

❖ Name & Designation	: Dr. S. Ebenezer Suman Babu, Lecturer
❖ Address	: Dept. of Radiation Therapy, CMC, Vellore-632004
❖ Name of the International Conference/ Seminar/Symposium/ Workshop	: 8th International Conference on 3D Radiation Dosimetry (IC3DDose) 2014
❖ Title of the abstract accepted	: Effect of bloom strength on radiochromic gel dosimeters.
❖ Venue & Date	: Sweden, 4-7th September 2014.
❖ Money sanctioned	: ₹ 1,00,000/-
❖ Money reimbursed	: ₹ 1,00,000/-

Participation Report

The 8th International Conference on 3D Radiation Dosimetry (IC3DDOSE 2014) held during 4-7 September 2014, at the Ystad Saltsjobad, Ystad, Sweden, was organized by Lund University and Skane University Hospital, Sweden. Participants from 17 countries attended conference. There were 12 sessions including the role of dosimetry in QA, clinical dosimetry, Novel 3D detectors, MRI/Optical dosimetry, Evaluation of dose distributions, Novel optical read out system and Dosimetric challenges. Morning lecturers were also given by experienced scientists on three topics namely 'True 3D chemical dosimetry: Development and Clinical Role', Uncertainty in 3D dosimetry; various detectors and read-out systems and Quasi 3D dosimetry.

Academic Highlights:

The conference reiterated the importance to continue research in the field of 3D dosimetry to arrive at new and improved gel dosimeters and read out systems as the implementation of new dosimetric techniques in radiotherapy needs every kind of caution, carefulness a through validation.

New development presented at the conference:

Deformation gels that can be stretched and simulate organ motion was presented in the conference.

New development resulting from the conference:

More work will be carried out on improving the performance of the gel dosimeter by increasing the sensitivity to radiation dose. Moreover, the read out systems will also be improved for easy imaging of dose distributions from the gel phantom. Deformation gels that can be used to simulate organs that move inside the patients will also be investigated and attempts to create an ideal new deformation gel will be carried out. Problems associated with the present gel dosimeters such as diffusion of the captured dose within a period of 2 hours post irradiation will also be investigated as there are very few researchers looking into it. The possibility of using the low cost imaging techniques with equipments available in the department such as ultrasound will also be investigated. Novel imaging techniques such as the use of Cerenkov radiation has inspired to apply the same for its potential use in Radiotherapy quality assurance.

Name of the Publication in case your work is recommended for publications:

Institute of Physics (IOP): Conference series

Participant's contribution to the conference

I have presented my research work on "Effect of bloom strength on radiochromic gel dosimeters" using the Fricke gel dosimeter in three bloom strengths of gelatin namely 300, 240 and 200. I have shown that the commercially available 240 bloom can be used as an alternative to 300 bloom as it is cost effective and locally available. Moreover the limitation in the use of 240 bloom is the auto oxidation and post irradiation diffusion in the present gel dosimeter. I have showed that the use of 240 bloom is feasible for gel preparation if the above issues are sorted out.