**FACULTY WEBSITE PROFILE**

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| Name of The Faculty | Dr. A B HEMAVATHI  |
| Designation | Associate Professor |
| Qualification | BE, M Tech, PhD |
| E Mail ID | hemavathi@sjce.ac.in<br>hemavathi@jssstuniv.in |
| LinkedIn ID | https://www.linkedin.com/in/dr-a-b-hemavathi |
| ORCID | 0000-0002-7329-9643 |
| Contact Number | 9986394821 |
| Work Experience | |
| 1. Teaching | 14 years |
| 2. Industry | - |
| 3. Research | 20 Years |
| 4. Other | - |
| Area of Specialization | Polymer Science and Technology |
| Subjects Taught | |
| 1. Under Graduate Level | • Transport Phenomena in Materials Engineering<br>• Polymer Recycling and value addition<br>• Polymer Composites for Engineering Applications<br>• Elements of Material Science<br>• Polymer Compounding<br>• Fluid Mechanics Lab<br>• Chemical Engineering Lab |
| 2. Post Graduate Level | • Material Science<br>• Advanced Composite Technology<br>• Polymer Physics and Rheology<br>• Polymer Processing |
| **Research Guidance** | |
| 1. Under Graduate Level<br>2. Post Graduate Level | **BE Projects Guided: 15**<br><br>**M Tech Project Guided (18 Nos.)**<br>1. Studies on biocompatible adhesive for long lasting adherence in ECG application. By Mr. Gnana Sandeep S.R, Visveswaraiah Technological University, Belgaum, 2012-13.<br>2. Investigation on physico- machnical, thermal, tribological and |
| 3. PhD | |

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| | morphological behaviors of nylon 6 composites. By Ms. Pruthvi L, Visveswaraiah Technological University, Belgaum, 2013-14.<br>3. Miscibility and phase behavior studies of polystyrene/polycarbonate blends. By Ms. Syeda Suman Fathima, Visveswaraiah Technological University, Belgaum, 2014-15.<br>4. Preparation and Characterization of Synthetic Rubber Based and Acrylic Based Removable Pressure Sensitive Adhesives Tape. By Mr. Denzil Sebastain, Visveswaraiah Technological University, Belgaum, 2015-16.<br>5. PVA based Proton Exchange Membranes for fuel cell Applications. By Megha M. JSS Science and Technological University, Mysuru, 2019-20.<br>6. Evaluation of Ternary Metal Oxide Decorated Graphene Based Polymer Nanocomposites as Electrode Materials for High Performance Supercapacitors. By Akhil Babu, JSS Science and Technological University, Mysuru, 2020-21.<br>7. Monitoring of Temperature, Humidity and Power Supply to Home Using Polymer-Based Sensor and IoT. (Co-guide), By Shwetha M S, JSS Science and Technological University, Mysuru, 2020-21.<br>8. Development of Milled Glass Fiber Reinforced Nylon Composites. By Manikandan S, JSS Science and Technological University, Mysuru, 2020-21.<br>9. Studies to Reduce Molding Edge Cut Defects in Tyre Valve Assembly. By Sandhya S, JSS Science and Technological University, Mysuru, 2020-21.<br>10. Development of Cost Effective Thermo Plastic Starch Formulation. (Co-guide), By Vedhika B R. JSS Science and Technological University, Mysuru, 2020-21.<br>11.Preparation and Characterization of Epoxy/Flyash/Redmud/Aluminium Powder Filled Hybrid Composites for Automotive Applications. By Adeebpasha A, JSS Science and Technological University, Mysuru, 2021-22.<br>12. Studies on mechanical Behavior of Concrete Filled with Steel Slag and Polymer Waste. By Aproova M N, JSS Science and Technological University, Mysuru, 2021-22.<br>13. Experimental study on Strength and Durability Characteristics of Self Curing Concrete Filled with Fly ash and Stearic acid. (Co-guide), By Pavan Naik, JSS Science and Technological University, Mysuru, 2021-22.<br>14. Preparation and Characterization of Adhesive Based on Expanded Polystyrene (EPS) Waste. (Co-guide), By Surjith N, JSS Science and |

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| | Technological University, Mysuru, 2021-22.<br>15. Preparation and Characterization of Polymer Composite Materials for EMI Sheilding Applications. (Co-guide), By Vinay, JSS Science and Technological University, Mysuru, 2021-22.<br>16. Material selection and evaluation of bonding strength of polyurethane foams and nonwoven fibers to butyl surfaces for sound proof applications in tires. By Shravani, 3M India Pvt. Limited, Bengaluru, 2022-23.<br>17. Development of sustainable Food packaging film based on Polyvinyl alchohol/k-Carrageenan/Kodo Millet (*Paspalum scorbiculatum*) husk. By Gouri Patil (KSCST sponsored project), 2023-24.<br>18. Development of Polymer Composites for Electromagnetic Attenuation. By K V Anusha, 2025-26.<br><br>**PhD Guiding: 5** |
| **Publication Details** | |
| 1. Inter National Journal<br>2. National Journal<br>3. Conferences<br>Patents<br>Book Published | **International Journals**<br>1. **AB Hemavathi**, H Umesh Hebbar and KSMS Raghavarao (2007). Reverse micellar extraction of bromelain from *Ananas comosus* L. Merryl. *Journal of Chemical Technology and Biotechnology* 82(11): 985-992. (IF:3.174) https://doi.org/10.1002/jctb.1769<br>2. **AB Hemavathi**, H Umesh Hebbar and KSMS Raghavarao (2008). Reverse micellar extraction of β-galactosidase from barley *(Hordeum vulgare)*. *Applied Biochemistry and Biotechnology* 151: 522-531. (IF:2.431)<br>3. **AB Hemavathi**, H Umesh Hebbar and KSMS Raghavarao (2010). Mixed reverse micellar systems for extraction and purification of β-glucosidase. *Separation and Purification Technology* 71: 263–268. (IF:7.312)<br>4. **AB Hemavathi** and KSMS Raghavarao (2011). Differential partitioning of β-galactosidase and β-glucosidase using aqueous two-phase extraction. *Process Biochemistry* 46,649-655. (IF: 3.757)<br>5. **AB Hemavathi** and KSMS Raghavarao (2011). Membrane processing for purification and concentration of β-glycosidases of Barley (*Hordeum vulgare*). *Biotechnology and Bioprocess Engineering*. 16,282-290. (IF: 2.836)<br>6. H Umesh Hebbar, **AB Hemavathi**, B Sumana and KSMS Raghavarao (2011). Reverse micellar extraction of bromelain from pineapple |

