

## Curriculum Vitae



**Dr. K. Sobha**

**Professor of Biotechnology  
Department of Chemical Engineering  
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Scopus Citations: <https://www.scopus.com/authid/detail.uri?authorId=26022133400>

Publons / Web of Science Citations: <https://publons.com/researcher/3748085/sobha-kota/>

Google Scholar Citations: <https://scholar.google.com/citations?hl=en&user=aXq8wowAAAAJ>

Research Gate Citations: <https://www.researchgate.net/profile/Kota-Sobha-2>

Vidwan: <https://vidwan.inflibnet.ac.in/profile/187449>

### **Educational Qualifications**

1. Ph. D. in the faculty of Life sciences, Nagarjuna University, in the year 1995.
2. M. Tech. in Biotechnology (Gold Medal) from Anna University in the year 2005
3. M.Sc. and M. Phil. In Zoology from Andhra University (1988) and Nagarjuna University (1992)
4. M. Ed. From Annamalai University (Distance Education) in the year 1993.

**Date of Birth:** 12.01.1964

**Date of Joining:** 01.10.2007 ( @ RVR & JC College of Engineering )

**Teaching experience:** 30+ years

**Research experience:** 20+ years

## Other Qualifications

1. Qualified CSIR-UGC Joint JRF examination in March, 1988 and was awarded CSIR Fellowship (JRF & SRF) from October 1988 to September 1993.
2. Qualified GATE examination in Life Sciences in February, 2003 with a Percentile of 90.4
3. Qualified in JNU – Entrance examination for admission into M. Tech. and Joined M. Tech. (Biotechnology) program with the student fellowship at Anna University, Chennai.

## Teaching Experience

1. **Currently working as Professor of Biotechnology, Department of Chemical Engineering from 1<sup>st</sup> January 2024.**
2. Worked as Associate Professor in Biotechnology, Department of Chemical Engineering, RVR & JC College of Engineering from 1<sup>st</sup> December 2016 to 31<sup>st</sup> December 2023.
3. Worked as Associate Professor in the Department of Mathematics and Humanities, from 8<sup>th</sup> June 2015 to 30<sup>th</sup> November 2016 and taught environmental sciences course for all 7 engineering branches of the college. (Since Department of Biotechnology was wound up in April 2015).
4. Worked as Associate Professor in the Department of Biotechnology, RVR & JC College of Engineering from 1<sup>st</sup> October 2007 to 6<sup>th</sup> May, 2015. (ANU Selection)
5. Joined as Senior Lecturer in the Department of Biotechnology, Bapatla College of Engineering in June, 2005 and was promoted as Assistant Professor in the same Department with effect from 1<sup>st</sup> August, 2006. (ANU Selection)
6. Worked as Post Graduate Teacher in Kendriya Vidyalaya Sangathan from 1994 to 2003.
7. Worked as Teaching Assistant in the Department of Zoology for M. Sc. (Zoology) and M.Sc. (Environmental Sciences) for one academic year i.e., 1993 to 1994.
8. Taught M.Sc. (Zoology) students at Acharya Nagarjuna University during the period from October 1988 to September 1993.
9. Worked as Part-time Lecturer in Zoology at GVR & S Degree College for Girls and Siddhartha College for Boys for one academic year during 1988-'89.

## Workshops / National Seminars / Conferences Organized

1. **Convener** for the three day AICTE sponsored National Seminar on “ 3D - Structure determination of drug molecule, molecular modeling and drug design” during 15<sup>th</sup> to 17<sup>th</sup> April, 2010 and delivered theme lecture on the topic “Molecular modeling and Drug design” (Published in the Proceedings).
2. Program Co-ordinator for a one day state level work shop for faculty, organized on the theme “Environmental Studies: Innovative Teaching Methodologies” by the department on **3<sup>rd</sup> October 2016**. Prof. R. Rajagopalan, a retired professor from IITM was the resource person. The program was organized in association with Oxford University Press and 49 faculty members from various degree and engineering colleges of the state participated.
3. Organized a one-day work shop as Resource Person for the students of B. Sc. and M. Sc. at Govt. Women’s College, Guntur on 15.09.2017 on the topic “My contribution to

Sustainable Development” which included a 2 hour lecture and 5 “Hands on training” sessions for the students of one hour duration each.

### **Workshops Attended**

1. **Dr. K. Sobha**, Associate Professor, National Workshop on “**Medical Biomaterials**” organized by the departments of Biotechnology and Material Science and Metallurgical Engineering, IITM, Chennai (Under Continuing Education Program) on 29<sup>th</sup> and 30<sup>th</sup> June, 2018.

### **National / International Symposia / Conferences attended**

1. **Dr. K. Sobha**, Assistant Professor, National Workshop on “Design of Experiments and Operational Research” organized by Department of Statistics, Acharya Nagarjuna University, Guntur (under SAP) on 8<sup>th</sup> and 9<sup>th</sup> December, 2011.
2. **Dr. K. Sobha, Assistant Professor**, “UGC, APCCB & APCOST sponsored National Seminar on “Youth towards New Trends in Biotechnology” organized by Maris Stella College, Vijayawada on 26<sup>th</sup> and 27<sup>th</sup> August, 2011.
3. **International Conference on Biodiversity and Aquatic Toxicology**, organized by the Department of Zoology, Acharya Nagarjuna University during 12<sup>th</sup> to 14<sup>th</sup> February, 2011.
4. **State Level Conference on Research Methodology in Animal Sciences**, organized by PR degree and PG college, Kakinada during 29<sup>th</sup> and 30<sup>th</sup> November, 2010.
5. **International Symposium on Emerging Trends in Biomedical and Nanobiotechnology: Relevance to Human Health** organized by the Departments of Biotechnology and Nanotechnology at Acharya Nagarjuna University during 19<sup>th</sup> – 21<sup>st</sup> December 2009.
6. **National Seminar on Recent Trends in Life Sciences for Human Welfare** – Organized at A.C. College, Guntur – 11<sup>th</sup> and 12<sup>th</sup> September, 2009.
7. **National Seminar on Tourism – A Catalyst in Economic Development** – Organized at A.C. College, Guntur- 24<sup>th</sup> & 25<sup>th</sup> October, 2008.
8. **National Conference on Stem Cell Research** – organized by the Department of Biotechnology, Acharya Nagarjuna University during 15<sup>th</sup> – 16<sup>th</sup> December, 2006.
9. **National Symposium on Recent Trends in Biochemistry**-organized by the department of Biochemistry at T.J.P.S. College, Guntur – 22<sup>nd</sup> December 2006.
10. **International Symposium on Frontiers in Genetics and Biotechnology – Retrospect & Prospect**: organized by Department of Genetics and Biotechnology, Osmania University & Hyderabad – 500 007; 8<sup>th</sup> to 10<sup>th</sup> January, 2006.
11. 31<sup>st</sup> Annual Conference of the Indian Immunology Society “**Trends in Infection Biology**”, December 2004: Organized by the Centre for Biotechnology, Anna University, Chennai.

