

ACCELERATOR SEMINAR

“Varian Medical Systems Past, Present and Future”

*James E. Clayton,
Varian Medical Systems, Inc.*

Varian Associates was one of the first high-tech companies created in the Silicon Valley area of Northern California. It was founded in 1948 by Russell H. and Sigurd F. Varian, William Webster Hansen, and Edward Ginzton to sell the klystron, one of the first developed microwave tubes for radar and other electromagnetic equipment. The klystron was invented by Russel Varian while he was a student at Stanford University. Varian employed two Nobel Prize winning researchers during its storied past, one for Fourier Transform NMR (Ernst, Chemistry, 1991) that enabled all successful medical MRI and the other for semiconductor heterostructures (Kroemer, Physics, 2000) that enabled all semiconductor LEDs and lasers. In the late 1970's, Varian invented and patented the fan beam filtered back projection method that made X-ray computed tomography practical for the first time and then successfully demonstrated it first clinically in close collaboration with Stanford University Medical School. Varian Associates split into three companies in 1999, the first was Varian Inc. which was purchased by Agilent in May 2010 (part of the old Hewlett Packard), the second was Varian Semiconductor Equipment Associates which was acquired by Applied Materials in 2011, and the last is Varian Medical Systems (VMS).

VMS specializes in the creation of cancer therapy systems based on linear accelerators and superconducting cyclotrons. We manufacture linear accelerators for medical radiotherapy treatments for cancer and industrial uses such as non destructive testing (NDT) of pressure vessels and rocket motors for voids and flaws, and for Homeland Security applications where people want to find contraband and other hazardous or smuggled goods. We also build kilovoltage X-ray tubes for medical and industrial CT scanners. VMS also supplies superconducting cyclotrons for treating cancer patients with high energy protons. We are also one of the largest suppliers of digital amorphous silicon flat panel imagers that are employed in dental, medical diagnostic and industrial imaging.

We will review some of the history of Varian and then provide an overview about what we currently build and research at VMS along with some ideas for future directions in medicine and industrial applications of radiation in the solution of everyday problems.

Thursday, March 8, 2012

11:00 a.m.

CEBAF Center, Room B207

Coffee before seminar beginning at 10:45 a.m.



For further info, please contact Alex Bogacz at x5784 or Anne-Marie Valente at x6073