Faculty Profile

Name :Dr. Nanjundaswamy G S
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About me:

I am Dr. Nanjundaswamy G. S. Assistant Professor, Department of Chemistry at the National Institute of Engineering, Mysuru, with over 11 years of teaching and research experience. I hold a Ph.D. in Chemistry from Visvesvaraya Technological University, Karnataka, and have taught engineering and science courses for undergraduate and postgraduate students at JSS Academy of Technical Education, Noida, and Sarada Vilas College, Mysuru. My research interests include synthetic polypeptide/polymer blends, miscibility studies for biomedical applications and nanoparticles, polymer nanocomposites for opto-electronic and electrochemical applications. I have published extensively in SCI-indexed journals, serving as a reviewer for international journals, and recognised research supervisor under VTU.

Qualification: B.Sc. M.Sc. B.Ed. (UOM), Ph.D. (VTU, Belagavi)

Courses Taught:

UG courses - Applied Chemistry for CSE Stream theory and lab, Engineering Chemistry theory and practical, Organic Chemistry theory and practical.

PG courses - Organic Chemistry theory and practical, Inorganic Chemistry theory and practical, and Analytical Chemistry practical

Publications:

Journal Publications:

(1) M. C. Ramegowda, S. Ningaiah, V. Basavanna, M. Chandramouli, **Nanjundaswamy G. S.**, S. N. Swamy, and U. K. Bhadraiah, "New thiadiazole and benzothiazole affixed pyrazoles: Synthesis, characterization, and pharmacological evaluation," 2026.

(2) S. Sachhidananda, K. S. Nithin, **Nanjundaswamy G. S.**, B. M. Jagajeevan Raj, M. P. Chandresh, and S. Roopa, "Flexible PVA composites with strontium-doped cerium oxide NPs for UV-shielding applications," *Journal of Applied Polymer Science*, 2026, Art. no. e70392.

(3) M. C. Ramegowda, V. Basavanna, M. Chandramouli, S. Ningaiah, **Nanjundaswamy G. S.**, K. C. Vijendra, and U. K. Bhadraiah, "New pyrazole-thiadiazole Schiff

derivatives: Synthesis, characterization and pharmacological evaluation," *Phosphorus, Sulfur, and Silicon and the Related Elements*, pp. 1–13, 2025.

(4) S. Pavithra, D. Kathyayani, **Nanjundaswamy G. S.**, T. L. Soundarya, R. Thejas, G. Mirji, B. S. Krishna, G. Nagaraju, and B. Prashanth, "Green-synthesized YSZ/polypyrrole nanocomposites for enhanced electrochemical and butane gas sensing applications," *Ionics*, vol. 31, no. 11, pp. 12257–12270, 2025.

(5) N. P. Nayak, R. Bairy, H. Vijeth, M. N. Khadri, **Nanjundaswamy G. S.**, A. S. Bhat, and P. B. Yashika, "Tuning the properties of cobalt oxide thin films via precursor solution engineering for high-performance supercapacitor applications," *Inorganic Chemistry Communications*, 2025, Art. no. 115729.

(6) P. Suhas, B. Mahesh, S. G. Divakara, **Nanjundaswamy G. S.**, C. S. Mahadevaprasad, A. Sionkowska, and D. C. Gowda, "Synergistic approaches in natural and synthetic polymer blends for biomedical applications—A review," *European Polymer Journal*, 2025, Art. no. 114161.

(7) M. P. Puttaswamy, N. K. Subramani, S. Shivanna, **Nanjundaswamy G. S.**, B. S. Madhukar, S. G. Chitra, and R. G. Urs, "High refractive index calcium-doped thorium oxide-reinforced polyvinyl alcohol nanocomposite for visible light enhancement," *Materials Science in Semiconductor Processing*, vol. 193, p. 109484, 2025.

(8) S. Sachhidananda, K. S. Nithin, H. V. Patil, B. J. Raj, T. E. Somesh, **Nanjundaswamy G. S.**, and S. Roopa, "UVB protective polyvinyl alcohol/$ZnCeO_3$ nanocomposite films: Blue luminescent UV leakage detectors," *European Polymer Journal*, vol. 228, p. 113809, 2025.

