

CURRICULUM VITAE

Dr. Shasank Sekhar Swain,

FICS (Fellow of Indian Chemical Society), MRSB (Member Royal Society of Biology)

MSc (Bioinformatics), Ph.D. [(Biotechnology (Pharmaceutical Biotech. & Drug Discovery)]

E-mail: swain.shasanksekhar86@gmail.com

Mob. No.: +91 9090203945



Research Profile: Total publications: **56** (18 review and 38 research; First/ corresponding authors: **29**); Total citations: **911** (since 2015); h-index: **17**, i10-index: **26**; Total IF: **248.95**; Highest IF: **19.56** (*Emerg. Microbes Infect*); Impact per paper: **4.5**; Citation per paper: **> 16**; ORCID ID: <https://orcid.org/0000-0001-5089-8304>.

CURRENT POSITION

Postdoctoral Research Associate at Nanomedicine Laboratory, DBT-Institute of Life Sciences, Nalco Square, Bhubaneswar-23, Odisha, funded by Department of Science and Technology, GOI, New Delhi (from 20th May 2022), under guidance of **Dr. Sanjeeb Kumar Sahoo** (Scientist F).

EDUCATIONAL QUALIFICATIONS

Discipline	Institution	Board/ University	Year	Percentage
Ph.D. (Biotechnology)	School of Pharmaceutical Sciences, Bhubaneswar	Siksha 'O' Anusandhan University, Odisha	2019	73.03 (Res. Method.)
M.Sc. (Bioinformatics)	B.J.B Autonomous College, Bhubaneswar	Utkal University, Bhubaneswar, Odisha	2012	70.02 (Aggregate)
B.Sc. (Bioinformatics)	B.J.B Autonomous College, Bhubaneswar	Utkal University, Bhubaneswar, Odisha	2010	69.87 (Distinction)

RESEARCH EXPERIENCES (10 years 7 months till 1/ 01/ 2023)

Position	Working place/ Institution	From	To	Total (m/d)
Postdoctoral Res. Associate	DBT-Institute of Life Sciences, Nalco Square, Bhubaneswar, Odisha	20 th May 2022	Till date	09/ 12
ICMR-Postdoc Fellowship	ICMR-Regional Medical Research Centre, Bhubaneswar, Odisha	8 th May 2020	18 th May 2022	24/ 11
DHR-Young Sci. Fellowship	ICMR-Regional Medical Research Centre, Bhubaneswar, Odisha	1 st Feb., 2018	30 th Apr. 2020	26/ 29
Full-time Ph.D. Res. Scholar	Central Research Laboratory, IMS & SUM Hospital, S'O'A deemed to University, Odisha	10 th Feb., 2015	31 st Jan., 2018	35/ 21
Senior Res. Fellow	Central Research Laboratory, IMS & SUM Hospital, S'O'A deemed to University, Odisha	1 st April., 2014	31 st Jan., 2015	9/ 30
Junior Res. Fellow	Central Research Laboratory, IMS & SUM Hospital, S'O'A deemed to University, Odisha	1 st Oct., 2013	31 st Mar., 2014	5/ 30
Junior Res. Scholar	Research and Development Centre, Hi-Tech Medical College and Hospital, Odisha	1 st Oct., 2012	30 th Sep., 2013	11/ 29

DETAILS ON POST-DOCTORAL RESEARCH WORK

Title of the Post-Doc research work (Drug Chemistry and Discovery): *Synthesis, anti-tuberculosis activity and toxicity profile of potential structurally improved drug candidates followed by a cost-effective computer-aided approach*; **Guide:** Dr. Tahziba Hussain, Scientist E, ICMR-Regional Medical Research Centre, Bhubaneswar-23; **Co-Guide:** Dr. Sanghamitra Pati, Scientist G & Director, ICMR-Regional Medical Research Centre, Chandrasekharpur, Bhubaneswar-23, Odisha, India.

