

Unstandard CubeSat/PocketQube/TubeSat Deployers



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- Morehead State University
- Deployers
- Small Space Experiments

Morehead State University



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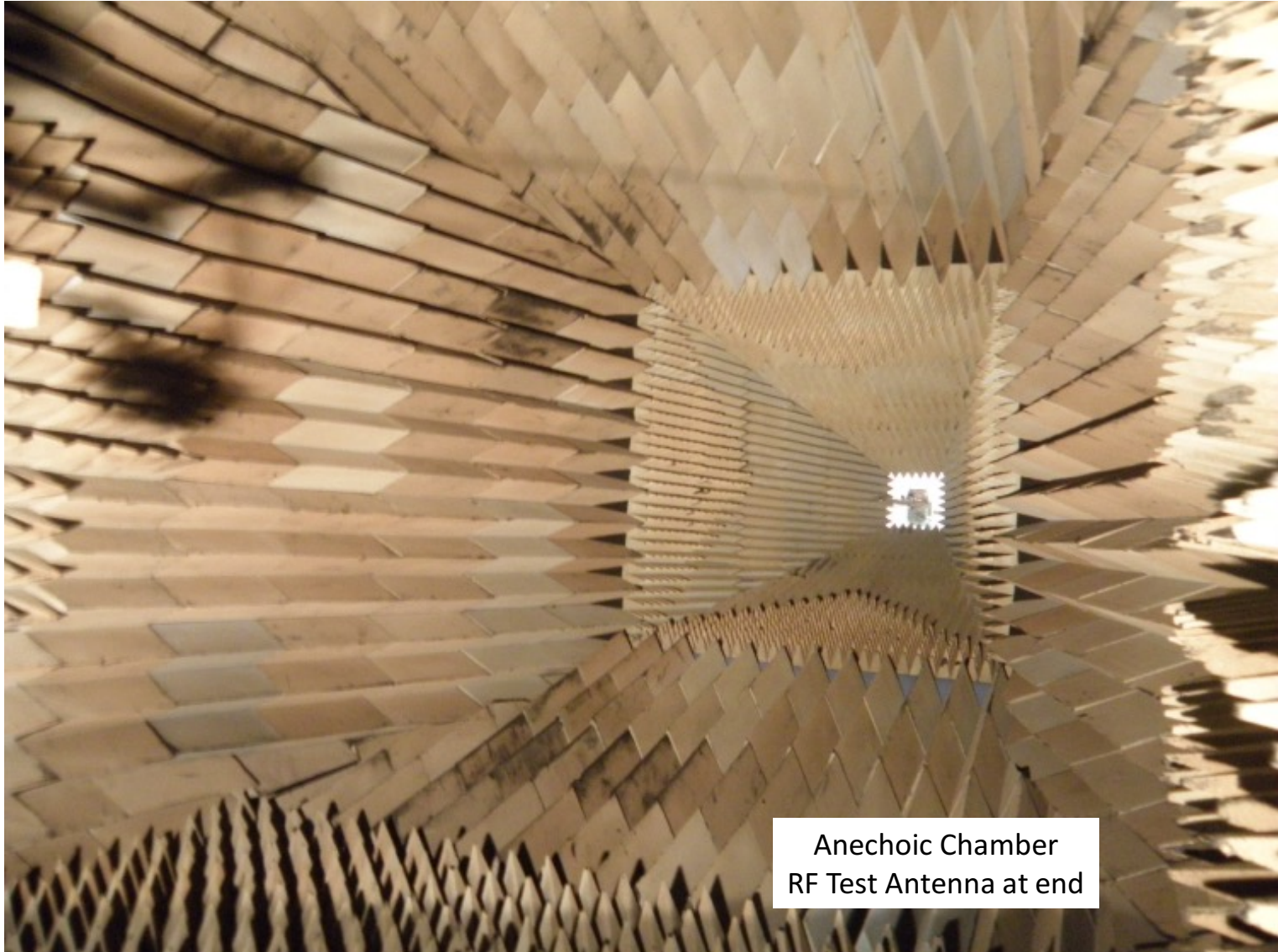
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Anechoic Chamber
RF Test Antenna at end

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Deployers

Deployers - what we have now?

Standard P-POD for 3U

What is the trend in deployers?

