



## **FACULTY PROFILE**



<b>Name</b>	: DR.BAIJU.V
<b>Designation</b>	: ASSISTANT PROFESSOR
<b>Department</b>	: PHYSICS
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<b>Academic qualifications</b>	M.Sc .Ph.D, NET
<b>Date of Joining</b>	07.01.2011
<b>Current Professional status</b>	Assistant Professor
<b>Doctoral Research Experience</b>	
<b>Academic Achievements</b>	PhD Awarded on 07.07.2022
<b>Areas of Academic Interest</b>	Optics & Spectroscopy
<b>Books/Chapters</b>	Nil
<b>Papers presented in National/International Seminars</b>	<b>List of International Seminar paper presentations</b>

**Baiju V**, Dedhila Devadathan, Sajeevkumar G, Effect of Annealing on the Photocatalytic Degradation of Rhodamine B by Nickel oxide/Nickel Aluminate Nano Heterostructure, International Virtual Conference on Materials and Nanotechnology (IVCMN) – 2021, 29<sup>th</sup> and 30<sup>th</sup> April 2021, Jointly Organized by Guru Nanak College of Science, Ballarpur In Association with P R Pote ( Patil ) College of Engineering and Management, Amravati in association with International Journal of Scientific Research in Science and Technology.

**Baiju V**, Sheena Mary Y, Dedhila Devadathan, Sajeevkumar G, FTIR and Optical studies of different phases of Aluminium Oxide Nanoparticles Synthesized by Solution Combustion Method, International E-Conference on Synthesis, Characterization & Applications of Emerging Materials with Special Reference to Sustainable Technologies organized by Department of Applied Physics, Jabalpur Engineering College Jabalpur, MP under TEQIP-III during 22-24 February 2021.

**Baiju V**, Dedhila Devadathan, Sajeevkumar G, Raveendran R, Adsorption Behaviour of Nickel Aluminate Nanocomposites at four different temperatures on Pb<sup>2+</sup> and Cd<sup>2+</sup> ions – A Case study with varying Contact time, adsorbent dose & pH, International E-Conference on Synthesis, Characterization & Applications of Emerging

Materials with Special Reference to Sustainable Technologies organized by Department of Applied Physics, Jabalpur Engineering College Jabalpur, MP under TEQIP-III during 22-24 February 2021.

Dedhila Devadathan, **Baiju V**, Sajeevkumar G, Raveendran R, Synthesis, Characterization and application of Zinc Aluminate for Photodegradation of Rhodamine B, International E-Conference on Synthesis, Characterization & Applications of Emerging Materials with Special Reference to Sustainable Technologies organized by Department of Applied Physics, Jabalpur Engineering College Jabalpur, MP under TEQIP-III during 22-24 February 2021.

**Baiju V**, Dedhila Devadathan, Sajeevkumar G, Photocatalytic Degradation of Toxic Organic Pollutants Using Zinc Aluminate Nanocomposite, International Conference on Sustainable Technologies for Water Treatment and Desalination (STWTD 2020) organized by Department of Chemical Engineering, NIT Calicut during 18-19 December 2020.

Dedhila Devadathan, **Baiju V** and Raveendran R, Temperature Dependent Structural and Optical studies of Polyindole, 4<sup>th</sup> interdisciplinary Symposium on Materials Chemistry, ISMC 2012, December 11-15, 2012, BARC, Mumbai.

**List of National Seminar paper**

## **presentations**

**Baiju V, Dedhila Devadathan, Sajeevkumar G,** Eco-friendly behaviour of Polyaniline based Nickel Aluminate Nanocomposite in the Removal of Cd (II) Ions from Polluted water, “Eco-friendly behaviour of Polyaniline based Nickel Aluminate Nanocomposite in the Removal of Cd (II) Ions from Polluted water” in the National online conference on “Emerging Trends In Science And Technology (NCETST-2021) held on 10<sup>th</sup> June 2021 organized by Arvindbabu Deshmukh Mahavidyalaya, Bharsingi, Dist- Nagpur, Maharashtra.

