Dr Shakardokht Jafari – CTO & inventor of TrueInvivo glass beads to monitor radiotherapy dosage.


Dr Jafari came to study in the UK as a medical physicist. She originally worked in a diagnostic department in Afghanistan but unfortunately due to political instability, the department was closed.

Her goal and passion is to take affordable cancer treatment back to Afghanistan.

Patients may get damaged or complications arising from radiotherapy treatment. She wanted to make a radiation ruler to measure and improve more precise dosages. It needed to be small enough to fit into a catheter and tumour area.

Whilst studying for her PhD they achieved wonderful results with optical fibres in laboratories but not in hospital environments. She remembered playing with glass beads as a child and decided to experiment. She was amazed that she got better measurements than the optical fibres. She didn't want her PhD work to sit on a library shelf so enrolled on a Research Innovation course and met the university entrepreneur-in-residence who has helped her set up the company and currently CEO.

She would have originally needed over £200,000 to test the beads in labs but the National Physics Laboratory (who later became their first customer) and the Ion Beam centre let them use the labs and the local hospital let them use the radiotherapy machines for free because they thought the idea was interesting. They won a Santander innovation competition and got lots of publicity.

The glass beads are currently in phantom testing in 20 hospitals. They have applied for CE mark regulatory approval and have a patent application for an automated reader to process the measurements. They have featured in international media. Dr Jafari said she is trying to balance other work, family and TrueInvivo because she can't afford not to work in other roles yet.

http://www.trueinvivo.co.uk/