Santa Clarita Community College District
College of the Canyons
CANYON COUNTRY CAMPUS

STAR PARTY

Friday, November 7, 2014
7:00 – 9:30 pm
Carl A. Rasmussen Amphitheater
PROGRAM

• Campus Welcome and Theme of “Exploration”  
  Ryan Theule

• Math, Science, & Engineering at College of the Canyons Joe Gerda

• ASL Signing of “Twinkle Twinkle Little Star”  
  Brittany Applen, ASL Students

• Astronomers as Explorers  
  David Ciardi

• Rockets & Space Flight  
  Teresa Ciardi

• Rocket Launch Competition  
  Astronomy & Physics Club Engineering Club MESA Club

• Chemistry for Space Travel
Kathy Flynn & Chemistry Club

• Geology/Geography of Living on Other Worlds
  Jason Burgdorfer, Mary Bates, Geography Club

• Telescope Viewing & Exploration of Science Tables
  Cougar Way, North of the Canyons Cafe

HISTORY & PHYSICS OF ROCKETS

The ideas formalized in Newton's Laws of Motion and utilized in rocketry may have originated in the construction of a toy. Around 300 B.C., a Greek named Archytas mystified and amused the citizens by flying a model pigeon. Escaping steam propelled the bird, which was suspended on wires. The pigeon used the same action-reaction principle as the rocket; however, the action-reaction law was not stated as a scientific law until the 17th century! Newton's Laws of Motion, in the 17th century, provided the scientific principles used in rocketry today. The force with which the exhaust is expelled downward is equal to the force with which the rocket is propelled upward (action-reaction), and the rocket is accelerated upward (Force = (mass x acceleration). After much experimentation, Robert H. Goddard achieved the first successful flight with a liquid-propellant rocket on March 16, 1926.

Fueled by liquid oxygen and gasoline, the rocket flew for only two and a half seconds, climbed 12.5 meters. NASA, the National Aeronautics and Space Administration, was founded in October 1958 with the purpose of exploring space for the benefit of all humankind. The Apollo moon rocket is among the largest rockets ever designed to fly into space. Standing as high as a skyscraper,
the vehicle literally made the ground shake when the engines were ignited for liftoff.

NASA initiated a re-usable rocket program with a vehicle that could return to Earth and be launched repeatedly. The Space Shuttle program ran from 1977 to 2011, carrying a total of 355 individual astronauts and cosmonauts into space during the 135 missions flown. Rockets experience four forces while in flight. Weight from gravity and drag or air resistance must be overcome by thrust. Adequate thrust allows a rocket to move upward gaining lift as it moves through the air.

**A SPECIAL THANKS FOR SUPPORTING STUDENT SCHOLARSHIPS:**
A portion of food sales from this event have been donated by the Canyons Café to support the Dr. Ram Manvi Memorial Scholarship Fund. Dr. Manvi was the former Dean of Math, Science and Engineering at College of the Canyons and was instrumental in launching the campus’ initial Star Party event in 2009. Additional info is available through the COC Foundation.

**ABOUT THE SANTA CLARITA COMMUNITY COLLEGE DISTRICT:**
The Santa Clarita Community College District serves a 367-square-mile service area in northern Los Angeles County. College of the Canyons, the single college within the District, serves more than 23,000 students per semester on campuses in Valencia, Canyon Country and online.

Located on a modern 153.4-acre campus in Valencia and 70-acre site in Canyon Country, the college offers classes during traditional fall and spring semesters, as well as summer sessions and five-week winter inter-sessions. Currently, 70 associate degrees and 80 certificate programs are offered.

College of the Canyons has maintained its status over the years as one of the largest employers in the Santa Clarita Valley and is a vital, enduring, cultural, educational, and economic force in the region.