DETAILS ON Ph.D. THESIS RESEARCH WORK

Title of the Ph.D. thesis (Biotechnology): *Computational and experimental evaluation of newly designed sulfonamide-phytochemical conjugates as prospective antibacterial drugs*; **Supervisor:** Prof. Rabindra Nath Padhy, Head, Central Research Laboratory, Institute of Medical Sciences and SUM Hospital and **Co-Supervisor:** Prof. P. Sudhir Kumar, Department of Pharmaceutical Chemistry, School of Pharmaceutical Sciences, Siksha 'O' Anusandhan Deemed to be University, Odisha, India.

RECEIVED RESEARCH GRANTS/ OWN FELLOWSHIP

Position/ Role	Working place/ Institution	Cost (lakhs)	From	To	Duration (months)	Status
ICMR-Post Doctoral Fellowship (Own Grant)	ICMR-Regional Medical Research Centre, Bhubaneswar, Odisha	24	8 th May 2020	7 th May 2022	24	Completed
DHR-Young Scientist Fellowship (PI of the Grant)	ICMR-Regional Medical Research Centre, Bhubaneswar, Odisha	18	1 st Feb., 2018	31 th Jan., 2020	24	Completed

RESEARCH INTEREST/ EXPERTISE

- **Bioinformatics expertise:** Structural biology, virtual screening, molecular modelling, molecular dynamics simulation, phylogenetic tree, genome-pathway analysis, pharmacophore modelling, etc.
- **Experiment expertise:** Natural product extraction by bio-assay guided method in different solvent systems, assessment of antibacterial, antimycobacterial activity and assess cytotoxicity profiles of crude-extracts, natural and value-added natural products by *in silico*, *in vitro* and *in vivo* method.
- **Chemistry expertise:** Design of hybrid drugs and synthesis of amide base, Schiff base, and azo-dye base products in conventional methods and their spectral characterization (UV, LCMS, FTIR, NMR, SEM). Computational chemistry (DFT, HOMO, LUMO, ΔG) calculation, structural activity relationships (SAR) analysis, structure optimization of designed or isolated chemical structures.

REVIEW/ RESEARCH PUBLICATION/ BOOK CHAPTER/ PATENT

Review and Overview Articles

1. Swain SS, Paidsetty SK, Padhy RN, Hussain T (2023). Nano-technology platforms to increase the antibacterial drug suitability of essential oils: A drug prospective assessment. *OpenNano*, 9, 2023, 100115. doi.org/10.1016/j.onano.2022.100115. (Elsevier). **IF:0; Cite Score: 21.9.**
2. Panda SK, Buroni S, Swain SS, Bonacorsi A, Amorim EADF, Kulshrestha M, da Silva LCN, Tiwari V (2022) Recent advances to combat ESKAPE pathogens with special reference to essential oils. *Front. Microbiol.* 13:1029098. (Frontiers). **IF: 6.06.**
3. Panda SK, Gazim ZC, Swain SS, de Araujo Bento MCV, da Silva Sena J, Mukazayire MJ, Puyvelde LV, Luyten W (2022) Ethnomedicinal, phytochemical and pharmacological investigations of *Tetradenia riparia* (Hochst.) Codd (Lamiaceae). *Front Pharmacol.* 3, 896078. doi:10.3389/fphar.2022.896078. (Frontiers). **IF: 5.98.**
4. Swain SS, Hussain T, Pati S (2022) Quinoline heterocyclic containing plant and marine candidates against drug-resistant *Mycobacterium tuberculosis*: A systematic drug-ability investigation. *Eur J Med Chem.* 232:114173. doi:10.1016/j.ejmech.2022.114173. (Elsevier). **IF: 7.08.**

