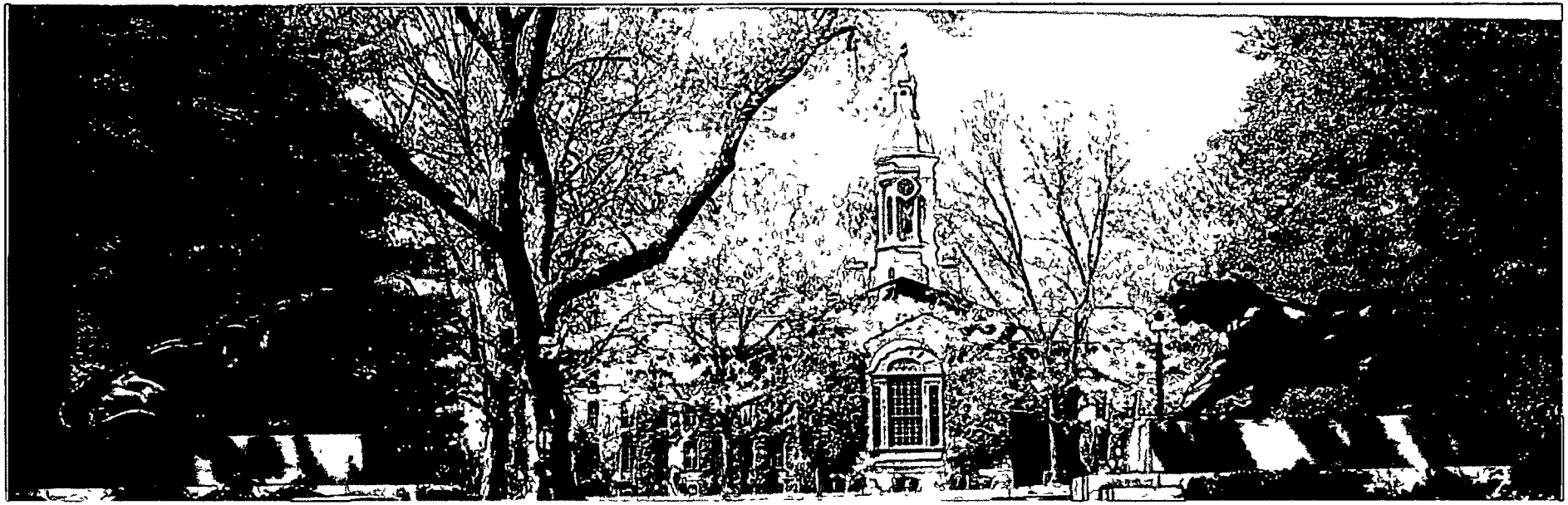
Introduction to JPL's Mechanical Systems Division

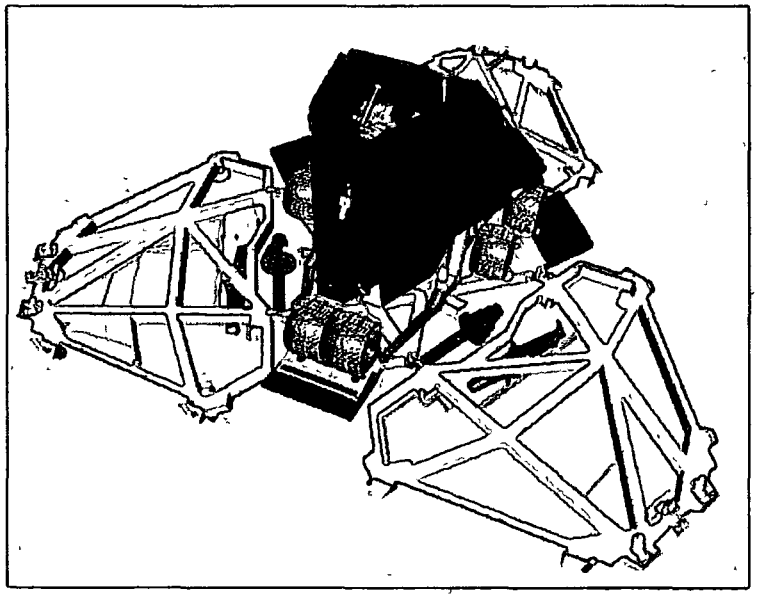


Princeton Information Session

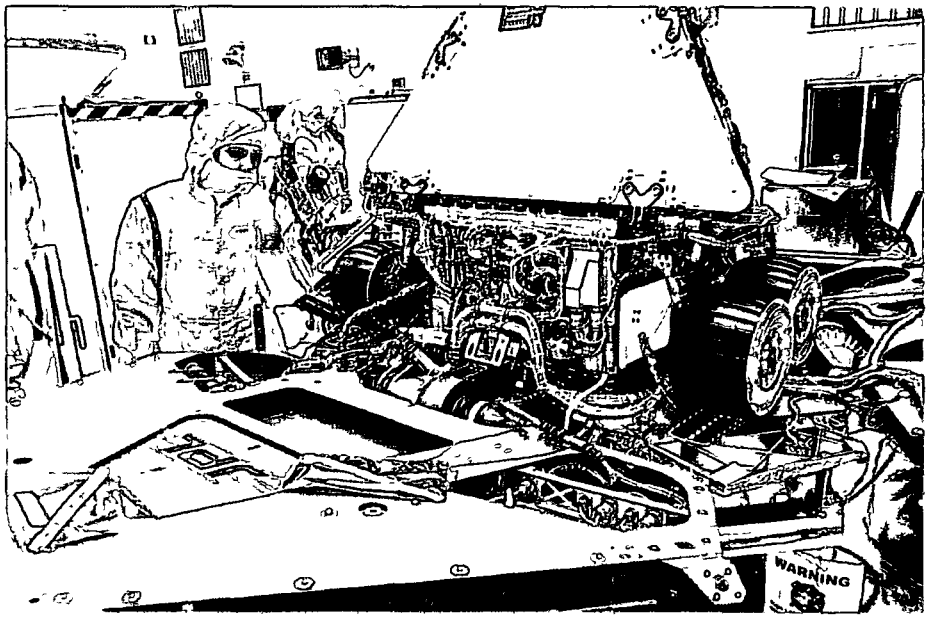
Kendra Short
Division Manager
October 22, 2007

What do we do?

