Scientists Perform First Color X-ray on a Human

Scientists from New Zealand performed the first ever 3D color X-Ray on a human being using a technique that could improve the field of medical diagnostics.

- The new device, named Medipix, is based on the traditional black-and-white X-Ray but has incorporated a particle-tracking technology developed by the European Organization for Nuclear Research (CERN) for its Large Hadron Collider.

Comparison with Other Techniques

- X-rays suffer from the deficit that they can sharply visualise only hard tissues. The shadows of soft tissues are less precise. Blood vessels and other conduits are imaged with invasive dyes.
- Magnetic resonance imaging (MRI) provides a slightly different picture, based on the difference in water and fat content in tissues.
- All but MRIs use radiation and dyes and chemical markers.
- The Medipix is superior to its predecessors - it uses algorithms to model very accurate spectroscopic data in three dimensions and shows all tissues with equal clarity, in color.

Significance

- The color X-ray imaging technique could by providing clearer and more accurate pictures can help doctors give their patients more accurate diagnoses.
- In the case of a fracture, for instance, not only would it show physical damage to a bone — which is what an X-ray depicts — but it would also reveal trauma to surrounding tissue and reveal if blood and nerve supply is compromised.
- According to the CERN, it will not only clearly show the difference between bone, muscle and cartilage, but also the position and size of cancerous tumours.
- Also, it would depict structures exactly as they are since not all humans are built exactly the same.
- In the near future, when medical care will be customised to the individual, this would make a difference to the efficacy of care.