

**JAMAL MOHAMED COLLEGE**  
**(Autonomous)**  
**Accredited (3rd Cycle) with 'A' Grade by NAAC**  
**(Affiliated to Bharathidasan University)**  
**Tiruchirappalli - 620 020**

**Dr. G. HEMA SINDHUJA**, M.Sc., M.Phil, PGDEAS, Ph.D

*Assistant Professor*

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### Educational Qualification

Exam. Passed	College / University	Year	Division Grade / Merit
Ph.D (Chemistry)	St. Joseph's College/ Bharathidasan University	2019	A Grade
M.Phil (Chemistry)	St. Joseph's College/ Bharathidasan University	2010	83 % (I class with Distinction)
M.Sc (Chemistry)	Bishop Heber College/ Bharathidasan University	2009	83 % (I class with Distinction)
B.Sc (Chemistry)	Holy Cross College/ Bharathidasan University	2007	78 % (I class with Distinction)

### Additional qualification

- ❖ Completed PG Diploma in Educational Administration and Supervision (**P.G.D.EAS**) in I- class at Annamalai University, Chidambaram.
- ❖ Completed Higher Diploma in computer applications (**HDCA**) (I-class).

### Experience

UG / PG Teaching experience : 8 years

### Areas of Specialization

: Coordination chemistry, Nano chemistry,  
Organic chemistry

### Research contributions

- ORCID ID : <https://orcid.org/0000-0002-4344-5304>
- Google scholar ID : <https://scholar.google.com/citations?hl=en&user=sh9WYS0AAAAJ>
- Research Gate ID : [https://www.researchgate.net/profile/Hema\\_George](https://www.researchgate.net/profile/Hema_George)
- Researcher ID : **AAAY-1134-2020**

### Research funds granted

- ✓ Received a research grant fund of Rs. 10000 (SEED MONEY) from JIIC (Jamal innovation and incubation center) Jamal Mohamed College, Trichy.

### Awards Received

- ✚ Awarded as a **Best Woman Researcher** in Jamal Mohamed College, Trichy for the academic year 2021 – 2022.

### Patents Awarded / Filed

1. Published an Indian patent titled, “**A PROCESS FOR RECOVERY OF SULPHATE AND CAUSTIC FROM ELECTROSTATIC PRECIPITATOR ASH**” on 24-02-2023. Ref Number: 2023041007270
2. Published an Indian patent titled, “**MICROWAVE ASSISTED ONE POT METHOD FOR SYNTHESIZING FLUORESCENT CARBON DOTS FROM CHAYOTE SEEDS**” on 24-03-2023. Ref Number: 202341015437

### Projects Guided

M.Sc Students:	2019	–	3
	2020	-	4
	2021	-	2
	2022	-	2

### Online courses completed

1. Online refresher course for Higher education faculty (Feb -2020) (A Grade )
2. Basics in Inorganic chemistry (June – 2020)
3. Academic writing (Sep – 2020)

4. **Stress Management**
5. **Developing Soft skills and personality**
6. **Patent Drafting for Beginners**
7. **Body Language - a professional key to success**
8. **Brief introduction to Psychology**

#### Subjects Taught

#### UG / PG

1. Inorganic Chemistry
2. Organic Chemistry
3. Physical Chemistry
4. Applied Chemistry
5. Medicinal chemistry
6. Spectroscopy

#### Resource person

- Delivered a **Special lecture** and developed an **e-content** in 3 days online courses conducted by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy on June-2020.
- Served as **Resource person** for Chemistry association and delivered a lecture on “Carbon dots” in Ananda college, Devakottai on 31<sup>st</sup> January 2020.

