

SRINIVASAN RAMAKRISHNAN, PhD

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- Leading Research and Technology Development in State-of-the-Art Renewable Energy Systems and BMIs
- Deep Expertise in Diverse Energy Storage Platforms such as Li-ion, Na-ion, CO₂ reduction and Green H₂

PROFESSIONAL EXPERIENCE

- 2021-present** ● Assistant Professor, IIT Bombay
Mumbai, India
 - Low-cost, fast charging Li-ion batteries for EV applications
 - Long cycle life Na-ion batteries for stationary grid scale energy storage
 - Managing electron and proton inventory in catalytic systems
- 2021-present** ● Advisor, Eywa Neuro
Mumbai, India
 - Building the neurotechnology industry in India
 - Built the first sub-10 μm flexible neural probe in India
 - Working on multifunctional neural probes for chronic implantation.
- 2020-2021** ● Electrochemical and Materials Engineering Lead, Neuralink Corporation
Fremont, USA
 - Led battery engineering and materials development for Elon Musk-founded Brain-Machine Interface company.
 - Invented a novel high-throughput testing device for high-volume production-line implant QA-QC (US Patent filed).
 - Devised and led implantable battery design, production, testing and *in vivo* management programs.
 - Developed accelerated testing protocols for long duration chronic implantation in human patients for FDA clinical trials.
- 2018-2020** ● Postdoctoral Scholar, University of California Berkeley and LG Energy Solution
Berkeley, USA
 - Drove cell engineering for Li-ion cathode materials to suppress high voltage instabilities for LG's EV battery production lines.
 - Developed scalable surface passivation methods to achieve high cycle life in Li-rich NMC oxide cathode materials for EV applications.
 - Developed novel Al₂O₃-based gradient coatings for LiCoO₂ cathodes.
- 2015-2016** ● Vice President, Stanford Energy Club
Stanford, USA
 - Led one of the largest organizations at Stanford University focused on energy technology, policy and finance.
 - Founded and co-organized the first Stanford Energy Week.
- 2012-2017** ● Graduate Researcher, Stanford University
Stanford, USA
 - Discovered a key reaction pathway in LOHC fuel cells with transition metal hydride electrocatalysts.
 - Developed a catalyst screening methodology for the electrochemical reduction of CO₂ to liquid fuels.

EDUCATION

- PhD Chemistry, 2017
Stanford University, USA
- MSc Chemistry, 2012
IIT Madras
- BSc (Hons.) Chemistry 2010
SSSIHL

AWARDS

- Young Faculty Award, IIT Bombay, 2021
- Ramanujan Fellowship, SERB, Govt. of India, 2021
- Rising Environmental Leaders Fellowship, Stanford University, 2016
- Center for Molecular Analysis and Design Fellowship, Stanford University, 2015-2017
- Institute Silver Medal for Best Academic Performance, IIT-M, 2012
- Institute Merit Scholarship, IIT Madras, 2010-2012
- University Gold Medal for BSc (Hons.) Chemistry, SSSIHL, 2010

PUBLICATIONS

1. Ramakrishnan, Neuralink Corp. et al. US Patent Filed, **2022**.
2. Namdeo, Sheokand, Kote, Radhakrishna, Ramakrishnan, Balakrishna, **2022**, submitted.
3. Ramakrishnan, Park, Wu, Yang, McCloskey *J. Am. Chem. Soc.* **2020** 142, 18, 8522–8531.
4. Li, Ramakrishnan, Freeland, McCloskey, Cabana *J. Am. Chem. Soc.* **2020** 142, 18, 8160–8173
5. Ramakrishnan, Moretti, Chidsey *Chem. Sci.* **2019**, 10, 7649-7658.
6. McLoughlin, Waldie, Ramakrishnan, Waymouth *J. Am. Chem. Soc.* **2018**, 140(41), 13233-13241.
7. Ramakrishnan, Chidsey *Inorg. Chem.* **2017**, 56(14), 8326-8333.
8. Waldie, Ramakrishnan, Kim, Maclaren, Chidsey, Waymouth *J. Am. Chem. Soc.* **2017**, 139(12), 4540.
9. Ramakrishnan, Chakraborty, Brennessel, Jones, Chidsey *Chem. Sci.* **2016**, 7, 117-127.
10. Ramakrishnan, Waldie, Warnke, de Crisci, Batista, Waymouth, Chidsey *Inorg. Chem.* **2016**, 55(4), 1623-1632.
11. Ramakrishnan, Asundi, Oyakhire, Park, Bent, McCloskey, in preparation.
12. Ramakrishnan, Hu, Curto, Ruckel, Parajuli, Klie, Vojvodic, McCloskey, Cabana, in preparation.

INVITED TALKS

- E-Mobility Workshop, IIT Bombay, 2021
- Chemistry In-House Symposium, IIT Bombay, 2021
- School of Bioengineering, MIT-ADT University, Pune, 2021
- Kaleidoscope Meeting, Nasik, 2021
- Battery Modeling Webinar Series, Carnegie Mellon University, Nov 2020
- Breaking Topics, Gordon Research Conference on Electrochemistry, Ventura, 2020
- Department of Chemical Engineering and Material Science, University of Minnesota, 2020
- Department of Materials, University of Oxford, 2019
- Electrochemistry Faculty Candidates Invited Seminar, AIChE Annual Meeting, Orlando FL, 2019
- Electrochemistry Fundamentals Symposium, AIChE Annual Meeting, Orlando FL, 2019
- Electrocatalysis Symposium, AIChE Annual Meeting, Orlando FL, 2019
- Chemistry and Physics of Materials Unit, JNCASR, Bangalore, India, 2019
- Department of Chemistry, Indian Institute of Technology Bombay, 2019
- Advances in Li-ion Batteries, 236th ECS Meeting, Atlanta GA, 2019
- Department of Chemistry, University of Utah, 2017
- Graduate Student Summer Seminar Series, Stanford University, 2017
- Lecture Series on Batteries, Science Circle High School Program, Stanford University, 2016
- Gordon Research Seminar on Electrochemistry, Ventura, 2016
- 248th ACS Meeting, San Francisco, 2014

SERVICE

1. Elected conference chair, Gordon Research Seminar on Electrochemistry 2020
2. Reviewer for *J. Am. Chem. Soc.*, *Chemistry of Materials*, *Inorganic Chemistry*, *Organometallics*, *ACS Energy Letters*
3. Built a high-performance computing cluster at the Dept. of Chemistry at Stanford University and served as its administrator from 2013 to 2017