**Baiju V, Dedhila Devadathan, Raji.V.R, Sajeev Kumar G,** Antibacterial activities of Polyaniline based Aluminium oxide Nanocomposites, E-Symposium on Recent Trends on Applications of Chemistry in Engineering (RTACE 2021)- 4<sup>th</sup> to 6<sup>th</sup> June 2021 organized by Department Of Chemistry Bharat Institute Of Engineering & Technology Telangana in Association With Association of Chemistry Teachers (ACT) & Institution’s Innovation Council (IIC)..

Nandana Babu, **Baiju V, Dedhila Devadathan,** Aluminates of Nickel and Cobalt – Comparative Structural Studies, E-Symposium on Recent Trends on Applications of Chemistry in Engineering (RTACE 2021) - 4<sup>th</sup> to 6<sup>th</sup> June 2021 organized by Department Of Chemistry Bharat

Institute Of Engineering & Technology Telangana in Association With Association of Chemistry Teachers (ACT) & Institution's Innovation Council (IIC).

Dedhila Devadathan, **Baiju V.**, Raveendran R, Photocatalytic Degradation of Rhodamine B Dye Using Nickel Aluminate Nanocomposite, E-Symposium on Recent Trends on Applications of Chemistry in Engineering (RTACE 2021)- 4<sup>th</sup> to 6<sup>th</sup> June 2021 organized by Department Of Chemistry Bharat Institute Of Engineering & Technology Telangana in Association With Association of Chemistry Teachers (ACT) & Institution's Innovation Council (IIC).

**Baiju V**, Dedhila Devadathan, Sajeevkumar G, Eco-friendly behaviour of PANI based Zinc Aluminate Nanocomposite in the Removal of Cd (II) Ions from Polluted water, Recent Trends in Acoustics and Material Science 2020 (RTAMS 2020), 28<sup>th</sup> to 30<sup>th</sup> November 2020, Organized By Department of Physics, School of Basic Sciences and Research Sharda University.

**Baiju V**, Dedhila Devadathan, Sajeevkumar G, Eco-friendly behaviour of PANI based Zinc Aluminate Nanocomposite in the Removal of Cd (II) Ions from Polluted water, Online National Conference on "Recent Trends in Acoustics and Material Science 2020 (RTAMS 2020)" organized by Department of Physics, SBSR, Sharda

University from 28-30 November 2020.

Dedhila Devadathan, **Baiju.V**, Raveendran R, Polyindole based Nanocomposite for waste water treatment, Interdisciplinary Approaches In Materials And Biological Research, IAMBR - 2018, February 16 and 17, 2018, MG College Trivandrum.

**Baiju V**, Dedhila Devadathan, Raveendran R, Photocatalytic degradation of Malachite green using ZnO/Al<sub>2</sub>O<sub>3</sub> nanocomposite prepared from combustion method, Interdisciplinary Approaches In Materials And Biological Research, IAMBR - 2018, February 16 and 17, 2018, MG College Trivandrum.

Dedhila Devadathan, **Baiju.V** Raveendran R, Conducting polymer based Nanocomposite as adsorbents for Heavy metal ions, "Reaching the Unreached Through Science and Technology - *RURTST-2018*", February 12-14, 2018, Sree Narayana College, Kollam.

**Baiju.V**, Dedhila Devadathan, Raveendran R, Photocatalytic degradation of Organic Dye using ZnO/Al<sub>2</sub>O<sub>3</sub> nanocomposite prepared from combustion method, "Reaching the Unreached Through Science and Technology - *RURTST-2018*", February 12-14, 2018, Sree Narayana College, Kollam.

Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, Synthesis, Characterization And

Application Of NiO/ZnO Heterostructured Adsorbent For Heavy Metal Ions, National Seminar on Advances in Functional Materials (AFM 2017), Sep 19 – 20, 2017, Department of Physics, All Saint's College, Thiruvananthapuram, Kerala.