From concept.....



.....to reality....

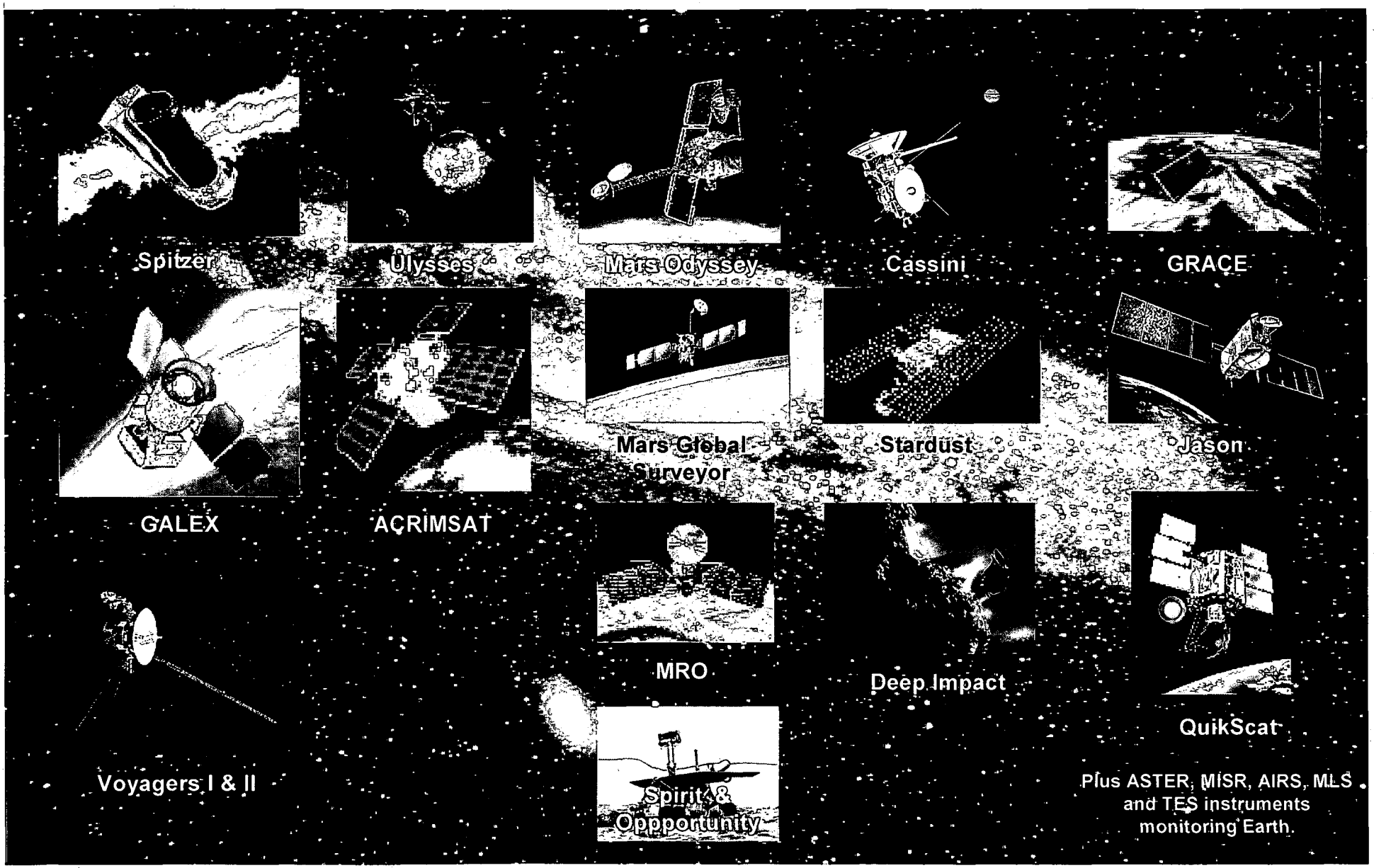


...we contribute to unprecedented scientific robotic space missions in the areas of mechanical, propulsion and thermal engineering