**(Regional: 1; National: 7; International: 3)**

### **Posters Presented**

1. **Dr. K. Sobha, Associate Professor** and Y. Prem Sai, “ **Prospectives of Stem cell therapy in addressing the problems of male and female infertility and assuring every couple of their own biological child**”, Organized jointly by **KIMS Foundation and Research Centre (KFRC) and CIENCIA Pvt. Ltd. on 23<sup>rd</sup> February, 2014.**
2. **Dr. K. Sobha, Assistant Professor**, “**Nanoworms – Anti-Cancer Missiles**”, **International Symposium on Emerging Trends in Biomedical and Nanobiotechnology: Relevance to Human Health(ISEBN-2009)**, Organized jointly by Department of Biotechnology and Department of Nanotechnology, **Acharya Nagarjuna University, Guntur during 19<sup>th</sup> - 21<sup>st</sup> December, 2009.**
3. **Dr. K. Sobha, Assistant Professor**, “**A study on Flavonoids as Aromatase Inhibitors Using QSAR Analysis**”, **International Symposium on Emerging Trends in Biomedical and Nanobiotechnology: Relevance to Human Health(ISEBN -2009)**, Organized jointly by Department of Biotechnology and Department of Nanotechnology, **Acharya Nagarjuna University, Guntur during 19<sup>th</sup> - 21<sup>st</sup> December, 2009.**
4. **Molecular characterization of Clotting factors in Crustaceans – K. Sobha & V. Murugan; P-II:28; P. No. 69, Dt. 08.01.2006: at International Symposium on Frontiers in Genetics and Biotechnology – Retrospect & Prospect: organized by Department of Genetics and Biotechnology, Osmania University & Hyderabad – 500 007; 8<sup>th</sup> to 10<sup>th</sup> January, 2006.**

#### **Papers Presented at National Seminars/Symposia**

1. D. Pradeep, **K. Sobha**, G. Vishnubabu, Brijesh Kumar. Evaluation of piezoelectric property of marine chitosan from shrimp shell and its wound healing effectiveness. International conference on “Recent Developments on Materials, Reliability, Safety, and Environmental issues” held at NIT Jalandhar during June 25-27, 2021
2. Ratna Kumari A and **Sobha K.** Removal of lead and copper by adsorption with the renewable biopolymer composites of Chitosan (*A. bisporus*) and Egg shells (*Gallus domesticus* and *Dromaeus novaehollandiae*)/Feathers (*Dromaeus novaehollandiae*): A Comparative Study. **11<sup>th</sup> Asia Pacific Chitin and Chitosan Symposium held at Kochi, Kerala during 28<sup>th</sup> -30<sup>th</sup> September, 2016.**
3. **K. Sobha.** “A Saga of Technology And Innovation For Progress In ‘Make In India’ Mission” **in the national Seminar on “March to Make in India through Engineering Advancements” organized by the department of Mechanical Engineering, RVR & JC College of Engineering, Guntur, Andhra Pradesh during 29<sup>th</sup>-30<sup>th</sup> September, 2016.**
4. Mahendra Kumar Verma and **K. Sobha.** An in-silico approach to resolve synovial inflammation by inhibiting Wnt signaling via post-translational modifications: phosphorylation and S-nitrosylation. **International conference on Scenario of Biotechnology in 21<sup>st</sup> Century, Organized by School of Biotechnology (Silver Jubilee Celebrations), Devi Ahilya University, Indore, India during March 10-12, 2016.**
5. **K. Sobha.** “**Sequence Alignments**” in “**Evolutionary Computing: An Intelligent Problem Solving for Science and Engineering Applications**” – A two day national workshop

organized by the department of computer applications at RVR & JC College of Engineering, Guntur, Andhra Pradesh, India during 27<sup>th</sup> – 28<sup>th</sup> November, 2015.

6. **K. Sobha, P. Dheeraj, M. Venu Madhavi and T. Priyanka. Strategies for Effective Management of Anxiety Disorder – A Life Style Disease.** International Symposium on “Innovation in Free Radical Research and Experimental Therapeutics”, and 5th annual convention of Association of Biotechnology and Pharmacy conducted by Department of Biotechnology, Karunya University, Coimbatore during December 7-9, 2011.
7. Sobha, 2009. **Diabetic Retinopathy – Causes and Drug Intervention: National Seminar on Recent Trends in Life Sciences for Human Welfare** – Organized at A.C. College, Guntur – 11<sup>th</sup> and 12<sup>th</sup> September, 2009.
8. Sobha K., 2008. **Promotion of Ecotourism – A Vital Need of the Society: National Seminar on Tourism – A Catalyst in Economic Development** – Organized at A.C. College, Guntur- 24<sup>th</sup> & 25<sup>th</sup> October, 2008.
9. Sobha et al., 2006. **Synthetic Anti-microbial Peptide – Design and Cloning: National Symposium on Recent Trends in Biochemistry**-organized at T.J.P.S. College, Guntur – 22<sup>nd</sup> December 2006.