5. Panda SK, Sahoo G, **Swain SS**, Luyten W (2022) Anticancer activities of mushrooms: a neglected source for drug discovery. *Pharmaceuticals* 15(2):176. doi:10.3390/ph15020176. **MDPI**. **IF: 5.21**.
6. Bhattacharya T, Soares GABE, Chopra H, Rahman MM, Hasan Z, Swain SS, Cavalu S. (2022) Applications of phyto-nanotechnology for the treatment of neurodegenerative disorders. *Materials (Basel)* 15, 804. doi:10.3390/ma15030804. (**MDPI**). **IF: 3.74**.
7. Sudhakar K, Fuloria S, Subramaniyan V, Sathasivam KV, Azad AK, **Swain SS**, Sekar M, Karupiah S, Porwal O, Sahoo A, Meenakshi DU, Sharma VK, Jain S, Charyulu RN, Fuloria NK (2021) Ultraflexible liposome nanocargo as a dermal and transdermal drug delivery system. *Nanomaterials*, 11, 2557. (**MDPI**). **IF: 5.71**.
8. **Swain SS**, Sahoo G, Mahapatra P, Panda SK (2021) Eradicated or Remerging: Disease burden and current therapeutical status of leprosy. *Curr Top Med Chem (Bentham Science)*. **IF: 3.57**.
9. **Swain SS**, T Hussain, S Pati (2021) Drug-lead anti-tuberculosis phytochemicals: A systematic review. *Curr Top Med Chem. (Bentham Science)*. **IF: 3.57**.
10. Sahoo A, **Swain SS**, Behera A, Sahoo G, Mahapatra P, Panda SK (2021) Antimicrobial peptides derived from insects offer a novel therapeutic option to combat biofilm: a systematic review. *Front. Microbiol.* 12:661195. (**Frontiers**). **IF: 6.06**.
11. Pritam P, Manna S, Sahu A, **Swain SS**, Ramchandani S, Bissoyi S, Panda MK, Sing YD, Mohanta YK, Behera RK, Jit BP (2021) Eosinophil: a central player in modulating pathological complexity in asthma. *Allergol Immunopathol (Madr)*. 49:191-207. (**Elsevier**). **IF: 2.09**.
12. **Swain SS**, Panda SK, Luyten W (2021) Phytochemicals against SARS-CoV as potential drug leads. *Biomed. J.* 44: 74-85. (**Elsevier**). **IF: 7.89**.
13. **Swain SS**, Paidesetty SK, Padhy RN. (2020) Phytochemical conjugation as a potential semisynthetic approach toward reactive and reuse of obsolete sulfonamides against pathogenic bacteria. *Drug Dev. Res.* 82: 149-166 (**Wiley**). **IF: 5.0**.
14. **Swain SS**, Paidesetty SK, Padhy RN, Hussain T (2020) Isoniazid–phytochemical conjugation: A new approach for potent and less toxic anti-TB drug development. *Chem. Biol. Drug. Des.* 96: 714-730. (**Wiley**). **IF: 2.87**.
15. **Swain SS**, Sharma D, Hussain T, Pati S (2020). Molecular mechanisms of underlying genetic factors and associated mutations for drug resistance in *Mycobacterium tuberculosis*. *Emerg. Microbes. Infect.* 9: 1651-1663. (**Taylor & Francis**). **IF: 19.56**.
16. Zahara K, Panda SK, **Swain SS**, Luyten W (2020) Metabolic diversity and therapeutic potential of *Holarrhena pubescens*: An important ethnomedicinal plant. *Biomolecules*. 10:1341. doi:10.3390/biom10091341 (**MDPI**). **IF: 6.06**.
17. **Swain SS**, Padhy RN, Singh PK (2015) Anticancer compounds from cyanobacterium *Lyngbya* species – a review. *Antonie van Leeuwenhoek* 108:223-265. (**Springer**). **IF: 2.15**.
18. **Swain SS**, Paidesetty SK, Padhy RN (2017) Antibacterial, antifungal and antimycobacterial compounds from cyanobacteria. *Biomed. Pharmacother* 90:760-776. (**Elsevier**). **IF: 7.41**.