National Aeronautics and Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

17 spacecraft and 5 instruments across the solar system

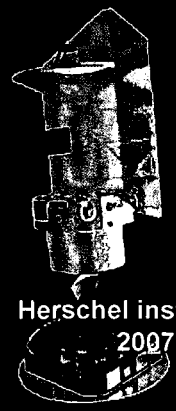


National Aeronautics and Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

Major Instruments Under Development

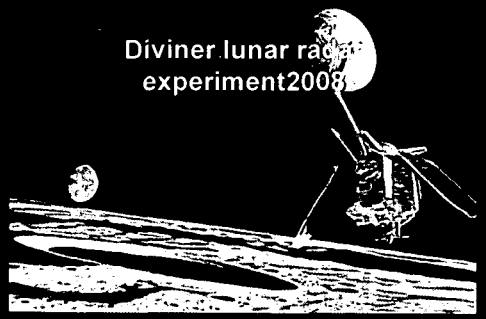
Planck instrument 2007



Herschel instrument 2007

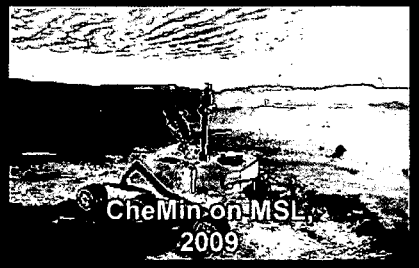
Active Mirror Telescope 2007

ST-7 DRS on LISA pathfinder 2008

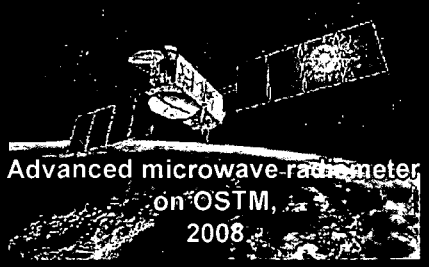


Diviner lunar radiometer experiment2008

Moon Mineralogy Mapper 2008



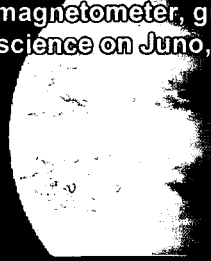
CheMin on MSL 2009



Advanced microwave radiometer on OSTM, 2008

High-res 3-channel grating spectrometer on OCO

L-band active/passive MW on Aquarius 2009



MW radiometer, He magnetometer, gravity science on Juno, 2010

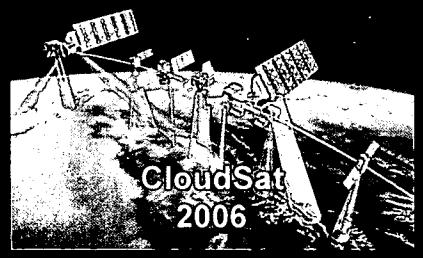
MIRI on JWST 2013

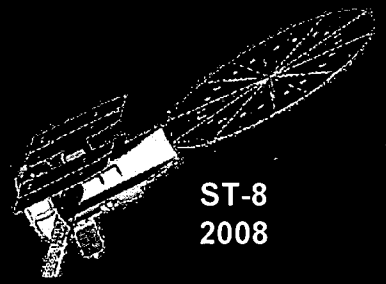
National Aeronautics and Space Administration

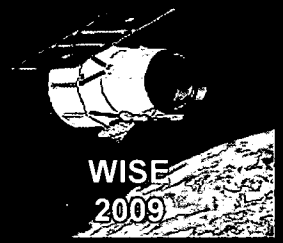
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

