

SOCIETY FOR RADIATION RESEARCH (SRR)

*A Platform
for
Radiation Researchers...*

Report



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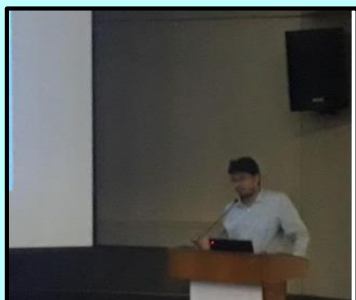
A Report on Workshop on "Advancements in Radio-Diagnostic and Radiotherapy Equipment"

Vidyalankar Institute of technology (VIT) in association with the Society of Radiation Research (SRR), organized a workshop on "*Advancements in Radio-Diagnostic and Radiotherapy Equipment*" collaborating with Dr. Nagaraj Huilgol at Advanced Centre for Radiation Oncology, Nanavati Max Super Speciality Hospital, Swami Vivekanand Road, Vile Parle West, Mumbai on 6th August 2022.

Initially a visit was arranged to the treatment planning facilities. In the session the participant were taken to treatment planning room where we were explained the various algorithms like AAA algorithm, Monte Carlo Algorithm. The session was held in two separate groups with **Mr. Anand and Ms. Shubhangi**. As a Special case treatment process for treating brain tumour was explained with importance of avoiding radiation in key areas like optical nerve and hypothalamus in brain. A brief Q&A session was held where students asked about various aspects of treatment and radiation hazards etc.

First stage before starting the treatment is creating patient's moulds using biocompatible material to exactly direct the radiation or other treatments. This was explained by **Mrs. Anuradha Singh**, Chief and Sr. Medical Physicist, at the centre. There were different moulds prepared for different affected areas

This was followed by sessions on Radiation Therapy Equipments in the auditorium. The first session was by **Dr Gopal Pemmaraju**, Consultant Radiation Oncologist, Advanced Centre for Radiation Oncology, Nanavati Max Super Speciality Hospital. Dr. Gopal talked about what is cancer and what are the different ways for treatment. He started with history of Radiology and went to radiation treatment and advanced Radiological Equipment.



Dr. Gopal Pemmaraju on
Radiation Therapy Equipment



Ms. Shubhangi on
Treatment planning

Mr. Anand Parabon
Radiotherapy
Machines

The next session was on Radiotherapy Machines by **Mr. Anand Parab**. He started with different generations of Linear Accelerators. He elaborated on basic structure and working of Linear Accelerators. He also explained the facilities available in the new accelerators. The session was followed by Treatment planning Session by Ms. Shubhangi. She explained about different radiation treatments for different types of cancers. She focussed on what type of treatment works for a particular case.



Next session was demonstration of linear accelerator by Mr. Anand. He has explained the working and hands on demonstration of the machine. He had also opened the control circuitry and explained the electronics involved. Later Ms. Shubhangi explained about the treatment room where radiations so for the safety walls of the room are of radiation AERB standards like 2 metre thick. The treatment is patient specific and they do phantom study on models to verify the effectiveness. She has elaborated on various approvals required for setting up radiation therapy room. Ms. Shubhangi also explained about the treatment table and how patients are made to sit/sleep.

This was followed by a brief session by **Dr Nagaraj Huilgol** on Radiation-its implications and Hormesis. He also focussed on different possibilities for Biomedical Engineers and inspired students to do projects/study on current real life problems. A group photograph was taken at the end of the session.

All the sessions were quite interactive. The session concluded with feedbacks from the participants. This was followed by a meeting and vote of thanks by faculty from VIT.