



CONCORDIA INSTITUTE OF AEROSPACE DESIGN AND INNOVATION (CIADI)

INSTITUT DE CONCEPTION ET D'INNOVATION AÉROSPATIALES DE CONCORDIA (ICIAC)

**LEADING NEXT-GEN AEROSPACE RESEARCH
AND EDUCATION SINCE 2011**



GINA CODY
**SCHOOL OF ENGINEERING
AND COMPUTER SCIENCE**

Concordia Institute of Aerospace
Design and Innovation

AEROSPACE

Our sector is aerospace—a high-tech industry with many facets, including aircrafts, propulsion, rockets, space missions, supply chain management, aviation, security policies and more.

We were the first Aerospace institute to be established in Quebec.

OUR MISSION

To globally promote and strengthen aerospace research and education at Concordia through a coordinated cross-faculty platform.

OUR VISION

To position Concordia as a leading next-gen university in aerospace research and education supporting the growth of a sustainable and eco-responsible aerospace industry.



RESEARCH STREAMS

INTELLIGENT DESIGN, MANUFACTURING AND MAINTENANCE

- Industry 4.0
- Supply chain management
- Artificial intelligence
- Digital twins
- Health monitoring and MEMS

SYSTEM DESIGN OPTIMIZATION AND PROPULSION

- Electric and hybrid propulsion
- Alternative fuels
- Advanced system design optimization
- Flight management systems

ADVANCED MATERIALS AND STRUCTURES

- Additive manufacturing
- Smart structures
- Composite materials and nanomaterials
- Coatings and surface engineering

AVIATION MANAGEMENT, MOBILITY, AND AUTONOMY

- Artificial intelligence and big data
- Autonomous systems, robotics and drones
- Connectivity and cyber security
- Human factors
- Policy and security



OUR RESEARCHERS

Over 50 faculty members at the Gina Cody School of Engineering and Computer Science are associated with CIADI.

We offer a next-gen leading multidisciplinary aerospace expertise unparalleled in Montreal.

Chris Skonieczny helped develop the design guidelines to increase traction of NASA's Perseverance Mars rover.

Youmin Zhang outlines the ways UAVs can be coordinated to combat and prevent blazes.

Luis Rodrigues helps develop an ambulance drone designed to transport people in tight, hazardous urban environments from their homes to the hospital.

OUR STRATEGIC DIRECTIONS

1. Boosting Aerospace Research
2. Providing Next Gen Aerospace Training
3. Diversifying Experiential Learning
4. Integrating Multi Faculty Aerospace and Aviation Expertise
5. Building a Strong Aerospace Community
6. Connecting with the Aerospace Ecosystem



HIGHLIGHTS

- Ensure a strong Concordia presence on the national and international scene
- Establish CIADI as a coordination center for aerospace education and training at Concordia
- Develop and implement a sustainable education plan for the future (student training, on-line courses, apprenticeship, etc.)
- Increase members participation in CIADI life (scientific committee, student committee, symposium, etc.)
- Improve internal and external communications (website, social media, Dept. Council, etc.)
- Continuously update CIADI technology roadmap and communicate it internally
- Monitor the COVID-19 situation closely and look for new opportunities in terms of research and education

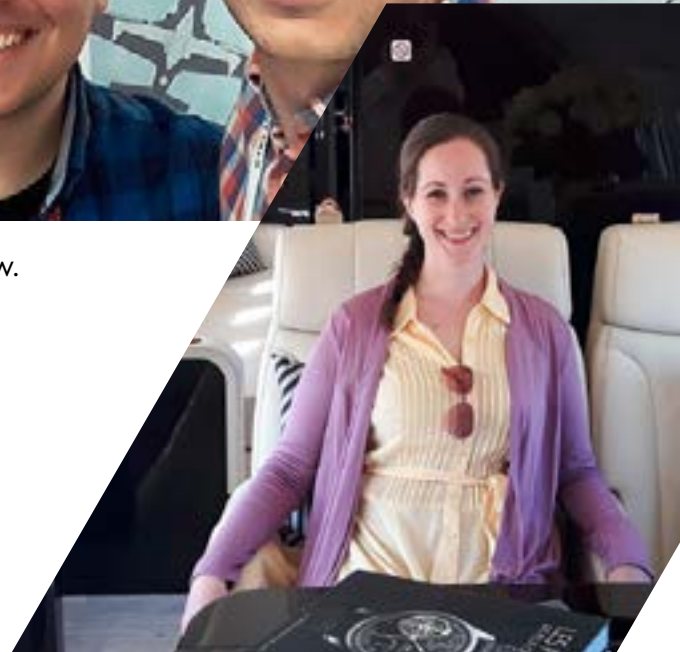




CIADI hosted 22 people from NASA plus 16 participants from academia and industry across three countries in wind tunnel testing course in 2019.



Our students participated in Le Bourget Paris Air Show.





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