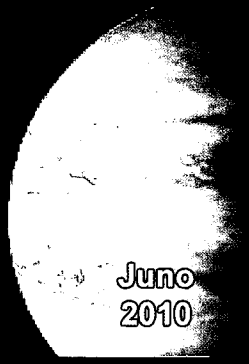
Looking Ahead

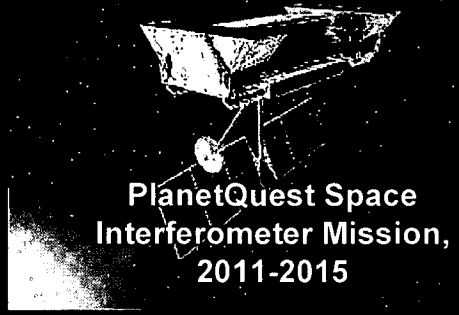
Missions under development





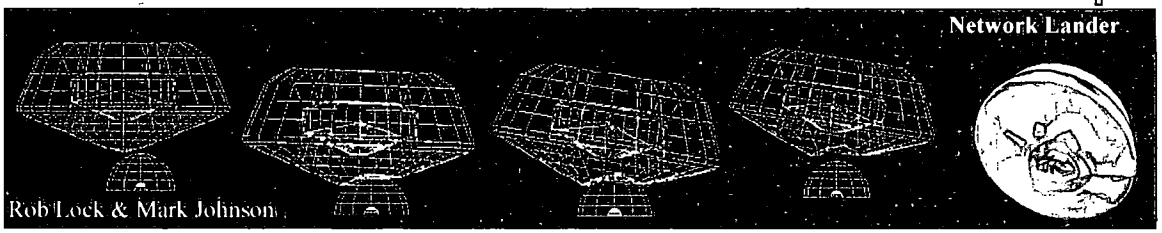


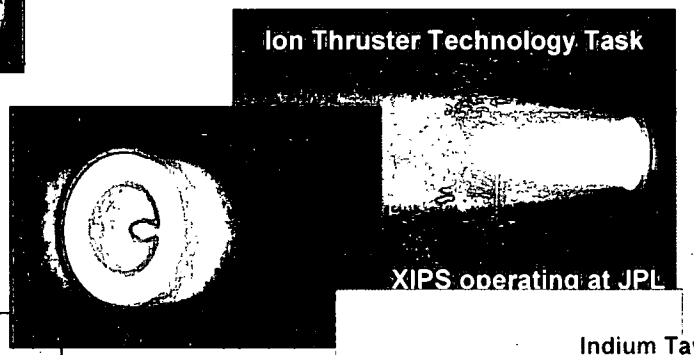


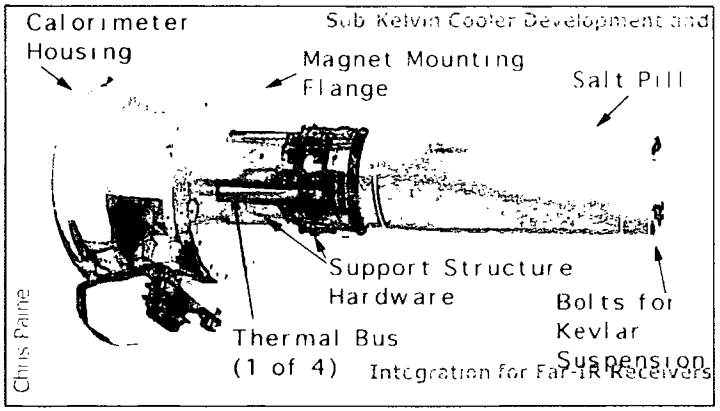


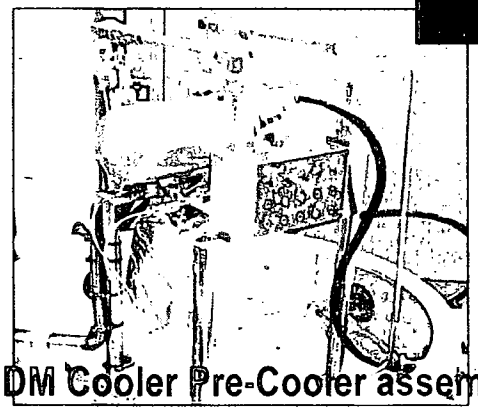
We also do cutting edge technology

Integrated Modeling and Simulation for Large Apertures

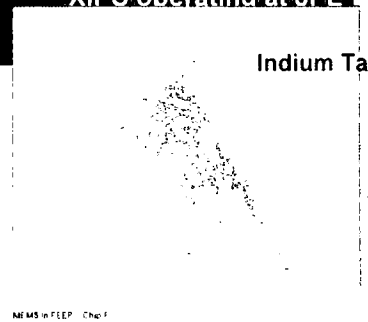




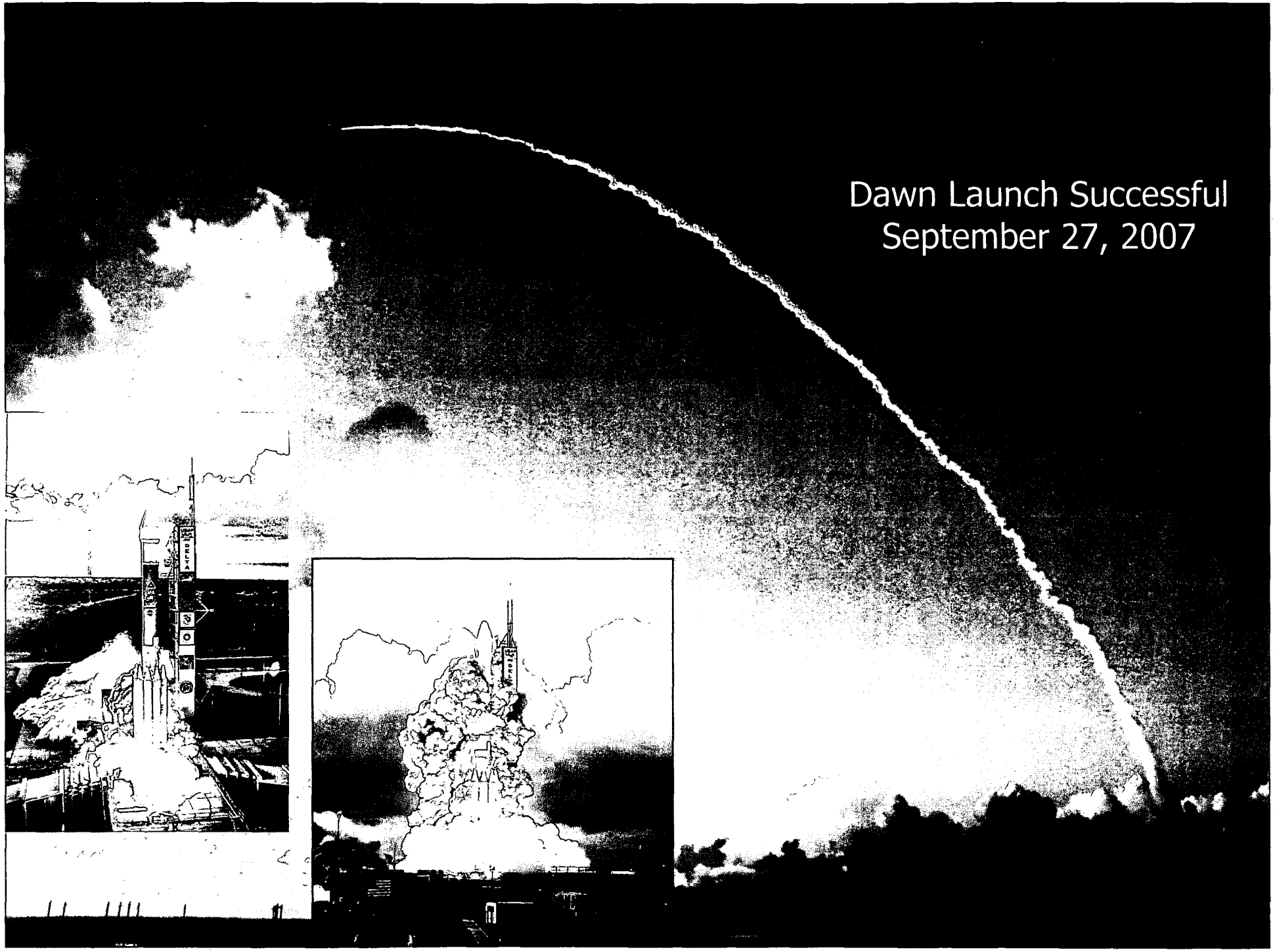




