8:30 a.m.- 9:10 a.m.  Registration and Continental Breakfast (Rear Lobby)

9:10 a.m. – 9:15 a.m. Welcome (Dan McCallister, Auditorium)

9:15 a.m. – 9:45 a.m. How to Fly a Space Telescope (Dr. Erin Elliott, Auditorium)

9:45 a.m. – 10:30 a.m. Deployment of JWST Activity (Jessica Kenney & Dan McCallister, Auditorium)

10:30 a.m. – 10:35 a.m. Break

10:35 a.m. – 11:15 a.m. Super Golf Tower Challenge (Jessica Kenney & Dan McCallister, Café)

11:15 a.m.- 11:25 p.m. Wrap-Up (Jessica Kenney, Auditorium)

11:25 a.m. – 11:30 a.m. YAE Update and Closing Remarks (Tania Anderson, Auditorium)
HOW TO FLY A SPACE TELESCOPE
(THE JWST, THAT IS)

Dr. Erin Elliott
19 March 2014
HOW TO FLY A SPACE TELESCOPE
(THE JWST, THAT IS)

Dr. Erin Elliott
19 March 2014
JWST is cold!

- JWST’s cameras detect infrared wavelengths.
- Anything warm will flood the cameras.
- So, the telescope has to be COLD!
- 40 K = -390°F
Spacecraft

- Reaction wheels, for steering
- Gyroscopes, for measuring motion
- Star trackers, for measuring position in the sky
- Thrusters, for orbital maintenance
- Electronics for all mechanisms & actuators
- Solar panel, supply system power
is tricky.

There's nothing to push on out there.
Steering a space telescope is tricky.

There's nothing to push on out there.

Thrusters aren't precise.
Steering!

- Steering a space telescope is tricky.
- There's nothing to push on out there.
- Thrusters aren't precise.

Shuttle main engine firing.

Sketch of Hubble's reaction wheels.
There's nothing to push on out there.