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| | (*Ananas comosus* L. Merryl) waste: scale-up, reverse micelles characterization and mass transfer studies. *Separation Science and Technology*. 46, 1656-1664. (IF: 2.475)<br>7. Sunil Kumar, **AB Hemavathi** and H Umesh Hebbar (2011). Affinity based reverse micellar extraction and purification of bromelain from pineapple (*Ananas comosus* L. Merryl) waste. *Process biochemistry.* 46,1216-1220. (IF: 3.757)<br>8. H Umesh Hebbar, B Sumana, **AB Hemavathi** and KSMS Raghavarao (2012). Separation and purification of bromelain by reverse micellar extraction coupled ultrafiltration and comparative studies with other methods. *Food and Bioprocess Technology.* 5, 1010-1018. (IF: 4.465)<br>9. MR Shankare Gowda, **AB Hemavathi,** S Srinivas, G Santhosh and Siddaramaiah. Physico-mechanical, thermal, and tribological studies of polytetrafluoroethylene filled polyoxymethylene/silicone composites. *Journal of Thermoplastic Composite Materials*. 2022, 35(6), 846-859. 10.1177/0892705720925117. (IF: 3.33)<br>10. Sowmya, B., **Hemavathi, A.B**. & Panda, P.K. Poly (ε-caprolactone)-based electrospun nano-featured substrate for tissue engineering applications: a review. *Prog Biomater* 10, 91–117 (2021). https://doi.org/10.1007/s40204-021-00157-4. (IF: 4.878)<br>**11. A.B. Hemavathi,** Prashanth M Bhat, C. A. Monisha, P. Akhila. (2021). Environmentally Benign Food Packaging Material based on Polylactic acid - A Brief Review. *International Research Journal of Engineering and Technology,* 8(8), 362-368. (IF: 7.529)<br>**12. AB Hemavathi,** Akhil Babu, P.S. Keshava Murthy, AS Zarena (2022). Sustainable nanocomposite films of improved barrier properties for food packaging applications. *Materials Today: Proceedings,* 65(1), 364-366. (IF: 1.46).<br>13. K. C. Anil, **A B Hemavathi** and A. Adeebpasha (2023). Mechanical and fractured surface characterization of epoxy/red mud/fly ash/aluminium powder filled hybrid composites for automotive applications. *Fracture and Structural Integrity,* 17 (64), 93-103. https://doi.org/10.3221/IGF-ESIS.64.06 (Q2)<br>14. Akhil Babu, Somesh, T. E., Ani Dechamma, C. D., **Hemavathi, A. B.,** Kakarla, R. R., Kulkarni, R. V., & Raghu, A. V. (2023). Ternary structured magnesium cobalt oxide/graphene/polycarbazole nanohybrids for high performance electrochemical supercapacitors. *Materials Science for Energy Technologies,* 6, 399-408. (cite score: 16.5) Q1<br>15. Suhasini, M. R., Rajeshwari, K. M., Bindya, S., **Hemavathi, A. B.,** Vishwanath, P. M., Syed, A., Eswaramoorthy, R., Amachawadi, R.G., |

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| | Shivamallu, C., Chattu, V.K. and Majani, S.S. (2023). Pectin/PVA and pectin-MgO/PVA films: Preparation, characterization and biodegradation studies. *Heliyon*. Q1<br>16. Rajeshwari, K. M., Suhasini, M. R., Bindya, S., **Hemavathi, A. B.,** Ali, N., Amachawadi, R. G., Shivamallu, C., Hallur, R.L., Majani, S.S. & Kollur, S. P. (2023). Photocatalytic efficacy of Magnesium oxide nanoparticles in dye Degradation: A sustainable One-Pot synthesis utilizing Syzygium samarangense L. Extract. *Results in Chemistry*, *6*, 101193. https://doi.org/10.1016/j.rechem.2023.101193. Q2<br>17. Aditya, D. S., Mahadevaprasad, K. N., Santhosh, K. N., **Hemavathi, A. B.,** Halakarni, M., Yoon, H., & Nataraj, S. K. (2024). Sustainable and eco-friendly membranes from sugarcane bagasse: An upcycling approach for wastewater treatment and energy storage. *Chemical Engineering Journal*, 150910. https://doi.org/10.1016/j.cej.2024.150910. (cite score: 21.7).Q1<br>18. Shubhada H C, Rajeshwari K M, Bindya S, **A B Hemavathi,** Veena M G, Supreetha M, Shiva Prasad K. Flexible PVA/PEG/PANI@$WO_3$ polymer-nanocomposite film for EMI Shielding Studies. *Journal of Inorganic and Organometallic Polymers and Materials*. 35, 5394-5407, 2025. https://doi.org/10.1007/s10904-025-03597-8. (IF: 4.9) Q2<br>19. Aditya, D. S., Santhosh, K. N., **Hemavathi, A. B.,** Kalpana, D., & Nataraj, S. K. (2025). A sustainable approach to lithium and industrial wastewater separation using recycled cellulose membrane with Zr-functionalized silicate clay. *Chemical Engineering Journal*, 507, 160680. https://doi.org/10.1016/j.cej.2025.160680. Q1<br>20. **A B Hemavathi,** H Umesh Hebbar, Akhil Babu, A Adeebpasha, N R Amrutha, M C Madhusudan. (2025). Preparation and Characterization of nano-silica incorporated Starch/k-Carrageenan Active Food Packaging Film Functionalized by Eucalyptus oil. Polymer International, https://doi.org/10.1002/pi.70007. (IF 3.6) Q2<br>21. Rajeshwari K M, Shubhada H C, Bindya S, **Hemavathi A B,** Chandan S, Revanth H C, Chandan D, Shiva Prasad K. Biological, Optical and Electrical Behaviour of k-Carrageenan/PVA/$TiO_2$ Nanocomposite Film. International Journal of Biological Macromolecules, 319 (2025) 145595. https://doi.org/10.1016/j.ijbiomac.2025.145595 Q1<br>22. D. S. Aditya, **A. B. Hemavathi**, D. Kalpana, G. Gnana kumar, S. K. Nataraj. Synergic ZnNi Bimetallic Organic Frameworks in a Tight NF Membrane: A Sustainable Breakthrough for Complex Industrial Wastewaters Treatment. Chemical Engineering Journal, Volume |

