

# QUANSER 實驗室

## 解決方案綜合型錄

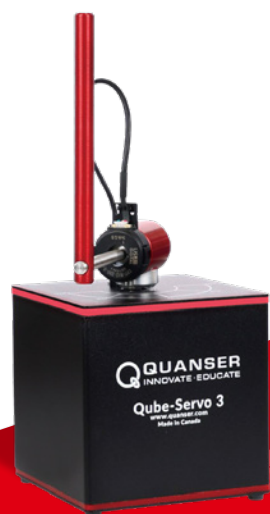
控制系統與動力學實驗室 機器人與機電整合實驗室  
自動駕駛與應用人工智慧實驗室



網站資源



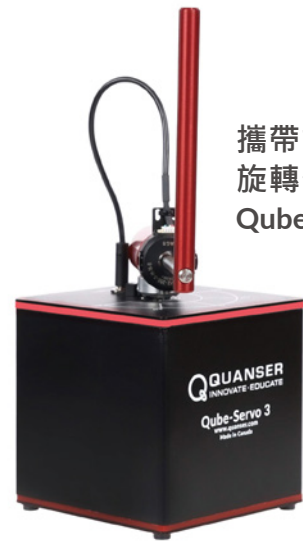
參考影片





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

航空控制實驗裝置 Aero 2



攜帶式  
 旋轉倒單擺  
 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



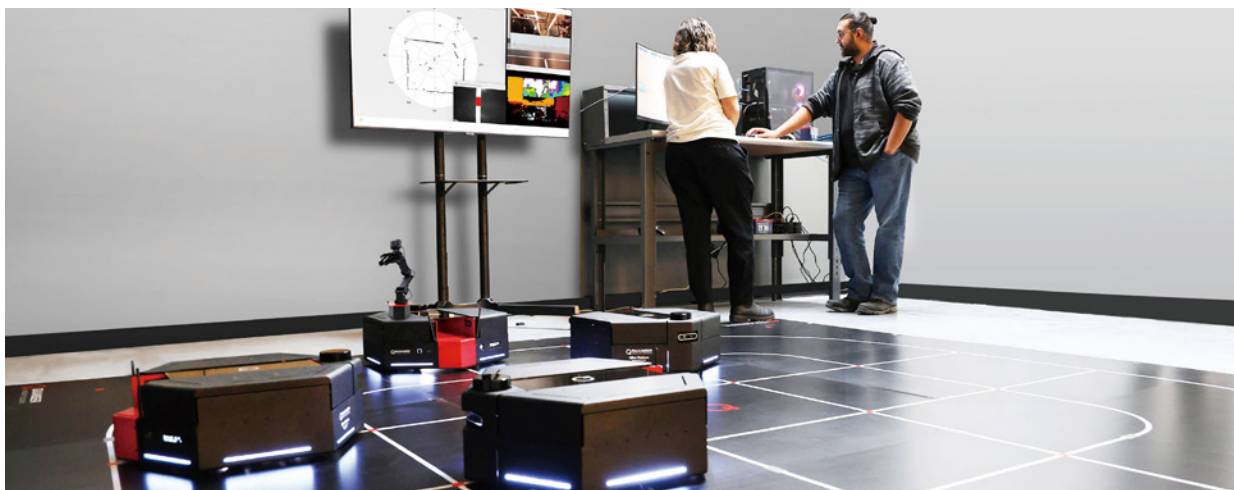
Rotary Flexible Link



Gyro/Stable Platform



Rotary Double  
 Inverted Pendulum



QArm



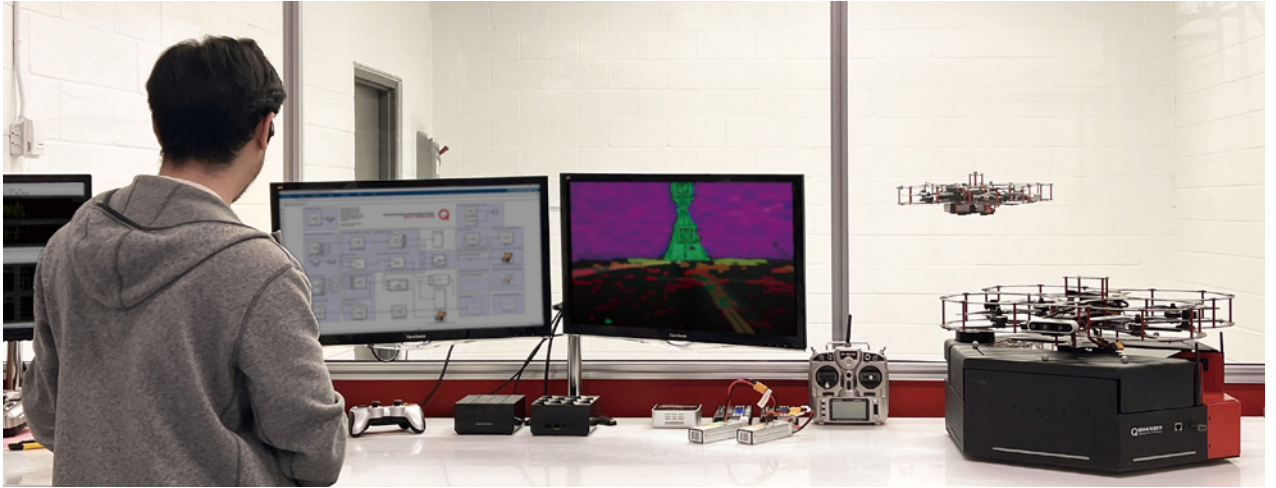
QArm Mini

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

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

QBot 平台





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



室內四旋翼自主飛行器

QDrone 2



## SELF-DRIVING CAR STUDIO



無人駕駛實驗平台

QCar 2



