

**Res.Asst. Prof. Amarchand
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Research Interests

Advanced powder synthesis

- Microcrystalline titanium powders
- *Nano powder synthesis*
- Characterization XRD, FTIR, Uvvis, NMR, SEM, TEM, XPS

Self assembled monolayers (SAMs)

- SAMs on to Titanium surfaces
- SAMs on gold surfaces
- Monolayers on silica
- Functionalization on surfaces

Multilayers for sensors

- Regenerative multilayers on surfaces
- Multilayers as sensors
- Selective extractions

Chemical solution routes for titanium from Ore

- Titanium hydride powder production from Ilmenite
- Titanium hydride powder production from upgraded titanium slag or ore
- Energy saving cost effective routes

Synthesis of new materials

- Synthesis of organic and inorganic molecules
- Polymerization
- Application of new materials for effective powder metallurgy applications

Leaching and pretreatment of ores

- Selective removal of impurities from ore
- Lower temperature requirement and ambient conditions
- Regeneration of reagent for reducing cost and environmental impacts

Thank you