Dr. S. Umadevi

UGC Assistant Professor

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Academic Qualifications

Degree	Institution	Year	Branch	Class
Ph. D	Jawaharlal Nehru University, New Delhi, India.	2007	Chemistry	-
M. Sc	University of Mysore, Karnataka, India.	2002	Chemistry	First Class (II rank, gold medalist)
B. Ed	University of Mysore, Karnataka, India.	2000	Chemistry	First Class (I rank, gold medalist)
B. Sc	University of Mysore, Karnataka, India.	1999	Chemistry	First Class (I rank, gold medalist)

Teaching Experience

Total Teaching Experience	:	9 Years

Position	Institution	Duration
UGC Assistant Professor	Alagappa University, Karaikudi-630003, Tamil Nadu, India.	2014-till now

PDF/ Visiting Professor: Abroad

Position	Institution	Duration
Post Doctoral Fellow (PDF)	University of Manitoba	Feb 23, 2011 – Jan 2, 2012

Research Experience

Total Research Experience : 17 years

Position	Institution / University	Duration
Assistant Professor	Alagappa University, Karaikudi, India	April 2014-till now
Women Scientist	Central Electrochemical Research Institute (CSIR), Karaikudi, Tamil Nadu	Aug 2012- March 2014
Post Doctoral Fellow	Department of Chemistry, University of Manitoba, Canada	Feb 2011-2012
Junior and Senior Research Fellow	Raman Research Institute (RRI), Bangalore, India	2002-2006

Academic and Additional Responsibilities

S. No	Position	University Bodies	Period	
			From	To
1.	Co-Ordinator of "Women Grievances cell"	Department of Industrial Chemistry, Alagappa University, Karaikudi-630003.	2014	Till now

Areas of Research

- Synthetic Chemistry
- Material Chemistry
- Liquid crystals
- Nanomaterials
- Elastomers

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D	4	3
	M.Phil	6	-
Project	PG	40	7
	UG / Others	-	-

Publications

International		National		Others
Journals	**Conferences**	**Journals**	**Conferences**	**Books / Chapters / Monographs / Manuals**
34	1	-	-	3

Cumulative Impact Factor (as per JCR) : 140

h-index : 18

i10 index : 24

Total Citations : 872

Funded Research Projects

Ongoing Projects:

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1.	CRG-SERB	2020	2023	Investigation on Nanocellulose Incorporated Liquid Crystal Elastomers (LCE) as Soft Actuators	43.05
2.	MHRD-RUSA	2022	2023	TBRP/RUSA 2.0	2.50

Completed Projects:

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1.	DST	2012	2015	Monolayers of liquid crystal – nanomaterial composites: preparation, characterization and applications in sensing and catalysis	24.10
2.	UGC	2015	2017	Start-Up grant	6.0
3.	DST-SERB	2016	2019	Liquid crystal functionalized platforms for optical and electro-optical applications	33.97
4.	MHRD-UGC	2018	2020	RUSA	2.27

Distinctive Achievements / Awards

- **Promising Researcher Award** -2022 from Alagappa University, Tamil Nadu
- **Research Recognition Award** -2020 from Alagappa University, Tamil Nadu
- **Early Career Research Award** from Science and Engineering Research Council (SERB), India.
- **Selectee** in Faculty Recharge Programme from UGC as **UGC Assistant Professor**, 2012
- **Lectureship** qualification from the **Council of Scientific and Industrial Research**, India (2002); Roll. No. 102752
- **2nd Rank** in **M.Sc. Chemistry** examination (2002)
- **2 Gold medals** and **a cash prize** for the performance in **M.Sc.** C**hemistry** (2002)
- **1st Rank** in **B.Ed.** examination (2000)
- **2 Gold medals** and **2 cash prizes** for the performance in **B.Ed.** (2000)
- **1st Rank** in **B.Sc.** examination (1999)
- **5 Gold medals** and **2 cash prizes** for the performance in **B.Sc.** (1999)

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized:

Position	Programme	Duration	Institution
Project Invigilator (PI)	Scientific Social Responsibility (SSR)	January 25th, 2023	Alagappa University, Karaikudi-630003.