519, September 2025, 165484, https://doi.org/10.1016/j.cej.2025.165484

23. Gayitri H. M., Rajalakshmi M C, Komalakumari, Pallavi J, **Hemavathi A B**. Synthesis and Characterization of Hybrid Nanostructures Based Natural Dye Sensitized Solar Cell, Journal of Electrical Systems, 21-1(2025):641-647, https://doi.org/10.52783/jes.9019.
24. Manaswini K M, Rajeshwari K M, Shubhada H C, Bindya S, **Hemavathi A B.** Sustainable MgO Nanoparticle Synthesis for Photocatalytic Applications in Dye Degradation. Indian Journal of Engineering, Management and Sciences, 2025;1(1):19-28.
25. Kishor, B.N., Majani, S.S., Rajeshwari, K.M., Shubhada H.C., Bindya S, **Hemavathi A.B.,** Poojitha BSS, I. Muzaffar, A K Sakran, Shivamallu C, Raghavendra GM, S. Victor, S. Ekaterina, K. Shiva Prasad. Bismuth nickelate nanoparticles synthesized using *Curcuma longa* rhizome extract as biocidal and photocatalytic agents. Scientific Reports 15, 35692 (2025). https://doi.org/10.1038/s41598-025-19626-y.
26. A Adeebpasha, **A B Hemavathi**, H Umesh Hebbar, S Bindya, Anirudh G Patil and Gouri Patil. Sustainable and Eco-Friendly Polymer Nanocomposites for Functional Food Packaging: From Material Design to Applications. *Food Eng Rev* **18**, 3 (2026). https://doi.org/10.1007/s12393-025-09433-6.
27. H.C. Shubhada, K.M. Rajeshwari, S. Bindya, **A.B. Hemavathi,** M.G. Veena, M. Supreetha, Pawandeep Kaur. PVA/PVP/$Ag_2WO_4$/$CoZnFe_2O_4$ nanocomposite film: A sustainable approach to EMI shielding and optoelectronic devices. Chemical Engineering Journal, 2026, 173347, ISSN 1385-8947, https://doi.org/10.1016/j.cej.2026.173347.
28. Bindya S., Geethashree R., Lokesh B.K., Shubhada H.C., Rajeshwari K.M., **Hemavathi A.B.,** Veena M.G., Supreetha M., Pawandeep Kaur. Opto-electrical and EMI shielding attributes of flexible PVA/PANI/$SnFe_2O_4$ hybrid nanocomposite film. ***Journal of Alloys and Compounds,*** Volume 1055, 2026, 186538, ISSN 0925-8388, https://doi.org/10.1016/j.jallcom.2026.186538. (IF 6.3, Q1)
29. Shambu B.S., Rajeshwari K.M., Bindya S., **A. B. Hemavathi,** M. L. Keerthi, S. Lakshmi, Pallavi Singh, Chandan Shivamallu, Kasim Sakran Abass, Victor Stupin, Ekaterina Silina & Shiva Prasad Kollur. Turmeric essential oil infused pectin blended sodium alginate polymer as sustainable food packaging material. *Sci Rep* **16**, 8107 (2026). https://doi.org/10.1038/s41598-026-38254-8.
30. Tejas MR, Suresha B, P Meghavath C, Afiya S, **Hemavathi AB.**

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| | Experimental analysis on mechanical properties and three-body abrasive wear behavior of microcrystalline cellulose filled natural fiber composites. *Journal of Composite Materials*. 2026;0(0). doi:10.1177/00219983261432448 (March)<br>31. B. K. Lokesh, H. C. Shubhada, K. M. Rajeshwari, S. Bindya, A. B. Hemavathi, M. G. Veena, M. Supreetha and Pavandeep Kaur. Flexible PVA/PANI/$Y_{0.4}Ba_{0.4}Fe_2O_4$ polymer nanocomposite film for active EMI shielding and UV blocking applications. Materials Science and Engineering: B, Volume 330, May 2026, 119549. https://doi.org/10.1016/j.mseb.2026.119549.<br>32. Suhas B Kale, D. S. Aditya, K. N. Santhosh, Gagan Deep G, **A. B. Hemavathi,** Dibyendu Mondal**,** Nataraj S K. Thermochemically Engineered Cellulose-Directed Development of Pyrolyzed Cu–BTC Free-Standing Membranes for Sustainable Forward Osmosis of Real Industrial Effluents. *ACS ES&T Engineering,* 6(8), pp. 2151-2168, July 2026, 10.1021/acsestengg.6c00153.<br>33. D. S. Aditya, **A. B. Hemavathi,** D. Kalpana, Nataraj S K. Valorization of agricultural waste into high-performance cellulose–PES membranes for advanced wastewater remediation: A sustainable approach. *Separation and Purification Technology*, 2026, Volume 409, 139237, https://doi.org/10.1016/j.seppur.2026.139237.<br>34. Adeebpasha, A., **Hemavathi, A.B.,** Hebbar, H.U., Akhil Babu, Bindya S. Development and characterization of PBS and PBAT blend based sustainable films for food packaging applications. *Discover Polymers* **3**, 21 (2026). https://doi.org/10.1007/s44347-026-00061-9.<br>35. K. N. Santhosh, D. S. Aditya, **A. B. Hemavathi,** Akhil Babu, B R Vedhika, Bindya S., Meenakshi S. Biopolymer and Cellulose-Based Aerogels: The Next-Generation Porous Materials for Sustainable Applications. *Sustainable Polymer and Energy* **2026***, 4(3),* 10014. doi:10.70322/spe.2026.10014. August<br>36. Akhil Babu, Shalini R, Aisha Hameed KA, Anusha V, Athira PS, **Hemavathi AB,** Jeevan Prasad Reddy D, Thirumalesh BV, Keshava Murthy P S, Kokkarachedu Varaprasad. Phytofacricated Flower-like Nano-CuO Reinforced k-Carrageenan/PVA Films with Antimicrobial and Antioxidant Activity for Tomato Shelf-life Extension. *Chemistry Select* 11, no. 34 (2026): e74260. https://doi.org/10.1002/slct.74260. September.<br><br>37. K.M. Rajeshwari, H.C. Shubhada, S. Bindya, **A.B. Hemavathi,** A. Adeebpasha, D. Chandan. Sustainable biopolymer nanocomposite kappa Carrageenan/chitosan/hydroxyapatite hybrid nanofillers with |

