

## RESUME



**Dr. Ramya Nair**

### **A) QUALIFICATIONS:**

1. Educational Details	Ph.D Chemistry
2. University	University of Mumbai

### **B) SKILLS PROFILE:**

1. Instruments Handled	<ul style="list-style-type: none"><li>➤ Diffused UV-Visible Reflectance Spectroscopy (DRS, JASCO model V-530)</li><li>➤ X-ray Diffraction (XRD, Philips Analytical Diffractometer model PW 1071)</li><li>➤ Fourier Transform Infrared Spectroscopy (FTIR, Bomem MB 102 spectrometer)</li><li>➤ Fluorescence spectrophotometer Edinburgh FLSP 920 for steady state, time resolved and site- selective spectroscopic characterizations.</li><li>➤ UV-Vis absorption spectrophotometer for recording absorption spectra (JASCO model V-530)</li><li>➤ Malvern Zetasizer Nanoseries for zeta potential measurements.</li></ul>
2. Analytical Software	<ul style="list-style-type: none"><li>➤ Full Prof and GSAS for Rietvel Refinement Analysis</li><li>➤ Image J for microscopic processing and micrographic data presentations</li><li>➤ CIE color co-ordinates calculator</li></ul>

3. Sample Preparation	<ul style="list-style-type: none"> <li>➤ Sol-gel</li> <li>➤ Polyol</li> <li>➤ Hydro Thermal</li> <li>➤ Solid State Route</li> </ul>
4. Teaching Skills	<ul style="list-style-type: none"> <li>➤ Proficient in teaching the syllabus (as defined in Mumbai University) in Inorganic Chemistry for both Post-Graduate and Undergraduate courses.</li> <li>➤ Conducting regular Practicals for Post-Graduate and Undergraduate courses.</li> </ul>

**C) RESEARCH EXPERIENCE DETAILS (In chronologically reverse order):**

**Institute Name: B.A.R.C, Mumbai, India (From 13-Nov-2013 to 13-Nov-2018)**

Designation:	Senior Research Fellow
Department:	Chemistry Division
Project Title	<ul style="list-style-type: none"> <li>➤ Investigation of luminescence and structural aspects of lanthanide doped inorganic host (borates) for solid state lighting</li> <li>➤ Investigation of TiO<sub>2</sub> based photo-catalyst for dye degradation studies</li> </ul>

**Institute Name: TIFR, Mumbai, India (From June-2011 to Feb-2012 )**

Designation:	Project Fellow (M.Sc. Project)
Department:	Chemistry
Project Title	<ul style="list-style-type: none"> <li>➤ Substrate binding and stability of A115F mutant of cytochrome P450cam.</li> </ul>

**D) ACADEMIC TEACHING EXPERIENCE DETAILS**

**Institute Name: K.J. Somaiya College of Science and Commerce (From 06-Dec-2018 to Till Date)**

Designation:	Assistant Professor
Department:	Chemistry
Responsibilities	<ul style="list-style-type: none"> <li>➤ Conducting lectures on Inorganic Chemistry for FY B.Sc., SY B.Sc., M.Sc. as mentioned in the University Curriculum.</li> <li>➤ Setting the Semester Examination Papers for FY B.Sc., SY B.Sc. and M.Sc. courses.</li> <li>➤ Organizing various cultural programs and Workshops (both Intra and Inter College) for the Institute.</li> </ul>

**E) Ph.D DETAILS:**

1. Degree Conferred on	July 18,2019
2. Research Facility	Bhabha Atomic Research Center, Mumbai, India
3. Ph.D. Thesis Title	Investigations of catalytic and optical properties of multi-component transition metal and rare earth based oxides and chalcogenides for energy and environmental applications
4. Supervisor Details	Dr. V.K. Jain (Director, UM-DAE-Centre for Excellence in Basic sciences, Mumbai and Distinguished scientist, B.A.R.C., Mumbai, India)

**F) SCIENTIFIC PAPERS PUBLISHED/COMMUNICATED:****1)**

Journal:	Royal Society of Chemistry Advances
Issue/Volume:	Issue-68, 2016
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Size induced modification of boron structural unit in YBO <sub>3</sub> : systematic investigation by experimental and theoretical methods.
Authors	<b>Ramya G. Nair</b> , S. Nigam, B. Vishwanadh, V. Sudarsan, R. K. Vatsa, C. Majumder and V. K. Jain.