Bigger - P-POD - 6U, 12U, 24U

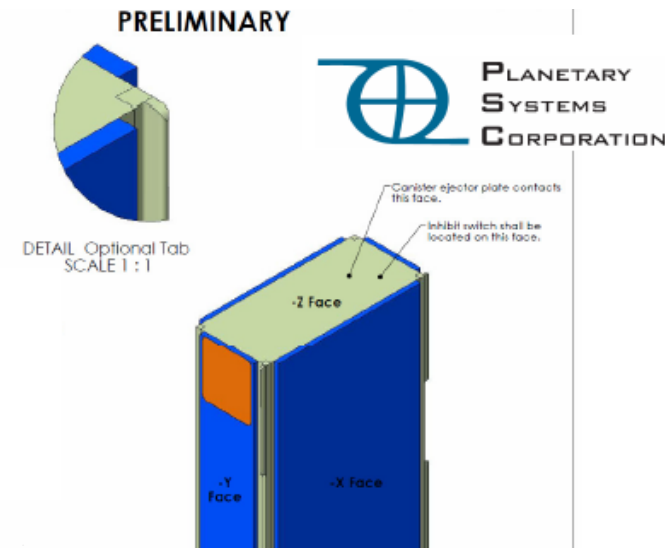
Smaller - PocketQube

Retaining scheme

Four corner rails - original standard

Base plate - Planetary Systems Corp

- PocketQube



Deployers

What needs improving?

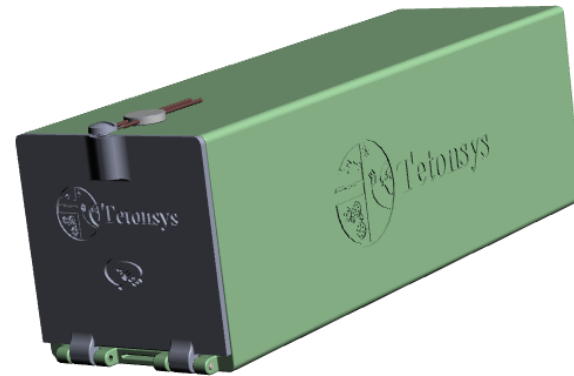
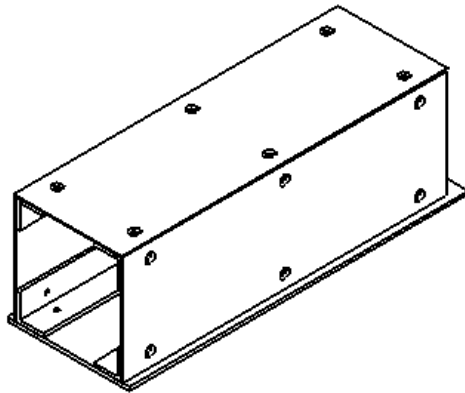
- Positive clamping of CubeSat in deployer – not rattling
- More peripheral room for solar panels, antennas, deployables, etc.
- More flexibility in deployment of peripherals – drag on inside
- Better access to CubeSat when in deployer
- Deployment of non standard small satellites

Deployers

What's new?

PocketQube

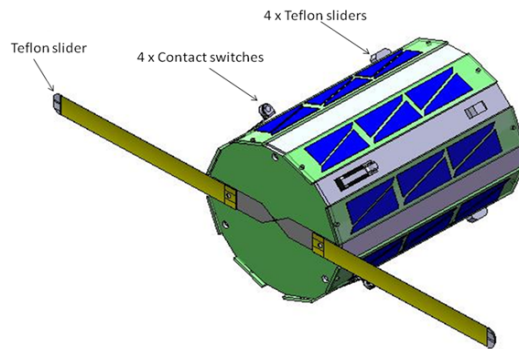
- MR-FOD – used internally in the UniSat microsattellites



