RESUME

Personal Details

Name: Dr. Ravi Kali

Designation: DST-INSPIRE Faculty

Address:
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International Advanced Research Center for Powder Metallurgy and New Materials (ARCI),
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Academic Qualifications

Ph. D., Metallurgical Engineering and Materials Science, Indian Institute of Technology Bombay, India.

Thesis: Understanding the Correlation between Electrochemical Behavior, Phase Transformations and Stress Development in Metallic Film Electrodes for "Alkali Metal-ion Batteries"

M. Tech., Nanotechnology, JNTU Hyderabad, India.

Thesis: Synthesis of Carbon Nanomaterials through Graphite Arc under Water process

M. Sc., Physics, Osmania University, Hyderabad, India.

Research areas of interest

- Nanostructured hybrid materials for metal-ion batteries
- Carbon based materials for lithium-ion batteries
- Metal oxide/carbon composites for lithium and sodium-ion batteries
- Activated carbon for supercapacitor applications

Honors/Awards

2016: Selected for **ECS Meeting Travel grants** for attending 229th ECS meeting at San Diego, USA

2016: Selected for **DST International travel grants for** attending 229th ECS meeting at San Diego, USA

2017: Awarded **DST Inspire Faculty Award**

Professional Experience

May –Nov 2017: **Research Associate**, Metallurgical Engineering and Materials Science, IIT Bombay

Nov. 2017 – Apr. 2018: **Post-Doctoral Fellow**, Department of Chemical Engineering, IIT Hyderabad

Publications

1. **Ravi Kali,** Balaji Padya, T. N. Rao, P.K. Jain, "Solid waste-derived Carbon as Anode for High Performance Lithium-ion Batteries" (*Communicated*).

2. A. Vemulapally, **R. Kali**, T.K. Bhandakkar, A. Mukhopadhyay, "Transformation plasticity provides insights into concurrent phase transformation and stress relaxation observed during electrochemical Li alloying of Sn thin film" *The Journal of Physical Chemistry* C **122**(29) (2018) 16561-16573

3. T. Ramireddy, **R. Kali**, M. K. Jangid, V. Srihari, H. K. Poswal, A. Mukhopadhyay, "Insights into the electrochemical behavior, phase evolution, cyclic stability and mechanical integrity of Sn upon electrochemical K-alloying/de-alloying via *in-situ* studies" *Journal of the Electrochemical Society* **164** (12) (2017) A2360-A2367

4. **Ravi Kali,** Shubham Badjate, Amartya Mukhopadhyay, "Effects of residual stress on overpotentials and mechanical integrity during electrochemical Li-alloying of Al film electrodes" *Journal of Applied Electrochemistry* **47** (2017) 479–486

5. **Ravi Kali**, Yaadhav Krishnan, Amartya Mukhopadhyay, "Effects of phase assemblage and microstructure-type for Sn/intermetallic 'composite' films on stress developments and cyclic stability upon lithiation/delithiation" *Scripta Materialia* **130** (2017) 105-109

6. Manoj K Jangid, Farjana J Sonia, **Ravi Kali,** Balakrishna Ananthoju**,** Amartya Mukhopadhyay, "Insights into the effects of multi-layered graphene as buffer/interlayer for a-Si during lithiation/delithiation" *Carbon* **111** (2017) 602-616

7. Farjana J Sonia, Balakrishna Ananthoju, Manoj K Jangid, **Ravi Kali**, M Aslam, Amartya Mukhopadhyay, "Insight into the mechanical integrity of few-layers graphene upon lithiation/delithiation via in situ monitoring of stress development" *Carbon* **88** (2016) 206-214
8. Amartya Mukhopadhyay**, Ravi Kali**, Shubham Badjate, Anton Tokranov, Brian W Sheldon, "Plastic deformation associated with phase transformations during lithiation/delithiation of Sn" *Scripta Materialia* **92** (2014) 47-50
9. **Ravi Kali**, Amartya Mukhopadhyay, "Spark plasma sintered/synthesized dense and nanostructured materials for solid-state Li-ion batteries: Overview and perspective" *Journal of Power Sources* **247** (2014) 920 – 931

Selected Conference Presentations

- **Ravi Kali**, Aditya Prasad Vemulapally, Shubham Badjate, Sagar Mitra, Tanmay Bhandakkar, Amartya Mukhopadhyay**, 229th ECS Meeting Abstracts, 388-388 (2016)**
- **Ravi Kali**, Shubham Badjate, Sagar Mitra, Amartya Mukhopadhyay, in **ICAER 2015**, Mumbai, India, December 2015.
- **Ravi Kali**, Shubham Badjate, Anton Tokranov, Sagar Mitra, Brian Sheldon, Amartya Mukhopadhyay **in 52nd National Metallurgists' day and 68th annual technical meeting - NMD ATM 2014**, Pune, India, November 2014.
- **Ravi Kali**, Amartya Mukhopadhyay, in 6th **National Symposium for Materials Research Scholars, MR-14**, Mumbai, India, May 2014.
- **Ravi Kali** and Amartya Mukhopadhyay in **IITB-NUS Joint Research Workshop – ENERGY 2014**, Mumbai, India, February 2014.
- **Ravi Kali**, Amartya Mukhopadhyay in **NC2E 2014**, Pune, India, February 2014.
- **Ravi Kali**, A. Jain, A. Shreemal, A. Tokranov, B. W. Sheldon, S. Shukla, S. Mitra and A. Mukhopadhyay, in **ICAER 2013**, Mumbai, India, December 2013.