



## **Charla de Astro-Ingeniería**

# **"Scientific detectors for Astronomy"**

**Dr. James W. Beletic - Teledyne Imaging Sensor**

**24 de Marzo 2008, 15:00 horas, Auditorium San Augustin**

### **Abstract:**

Chile is home to the largest collection of optical and infrared telescopes in the world, due to its clear, dry skies and an active engineering community that is key to making it all work. An astronomical facility can be divided into two main parts: (1) the telescope that collects the light, (2) an instrument that measures the light. Perhaps the most important part of the instrument is the detector that senses the light. The performance of the telescope-instrument system is directly a function of the performance of the detector: an instrument with an outstanding detector on a 4-meter telescope can outperform an instrument with a poor detector on an 8-meter telescope. Thus, it is critical for every telescope to have the best detector possible. This talk will give a brief introduction to astronomy and telescopes, followed by an introduction to the detectors that are used at the major astronomical observatories. The detectors that will be discussed include CCDs and CMOS-based imaging sensors that are used for ultraviolet, visible and infrared wavelengths.

### **Speaker bio:**

James Beletic has over 20 years experience in visible and infrared focal planes. He received a Ph.D. in Applied Physics from Harvard University and has held leadership positions at major research centers in the United States and Europe, including MIT Lincoln Laboratory, Georgia Institute of Technology, the European Southern Observatory and the Keck Observatory. He has developed new types of detector designs and his research groups have produced detector systems that have been used on 23 telescopes at 16 observatories in the United States, Hawaii, Chile and the Canary Islands. Dr. Beletic is currently the Director of Astronomy and Civil Space at Teledyne Imaging Sensors.