

## ***FORECAST OF UPCOMING ANNIVERSARIES -- DECEMBER 2016***

### **445 Years Ago – 1571**

December 27: Astronomer Johannes Kepler born.

### **115 Years Ago – 1906**

December 30: Sergey Korolev born, Zhitomir, Ukraine USSR.

### **70 Years Ago -- 1946**

December 17: First night firing in the U.S. of a V-2. Missile No. 17 launched from the White Sands Missile Range, NM.

### **55 Years Ago – 1961**

December 12: Discoverer 36 launched from Vandenberg Air Force Base in California with special payload, OSCAR 1. It was Amateur Radio's first satellite and the world's first piggyback satellite.

### **50 Years Ago – 1966**

December 7: ATS 1 launched by Atlas Agena, 9:12 p.m., EST, Cape Canaveral, Fla.

December 14: Biosatellite 1 launched by Delta, 2:20 p.m., EST, Cape Canaveral, Fla.

December 22: First HL-10 glide flight, Bruce Peterson pilot, DFRF, CA.

### **45 Years Ago – 1971**

December 2: USSR Mars 3 lands on Mars, launched May 28, 1971. First unmanned landing on Mars.

December 19: Intelsat 4 F-3 launched by Atlas Centaur, 8:10 p.m., EST, Cape Canaveral, Fla.

### **35 Years Ago – 1981**

December 15: Intelsat 5D F-3 launched by Atlas Centaur, 6:35 p.m., EST, Cape Canaveral, Fla.

### **30 Years Ago -- 1986**

December 4: Fleetsatcom 7 launched by Atlas G Centaur, 9:30 p.m., EST, Cape Canaveral, Fla.

### **20 Years Ago – 1996**

December 4: Mars Pathfinder launched aboard a Delta II 7925 launch vehicle from Cape Canaveral Air Station. Landed on Mars on July 4, 1997.

December 24: Bion 11 launched from Plesetsk cosmodrome by a Soyuz-U rocket at 13:50 UTC. It carried a capsule housing two monkeys and several newts, snails, beetles, fruit flies, and small plants to study their responses and behaviors under microgravity.

### **15 Years Ago – 2001**

December 5: STS-108 (Space Shuttle *Endeavour*) launched 5:19 p.m. EST, KSC. Crew: Dominic L. Gorie, Mark E. Kelly, Linda M. Godwin, and Daniel M. Tani. 12th Space Shuttle flight to the International Space Station (ISS). Carried an Italian cargo module, the Raffaello Multi-Purpose Logistics Module (MPLM), that was attached to the Unity module of the ISS. Also Expedition 3 & 4 crews exchange. Landed December 17 at 12:55 p.m., EST, KSC. Mission Duration: 11 days, 19 hours, 36 minutes.

December 7: TIMED (Thermosphere, Ionosphere, Mesosphere Energetics and Dynamics) ionospheric research satellite launched by a Delta 2 rocket from Vandenberg AFB at 15:07 UTC.

December 7: Jason 1, an American-French (NASA-CNES) oceanographic satellite was launched by a Delta 2 rocket from Vandenberg AFB 15:07 UTC to supplement and extend the TOPEX/Poseidon mission results by monitoring the sea surface level and wave heights.

December 16: STARSHINE 2, a US high school educational microsatellite was deployed from STS-108. It was built with the participation of 25,000 students in 26 countries and very similar to the STARSHINE 3 that was launched in September 2001.

December 21: Sean O'Keefe takes office as tenth NASA Administrator.

### **10 Years Ago – 2006**

December 10: STS-116 (Space Shuttle *Discovery*) launched 8:47 p.m. EST, KSC. Crew: William A. Oefelein, Joan E. Higginbotham, Mark L. Polansky, Robert L. Curbeam, Nicholas J.M. Patrick, Sunita L. Williams, and the European Space Agency's Christer Fuglesang (Sweden). International Space Station Flight 12A.1. Rewired the International Space Station's power system, paving the way for further construction. Landed December 22 at 5:32 p.m. EST, KSC. Mission Duration: 12 days, 20 hours, 45 minutes.

December 10: Dr. John C. Mather, an astronomer at NASA's Goddard Space Flight Center received the 2006 Nobel Prize for Physics, awarded by the Royal Swedish Academy of Sciences. Mather shares the prize with George F. Smoot of the University of California for their collaborative work on understanding the Big Bang. The two scientists lead the Cosmic Background Explorer satellite mission.

December 16: GeneSat 1, a NASA-Ames nanosatellite, was launched by a Minotaur rocket from Wallops Island in Virginia at 7:00 am EST. The 10 kg craft carries E. Coli bacteria to monitor the effect of space radiation by protein-sensing optical instruments.

### **5 Years Ago – 2011**

Soyuz-TMA 3M, the first of the Russian Soyuz TMA-M series spacecraft, launched from Baikonur at 01:16 UT by a Soyuz launch vehicle. Crew: ESA astronaut André Kuipers, cosmonaut Oleg Kononenko, and NASA astronaut Don Pettit. It successfully docked with the International Space Station's (ISS) Mini Research Module-1 (MRM-1) "Rassvet" Nadir docking port at 15:19 UT on December 23.