DM Cooler Pre-Cooler assembly



MEMS Indium Field Emission Electric Propulsion (FEEP) Emitter

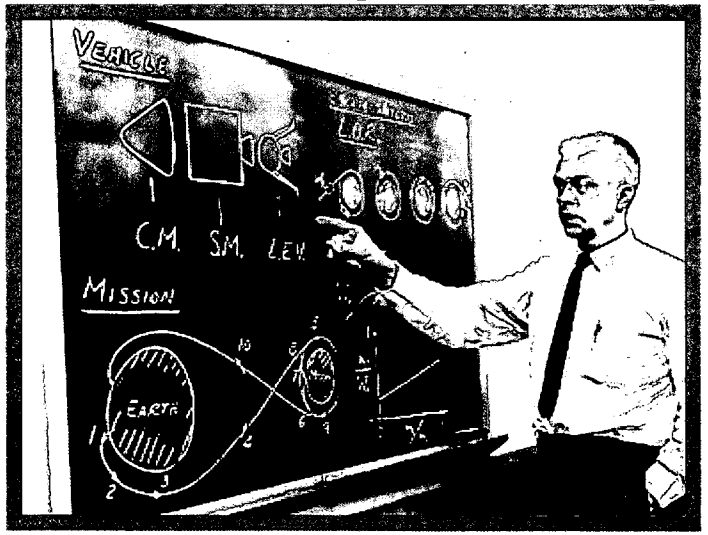

Dawn Launch Successful
September 27, 2007

Life on the Flight Project

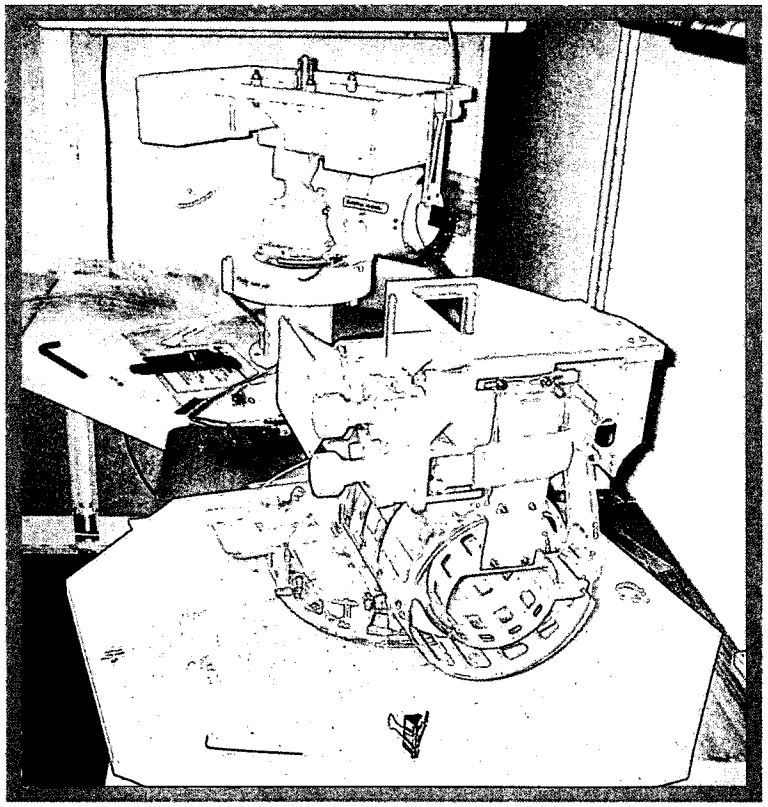
Lots of engineering teams...

And lots of whiteboards

Just like the good, old days!



Lots of prototyping



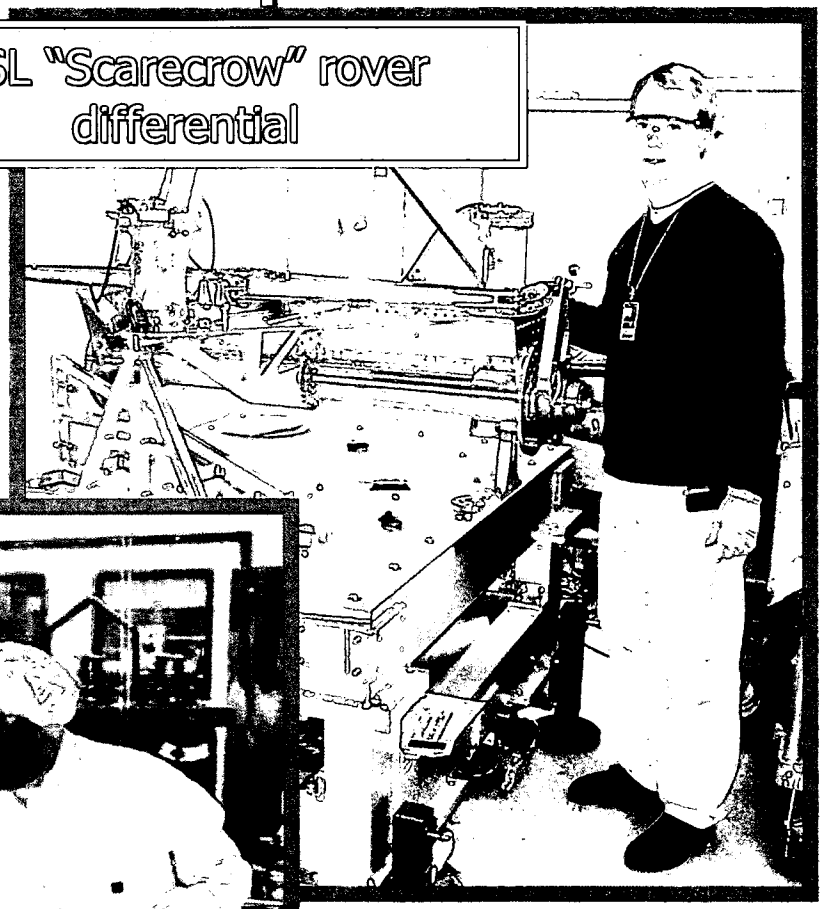
National Aeronautics and Space Administration
Jet Propulsion Laboratory
California Institute of Technology

