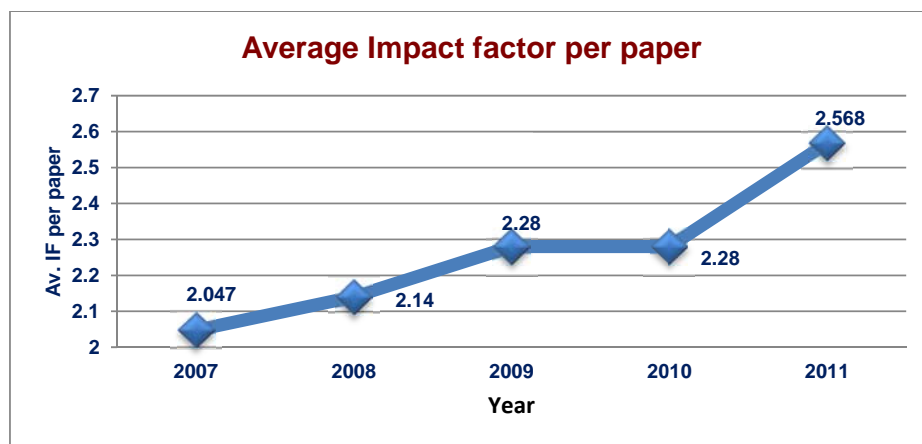
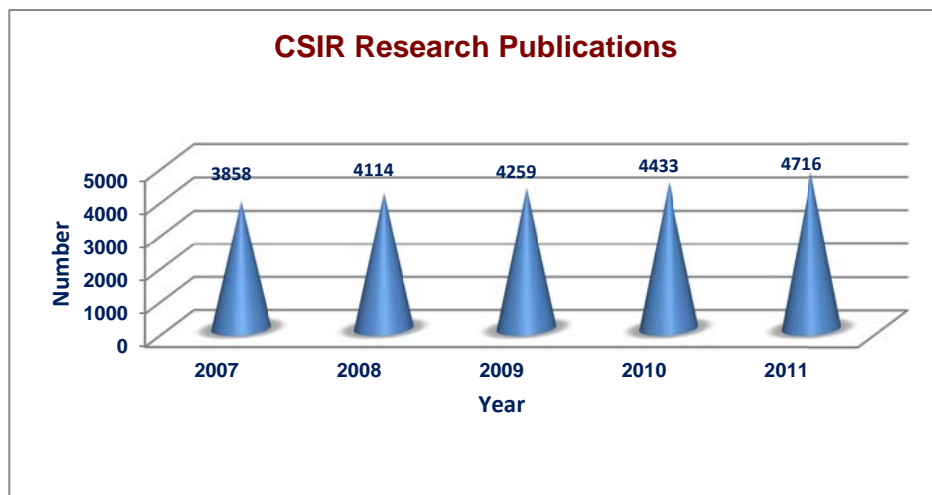
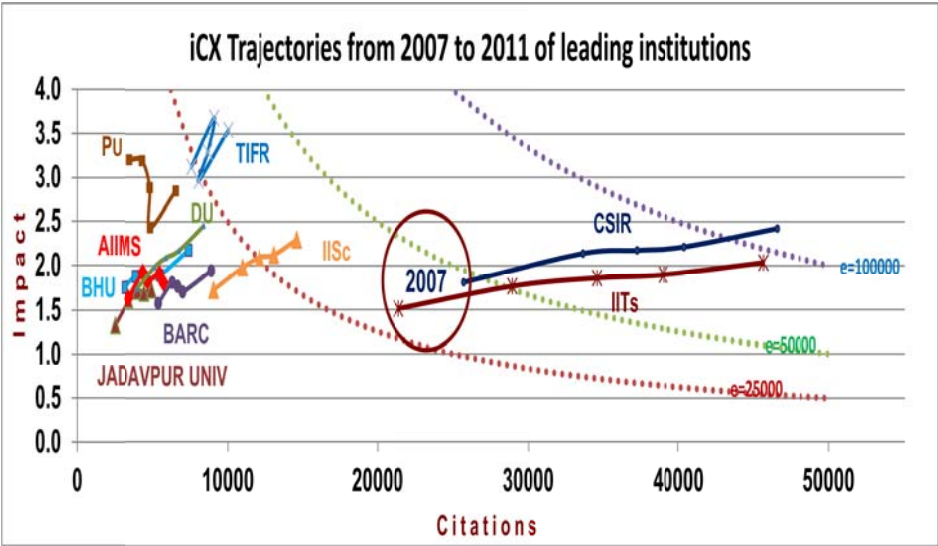


1 Scientific Excellence: Research Papers



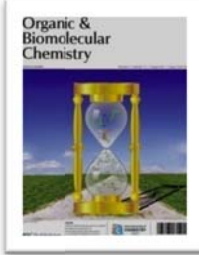
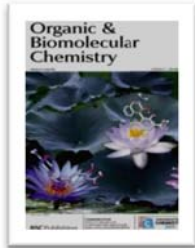




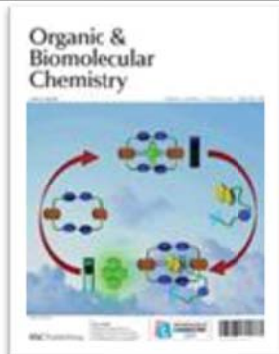
- CSIR has published 4716 research papers during 2011 with an average impact factor per paper as 2.568 in SCI journals of national and international repute contributing to 9.43% of Indian R&D literature.
- Several research papers were in high impact factor journals like 'Lancet' (IF 38.278), 'Nature' (IF 36.28), 'Science' (IF 31.20), 'Chemical Society Reviews' (IF 28.76) etc. Following Graphs show the trend of research publication and average Impact Factor per Paper over the last five years.





- CSIR's Research on Cover Pages of Journals**

CSIR's research has been recognized globally and the publications have found place on the cover pages of many journals. Some of these include: 'Chemical Engineering Journal'; 'Organic & Biomolecular Chemistry'; 'Chemistry: A European Journal'; and 'BioResource Technology'.

 <p>Synthesis of Furanoid Amino Acids by CSIR-NCL</p>	 <p>Unusual oxidation of imidazolyl ring in cobalt terpyridyl complex by CSIR-CLRI</p>	 <p>Synthesis of Benzodiazepinyl Phosphonates as Clostripain Inhibitors by CSIR-NCL</p>
 <p>Conformationally rigid aromatic amino acids as potential building blocks for abiotic foldamers by CSIR-NCL</p>	 <p>Self-induced bio-potential and graphite electron accepting conditions enhances petroleum sludge degradation by CSIR-IICT</p>	 <p>Inhibiting Tubulin polymerization to treat cancer; 2-Anilino nicotyl linked 1,3,4-oxadiazole derivatives by CSIR-IICT</p>
 <p>Dehydrogenase activity by hydrogen production by CSIR-IICT</p>	 <p>Solid phase microbial fuel cells for harnessing bioelectricity from composite food waste fermentations by CSIR-IICT</p>	 <p>Synthesis of novel cyclophanes by CSIR-NIIST</p>

2 Value Generation through Intellectual Property

CSIR has filed 290 patents abroad and 197 patents in India. It is maintaining a portfolio of 3250 patents abroad and 2350 patents in India. The following graphs provide data on patents filed and patents granted during the last five years.