## Research Publications

1. Characterization and evaluation of some biological activities of silver nanoparticles synthesized using *Trigonella foenum graecum* leaves' extract. K. Sobha, BRS Srinivas Gupta, K Mohan Karthikeya, K. Surendranath (2024). *Journal of Microbiology, Biotechnology and Food Sciences* 13 (5), e4255 (**Scopus & WOS indexed**).
2. Chitosan/PVA Films and Silver Nanoparticle Impregnated Nanofibrous Dressings for Evaluation of their Wound Healing Efficacy in Wistar Albino Rat Model. Sobha Kota, Ratnakumari Anantha, Vayunandana Rao Govada, Pradeep Dumpala (2023). *Journal of Polymer Materials - An International Journal* 40 (3-4), 285-303. (**WOS/SCIE**).
3. Phytoconstituents of *Chromolaena odorata* (L.) leaf extract for the synthesis of copper oxide/copper nanoparticles and evaluation of their biological potential in wound healing. Sobha Kota, Pradeep Dumpala, Radhika Sajja and Ratnakumari Anantha (2023). *Trends in Phytochemical Research*, 7(3), 186-206. (**Scopus Indexed**)
4. Natural Pigments, their Applications and Methods of Extraction: A Review. K. Sneha Krishna Mounika, P. Somanath, P. Ashraf baji, G. Harika and K. Sobha (2023). *International Journal of Innovative Science and Research Technology*, 8(12), 2531-2542.
5. Extraction and characterization of marine chitosan from sea shrimp shell and its biomedical application. Dumpala Pradeep, Gandham Vishnubabu, Anantha Ratnakumari, Brijesh Kumar, Kota Sobha (2023). *Research Journal of Biotechnology*, 18(11), 40-48. (**Scopus and WOS indexed**)
6. An assessment of the piezoelectric coefficient and the therapeutic potential of ionic liquid (IL) dissolved hard keratin from goat horn discards. D. Pradeep, M. Thakran, S. B. Bajaj, B. Kumar and K. Sobha (2022). *Rasayan Journal of Chemistry*, 15(4): 2914-2921. ISSN: 0974-1496 | e-ISSN: 0976-0083 (**Scopus Indexed**).
7. Bioremediation of heavy metal lead from contaminated water with the leaves of edible, medicinal herb, *Alternanthera sessilis* – kinetic and thermodynamic studies. Sobha Kota, Swathi Kiran Mandava, Vijaya Lakshmi Kambala, Naveena Sanagapalli, Yadagiri

- Premasai, Sai Vivek Kota, Ratna Kumari Anantha (2022). Indian Journal of Environmental Protection, 42 (1): 3-14. (ISSN: 0253-7141). **(Scopus Indexed)**
8. Evaluation of Activity and mass spectrometric characterization of two partially purified thermo-tolerant lipase fractions from the fungal culture of *Aspergillus niger* GN1. Kota Sobha, Dumpala Pradeep, Gollapudi Geethanjali, Devarai Santhosh Kumar, Abdul Jaleel K A. (2020). Asian Journal of Microbiology and Biotechnology, Vol. 5 (1), 19-29.
  9. Lipases with preferred thermo-tolerance in Food Industry. Govada Vayunandana Rao, Kota Sobha (2020). Research Journal of Biotechnology, Vol. 15 (7), 141 -150. **(Scopus Indexed/WOS)**
  10. Production and optimization of lipase using *Aspergillus niger* MTCC 872 by solid-state fermentation. A Nema, SH Patnala, V Mandari, S Kota, SK Devarai (2019). Bulletin of the National Research Centre 43 (1), 82.
  11. Bio-composites for the sorption of copper from aqueous solution: A comparative study. Ratna Kumari Anantha, Sobha Kota (2018). Groundwater for Sustainable Development **(Elsevier)**, 7, 265-276. <https://doi.org/10.1016/j.gsd.2018.06.007>. **(Scopus Indexed/SCI)**
  12. Understanding the phytochemical constitution, antioxidant potential and spectral characteristics of aqueous extracts of the chosen leafy vegetables from south India. Kota Sobha , Pradeep Dumpala, Hariseetharam Prasad Dachehalli and Ratna Kumari Anantha (2018). Trends Phytochem. Res. 2(2) 2018 111-118. **(Scopus/WOS(Publons))**
  13. Evaluation of therapeutic potential of the silver/silver chloride nanoparticles synthesized with the aqueous leaf extract of *Rumex acetosa*. Sobha Kota, Pradeep Dumpala, Ratna Kumari Anantha, Mahendra Kumar Verma, Surendranath Kandepu (2017). Scientific Reports **(Springer Nature)** 7, 11566. DOI:10.1038/s41598-017-11853-2. **(SCI/Scopus indexed)**
  14. An evaluation of the alterations in protein content, total free amino acids and protein profiles of some major tissues of the edible carp, *Labeo rohita*(Hamilton) exposed to nitrogenous compounds. K. Sobha, N. Yamini Sarada and T. Anita susan (2017). International Journal of Fisheries and Aquatic Sciences, Vol. 5(5), pp. 417-424.
  15. An Investigation into phytochemical constituents, antioxidant, antibacterial and anti-cataract activity of *Alternanthera sessilis*, a predominant wild leafy vegetable of South India. Sobha Kota, Vayunandana Rao Govada, Ratna Kumari Anantha, Mahendra Kumar Verma (2017). Biocatalysis and Agricultural Biotechnology **(Elsevier)**, 10: 197-203. <http://dx.doi.org/10.1016/j.bcab.2017.03.008> **(Scopus Indexed/ESCI/WOS)**
  16. An in silico approach to resolve synovial inflammation by inhibiting Wnt signaling via post-translational modifications: phosphorylation and S-nitrosylation. Verma MK and Sobha, K (2016). Research Journal of biotechnology, 11(8), 20-26. **(Scopus Indexed)**
  17. An evaluation of the major factors influencing the removal of copper ions using the egg shell (*Dromaius novaehollandiae*): Chitosan (*Agaricus bisporus*) Composite. Ratna Kumari Anantha and S. Kota (2016). 3 Biotech 6, 83. **(SCIE)**
  18. Removal of lead by Adsorption with the renewable biopolymer composite of Feather (*Dromaius novaehollandiae*) and Chitosan (*Agaricus bisporus*). Anantha Ratna Kumari and Kota Sobha (2016). Environmental Technology and Innovation **(Elsevier)**, 6: 11-26. **(Scopus Indexed)**