(9) G. Mahesh, S. Subbareddy, **Nanjundaswamy G. S.**, M. Selvaraj, M. A. Assiri, N. Seetharamaiah, and S. Shadakshari, "Unlocking the dual-detection potential of Nd_2NiZrO_6@GO electrodes for paracetamol and dopamine," *Journal of Materials Chemistry B*, vol. 13, no. 40, pp. 13075–13087, 2025.

(10) M. P. Puttaswamy, N. K. Subramani, S. Shivanna, **Nanjundaswamy G. S.**, B. S. Sangameshwara, and R. G. Urs, "Inorganic metal oxide-reinforced polymer-based flexible inorganic nanocomposite for UV shielding applications," *Journal of Applied Polymer Science*, vol. 141, no. 33, Art. no. e55837, 2024.

(11) **Nanjundaswamy G. S.**, M. Basavaraju, A. Sionkowska, and C. G. D. Gowda, "A review on synthetic polypeptide-based blends with other polymers: Emerging trends and advances," *European Polymer Journal*, vol. 215, p. 113225, 2024.

(12) N. H. Vinayakprasanna, J. Jayashankar, V. P. Chettijana, Niranjan Murthy, Gurumallappa, **Nanjundaswamy G. S.**, S. Sandeep, P. Mallu, and C. S. Karthik, "(Z)-(2,4-difluorophenyl)(1-((2-nitrophenyl)sulfonyl)piperidin-4-yl)methanone oxime): Synthesis and computational evaluation on electronic properties," *Letters in Applied NanoBioScience*, vol. 12, no. 4, p. 132, 2023.

(13) S. G. Chitra, P. Mahadeva Prasad, S. J. Anasuya, R. G. Urs, S. Sachhidananda, **Nanjundaswamy G. S.**, and K. S. Nithin, "Nanotechnology-enabled polymer-based nanocomposite hybrids for advanced optical applications: A review," *International Journal of Nanoscience*, vol. 22, no. 4, p. 2330002, 2023.

(14) S. G. Chitra, P. Mahadeva Prasad, S. J. Anasuya, R. G. Urs, S. Sachhidananda, **Nanjundaswamy G. S.**, and K. S. Nithin, "Optical and electrical property engineering in polyvinyl alcohol nanocomposite films introduced with $Al_{0.2}Zn_{0.7}O$ nanofillers," *International Journal of Nanoscience*, 2023.

(15) Nanjundaswamy G. S., M. Basavaraju, A. Sionkowska, and C. G. D. Gowda, "Examination of miscibility characteristics of the synthetic plastic-mimetic peptide with polyacrylamide: Development of nonwoven mats by electrospinning," *Polymer-Plastics Technology and Materials*, vol. 60, no. 4, pp. 405–418, 2021.

(16) K. S. Siddegowda, B. Mahesh, N. A. Chamaraja, B. Roopashree, N. Kumara Swamy, and **Nanjundaswamy G. S.**, "Zinc oxide nanoparticles supported on multi-walled carbon nanotube modified electrode for electrochemical sensing of a fluoroquinolone drug," *Electroanalysis*, vol. 32, no. 10, pp. 2183–2192, 2020.

(17) B. Mahesh, **Nanjundaswamy G. S.**, D. Kathyayani, D. C. Gowda, and Siddaramaiah, "Impact of blend proportion on the miscibility and thermal characteristics of synthetic plastic-derived polypentapeptide with commercially available polyvinyl alcohol," *Journal of Polymers and the Environment*, vol. 27, no. 10, pp. 2267–2280, 2019.

(18) B. Mahesh, D. Kathyayani, **Nanjundaswamy G. S.**, D. C. Gowda, and R. Sridhar, "Miscibility studies of plastic-mimetic polypeptide with hydroxypropyl methylcellulose blends and generation of non-woven fabrics," *Carbohydrate Polymers*, vol. 212, pp. 129–141, 2019.

(19) **Nanjundaswamy G. S.**, M. Basavaraju, and C. G. D. Gowda, "Elastin-based polymer: Synthesis, characterization and examination of its miscibility characteristics with poly(vinyl alcohol) and electrospinning of the miscible blends," *Polymer International*, vol. 67, no. 11, pp. 1511–1522, 2018.