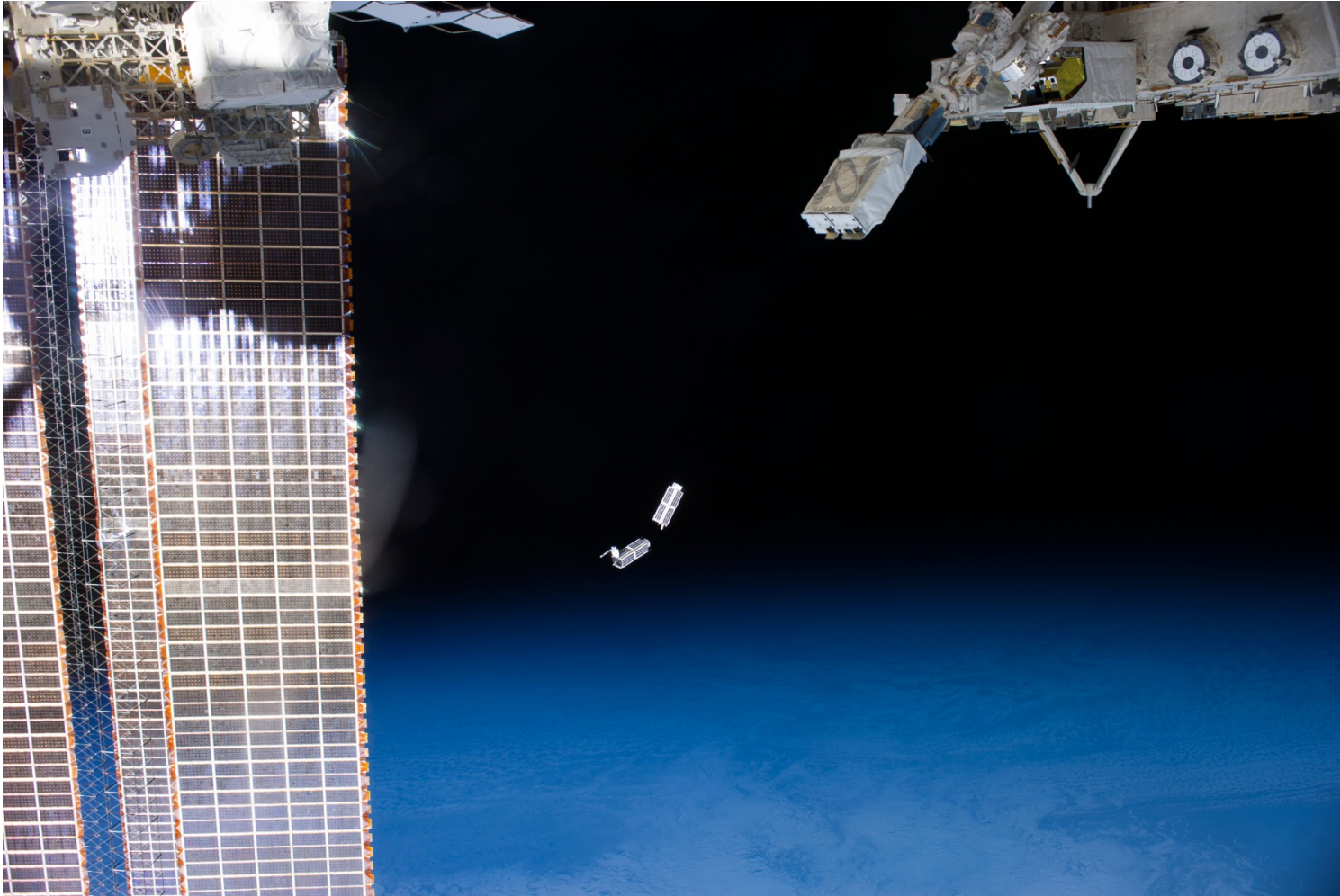
Deployers

TubeSat

- TU-POD - Advanced manufacturing with Windform - 3D printed
 - 40% weight of aluminum
 - Flexible design
 - Fast turn around - use CRP North Carolina facilities