**Baiju V**, Dedhila Devadathan, Biju R, Raveendran R, Photocatalytic Degradation Studies of Polyaniline Based ZnO-Al<sub>2</sub>O<sub>3</sub> Nanocomposite, National Seminar on Advances in Functional Materials (AFM 2017), Sep 19 – 20, 2017, Department of Physics, All Saint's College, Thiruvananthapuram, Kerala.

Bhagya J, Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, Synthesis, Characterization And Photocatalytic Activity Of MgO Nanoparticles, National Seminar on Advances in Functional Materials (AFM 2017), Sep 19 – 20, 2017, Department of Physics, All Saint's College, Thiruvananthapuram, Kerala.

Dhanuja B. S, Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, Synthesis, Characterization And Antibacterial Activity Of NiO Nanoparticles, National Seminar on Advances in Functional Materials (AFM 2017), Sep 19 – 20, 2017, Department of Physics, All Saint's College, Thiruvananthapuram, Kerala.

Joyal Mary, Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, Photocatalytic Degradation Of

Azo Dye Congo Red Using Copper Oxide/Nickel Oxide Nanocomposite, National Seminar on Advances in Functional Materials (AFM 2017), Sep 19 – 20, 2017, Department of Physics, All Saint's College, Thiruvananthapuram, Kerala.

Dedhila Devadathan, **Baiju V** and Raveendran R, Synthesis, Characterization and application of NiO/ZnO Heterostructured Photocatalyst, National Seminar on Recent Trends in Advanced Chemistry Research (RTACR – 2017), May 25-26, 2017, Post Graduate and Research Department of Chemistry, Sree Narayana College, Kollam, Sponsored by DST and KSCSTE.

**Baiju V**, Dedhila Devadathan and Raveendran R, Photocatalytic Activities of Polyaniline Based ZnO-NiO Nanocomposite, National Seminar on Recent Trends in Advanced Chemistry Research (RTACR – 2017), May 25-26, 2017, Post Graduate and Research Department of Chemistry, Sree Narayana College, Kollam, Sponsored by DST and KSCSTE.

Dedhila Devadathan, **Baiju V**, Raveendran R, Removal of Heavy Metal Ions from Industrial Effluents using a novel water purification method – Adsorption, National Seminar on Protection of Western Ghats: Issues, Concerns & Policy Alternatives, 27 & 28 Oct 2016, Department of Political Science, Sree Narayana College, Kollam in association with Association of Political



Scientists-Kerala

**Baiju V**, Dedhila Devadathan, Raveendran R, PANI Based Metal Oxide Nanocomposite – A Novel Material for Water Purification, National Seminar on Protection of Western Ghats: Issues, Concerns & Policy Alternatives, 27 & 28 Oct 2016, Department of Political Science, Sree Narayana College, Kollam in association with Association of Political Scientists-Kerala

**Baiju V**, Dedhila Devadathan, Ahalya Das M. R, Raveendran R , Aluminium oxide-Zinc oxide Nanocomposite as a photocatalyst and an antibacterial agent , Perspectives in Raman Spectroscopy, 15-16, October 2015, St Johns College Anchal.

Dedhila Devadathan, **Baiju V** and Raveendran R, Synthesis, characterization and Photocatalytic Degradation Activity of NiO/MgO Nanocompoite, National Seminar on Emerging Trends in Materials Science (ETMS 2014), 29<sup>th</sup> Sep - 1<sup>st</sup> Oct, 2014, Department of Chemistry, Sree Narayana College for Women, Kollam.

Dedhila Devadathan, **Baiju V** and Raveendran R, Synthesis, Structural and Optical Studies of Polyindole Based Nickel Oxide Nanocomposite, NSNANO – 2014, 25-26, February 2014, Department of Physics, Sree Narayana College, Kollam.

