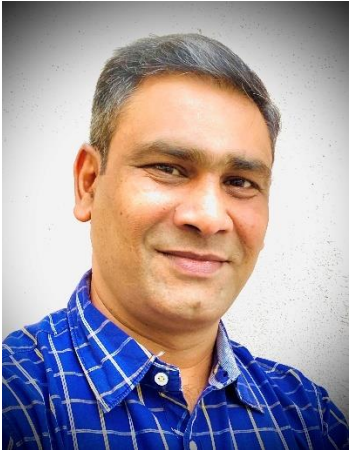


Name of the Teaching Staff	Raju Nandhakumar			
Designation	Professor			
Department	Department of Applied Chemistry			
School	School of Sciences, Media and Management			
Date of Joining the Institution	03 Jan 2011			
Qualification with Specialization	UG	PG	Ph.D.	
	General Chemistry	General Chemistry	Synthetic Organic Chemistry	
Value Additions	M.Phil., in Synthetic Organic Chemistry			
Research Expertise	<ul style="list-style-type: none"> ➤ Fluorescent Chemosensors ➤ Supramolecular Chemistry ➤ Chirality ➤ Bioorganic and Medicinal Chemistry ➤ Forensic Chemistry and applications ➤ Carbon based materials for multifarious applications 			
Subjects Teaching	Under Graduate		Post Graduate	
	Basic biochemistry Organic Chemistry for Forensic Science Medicinal chemistry Nanosafety and environmental issues Applied chemistry Engineering chemistry Environmental sciences Chemistry for Instrumentation Engineering Qualitative Analysis and Inorganic preparation Lab Applied chemistry lab Applied Chemistry for Food Processing Engineering		Supramolecular Chemistry Advanced pharmaceutical chemistry Organic chemistry III Molecular and materials self-assembly Molecular machines and materials Nanotechnology, green chemistry and environmental health Medicinal chemistry Synthetic Reagents and Concerted Reactions Instrumental methods of analysis Forensic Tools and Techniques Biochemistry and Biochemical Applications Research Methodology Titrmetric and gravimetric analysis practical lab Synthesis of organic compounds and chromatography lab Qualitative Analysis and Inorganic preparation Lab Qualitative analysis and organic preparations lab Half semester & Full Semester project	
Total Experience in Years	Teaching	Industry	Research	
	11 years	0.6 yrs	24	
Papers Published	National	15	International	135
Papers Presented in Conference	National	85	International	70
Conferences / Symposiums /	National	30	International	15

