Dr. Sarat Kumar Swain, Ph.D.
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- **Thesis Supervised(Awarded)** : **Ph.D.: 17** **M.Tech.: 04** **M.Phil.: 14** **M.Sc.: 43**
- **Research Credentials** : **Journals:**130 **Patents:** 02 **Books Authored/Edited:** 07
  Book Chapters: 44 **Chapters in Encyclopedia:** 03
  Popular Scientific Reports:06 **Monograph:** 01
  Conferences: 85 (Full paper in Proceedings: 18) **h-Index (Scopus):**30
  i10-Index: 92 **Average Impact Factor of Journals:** 5.08
  Citations: ~ 4000 **Research Projects Handled:** 04

- **Awards/Fellowship:**
  - **Samanta Chandrasekhar Award-2015:** Odisha Bigyan Academy, DST, Govt. of Odisha
  - **INSA S R Fellowship (2013):** Indian National Science Academy, Govt. of India
  - **DAE Young Scientist Research Award (2008)**: BRNS-DAE, Govt. of India
  - **JNCASR Visiting Fellowship (2007)**: JNCASR, Bengaluru, Govt. of India
  - **BOYSCAST Post-Doc Fellowship (2004)**: DST, Govt. of India
  - **Prof. R. K. Nanda Award (1994)**: P G Seminar, Ravenshaw College, Cuttack, Odisha
  - **Best Science Project Award (1992)**: S. V. M. College, Jagatsingpur, Odisha

- **Professional Experience:** **Teaching**: 26 years, **Post Ph.D. Experience**: 22 years
- **Research Collaborations:**
  - **Academic:** Prof. Mohammad Jawaid**,** Laboratory of Biocomposite Technology, Institute of Tropical Forestry and Forest Products (INTROP), University of Putra, Malaysia.
  - **Industry:** M/s. Liveco Materials LLP, 103/104, 1st Floor, Orbit Plaza, Mumbai, India
- **Administrative Experiences:**
  - Dean (Academic Affairs),VSSUT, May 2019 to Mar 2021& Nov 2014 to Jan 2016 (3 Years)
  - Dean (PGS&R), VSSUT, Mar 2016 to May 2019 & Nov 2014 to Jul 2015 (> 3 Years)
  - Head of the Department, Chemistry, VSSUT, Sept 2011 to Sept 2014 (3 Years)
  - Prof-in-charge Central Library, VSSUT, Burla, Sept 2013 to Apr 2016 (2.5 Years)
  - Chairman, Estate Committee, VSSUT, Dec 2012 to Mar 2015 (> 2 years)
  - First Appellant Authority, RTI Act 2005, VSSUT, Sept 2011 to Sept 2013 (2 years)
  - Deputy Registrar, Registrar (I/C), North Orissa University, Aug 2009 to Sept 2011 (2 years)
  - HoD, Chemistry, NOU, Sept 2004 to Mar 2005 & Jun 2010 to Sept 2011(2 years)
  - Programme Coordinator, NSS, NSS Bureau, NOU, Feb 2008 to Sept 2011 (3 years)
  - Secretary, Sports Council, NOU, Jul 2006- Jul 2008 (2 years)
- **Conferences/Workshop Conducted:** **Conference:** 06 **Workshop:** 02

Research Interest:

- Synthesis, characterization and evaluation of properties of Polymeric/nonpolymeric Nanocomposites for different applications: Designing of films for packaging applications; Hydrogels for drugs delivery and wound healing applications; Organic-Inorganic hybrid materials for dye removal; Sensing of glucose, heavy metal ions, amino acids etc.

Post-Doctoral Research Fellowship:

- **Post-Doctoral Fellow** at the Department of Polymer Engineering, **The University of Akron**, Akron, Ohio, **USA**, 22 April, 2005 – 23 April, 2006, associated with *Prof. A. I. Isayev* through BOYSCAST Fellowship from Department of Sci. & Techn., Government of India.
- **Post-Doctoral Fellow** at Jawaharlal Nehru Centre for Advance and Scientific Research (JNCASR), Govt. of India, Bangalore, 01 May, 2008 – 25 July, 2008, associated with *Prof C. N. R. Rao* through JNCASR Fellowship
- **INSA Summer Research Fellow** at Indian Association for Cultivation of Science, Govt. of India, Jadavpur, Kolkata, 01 May, 2013 – 31 July, 2013, associated with *Prof S. Ghosh*.

Research Projects Handled:

- Synthesis of polymer/clay nanocomposites by emulsifier-free emulsion technique: superabsorbency and biodegradable study, **DST-SERC, Govt. of India**, Ref: SR/FTP/CS-130/2006, 19.32 lakh, 2008-2011.
- Synthesis and characterization of polymer/CNT nanocomposites by chemically functionalized carbon nanotubes, **DAE-BRNS, Govt. of India**, Ref: 2008/20/37/BRNS/1936, 11.05 lakh, 2009-2012.
- Sonochemical investigation of some pharmaceutical active biopolymers and proteins for biomedical application, **DST, Govt. of Odisha**, Ref: ST-Bio-15/2014, 9.66 lakh, 2014-2017.
- Preparation and characterization of graphene nanocomposites by reinforcement of transition metal based quantum dots, **CSIR, Govt. of India**, Ref: 01(2836)/15/EMR-II, 5.9 lakh, 2015-2018.