JPL

This is a hands-on place

Fiddling with the hydrothermal vent sampler

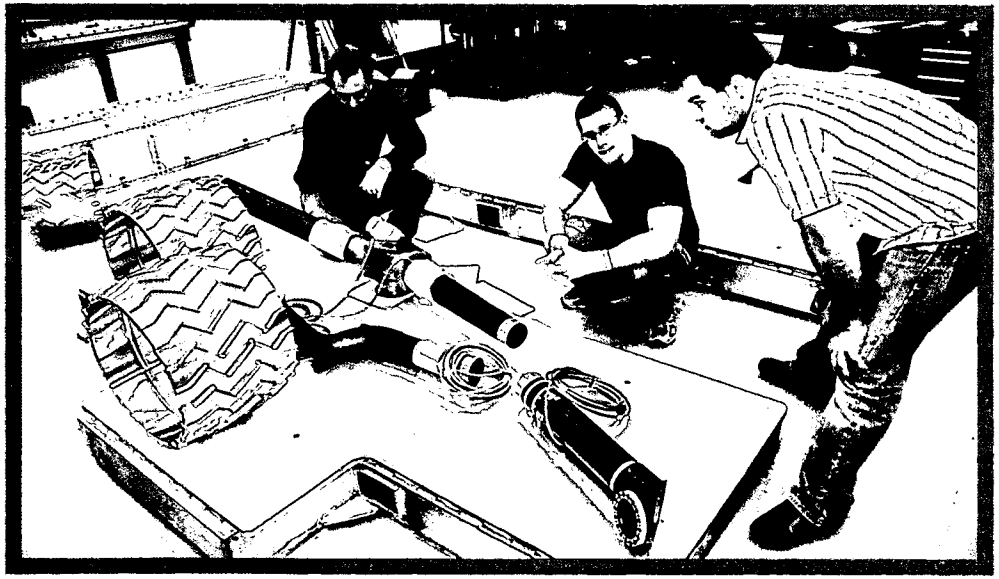
MSL "Scarecrow" rover differential



Sampling the MER spacecraft for Planetary Protection

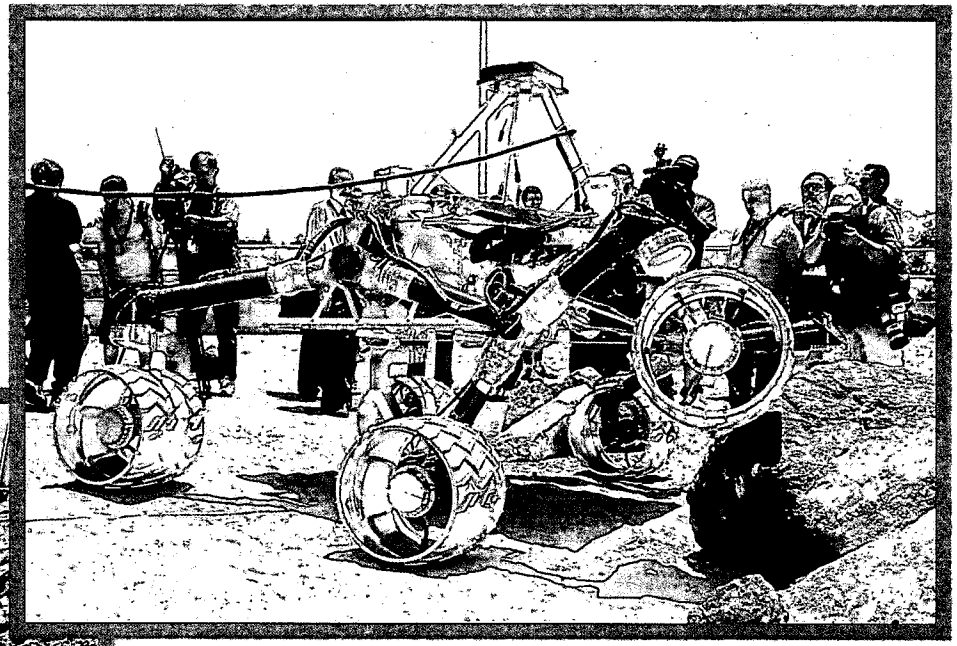
Short