Seminars / Workshops Participated				
FDP / STTP / MDP / Summer / Winter School attended	5			
M.Phil. / Ph.D. Guidance	Field		University	
	Supramolecular Chemistry, Nanotechnology and Forensic Sciences		Karunya Institute of Technology and Sciences (Deemed-to-be University)	
Ph.D. Projects Guided	Ph.D.s	Completed: 4 Pursuing: 4	Project at Master's Level	30
Professional Memberships	<ul style="list-style-type: none"> • Annual member of the American Chemical Society (ACS) • Life Member of the Materials Research Society of India (MRSI) – LMB2481 • Life Member of the Indian Council of Chemists (ICC) – LF/1628 • Life Member of the Indian Science Congress Association (ISCA) – L22119 • Member of the Research Board of Advisors, The American Biographical Institute. Since 2004 • Life Member of the International Association of Engineers – IAENG • Member of the Korean Chemical Society (KCS) 			
Consultancy Activities	<ul style="list-style-type: none"> • PL & UV recording and analysis • NMR, Mass and IR spectral analysis 			
Awards & Honours	<ul style="list-style-type: none"> • Achievers Award, 2017, Karunya University, Coimbatore , India • Outstanding Faculty in the field of Medicinal Organic Chemistry, 2016 - Venus International Foundation, Chennai. • Best Faculty Award, 2016 – Pearl Foundation, Madurai, Tamilnadu, India. • Best Poster Presentation – (pp-72) - INTERNATIONAL CONFERENCE ON MATERIALS FOR SUSTAINABLE FUTURE (ICMSF 2016) by the Department of Chemistry, School of Chemical and Biotechnology, SASTRA University, Thanjavur – 613 401, TamilNadu on July 14–15, 2016. • Bharat Gaurav Award, 2016 - India International Friendship Society, New Delhi. • Best Researcher Award, 2013, Karunya University, Coimbatore, India • Best Faculty Award in Chemistry – 2013, Nehru College of Educational and Charitable Trust, Coimbatore, India • SERC Fast Track Proposals for Young Scientists – awarded – Feb. 2011 – Ministry of Science and Technology, Department of Science and Technology (DST), Government of India, New Delhi, India. (No. SR/FT/CS-95/2010 for Rs. 21.65 lakhs) • Marqui's Who's Who in the World - 27th Edition, 2010, and 31st Edition, 2014, Biography included for most accomplished men & women in the world. • Post Doctoral Fellowship by the National Research Laboratories (NRL), Government of South Korea at Bio-Chiral Lab, Division of Nanosciences and Department of Chemistry, Ewha Womans University, World Class University (WCU), Seoul, South Korea. • Brain Korea - 21 (BK 21) Fellowship by the Government of South Korea for Post doctoral Study at Center for Smart Supramolecules (CSS), National Creative Research Initiative (NCRI), POSTECH, World Class University (WCU), Pohang, South Korea. • Awarded Senior Research Fellowship (SRF) by The Council of Scientific and Industrial Research (CSIR), Ministry of Human Resources Development, Government of India, New Delhi, India. 			

	<ul style="list-style-type: none"> • Awarded <i>University Research Fellowship (URF)</i> by Bharathiar University, Coimbatore, India. • <i>Academic Proficiency</i> for securing First Rank in under graduate. • <i>Academic Proficiency</i> for securing Third Rank in postgraduate. • National Cadet Corps {NCC}, “B” Certificate, Ministry of Defence, Government of India.
Grants Fetched	<ul style="list-style-type: none"> • <i>“Rational Design and Synthesis of Heterocycles Based Modular Fluorescent Chemosensors for Anions and Cations”</i> Department of Science and Technology (DST), Science and Engineering Research Board (SERB – EMR), Government of India, New Delhi, India. (No.: SERB-EMR/2016/005692 for Rs. 34.20 lakhs) – June 2017 – June 2020 - Successfully completed. • Karunya Short Term Research Grant Rs. 30,000 /- December 2016 –<i>Successfully completed</i> • <i>“Binol based metal complexes for deracemization / resolution of chiral amino acids and amino alcohols: a novel approach for chiral synthesis”</i>, Department of Science and Technology (DST), Government of India, New Delhi, India. (No. SR/FT/CS-95/2010 for Rs. 20.30 lakhs) – Jan 2011 to July 2014 – <i>Successfully Completed</i> • Karunya Short Term Research Grant for my students (Rs. 25,000 /- for Mr. J. Prabhu, Ph.D. Research Scholar and Rs. 6000 / - for Mr. Derin Don, M.Sc., Chemistry) – 2014, <i>Successfully Completed</i> • Karunya Short Term Research Grant for my students (Rs. 15,000 /- for Mr. S. Suresh, Ph.D. Research Scholar and Rs. 5000 / - for Mr. Derin Don, M.Phil., Chemistry) – 2014, <i>Successfully Completed</i> • Karunya Short Term Research Grant for my student (Rs. 10,000 /- for Mr. Felix, M.Sc., Nanosciences and Nanotechnology) – 2015, <i>Successfully Completed</i>
Interaction with Professional Institutions	Ewha Womans University, South Korea; Bohai University, China; Bharathiar University, India; Bharathidasan University, India. CLRI, Chennai, India; Periyar University, India, <i>Nanjing University of Aeronautics and Astronautics, Nanjing, China.</i>
Educational Details with Institute / University Name	<ul style="list-style-type: none"> • B.Sc. – SRMVCAS, Bharathiar University • M.Sc. – PSGCAS, Bharathiar University • M.Phil. – Department of Chemistry, Bharathiar University • Ph.D. - Department of Chemistry, Bharathiar University
Experience	<ul style="list-style-type: none"> ➤ Professor - August 2021 – Present Department of Applied Chemistry, Karunya Institute of Technology and Sciences, Karunya Nagar, Coimbatore, TamilNadu, India. ➤ Associate Professor - January 2011 – July 2021 Department of Applied Chemistry, Karunya Institute of Technology and Sciences, Karunya Nagar, Coimbatore, TamilNadu, India ➤ Research Professor - September 2009 – December 2010 <i>Prof. Kwan Mook Kim Research Group,</i> Bio-chiral Lab (BCL), Department of Chemistry & Division of Nano Sciences, Ewha Womans University, (WCU), Seoul–120750, South Korea. ➤ Post doctoral Research Fellow - September 2006 – August 2009 <i>Prof. Kwan Mook Kim Research Group,</i> Bio-chiral Lab (BCL), Department of Chemistry & Division of Nano Sciences, Ewha Womans University, (WCU), Seoul – 120 750, South Korea. ➤ Post doctoral Research Scientist - April 2004 – May 2006 <i>Prof. Kimoon Kim Research Group,</i> Center for Smart Supramolecules (CSS), Department of Chemistry,