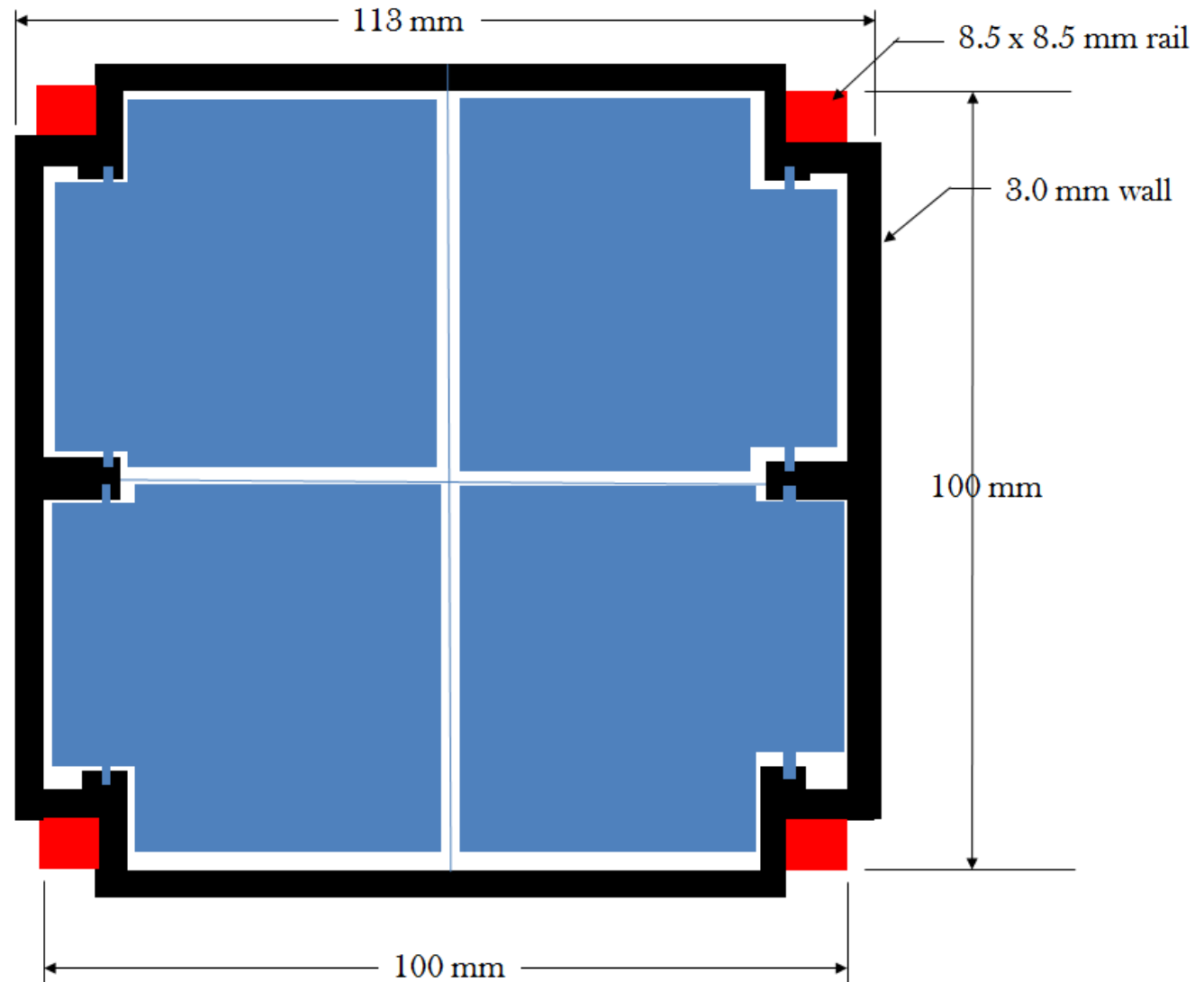


Launched on ISS

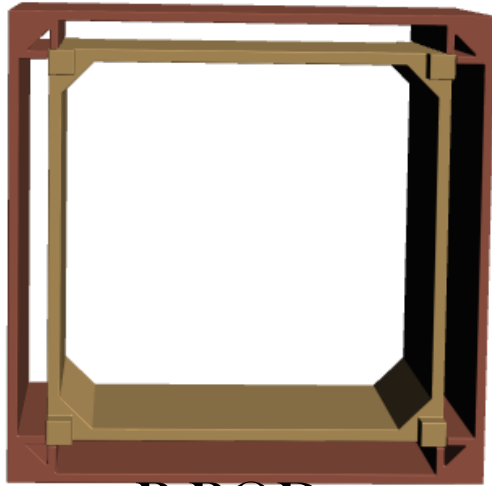


PocketQube Deployers

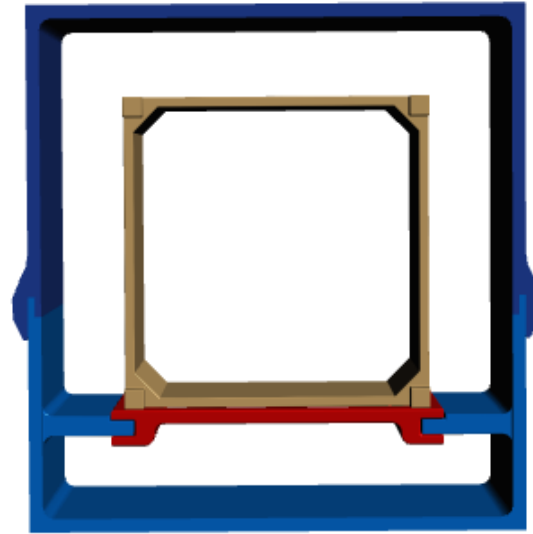
Using P-POD



Deployers



P-POD



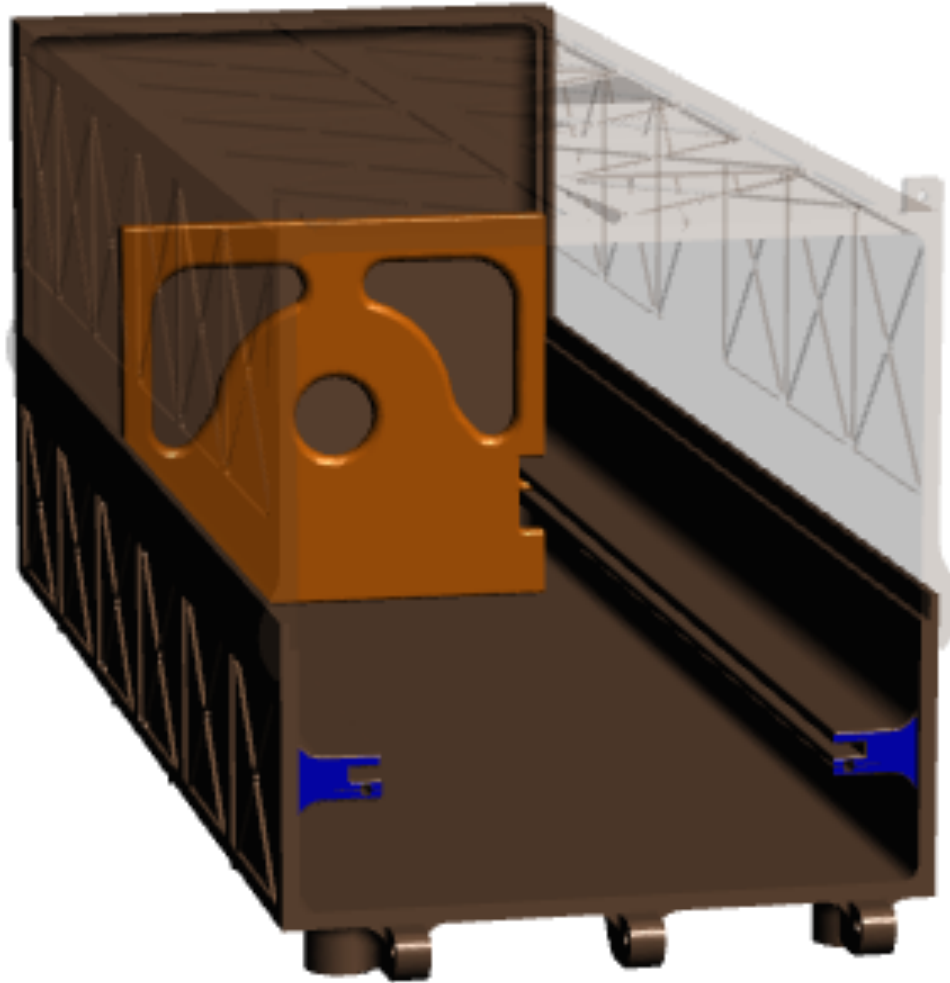
Teton Deployer

What's new?

Teton Deployer - CubeSats

- Advanced manufacturing with Windform – 3D printed
 - 40% weight of aluminum
 - Flexible design
 - Fast turn around – use CRP North Carolina facilities

Deployers



Change of topic

New Topic

- What should be the focus of space activities?
- What about expanding the focus of the CubeSat community?
- Now Small Space Experiments
 - CubeSats – imaging, comm, space weather, lunar, Mars and beyond
- How about more utilization of space environment?
 - Microgravity
 - Vacuum
 - Radiation

Questions personal for you?

Heart problems?

Alzheimer's disease?

Cancer?

Diabetes?

Question?

Is your CubeSat work doing anything for?

Heart problems?

Alzheimer's disease?

Cancer?