Events Participated

Number of Conferences / Seminars / Workshops:

National Conferences : 7

International Conferences : 20

National Seminar : 3

International Seminar : -

National Workshop : 2

International Workshop : -

Overseas Exposure / Visits

- University of Edinburgh, Scotland
- University of Manitoba, Canada

Membership

Professional Bodies

1. Life Member: Indian Liquid Crystal Society

Academic Bodies in Other Institutes/ Universities

Year / Period	Name of the BoS / AdministrativeCommittee / Academic Committee	Role
2023-2026	Research Advisory Committee, Madurai Kamaraj University, Madurai	External Expert

Ph.D. Thesis Guided

1. No. of Ph.D. Thesis evaluated : 4
2. No. of Ph.D. Public Viva Voce Examination conducted : 3

S. No	Name of the Scholar	Title of the Thesis	Year of Completion
1.	R. Mangaiyarkarasi	Ionic liquid crystals for synthetic and Electrochemical applications	**2021**
2.	B. Sivaranjini	Alignment of Calamitic and Bent-Core Liquid Crystals using Functionalized Polymer and Indium Tin Oxide Substrates	**2021**
3.	K. Mohana	Synthesis and Studies on Some Polysiloxane Based Side-Chain Liquid Crystal Elastomers	**2022**

List of Research Articles / Recent Publications

S. No	Authors/Title of the paper/Journal	Impact Factor
1.	PR. Meyyathal, N. Santhiya and **S. Umadevi***, Preparation of Co_3O_4 nanoparticles in a lyotropic liquid crystal medium and their application in anti-bacterial, anti-cancer and catalytic activities, Bionanosci. (2024). https://doi.org/10.1007/s12668-023-01286-9.	**3.0**
2.	K. Mohana, R. Dharani, M. Deepa and **S. Umadevi***, Polysiloxane-based cholesteric side-chain liquid crystal elastomers containing different cross-linkers, *J. Mol. Struct*. **1301**, 137333, 2024.	**3.8**
3.	K Mohana, **S Umadevi*,** Siloxane-based side-chain liquid crystal elastomers containing allyl 4-((4decyloxy)benzoyl)oxy) benzoate as a monomer, *Polym. Bull.*, **80**, 9323-9341, 2023.	**3.2**
4.	B Sivaranjini, **S Umadevi***, RK Khan, R Pratibha, A Dekshinamoorthy, S Vijayaraghavan, V Ganesh; Planar and Vertical Alignment of Rod-like and Bent-core Liquid Crystals Using Functionalized Indium Tin Oxide Substrates, *Liq. Cryst*, **49**, 1246-1260, 2022.	**2.68**
5.	R Mangaiyarkarasi, N Santhiya, **S Umadevi***; Ionic liquid crystal–mediated preparation of reduced graphene oxide under microwave irradiation, *Colloids Surf. A Physicochem. Eng. Asp*, **2642**, 128673, 2022.	**5.2**
6.	R Mangaiyarkarasi, S Premlatha, R Khan, R Pratibha, **S Umadevi*,** Electrochemical performance of a new imidazolium ionic liquid crystal and carbon paste composite electrode for the sensitive detection of paracetamol, *J. Mol. Liq*., **319**, 114255, 2020.	**6.63**
7.	R. Mangaiyarkarasi, M. Priyanga, N. Santhiya and **S. Umadevi***; In situ preparation of palladium nanoparticles in ionic liquid crystal microemulsion and their application in Heck reaction, *J. Mol. Liq*. **310,** 11324, 2020.	**6.63**

