




Bharathiar University

State University | "A⁺⁺" Grade by NAAC | 46th Rank in MoE-NIRF
Maruthamalai Road, Coimbatore, Tamil Nadu - 641 046.

<p>Dr S VIJAYAKUMAR Associate Professor & Head i/c Department of Medical Physics Bharathiar University</p> <p>Tamil Nadu E-mail: svijayakumar@buc.edu.in Phone: 4222428546 Office Number: 0422-2428546</p>	
<p>Research Area</p> <ul style="list-style-type: none">• Weak Interactions• Inhibitor mechanism of proteases• Nano material	<p>Courses Teaching</p> <ul style="list-style-type: none">• Electronics and Instrumentation• Atomic, Molecular, and Nuclear Physics• Numerical and Computational techniques• Electronics and Radiation Physics Lab
<p>Research Experience:</p>	<p>Teaching Experience:</p>
<p>Research Credentials (as on August 2025 – Source: Google scholar) H-index: 950 Citations: 17 i10-index: 29</p>	
<p>Publications International Journals: 64</p>	
<p>Career</p> <p>At Bharathiar University</p> <ol style="list-style-type: none">1. Designation : Associate Professor Period : February 2023 - Till Date2. Designation : Assistant Professor Period : February 2011 - February 2023	
<p>Education</p> <p>Ph. D. Subject : Physics Institution : Bharathiar University Affiliated University : Bharathiar University Year of Award : May 2007</p> <p>M. Phil. Subject : Physics Institution : P S G College of Arts and Science Affiliated University : Bharathiar University Year of Award : April 2001</p> <p>M. Sc. Subject : Physics Institution : P S G College of Arts and Science Affiliated University : Bharathiar University Year of Award : May 1999</p> <p>B. Sc. Subject : Physics Institution : Gobi Arts and Science College Affiliated University : Bharathiar University Year of Award : May 1997</p>	



Projects

National Level

Ongoing - completed - 1

0

Ongoing - completed - 2

Research Guidance

Completed

M.Phil. - 7 Ph.D. - 4

On Going

Ph.D. - 1

Programs organized

1. DST-PURSE Phase II sponsored "National Symposium on recent trends in Medical Physics" (2018-08-31 - 2018-08-30)

Visits

1. Visiting Fellow -)

Selected Publications

1. DFT Inquest on a 3d Transition Metal-Adsorbed Porphyrin Sheet for Spintronic and Optoelectronic

Applications

ACS Appl. Electron. Mater. 7(8), 2025, 3201 - 3218 (April 2025)
Asnafarsin K A and Vijayakumar S

2. Structure based interaction and molecular dynamics studies of cysteine protease Cathepsin B against curcumin and resveratrol

Journal of Biomolecular Structure and Dynamics (2025) (November 2024)
M. Nandhini, C. Pitchumani Violet Mary, S. Gopinath & S. Vijayakumar

3. Superatom molecular orbital in C80

Journal of computational chemistry 2024 (45) 827–833 (December 2023)
Padmavathy V, Artem V. Kuklin, Rahul Suresh, Vijayakumar S

4. Adsorption of Greenhouse Gases on the Surface of Covalent Organic Framework of Porphyrin – An Ab Initio

Study

Physica E: Low-dimensional Systems and Nanostructures 126 (2021) 114448 (1-14) (February 2020)
Rahul Suresh & S. Vijayakumar

5. Inhibition mechanism of cathepsin B by curcumin molecule: a DFT study

Theoretical Chemistry Accounts (2019) 138:21 1 - 16 (January 2019)
C. Pitchumani Violet Mary, S. Vijayakumar, R. Shankar

6. Impact of Oxygen Functional Groups on Reduced Graphene Oxide- Based Sensors for Ammonia and Toluene Detection at Room Temperature

ACS Omega 2018 (3) 4105 - 4112 (April 2018)
C. R. Minitha, V. S. Anithaa, Vijayakumar S., and R. T. Rajendra Kumar

7. Magnetite Nanoparticle Decorated Reduced Graphene Oxide Composite as an Efficient and Recoverable Adsorbent for the Removal of Cesium and Strontium Ions

Industrial and Engineering Chemical Research 2018 (57) 1225 - 1232 (January 2018)
C. R. Minitha, Rahul Suresh, Ujjwal Kumar Maity, Yuvaraj Haldorai, Vijayakumar S, Periasamy Manoravi, Mathew Joseph, and R. T. Rajendra Kumar



8. Adsorption of Mn atom on pristine and defected graphene: a density functional theory study

Journal of Molecular Modeling 2017 (23) 132, 1 - 17 (March 2017)
V. S. Anitha R. Shankar and S. Vijayakumar

9. EMBM – a New Enzyme Mechanism Based Method for Rational Design of Chemical Sites of Covalent

Inhibitors

Journal of Chemical information and modeling 50 & 2256 - 2265 (November 2010)
T. Traube, S. Vijayakumar, M. Hirsch, N. Uritsky, M. Shokhen, and A. Albeck

10. Red-shifted and improper blue-shifted hydrogen bonds in dimethyl ether (DME)_n (n=1–4) and hydrated (DME)_n (n=1–4) clusters. A theoretical study

Journal of molecular structure 734 & 157-169 (January 2005)
S. Vijayakumar, P. Kolandaivel