19. Understanding the major risk factors in the beginning and the progression of rheumatoid arthritis: current scenario and future prospects. Mahendra Kumar Verma and Kota Sobha (2015). **Inflammation Research**. DOI 10.1007/s00011-015-0843-8. (SCI/Scopus/PubMed)
20. Cost effective and eco-friendly method for copper removal by adsorption with Emu feather (*Dromaius novaehollandiae*) and Chitosan (*Agaricus bisporus*) Composite. A. Ratna Kumari and K. Sobha (2015) Int. J. ChemTech Research, 7(3).
21. Optimization and Modeling of Physico-chemical factors affecting the removal of copper from aqueous solutions using feathers of *Dromaius novaehollandiae*. A. Ratna Kumari and K. Sobha (2015). Journal of Chemical and Pharmaceutical Research. 7 (7).
22. Utilization of Emu (*Dromaius novaehollandiae*) feathers for the adsorption of lead from aqueous solution: Kinetic, isotherm and thermodynamic studies. A. Ratna Kumari and K. Sobha (2015). Res J Pharm Biol Chem Sci., 6(5).
23. Statistical optimization of physico-chemical factors affecting lipase production from *A. japonicus* cultured in protein enriched medium. K. Sobha, N. Lalitha, N. Pavani, R. Praharshini, D. Pradeep and Mahendra Kumar Verma (2014). Int. J. ChemTech. Res., 6(11), pp. 4817-4831.
24. Evaluation of Amino acid composition of *Phaseolus mungo* (Black gram) and Labeo rohita (Rohu) in the perspective of Human dietary requirements. K. Sobha and T. Anita Susan (July-August, 2014). Res J Pharm Biol Chem Sci., Vol. 5 (4), pp. 543-549.
25. Evaluation of Lipase production from *A. japonicus* using various vegetable oil substrates and physico-chemical factors affecting lipase activity by Response Surface Methodology. K. Sobha, N. Lalitha, A. Ratna Kumari, K.V. Rajesh and Mahendra Kumar Verma (June, 2014). International Journal of innovative Research in Science, Engineering and Technology, Vol. 3(6), pp. 13610-13621.
26. Evaluation of cytotoxic and anti-tumor activity of partially purified serine protease isolate from the Indian earthworm *Pheretima posthuma*. Mahendra Kumar Verma, Francies Xavier, Yogendra Kumar Verma, Kota Sobha (November 2013). Asian Pacific Journal of Tropical Biomedicine, 3(11), pp. 896-901. <http://www.ncbi.nlm.nih.gov/pmc/issues/228284/> PMID: PMC3793163.
27. Antioxidant and Anti-inflammatory properties of the Autolysed extract of the Indian Earthworm *Pheretima posthuma* after preliminary purification - an *In Vitro* study. Mahendra Kumar Verma and Kota Sobha (October – December, 2013). Res J Pharm Biol Chem Sci., 4(4), pp. 888-898.
28. Nanobiotechnology as a prospective approach for safe environmental remediation – A review. A. Ratna kumari and K. Sobha (October 2013). Int J Pharm Bio Sci., 4(4), pp. 69 – 95.
29. “Current Prospects of Nano-designs in Gene delivery – Aiming New High For Efficient and Targeted Gene Delivery”. M. K. Verma, Y.K. Verma, K. Sobha, Subrato Kumar Dey (October 2013). International Journal of Biopharmaceutics, Vol. 4(3), pp. 145-165.
30. “L-Asparaginase from Microbes: A Comprehensive Review”. D. Santhosh Kumar and K. Sobha (December 2012). Journal of Advances in BioResearch, Vol. 3 (4), pp. 137-157.
31. “Molecular characterization of bacteria Capable of organophosphate Degradation”. A. Ratna Kumari, K Sobha, K Mounika, G J Nageswara Rao and M Ashok (2012).

- International Journal of Life Sciences, Biotechnology and Pharmacy, Vol. 1 (3), pp. 64-72.
32. "Biosorption of Cu<sup>2+</sup> using animal polymers: chick and duck feathers". A. Ratna Kumari and K. Sobha (April-June, 2012). International Journal of Research in Pharmaceutical and Biomedical Sciences, Vol. 3(2), pp. 664-669.
  33. "Toxicity & Histopathological Changes in the three Indian major carps, *Labeo rohita* (Hamilton), *Catla Catla* (Hamilton) And *Cirrhinus Mrigala* (Hamilton) Exposed to Fenvalerate. T. Anita Susan, K. Sobha, K.S. Tilak. (2012). International Journal of Plant, Animal and Environmental Sciences. Vol. 2 (1), pp. 18-32.
  34. "Red gram Husk - an inexpensive substrate for optimization & production of alkaline protease by *Streptomyces griseus* (4734) in solid-state fermentation". A. Ratnakumari, Anusha Manne, K.Sobha (2011). Journal of applied Biosciences, 37(2), 105-109.
  35. "Optimization of Lead Adsorption Using Animal Biopolymers by Factorial Design", A. Ratnakumari, U. KiranBabu, K.Sobha (2011). International Journal of Science Innovations and Discoveries ( IJSID), Vol. 1 (3), pp. 303-319.
  36. "Biological treatment of the sewage waste water by Immobilized Anaerobic Digester under mesophilic conditions". Meena Vangalapati, Seema Chaitanya Chippada, Sumanjali Avanigadda, Sobha Kota, Padmavathi Veernala (2011). International Journal of Bioengineering, Sciences and Technology, Vol. 2 (3), pp. 63-65.
  37. " A Preliminary Study on Bacteriological Profile of Surgical Wounds". K. Sobha, P. Sarvani, G. Krishna Murthy(2011). Current Trends in Biotechnology and Pharmacy, Vol. 5 (4), pp. 1454-1461.
  38. "Assay of Megesterol acetate by new spectrophotometric method in Pharmaceutical dosage form". A. Ratna Kumari, A. Rajeswari and K. Sobha (2010). Journal of Pharmaceutical Technology and Research, Vol.1(1), pp. 69-71.
  39. " A Comparative study of Kinetics of Itaconic acid production using four species of the genus *Aspergillus* ". V. Meena, K. Sobha, KRS Sambasiva Rao and KM Subbarathinam (2010). International Journal of Genetic Engineering and Biotechnology, Vol. 1 (3), pp. 165-175.
  40. Studies on Biochemical Changes in the tissues of *Labeo rohita* and *Cirrhinus mrigala* exposed To Fenvalerate Technical Grade. T. Anita Susan, K. Sobha, K. Veeraiah, K.S. Tilk ( October 2010). Journal of Toxicology and Environmental Health Sciences, Vol. 2(5), pp. 53-62.
  41. "Production and Activity Analysis of a Synthetic Cationic Antimicrobial Peptide Expressed from *E.coli* BL21 (DE3)". P. Jawahar Babu, K. Sobha, K.K. Pulicherla, K.V. Rajesh, K. Venkatesh, G. Harsha and R. Nelson (2010). Journal of Developmental Microbiology and Molecular Biology, Vol. 1 (1), pp. 65-73.
  42. "A Comparative Study on Neurosecretory Control of Courtship-Mating in the two sexes of the Scorpion, *Heterometrus fulvipes* (Koch)". K. Sobha (2010). ANU Journal of Natural Sciences, Vol. 2(1), pp. 63-68. (ISSN No. 09759573).
  43. "Optimization of Hyaluronic Acid Production from *Streptococcus equi sub Sps., Zooepidemicus* using Taguchi Design". K.V. Rajesh, K. Sobha, KK Pulicherla, P. Jawahar Babu, K. Venkatesh (2010). International Journal of Biotechnology and Bioengineering Research, Vol. 1(2), pp. 161-170.