#### Scientific publications in peer reviewed SCI Journals

1. **Hema Sindhuja George**, Priyadharshini Aravind, Hosimin Selvaraj, Andivelu Ilangovan, Maruthamuthu Sundaram, Subramanyan Vasudevan, Effective removal of 2, 4-dichlorophenoxyacetic acid from aqueous solutions using polyaniline recovered from non-recyclable pigment effluent via electro polymerization, Journal of Water Process Engineering 51, 103407, Volume 51, (2023)
2. Karthikeyan Chandrasekaran, **Hema Sindhuja George**, Hosimin Selvaraj, Sridharan Dharmarajan, Maruthamuthu Sundaram, Anoxic treatment for thiosulfate separation from formate containing dithionite industrial effluent and electrochemical sulfur recovery, Journal of Environmental Chemical Engineering, Volume 10, Issue 3, June 2022, 107324
3. Hosimin Selvaraj, Priyadharshini Aravind, **Hema Sindhuja George**, Maruthamuthu Sundaram, Removal of sulfide and recycling of recovered product from tannery limewastewater using photoassisted-electrochemical oxidation process. Journal of Industrial and Engineering Chemistry, 83, 164-172 (2020) **Impact factor- 5.278.**

4. Karthikeyan Chandrasekaran, **Hema Sindhuja George**, Lakshmi Venkideswaran, Hosimin Selvaraj, Maruthamuthu Sundaram, A new route: Electro oxidation of dithionite industrial effluent and recovery of caustic using electrochemical membrane cell, Journal of Water Process Engineering, 36, 101304, (2020) **Impact factor- 3.46**
5. Karthikeyan Chandrasekaran, Hosimin Selvaraj, **Hema Sindhuja George**, Maruthamuthu Sundaram, Thaj Mohammed Khaleel, A hybrid treatment process for product recycling from tannery process effluent and soak liquor, Journal of Environmental Chemical Engineering, 8 103516 (2020). **Impact factor- 4.30**
6. **Hema Sindhuja G**, and Bheeter S. R., Mixed ligand complexes of Cobalt, Manganese and Iron – Synthesis, Characterization and Antimicrobial activity. European Journal of Biomedical and Pharmaceutical sciences, **2018**, Volume 5, Issue 03, 30-36.
7. **Hema Sindhuja. G\***, Hosimin.S , John Merlin. J, Bheeter. S.R\*, Synthesis, spectral studies and antimicrobial activity of a novel mannich base derived from nicotinamide N-((1H-benzo[d]imidazole-1-yl)(4-nitrophenyl)methyl)nicotinamide, Journal For Advanced Research in Applied Sciences, Volume 5, Issue 1, Jan **2018**, ISSN No: 2394-8442.
8. **Hema Sindhuja G**, Dr. S. R. Bheeter, Dr. A. Asrar Ahamed, Synthesis, spectroscopic investigation and antibacterial testing of few transition metal complexes with azide ligand, International Journal for basic and applied science, ISSN 2249-3352 (P) 2278-0505, Cosmos Impact Factor-5.86
9. **Hema Sindhuja G**, S.R. Bheeter and M. Mohamed Mahroop Raja, Synthesis, Spectral Characterization and Biological Screening for Some Benzaldehyde Derived Mannich Bases, International Journal of Pharmacy and Biological Sciences, ISSN: 2321-3272 (Print), ISSN: 2230-7605, IJPBS | Volume 9 | Special Issue 2 | **2019** | 51-54.

#### Additional Skills

- Taught **Spoken English, Soft skills and Gender Studies** classes for UG students
- Extra disciplinary courses - **Multimedia and Computer Networking**.
- **Software Proficiency** - Chemdraw, Chems sketch, Origin, MS Office, Mendeley.
- Awarded **I - prize** in Catechism in Holy Cross College – (2006-2007)
- Handled **NEET & NET** coaching classes.

#### Working Experience

- ✓ Working as an **Assistant professor** in Department of Chemistry in Jamal Mohamed College, Trichy from 18.06.2018 to till.

- ✓ Worked as an **Assistant professor** in Department of Chemistry in Ananda College, Devakottai, from June 2013 to Jan 2015.
- ✓ Worked as an **Assistant professor** in Cauvery college of Engineering and technology, Perur, Trichy from Dec 2010 to August 2012.
- ✓ Worked as a **Lecturer** in the Department of Chemistry in Nehru Memorial College, Puthanampatti, from Sep – Oct 2011.