(20) B. Mahesh, **Nanjundaswamy G. S.**, D. C. Gowda, and Siddaramaiah, "Synthesis and evaluation of interaction parameters of synthetic elastin-derived polypentapeptide with poly(vinylpyrrolidone) in solution and solid phase," *Journal of Applied Polymer Science*, vol. 135, no. 39, p. 46699, 2018.

(21) B. Mahesh, **Nanjundaswamy G. S.**, D. C. Gowda, and B. Siddaramaiah, "Synthesis of elastin-based polymer and evaluation of its intermolecular interactions with hydroxypropyl methylcellulose," *Journal of Applied Polymer Science*, vol. 134, no. 36, p. 45283, 2017.

(22) B. Mahesh, **Nanjundaswamy G. S.**, D. C. Gowda, and Siddaramaiah, "Investigation on miscibility behaviors of elastin-like polypentapeptide blends with polyvinyl alcohol in aqueous and solid state," *Journal of Applied Polymer Science*, vol. 134, no. 12, 2017.

Conference Proceedings:

A. International Conference Proceedings

[1] D. Kathyayani, **Nanjundaswamy G. S.**, B. Mahesh, and A. Sionkowska, "Miscibility and physicochemical profiling of polymer–polypeptide blends: Toward effective wound healing applications," in *Proc. 34th Annual Conf. Biomaterials in Medicine*

and Veterinary Medicine, Rytro, Poland, Oct. 9–12, 2025, pp. 94, Scientific Publishing House “Akapit”, Kraków, Poland.

[2] **Nanjundaswamy G. S.**, V. Lakshmi Ranganath, S. Sachhidananda, K. S. Nithin, and B. M. Jagajeevan Raj, “Green synthesis and characterization of ThZnO nanocomposites using honey: Application in photocatalytic dye degradation,” in *Proc. Int. Conf. Polymers for Sustainable Development*, JSS Academy of Technical Education, Bengaluru, India, Feb. 7, 2025.

[3] S. Rakshitha, R. Keerthana, S. P. Hegde, **Nanjundaswamy G. S.**, and R. Gururaja, “Novel synthesis of new 5-(6-substituted-2-hydroxy-quinolin-3-yl)-3-(substituted phenyl)-4,5-dihydro-1H-pyrazole-1-carbothioamide derivatives as antimicrobial agents,” in *Proc. 2nd Int. Conf. Advanced Materials for Health, Energy and Environment (AMHEE)*, Mysuru, India, Feb. 28–Mar. 2, 2023, Paper PP-6.

[4] **Nanjundaswamy G. S.**, S. G. Chitra, P. Mahadeva Prasad, S. Anasuya, R. G. Urs, S. Sachhidananda, and K. S. Nithin, “Optical and electrical property engineering in poly(vinyl alcohol)/poly(vinyl pyrrolidone) nanocomposite films introduced with $Al_{0.2}Zn_{0.7}O$ nanofillers,” in *Proc. 2nd Int. Conf. Advanced Materials for Health, Energy and Environment (AMHEE)*, Mysuru, India, Feb. 28–Mar. 2, 2023, Paper PP-5.

[5] N. Usharani, **Nanjundaswamy G. S.**, B. Mahesh, and D. C. Gowda, “Organic transformations using catalytic transfer hydrogenation with metal nanoparticles as catalysts—A review,” in *Proc. Int. Conf. Advances in Materials and Nanotechnology (AMN)*, Noida, India, Feb. 20–22, 2020.

[6] C. S. Pushpa, **Nanjundaswamy G. S.**, B. Mahesh, and D. C. Gowda, “Synthesis and characterization of peptide-derived plastic polymer and evaluation of its miscibility parameters with polyvinyl alcohol (PVA),” in *Proc. Int. Conf. Advances in Materials Research (ICMAR)*, Bengaluru, India, Jul. 25–27, 2019.

[7] **Nanjundaswamy G. S.**, D. Kathyayani, B. Mahesh, and D. C. Gowda, “Plastic-derived polypentapeptides: Synthesis and investigation of physicochemical characteristics of miscible blends in solution phase method,” in *Proc. 3rd Int. Conf. Recent Advances in Material Chemistry (ICRAMC)*, Chennai, India, Feb. 13–15, 2019, Paper ID 106.

