

Resume

Purusottam Jena

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Professional Preparation

B.Sc. (Hons), Physics, Utkal University, Orissa, India, 1964

M.Sc., Physics, Utkal University, Orissa, India, 1966

Ph. D., University of California, Riverside, 1970

Appointments

2007-08 Jefferson Science Fellow, US Department of State

2005- Distinguished Professor, Virginia Commonwealth University

1982-05 Professor of Physics, Virginia Commonwealth University

1989-91 Chairman, Department of Physics, Virginia Commonwealth University

1986-87 Program Director, Division of Materials Research, NSF

1980-82 Associate Professor of Physics, Virginia Commonwealth University

1978-80 Associate Professor of Physics, Michigan Technological Univ., Houghton, MI

1977-78 Visiting Scientist, Argonne National Laboratory, Argonne, IL

1975-77 Visiting Assistant Professor of Physics, Northwestern University, Evanston, IL.

1973-75 Research Associate in Physics, University of British Columbia, Vancouver.

1971-73 Postdoctoral Fellow in Physics, Dalhousie University, Halifax, N.S.

1970-71 Lecturer in Physics, State University of New York, Albany, NY

Honors and Awards

Virginia's Outstanding Scientist, 2015

Presidential Medallion, Virginia Commonwealth University, 2011

Member, Presidential Commission on US-Russia Bilateral Collaboration on Nanoscience, 2010

Jefferson Distinguished Lecture, US Department of State, 2009

Jefferson Science Fellow, US Department of State, 2007-08

Distinguished Professor of Physics, Virginia Commonwealth University, 2005-

David Hare Professorship Lecture, Indian Association of Cultivation of Science, 2005

Fellow, American Physical Society, 2000

Outstanding Faculty Award, State Council of Higher Education of Virginia, (Awarded by the Governor of Virginia for outstanding teaching, scholarship, and service), 2001

University Award of Excellence, Virginia Commonwealth University, (The highest award recognizing outstanding contribution to teaching, research, and service), 1993

Chair, Gordon Conference on Hydrogen-Metal Systems, 1993

Distinguished Scholar Award, Virginia Commonwealth University, 1987

430 invited talks including 206 at international conferences in 30 countries

Selected Publications

Total publications (12 edited books, 14 review articles/book chapters, 490 original papers in peer reviewed journals, 50 publications in refereed conference proceedings, 2 reports, and 1 patent)

h-index: 61, Total Citations ~ 14,000

Following is a list of 25 top cited papers:

- Sun, Q. Wang, Q., Jena, P.: Clustering of Ti on C₆₀ surface and its effect on hydrogen storage, J. Am. Chem. Soc. (communication) **127**, 14582, (2005) (*cited 368 times*)
- Sun, Q., Jena, P., Wang, Q., and Marquez, M.: First-principles study of hydrogen storage on Li₁₂C₆₀, J. Am. Chem. Soc. **128**, 9741 (2006) (*cited 320 times*)
- Zhou, J., Wang, Q., Sun, Q., Chen, X. S., Kawazoe, Y., and Jena, P.: “Ferromagnetism in semihydrogenated graphene”, Nano Letters **9**, 3867 (2009) (*cited 317 times*)
- Khanna, S.N. and Jena, P.: On Assembling Crystals from Clusters, Phys. Rev. Lett. **69**, 1664 (1992) (*cited 316 times*)
- Baskes, M.I., Birnbaum, H.K., Corbett, J.W., DeLeo, G.C., Estreicher, S.K., Haller, E.E., Jena, P., Johnson, N.M., Kirchheim, R., Myers, S.M., Pearton, S.J., and Stavola, M.J.: Hydrogen Interactions with Defects in Solids, Rev. Mod. Phys. **64**, 559 (1992) (*cited 291 times*)
- Wang, Q., Sun, Q. Chen, G, Kawazoe, Y., and Jena, P.: “Vacancy Induced Magnetism in ZnO Thin Films and Nanowires”, Phys. Rev. B **77**, 205411 (2008) (*cited 269 times*)
- Rao, B.K., and Jena, P.: Evolution of the Electronic Structure and Properties of Neutral and Charged Aluminum Clusters: A Comprehensive Analysis, J. Chem. Phys. **111**, 1890 (1999) (*cited 251 times*)
- Jena, P.: “Materials for Hydrogen Storage: Past, Present, and Future”, J. Phys. Chem. Letters (invited perspective) **2**, 206 (2011) (*cited 207 times*)
- Khanna, S.N., and Jena, P.: Atomic Clusters: Building Blocks for a Class of Solids, Phys. Rev. B. **51**, 13705 (1995) (*cited 178 times*)
- Pandey, R., Rao, B.K., and Jena, P. and Blanco, M.A.: Electronic Structure and Properties of Transition Metal Benzene Complexes, J. Am. Chem. Soc. **123**, 3799 (2001) (*cited 160 times*)
- Stolcic, D., Fischer, M., Gantefor, G., Kim, Y.C., Sun,Q., and Jena, P.: Direct Observation of Key Reaction Intermediates on Gold Clusters, J. Am. Chem. Soc. (Communications) **125**, 2848 (2003) (*cited 156 times*)
- Rao, B.K. and Jena, P.: Physics of small metal clusters: topology, magnetism, and electronic structure. Phys. Rev. B **32**, 2058 (1985) (*cited 135 times*)
- Niu, J., Rao, B.K., and Jena, P.: Binding of Hydrogen Molecules by a Transition Metal Ion, Phys. Rev. Lett. **68**, 2277 (1992) (*cited 132 times*)
- Jena, P. and Castleman, Jr., A. W.: Clusters: A bridge across the disciplines of Physics and Chemistry, Proc. National Academy of Sciences, **103**, 10560 (2006). (*cited 131 times*)
- Rao, B.K., and Jena, P.: Giant Magnetic Moments of Nitrogen Stabilized Mn Clusters and its Relevance to Ferromagnetism in Mn Doped GaN, Phys. Rev. Lett. **89**, 185504 (2002) (*cited 125 times*)
- Berseth, P. A., Harter, A. G., Zidan, R., Blomqvist, A., Araujo, C. M., Scheicher, R. H., Ahuja, A., and Jena, P.: “Carbon Nanomaterials as Catalysts for Hydrogen Uptake and Release in NaAlH₄”, Nano Lett. **9**, 1501 (2009) (*cited 120 times*)

