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Real people. Real science. Real space impact.

Iodine, Thrusters & Thoughts

Behind the Scenes,
With Jennifer Ly,
PhD candidate
Electric Propulsion at Airbus FHN

Jennifer Ly: Pioneering the Fluidics of Iodine Propulsion

When Jennifer Ly first watched a Falcon 9 rocket glide back to Earth under perfect control, she knew she wanted to be part of that magic. Today, as a PhD candidate in Airbus's Electric Propulsion Department in Friedrichshafen, she brings that same wonder to iFACT-MP, charting the course for iodine electric propulsion.

From Curiosity to Expertise Jennifer's path to rocket science wasn't a straight line. At KTH Royal Institute of Technology in Stockholm, she earned her BSc in Physics and Master in Aerospace Engineering, dabbling in everything from Aerodynamics to Energy Systems. Yet it was a semester project on green propellants that sparked her passion for sustainable space travel.

Joining the iFACT-MP Movement, in late 2023, Jennifer joined the iFACT-MP consortium, drawn by its ambition to validate iodine as the eco-friendly propellant of tomorrow.
Her focus: mastering fluidics.

"Fluidics may sound like a niche," Jennifer explains, "but it's the heartbeat of reliable propulsion. Without precise control over iodine vapor, the entire system falters."

Armed with that clarity, she leads the fluidics test campaigns at Airbus Toulouse:

- P*ropellant loading sequences*: Charting safe, repeatable protocols for iodine transfer.
- *Thermal control validation*: Ensuring hardware stays within operational temperatures, comparing real tests against simulation models.
- *Integration checks*: Coordinating with Pisa's mass flow controllers and Élancourt's EGSE to prove system interoperability.

Trials, Triumphs, and Teachable Moments, some days, the fluidics rig cooperates like clockwork, a sweet confirmation of months of meticulous preparation. Other days, unexpected leaks or temperature spikes force Jennifer to recalibrate and rethink.

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Beyond the Lab

Building a Community Jennifer thrives on collaboration. Her desk sits at the crossroads of academia, industry, and innovation:

- *Weekly brainstorms* with University of Pisa researchers.
- *Strategy sessions* with Airbus Tolouse engineers.
- *Video calls with Aerospazio*'s test facility coordinators.

These discussions keep her grounded in the big picture: **a Europe-led propulsion revolution**.

Jennifer adds:

"Each hiccup is pure data gold. Challenges teach you more than successes ever do. When a test fails, you learn exactly how to make it succeed next time."

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Life Outside Propulsion

When she's not taming valves and pressure sensors, Jennifer finds balance on ice skates, rock climbing, or framing moments on film through an old CANON camera. Her mantra echoes in both her hobbies and her research:

"Push beyond your comfort zone, you might surprise yourself."

A Message to Future Innovators

"Reach out to others, professors, student clubs, industry mentors, and dive into projects that scare you.
That leap is where growth happens."

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Behind every thruster test and subsystem review, there's a human story — full of curiosity, ambition, and perseverance.