8.	B. Sivaranjini, K. Mohana, S. Esakkimuthu, V. Ganesh and **S. Umadevi***; Photo-responsive azo-functionalised flexible polymer substrate for liquid crystal alignment, *Liq. Cryst.,* **47**, 1354-1365, 2020.	**2.68**
9.	B. Sivaranjini, V. Ganesh and **S. Umadevi***; Bent-Core Liquid Crystal-Functionalised Flexible Polymer Substrates for Liquid Crystal Alignment, *Liq. Cryst,*. **47**, 838-850, 2020.	**2.68**
10.	P. Mohana and **S. Umadevi***;Side-chain polysiloxane liquid crystalline elastomers from non-mesogenic components, *New J. Chem.* **43**, 15968-15978, 2019.	**3.93**
11.	PR. Meyyathal, N. Santhiya,**S. Umadevi***, S. Michelraj and V. Ganesh; Lyotropic liquid crystal directed synthesis of anisotropic copper microparticles and their application in catalysis, *Colloids Surf. A Physicochem. Eng. Asp*, **575,** 237-244, 2019.	**5.2**
12.	R. Mangaiyarkarasi, S. Selvam, V. Ganesh and **S. Umadevi***; Cholesterol based imidazolium ionic liquid crystal: Synthesis, characterisation and its dual application as an electrolyte and electrode material, *New J. Chem.* **43**, 1063 – 1071, 2019.	**3.93**
13.	R. Mangaiyarkarasi, B.Sivaranjini and **S. Umadevi***; Facile synthesis of gold nanoparticles-capped with an ammonium based chiral ionic liquid crystal , *Liq. Cryst.* **46**, 584-593, 2019.	**2.68**
14.	B. Sivaranjini, R. Mangaiyarkarasi, V. Ganesh and **S. Umadevi***; Vertical Alignment of Liquid Crystals Over a Functionalized Flexible Substrate, *Sci. Rep.*, **8:8891**, 1-19, 2018.	**4.99**
15.	S. Sundari, Sheela Berchmans and **S. Umadevi***; *Polymer Bulletin*, Non-enzymatic nitric oxide release from biodegradable S-nitrosothiol bound polymer: synthesis, characterization, and antibacterial effect, *Polym Bull*., **75**, 2971-2985, 2018.	**3.2**
16.	B. Rozic, J. Fresnais, C. Molinaro, J. Calixte, **S. Umadevi*** et al., Oriented gold nanorods and gold nanorod chains within smectic liquid crystal topological defects, *ACS Nano*, **11,** 6728-6738, 2017.	**18.07**

17.	**S. Umadevi***, S. Sundari, V. Ganesh and Sheela Berchmans; Liquid crystal-gold nanoparticle composite modified indium tin oxide (ITO) substrates and their electrochemical characterization, *Liq. Cryst*., **44,** 2222-2229, 2017.	**2.68**
18.	S. V. Sheen Mers, **S. Umadevi*** and V. Ganesh; Controlled growth of gold nanostars: Effect of spike length on SERS signal enhancement, *Chem Phys Chem*, **18**, 1358-1369, 2017.	**3.52**
19.	**S. Umadevi***, R. Umamaheswari and V. Ganesh; Lyotropic liquid crystal-assisted synthesis of micro- and nanoparticles of silver, *Liq. Cryst.* **44,** 1409-1420, 2017.	**2.68**
20.	X. Feng, L. Sosa-Vargas, **S. Umadevi***, T. Mori, Y. Shimizu and T. Hegmann; Discotic liquid crystal functionalized gold nanorods:2- and 3D self-assembly plus macroscopic alignment and increased charge carrier mobility in hexagonal columnar liquid crystal hosts affected by molecular packing and π-π interactions, *Adv. Funct. Mater.* , **2**, 1180-1192, 2015.	**19.92**
21.	**S. Umadevi*,** V. Ganesh and Sheela Berchmans; Liquid crystal (LC) monolayer on Indium Tin Oxide (ITO): structural and electrochemical characterization, *RSC Advances*, 4, 16409-16417, 2014. (I. F. 4.03)	**4.03**
22.	R. K. Shukla, X. Feng, **S. Umadevi***, T. Hegmann and W. Haase; Effect of functionalized bulky goldnanorod doping on the electrooptical and dielectric properties of ferroelectric liquid crystal; *Chem. Phys. Lett.*, **599**, 80-85, 2014.	**2.71**
23.	**S. Umadevi***, V. Ganesh and T. Hegmann; A versatile, one-pot synthesis of gold nanostars with long, well-defined thorns using a lyotropic liquid crystal template; *Liq. Cryst.* **41**, 265-276, 2014.	**2.68**
24.	**S. Umadevi***, X. Feng and T. Hegmann; Large area self-assembly of nematic liquid crystal functionalized-gold nanorods; *Adv. Funct. Mater*., **23**, 1393-1403. 2013.	**19.91**
25.	**S. Umadevi***, S. Radhika and B. K. Sadashiva; Polar columnar and lamellar mesophases in homologous bent-core compounds derived from methyl 3, 5-dihydroxybenzoate; *Liq. Cryst.* **40**, 1035-1049,	**2.68**

