

Abstract

We'll never know it all, important is to understand something of this life!

Today it is acknowledged that a Wireless Sensors Network (WSN) it is suitable to increase the Quality of Life (QoL) for all those diagnosed with chronically Cardiovascular Disease (CVD). Complete and complex monitoring systems enable continuous observation of patients; shortcoming is the fact that affects patient's mobility due to cable connection to those devices, while it must lie down on a bed in order to be monitored.

In order to avoid this drawback, a new philosophy was developed in last years: A built-in low-power, small-sized and low-cost device solution, remotely available and able to give information in real time. Solution is obviously interdisciplinary; boundaries are related to conception and design skills of engineers, with medical and biological sciences for health care treatment purpose including diagnosis, monitoring, and therapy. *Medical Technology* ranging from clinical equipment to remote monitoring devices and micro-implants is branch and domain of this work. The entire above are related to *Medical Engineering (ME)* that exists, as History says, for centuries, perhaps thousands of years.

The goal of this work is to contribute on knowledge in use of Sensors in medical field area, and to provide to a remote authorized observer at any moment, the status of the monitored patient.

Nu le vom sti niciodata pe toate, important este sa intelegem ceva din aceasta viata!

Astazi este recunoscut faptul ca Retelele de Senzori Wireless (RSW) sunt adecvate in cresterea calitatii vietii tuturor pacientilor diagnosticati cu boli Cardiovasculare cronice. Sisteme complete si complexe de monitorizare permit observarea continua a pacientului; deficienta lor totusi consta in faptul ca afecteaza mobilitatea pacientului, datorita cablurilor de conexiune si imobilizarii la pat in timpul observatiilor.

Pentru evitarea acestui dezavantaj, in ultimii ani s-a dezvoltat o noua filozofie, si anume: O solutie ce ofera dispozitive cu consum redus, de dimensiuni mici si ieftine, accesibile de la distanta si capabile sa furnizeze informatia in timp real. Solutia este evident interdisciplinară; grantele interpatrund conceptele și abilitățile inginerilor in proiectare, cu stiintele medicale si biologice in scopul ingrijirii sanatatii incluzand diagnosticare, monitorizare si te-rapie. *Tehnologia medicală*, ce variaza de la echipamente clinice la dispozitive de monitorizare la distanță, precum si micro-implanturile, este domeniul de interes al lucrarii. Toate cele enumerate mai devreme fac referire la *Ingineria Medicala* care exista, asa cum istoria o arata, de secole sau poate de mii de ani.

Scopul lucrarii este de a contribui la cunoasterea utilizarii senzorilor destinati domeniului medical, pentru a oferi unui observator autorizat, in orice moment, la distanta, starea pacientului monitorizat.