Stanford

Rajan Kumar

Lecturer

Materials Science and Engineering

Bio

BIO

Rajan (Raj) Kumar is a Lecturer and the Director of Undergraduate Studies in the Materials Science and Engineering Department and serves as a Lecturer Consultant with the Center for Teaching and Learning at Stanford University. He specializes in integrating research and communication learning goals into STEM courses and designing inclusive research experiences for undergraduates. Raj currently teaches a variety of undergraduate and master's level MatSci courses and is the faculty coordinator for the MatSci REU Program. Through these efforts, Raj strives to help students develop strong research and communication skills and solve multidisciplinary problems.

Raj received his both his BS (Northwestern) and his PhD (UC Berkeley) in Materials Science and Engineering. During his PhD, Raj studied electrochemical energy storage devices with an emphasis on developing printable batteries for integrated electronic systems. He also completed part of his PhD at SLAC National Accelerator Laboratory through the Department of Energy SCGSR Fellowship. As a graduate student, Raj received the UC Berkeley Teaching Effectiveness Award and Outstanding Graduate Student Instructor Award. He also led workshops on effective teaching strategies for first-time graduate student instructors.

ACADEMIC APPOINTMENTS

- Lecturer, Materials Science and Engineering

ADMINISTRATIVE APPOINTMENTS

- Faculty Coordinator, Stanford MatSci REU Program, (2019- present)

LINKS

- MatSci REU Program: https://mse.stanford.edu/research-impact/research-experience-undergraduates-reu
- LinkedIn Profile: https://www.linkedin.com/in/raj-kumar8/
- Google Scholar Profile: https://scholar.google.com/citations?user=wTthlgEAAAAJ&hl=en&inst=5746887945952177237&authuser=3

Teaching

COURSES

2022-23

- Materials Matter: MATSCI 10 (Aut)
- Materials Structure and Characterization: MATSCI 143 (Win)
- Mechanical Behavior Laboratory: MATSCI 163, MATSCI 173 (Spr)
- Nanomaterials Design: MATSCI 160, MATSCI 170 (Aut)

2021-22

- Materials Matter: MATSCI 10 (Aut)
- Materials Structure and Characterization: MATSCI 143 (Win)
- Mechanical Behavior Laboratory: MATSCI 163, MATSCI 173 (Spr)
- Nanomaterials Laboratory: MATSCI 160, MATSCI 170 (Aut)

2020-21

- Materials Matter: MATSCI 10 (Aut)
- Materials Structure and Characterization: MATSCI 143 (Win)
- Mechanical Behavior Laboratory: MATSCI 163, MATSCI 173 (Spr)
- Nanomaterials Laboratory: MATSCI 160, MATSCI 170 (Aut)

2019-20

- Materials Structure and Characterization: MATSCI 143 (Win)
- Mechanical Behavior Laboratory: MATSCI 163, MATSCI 173 (Aut)
- Nanomaterials Laboratory: MATSCI 160 (Spr)

STANFORD ADVISEES

Master's Program Advisor

Jonathan Sepulveda

Publications

PUBLICATIONS

- **Scaling Printable Zn-Ag2O Batteries for Integrated Electronics** *ADVANCED ENERGY MATERIALS*
  Kumar, R., Johnson, K. M., Williams, N. X., Subramanian, V.
  2019; 9 (13)
- **Scalable, High-Performance Printed InOx Transistors Enabled by Ultraviolet-Annealed Printed High-k AlOx Gate Dielectrics** *ACS APPLIED MATERIALS & INTERFACES*
  Scheideler, W. J., McPhail, M. W., Kumar, R., Smith, J., Subramanian, V.
  2018; 10 (43): 37277–86
- **Low-Temperature-Processed Printed Metal Oxide Transistors Based on Pure Aqueous Inks** *ADVANCED FUNCTIONAL MATERIALS*
  Scheideler, W. J., Kumar, R., Zeumault, A. R., Subramanian, V.
  2017; 27 (14)