Original Research Articles

19. Mfotie Njoya E, Maza HLD, **Swain SS**, Chukwuma CI, Mkounga P, Nguekeu Mba YM, Mashele SS, Makhafola TJ, McGaw LJ. Natural compounds isolated from African mistletoes (Loranthaceae) exert anti-inflammatory and acetylcholinesterase inhibitory potentials: *In vitro* and *in silico* studies. *Appl. Sci.* 2023, 13, 2606. (**MDPI**) **IF: 2.83**
20. **Swain SS**, Panda SK, Hussain T (2022) Drug-ability assessment of potential anti-TB phytochemicals by computer-aided drug discovery and medicinal chemistry tools: A cost-effective platform for natural-product-based drug discovery. *Chem. Biodivers.* doi: 10.1002/cbdv.2022 00267. (**Wiley**). **IF: 2.74**.
21. Hu X, Zhao S, Cai Y, **Swain SS**, Yao L, Liu W, Yan T (2022) Network pharmacology-integrated molecular docking reveals the expected anticancer mechanism of *Picrorhizae Rhizoma* extract. *Biomed. Res. Int.* 2022:3268773. doi:10.1155/2022/3268773. (**Hindawi**). **IF: 3.24**.
22. Panda SK, Khan A, Swain SS, Aissa A, Mukazayire MJ, Puyvelde LV, Luyten W (2022). The anticandidal activity of the diterpenediol 8(14),15-sandaracopimaradiene-7 α ,18-diol from *Tetradenia riparia* against the emerging pathogen *Candida auris*. *Phyther Res.* <https://doi.org/10.1002/ptr.7638> (**Wiley**). **IF:6.38**