	2013.	
26.	**U. Shivakumar*,** J. Mirzaei, X. Feng, A. Sharma, P. Moreira and T. Hegmann; Nanoparticles – complex and multifaceted additives for liquid crystals; *Liq. Cryst.*, 38, 1495 –1514, 2011.	**2.68**
27.	**S. Umadevi*** and B. K. Sadashiva; Liquid crystalline properties and dependence of transition temperatures on the length of the flexible alkylene spacer of symmetric dimers composed of bent-core units*; Liq. Cryst*., 34, 673-681, 2007**.**	**2.68**
28.	**S. Umadevi*** and B. K. Sadashiva; Novel five-ring bent-core compounds exhibiting a transition from the electro-optically non switchable to a switchable B_7 phase; *Chem. Mater*., **18**, 5186-5192, 2006.	**10.50**
29.	**S. Umadevi***, A. Jákli and B. K. Sadashiva; Odd- even effects in bent-core compounds containing terminal *n*-alkyl carboxylate groups, *Soft Matter*, **2,** 875-885, 2006.	**4.0**
30.	**S. Umadevi***, A. Jákl*i* and B. K. Sadashiva; Bistable linear electro-optical switching in the B_7' phase of novel bent-core molecules, *Soft Matter*, 2, 215-222, 2006.	**4.0**
31.	**S. Umadevi***, B. K. Sadashiva, H. N. Shreenivasa Murthy and V. A. Raghunathan; Mesogenic dimers composed of bent-core molecules with flexible alkylene spacer, *Soft Matter*, **2**, 210-214, 2006.	**4.0**
32.	**S. Umadevi***, S. Radhika and B. K. Sadashiva; $SmCP_A$ phase in five-ring bent-core compounds derived from 5-methoxyisophthalic acid, *Liq. Cryst*., **33**, 139-147, 2006.	**2.68**
33.	**S. Umadevi*** and B. K. Sadashiva; New five-ring symmetrical bent-core mesogens exhibiting the fascinating B_7 phase *Liq. Cryst*., **32,** 1233-1241, 2005.	**2.68**
34.	**S. Umadevi*** and B. K. Sadashiva; Banana-shaped mesogens: Mesomorphic properties of seven-ring esters derived from 5-chlororesorcinol, *Liq. Cryst*., **32**, 287-297, 2005.	**2.68**

Resource persons in various capacities

Invited Lectures:

1. Delivered an invited lecture at **Complex Fluids-2023**, on 18th Dec 2023 organized by the **Center for Soft and Biological Matter, IIT Madras**.
2. Delivered a special lecture on in a seminar organized by **Sri Venkateswara College of Arts and Science for Women, Peruvurani** on 23rd Aug 2023.
3. Delivered an invited talk as **Resource person** in **STUTI** Hands on Training Programme on 24th June 2023 held at **Bannari Amman Institute of Technology, Satyamangala.**
4. Delivered an invited talk (online mode) in international conference on macromolecules**, ICM-2020** on 14th Nov 2020 organized by Mahatma Gandhi University, Kerala.
5. Delivered a special talk n the title, "Liquid crystals: self assembled soft matter" at Alagappa College of Engineering and Technology, Karaikudi, 28th March 2017.
6. Delivered a special lecture as **Resource person** for the international conference **CDIC-2016** at Shri Sakthikailash Women's College, Salem held on 29th July 2016.