efficient UV-shielding and biological activity. Sustainable Chemistry and Pharmacy, Volume 53, 2026, 102556, ISSN 2352-5541. https://doi.org/10.1016/j.scp.2026.102556.

38. D. S. Aditya, K. N. Santhosh, **A. B. Hemavathi,** Arun Kumar B T, Nataraj S K. Dissolution-Time-Induced Structural Transformation of Areca Husk-Derived Biomass toward Self-Assembled Cellulose-PES Membranes for Efficient Emulsified Mixture Separation. *Scientific Reports*, 2026. https://doi.org/10.1038/s41598-026-65684-1.
39. K.N. Santhosh, D.S. Aditya, K.N. Mahadevaprasad, **A.B. Hemavathi,** K. Anil Kumar, S.K. Nataraj. Mg-organo nanoclay in selective thin-film layer of composite membranes for effective purge of microplastics and complex wastewater treatment. Chemical Engineering Journal, 2026, 182214, ISSN 1385-8947, https://doi.org/10.1016/j.cej.2026.182214.
40. K.M. Rajeshwari, H.C. Shubhada, S. Bindya, A. Adeebpasha, A.B. Hemavathi, D. Chandan. Sustainable kC/CA/Zein/TiO2 Polymer Nanocomposite Film with Enhanced Electrical and Biological properties. Materials Chemistry and Physics, 2026, 133237, ISSN 0254-0584, https://doi.org/10.1016/j.matchemphys.2026.133237. (https://www.sciencedirect.com/science/article/pii/S0254058426012319).
41. Adeebpasha, A., **Hemavathi, A.B.,** Hebbar, H.U., Akhil Babu, Bindya S., Anirudh G Patil. Emerging Dimensions of Biodegradable Polyesters: A Concise Review on PBS, PBAT, and their Blends, Nanocomposites. *Polymer Engineering: Science & Technology,* 9, 2026. https://doi.org/10.2174/0124522716483793260731112737.

**National Journal**

1. **AB Hemavathi,** G Anupama, KV Vani, P Asha, NS Vijayalakshmi, KR Kumar (2002). Physico-chemical and mechanical properties evaluation of polyolefin films and composites. *Popular Plastics and Packaging*. 47(3), 65-68.

**Conferences**

1. **A B Hemavathi**, A Adeebpasha, Akhil Babu. *Sustainable Polymer Nanocomopsites for Advanced Functional Food Packaging – Challenges Involved*. 4th International Conference on Recent Trends in Materials Science and Devices (ICRTMD-2026). Jointly Organized by Research Plateau Publishers and J.V.M.G.R.R. College, Charkhi Dadri, Haryana, India, 6-8th April 2026. (Best paper award).
2. **A B Hemavathi,** H Umesh Hebbar, A Adeebpasha and Akhil Babu

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| | presented a paper entitled ***Development of Ecofriendly Food Packaging Film based on Gluten, Poly(ethylene) oxide and Chitosan*** in the 18th International conference on Polymer Science and Technology (SPSI MACRO 2025) held between 15th to 18th December 2025, at IIT Kharagpur Research Park, Kolkata, India.<br>3. K V Anusha, **A B Hemavathi** and B R Vedhika presented a paper entitled ***Biopolymers for Printed Circuit Boards: A Sustainable Revolution in Electronics*** in the 8th National conference on Advanced Polymeric Materials and Applications Organized by Dept. of Polymer Science and Technology in association with Indian Rubber Institute (IRI), Karnataka branch, at SJCE, JSS STU, Mysuru during 15-16th May 2025.<br>4. A Adeebpasha, **A B Hemavathi** and H Umesh Hebbar presented a paper entitled **PBS/PBAT based Polymer Blends: Preparation and Property Optimization for Food Packaging Applications** in the 8th National conference on Advanced Polymeric Materials and Applications Organized by Dept. of Polymer Science and Technology in association with Indian Rubber Institute (IRI), Karnataka branch, at SJCE, JSS STU, Mysuru during 15-16th May 2025.<br>5. Bhuvan K S, Deeksha S J, Rakshith, Sadaf Noushin, Yathin K J, **A B Hemavathi** and H Umesh Hebbar presented a paper entitled **Conversion of Waste Gluten into Value Added Packaging Film with Additional Functionalities** in the 8th National conference on Advanced Polymeric Materials and Applications Organized by Dept. of Polymer Science and Technology in association with Indian Rubber Institute (IRI), Karnataka branch, at SJCE, JSS STU, Mysuru during 15-16th May 2025.<br>6. Madhusoodan and **A.B. Hemavathi** presented a paper entitled **Recent Trends in Enhancing Fire Retardancy in Polymeric Materials** in the 8th National conference on Advanced Polymeric Materials and Applications Organized by Dept. of Polymer Science and Technology in association with Indian Rubber Institute (IRI), Karnataka branch, at SJCE, JSS STU, Mysuru during 15-16th May 2025.<br>7. Shubhada H C, Bindya S, **A B**. **Hemavathi,** Veena M G, Supreetha M. Presented a paper entitled *Influence of $WO_3$ nanoparticle on structural and electrical properties of Polyvinyl alcohol film* at International Conference on ***Polymers for Sustainable Development***, organized by JSS Academy of Technical Education, Bengaluru in association with Faculty of Chemistry, Dept. of Biomaterials and Cosmetics, Nicolaus Copernicus University, In |