	<p><b>Baiju V</b>, Dedhila Devadathan and Raveendran R, Structural and Optical Study of Cobalt - Nickel Oxide Nanocomposites Prepared by Co-Precipitation Method, NSNANO – 2014, 25-26, February 2014, Department of Physics, SreeNarayana College, Kollam.</p> <p>Dedhila Devadathan, <b>Baiju V</b> and Raveendran R, Polyindole based nickel oxide nanocomposite, National Seminar on Tomorrow’s Material Science (TMS-2013) conducted by Department of Chemistry, Govt. College for Women, TVM on 11<sup>th</sup> Oct, 2013.</p> <p><b>Baiju V</b> , Dedhila Devadathan and Raveendran R, Synthesis, Structural and Optical Studies of Cobalt - Zinc Oxide nanocomposite, National Seminar on Tomorrow’s Material Science (TMS-2013) conducted by Department of Chemistry, Govt. College for Women, TVM on 11<sup>th</sup> Oct, 2013.</p>
<b>Invited Lectures/Resource person</b>	
<b>Projects (Major/Minor)</b>	A novel capacitor from polymer –metal oxide nanocomposite (MRP(S)-0245/12-13/KLKE006 /UGC- SWRO dated 27.03.2014) Period 2014-2016
<b>Symposia/Conference/Workshop/ Conducted/ Attended</b>	<p><b>Online FDP Programme on “Research Methodology”</b> organized by Amar Sewa Mandal’s Kamala Nehru Mahavidyalaya, Nagpur on <b>26 April -01 May 2021</b></p> <p><b>International Webinar on “Outcome based Education : How to write Measurable Learning</b></p>

	<p><b>Objectives ”</b> Organized by Department of Mathematics TKMM College on <b>15 February 2021</b></p> <p><b>International Online Workshop &amp; Integration of Animation in Teaching – Learning</b> organized by C-KARIT , School of Education , PMMMNMTT , MoE Govt of India on <b>28-29 January 2021</b></p> <p><b>National Seminar on “Recent Advances in Physics”</b> organized by Department of Physics GGDSSD College Chandigarh on <b>23 January 2021</b></p> <p><b>International Web Conference on “Advanced nanostructured Materials for Energy Generation, Storage and Smart Applications”</b> organized by Department of Physics Shardabai Pawar Mahila Arts , Commerce and Science College , Shardanagar Baramati on <b>09-10 October 2020</b></p> <p><b>Online International Webinar on “ Quantum Cryptography”</b> Organized by Department of Physics , Govt College , Karyavattom, Trivandrum on <b>1<sup>st</sup> August 2020</b></p> <p><b>Online FDP Programme on “Outcome based Education”</b> organized by School of Arts , Science and Commerce &amp; IQAC Rai University , Ahmedabad Gujarat on <b>22-24 July 2020</b></p> <p><b>Online Webinar on “Quantum Nano Materials”</b> organized by IQAC, FMN College Kollam on <b>08 July 2020</b></p> <p><b>International Webinar on “Advances in Functional Materials (IWAFM)”</b> organized by Department of Physics, Mar Ivanios College , Trivandrum during <b>26-28 June 2020</b></p> <p><b>One Day orientation Programme</b> organized by IQAC , SN College Kollam on <b>27 May 2020</b></p> <p><b>Online FDP on Nanomaterials for Energy Harvesting and Biomedical Applications</b> organized by GIET (Autonomous) Rajamahendravaram ,AP, during <b>18-22 May 2020</b></p> <p><b>Online webinar on “ Fair Use of copyright in Class rooms”</b> organized by the Research promotion Council &amp; Institution’s Innovation Council of St Xavier’s College for Women Aluva on <b>14 May 2020</b></p> <p><b>Online Webinar on “Crystallography and Its</b></p>
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**Applications ”** Organized by Department of Science & Humanities , Er.Perumal Manimekalai College of Engineering Hosur on **08 May 2020**

**Online Workshop on “RESEARCH METHODOLOGY”** organized by Department of Commerce S.S.S. Samiti’s M P Mirji College of Commerce from **05-06 May 2020**

**Online Webinar on “Make & Edit Video Classes”** an online training course conducted by IQAC of Christ College during **01-05 May 2020**

**National Seminar and Hand on Training on e-learning : Future of Higher Education , the Role of Moodle as LMS** organized by Department of Zoology , BJMC Chavara during **30-31 January 2020**

