ISU Hydra Space Station Payloads

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1. Why Hydra?

Hercules and Iolaus kill the Hydra
2. ISS Payloads

- Three ‘Hydra’ payload cubes are flying to ISS with ICE-Cubes.
- Hardware features innovative ISU-designed structures.
- Significant design and construction by ISU students.

- Two payloads are on board
  - Hydra 2: MMARS2 – improved version of MMARS1 + DOSIS
  - Hydra 3: Pulse – an interactive space art payload developed with Mexican space artist and ISU alum Nahum + RUSH

- One will fly December 4
  - Hydra 1: Plant Growth Experiment
SpaceX-CRS15 Launch (29 June)
Docking + Installation
Hydra-2/MMARS2 + DOSIS

Lead: International Space University

Partners: University of Strasbourg, University of New South Wales, DLR

Main objective: Effect of space environment on methanogen growth.

Hydra-3/Pulse + RUSH

Lead: International Space University

Partners: Studio Nahum, MacQuairie University

Main objective: Interactive space art payload

Secondary objective: Tech demonstration of radiation tolerant electronics.
**Hydra-1/Plant Growth Experiment**

**Lead:** International Space University

**Partners:** Stanford University/Utah University, University of Strasbourg (NASA Ames)

**Main objective:** Observation of transgenic seed chemically-inducible protein expression in a microgravity environment + DNA postflight analysis.
3. Benefits

- For ISU, key aspects of the ICE Cubes opportunity included:
  - Enabling in-orbit research on a responsive timescale
- Promoting international co-operation
Promoting ISU’s interdisciplinary mission
- Direct engagement of ISU master’s students in design and construction of space payloads
www.gofundme.com/gold4bald
Thank you for your attention