### Details of Paper Presentation

- ✧ International Conference on Futuristic aspects of sensors and biosensors (IVCFASB-2022), Holy Cross College, Tiruchirappalli. March 3, 4 - 2022.
- ✧ International Conference on Frontiers in chemical research (ICFCR'22-2022), Bishop Heber College, Tiruchirappalli. February 3, 4 - 2022.
- ✧ National conference on Recent Trends in Material Science (NCRTMS-2020) on 14<sup>th</sup> Feb 2020 organized by Thiru. Vi. Ka. Government Arts College, Tiruvarur.
- ✧ International conference on Challenges to Environment and Health organized by Department of Zoology, Jamal Mohamed College Trichy on 30<sup>th</sup> January 2020.
- ✧ 5<sup>th</sup> International conference on Chemical and Environmental Research organized by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy on 8<sup>th</sup> Jan 2020.
- ✧ International conference on Emerging Trends in Chemical Science (ICETCS-2019) on 6<sup>th</sup> Sep-2019, Arulmigu Palaniandavar Arts College for women, Palani.
- ✧ International conference on Recent advances in applied chemical sciences organized by Sree Sevugan Annamalai College, Devakottai on 6<sup>th</sup> Sep 2019.
- ✧ UGC sponsored V National conference on “Emerging trends in Chemical and Biological Sciences” organized by Department of Chemistry, D.K.M College for women, Vellore on 4<sup>th</sup> Jan 2019.
- ✧ 4<sup>th</sup> International conference on Chemical and Environmental Research organized by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy on 19<sup>th</sup> Dec 2018.
- ✧ National conference on Emerging Trends in Material Science (NCETMS – 2018), organized by Department of Physics, Erode Arts and Science College, Erode on 7<sup>th</sup> Feb 2018.
- ✧ International conference on Chemical and Environmental Research organized by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy on 7<sup>th</sup> Jan 2017.

- ☆ One day 'State level Intercollegiate seminar' on "Applications of Nanomaterials", conducted by Department of Physics, Ananda college Devakottai, on Sep 16, 2013. International conference on "Co-ordination and Organometallic Chemistry" in Bharathiar University, Coimbatore. (Mar 19,20 - 2009) (Poster Presentation).

#### Details of Participation in Conferences / Workshops: (National / International)

- ❖ One day seminar on Recent Advances in Chemical Sciences (RACS-2020) organized by PG & Research Department of Chemistry, Urumu Dhanalakshmi College, Trichy on 2<sup>nd</sup> March 2020.
- ❖ Special lecture on Intellectual Property Rights and Prior Art Search for Research Development" organized by Intellectual Property Rights Cell, Jamal Mohamed College on 5<sup>th</sup> Feb 2020.
- ❖ International seminar on Advanced materials organized by School of chemistry, Madurai Kamaraj University, Madurai on 23<sup>rd</sup> Sep 2019.
- ❖ Staff enrichment programme on Ownership culture, organized by IQAC, Jamal Mohamed College, Trichy on 14<sup>th</sup> June 2019.
- ❖ UGC CPE sponsored Two day workshop on Professional Development for academic Leadership in Curriculum Design organized by Curriculum Development cell, Jamal Mohamed College, Trichy on 18<sup>th</sup> and 19<sup>th</sup> Jan 2019.
- ❖ One day workshop on 'Improving Teaching Practices – A strategic Approach' organized by IQAC, Jamal Mohamed College, Trichy on 23<sup>rd</sup> June 2018.
- ❖ One day orientation programme on softskills development organized by IQAC, Jamal Mohamed College, Trichy on 22<sup>nd</sup> June 2018.
- ❖ One day International conference on Chemical and Environmental Research (ICCER 2017) organized by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy.
- ❖ One day "Science Awareness Program" organized by 'Society for Advancement of Chemical Sciences and Education' IGCAR, Kalpakkam & PG and Research Department of Chemistry, Bishop Heber College, Trichy, held on 8<sup>th</sup> Feb 2014.
- ❖ Two days conference on "Modern trends in Chemistry" conducted by PG and Research Department of Chemistry, Vivekananda College, Madurai. 22 – 23 Feb 2013.
- ❖ Two days conference on UGC sponsored "National seminar on Expanding Frontiers in Chemistry" organized by Department of Chemistry, Arulanandar College, Karumathur 14 – 15 Feb 2013.