Academic and Professional Trainings Completed: (Total Period: ~35 weeks)

- **NPTEL-AICTE** Faculty Development Programme on the topic **Pericyclic Reactions and Organic Photochemistry** from February 1st 2022 to April 30th 2022.(MOOCs) [8 weeks]
- **NPTEL-SWAYAM** Online Refresher Courses in "**Chemistry for Higher Education**" by SGTB Khaisa College, University of Delhi, From December 1st 2020 to March 31st 2021.[16 weeks]
- **Train the Trainers on Examination Reforms** at KLE Technological University, Hubbali, Karnataka, January 20-22, 2020.[3 days]
- **Professional Development Training** programme at IIM Tirchy, February 19-23, 2018. [1 week]
- **Faculty Development Training** programme at IIM Raipur, October 12-16, 2015. [1 week]
- **Summer Training School on Nanotechnology: Processing and Application** at IIT Kharagpur, September 14-19**,** 2009**.**[1 week]
- **DST Advance School on Nanoscience and Nanobiology** at Indian Institute of Science, Bangalore, Feb. 5-16**,** 2007, Selected by Department of Science & Technology(DST), Govt. of India.[2 weeks]
- "**Green Chemistry**" at IIT Guwahati, Sponsored by Department of Science & Technology, New Delhi, February 25-26, 2005.[2 days]
- DST-Nano school (Nanotechnology) in the subject of **"Preparation, Characterization and Manipulation of Nanomaterials"** at IISc Bangalore, February 9-21, 2003.[2 weeks]
- U.G.C sponsored refresher course in the subject **"Recent Trend in Chemistry"** at Utkal University, Bhubaneswar, March 06-26, 2002.[3 weeks]

Editorial board/Editor of journals

- Polymer-Plastic Technology and materials (***Tylor Francis***) *Impact Factor:2.66*
- American Journal of Polymer Science and Technology (***Science Publishing Group***) *Impact Factor:0*
- Gels (MDPI) *Impact Factor: 4.432*

- **Educational Degrees:**
  - **Ph.D. (Chemistry)** in the field of Polymer Chemistry from Utkal University, Bhubaneswar. Odisha, India (2001). Thesis Title: Emulsifier-Free Emulsion Polymerization Involving Metal Salts and Complex Initiating Systems and Study on Solution Properties of Polymers. Supervisor: Prof. P. K Sahoo.
  - **M.Phil. (Chemistry)** with Organic Chemistry as major elective from Utkal University, Bhubaneswar, Odisha, India, passed with 1st Division (1996).
  - **M.Sc. (Chemistry)** with Organic Chemistry specialization from Utkal University, Bhubaneswar, Odisha, India, passed with 1st Division (1994).
  - **B.Sc. (Chemistry Honours)** with Physics & Mathematics as minor subjects from Utkal University, Bhubaneswar, India, passed with 1st Division & Distinction (1992).

- **Invited/Keynote Speakers in Conferences**

1. International conference on Polymeric Advance Materials (PAM 2023), CIPET, Ahmadabad, India, March 17-19, (2023).
2. Conference on emergent in energy and environment (EEE 2023), IIT Rookee, India February 4-5, (2023)
3. International conference on Polymeric Advance Materials (PAM 2016), CIPET, Ahmadabad, India, February 13-15, (2020).
4. CME Session on Concept of Nanomedicine in Clinical Practice, VIMSAAR, Burla, Sambalpur, February, 9, 2020.
5. International Conference on Functional Materials (ICFM 2020), IIT Kharagpur, January 6-8, 2020.
6. International Conference on Chemistry for Human Development (ICCHD 2020), January 9-11, 2020, Culcutta University, Kolkata
7. 4th International Conference on Management, Sciences, Engineering and Applications (ICMSEA 2019) at Centurion University of Technology and Management, Paralakhemundi, Odisha, 19-21 December 2019
8. International Conference on Safe Biodegradable Packaging Technology 2018 (SafeBioPack2018), University of Putra Malaysia, July 24-26, 2018
9. National conference on Advanced Materials for Energy and Environmental Applications (AMEEA 2018)" NIT, Rourkela, December 12-14, 2018,
10. International Conference on Nanomaterials: Synthesis and Characterization (ICN 2018), M G University Kottayam, Kerala, India, May 11-13, 2018
11. International Conference on Nanomedicine in Diagnostics and Theranostics in Cancer (UDPS PHARMACON 2018), Department of Pharmacy, Utkal University, Bhubaneswar March 09-11, 2018
12. International conference on "Advancement in Polymeric Materials" (APM 2018), CIPET Bhubaneswar, February 02-04, 2018
13. International Conference on nanotechnology: Innovation, Ideas and initiatives (ICN:3I 2017), IIT Roorkee, December 05-08, 2017
14. International Conference on Advance Engineering Functional Materials (ICAEFM 2017), BPUT, GITA, Bhubaneswar, September 21-23, 2017.

