



# Venus In Situ Surface Imager (VISSI)

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**Target:** Venus surface - long duration

## **Science:**

- Obtain high resolution digital images of the surface of Venus at multiple scales
- Resolve geologic features near landing site at a resolution of 1 mm/px at 1 m
- Observe transient phenomena (i.e. active sediment transport) over the period of days to weeks
- Resolve basic rock and mineral types via optical filters

## **Objectives:**

- Develop imaging array of high-temperature photodiodes sensitive to visible spectrum
- Develop high-temperature electronics to produce transmit-ready digital image data
- Identify and integrate appropriate optical lenses and filters
- Test and demonstrate the operation of all components at Venus surface conditions for extended time (days to weeks)

**CoIs:** Gary Hunter, Geoffrey Landis, Phillip Abel - NASA Glenn Research Center; Martha Gilmore - Wesleyan University

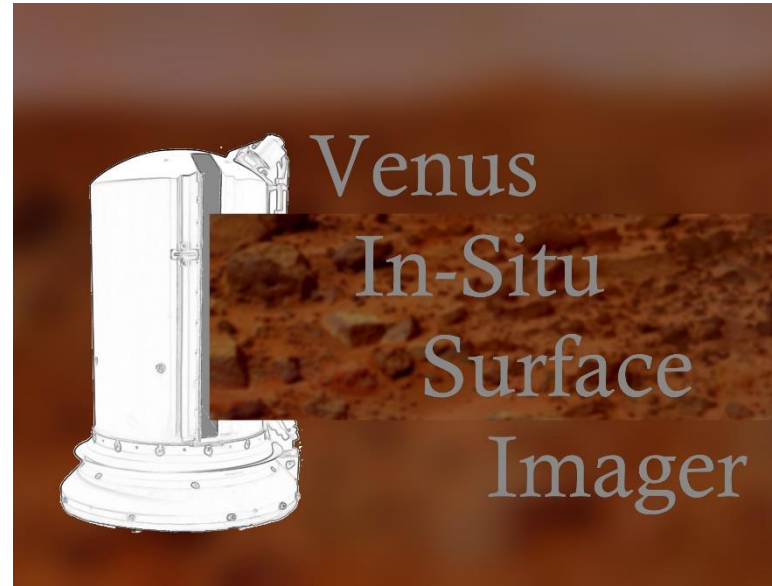


Figure Caption: A new generation imager for the surface of Venus.

## **Key Milestones:**

- 4Q FY19: Performance requirements for VISSI
- 3Q FY20: Demonstrate Photodiode and Amplification at 500°C
- 3QFY20: Demonstrate Photodiode for 60 days at 500°C
- 2Q FY21: First generation VISSI electronics evaluated at 500°C
- 4Q FY21: Integrated photodiode array and electronics providing image at 500°C
- 3QDY22: Image produced at 500°C
- 4Q FY22: VISSI proof-of-concept demonstration in Venus simulated conditions

**TRL 3 to 4**