Project Title - 8	**Design and Development of hernia mesh**
Principal Investigator	Dr. Arindam Basu
Cost	Rs.9 lakhs
Date of Commencement	01.01.2009
Duration	24 Months
Date of Completion	31.12.2010
Abstract	In the past ten years, the application of bio-textiles for implants has greatly developed in the new field of tissue engineering. A shortage of organic implantations and the very high cost of the operation are presently the main problems in surgical implant operations. For this reason, the role of synthetic polymers and textile structure in tissue culture has become increasingly important in the medicinal field. The abdominal wall has natural areas of potential weakness that are present from birth. Other areas of weakness develop due to a variety of factors, such as surgery, injury, pregnancy, aging or strain. Most inguinal hernias that occur in adults result from strain on abdominal muscles that have been weakened by age or congenital factors. When the hernia forms, a "hole" in the abdominal muscle wall develops, allowing the inner lining of the abdomen to push through the weakened area. A loop of intestine or fatty tissue may push against this lining, forming a sac. At this stage the patient may feel burning or tingling. As the loop of the intestine pushes into the sac formed by the weakened abdominal lining, it develops a bulge visible on the outside. Often, the loop of intestine becomes trapped and the patient loses the ability to make the bulge flatten out. A painful non-reducible hernia is formed. The project is being proposed to develop hernia mesh using polypropylene filament. The polypropylene hernia system is a non-absorbable mesh used to reinforce or bridge abdominal wall hernia defects to provide extended support during and following wound healing.
Highlights	To develop polypropylene mesh using warp knitting technology To study the mechanical properties of the yarn and mesh fabric To disseminate the technology for commercial productions in India
Area of applicability	Medical textile
Target beneficiaries	Knitting Industries
Status	Ongoing