	<p>Pohang, University of Science and Technology (POSTECH), (WCU), Pohang, South Korea.</p> <ul style="list-style-type: none"> ➤ Researcher - April 2003 – March 2004 <i>Prof. Kimoon Kim Research Group,</i> Center for Smart Supramolecules (CSS), Department of Chemistry, Pohang, University of Science and Technology (POSTECH), (WCU), Pohang, South Korea. ➤ Senior Research Fellow – CSIR - February 2002 – March 2004 <i>Prof. Mohan P.S. Research Group,</i> Department of Chemistry, Bharathiar University, Coimbatore, India. ➤ University Research Fellow - November 2000 – January 2002 <i>Prof. Mohan P.S. Research Group,</i> Department of Chemistry, Bharathiar University, Coimbatore - 641 046, India.
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Reviews

1. C. Immanuel David^a, G. Prabakaran^a and **R. Nandhakumar^{a*}** Recent approaches of 2HN derived fluorophores on recognition of Al³⁺ ions: A review for future outlook. *Microchem. J.* **2021**, 169 106590. <https://doi.org/10.1016/j.microc.2021.106590>

2. Sivasubramanian Suguna[#] Charles Immanuel David[#] Jeyaraj Prabhu^{*} and **Raju Nandhakumar^{*}** Functionalized graphene oxide materials for fluorometric sensing of various analytes: A mini review. *Mater. Adv.*, **2021**, in press. <https://doi.org/10.1039/D1MA00467K>

Papers Published : SELECTED

- Charles Immanuel David^a, Gunasekaran Prabakaran^a, Kaveri Sundaram^b, Subban Ravi^{b*}, Duraisamy Parimala devi^c, Angamuthu Abiram^{c*} and **Raju Nandhakumar^{a*}** Rhodanine-based fluorometric sequential monitoring of silver (I) and iodide ions: Experiment, DFT calculation and multifarious applications. *J. Hazard. Mater.* **2021**, 419, 126449. <https://doi.org/10.1016/j.jhazmat.2021.126449>
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Shanmugam, Suresh.; **Raju, Nandhakumar.*** and Palathurai Subramaniam, Mohan.* Novel Quinoline-Based Thiazole Derivatives for Selective Detection of Fe³⁺, Fe²⁺, and Cu²⁺ Ions, *ACS Omega*, **2020**, 5, 27245-27253. <https://dx.doi.org/10.1021/acsomega.0c03445>