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

## 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

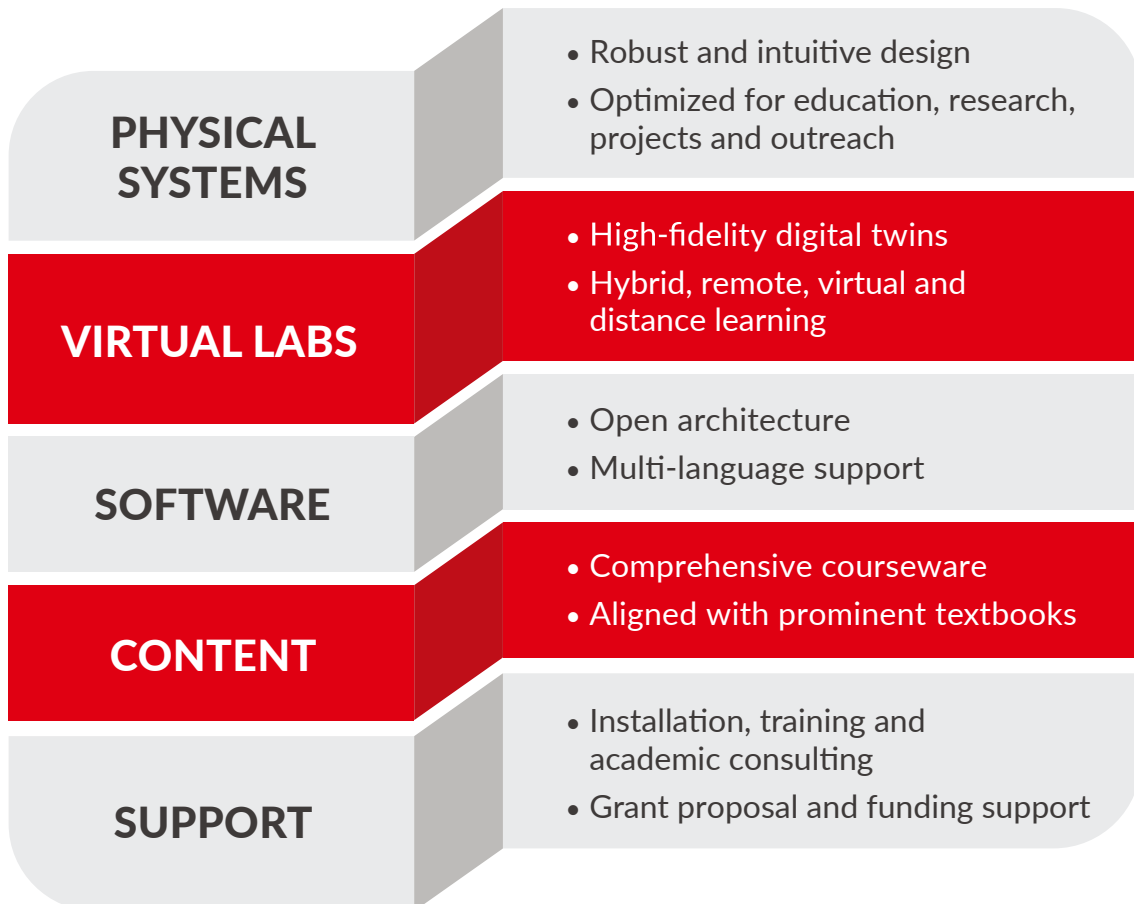
Quanser offers multidisciplinary, turnkey solutions in control, mechatronics, robotics, autonomous systems, and applied AI. These scalable and customizable platforms are reliable, repeatable, and robust and are designed to last through generations of students. With comprehensive courseware, project-based 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.



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網站資源



參考影片



## 公司簡介

來自加拿大的 Quanser，超過 35 年的經驗，致力幫助您探索工程教育教學的問題與答案。包含3大核心實驗室的解決方案：控制系統與動力學實驗室、機器人與機電整合實驗室、自動駕駛系統與人工智慧應用實驗室，透過我們所提供的工具，協助您的教學與研究，並幫助學生們發揮他們的潛力

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