You get exciting responsibilities early in your career

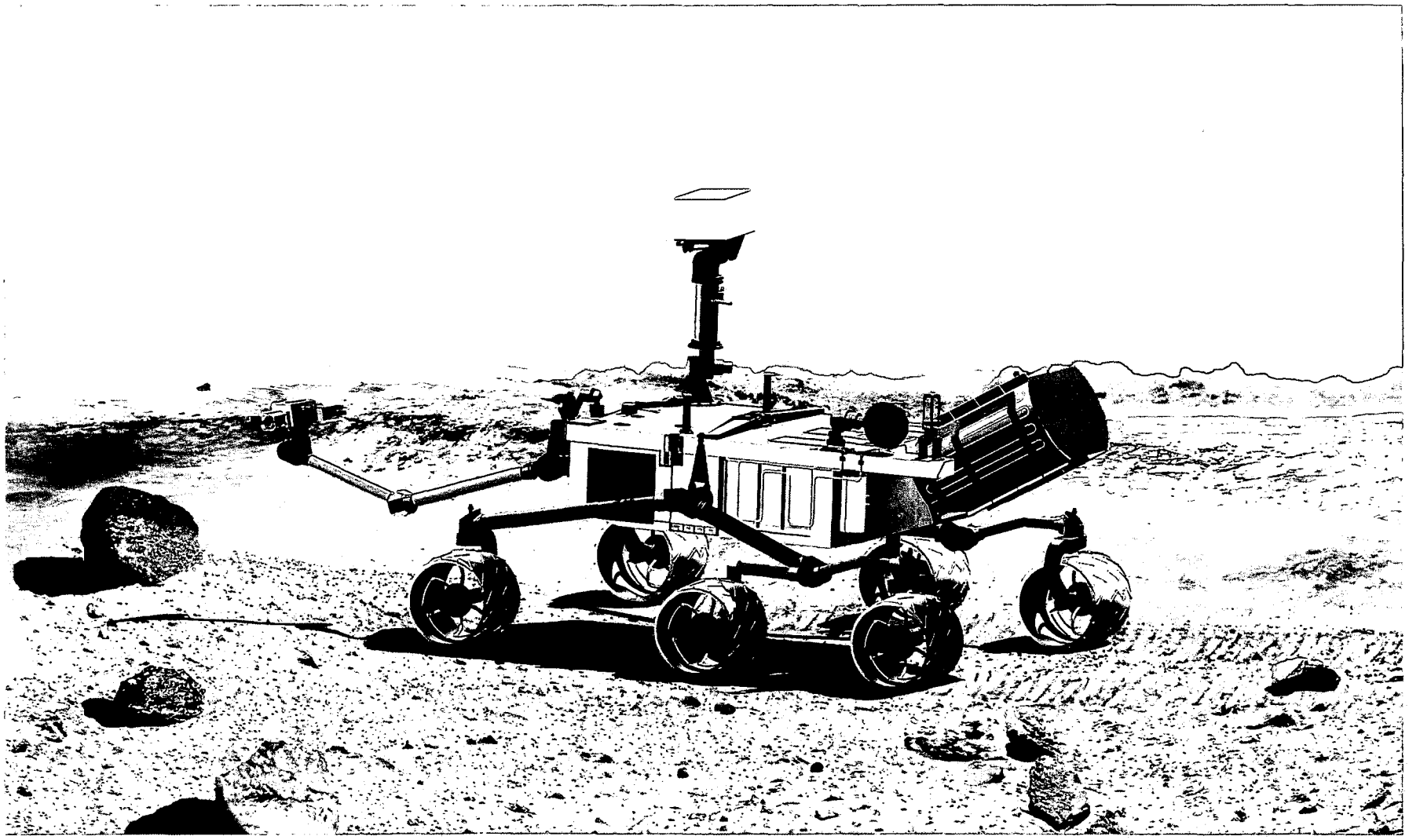


Group Supervisors give you 1-on-1 attention

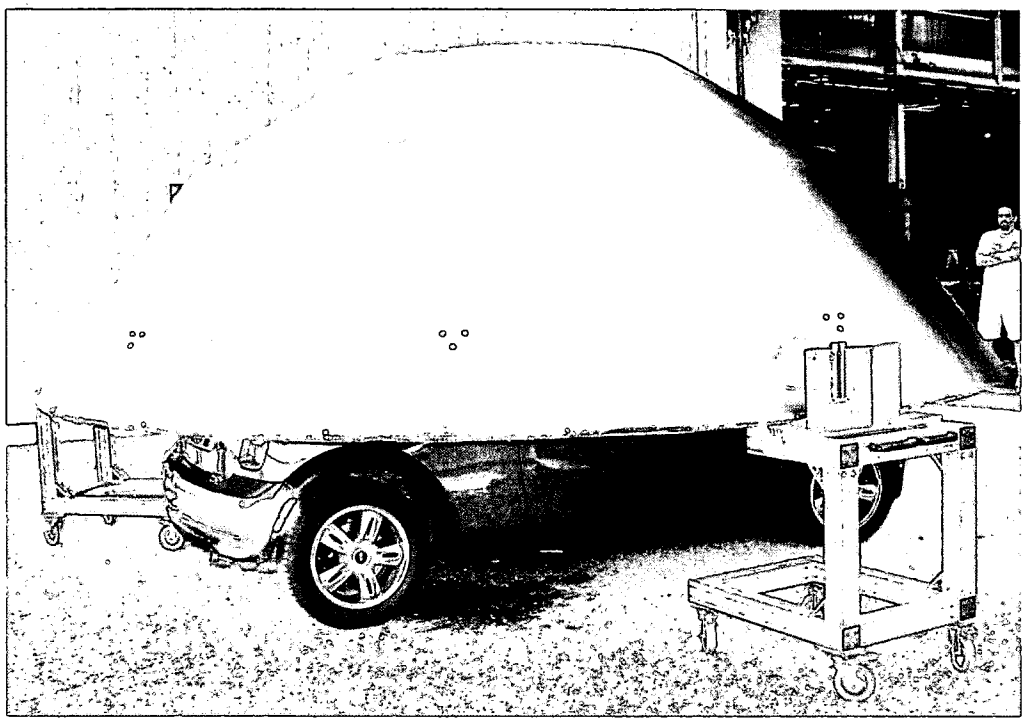
The center of world attention

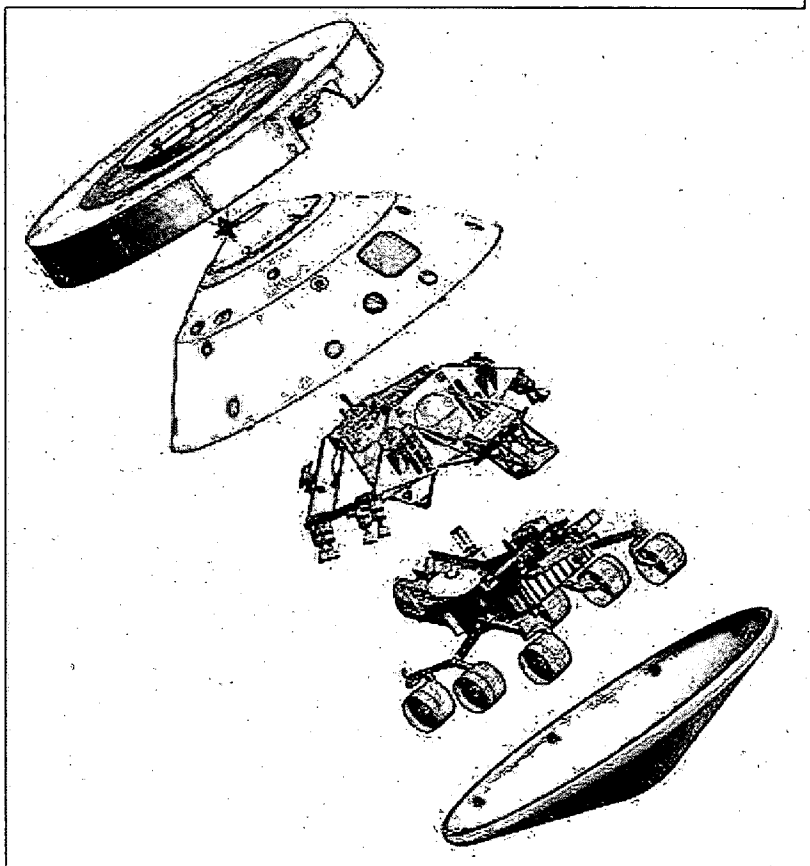


Our Current Focus.....
Mars Science Laboratory

