

DESIGNED FOR ACADEMIA

For over 35 years, Quanser has transformed engineering labs by pioneering an interdisciplinary ecosystem that seamlessly integrates theory with practical applications. Our foundation, built on deep academic partnerships, empowers educators with cutting-edge solutions and innovative pedagogy tools like experiential learning and digital twinning.

TRANSFORMING ENGINEERING LABS

Quanser offers multidisciplinary, turnkey solutions in control, mechatronics, robotics, autonomous systems, and applied AI. These scalable and customizable platforms are reliable, repeatable, and robust and are designed to last through generations of students. With comprehensive courseware, project-based learning examples, and instructor resources that are regularly updated and revised, Quanser helps ensure faculty can equip students to develop in-demand skills.

ACCELERATING INNOVATIVE RESEARCH

Quanser’s engineering lab solutions enable efficient engineering research by providing open-architecture, highly instrumented and electromechanically customizable platforms. With a software-agnostic ecosystem and rich libraries of research tools and examples, Quanser solutions accelerate research validation to enable engineering innovation for generations.



PHYSICAL SYSTEMS	<ul style="list-style-type: none">• Robust and intuitive design• Optimized for education, research, projects and outreach
VIRTUAL LABS	<ul style="list-style-type: none">• High-fidelity digital twins• Hybrid, remote, virtual and distance learning
SOFTWARE	<ul style="list-style-type: none">• Open architecture• Multi-language support
CONTENT	<ul style="list-style-type: none">• Comprehensive courseware• Aligned with prominent textbooks
SUPPORT	<ul style="list-style-type: none">• Installation, training and academic consulting• Grant proposal and funding support

PRODUCTS & LAB SOLUTIONS



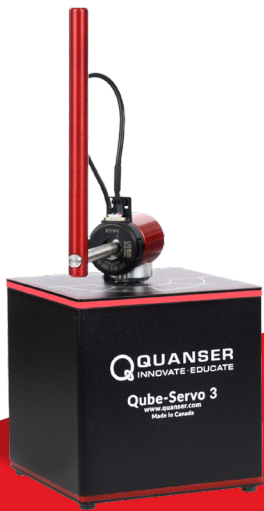
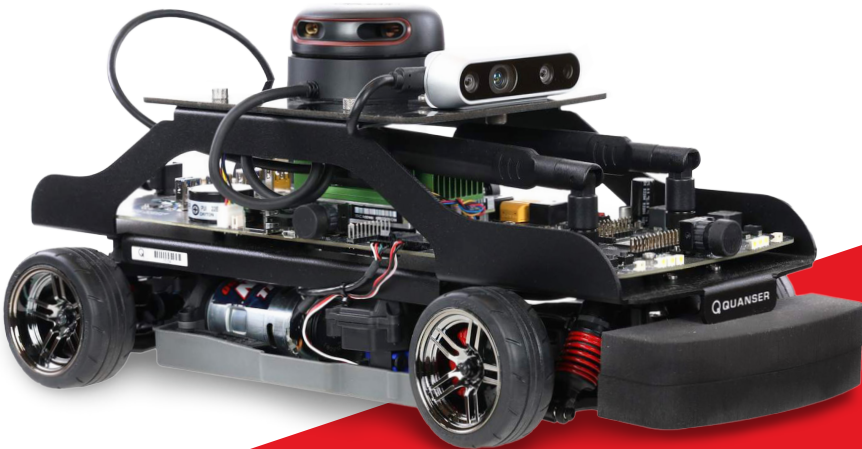
Made in Canada





QUANSER
INNOVATE · EDUCATE
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INTRODUCTION TO CONTROLS TEACHING LAB



- Flight Dynamics
- State Modeling
- Model-based Control
- 2-DOF Helicopter Stabilization
- Half-Quad Stabilization

Aero 2



Qube-Servo 3

- Dynamics
- Motor & System Modeling
- Fundamental & Non-linear Controls
- Stability & System Analysis
- Reinforcement Learning
- System Automation

Rotary Servo Base + Add on modules for reconfigurable dynamics

- Introductory & Advanced Control
- Complex System Modeling
- Introduction to Kinematics & Image Processing