15. International Conference on Functional Materials (ICFM 2016), IIT Kharagpur, December 12-14.
16. International Conference on Nanotechnology for Better Living (NANO 2017), NIT, Srinagar May 24-29, 2016
17. International conference on Polymeric Advance Materials (PAM 2016), CIPET, Ahmadabad, India, February 12-14, (2016).
18. National conference on nanocomposites and nanomaterails, January 29-30, 2016, KIIT University, Bhuabneswar, India,
19. International conference on Nanomaterails, January 14-16 (2016), Bangkok, Thailand,
20. International conference on APM, February 12-14 (2016), CIPET, Ahmedabad,
21. International conference on ICNM, December 12-14 (2015), Hindustan College of Science & Technology, Farah, Mathura,
22. International conference on natural polymers (2015), M G University, Kottayaam, kerala,
23. International conference on Innovative applications of chemistry in pharmacology and technology, February 06-08 (2015), Berhampur University, Berhampur, Odisha.
24. International conference and Exhibition on Materials Science & Engineering, October 06-08, (2014), San Antonio, USA
25. International Materials Technology Conference and Exhibition (IMTCE 2014), May 13-16, 2014, Luala Lulpur, Malaysia,
26. National conference on Recent Advances on Engineering and Technology, April 6-7, (2013), Modern Engineering and Magement Studies, Balasore, Odisha, India,
27. National Symposium on Chemistry and Environmental March 15-16, (2013) Department of Chemistry, Banaras Hindu University, Banarasi, India,
28. National Seminar on "Green Chemistry: Solution to Environmental Crisis" October 13-14, (2012), Berhumpur University, Bhanja Vihar, Berhumpur, Odisha, India,
29. International Symposium on Recent Advances in Polymers July 07-12, (2012), Institute of Materials, Malaysia.
30. International Conference on Materials Science and Technology (ICMST (2012), June 10-14, 2012, St. Thomas College, Pala, Kerala, India.
31. International Year of Chem. Seminar on Recent Trends in Chem., Berhumpur Univ., Berhumpur, Odisha, India, Nov. 26-27, (2011).
32. International conference on composites and nanocomposites (ICNC-2011), IMSE, Kottayam January 7-9, (2011).
33. International Conference on Polymer Processing and Characterization, M G University, Kottayam, January 15-17, (2010).

- **Membership of professional bodies**

  - Indian Society for Technical Education
  - Indian Chemical Society
  - Materials Research Society of India
  - Orissa Chemical Society

LIST OF RESEARCH CONTRIBUTIONS

PATENTS:

1. Avraam I Isayev**, Sarat K Swain** and Sergey Lapshine "*Process Preparing Polymer Nanocomposites and Nanocomposites Prepared Therefrom"* Publication No**.: US 2010/0152325 A1,** Date of Final Grant**: June 17, 2010**.
2. **Sarat K Swain**, Sk Basirudin and Kalyani Prusty "Design of Thermally Responsive Reversible Hydrophobic Gels" Indian Patent Publication No.**: 201631021775 A**, Publication Date: **December 29, 2017**.Date of final Grant: **October 06, 2021**

RESEARCH PAPERS IN JOURNALS
(Impact Factor/2022; *Corresponding Author)

ORCID® ID: https://orcid.org/0000-0003-1889-4375
SCOPUS ID: 7102336172; **Web of Science Researcher ID**: G-5788-2019
Google Scholar: https://scholar.google.co.in/citations?user=puINvP0AAAAJ&hl=en&oi=ao

PAPERS IN INTERNATIONAL SCI JOURNALS

2023

1. A Biswal, S S Purohit and **S. K. Swain*** "Chitosan based composite scaffolds in skin wound repair: A review" ***Journal of Drug Delivery Science and Technology***, (Elsevier) 84, 104549(**2023**) (Impact Factor: 5.062) **ISSN**: 1773-2247 **DOI:**10.1016/j.jddst.2023.104549.
2. K. M. Sahu, S. Patra and **S. K. Swain*** "Host-Guest Drug Delivery by β-cyclodextrin Assisted Polysaccharide Vehicles: A Review. ***International Journal of Biological Macromolecules***, (Elsevier), **240** 124338(1-20) (**2023**). (Impact Factor: 8.025) **ISSN:** 1879-0003. **DOI**:10.1016/j.ijbiomac.2023.124338.
3. D. Bharatia, B. Parhi, and **S K Swain*** "Dielectric Study of Nanostructured Ternary Composite Derived from Amalgamated CuO/Ag2O on Graphene Oxide Sheets" ***Journal of Materials Research*** (Springer), (**2023**). (Impact Factor: 2.909) **ISSN:** 2044-5326. **(Accepted)**
4. S. Patra, S. S. Purohit and **S. K. Swain*** In vivo fluorescence non-enzymatic glucose sensing technique for diabetes management by CQDs incorporated dextran nanocomposites in human blood serums. ***Microchemical Journal***, **109**,108646(1-10) (Elsevier), (**2023**). (Impact Factor: 5.304) **ISSN:** 0026-265X. **DOI:**10.1016/j.microc.2023.108646.
5. D. Bharatia, B. Parhi, H. Sahu and **S K Swain*** Factors influencing the dielectric properties of GO/MO nanocomposites: review, ***Journal of Materials Science: Materials in Electronics***, **34(5),** 452, (Springer), (**2023**). (Impact Factor: 2.779) **ISSN:** 0957-4522. **DOI:** 10.1007/s10854-023-09928-0.
6. S. Patra, K. M. Sahu, A A. Reddy and **S K Swain*** Polymer and Biopolymer Based Nanocomposites for Glucose Sensing, ***International Journal of Polymeric Materials and Polymeric Biomaterials*** (Tylor & Francis), (**2023**). (Impact Factor: 3.221) **ISSN:** 1563-535X. **DOI:** 10.1080/00914037.2023.2175824.
7. Sk. Nazrul, A. Biswal, L. Behera, and **S. K. Swain*** "Synthesis of sandwiched chitosan-g-PMMA nanocomposite by layered double hydroxides for packaging applications" ***Polymer Bulletin*** (Springer), (**2023**). (Impact Factor: 2.82) **ISSN:** 1436-2449. **DOI:** 101007/s00289-023-04732-6.
8. D. Bharatiya, S. Patra, B. Parhi and **S K Swain*** "A materials science approach towards bioinspired polymeric nanocomposites: a comprehensive review" ***International Journal of Polymeric Materials and Polymeric Biomaterials***, **72(2)**, 119-134, (Tylor & Francis), (**2023**). (Impact Factor: 3.221) **ISSN:** 0091-4037. **DOI:** 10.1080/00914037.2021.1990057.