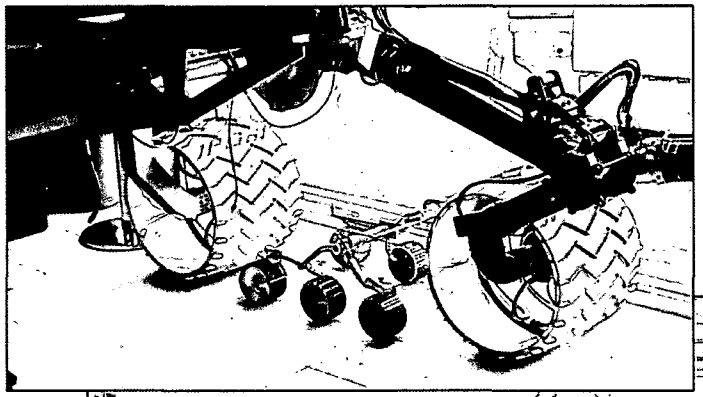


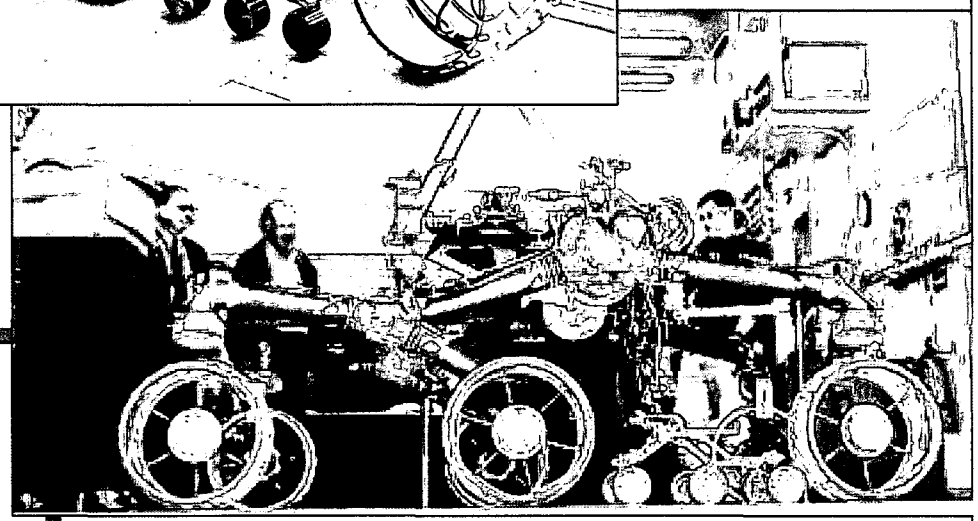
It's BIG....

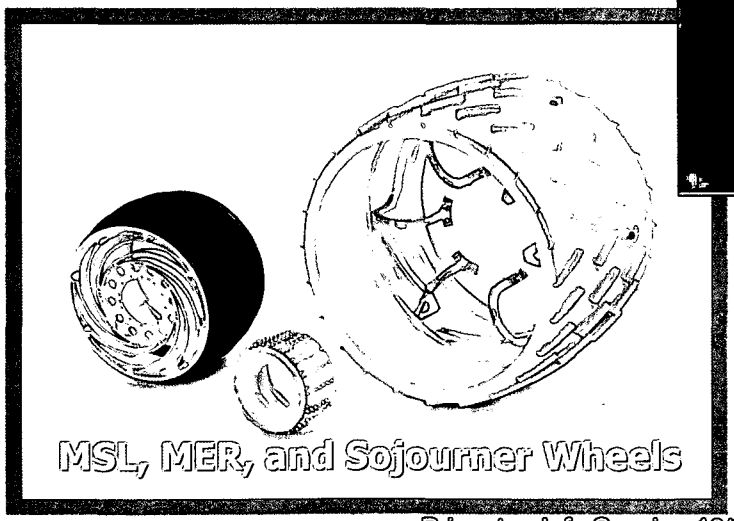




It's MOBILE....







MSL, MER, and Sojourner Wheels

It's EXCITING!!!

- MSL windows media player video animation from MSL website.

Questions?