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| | Torun, Poland on 7th February 2025.<br><br>8. Tejas M P and **A B Hemavathi** presented a paper entitled *Next-Generation Synthetic Housewrap: Advancements in Building Envelope Protection* at International Conference on ***Polymers for Sustainable Development***, organized by JSS Academy of Technical Education, Bengaluru in association with Faculty of Chemistry, Dept. of Biomaterials and Cosmetics, Nicolaus Copernicus University, In Toruń, Poland on 7th February 2025.<br><br>9. Rajeshwari K M, Keerthi M L, Bindya S, **A B Hemavathi** presented a paper entitled *Biodegradation study of Kappa Carrageenan/Sodium Alginate/MgO nanocomposite biofilm* At International Conference on ***Polymers for Sustainable Development***, organized by JSS Academy of Technical Education, Bengaluru in association with Faculty of Chemistry, Dept. of Biomaterials and Cosmetics, Nicolaus Copernicus University, In Toruń, Poland on 7th February 2025.<br><br>10. A Adeebpasha, **A B Hemavathi** and H Umesh Hebbar presented a paper entitled *The PBS/PBAT blend system: Mechanical, Thermal and Structural Studies* at International Conference on ***Polymers for Sustainable Development***, organized by JSS Academy of Technical Education, Bengaluru in association with Faculty of Chemistry, Dept. of Biomaterials and Cosmetics, Nicolaus Copernicus University, In Toruń, Poland on 7th February 2025.<br>11. **A B Hemavathi,** H Umesh Hebbar, A Adeebpasha, Akhil Babu, N R Amrutha and M C Madhusudan presented a paper entitled *Development and Characterization of Eco-friendly, Active Food Packaging Films based on Strach/k-Carrageenan Blends Reinforced with Flyash and Functionalized by Eucalyptus oil'* in APA-EPNOE-GFL International conference on Polymers for Advanced Technology (APA 2024) during 16th-18th October 2024 at Jaipur, India.<br>12. Gouri Patil, **A B Hemavathi,** Umesh H Hebbar and Anirudh G Patil presented a paper entitled 'Development of Sustainable Food Packaging Film Based on Polyvinyl Alcohol/k-Carrageenan/Kodo Millet (*Paspalum scrobiculatum*) Husk' at International Conference on Innovations in Food Processing Technology and Nutrition held from 22-24th January 2024. Organized by Department of Biosciences and Technology, MIT WP University, Pune and School of Food Technology and Nutrition, Loyola Academy, Hyderabad. |

13. **A B Hemavathi**, Umesh H Hebbar, Akhil Babu, Gouri Patil, presented a paper entitled '*Preparation and Characterization of PVA/k-Carrageenan Based Eco-friendly Food Packaging Film*' at the Polymer Processing Society Asia – Australasia regional international conference 2023 (PPS 2023) held from 29th November 2023 to 2nd December 2023 in Kovalam, Kerala, India.

14. Tejas M P and **A B Hemavathi**, presented a paper (virtual mode) entitled 'Effect of Recycled Polymer on Processability and Mechanical Properties of PE/PP/TPE based Synthetic Roofing Underlayments' at ***International Euroasia Congress on Scientific Research and Recent Trends*** held on June 22-23rd, 2023, Cappadocia
    Goreme Municipality - Baku Euroasian University - Iksad Institute.

15. A G Arun Kumar, K Akshay, L Anirudha, H S Arun, A B Hemavathi, Suchetha N Raju Presented paper entitled ***Converting Landfill Plastic Waste into Value Added Construction Products.*** International Conference on Green Composites for a Sustainable Society (GCSS 2023) 26 – 27th May 2023 organized by Sacred Heart College, Thevara, Kochi, India in collaboration with Directorate of Environment and Climate Change, Government of Kerala, India.
16. Kavyaa P. Malimath, **A. B. Hemavathi,** B. L. Sinchana, Raghu Kumar, K. Rakesh, N. Akshay and G. S. Ananthapadmanabha, ***presented a paper entitled*** Tertiary Recycling of Expanded Polystyrene Waste into Value Added Chemicals' at international workshop on ***Combating Plastic Pollution in Terrestrial Environment*** held during March 14-15th, 2023 at JSS AHER, Mysuru, Jointly organized by the NAM S&T Centre in partnership with the JSS Academy of Higher Education and Research (JSS AHER), Mysuru, Karnataka, India and the Scientific Committee on Problems of the Environment (SCOPE), Amstelveen, the Netherlands.
17. Tejas M P and **A B Hemavathi**, presented a paper entitled Effect of Halogenated Flame Retardants on Weathering Properties of PE/PP/TPE based Synthetic Roofing Underlayments at International Conference on 'Advanced Materials for Health, Energy and Environment' (AMHEE - 2023) held from 28th February to 2nd March 2023 jointly organized by Department of Chemistry, Biotechnology, Environmental Engineering & Polymer Science and Technology, SJCE, JSS STU, Mysuru.

