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Highlights of his / her research (not more than 100 words)

The broad objective of my research is to develop a high-energy density rare-earth element free permanent magnet by using “exchange spring coupling” technique. This work involves mainly nanocomposite magnetic materials synthesis and their characterizations. In addition, our group is working in collaboration with ISRO, Bangalore on fabrication of coloured thin film coating on stainless steel as solar absorber to make the concentrating solar power system.

Representative best pictures/ plot/graph with proper heading : 2 - 4 nos.

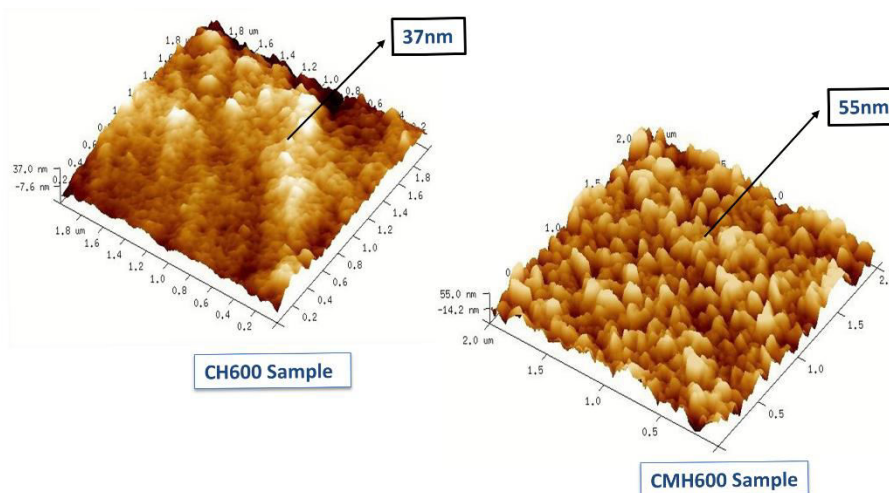


Figure: AFM image of compact FeCo/Cu core-shell materials annealed with and without magnetic field

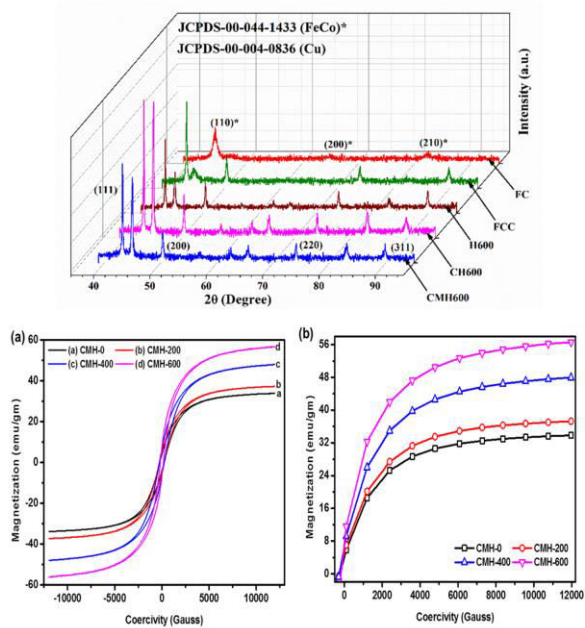
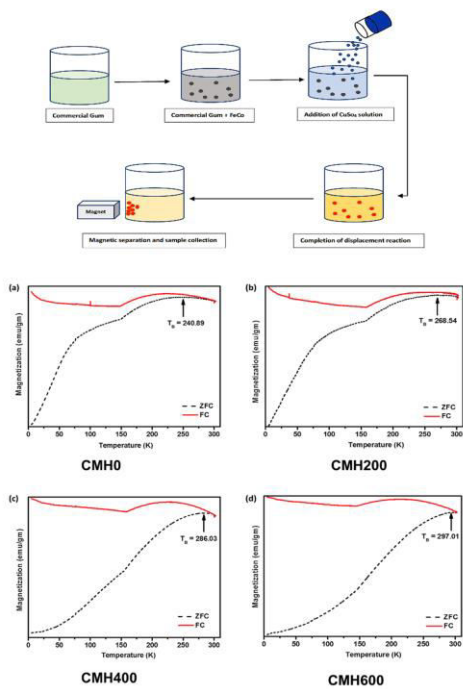


Figure: Synthesis of FeCo/Cu core-shell nanostructured materials and their magnetic properties

Publications:

- 1) "Magnetic Behaviour of FeCo/Cu Core Shell Nanoparticles", Angshuman Sarkar, Shilabati Hembram, Subhranshu Chatterjee, Pritam Deb and Amitava Basu Mallick, Key Engineering Materials, August 2016
- 2) "Preparation of FeCo/Cu core shell magnetic nanoparticles" Shilabati Hembram, Angshuman Sarkar*, Amitava Basu Mallick and Pritam Deb, GSTF Digital Library, 2016, DOI: 10.5176/2251-1857_M316.7.