44. "A specific and sensitive assay for Gefitinib using methods in pharmaceutical dosage forms". A. Ratna Kumari, A. Rajeswari and K. Sobha (2010). PHARMANEST, Vol. 1 (1), September – October, pp. 118-122. (ISSN Number 0976 – 3090).
45. "A study on acute toxicity , oxygen consumption and behavioural changes in the three major Carps, *Labeo rohita* (ham), *Catla catla* (ham) and *Cirrhinus mrigala* (ham) exposed to Fenvalerate". T. Anita Susan, K. Sobha, K. S. Tilak (2010). BioResearchBulletin, Vol. (1), pp. 33-40.
46. "Emerging Trends in Nanobiotechnology" - Standard Review. K. Sobha, K. Surendranath, V. Meena, T. Keerthi Jwala, N. Swetha and KSM Latha (2010). Biotechnology and Molecular Biology Reviews, Vol. 4(1), pp 1-12.
47. Is Protein Structure Prediction Still An Enigma? A Review. K. Sobha, C. Kanakaraju and K. Siva Krishna Yadav. African Journal of Biotechnology. Vol.7 (25), 2008, pp. 4687-4693.
48. Haematological parameters as an index of immune response in the heavy metal toxicant induced fish, *Catla catla* and *Labeo rohita* (Hamilton). K. Sobha, N. Siva Prathyush, J. of Eco Toxicology and Environmental monitoring", Vol. 18(6), 2008, 629-634.
49. A preliminary study of the histochemical nature of neurosecretory material in different neurosecretory cell groups of the *Heterometrus fulvipes* (Koch) scorpion K.Sobha, V Kotturu, GR Nagalla, VL Das. Braz. J. Morphol. Sci, 2007; 24(4), 203-207.
50. A Cytological study of Neurosecretory cells in relation to Daily rhythm in the scorpion, *Heterometrus fulvipes* (Koch). Sobha K, K. Veeraiah & N. Gopala Rao. Indian J. Comp. Animal Physiol., 2007: Vol. 25(1), pp. 10-19.
51. Cytological study of Neurosecretion in relation to reproduction in the male scorpion, *Heerometrus fulvipes* (Koch). Sobha K, Veeraiah K and Gopala Rao N. Braz. J. Morphol. Sci., 2007: 24(2), pp. 77-87.
52. A Study on Biochemical changes in the fresh water fish, *Catla catla* (Hamilton) exposed to the heavy metal toxicant, Cadmium chloride. Sobha K, Poornima A, Harini P and Veeraiah K. Kathmandu University Journal of Science, Engineering & Tehnology(KUSET). Vol. 1, No. IV, August, 2007.(e-journal).
53. Neurosecretion in relation to reproduction in the female scorpion, *Heterometrus fulipes* (Koch). Sobha K, K. Veeraiah & N. Gopala Rao. Indian Journal of Comparative Animal Physiology, Vol. 24(2), 2006. Pp. 84-91.
54. Molecular Characterization of Clotting factors in Crustaceans – A Review. Sobha K., K.Veeraiah, V. Murugan and N. Gopala Rao. J. of Aquatic Biology, Vol.21 (2), 2006, pp. 186-195.

**(National: 8, International: 46)**

**Paper(s) under Revision/communication**

1. Immuno-nutrition and Immunomodulators to combat infectious diseases – a review. Govada Vayunandana Rao, Kota Sobha (Journal of Ethnopharmacology).
2. Electrospun nano-fibrous polymeric dressings with phytoconstituents for a quick-heal of diverse wounds, K. Sobha, D. Pradeep, S. Radhika, A. Ratnakumari (ACSM)
- 3.

**Patent filed/published/granted**

1. Smart-Dre-M: Biopolymer Composite based Nano-fibrous Wound Dressing Material Indian Patent No. 202041052202; Published on 11.12.2020.
2. Method for microfabrication of one-dimensional (1D) photonic crystal layered point-of-care device for detection of biomarker(s) of renal dysfunction. Indian Patent No. 202141054651. Published on: 10.12.2021.
3. Formulation of natural product based, economic, effective and eco-friendly low foaming cleansing liquid for soft textiles and metal surfaces. Indian Patent No. 202241010460 A. Published on: 04.03.2022.
4. Novel cable operated lightweight and flexible prosthetic hand. Indian Patent No. 202341066960. Published on: 20.10.2023.
5. Nanostructured catalysts for enhanced hydrogen production via steam methane reforming. Indian Patent No. 202441016033. Published on 29.03.2024.

#### **Inventor/Mentor for Product/Prototype development**

1. Mentored the prototype/product development entitled “Aquicare” and presented in Anveshana 2024 (February 23) and won the First Prize with a cash reward of Rs. 1 Lakh And received first prize with a cash reward of Rs. 50,000/- at VIT AP – Launch Pad for business plan competition.
2. Mentored the prototype “Depedichel” and won a consolation prize for the same at VIT AP – Launch Pad for business plan competition.
3. Presented the product titled “Smart Dre-M – a nanofibrous dressing” at the IIC Regional Meet held on January 6<sup>th</sup> at KL Education Foundation and received First Prize for the product from the dignitaries of AICTE.
4. Guided the fabrication of prototype for textile industry effluent treatment with biosorbent pads in 4 stages. Participated in Grandfinale SIH-December 2023 (Smart India Hackathon) held at the nodal center Bhilai Institute of Technology, Durg, Chattisgarh during 19-23 December 2023. The event was organized by AICTE, New Delhi.
5. Guided the fabrication of prototype for fabricating cutlery items from recycled paper and won 3<sup>rd</sup> Prize at the Idea Hackathon (prototype) conducted at institutional level.

