GLASS – Global AIS on the International Space Station:

An opportunity for undergraduates to gain hand’s on experience using Automatic Identification System (AIS) data to detect illegal fishing in the Pacific.

March 2015
The GLASS Team

• **JAMSS America, Inc.** — Principal investigator and project integrator
  – Flexitech — technical consultant for comm systems
  – QUEST — consultant for marketing & public relations

• **Mare Liberum** — Co-investigator, data systems and AIS signal processing / analysis

• **Greater Houston Port Bureau** — Co-investigator, port operator and GLASS operational evaluator

• **University of Hawai‘i** — Co-investigator, maritime researcher and GLASS operational evaluator

• **Shine Micro Inc.** — Supplier of AIS equipment
Ships transmit their information via AIS. An antenna attached to the ISS detects the signals as it orbits the Earth.

JAI will procure, qualify and launch AIS equipment to the ISS. AIS Receiver/router on ISS digitizes the data and downlinks it through the ISS Ku-band comm network.

Harborlights servers process the raw AIS data. Data sent to selected subscribers for use and evaluation, including UH.
Top Level Overview of GLASS Project

1. JAI will procure, qualify and launch AIS equipment to the ISS
   - 9/2014

2. Ships transmit their information via AIS
   - ~ 6/2015

3. An antenna attached to the ISS detects the signals as it orbits the Earth
   - ~ 9/2016

4. AIS Receiver/router on ISS digitizes the data and downlinks it through the ISS Ku-band comm network
   - 10/2014

5. Knights servers the raw AIS
   - ~ 10/2015

6. Data sent to selected subscribers for use and evaluation
   - waiting for launch
Expected Benefits of GLASS / AIS from Space Station

- Enhanced global competitiveness
- Adaptation to supply chain disruptions
- Improved protection of U.S. Exclusive Economic Zones
- Decreased environmental impacts
- Increased environmental protection
- Decreased illegal activities
- Expedited emergency response
- Enhanced education and training

UH’s role is to evaluate the project’s ability to monitor Pacific Ocean fishing activities. Student participant will analyze AIS data for quality, content and behavior patterns. Funding is available to support an internship/employment.
Global AIS on Space Station

utilizing the ISS National Lab to provide AIS data access over the waterways of the world

GLASS

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