2022

9. Sk. Nazrul, L. Behera, R. K. Singh, A. Biswal, **S. K. Swain*** "Combined Effect of Layered Double Hydroxides and Nano silver on Bacterial Inhibition and Gas Barrier Properties of Chitosan Grafted Polyacrylonitrile Nanocomposites" ***Polymer-Plastic Technology and Materials***, **61(18),** 1959-1972, (Tylor & Francis), (**2022**). (Impact Factor: 2.439) **ISSN:** 2574-089X **DOI:** 10.1080/25740881.2022.2086814.

10. P. K. Sethy, A. Biswal, P. Mohapatra, and **S K Swain* "**Nano BN reinforced cellulose-based tripolymeric hybrid nanocomposites as packaging materials" ***Polymer-Plastic Technology and Materials***, **61(11),** 1233-1243, (Tylor & Francis), (**2022**). (Impact Factor: 2.439) **ISSN:** 2574-089X**. DOI:** 10.1080/25740881.2022.2044048.

11. B. Parhi, D. Bharatiya, and **S K Swain* "**Effect of polycaprolactone on physicochemical, biological, and mechanical properties of polyethylene oxide and polyamino acids nano block copolymers" ***Journal of Applied Polymer Science,*** **139(19),** 52116*,* (Wiley), (**2022**). (Impact Factor: 3.125) **ISSN:** 1097-4628. **DOI:** 10.1002/app.20213091.

2021

12. K. Prusty, S. Patra and **S. K. Swain* "**Nano ZnO imprinted dextran hybrid poly (N-isopropylacrylamide)/poly ethylene glycol composite hydrogels for in vitro release of ciprofloxacin**"** ***Materials Today Communication,*** **26,** 101869-670, (Elsevier), (**2021**). (Impact Factor: 3.662) **ISSN:** 0925-8388. **DOI:** 10.1016/j.mtcomm.2020.101869.

13. D. Bharatia, B. Parhi **and S K Swain*** "Preparation, characterization and dielectric properties of GO based ZnO embedded mixed metal oxides ternary nanostructured composites" ***Journal of Alloys and Compounds,*** **869,** 159274-82, (Elsevier), **(2021).** (Impact Factor: 6.317) **ISSN:** 03602559. **DOI:** doi.org/10.1016/j.jallcom.2021.159274**.**

14. P. K. Sethi, P. Mohapatra, S. Patra, D. Bharatia and **S. K. Swain***" Antimicrobial and barrier properties of polyacrylic acid/GO hybrid nanocomposites for packaging application" ***Nano-Structures & Nano-Objects*****, 26,** 100747, (Elsevier), (2021). (Impact Factor:5.454) **ISSN:** 2352-507X. **DOI:** org/10.1016/j.nanoso.2021.100747.

15. A. Biwal, P. Sethy and **S. K. Swain*** "Change in orientation of polyacrylic acid and chitosan networks by imprintment of gold nanoparticles" ***Polymer-Plastic Technology and Materials***, **60(2)**, 182-194, (Tylor & Francis), (**2021**). (Impact Factor: 2.439) **ISSN:** 03602559. **DOI:**10.1080/25740881.2020.1793196.

16. K. Prusty and **S. K. Swain*** "Polypropylene oxide/polyethylene oxide-cellulose hybrid nanocomposite hydrogels as drug delivery vehicle" ***Journal of Applied Polymer Science***, **138(9)**, 49921-30, (Wiley), (**2021**). (Impact Factor: 3.125) **ISSN:** 1097-4628. **DOI:** 10.1002/app.20200978.

2020

17. B. Parhi, D. Bharatia and **S. K. Swain* "**Surfactant free green synthesis of GOSiMa hybrid nanocomposite for charge storage application**"** ***Ceramic International*****, 46(17),** 27184-192, (Elsevier), (**2020**). (Impact Factor: 5.532) **ISSN:** 0272-8842. **DOI:** https://doi.org/10.1016/j.ceramint.2020.07.199.