#### **Current Focus**

1. **Technology development and Technology Transfer**
2. **Patent Grants**
3. **Active participation in Start up Ecosystem development**
4. **Motivate the young students to become successful entrepreneurs in the near future**

#### **Ph. D. Awarded**

1. **Ratna Kumari Anantha** was conferred doctorate in July 2018 for the thesis “Kinetic, isotherm, and thermodynamic studies on sorption of lead and copper by egg shells

and feathers of emu and chick, and their chitosan composites” submitted to Acharya Nagarjuna University on 15<sup>th</sup> September 2016.

#### **Ph. D. (In Progress)**

- 1. Pradeep Dumpala – Piezoelectric nanomaterials for biomedical applications.**

#### **Research Projects Completed**

- 1. UGC minor research project** for a sum of **Rs. 1,85,000/-** (One lakh eighty five thousand only) which was sanctioned for the work entitled “ Purification and Proteomics of thermotolerant lipase isolated from *Aspergillus* sps. infesting oil seeds” in the month of October 2016 (Proposal number: 3026) has been completed and the utilization certificate submitted was acknowledged.
- 2. Industry-Academia collaborative project**  
Project entitled ‘Natural Product based, economic and effective Liquid detergent/soap Formulation’, K. Sobha, Assoc. Prof. as Principal Investigator and Mrs. M. Sudheera as Co-Principal Investigator and a financial support of Rs. 2.50 lakh under Industry-Interaction Research Project (Bharathi Consumer Care Products Pvt. Ltd., Guntur) 2020.

#### **Research Project Under progress**

- 1. DST-AMT: Received a Project grant of Rs. 49, 20, 400/- for the submitted proposal entitled “Wound dressing material containing copper coated cotton fabrics and the piezoelectric electrospun biopolymer nano-fibrous composites” on 28.02.2022. The total cost of the project is Rs. 61, 76, 400/-.**

#### **Awards / Certificates Received**

- 1. Elsevier Reviewer Recognition Award - Elsevier journal “Groundwater for sustainable development” awarded the “Certificate of Outstanding Contribution in Reviewing” award in August, 2018 in recognition of the contributions made to the quality of the journal as a reviewer.**
- 2. Discipline Star Certificate** in the area of Bioengineering (December, 2019)
- 3. Motivated Learner Certificate** in the area of Bioengineering (December, 2019)
- 4. Domain Certification in Bioengineering & Biosciences (December 2020)**
- 5. NPTEL Super Star (Bioengineering & Biosciences) (December 2020)**
- 6. Inspiring Senior Faculty National Award (5 September 2021), Madras Journal Series Pvt. Ltd., Chennai.**
- 7. Distinguished Woman Researcher in Biotechnology (DWR-EN-2699) (5 March 2022), Venus International Foundation – Center for Advanced Research and Design, Chennai – 600088, TN, India.**
- 8. Recognized as “Motivated Learner” for the second time by NPTEL (Swayam) – December 2023.**

9. **Received First Position in the Yukti Innovation Project Exhibition under the aegis of Innovative Bharat – IIC Regional Meet, 2023 held at Koneru Lakshmaiah Education Foundation Deemed to be University, Vijayawada on 6<sup>th</sup> January 2024.**

#### **Book/Book Chapter(s) Authored**

1. **K. Sobha and D. Santhosh Kumar – Chapter on “Marine Biomaterials: Role in Drug delivery and Tissue Engineering toward Biomedical applications”,** April 2013, pp. 633 – 656, CRC Press, Taylor and Francis Group. ISBN: 978-1-4665-0564.
2. **K. Sobha and D. Santhosh Kumar – Chapter on “Chemistry and Biology of Marine Sponge Collagens”.** In: Marine Sponges: Chemicobiological and Biomedical Applications, 2016. pp. 359-372. **Springer Nature, Springer (India) Pvt. Ltd.** ISBN 978-81-322-2792-2; ISBN 978-81-322-2794-6 (eBook) DOI 10.1007/978-81-322-2794
3. **K. Sobha – Chapter on “An Analysis of the Physico-Chemical Factors and the Molecular Structure for Optimal Activity of Lipase(s) Isolated from *Aspergillus Sps.*”** In: Current Topics on Chemistry and Biochemistry, 2022, pp. 167-180. BP International (India) Pvt. Ltd. Print ISBN: 978-93-5547-766-8, eBook ISBN: 978-93-5547-767-5; DOI: 10.9734/bpi/ctcb/v4/3335A.
4. **K. Sobha, J L Jayanthi, G. Kavitha, A. Ratna Kumari – Chapter on “Role of biochar in catalysis and biotransformations”.** (Accepted and Under publication process) (SpringerNature Publishers)
5. **K. Sobha, A. Ratnakumari, L. Nageswara Rao, G. Kavitha – Chapter on “Role of Textile Industries in Microfiber pollution”.** (Accepted and under publication process) (CRC Press, Taylor and Francis group).
6. **K. Sobha and A. Ratnakumari – Chapter on “Microfibers as carcinogenic and neurodegenerative agents”.** (Accepted and under publication process) (CRC Press, Taylor and Francis group).

#### **NPTEL Certification Courses Completed**

1. “Cell Culture Technologies” offered by IITK, Kanpur – Secured “**Topper**” (Elite with **Gold medal**) for scoring 91% of marks (October 2017).
2. “Bioelectrochemistry” offered by IITK, Kanpur – Secured “**Topper**” (Elite with **Gold Medal**) for scoring 94% of marks (April 2018).
3. “Medical Biomaterials” offered by IITM, Chennai – Secured “**Topper**” (Elite) for scoring 84% of marks (April 2018).
4. “Computer Aided Drug Design” offered by IITM, Chennai – secured 78% Marks (Elite) (October, 2018).
5. “Introduction to Proteomics” offered by IITB, Mumbai – secured 90% Marks (**Gold medal, Topper**) (October, 2018).
6. “Interactomics” offered by IITB, Mumbai – secured 72% Marks (Elite, **Topper**) (October, 2018).
7. “Applications of Interactomics using proteomic and genomic technologies” offered by IITB, Mumbai – secured 74% Marks (Elite, **Topper**) (April, 2019).

