine systems
- Vehicle propulsion systems
- Test-benches

Tools and methods
Systems modeling, robust control, feed-forward, optimization, dynamic programming, energy management, model-based calibration, automation

Further details online:
www.idsc.ethz.ch/research-guzzella-onder