18. N. Sarkar, G. Sahoo and **S. K. Swain* "**Graphene quantum dot decorated magnetic graphene oxide filled polyvinyl alcohol hybrid hydrogel for removal of dye pollutants**"** ***Journal of Molecular Liquids,*** 302, 112591-112608, (Elsevier), (**2020**). (Impact Factor: 6.633) **ISSN:** 0167-7322. **DOI:** 10.1016/j.molliq.2020.112591.

19. N. Sarkar, G. Sahoo and **S. K. Swain* "**Nanoclay sandwiched reduced graphene oxide filled macroporus polyacrylamide-agar hybrid hydrogel as an adsorbent for dye decontamination" ***Nano-Structures & Nano-Objects***, **23**, 100507-100523, (Elsevier), (**2020**). (Impact Factor:5.454) **ISSN:** 2352-507X. **DOI:** 10.1016/j.nanoso.2020.100507.

20. N. Sarkar, G. Sahoo and **S. K. Swain* "**Reduced graphene oxide decorated superporous polyacrylamide based interpenetrating network hydrogel as dye adsorbent**"** ***Materials Chemistry and Physics***, **250**, 123022-123037, (Elsevier), (**2020**). (Impact Factor: 4.778) **ISSN:** 0254-0584. **DOI:** 10.1016/j.matchemphys.2020.123022.

21. K. Prusty and **S. K. Swain*** "Nano ZrO_2 reinforced cellulose incorporated polyethylmethacrylate/polyvinyl alcohol composite films as semiconducting packaging materials" ***Journal of Applied Polymer Science,*** **137(42)**, 49284, (Wiley), (**2020**). (Impact Factor: 3.125) **ISSN:** 1097-4628. **DOI:** 10.1002/app.49284.

22. D. Sahu, P. Mohapatra and **S. K. Swain* "**Highly orange fluorescence emission by water soluble gold nanoclusters for "turn off" sensing of Hg^{2+} ion**"** ***Journal of Photochemistry & Photobiology, A: Chemistry***, **386**, 112098, (Elsevier), (**2020**). (Impact Factor: 5.141) **ISSN:** 1010-6030. **DOI:** 10.1016/j.jphotochem.2019.112098**.**

23. D. Sahu, N. Sarkar, P. Mohapatra and **S. K. Swain* "**Rhodamine B associated Ag/r-GO nanocomposites as ultrasensitive fluorescent sensor for Hg2+**"** ***Microchemical Journal***, **154**, 104577, (Elsevier), (**2020**). (Impact Factor: 5.304) **ISSN:** 0026-265X. **DOI:** doi.org/10.1016/j.microc.2019.104577.

24. P. K. Sethi, K. Prusty, P. Mohapatra and **S. K. Swain*** "Nano CaCO3 embodied poly acrylic acid/dextran nanocomposites for packaging applications" ***Journal of Applied Polymer Science***, **137 (3),** 48298-308, (Wiley), (**2020**). (Impact Factor: 3.125) **ISSN:** 1097-4628. **DOI:** 10.1002/app.48298.

25. B. Parhi, D. Bharatiya and **S. K. Swain*** "Application of quercetin flavonoid-based hybrid nanocomposites: a review**"** ***Saudi Pharmaceutical Journal,*** **28(12),** 1719–1732, (Elsevier), (**2020**). (Impact Factor: 4.562) **ISSN:** 1319-0164. **DOI:** 10.1016/j.jsps.2020.10.017.

2019

26. D. Sahu, N. Sarkar, P. Mohapatra and **S. K. Swain* "**Nano gold hybrid polyvinyl alcohol films for sensing of Cu^{2+} ions**"** ***Chemistry Select***, **4**, 9784-9793, (Wiley-VCH), (**2019**). (Impact Factor: 2.307) **ISSN:** 2365-6549. **DOI:** 10.1002/slct.201902167.

27. B. B. Singh, F. Mohanty, S. S. Das*, and **S. K. Swain** "Graphene sandwiched crumb rubber dispersed hot mix asphalt" ***Journal of Traffic and Transportation Engineering***, **7(5),** 652-667**,** (Elsevier), (**2019**). (Impact Factor:3.571) **ISSN:** 2095-7564. **DOI:** 10.1016/j.jtte.2019.02.003.

28. K. Prusty and **S. K. Swain*** "Release of ciprofloxacin drugs by nano gold embedded cellulose grafted polyacrylamide hybrid nanocomposite hydrogels" ***International Journal of Biological Macromolecules***, **126(1**), 665-675, (Elsevier), (**2019**). (Impact Factor: 8.025) **ISSN:** 0141-8130. **DOI:** 10.1016/j.ijbiomac.2018.12.258 0141-8130.

29. P. K. Sethy, K. Prusty, P. Mohapatra and **S. K. Swain*** "Nanoclay decorated polyacrylic acid-starch hybrid nanocomposite thin films as packaging materials" ***Polymer Composites***, **40,** 229–239**,** (Wiley), (**2019**). (Impact Factor: 3.531) **ISSN:** 1548-0569. **DOI:** 10.1002/pc.24326.

30. D. Sahu, G. Sahoo, P. Mohapatra and **S. K. Swain*** "Dual activities of nano silver embedded reduced graphene oxide using clove leaf extracts: Hg^{2+} sensing and catalytic degradation" ***Chemistry Select***, ***4*****,** 2593–2602, (Wiley-VCH), (**2019**). (Impact Factor: 2.307) **ISSN:** 2365-6549. **DOI:** 10.1002/slct.201803725.