8. “Drug Delivery – Principles and Engineering”, July – October 2019, Organized by IITB, Mumbai, Received ‘Elite’ certificate with 73% score.
9. “Introduction to Proteogenomics”, July – October 2019, Organized by IITB, Mumbai, Received ‘Elite + **Topper**’ certificate with 73% score
10. “Bioengineering: An Interface with Biology and Medicine”, January to March, 2020, organized by IITB, Mumbai, Received ‘Elite + **Silver Medal**’ certificate with 83% score.
11. “Interactomics: Basics and Applications”, January to March, 2020, organized by IITB, Mumbai, Received ‘Elite + **Silver Medal**’ certificate with 75% score
12. “Bioenergetics of Life Processes” January to March, 2020, organized by IITK, Kanpur, Received ‘Elite + **Gold Medal + Topper**’ certificate with 94% score
13. “Biomedical Nanotechnology”, August to October 2020, organized by IITR, Roorkee, Received ‘Elite + **Gold Medal + Topper**’ certificate with 90% score.
14. “Biomicrofluidics”, August to October 2020, organized by IITK, Kharagpur, Received ‘Elite + **Silver Medal + Topper**’ certificate with 80% score.
15. “Tissue Engineering”, August to October 2020, organized by IITM, Chennai, Received ‘Elite + **Silver Medal**’ certificate with 83% score.
16. “An Introduction to Cardiovascular Fluid Mechanics”, January to February 2021, organized by IIT, Guwahati, Received ‘Elite’ certificate with 73% score.
17. “Bioreactors”, August to September, 2021, organized by IITM, Chennai, Received ‘Elite + **Gold Medal + Topper**’ certificate with 90% score.
18. “Principles of Downstream Techniques in Bioprocess”, July to October 2021, Organized by IITM, Chennai, Received ‘Elite’ certificate with 60% score.
19. “Data analysis for biologists”, February to April, 2022, Organized by IIT Guwahati, Assam, Received “Elite + **Silver Medal**” certificate with 78% score.
20. “Introduction to Biostatistics”, July to September 2022, Organized by IITB, Mumbai, Received ‘Elite’ certificate with 60% score.
21. “Technologies for clean and renewable energy production”, July to September 2022, organized by IIT, Roorkee, Received ‘Elite + **Silver Medal**’ certificate with 87% score.
22. “The Joy of Computing using Python”, July to October 2022, organized by IIT, Ropar, Received ‘Elite + **Silver Medal**’ certificate with 87% score.
23. “Waste to energy conversion technologies”, January to March 2023, Organized by IIT, Roorkee, Received ‘Elite + **Silver Medal+Topper**’ certificate with 87% score.
24. “Intellectual Property Rights and Competition Law”, August to October 2023, Organized by IIT, Kharagpur, Received ‘Elite+**Gold medal+Topper**’ certificate with 90% score.

**(No. of Gold Medals: 07; No. of Silver Medals: 08; No. of Topper certificates: 14)**

### **NPTEL Domain Certification**

1. “Domain Certification in Bioengineering” December 2020.

### **FDPs Attended (AICTE recognized/IITB on Pedagogy)**

FDP 101X and 201X organized by IITB were attended and completed successfully in November 2017.

### **FDPs Attended (AICTE recognized/NPTEL)**

1. “Applications of Interactomics using proteomic and genomic technologies” offered by IITB, Mumbai
2. Drug Delivery – Principles and Engineering, July – October 2019, Organized by IITB, Mumbai (**One and a half week program**).
3. Introduction to Proteogenomics, July – October 2019, Organized by IITB, Mumbai (**One and a half week program**).
4. “Interactomics: Basics and Applications”, January to March, 2020, organized by IITB, Mumbai. (One and a half week program)
5. “Bioenergetics of Life Processes” January to March, 2020, organized by IITK, Kanpur. (Half a week program)
6. “Biomedical Nanotechnology”, August to October 2020, organized by IITR, Roorkee. (Half a week program)
7. “Biomicrofluidics”, August to October 2020, organized by IITK, Kharagpur. (Half a week program).
8. “Tissue Engineering”, August to October 2020, organized by IITM, Chennai (One week program)
9. “An Introduction to Cardiovascular Fluid Dynamics”, January to February 2021, organized by IIT, Guwahati (Half a week program).
10. “Principles of Downstream Techniques in Bioprocess”, July to October 2021, Organized by IITM, Chennai (One and a Half week program).
11. “Introduction to Biostatistics”, July to September 2022, Organized by IITB, Mumbai. (One week program)
12. “Technologies for clean and renewable energy production”, July to September 2022, organized by IIT, Roorkee. (One week program).
13. “The Joy of Computing using Python”, July to October 2022, organized by IIT, Ropar. (One and a Half week program)
14. “Intellectual property rights and competition law”, August to October 2023, Organized by IIT Kharagpur (One week program)

### **Online FDPs / Webinars / Workshops Attended**

1. National Webinar ‘**Occasion of International Day for Biological diversity**’, Hindu College, Guntur. 5<sup>th</sup> June, 2021 on the occasion of International Day for Biological diversity.
2. AICTE ISTE sponsored virtual refresher program ‘**Bioanalytical Techniques**’, Department of Biotechnology, Kumaraguru College of Technology, Coimbatore, 23-29 April, 2021.
3. University Distinguished Lecture ‘**Design and development of Homogeneous/Heterogeneous catalysts for sustainable chemical industry**’, SRM University, A.P., 17<sup>th</sup> April, 2021.