**Workshop on Outcome Based Syllabus revision of BSc Physics of Kerala University** held at SN College, Kollam on **11 December 2019**

**Workshop on “Quantum Theory of Angular Momentum”** Organized by Indian National Science Academy, New Delhi, National Academy of Science Allahabad & Indian Academy of Science Bangalore conducted at TKM College Kollam during **14-16 March 2018**

**Workshop on “Advances in Condensed Matter Physics ”** Organized by Indian National Science Academy, New Delhi , National Academy of Science Allahabad & Indian Academy of Science Bangalore conducted at Bishop Moore College Mavelikara during **07-09 March 2018**

**Seminar on “ Caring for all life under the Sun “** in connection with OZONE DAY 2017 funded by KSCSTE , organized by Department of Physics, Chemistry & Biochemistry , SN College Kollam on **September 2017**

**Workshop on STEM Teacher Training on RBPT (Level 1)** sponsored by DBT Govt of India, Newton- Bhabha Fund of the British Council , CESME (IISER Pune) at IISER Pune from **26 February – 1 March 2017**

**Workshop on “Programming in Python”** organized by Department of Physics, SN College , Kollam on **23 September 2016**

**Workshop on “8086 Microprocessor Programming in Computer** organized by

	<p>Department of Physics , SN College , Kollam on <b>23 August 2016</b></p> <p><b>Workshop on Virtual labs and Online LMS</b> conducted by Virtual Lab an initiative of MHRD at Amrita Vishwa Vidyapeetham University Amritapuri on <b>08 March 2015</b></p> <p><b>National Colloquium on Theoretical Physics</b> organized by SRIBS under KSCSTE during <b>09-11 August 2013</b></p> <p><b>25<sup>th</sup> Kerala Science Congress</b> organized by KSCSTE in association with DST from <b>29 January to 1<sup>st</sup> February 2013</b></p> <p><b>One Day Seminar on Higgs boson, the God particle</b> organized by Department of Physics , GCW , Trivandrum on <b>19 December 2012</b></p> <p><b>International Workshop on Raman Spectroscopy Recent Advances, Techniques and Applications</b> Organized by KSCSTE at Mascot Hotel Trivandrum on <b>10.08.2012</b></p> <p><b>International Conference on Material Science and Technology(ICMST 2012)</b> Organized By Department of Physics , St Thomas College Pala, on <b>10-14 June 2012</b></p> <p><b>International Workshop on Nanotechnology in Solar and Energy Storage Applications</b> Organized By Amrita Centre for Nanoscience and Molecular Medicine at AIMS Kochi on <b>24 February 2012</b></p> <p>One day Workshop &amp; One Day Acquaintance programme on <b>Computer interfaced Science Experiments</b> Organized by IUAC &amp; St Thomas College Pala on <b>12-13 December 2011</b></p> <p>Seminar on <b>Introductory Astronomy and Astrophysics</b> (Astro-2011) organized by Fatima Mata National College , Kollam on <b>20-22 October 2011</b></p> <p><b>International Symposium on Genomic Crops , Medicinal Plants and Microbes</b> organized by Department of Botany , University of Kerala on <b>29-30 May 2011</b></p>
<b>Colloquia organized</b>	
<b>Honours/Awards</b>	