31. G. Sahoo, N. Sarkar and **S. K. Swain*** "Effect of layered graphene oxide on the structure and properties of bovine serum albumin grafted polyacrylonitrile hybrid bionanocomposites" ***Polymer Composites,*** **40(10),** 3989-4003, (Wiley), (**2019**). (Impact Factor: 3.531) **ISSN:** 1548-0569. **DOI:**10.1002/pc.25260.

32. F. Mohanty and **S. K. Swain*** "Silver nanoparticles decorated polyethylmethacrylate/graphene oxide composite: as packaging material" ***Polymer Composites***, **40**, 1199–1207, (Wiley), (**2019).** (Impact Factor: 3.531) **ISSN:** 1548-0569. **DOI:**10.1002/pc.24944.

33. F. Mohanty and **S. K. Swain*** "Nano silver embedded starch hybrid graphene oxide sandwiched poly(ethylmethacrylate) for packaging application" ***Nano-Structures & Nano-Objects***, **18**, 100300, (Elsevier), (**2019**). (Impact Factor:5.454) **ISSN:** 2352-507X. **DOI:** 10.1016/j.nanoso.2019.100300.

34. K. Prusty and **S. K. Swain*** "Nanostructured gold dispersed polyethylmethaacrylate/dextran hybrid composites for packaging applications" ***Polymer-Plastic Technology and Materials***, **58 (18)**, 2019 – 2030, (Tylor & Francis), (**2019**). (Impact Factor: 2.439) **ISSN:** 2574-089X. **DOI**: 10.1080/25740881.2019.1602140.

35. D. Sahu, N. Sarkar, G. Sahoo, P. Mohapatra and **S. K. Swain*** "Nano silver imprinted graphene oxide as catalyst in reduction of 4-nitrophenol" ***Journal of Physical Organic Chemistry*****, 32(9),** 3971, (Wiley), (**2019**). (Impact Factor:2.155) **ISSN:** 1099-1395. **DOI:**10.1002/poc.3971.

36. K. Prusty, A. Biswal, S. B. Biswal and **S. K. Swain*** "Synthesis of soy protein/polyacrylamide nanocomposite hydrogels for delivery of ciprofloxacin drug" ***Materials Chemistry and Physics,*** **234**, 378-289, (Elsevier), (**2019**). (Impact Factor: 4.778) **ISSN:** 0254-0584. **DOI:** 10.1016/j.matchemphys.2019.05.038.

2018

37. K. Prusty, P. K. Sethy and **S. K. Swain*** "Sandwich structured starch grafted polyethylhexylacrylate/polyvinylalcohol thin films" ***Advances in Polymer Technology***, **37**, 37739-37791, (Wiley), (**2018**). (Impact Factor: 2.502) **ISSN:** 1098-2329. **DOI:** 10.1002/adv.22161.

38. K. Prusty and **S. K. Swain*** "Nano silver decorated polyacrylamide/dextran nanohydrogels hybrid composites for drug delivery applications" ***Materials Science & Engineering: C***, **85**, 130-141, (Elsevier), (**2018**). (Impact Factor: 7.328) **ISSN:** 0928-4931. **DOI:** 10.1016/j.msec.2017.11.028.

39. K. Prusty and **S. K. Swain* "**Nanostructured chitosan composites for cancer therapy: a review**"** ***International Journal of Polymeric Materials and Polymeric Biomaterials***, **67(15),** 879-888, (Tylor & Francis), (**2018**). (Impact Factor: 3.221) **ISSN:** 1563-535X. **DOI:** 10.1080/00914037.2017.1393678.

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1. K. Prusty, **S. K. Swain*** "Acrylic based hydrogels" Encyclopedia series of Tylor & Francis, CRC Press on Encyclopedia of Biomedical Polymers and Polymeric Biomaterials, Edited by: Munmaya Mishra, (January 17, **2016**). Print **ISBN:** 978-1-4398-9879-6. **eBook ISBN:** 978-1-4665-0179-9. **DOI:** 10.1081/E-EBPP-120054001. **Link:** http://www.crcnetbase.com/doi/pdfplus/10.1081/E-EBPP-120054001.

2. K. Prusty, **S. K. Swain*** "Layered material reinforced starch based bionanocomposites for food packaging applications" Encyclopedia series of Tylor & Francis, CRC Press on Encyclopedia of Polymer Applications, Edited by: Munmaya Mishra, 1st Edition, First Published on 3 September **2018**, eBook Published on 3 January **2019**. **eBook ISBN:** 9781351019415.

3. S. J. Sahoo, K. Prusty and **S. K. Swain*** "Polysacharide based rubber nanocomposites" Encyclopedia of Renewable and Sustainable Materials, **(2019)**. **ISBN:** 978-0-12-813195-4.11432-4. **DOI:** 10.1016/B978-0-12-813195-4.11432-4.

