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### **Educational Qualifications**

<b>Year</b>	<b>Degree</b>	<b>Institute</b>
2020	PhD (Metallurgical and Materials Engineering )	IIT Madras
2013	M. Tech ( Materials Science and Engineering )	IIT Kanpur
2011	M. Sc (Chemistry)	IIT Dhanbad
2009	B. Sc (Chemistry)	St. Xaviers College, Calcutta University
2006	Higher Secondary	West Bengal Council for Higher Secondary Education
2004	Secondary	West Bengal Board of Secondary Education

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### **SPECIALIZATION**

- **Large scale manufacturing of Lithium ion battery for Electrical Vehicle Application**
- **Testing of lithium ion battery pack (Galvanostatic cycling, cyclic voltammetry, impedance analysis, CC/CV modes), demonstration with e- cycle and e-bike**
- **Synthesis of new anode materials for lithium ion battery and up scaling (includes graphite, LTO, carbon nanotube, carbon nanohorn, graphene, silicon, tin, metal oxide based materials)**

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## TECHNICAL SKILLS

- TEM, SEM, Battery cyler (coin cell and pack level), impedance analyzer, automated pilot plant instruments for Lithium Ion Battery manufacturing, Microwave Synthesizer, Peel tester
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## PUBLICATIONS

1. Optical property characterization of novel graphene-X (X= Ag, Au and Cu) nanoparticle hybrids  
**SR Sahu**, MM Devi, P Mukherjee, P Sen, K Biswas  
*Journal of Nanomaterials*, 2013, Article ID 232409 (**I.F: 1.98, Citations: 27**)
2. Graphene: a self-reducing template for synthesis of graphene– nanoparticles hybrids MM Devi, **SR Sahu**, P Mukherjee, P Sen, K Biswas  
*RSC Advances*, 5, 2015, 62284-62289 (**I.F: 3.12, Citations: 11**)
3. Graphene–metal nanoparticle hybrids: electronic interaction between graphene and nanoparticles MM Devi, **SR Sahu**, P Mukherjee, P Sen, K Biswas  
*Transactions of the Indian Institute of Metals*, 69, 2015, 839-844 (**I.F: 1.2, Citations: 11**)
4. Microstructure and mechanical properties of pulse laser welded stainless steel and aluminum alloys for lithium-ion cell casings  
VR Rikka, **SR Sahu**, R Tadepalli, R Bathe, T Mohan, R Prakash, G Padmanabham R Gopalan  
*Journal of Materials Science and Engineering B*, 6, 2016, 218-225 (**Citations: 1**)
5. Synthesis of graphene sheets from single walled carbon nanohorns: Novel conversion from cone to sheet morphology  
**SR Sahu**, VR Rikka, M. Jagannatham, P Haridoss, A Chatterjee, R Gopalan, R Prakash  
*Materials Research Express*, 4, 2017, 035008 (**I.F: 1.93, Citations: 4**)
6. Tamarind seed skin-derived fiber-like carbon nanostructures as novel anode material for lithium-ion battery  
**SR Sahu**, DP Devi, VVN Phanikumar, T. Ramesh, N Rajalakshmi, G Praveena, R Prakash, B Das, R. Gopalan  
*Ionics*, 24, 2018, 3413-3421 (**I.F: 2.39, Citations: 8**)
7. In situ/ex situ investigations on the formation of the mosaic solid electrolyte interface layer on graphite anode for lithium-ion batteries  
VR Rikka, **SR Sahu**, A Chatterjee, PV Satyam, R Prakash, MSR Rao, R Gopalan, G Sundararajan  
*J. Phys. Chem. C*, 122, 2018, 28717–28726 (**I.F: 4.19, Citations: 13**)
8. Synthesis of cobalt-rich alloys with high saturation magnetization: A novel synthetic approach by hydrazine reduction method  
G S Reddy, **SR Sahu**, R Prakash, M Jagannatham  
*Results in Physics*, 12, 2019, 652–661 (**I.F: 4.02, Citations: 5**)
9. Superior cycling and rate performance of micron-sized tin using aqueous-based binder as a sustainable anode for lithium-ion batteries  
**SR Sahu**, VR Rikka, P Haridoss, R Gopalan, R Prakash  
*Energy Technology*, 7, 2019, 1900849 (**I.F: 3.41, Citations: 1**)
10. Tailoring micro resistance spot welding parameters for joining nickel tab to inner aluminium casing in a cylindrical lithium ion cell and its influence on the electrochemical performance  
VR Rikka, **SR Sahu**, A Roy, SN Jana, D Sivaprahasam, R Prakash, R Gopalan, G Sundararajan  
*Journal of Manufacturing Process*, 49, 2020, 463-471 (**I.F: 4.09, Citations: 3**)
11. A novel  $\alpha$ -MoO<sub>3</sub>/single-walled carbon nanohorns composite as high-performance anode material for fast-charging lithium-ion battery  
**SR Sahu**, VR Rikka, P Haridoss, A Chatterjee, R Gopalan, R Prakash  
*Advanced Energy Materials*, 2020, 2001627 (**I.F: 25.25, Citations: 1**)

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## **PATENT**

1. A process for fast formation of solid electrolyte interphase (SEI) layer on the anode surface in Lithium-ion battery (**Indian Patent application No. 202011052906**)

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## **INVITED TALK**

Gave an invited talk at VIT, Vellore on “Li-ion battery for EV Applications” in September 2016.