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| | 18. *Suhasini M R, Rajeshwari K M, Bindya S, Hemavathi A B, presented a paper entitled* Pectin/PVA and Pectin-MgO/PVA Films: Preparation, Characterization and Biodegradation Studies *at International Conference on 'Advanced Materials for Health, Energy and Environment' (AMHEE - 2023) held from 28th February to 2nd March 2023 jointly organized by Department of Chemistry, Biotechnology, Environmental Engineering & Polymer Science and Technology, SJCE, JSS STU, Mysuru.*<br><br>**19.** Tejas M P and **A B Hemavathi** presented a paper entitled *Preparation and characterization of PE/PP/TPE based roofing underlayment of improved mechanical strength and weather resistance.* At International Conference on Advances and Creations in Mechanical Engineering 2022' (ICACME 2022), December 20-22, 2022. Organized by Technology Research and Innovation Centre, India in association with Mechanical Engineering Department, Sant Gajanan Maharaj College of Engineering, Mahagaon, Maharashtra and Mechanical Engineering Department, Accra Technical University, Ghana.<br><br>**20. A B Hemavathi** and A S Zarena, Participated and presented a technical paper entitled *Plasma Pyrolysis of Thermoplastic Disposable Syringe to Alternate Value Added Fuels* in International e-Symposium on Plasma for Energy (ISPE) held on 5-6th December, 2022 at SRMIST, Kattankulathur, Chennai, Tamil Nadu.<br><br>21. Millan Bomb, Vedhika B. R, Kishore V, **A B Hemavathi,** G S Ananthapadmanabha. *Development of Thermo Plastic Starch/Polypropylene Blend by Reactive Extrusion for Sustainable Food Packaging Applications*. Presented at national conference Advances in Polymer Processing for Sustainable Development (APPSD), held at Pillai College of Engineering, New Panvel, Mumbai on October 15, 2022.<br><br>22. Surjith N, **A B Hemavathi,** G S Ananthapadmanabha. *Preparation and Characterization of Adhesive Based on Expanded Polystyrene (EPS) Post-consumer Waste*. International Conference on Reuse, Recycling, Upcycling, Sustainable Waste Management and Circular Economy (ICRSC-2022) 9-11th September 2022 at Mahatma Gandhi University, Kottayam, Kerala, India.<br>23. Adeebpasha A, Anil K C, **A B Hemavathi.** Mechanical Properties Evaluation of Fly Ash, Red Mud and Aluminium Particle Reinforced |

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| | Hybrid Epoxy Composites for Automotive Applications. International Conference on Sustainable Materials, Manufacturing & Industrial Engineering (ICSMMIE-2022). Organized by Department of Industrial Engg. & Management, SIT Tumakuru, July 1st and 2nd 2022.<br>24. **A B Hemavathi,** P.S. Keshava Murthy and A S Zarena. Sustainable Nanocomposite Films of Improved Barrier Properties for Food Packaging Applications. International Conference on Advanced Materials and Mechanical Characterization (ICAMMC 2021), organized by the Department of Physics & Nanotechnology and the Department of Mechanical Engineering, SRM Institute of Science and Technology (SRM-IST), Kattankulathur in association with the Indian Institute of Science (IISc), Indian Institute of Technology (IIT) Madras, IIT Delhi, IIT Indore, and IIT Hyderabad on December 02-04, 2021.<br>25. Akhil Babu, T.E. Somesh C.D. Ani Dechamma **A.B. Hemavathi.** Evaluation of Ternary Magnesium Cobalt Oxide Decorated Graphene Based Polymer Nanocomposites as Electrode Materials for High Performance Supercapacitors. International Conference on Advanced Materials and Mechanical Characterization (ICAMMC 2021), organized by the Department of Physics & Nanotechnology and the Department of Mechanical Engineering, SRM Institute of Science and Technology (SRM-IST), Kattankulathur in association with the Indian Institute of Science (IISc), Indian Institute of Technology (IIT) Madras, IIT Delhi, IIT Indore, and IIT Hyderabad on December 02-04, 2021.<br>26. **AB Hemavathi,** M Karthik, Suhas M Ghatti, Mahesh V, Dileep A, Kaushal K, Keshava Murthy PS, Arunkumar P, Siddaramaiah. Preparation and Characterization of Polylactic acid/Ethylene vinyl acetate Blend based Antimicrobial Food Packaging Films. Presented a paper in International conference on *Recent Advances in Chemical and Biological Sciences (ViRACBS-2020)* organized by Dayananda Sagar College of Engineering in association with Indian Ceramic Society-Karnataka Chapter and Electrochemical Society of India, IISc Campus, Bengaluru, 7th - 9th Dec 2020.<br>27. **AB Hemavathi** and A S Zarena. Presented a paper entitled Polycaprolactone based hybrid nanocomposite food packaging films for extended shelf life applications in the International Conference on Nanoscience and Nanotechnology (ICONN 2021) organized by Department of Physics and Nanotechnology, SRM IST, India in association with Shizuoka University, Japan; National Chiao Tung University, Taiwan; GNS, New Zealand during Feb 1st - 3rd, 2021. |

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| | 28. **AB Hemavathi,** Kishora VK, Charitha MS, Parinitha Babu, Bharath M, Dinakar P and Siddaramaiah. Study on anaerobic biodegradation behavior of PP/EVOH food packaging containers. Presented at ICMAT 2020, held at SJCE, Mysuru during 16th - 18th January 2020.<br>29. **A B Hemavathi,** A S Zarena, C M Manu and Siddaramaiah. Nanoassemblies Assisted Selective Extraction and Purification of Polyphenol oxidase from Potato (Solanum tuberosum L.) Peel. Presented a paper at International Conference on Nanoscience and Nanotechnology (ICONN2019) organized by Department of Physics and Nanotechnology, SRM Institute of Science and Technology, Chennai, January 28 -30th, 2019.<br>30. **A. B. Hemavathi,** P. S. Keshavamurthy, M. N. Lohith, Nanda, S. R. Likhil, Devika, M. H. Prajwal. Preparation and Characterization of Environmentally Benign PVP/Microcrystalline Cellulose Composite Food Packaging Films. Presented a paper at International Conference on Frontiers in Materials from Basic Science to Real Time Applications (F2DM-2019), CNMS-Jain University, Bengaluru, March 13-16th, 2019.<br>31. **Hemavathi, A. B.,** & Zareena, A. S. (2018). Functional Nanoparticle Filled Biopolymer Based Food Packaging Films. International Conference on Nanomaterials and their Applications (ICNA 2018), University of Mysore, Mysuru, 1-2nd March.<br>32. Zareena, A. S., & **Hemavathi, A. B.** (2018). Cytotoxicity and antibacterial studies on G1 and G2 PAMAM-NH2 dendrimers. International Conference on Nanomaterials and their Applications (ICNA 2018), University of Mysore, Mysuru, 1-2nd March.<br>33. **Hemavathi, A. B.,** & Zareena, A. S. (2017). Silver Nitrate Nanoparticle Incorporated Antimicrobial Film for Food Packaging Applications. International Symposium on Advanced Materials (ISAM17), Sri Jayachamarajendra College of Engg., Mysuru, 27th December.<br>34. **Hemavathi, A. B.,** & Siddaramaiah. (2017). Epoxy Based Composites for Advanced Biomedical Applications. National conference on novel polymeric materials: synthesis, processing and characterization, POLYCON 2017, Sri Jayachamarajendra College of Engg., Mysuru, 15 and 16th September.<br>35. **Hemavathi, A. B.,** Preethi, S., Mohammed Iqbal., & Shashidhara, G. M. (2017). Isothermal Crystallization Kinetics Study of Nylon 66/LDPE Blends, POLYCON 2017, Sri Jayachamarajendra College of Engg., Mysuru, 15 and 16th September.<br>36. **Hemavathi, A. B.** (2017). Development of Biopolymer Based |