- N. Bhuvanesh, P. Uttam Kumar, L. Pushparaj, S. Suresh, T. Daniel Thangadurai, J. Prabhu* and **R. Nandhakumar*** Benzene linked dipodal naphthalene: chemosensor with colorimetric enhancement and fluorimetric quenching for Fe³⁺ ion and its application in live cell imaging. *J. Anal. Chem*, **2020**, 75, 12, 1554-1564. **DOI:** [10.1134/S1061934820120047](https://doi.org/10.1134/S1061934820120047).
- C. Immanuel David^a, N. Bhuvanesh^a, Haritha Jayaraj^a, A. Thamilselvan^b D. Parimala devi^c, A. Abiram^{c,*} J. Prabhu^{a,*}, and **R. Nandhakumar^{a,*}** Experimental and theoretical studies on simple S-S bridged dimeric Schiff base: selective chromo-fluorogenic chemosensor for nanomolar detection of Fe²⁺ & Al³⁺ ions and its varied applications. *ACS Omega*, **2020**, 5, 6, 3055-3072. **DOI:** [10.1021/acsomega.9b04294](https://doi.org/10.1021/acsomega.9b04294)
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- Mukesh Ekanath Shirbhate, **Raju Nandhakumar***, Youngmee Kim, Sung-Jin Kim, Seong Kyu Kim,* and Kwan Mook Kim,* Discrimination of the Chirality of the α-Amino Acids in ZnII Complexes of DPA-Appended Binaphthyl Imine. *Eur. J. Org. Chem.*, **2018**, 4959-4964.
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- J, Prabhu.; K, Velmurugan.; A, Raman.; N, Duraipandy.; M.S, Kiran.; S, Easwaramoorthi.; **R, Nandhakumar.*** A Simple Chalcone Based Ratiometric Chemosensor for Sensitive and Selective Detection of Nickel Ion and its Imaging in live cells. *Sensor Actuat B-Chemical*, **2017**, 238, 306-317
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- J, Prabhu.; K, Velmurugan.; **R, Nandhakumar.*** Development of fluorescent Lead II sensor based on anthracene derived chalcone. *Spectrochim. Acta A*, **2015**, *144*, 23-28.
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- **Raju Nandhakumar.**; Ahn, Yun Soo.; Jooyeon Hong.; Sihyun Ham*.; Kwan Mook Kim.* Enantioselective Recognition of 1,2-Aminoalcohols by the Binol Receptor Dangled with Pyrrole-2-

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Patents

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1. Kim, Kimoon; Oh, Dong-Hyun; Erumaipatty Rajagounder, Nagarajan; **Nandhakumar, R.**; Choi, Ju-Young; Ko, Young-Ho. Disubstituted cucurbituril-bonded silica gel *PCT Int. Appl. W005113564*, **1.12.2005**.

NATIONAL

5. S. Rajesh, A. Sakuntala, B. Vidya, **R. Nandhakumar**, Decolouring and Dye Removal Agent.

4. S. Rajesh, A. Sakuntala, B. Vidya, **R. Nandhakumar**, Lithium trivanadate thin film nanorods by pulsed laser deposition technique.

3. J. Prabhu, **R. Nandhakumar** and Gnanaraj Joseph Chiinadurai. A device for determining the Quality of Milk, *Indian Patent*, 202041021189 A, **2020**. (Filed on 20.05.2020, Published on 05.06.2020)

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- K, Velmurugan.; J, Prabhu.; **R, Nandhakumar**.* Pyrene pyridine-conjugate as Ag Selective

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- R. Vickram K. Velmurugan, N. Bhuvanesh and **R. Nandhakumar*** Dimeric Quinoline Schiff base fluorescent chemosensor for Pb²⁺-ion. *National Conference on Recent Advances in Chemical Sciences – RACS – 15*, Department of Chemistry, Gandhigram Rural Institute, Dindugal, Tamilnadu, India, march 5-6, **2015**. *ORAL – OP-33*
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