**2)**

Journal:	Photochemistry and Photobiology A: Chemistry
Issue/Volume:	Volume 345, 1 August 2017
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	The role of surface O-vacancies in the photocatalytic oxidation of Methylene Blue by Zn-doped TiO <sub>2</sub> : A Mechanistic approach.
Authors	<b>Ramya G. Nair</b> , B. Modak, R. Bapat, P. Ayyub, C. Majumder and Kaustuva Bhattacharya

3)

Journal:	Journal of Luminescence
Issue/Volume:	Volume 195, March 2018
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	YBO <sub>3</sub> versus Y <sub>3</sub> BO <sub>6</sub> host on Tb <sup>3+</sup> luminescence.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, R.K. Vatsa and V.K. Jain

4)

Journal:	Chemistry Select
Issue/Volume:	Volume 3, Issue 26, July 2018
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Synthesis conditions on the nature of GdBO <sub>3</sub> phase formed.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, R. K. Vatsa, R. Rao and V. K. Jain

5)

Journal:	AIP Conference Proceedings
Issue/Volume:	Volume 1731, Issue 1, May 2016
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Luminescence studies of Eu-doped YBO <sub>3</sub> host.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, B. S. Dhabekar, and R. K. Vatsa

6)

Journal:	AIP Conference Proceedings
Issue/Volume:	Volume 1832, Issue 1, May 2017
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Photoluminescence investigations of Y <sub>2</sub> O <sub>3</sub> : Eu phosphor co-doped with Ca.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, and R. K. Vatsa

7)

Journal:	AIP Conference Proceedings
Issue/Volume:	Volume 1942, Issue 1, April 2018
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Optical properties of Dy <sup>3+</sup> doped YBO <sub>3</sub> phosphor.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, and R. K. Vatsa

8)

Journal:	AIP Conference Proceedings
Issue/Volume:	Volume 2115, Issue 1, July 2019
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Ce co-doped YBO <sub>3</sub> : Tb phosphor.
Authors	<b>Ramya G. Nair</b> , S. Nigam, V. Sudarsan, and R. K. Vatsa

9)

Journal:	New Journal of Chemistry
Issue/Volume:	Communicated
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	The formation and effect of O-vacancies in doped TiO <sub>2</sub>
Authors	Kaustava Bhattacharyya, Brindaban Modak, Chandrani Nayak, <b>Ramya Gopakumar Nair</b> , Dibyendu Bhattacharyya, Shambhu Nath Jha and Arvind Kumar Tripathi

10)

Journal:	NA (Manuscript under preparation)
Issue/Volume:	NA (Manuscript under preparation)
Research Facility	Bhabha Atomic Research Center, Mumbai India
Paper Title	Synthesis and characterization of different structural forms of Bismuth borate
Authors	<b>Ramya G. Nair</b> , Sandeep Nigam, V. Sudarsan, R. K. Vatsa and V.K. Jain

**G) CONFERENCE PAPERS PRESENTED:****1)**

Paper Title:	Structural and luminescence properties of GdBO <sub>3</sub> :Eu in different crystalline modifications.
Venue:	30th International Conference on Materials Chemistry & Science, Toronto, Ontario, Canada
Date:	August 27-28, 2018
Presented by:	Ramya G. Nair

**2)**

Paper Title:	Investigation of photo-luminescent and photo-catalytic materials for energy and environmental applications
Venue:	30 <sup>th</sup> Research Scholar Meet organized by Indian Chemical Society, Jain Hind College, Mumbai, India
Date:	February 09-10, 2018
Presented by:	Ramya G. Nair

**3)**

Paper Title:	Y <sub>3</sub> BO <sub>6</sub> :Eu <sup>3+</sup> : A red emitting phosphor material
Venue:	6 <sup>th</sup> Interdisciplinary Symposium on Materials Chemistry (ISMC-2016), TSH, Anushakti Nagar, Mumbai, India.
Date:	December 06-10, 2016
Presented by:	Ramya G. Nair

**4)**

Paper Title:	Luminescence Behavior of Hexagonal YBO <sub>3</sub> :Eu
Venue:	5 <sup>th</sup> Asia Pacific Symposium on Radiation Chemistry (APSRC-2016), TSH, Anushakti Nagar, Mumbai, India

Date:	January 05-09, 2016
Presented by:	Ramya G. Nair

**5)**

Paper Title:	Photo-catalytic degradation of Methylene Blue-Dye: Mechanistic understanding for the Zn-TiO <sub>2</sub> Photo catalyst
Venue:	22 <sup>nd</sup> National Symposium on Catalysis (CATSYMP 22-2015), Bhavnagar, India
Date:	January 06-09, 2015
Presented by:	Ramya G. Nair

**6)**

Paper Title:	Disposal of Aqueous Waste by Photocatalytic Degradation
Venue:	6 <sup>th</sup> Interdisciplinary Symposium on Materials Chemistry (ISMC-2014), TSH, Anushakti Nagar, Mumbai, India
Date:	December 09-13, 2014
Presented by:	Ramya G. Nair