4. **Online Orientation Training Program for Mentors**, Organized from 19<sup>th</sup> April to 23<sup>rd</sup> April, 2021, Under National Initiative for Technical Teachers' Training by AICTE, New Delhi.
5. One day online workshop '**In silico research – a boon during COVID Pandemic**', Bharat Ratna Prof. CNR Rao Research Centre, Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, on 06<sup>th</sup> March, 2021.
6. AICTE sponsored QIP short term course, '**Recent Advances in Biomedical Engineering**', Department of Biotechnology, IITR, Roorkee, 30 Nov.- 4 Dec. 2020.
7. Proteomic Society of India (PSI) – Education Day, '**MS-based Proteomics: Concepts, Data analysis, and Visualization**'. IITB, Mumbai and NCCS, Pune ,21 Nov. 2020.
8. National Level Online Quiz, '**Research Quest -2020**', Department of Commerce and Internal Quality Assurance Cell GOVERNMENT FIRST GRADE COLLEGE, MUDIPU BantwalTaluk, D.K., Karnataka, 5 July 2020.
9. '**Training of Trainers: National e-workshop on Bioinformatics**', DBT star college program, St. Ann's college for Women with Triton Biosolutions and Innobiome Technologies, Hyderabad, Nov. 7- 22, 2020
10. "**Outcome Based Education System**" – 3 Day FDP organized by Lendi Institute of Engineering and Technology, Jonnada, Vizianagaram from 21 to 23 May 2020.
11. "**Advanced Material Characterization Techniques – A Research Perspective**" 3 Day FDP organized by Lendi Institute of Engineering and Technology, Jonnada, Vizianagaram from 28 to 30 May 2020.
12. "**Nurturing Mental Health – The Cloud of Depression**" - Webinar organized by CG Bhakta Institute of Biotechnology, Uka Tarsadia University, Bardoli, Gujarat on June 21, 2020.
13. "**Research Indicators, Resources, Plagiarism and Academic Integrity**" – a 5 day International e-FDP organized by Patrician College of Arts & Science, Adyar, Chennai from 22 to 26 June, 2020.
14. "**Recent Advances in Biomedical Engineering**" during the period from 30.11.2020 to 04.12.2020 by the Department of Biotechnology, IITR, Roorkee.
15. "**Basic and Advanced Proteomic Approaches**" during the period from 15-26 February 2021 (Two week DST sponsored workshop) organized by IITB, Mumbai.

#### **E -Certificates Received**

1. National Level Online Quiz, 'Research Quest -2020' organized by the Department of Commerce and Internal Quality Assurance Cell government first grade college, Mudipu Bantwal Taluk, D.K., Karnataka on 5-7-2020.
2. Certificate of Participation in Proteomic Society of India (PSI) – Education day organized jointly by IITB, Mumbai and NCCS, Pune on 21<sup>st</sup> November 2020 on the topic “MS-based Proteomics: Concepts, Data analysis, and Visualization”.
3. Certificate of Participation in “Training of Trainers: National e-workshop on Bioinformatics” organized under DBT star college program by St. Ann’s college for Women in collaboration with Triton Bio-solutions and Innobiome Technologies, Hyderabad from 7<sup>th</sup> November to 22<sup>nd</sup> November, 2020.
4. Certificate of Participation in AICTE sponsored QIP short term course on “Recent Advances in Biomedical Engineering” during the period from 30.11.2020 to 04.12.2020 by the Department of Biotechnology, IITR, Roorkee.
5. Certificate of Participation in DST sponsored two-week workshop on “Basic and Advanced Proteomics Approaches” during the period from 15.02.2021 to 26.02.2021 by IITB, Mumbai.
6. National Webinar ‘Occasion of International Day for Biological diversity’, Hindu College, Guntur. 5<sup>th</sup> June, 2021 on the occasion of International Day for Biological diversity.
7. AICTE ISTE sponsored virtual refresher program ‘Bioanalytical Techniques’, Department of Biotechnology, Kumaraguru College of Technology, Coimbatore, 23-29 April, 2021.
8. University Distinguished Lecture ‘Design and development of Homogeneous/Heterogeneous catalysts for sustainable chemical industry’, SRM University, A.P., 17<sup>th</sup> April, 2021.
9. Online Orientation Training Program for Mentors, Organized from 19<sup>th</sup> April to 23<sup>rd</sup> April, 2021, Under National Initiative for Technical Teachers’ Training by AICTE, New Delhi.
10. One day online workshop ‘In silico research – a boon during COVID Pandemic’, Bharat Ratna Prof. CNR Rao Research Centre, Avinashalingam Institute for Home Science and Higher Education for Women, Coimbatore, on 06<sup>th</sup> March, 2021.

## Memberships

1. Life member of the Indian Society for Comparative Animal Physiologists (**ISCAP**)
2. Life member of Association of Biotechnology and Pharmacy (**ABAP**)
3. Life member of the Indian Society for Technical Education (**ISTE**)
4. Member of the European Federation of Biotechnology (**EFB**)
5. Member, Board of Studies, ANU for UG courses
6. Member Secretary, Institutional Ethical Committee, RVR & JCCE.
7. Member, IBSC – DBT.

## Guest Lectures delivered

1. “Innovate, Protect, Prosper: A Journey Through Intellectual Property Rights, Patents, Copyrights, and Trademarks for Women Entrepreneurs” in the Department of Science

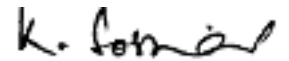


and Technology (DST), Govt. of India, sponsored 3-Week Online Women Entrepreneurship Development Program (WEDP) organized by R.V.R. and J.C. College of Engineering on September 05, 2023.

2. “Changing trends in tutor-taught interactions” for young faculty members under Induction Training Program organized by ISTE faculty chapter of RVR & JC College of Engineering on 2<sup>nd</sup> May, 2015.
3. “Instructional Objectives and Methodology of Teaching” for young faculty members under Induction Training Program organized by ISTE faculty chapter of RVR & JC College of Engineering on 6<sup>th</sup> September, 2011.
4. “Recombinant DNA Technology – Cloning Vectors” – Lecture delivered for the faculty of A.C. College, Guntur, 19<sup>th</sup> June 2009.
5. “DNA and its way to Protein” – Lecture delivered for the benefit of students of B.Sc. (Microbiology) and B.Sc. (Biochemistry) at Bapatla College of Arts and Science in November 2006.

### **Research Guidance**

1. Registered as a Research Guide in Life Sciences under Periyar University (PRIDE) and Bharathidasan University.
2. Registered as Research Guide in Biotechnology at Acharya Nagarjuna University and successfully GUIDED ONE PH.D. STUDENT till date.
3. Registered as Co-Guide at Amity University, Haryana and guiding one Ph. D. student.

  
(Dt. 31.01.2024)