<b>Administrative distinction</b>	NAAC Committee Member University Examination Chief Supdt. Admission Committee- Asst. Coordinator
<b>Membership Professional Bodies</b>	Indian Science Congress (L 33923)
<b>Research Output</b>	
<b>Publications in National/ International Journals</b>	<p><i>Nandana Babu, Dedhila Devadathan, <b>Baiju V</b>, Sajeevkumar G, NiAl<sub>2</sub>O<sub>4</sub> Nanocomposite via Combustion Synthesis for Sustainable Environmental Remediation, Nanosistemi, Nanomateriali, Nanotehnologii, (Iss. 2 or 3, Vol. 20 (2022) In press).</i></p> <p><i><b>Baiju V</b>, Dedhila Devadathan and Sajeevkumar G, Photocatalytic degradation of toxic organic pollutants using zinc aluminate nanocomposite, Materials Today: Proceedings,47(2021), 1507-1513 <a href="https://doi.org/10.1016/j.matpr.2021.06.066">https://doi.org/10.1016/j.matpr.2021.06.066</a></i></p> <p><i>Dedhila Devadathan, Ardra S. Kumar, <b>Baiju V</b> and R Raveendran (2021) Comparative Assessment of Antibacterial Activity of CuO and MgO Nanoparticles, AIP proceedings <a href="https://doi.org/10.1063/5.0058468">https://doi.org/10.1063/5.0058468</a></i></p> <p><i><b>Baiju V</b>, Dedhila Devadathan, Rejani P. Sajeevkumar G and Raveendran R (2021), Effect of annealing temperature in the purity of zinc aluminate synthesized by solution combustion method, AIP proceedings <a href="https://doi.org/10.1063/5.0058365">https://doi.org/10.1063/5.0058365</a></i></p>

Dedhila Devadathan, **Baiju V**, Deepa J. P, Raveendran R, (2020), The novel polyindole based ZnO/MgO nanocomposite adsorbent for the removal of heavy metal ions from industrial effluents, *Nanosystems: Physics, Chemistry, Mathematics*, 11 (6), 666–671.

**Baiju V**, Dedhila Devadathan, Sajeevkumar G and Raveendran R, (2020), PANI based metal oxide nanocomposite-A novel material for water purification, *Advances in Nanoscience and Nanotechnology*, 4, 37-40.

Megha S, Dedhila Devadathan, **V Baiju** and R Raveendran, (2019), Structural, Optical and Photocatalytic Degradation Studies of Polymer Based Fe<sub>2</sub>O<sub>3</sub> Nanocomposite, *IOP Conf. Series: Journal of Physics: Conf. Series* 1172, 012051

P K Anjali Nambiar, Dedhila Devadathan, **V Baiju** and R Raveendran, (2019), Structural and antibacterial studies of rice straw based ZnO nanocomposite, *IOP Conf. Ser.: Mater. Sci. Eng.* 577 012136

Dedhila Devadathan, **Baiju V**, Raveendran R, (2018), Antibacterial studies of polyindole based metal oxide nanocomposites, *Bulletin of Pure and Applied Sciences, Vol.37 C (Chemistry), No.1*, 42-52.

**Baiju V**, Dedhila Devadathan, Raveendran R, (2018), Photocatalytic degradation of an acidic

dye and a basic dye using heterostructured photocatalyst, *Bulletin of Pure and Applied Sciences, Vol.37 C (Chemistry), No.1, 35-41.*

Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, (2017), *Synthesis, Characterization and Application of NiO/ZnO Heterostructured Adsorbent for Heavy Metal Ions, International Journal of Advance Research in Science and Engineering, 6, Special Issue No. 03, 194 – 198.*

**Baiju V**, Dedhila Devadathan, Biju R, Raveendran R, (2017), *Photocatalytic Degradation Studies of Polyaniline Based ZnO-Al<sub>2</sub>O<sub>3</sub> Nanocomposite, International Journal of Advance Research in Science and Engineering, 6, Special Issue No. 03, 120 – 124.*

Bhagya J, Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, (2017), *Synthesis, Characterization and Photocatalytic Activity of MgO Nanoparticles, International Journal of Advance Research in Science and Engineering, 6, Special Issue No. 03, 142 – 150.*

Dhanuja B. S, Dedhila Devadathan, **Baiju V**, Biju R, Raveendran R, (2017), *Synthesis, Characterization and Antibacterial Activity of NiO Nanoparticles, International Journal of Advance Research in Science and Engineering, 6, Special Issue No. 03, 162 – 167.*

Joyal Mary, Dedhila Devadathan, **Baiju V**, Biju R,



	<p><i>Raveendran R, (2017), Photocatalytic Degradation Of Azo Dye Congo Red Using Copper Oxide/Nickel Oxide Nanocomposite, International Journal of Advance Research in Science and Engineering, 6, Special Issue No. 03, 284 – 287.</i></p>
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