- Li, X., Grubisic, A., Stokes, S. T., Gentefor, G. F., Bowen, K. H., Boggavarapu, K., Willis, M., Jena, P., Burgert, R., and Schnockel, H.: Unexpected Stability of Al_4H_6 : A Borane Analog?, *Science* **315**, 356 (2007) (*cited 113 times*)
- Reddy, B.V., Khanna, S.N., and Jena, P.: Electronic, Magnetic, and Geometric Structure of Metallo-carbohedrenes, *Science* **258**, 1640, (1992) (*cited 109 times*)
- Nayak, S.K., Rao, B.K., Khanna, S.N., and Jena, P.: Atomic and Electronic Structure of Neutral and Charged Si_nO_m Clusters, *J. Chem. Phys.* **109**, 1245 (1998) (*cited 104 times*)
- Kandalam, A.K., Rao, B.K., Jena, P., and Pandey, R.: Geometry and Electronic Structure of $V_n(Bz)_m$ Complexes, *J. Chem. Phys.* **120**, 10414 (2004). (*cited 102 times*)
- Liu, F., Khanna, S.N., and Jena, P.: Magnetism of Small Vanadium Clusters. *Phys. Rev. B* **43**, 8179 (1991) (*cited 102 times*)
- Reddy, B.V., Nayak, S.K., Khanna, S.N., Rao, B.K., and Jena, P.: Electronic Structure and Magnetism of Rh_n ($n=2-13$) Clusters, *Phys. Rev. B.* **59**, 5214 (1999). (*cited 102 times*)
- Zhou, J., Wang, Q., Sun, Q., and Jena, P.: “Electronic and magnetic properties of BN sheet decorated with hydrogen and fluorine”, *Phys. Rev. B* **81**, 085442 (2010). (*cited 101 times*)
- Nayak, S.K., and Jena, P.: Anomalous Magnetism of Small Mn Clusters, *Chem. Phys. Lett.* **289**, 473 (1998) (*cited 101 times*)
- Jena, P.: Temperature dependence of nuclear quadrupole interaction in Mg. *Phys. Rev. B* **17**, 1046 (1978) (*cited 100 times*)

Teaching:

With more 39 years in academia I have taught physics at all levels - starting with Conceptual Physics at the most elementary level to General Physics to Pre-medical students to advanced Physics courses to undergraduate and graduate students. My instructor rating in all of these courses are among the highest in the college, ranging between 4.5 and 5.0 on a maximum 5.0 scale.

Professional Service:

Over the past 39 years of my academic career I have provided considerable service to my institution, nation, and the world in various capacities. These include numerous committees at the department, college, and university level; reviewing articles for 38 international journals and proposals for 9 federal and foreign funding agencies, serving on national and international review panels and editorial boards, and organizing 53 international conferences, workshops, and symposia. My service to the nation has been in the form of Program Director at the Division of Materials Research of the National Science Foundation and as Jefferson Science Fellow at the US Department of State where I continue to provide scientific advice on national and international programs. I served on the Presidential Commission to Russia to promote scientific collaboration on nanoscience and renewable energy.

Synergistic Activities

- Initiated Project Best, a collaborative project with the school of Education to introduce Physics to at risk students in Richmond's inner city schools.
- Founded in 1991 the Consortium on Nano-structured Materials consisting of 34 member institutions to promote collaborative projects.
- Founded in 1982 the Richmond Conference series that promotes interdisciplinary research involving Physics, Chemistry, Biology, Materials Science, and Engineering.
- Organized 53 international conferences and workshops.
- Supervised 48 graduate students, postdoctoral fellows and visitors
- Obtained over \$12 million in external grant funding
- Served as Jefferson Science Fellow and Senior Science Advisor at the US Department of State
- Served as Co-Chair of the US-Russia Experts' meeting on Energy and Nanoscience and the Presidential Commission on US-Russia Partnership
- Served on review panels of the USAID, National Academy of Sciences, National Science Foundation, Department of Energy, Army Research Office, and Governor of Virginia's task force on Renewable Energy