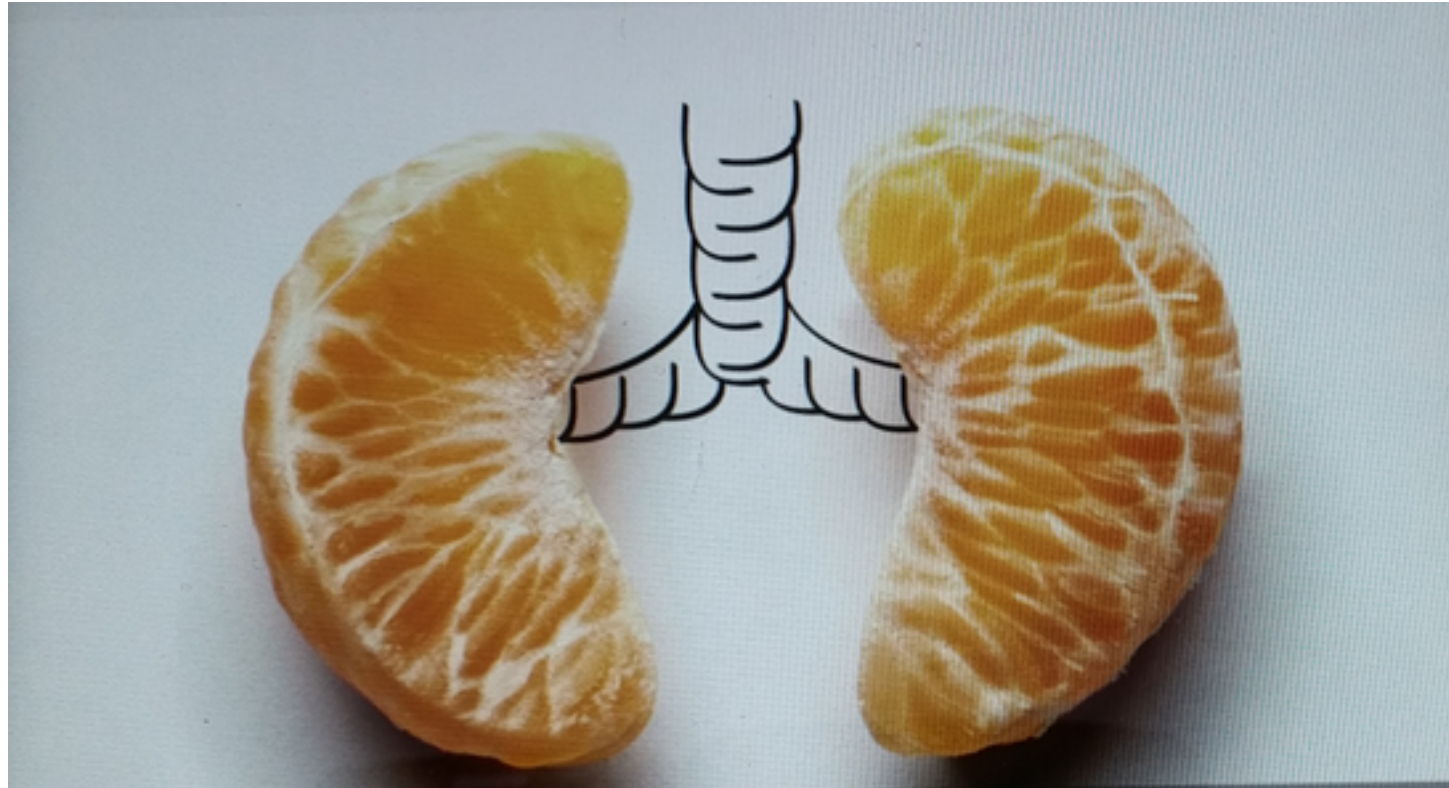
Diabetes?

Astrobiology?

Treatment of heart disease with stem cells.




Astrobiology?



**SCIENTISTS COAX STEM
CELLS TO FORM 3D 'MINI-
LUNGS'**

UNIVERSITY OF MICHIGAN

What may be possible?

The graphic has a dark blue space background with stars. On the left, the International Space Station is shown in orbit above a green and blue horizon. On the right, a translucent blue head contains a glowing red brain scan. The text is white and blue, with 'Alzheimer's disease' in a larger, bold font. A 'curiosity' logo is in the top right. At the bottom left is a link to curiosity.com with a play button icon, and at the bottom right is the source 'Source: NASA'.

The key to curing
Alzheimer's disease
may lie in outer space.

Aboard the International Space Station,
scientists discovered that the protein fibers
in the brain responsible for Alzheimer's
do not collapse in low gravity.

Learn more at
curiosity.com

Source: NASA

Curiosity

Is subtracting gravity the answer to solving Alzheimer's?:

<http://bit.ly/GravtyAlzheimers>



Tetonsys
Innovative Designs

Questions to all of us.

-
- Could we pay more attention to space medicine research?
 - Who could benefit the most from our space work?

Thanks

How about a goal to have at least
25% of CubeSats doing space
medicine research?