



# THE RADIATION PHYSICS AND DOSIMETRY LABORATORY

The Radiation Physics and Dosimetry Laboratory is at the forefront of advanced research on the thermoluminescence (TL) and optically stimulated luminescence (OSL) of the most widely used and important diametric material in the world today - LiF doped with Mg and Ti. Students begin their studies with the basics of mechanisms, and then attempt to improve the use of this material in human, environmental and accidental dosimetry, as well as in clinical, oncological applications. Three students are currently carrying out their PhD research at the laboratory, collaborating with researchers at the Ben-Gurion University of the Negev and with both Israeli Research Reactors. Research topics include: (i) improved neutron-gamma ray dosimetry using combined TL/OSL, currently funded by the Pazy Foundation; (ii) manipulation of the dose response using optical treatment to achieve greater linearity in clinical applications via optical excitation; and (iii) research of the basic mechanisms underlying the radiation absorption characteristics via isothermal decay measurements. The laboratory boasts several modern and sophisticated facilities including a recently purchased OSL/TL reader from Freiburg Industries, a Harshaw TL reader, and optical excitation and optical absorption instrumentation.

## NAMING AND RECOGNITION

SCE will name the Radiation Physics and Dosimetry Laboratory for its donor. A custom plaque will be prominently displayed on the wall at the entrance to the lab.

Donation for the radiation physics and dosimetry laboratory:      \$100,000