Ball and Beam



Rotary Flexible Joint



Rotary Flexible Link

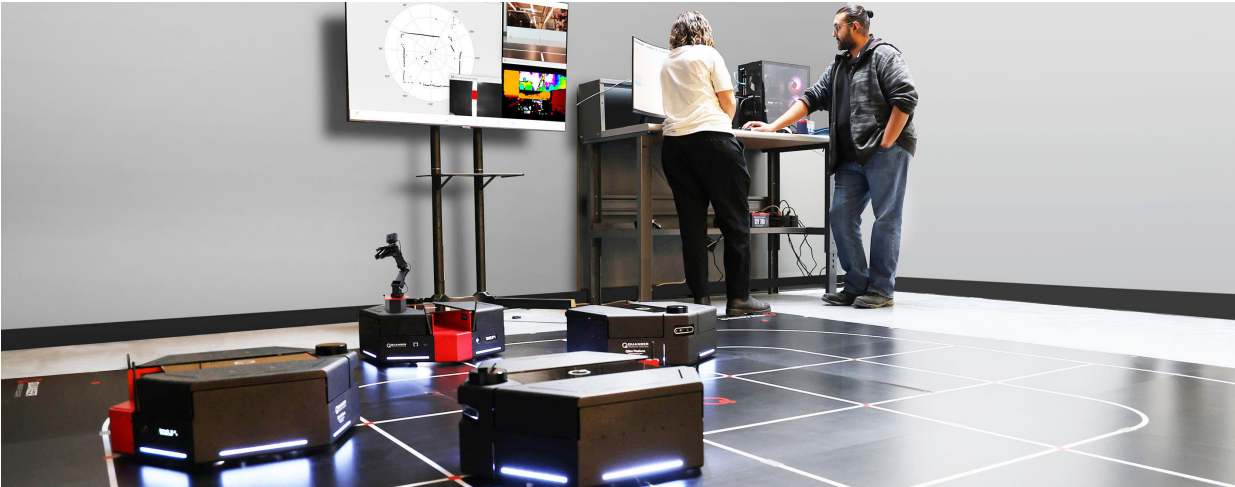


Gyro/Stable Platform



Rotary Double Inverted Pendulum

MOBILE ROBOTICS LAB



QArm

- Intro & Advanced Manipulator Robotics
- Kinematics, Statics & Dynamics
- Lead-through and Teach Pendant
- Singularity Identification & Avoidance
- Task-space Automation
- Vision-based Control
- Collaborative Robotics



QArm Mini

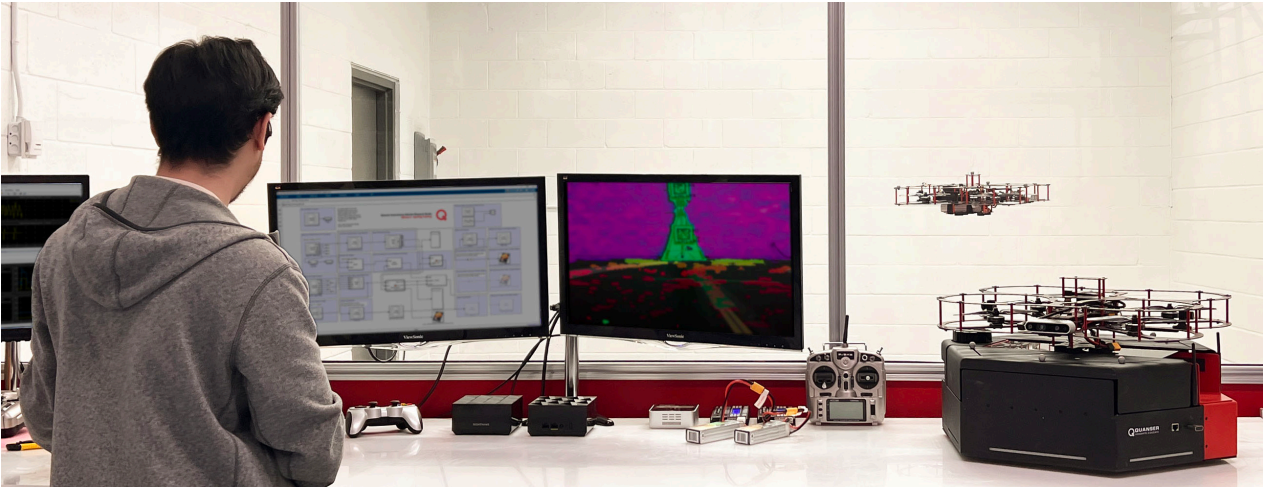
QBot Platform
nvidia



- Intro & Advanced Mobile Robotics
- Position & Velocity Kinematics
- Localization & State Estimation
- Path Planning and Navigation
- Multi-agent Task Distribution & Collaboration

Explore the full range of tools and resources to enhance your teaching and research lab at www.quanser.com

AUTONOMOUS VEHICLES RESEARCH STUDIO

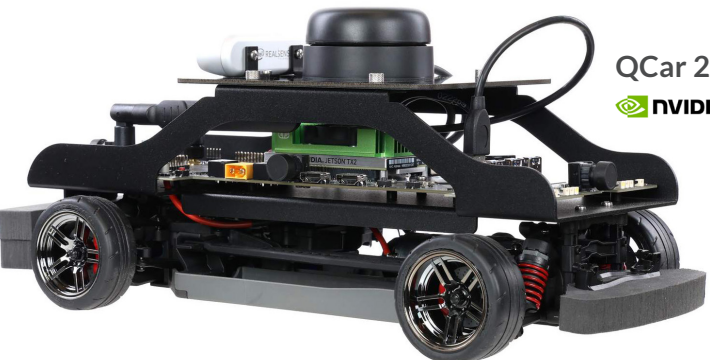


- Autonomous Environmental Monitoring and Mapping
- Flight Stabilization, Navigation and Control
- Heterogeneous Swarm and Collaboration
- Vehicle-to-Everything Communications



QDrone 2
nvidia

SELF-DRIVING CAR STUDIO



QCar 2
nvidia

- Localization, Mapping and Navigation
- Object Recognition and Detection
- Autonomous Self-driving Stack
- Vehicle-to-Everything Communications
- Machine Learning and Applied AI