23. Sahoo A, **Swain SS**, Panda SK, Hussain T, Panda M, Rodrigues CF (2022) *In silico* identification of potential insect peptides against biofilm-producing *Staphylococcus aureus*. *Chem. Biodivers.* 02200494 doi.org/10.1002/cbdv (Wiley). **IF: 2.74.** (co-communicating author).
24. Ramorobi LM, Matowane GR, Mashele SS, **Swain SS**, Makhafola TJ, Mfengwana PH, Chukwuma CI (2022) Zinc(II) - Syringic acid complexation synergistically exerts antioxidant action and modulates glucose uptake and utilization in L-6 myotubes and rat muscle tissue. *Biomed. Pharmacother.* 154, 113600. doi: 10.1016/j.biopha.2022.113600. (Elsevier). **IF: 7.41.**
25. Ramorobi LM, Matowane GR, Mashele SS, Bonnet SL, Noreljaleel AEM, **Swain SS**, Makhafola TJ, Chukwuma CI (2022) Bioactive synergism between zinc mineral and p-coumaric acid: A multi-mode glycemic control and antioxidative study. *J. Food. Biochem.* e14360. doi:10.1111/jfbc.14360. (Wiley) **IF: 3.65.**
26. Das BS*, Das NC*, **Swain SS***, Mukherjee S, Bhattacharya D (2022) Andrographolide induces anti-SARS-CoV-2 response through host-directed mechanism: An *in silico* study. *Future Virol.* doi:10.2217/fvl-2021-0171. (SCI, Future Medicine Publisher) (*equal contribution). **IF: 3.01.**
27. Matowane GR, Ramorobi LM, Mashele SS, Bonnet SL, Noreljaleel AEM, **Swain SS**, Makhafola TJ, Chukwuma CI (2022) Complexation potentiated promising antidiabetic and antioxidative synergism between ZN(II) and ferulic acid: a multimode study. *Diabet Med.* e14905. doi: 10.1111/dme.14905. (Wiley) **IF: 4.21.**
28. Pradhan B, Patra S, Nayak R, **Swain SS**, Jit BP, Behera C, Ragusa A, Ki JS, Jena M (2022) Low-dose priming of gamma radiation enhanced cadmium tolerance in *Chlamydomonas reinhardtii* by modulating physio-biochemical pathways. *Environ Sci Pollut Res Int.* doi: 10.1007/s11356-022-21374-9. (Springer-Nature) **IF: 5.19.**
29. Gnanaraj C, Sekar M, Fuloria S, **Swain SS**, Gan SH, Chidambaram K, Rani NNIM, Balan T, Stephenie S, Lum PT, Jeyabalan S, Begum MY, Chandramohan V, Thangavelu L, Subramaniyan V, Fuloria NK. (2022) *In silico* molecular docking analysis of karanjin against alzheimer's and parkinson's diseases as a potential natural lead molecule for new drug design, development and therapy. *Molecules.* 27:2834. doi:10.3390/molecules 27092834. (MDPI). **IF: 4.92.**
30. **Swain SS**, Singh SR, Sahoo A, Panda PK, Hussain T, Pati S (2022) Integrated bioinformatics-cheminformatics approach toward locating pseudo-potential antiviral marine alkaloids against SARS-CoV-2-Mpro. *Proteins.* doi:10.1002/prot.26341. (Wiley). **IF: 4.08**
31. Matowane GR, Ramorobi LM, Mashele SS, Bonnet LS, Noreljaleel AEM, **Swain SS**, Makhafola TJ, Chukwuma CI (2022) Novel caffeic acid-zinc acetate complex: studies on promising antidiabetic and antioxidant synergism through complexation. *Med Chem.* doi:10.2174/1573406 418666220620144601. (Bentham Science). **IF: 2.32**
32. Swain R, Nandi S, Sahoo RN, **Swain SS**, Mohapatra S, Mallick S (2022) Bentonite clay incorporated topical film formulation for delivery of trimetazidine: Control of ocular pressure and *in vitro-in vivo* correlation. *J Drug Deliv. Sci. Technol.* 67: 102956; doi.org/10.1016/j.jddst. 2021.102956. (Elsevier). **IF: 5.06.**
33. Sahoo A, **Swain SS**, Paital B, Panda M (2022) Combinatorial approach of vitamin C derivative and anti-HIV drug-darunavir against SARS-CoV-2. *Front. Biosci-Landmark.* 27(1):10. doi: 10.31083/j.fbl2701010. (IMR Press, Science Citation Index). **IF: 3.11.**
34. **Swain SS**, Rout SS, Sahoo A, Oyedemi SO, Hussain T (2021) Antituberculosis, antioxidant and cytotoxicity profiles of quercetin: A systematic and cost-effective *in silico* and *in vitro* approach. *Nat. Prod. Res.* 1-5. doi: 10.1080/14786419.2021.2008387. (Taylor & Francis). **IF: 2.48.**
35. Oyedemi I SO, Atanes P, Aiyegoro OA, Amao SO, **Swain SS**, Persaud SJ (2021) *In vitro* profiling of phenolic-rich extracts of *Bulbine natalensis* and *Bulbine frutescens* and functional assessments of their potential as therapeutics for the treatment of diabetes. *Diabet. Med.* e14770. doi: 10.1111/dme.14770. (Wiley). **IF: 4.21.**
36. Sahoo A, Fuloria S, **Swain SS**, Panda SK, Sekar M, Subramaniyan V, Panda M, Jena AK, Sathasivam KV, Fuloria NK (2021) Potential of marine terpenoids against SARS-CoV-2: An *in silico* drug development approach. *Biomedicines* 9, 1505. (MDPI). **IF: 4.75.**
37. Mishra P, Tondon G, Kumar M, Paital B, **Swain SS**, Kumar S, Samanta L (2021) Promotor sequence interaction and structure-based multitargeted (redox regulatory genes) molecular docking analysis of vitamin E and curcumin in T4 induced oxidative stress model using H9C2 cardiac cell line. *J. Biomol. Struct. Dyn.* 1-20. (Taylor & Francis). **IF: 5.23.**