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1. S Gantayat, D Rout and **S K Swain "**Mechanical properties of functionalized multiwalled carbon nanotube/epoxy nanocomposites**"** 5th International Conference of Materials Processing and Characterization (ICMPC 2016), Hyderabad, ***Materials Today: Proceedings*** (Elsevier) 4 (2017) 4061–4064. doi.org/10.1016/j.matpr.2017.02.308.

2. **S K Swain** and N Sarkar "Anti-corrosion performance of nanohybrid polyaniline on mild steel" ***Proc. of the Intl. Conf. on Nanotechnology for Better Living***, (2016) 3 (1). 304 doi:10.3850/978-981-09-7519-7nbl16-rps-304 (2016)

3. S. Gantayat, D. Rout and **S. K. Swain** "Structural and electrical properties of functionalized multiwalled carbon nanotube/epoxy composite" ***AIP Conference Proceedings*** **1731**, 050113 (2016); doi.org/10.1063/1.4947767 (21–25 December **2015**). doi.org/10.1063/1.4947767.

4. A.Sarangi, G. Nath , **S.K.Swain**, R.Paikaray "Effect of Frequency on Physical Properties of Date Palm Fiber - PVA Composites International Symposium on Ultrasonics- 2015 (ISU 2015)" Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur, Maharashtra, India, January 22-24, 2015, Published in "***International Journal of Science and Research"***, ***Paper ID:*** *ISU-084*, ***Edition:*** *Special Issue - ISU-2015 ISSN (Online): 2319-7064* .

5. A Sarangi, G Nath*, **S K Swain*** and R Paikray "Chemical modification of natural fibers with acetone blended alcohol" ***Advanced Science Letter*** (American Scientific Publishers) **20**(3-4), *570-573* (2014). DOI: 10.1166/asl.2014.5367 (Impact Factor: 0.42).

6. A K Pradhan and **S K Swain* "**Synthesis and Characterization of conducting PMMA/MWCNT nanocomposites**"** ***International conference on advances in materials and materials processing***, IIT Kharagpur, December 9-11, 2011 page 75-79 **(2011)**

7. A K Pradhan and **S K Swain* "**Synthesis of PAN/MWCNT nanocomposites: Study of electrical conductivity**"** ***International Conference on Carbon Nanotubes: Potential and Chalenges***, IIT Kanpur**,** December 15-17, 2010, page 65-68 (**2010).**

8. S Lapshine, **S K Swain** and A I Isayev "Ultrasound Aided Extrusion Process for Preparation of Polyolefin-Clay Nanocomposites" ***Society of Plastic Engineers: 66th Annual Technical Conference (ANTEC)***, May 04-08 2008, Milwaukee, Wisconsin, USA, Vol. 4 2063-2067 (**2008**) ISBN 9781-60560-3209

9. **S. K. Swain** and A. I. Isayev, "Processing of Nylon 6/clay Nanocomposites by Continuous Sonication Process: Mechanical, Rheological and Structural Study", ***Proceeding of International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing***, IIT, Kanpur, December 12-14, P- 146-169 (**2007**).

10. **S. K. Swain** and A. I. Isayev, "Extrusion of Polyamide 6/clay Nanocomposites by Continuous Sonication Process: Study of Structural and Gas Barrier Properties" ***Proceeding of the National Conferences on Development of Composites***, NIT, Rourkela, April 14-15, P- 179-185 (**2007**).

11. **S K Swain** and A I Isayev "Ultrasonic assisted Extrusion of HDPE/Clay nanocomposites" ***Society of Polymeric Engineering, Society of Plastic Engineers: 64th Annual Technical Conference (ANTEC)***, Charlottee North Corolina, USA May 07-11, 2006, Vol. 5, 2006, 923-927, (2006) ISBN: 9781-6042-35562.

12. **S. K. Swain** and A. I. Isayev, "Melt extrusion process for exfoliation of polyamide 6/clay nanocomposites: Study of oxygen permeability property" ***Polym Mater: Sci. & Engg,*** 96**,** 51-52 (**2007**) ISSN# 0743-0515 (ACS)

13. **S. K. Swain**, R. K. Samal, P. K. Sahoo, "Synthesis and Characterizations of PBA/Silicate Nanocomposites by emulsifier free emulsion free emulsion Polymerization", ***Polymer Preprints ACS***,47(2), 652-653 (**2006**).ISSN # 0032-3934 (ACS).

14. **S. K. Swain** and A. I Isayev, "HDPE/Clay nanocomposites by continuous sonication process: Mechanical and Rheological study" ***Polymer Materials: Sci. & Engg*** 94, 690-691 (**2006**). ISSN# 0743-0515 (ACS)

15. **S. K. Swain,** S. Lapshine and A. I. Isayev, "Polyolefine-clay Nanocomposites by Ultrasound Assisted Extrusion Process" ***International Symposium on material Chemistry***, Bhabha Atomoc Research Centre, Mumbai, December 4-8th ,p-430-432 (**2006**)

Proceedings in National Conferences

16. A. Sarangi, G. Nath, **S K Swain** and R. Paikaray. "Acoustical investigation of acetone blended alcohols for chemical modification of natural fibers" Acoustic New Delhi, November10-15, **2013** Page 424-430.

17. T Biswal, P Mohapatra and **S K Swain** "Graphene: A new generation smart materials" ***Int. J Adv. Chem Sci Appl.***, 1, 54-58. (**2013**) ISSN # 2347-7601.

