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Research vision

Compositional control of structure-property relations in complex functional inorganic materials; enlarging the toolkit of techniques that enable such control.

Education:

1990-1995 M.S. in Chemistry & PhD in Solid State Chemistry, Indian Institute of Science, Bangalore, India (with C. N. R. Rao FRS). PhD thesis titled *Investigations on Fullerenes, Carbon Nanotubes, Onions and Small Gold Particles*.

1986-1989 B.Sc. (Hons.) Chemistry, St. Stephens College, Delhi University, India.

Employment:

2008-present Professor, Materials Department, and Department of Chemistry and Biochemistry, UC Santa Barbara.

2006-2008 Associate Professor, Materials Department, and Department of Chemistry and Biochemistry, UC Santa Barbara.

2002-2006 Assistant Professor, Materials Department, UC Santa Barbara.

1999-2002 Assistant Professor, Solid State and Structural Chemistry Unit, Indian Institute of Science.

1997-1999 Post-Doctoral Fellow with Professor Wolfgang Tremel at the Institut für Anorganische Chemie, Universität Mainz, Germany: *Magnetic and CDW chalcogenides, biomineralization, and electronic structure of functional materials*.

1995-1996 Post-Doctoral Fellow with Professor Bernard Raveau at the Laboratoire CRISMAT, Caen, France: *High- T_C superconductors and CMR manganites*.

1989-1990 Pre-Doctoral Researcher in the Solid State and Structural Chemistry Unit, Indian Institute of Science: *High- T_C copper- and bismuth-oxide superconductors*.

Research contributions

Research efforts in the group are focused on the theme of developing structure – composition – property relations in functional inorganic materials. The focus at the present time is largely in materials for energy conversion and storage, including phosphors for solid-state white lighting, thermoelectric and magnetocaloric materials, Li-ion and related battery materials, and halide optoelectric materials.

Service and recognition (select, since 2010):

- 2017 Fred and Linda R. Wudl Professor of Materials Science
2015 Director, Materials Research Laboratory: An NSF MRSEC
2015 Fellow, American Physical Society
2014 Associate Editor, Chemistry of Materials
2014 UCSB Academic Senate Graduate Mentoring Award
2010 Fellowship of the Royal Society of Chemistry (FRSC)

Former graduate students (with current location):

Bangalore: Ujjal Gautam (IISER, Mohali), Sudip Barman (NISER Bhubaneswar Faculty), Moumita Ghosh (DuPont, Hyderabad), Hem Kandpal (IIT Roorkee Faculty) **Santa Barbara:** Aditi Risbud (Gordon and Betty Moore Foundation), Eric S. Toberer (Colorado School of Mines Faculty), Katharine Page (ORNL Staff), Brent Melot (USC Faculty), Daniel Shoemaker (UIUC Faculty), Joshua Kurzman (Prieto Battery); Nathan George (Independent Consultant), Phillip Barton (Soraa), Lauren Misch (Intel), Moureen Kemei (Intel), Kimberly See (St. Elmo Brady Post-doc, UIUC), Michael Gaultois (Pierre et Marie Curie Post-Doc, Cambridge), Kristin Denault (Founder and CEO, Fluency Lighting Technology), and Jason Douglas (NRC Post-doc at NIST).

Former post-doctoral fellows (with current location):

Dave Wolfe, K. Ramesha (CECRI Chennai Staff), Ombretta Masala (Nanoco Technologies), Jun Li (Oregon State), Srinivasa Thimmaiah (Ames Lab Staff), Young-Il Kim (Yeongnam University Faculty), Serena Corr (University of Glasgow Faculty), Won Bin Im (Chonnam Natl. University Faculty), Alexander Birkel (ITICON GmbH), Christina S. Birkel (TU Darmstadt Faculty Track), Taylor Sparks (University of Utah Faculty), Jakoah Brgoch (University of Houston Faculty), Anna Lehner (Freiburg, DE).

Former co-advised students (with current location):

Efrain Rodriguez (University of Maryland College Park Faculty), James Neilson (Colorado State University Faculty).

Current graduate students:

Malinda Buffon (2012-present), Megan Butala (2012-present), Leo Lamontagne (2013-present), Clayton Cozzan (2014-present), Hayden Evans (2014-present), Douglas Fabini (2014-present), Brian Barraza (2015-present), Joshua Bocarsly (2015-present) Emily Levin (2015-present), Molleigh Preefer (2015-present), Nicole Michenfelder-Schauser (2016-present), and Emily Schueller (2016-present).

Current post-doctoral fellows:

Dr. Geneva Laurita (2015-present), Dr. Vicky Doan-Nguyen (2015-present), Dr. Jason Grebenkemper (2016-present).

Current and past undergraduate interns (over 50):

Please see web site above.

Publications (over 275) and patents:

Please see: <http://www.mrl.ucsb.edu/~seshadri/respubs.html>