38. Oyedemia SO, Ezea K, Aiyegoro OA, Ibeh RC, Ikechukwu GC, **Swain SS**, Oyedemi BO (2021) Computational, chemical profiling and biochemical evaluation of the antidiabetic potential of *Parkia biglobosa* stem bark extract in type 2 model of rats. *Biomol. Struct. Dyn.* (Taylor & Francis). **IF: 5.23.**
39. **Swain SS**, Singh SR, Sahoo A, Hussain T, Pati S (2021) Anti-HIV-drug and phyto-flavonoid combination against SARS-CoV-2: A molecular docking-simulation base assessment. *J. Biomol. Struct. Dyn.* 1-14. (Taylor & Francis). **IF: 5.23.**
40. Tshane LSL, Mashele SS, Matowane GR, Bonnet SL, Makhafola TJ, Noreljaleel AEM, **Swain SS**, Sekhoacha M, Chukwuma CI (2021) Zinc(II) mineral increased the in vitro, cellular and ex vivo antihyperglycemic and antioxidative pharmacological profile of p-hydroxybenzoic acid upon complexation. *J. Food. Biochem.* 45: e13609 (Wiley). **IF: 3.65.**
41. Chukwuma CI, Mashele SS, **Swain SS** (2020) Antidiabetic and antioxidative properties of novel Zn(II)-cinnamic acid complex. *Med. Chem.* 17:913-925. **IF: 2.32.**
42. Motloug DM, Mashele SS, Matowane GR, **Swain SS**, Bonnet SL, Noreljaleel AEM, Oyedemi SO, Chukwuma CI. (2020) Synthesis, characterization, antidiabetic and antioxidative evaluation of a novel Zn(II)-gallic acid complex with multi-facet activity. *J. Pharm. Pharmacol.* 72:1412-1426. (Oxford Press). **IF: 4.81.**
43. **Swain SS**, Paidesetty SK, Dehury B, Das M, Chaitanya SV, Padhy RN (2020) Computer-aided synthesis of dapsone-phytochemical conjugates against dapsone-resistant *Mycobacterium leprae*. *Sci. Rep.* 10: 6839. (Springer-Nature). **IF: 4.99.**
44. Oyedemib SO, Nwaogu G, Chukwuma CI, Adeyemi OT, Matsabisa M, **Swain SS**, Matsabisa MG (2020). Quercetin modulates hyperglycemia by improving the pancreatic antioxidant status and enzymes activities linked with glucose metabolism in type 2 diabetes model of rats: In silico studies of molecular interaction of quercetin with hexokinase and catalase. *J. Food. Biochem.* 44: e13127. (Wiley). **IF: 3.65.**
45. Oyedemia BOM, Oyedemib SO, **Swain SS**, Prieto JM, Stapleton P, Gibbons S (2020) Bactericidal and antibiotic-modulation activities of methanol crude extracts of *Ligustrum lucidum* and *Lobelia inflata* against MRSA phenotypes: Molecular docking studies of some isolated molecules against DNA gyrase A. *South Africa J. Bot.* 130:54-63. (Elsevier). **IF: 3.11**
46. **Swain SS**, Paidesetty SK, Padhy RN (2019) Synthesis of novel thymol derivatives against MRSA and ESBL producing pathogenic bacteria. *Nat. Prod. Res.* 33: 3181-3189. (Taylor & Francis). **IF: 2.34.**
47. Mishra P, Paital B, Jena S, **Swain SS**, Kumar S, Yadav MK, Samanta L, Chainy G (2019) Possible activation of NRF2 by Vitamin E/ Curcumin against altered thyroid hormone-induced oxidative stress via NFκB/AKT/ mTOR/ KEAP1 signaling in rat heart. *Scientific Reports.* 9:7408. (Springer-Nature). **IF: 4.99.**
48. **Swain SS**, Paidesetty SK, Dehury B, Sahoo J, Chaitanya SV, Mahapatra N, Hussain T, Padhy RN (2018) Molecular docking and simulation study for synthesis of alternative dapsone derivative as a newer anti-leprosy drug in multidrug therapy. *J. Cell. Biochem.* 119:9838-9852. (Wiley). **IF: 4.48.**
49. **Swain SS**, Paidesetty SK, Padhy RN, Singh PK (2017) Computational approach for locating effective cyanobacterial compounds against *Mycobacterium tuberculosis*. *Indian J. Pharma. Educ. Res.* 51:1-10. (Scopus). **IF: 0.84.**
50. **Swain SS**, Paidesetty SK, Padhy RN (2017) Antibacterial activity, computational analysis and host toxicity study of thymol-sulfonamide conjugates. *Biomed. Pharmacother.* 88:181-193. (Elsevier). **IF: 7.41.**
51. **Swain SS**, Paidesetty SK, Padhy RN (2017) Development of antibacterial conjugates using sulfamethoxazole with monocyclic terpenes: A systematic medicinal chemistry based computational approach. *Computer Method. Program. Biomed.* 140:185-194. (Elsevier). **IF: 7.02.**
52. Mishra MP, Rath S, **Swain SS**, Ghosh G, Das D, Padhy RN (2017) *In vitro* antibacterial activity of crude extracts of 9 selected medicinal plants against UTI causing MDR bacteria. *J. King Saudi Univ. Sci.* 29:84-95. (Elsevier). **IF: 3.82.**
53. **Swain SS**, Padhy RN (2016) Isolated ESBL producing Gram-negative bacteria along with an *in silico* attempt against ESBL enzyme by flavonoids. *J. Taibah Univ. Med. Sci.* 11:217-229. (Elsevier). **IF: 0**
54. **Swain SS**, Sahu MC, Padhy RN (2015) *In silico* attempt for adduct agent(s) against malaria:

- Combination of chloroquine with alkaloids of *Adhatoda vasica*. *Computer Method. Program. Biomed.* 122:16-65. (Elsevier). **IF: 7.02.**
55. **Swain SS, Padhy RN (2015)** *In vitro* antibacterial efficacy of plants used by an Indian aborigine tribe against pathogenic bacteria isolated from clinical samples. *J. Taibah Univ. Med. Sci.* 10:379-390. (Elsevier). **IF: 0.**
 56. **Swain SS (2013)** *In silico* approach in the prediction and analysis of the three-dimensional structure of *Maleylacetate reductase*: A biodegrading protein. *Int. J. Bioautomation* 17: 217-226. (Scopus). **IF: 0.45**

Book Chapters

1. Sahoo A, **Swain SS**, Jena, AK, Panda M (2021) Therapeutic suitability of functional phyto-oils against oral and MDR-pathogens through nanotechnology-Handbook on Nanotechnology in functional Foods. (Accepted) (CRC Press, Taylor & Francis Group, USA).
2. **Swain SS** and Hussain T (2019) Phytochemicals as a suitable candidate: an overview source of substitute anti-TB drug. RPMP Vol. 51—*Antimicrobial Resistance & Bioactive Natural Products*. Studium Press, USA.
3. **Swain SS** and Hussain T (2019) Role of bioinformatics in early drug discovery: An overview and perspective. (CRC Press, Taylor & Francis Group, USA).

Patents

1. **Filed two** provisional Indian patent applications in 2019 on the development of hybrid antibacterial drugs with my ICMR funds through the Department of Health Research, GOI, New Delhi. Recently, I received one patent **application number: 202011009326.**

ACHIEVEMENTS (AWARDS/ MEDALS/ FELLOWSHIPS)

International Level

- 1 **Young Investigator Travel Award** from the International Society of Antimicrobial Chemotherapy (ISAC), for 31st International Congress of antimicrobial Chemotherapy (ICC)-4th Gulf Congress of Clinical Microbiology & Infectious Diseases (GCCMID) Dubai, 6-9 Nov. 2019.
- 2 **Young Scientist Travel Fellowship (YPS-2019)**, from International Union of Biochemistry and Molecular Biology, for the 27th FAOBMB & 44th MSBMB conference at Taylor University, Kuala Lumpur, Malaysia on 19-22 Aug. 2019.