[8] **Nanjundaswamy G. S.**, B. Mahesh, D. Kathyayani, D. C. Gowda, and Siddaramaiah, “Study on the miscibility characteristics of synthetic polypeptide blends with a commercially available polymer for biomedical applications,” in *Proc. Int. Symp. Advanced Materials (ISAM)*, Mysuru, India, Dec. 27, 2017, p. 8.

[9] B. Mahesh, **Nanjundaswamy G. S.**, K. S. Siddegowda, and B. K. Bettadaiah, “Copper oxide nanoparticles as electrochemical sensor for the simultaneous detection of nucleic acids,” in *Proc. Int. Conf. Nano for Energy and Water*, Dehradun, India, Feb. 22–24, 2017, Paper ID 25.

[10] B. Mahesh, **Nanjundaswamy G. S.**, D. Kathyayani, and D. C. Gowda, “Miscibility study on synthetic elastin based polypeptide with a commercially available polymer,” in *Proc. Advanced Polymers for Science and Technology (APST)*, Vellore, India, Oct. 24–26, 2016, Paper OR-05.

[11] **Nanjundaswamy G. S.**, B. Mahesh, D. C. Gowda, and Siddaramaiah, "An insight into the blends of synthetic peptides with other polymers—A review," in *Proc. Int. Conf. Advanced Materials and Technology (ICMAT)*, Mysuru, India, May 26–28, 2016, p. 143.

B. National Conference Proceeding

[12] S. Sachhidananda, K. S. Nithin, **Nanjundaswamy G. S.**, B. M. Jagajeevan Raj, M. P. Chandresh, and S. Roopa, "Development and evaluation of PVA/$CaCeO_3$ nanocomposite films for UVB shielding applications," in *Proc. 8th Nat. Conf. Advanced Polymeric Materials and Applications (POLYCON)*, Mysuru, India, May 15–16, 2025, Paper OP30.

[13] **Nanjundaswamy G. S.**, S. Sachhidananda, K. S. Nithin, B. M. Jagajeevan Raj, and V. Lakshmi Ranganath, "Enhanced optical properties of thorium-doped ZnO/PVA nanocomposite films for photonic and LED applications," in *Proc. 8th Nat. Conf. Advanced Polymeric Materials and Applications (POLYCON)*, Mysuru, India, May 15–16, 2025, Paper OP22.

[14] **Nanjundaswamy G. S.**, P. Mahadeva Prasad, S. G. Chitra, S. J. Anasuya, R. G. Urs, S. Sachhidananda, and K. S. Nithin, "Engineering optical and electrical properties in polyvinyl pyrrolidine nanocomposite films using $Al_{0.2}Zn_{0.7}O$ nanofillers," in *Proc. Nat. Conf. Advancement in Chemistry and Medicinal Chemistry (ACMC)*, Mandya, India, Dec. 9, 2023.

[15] **Nanjundaswamy G. S.**, B. Mahesh, D. C. Gowda, S. G. Divakar, and D. R. Swamy, "Exploration of miscibility behavior of elastin-based polypeptide with a commercially available polymer," in *Proc. 7th Nat. Conf. Novel Materials (POLYCON)*, Mysuru, India, Sept. 15–16, 2017, Paper OP-04.

[16] B. Mahesh, **Nanjundaswamy G. S.**, and D. C. Gowda, "Study on miscibility characteristics of polypentapeptide of elastin with a classical polymer," in *Proc. ICC XXXXIV Annual Conf.*, Bardoli, India, Dec. 26–28, 2015, Paper OO-3.

[17] **Nanjundaswamy G. S.**, B. Mahesh, S. G. Divakar, D. C. Gowda, and P. Mallu, "Synthesis, characterization and catalytic application of functionalized supporting material with ferrocene appended cobalt phthalocyanine complex," in *Proc. Conf. Current Trends in Chemical Biology*, Mysuru, India, Dec. 29–31, 2014, p. 201.

[18] B. Mahesh, B. S. Shankara, P. K. Murali, S. N. **Nanjundaswamy G. S.**, and V. S. Arun, "DNA binding and cleavage activity of new (2E)-2-[(2-butyl-4-chloro-1H-imidazol-5-yl)methylidene]-N-ethylhydrazine carbothioamide with metal complexes," in *Proc. Nat. Conf. Recent Trends in Chemical Research (NCRTCR)*, Mysuru, India, Jan. 3–4, 2014, Paper OP-18

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