- ❖ One day seminar on “Cryogenics and its applications” organized by Dept of Physics, Bishop Heber college, Trichy.
- ❖ Interdepartmental workshop supported by UGC on “Cyclic Voltammetric Studies” at Bishop Heber College, Trichy.
- ❖ One day workshop on “Use of E- resources in Research and Development” Research and Development cell, Bishop Heber College, Trichy.

### Training undergone

- ✓ One day Basic Training Programme on Human Rights on 12<sup>th</sup> Feb 2020 organized by Department of Social Work, Jamal Mohamed College, Trichy.
- ✓ Orientation Programme on MOOC’s and e-learning on 29<sup>th</sup> Jan 2020 organized by Department of Library, Jamal Mohamed College, Trichy.
- ✓ Undergone a Faculty Training Motivation Programme for three days on Sep 8,9,10 – 2014 conducted by CSIR – CECRI, Karaikudi for the celebration of International year of Crystallography.
- ✓ Undergone a UGC sponsored two days Faculty Development Program on Diversity in Teaching on 7 & 8<sup>th</sup> March – 2014 conducted by Alagappa Institute of Management, Alagappa University, Karaikudi.
- ✓ Undergone an Inplant training in “Trichy distilleries and Chemicals Ltd.,” from 22.5.2008 to 7.6.2008.
- ✓ Attended Crash Course on “Online Share Marketing” in Holy Cross College, Trichy 2007

### Administrative positions held in the college

- ✦ **Convener** for Research and Development cell in Ananda College, Devakottai (2014).
- ✦ **Organizing Secretary** for “National Conference on Current trends in Electrochemical Sciences” conducted by Dept of Chemistry, Ananda College on October 15, 2014.
- ✦ **Organizing Secretary** for “State level seminar on Shaping young minds towards Research” conducted by Dept of Chemistry, Ananda College on January 9, 2014.
- ✦ **Advisory committee member** for the National Level Seminar on current trends in Nanomaterial for various applications, conducted by Dept of Chemistry, Ananda College, Devakottai on 27<sup>th</sup> Jan 2017.
- ✦ **Acted as a Judge** for Chemical Experiments in the “National Science Day Celebration” conducted by Dept of Chemistry, Ananda College, Devakottai on 28<sup>th</sup> February 2018.
- ✦ **Organizing committee member** in the State Level Intercollegiate Extravaganza Symphoria’19 organized by PG and Research Department of Chemistry, Jamal Mohamed

College, Trichy on 13<sup>th</sup> Feb 2019.

- ✦ **Organizing committee member** in the Intra Department Extravaganza “CHEM-FIESTA” -19 organized by PG and Research Department of Chemistry, JamalMohamed College, Trichy on 18<sup>th</sup> Sep 2019.
- ✦ **Organizing committee member** in the State Level Intercollegiate Extravaganza JAM CHEM FEST-2K20 organized by PG and Research Department of Chemistry, Jamal Mohamed College, Trichy on 27<sup>th</sup> Feb 2020.
- ✦ **External examiner** for UG Practical examinations in Bharathidasan University, Trichy (2018-2022).
- ✦ **External examiner for central valuation for theory** examinations in Bharathidasan University, Trichy.
- ✦ **Web Admin** for PG and Research Department of Chemistry (SF) Jamal MohamedCollege, Trichy (2018-2022).
- ✦ **CIA Test in-charge** in PG and Research Department of Chemistry (SF) Jamal Mohamed College, Trichy (from 2019 to 2022).
- ✦ Curriculum Development cell member for PG and Research Department of Chemistry (SF) Jamal Mohamed College, Trichy (2022)

### Strengths and skills

- Research and EvaluationICT- Teaching
- Coordination with the team members for Team performance
- Innovative, analytical, motivating capabilities
- Involvement and dedication
- Programme planning and Organizing
- Writing, Presentation and Communication skills

### DECLARATION

I hereby declare that the foregoing information are true and correct to the best of my knowledge and belief.

(HEMA SINDHUJA. G)