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| | Nanocomposite Films of Improved Mechanical and Barrier Properties. International Symposium on Advanced Materials for Engineering Applications (ISAMEA), NIE, Mysuru, 24-25th March.<br>37. Sowmya, B., Preethi, S., **Hemavathi, A. B.,** Madhukar, B.S., Roopa, S. & Siddaramaiah. (2016). Preparation and characterization of PU/PMAA Based Interpenetrating Polymer Networks. Intl. Conf. on Advanced Materials and Tech., (ICMAT-16), Sri Jayachamarajendra College of Engg. Mysuru, 26th - 28th May.<br>38. **Hemavathi, A. B.,** & Raghavarao, K. S. M. S. (2009). Differential partitioning of β-galactosidase and β-glucosidase using aqueous two phase extraction. 20th Indian Convention of Food Scientist and Technologists (ICFOST). NIMHANS Convention Centre, Bangalore, 19th November.<br>39. **Hemavathi, A. B.,** Hebbar, H. U., & Raghavarao, K. S. M. S. (2008). Mixed reverse micellar systems for extraction and purification of β-glucosidase. 6th International Food Convention (IFCON 2008). Central Food Technological Research Institute, Mysuru, 15th to 19th December.<br>40. **Hemavathi, A. B.,** Hebbar, H. U., & Raghavarao, K. S. M. S. (2007). Reverse micellar extraction of β-galactosidase from barley *(Hordeum vulgare)*. International Conference on New Horizons in Biotechnology (NHBT-2007), Trivandrum, India, 26-29th November.<br>41. **Hemavathi, A. B.,** Hebbar, H. U., & Raghavarao, K. S. M. S. (2006). Nanoparticulate system for the extraction of fruit bromelain. Indian Convention of Food Scientist and Technologists (ICFOST), Hyderabad, 17th - 18th February.<br>42. Sumana, B., **Hemavathi, A. B.,** Hebbar, H. U., & Raghavarao, K. S. M. S. (2006). Separation and purification of bromelain from pineapple waste using reverse micellar extraction. Indian Convention of Food Scientist and Technologists (ICFOST), Hyderabad, 17th - 18th February.<br>43. Hebbar, H. U., **Hemavathi, A. B.,** & Raghavarao, K. S. M. S. (2006). Peroxidase extraction from radish using reverse micellar systems. Indian Convention of Food Scientist and Technologists (ICFOST), Hyderabad, 17th - 18th February.<br>44. **Hemavathi, A. B.,** Hebbar, H. U., & Raghavarao, K. S. M. S. (2005). Reverse micellar extraction of fruit bromelain using cationic surfactant. Indian Convention of Food Scientist and Technologists (ICFOST), NIMHANS Convention Centre, Bangalore, 9th -10th December.<br>45. Nagaraj, N., Babu, B. R., **Hemavathi, A. B.,** Hebbar, H. U., |

Raghavarao, K. S. M. S. & Nene, S. (2003). Osmotic membrane distillation: A potential alternative for the concentration of liquid foods and natural colors. International Food Convention (IFCON 2003). Central Food Technological Research Institute, Mysuru, 5th to 8th December.

**Patent:**

1. An Indian patent (P.A. No.: 202331020181) entitled A SMART TRAVEL GADGET FOR INSTANT BEVERAGING is published in Issue No.: **14/2023,** date of issue **07/04/2023. Inventors:** K Goswami, A Purushothaman, K. Reena, R. Kaviarasan, **A. B. Hemavathi** and P. Rama Mohan

**Book chapters**

1. **AB Hemavathi**, H Umesh Hebbar and KSMS Raghavarao (2011). Reverse micellar extraction of bioactive compounds for food products, in: *Enhancing Extraction Processes in the Food Industry,* Taylor and Francis Publications. CRC Press. Editors: N Lebovka, E. Vorobiev, F. Chemat. 399-436.
2. **AB Hemavathi** and Siddaramaiah. Food packaging applications of polymers. In *Encyclopedia of Polymer Applications, 1st edition*. Mishra, M. (Ed.). (2018), Boca Raton: CRC Press. ISBN: 9781351019422, https://doi.org/10.4324/9781351019422.
3. **A B Hemavathi,** A S Zarena, M P Chandresh and R S Jagadish. Epoxy based Composite Materials for Innovative Biomedical Applications. In *Innovations in Materials Chemistry, Physics and Engineering Research*. Eugene de Silva and P. Abeydeera (Eds.). 2023, IGI Global. DOI: 10.4018/978-1-6684-6830-2. **ISBN13: 9781668468302.**
4. A. G. Patil, K. Vivekanandan, **A. B. Hemavathi,** S. Suri, R. Pande, S. Kagale, S. Yadav and G. Patil. Sustainable waste water treatment using magnetic nanohybrids. In *Nanobiohybrids for advanced wastewater treatment and energy recovery*. Piet N. L. Lens and P Uddandarao (Eds.), IWA Publisher, UK, 2023. ISBN: 9781789063585, DOI: 10.2166/9781789063592.
5. A G Patil, S Banerjee, F Zameer, **AB Hemavathi,** S Kagale, P. Patil, G. Patil, S. Billa and S Yadav. Microplastics in food Products. In: Microplastics in the Terrestrial Environment-Pathways and Remediation Strategies. Edited By S Mondal, P Das, A Mondal, P Chakraborty. *1st edition*. CRC Press, Taylor and Francis Group, 2024. ISBN 9781032634104.