**7)**

Paper Title:	Luminescence studies of Eu-doped YBO <sub>3</sub> host
Venue:	60 <sup>th</sup> DAE Solid State Physics Symposium (SSPS-2015), Amity University UP, Noida, India
Date:	December 21-25, 2015
Presented by:	Ramya G. Nair

8)

Paper Title:	Photoluminescence investigations of $Y_2O_3$ : Eu phosphor co-doped with Ca
Venue:	61 <sup>st</sup> DAE Solid State Physics Symposium (SSPS- 2016), KIIT University, Bhubaneswar, India
Date:	December 26-30, 2016
Presented by:	Ramya G. Nair

9)

Paper Title:	Optical properties of $Dy^{3+}$ doped $YBO_3$ phosphor
Venue:	62 <sup>nd</sup> DAE Solid State Physics Symposium (SSPS-2017), B.A.R.C., Mumbai, India
Date:	December 26-30, 2017
Presented by:	Ramya G. Nair

#### H) WORKSHOPS ATTENDED:

- DAE-BRNS 1st Workshop on Thermal analysis (Thermawork – 2016) held on 20-21 December 2016 at TSH, Anushakti Nagar, Bhabha Atomic Research Centre, Mumbai, India.
- Global Initiative on Academic Networks (GIAN) course on “Nanotechnology- from fundamentals to practice”, held on June 13-17, 2016 at IISER- Thiruvananthapuram, Kerala, India.
- DAE-BRNS 2nd National Workshop on Materials Chemistry- Catalytic Materials [NWMC-2013, CAT-MAT] held on 22-23 November 2013 at TSH, Anushakti Nagar, Bhabha Atomic Research Centre, Mumbai, India.
- DAE-BRNS 3rd National Workshop on Materials Chemistry- Optical Materials [NWMC-2013, OPT- MAT] held on 20-21 November 2015 at TSH, Anushakti Nagar, Bhabha Atomic Research Centre, Mumbai, India.
- DAE-BRNS 4th National Workshop on Materials Chemistry- Biology and Energy Materials [NWMC- 2013, ENBIO-MAT] held on 15-16 December, 2017 at UM-DAE Centre for Excellence in Basic Sciences, Mumbai, India.
- One day Instrumentation workshop held on November 29, 2009 at Shri C.B. Patel Research Centre and School of Science, NMIMS, Mumbai, India.



- Attended two days' National level faculty development programme on E-content development, held on 28-29 February, 2020 at K. J. Somaiya College of Science and Commerce in association with IQAC.
- Attended three days virtual conference on "Materials for Energy Harvesting and Catalysis" held on 1-3 May, 2020 via zoom platform organized by TIFR and IISER, Kolkata in association with American Chemical Society.
- Participated in online national workshop on "Fine tuning research planning using Elsevier tools: Science direct, Scopus and Mendeley" held on 25<sup>th</sup> April 2020 organized by research development committee of K. J. Somaiya College of Science and Commerce in collaboration with Elsevier.

**I) CERTIFIED TRAINING COURSES:**

Course Details	Organized By	Location	Year
Maharashtra State Certificate in information technology (MS-CIT)	Maharashtra State	Dombivili	2010

**J) AWARDS AND ACHIEVEMENTS:**

- Received Travel Grant from Council of Scientific & Industrial Research (CSIR) to deliver an oral presentation at 30th International conference on Materials chemistry & Science (MCS- 2018) held at Toronto, Canada during 27-28 August 2018.
- Senior Research fellowship (2015-2018)- Department of Atomic Energy for Ph.D. in Chemical Sciences.
- Junior Research fellowship (2013-2015)- Department of Atomic Energy for Ph.D. in chemical Sciences.
- Ph.D. Entrance Test (2013)- University of Mumbai.
- First Rank with Outstanding grade –M.Sc. (Chemistry 2012), University of Mumbai, Kalina Campus, Mumbai.
- Awarded twice with the prestigious "T.N. Venkatesan Chemistry Scholarship" for excellence in the field of chemistry in the academic year 2007-2008 and in the year 2009-2010 at V.G. Vaze college of Arts, Science and Commerce, Mumbai.

**K) PERSONAL DETAILS:**

Date of Birth	17-07-1989	
Gender	Female	
Nationality	Indian	
Marital Status	Married	
E-Mail ID	ramyagnair7@gmail.com	
Phone Number: -	+91 8291237823/+91 9619371581	
Passport Details	Passport Number	P5284034
	Date of Expiry	14-11-2026