18. **S. K. Swain** "Air pollution Control and Change of climate: A Short Note" 9th Regional conference, OCS, Seemanta Engineering College, Orissa, 17th Sept., p-24-26 (**2006**).

- **Conferences attended and presented oral/poster/invited talk: :** 85 (International and National)

RESEARCH GUIDANCE

List of Ph.D. Scholars Supervised/Under supervision

Sl. No	Name of the PhD Scolar	Status
1.	Dr.Subrata K Patra	**Awarded** on 4.4.2011
2.	Dr. Gyanranjan Prusty	**Awarded** on 18.09.2013
3.	Dr. Sudhir K Kisku	**Awarded** on 30.10. 2013
4.	Dr. Ajaya K Pradhan	**Awarded** on 12.03.2014
5.	Dr. Satyabrata Das	**Awarded** on 21.08. 2014
6.	Dr. Baidyanath Mohanty	**Awarded** on 30.03.2016
7.	Dr. Thumu Ravinder	**Awarded** on 14.03.2016
8.	Dr. Abhijit Sarangi	**Awarded** on 14.03. 2016
9.	Dr. Subhra Gantayat	**Awarded** on 04.10.2016
10.	Dr. Gopal Chandra Pradhan	**Awarded** on 26.12.2017
11	Dr. Fanismita Mohanty	**Awarded** on 06.03.2019
12.	Dr. Gyanaranjan Sahoo	**Awarded** on 23.03.2019
13.	Dr. Deepak Sahu	**Awarded** 02.06. 2020
14.	Dr. Niladri Sarkar	**Awarded** 03.06. 2020
15.	Dr. Kalyani Prusty	**Awarded** 10.01. 2021
16.	Dr. Pramod K Sethy	**Awarded** 15. 09. 2021
17.	Dr. Sk. Nazurul	**Awarded** 17.05.2023
PhD Scholar under supervision		
18.	Anuradha Biswal	In Progress
19.	Swapnita Patra	In Progress
20.	Sachit Kumar Das	In Progress
21.	Krishna Manjari Sahu	In Progress
22.	Susovan Swain	In Progress
23.	Suvendu Purohit	In Progress

List of Post-Doc. Scholars Supervised

Sl. No	Name of the scholars	Fellowship	Year
1.	Dr. SK Basuriddin	DS Kothari Post-Doctoral Fellowship, UGC, New Delhi	Nov 2014 to Mar 2016
2.	Dr. Biswajit Parhi	-do-	Nov 2019 to Feb 2023
3.	Dr. Debasrita Bharatia	Self-supported	July 2020 to Feb 2023

PG THESIS SUPERVISED

List of MPhil Students Supervised

Sl. No	Name of the students	Title of the Thesis	Year
1.	Anima Manjari Ojha	Biocomposites an eco-friendly smart material: A review	2008
2.	Gyanaranjan Prusty	Ultrasonic investigation of PVA/PA blends in aqueous solutions	2009
3.	Pritipadma Nayak	Biodegradable composites: A short review	2009
4.	Anjana Mohanty	Preparation of starch based bionanocomposites for packaging applications	2010
5.	Prangya Paramita Priyadarshini	Study of thermal properties of Protein/clay bionanocomposites	2010
6.	Nityananda Gharai	Swelling study of PVA-co-PAM/clay nanohydrogel	2010
7.	Itishree Jena	Preparation of thermal resistant PMMA/ZrO_2 nanocomposites with gas barrier properties	2011
8.	Sakuntala Sahu	Preparation of thermal resistant gas barrier chitosan/clay nanobiocomposites	2011
9.	Bhagyashee Patra	Enhancement of conducting properties of polyaniline with incorporation of nano Silicon carbide.	2015
10.	Harichandra Jena	Synthesis and Characterization of cellulose grafted polyacrylamide nanohydrogels	2017
11.	Manisha Kumari Maharana	Synthesis and Characterization of Polystyrene-co-Chitosan/GO/Ag Nanocomposites	2018
12.	Shital Jyotsna Sahoo	Designing of PAA/PEG hybrid materials with incorporation of GO/CaCO3 for removal of dye pollutants from water	2019
13.	Jayprakash Behera	Preparation of nano BN reinforced PEHA thin film for packaging applications	2020
14.	Krishna Manjari Sahu	Nano silver decorated polyacrylic acid/polyethylene glycol nanocomposite hydrogels for drug delivery	2021

List of M.Tech. Students Supervised

Sl. No	Name of the students	Title of the thesis	Year
1.	Proxima Priyadarshni	Effect of coconut shell powder on the tribological , swelling and biodegradable properties of polypropylene	2013
2.	Tanmayee Kuntia	Preparation and characterization of Polypropelene/coconut shell biocomposites: Study of Mechanical, thermal and chemical resistant properties	2013
3	Amrit Mallik	The effect of functionalized MCNT on the mechanical and electrical properties of PMMA nanocomposites: Optimization of parameters by Taguchi method	2013
4.	Bhargabi Shur	Synthesis of PAM-co-PVA nanohydrogels for agricultural purpose	2014

DECLARATION	All the information provided above are true and best of my knowledge and supporting documents can be produced on demand.

Place: VSSUT, Burla **[Sarat Kumar Swain]**