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| | 6. D. S. Aditya, **A. B. Hemavathi,** H. M. Gayathri and S. Bindya. Battery Materials – Beyond Lithium Ion. In: *Polymer Science, Nanomaterials and Beyond: Exploring the Interdisciplinarity of Materials Research*. Edited by Fernando Gomes de Souza Jr. May 2025. Cambridge Scholars Publishing Ltd., UK. ISBN :1036446514. |
| **Research Projects / Consultancy Undertaken** | |
| 1. Funding Agency<br><br>2. Fund Received (In Rs.) | 1. KSCST SPP project sanctioned for the year 2022. Project Title: *Preparation and Characterization of Biodegradable Active Food Packaging Film Based on PLA/PCL and Turmeric Essential Oil Extracted from Biowaste*. Project Reference Number: 45S_BE_0249 (0.1 lakh)<br>2. A proposal is accepted by VGST under the scheme *Faculty Development Programme for Engineering College Teachers (FDP-ENGG)*. Proposal Title: Recent Trends in Polymer Processing, Product Design and Applied Rheology. VGST Reference Number: VRN/001892/21-22 (2 lakhs).<br>*3.* SERB (TARE) 2022 proposal on topic *"Development and characterization of sustainable food packaging materials based on functional polymer nanocomposites"* approved. Project Reference Number: TAR/2022/000668 (18.3 lakhs).<br>*4.* KSCST SPP project sanctioned for the year 2023-24. Project Title: Development of sustainable Food packaging film based on Polyvinyl alchohol/k-Carrageenan/Kodo Millet (*Paspalum scorbiculatum*) husk. Project Reference Number: 47S_MTech_0032.<br>*5.* The PST consultancy member for material testing and characterization. |
| FDP /STTP/Technical Seminar Organised and Participated as a Resource Person | **As a resource person**<br>1. Delivered a technical presentation on **DMA: A Tool for Polymer Characterization** in International virtual one week workshop on ***Materials Characterization using DMA*** organized by Department of Mechanical Engineering, Acharya Institute of Technology, Bengaluru, during 6th - 10th July 2020.<br>2. Delivered a lecture on **"Polymer Nanocomposites: A Functional Material for Food Packaging Applications"** in one week Faculty Development Program on **"Nano Hybrid Composite Materials Characterization & Applications"** organized by Department of Mechanical Engineering, VNR Vignana Jyothi Institute of Engineering and Technology, |

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| | Hyderabad, 24th -28th August 2020.<br>3. Delivered a lecture on "Applications of Polymer Nanocomopsites In Food Supply Chain Management: Opportunities and Challenges" in one week Faculty Development Program on "Hands on Experience on Nano-hybrid Composite Materials Characterization and application" organized by Department of Mechanical Engineering from 9th to 13th August 2021.<br>4. Delivered a lecture on topic **'Waste Recycling'** organized on account of environmental day celebration in association with Institution Innovation Council (IIC), JSS STU, Mysuru on 10th June 2022.<br>5. Delivered an invited lecture at FDP entitled **'Analytical Techniques for Nanomaterials'** on topic **'DSC and TGA: A Tool for Material Characterization'** organized by Department of Electronics and Communication Engineering, JSS Science and Technology University, Mysuru and E & ICT academy, NIT, Warangal during 18th - 25th July, 2022.<br>6. Delivered an invited lecture on topic entitled ***Preparation and Characterization of Eco-friendly Functional Food Packaging Film based on PLA/PCL/Turmeric Essential Oil*** at International Conference on Recent Trends in Materials Science and Devices (2023) (ICRTMD 2023) held on July 22nd-23rd, 2023. Jointly Organized by Research Plateau Publishers & G.A.V. Degree College, Haryana.<br>7. **A B Hemavathi**, A Adeebpasha, Akhil Babu. *Sustainable Polymer Nanocomopsites for Advanced Functional Food Packaging – Challenges Involved*. 4th International Conference on Recent Trends in Materials Science and Devices (ICRTMD-2026). Jointly Organized by Research Plateau Publishers and J.V.M.G.R.R. College, Charkhi Dadri, Haryana, India, 6-8th April 2026. (Best paper award).<br>***8.*** Session chair ***for IEEE MysuruCon-2022 2nd Edition of Mysore subsection Flagship International Conference*** held on 16-17th October 2022.<br><br>**Events organized**<br>1. Organizing committee member of **POLYCON 2014, 2017 and 2025** National level conferences.<br>**2.** Organizing committee member (Scientific secretary) of 'Three days International Conference on *Advanced Materials for Health, Energy* |

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| | *and Environment (AMHEE-2023)'*, 28th February to 2nd March, 2023. Organized by department of chemistry, SJCE, JSS STU, Mysore. |
| Achievements | • ***'Certificate of Merit'*** and scholarship from CBSE Board, Delhi, for being among the top 0.1% of successful candidates of AISSE-1995.<br>• Chemical Engineering ***GATE*** qualified (2004)<br>• Award of ***CSIR JRF&SRF fellowship*** (2005-2010)<br>• Research Excellence Award 2023 by JSS STU for highest citation.<br>• Editorial Board Member of the journal 'Polymer Engineering: Science & Technology' since 2025.<br>• Recipient of SERB TARE fellowship cum Research Grant from DST, India (2022-2026).<br>• Potential Reviewer for various international peer reviewed journals like *Current Applied Polymer Science, Polymers and Polymer Composites, Chemistry Select, Sustainable Materials and Technologies, Critical Reviews in Environmental Science and Technology, Next Materials, Polymer International, Iranian Polymer Journal*. |
| Professional Membership | • Life member of ***INDIAN RUBBER INSTITUTE (IRI)***<br>• Life member of ***INDIAN PLASTIC INSTITUTE (IPI)***<br>• Associate member of ***INSTITUTE OF ENGINEERS***<br>• Life member of ***INDIAN SOCIETY FOR TECHNICAL EDUCATION (ISTE).***<br>• Life member of ***INTERNATIONAL ASSOCIATION OF ENGINEERS (IAENG)***<br>• Life member of ***POLYMER PROCESSING ACADEMY (PPA)***<br>• Life member of ***ASIAN POLYMER ASSOCIATION (APA)***<br>• Life member of ***SOCIETY FOR POLYMER SCIENCE (INDIA) (SPSI)*** |