National Level

- 3 **ICMR-Post Doctoral Fellow Award-2020** (with a two years research grant @Rs 24/- lakhs), from Department of Health Research, Govt. of India, New Delhi (8th May 2020-7th May 2022).
- 4 Elected, **Fellow of Indian Chemical Society (FICS)**, Kolkata, India.
- 5 **Emerging Researcher in Bioinformatics-2020** by BIOinformatics CLUbs for Experimenting Scientists (BIOCLUES), India, on 8th December 2020.
- 6 **SAS-YOUNG RESEARCHER AWARD 2020 (MALE)** by the Scholars Academic and Scientific Society (SAS Society), Assam, on 3rd August 2020,
- 7 **Gandhian Young Technological Innovation-SRISTI Awards, 2019 (GYTI-2019)**, received from Honourable Vice-President and Union Health Minister of India by SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) and Honey Bee Network, on 6th July 2019 at Bigyan Bhavan, New Delhi.
- 8 **DHR-Young Scientist Fellowship-2018 Award** (with a two years research grant @Rs 18/- lakhs), from Department of Health Research, Govt. of India, New Delhi (1st Feb. 2018 to 31st Apr. 2020).
- 9 **Sun Pharma Science Scholar of the Year-2017 Award**, from Sun Pharma Science Foundation, Gurgaon, New Delhi on 12th Feb. 2018.

State Level

- 10 **Odisha Young Scientist Award-2020** (Life Science) by Odisha Bigyan Academy, Department of Science & Technology, Govt. of Odisha for outstanding contribution in field of science and technology (29th Sep., 2022).
- 11 **Award for Successful Innovation Prototype** by Planning and Convergence Department, Government of Odisha on 27th Aug. 2020.

- 12 **Odisha Youth Innovation Award-2017**, received from Honourable Chief Minister of State under 'MSME-Odisha Youth Innovation Fund Scheme, Govt. of Odisha on 5th Mar. 2017.
- 13 **State Level Rajiv Gandhi Prativa Puraskar-2017** as a 'Junior Scientist' by State Rajiv Gandhi Forum, Bhubaneswar on 21th May 2017.

Conference Awards/ Recognitions

- 14 **Royal Society of Chemistry (RSC)-poster Award**, at RSC-BCKIC Symposium on Health and Wellbeing" held at KIIT University on 31st January 2023.
- 15 Received **Prof. R.K. Nanda Award for Best Paper Presentation (ORAL)** at 26th Annual Conference of the Orissa Chemical Society & Advances in Materials Chemistry and Applications-2022 (OCS-AMCA-2022) held at Utkal University, Bhubaneswar, on December 18-19, 2022.
- 16 **Royal Society of Chemistry (RSC)-poster Award**, at ICRTCS-RTCS 2020 organized by Indian Chemical Society) on 26th -29th Dec. 2020.
- 17 **ISCB-free registration award** for 16th ISCB Student Council Symposium 2020 July 10-11, 2020.
- 18 **EMBL-free registration award** for EMBL Conference: SARS-CoV2: Towards a New Era in Infection Research 03 July 2020.
- 19 **Best Poster Award**, at NCAAHM-2012 on September 14-15, 2012, Annamalai University, Annamalai Nagar, Tamil Nadu.
- 20 **Best Poster Award**, at CCSR-2013 on April 27-28, 2013 at Konark Institute of Science and Technology, Bhubaneswar, Odisha.

WORKSHOP/ TRAINING/ SEMINAR/ CONFERENCES

- ✓ Total workshop: 8 (5 National and 3 International); Oral Presentation: 25 (15 National and 10 International Conferences); Poster Presentation: 23 (5 National and 18 International conferences)
- ✓ Young Investigator talk: 6 and Resource person talk: 4.

EDITORIAL/ REVIEWERS ROLE

South African Journal of Botany (Elsevier), Informatics Medicine Unlocked (Elsevier), Journal of Infection and Public Health (Elsevier), PLOS Neglected Tropical Diseases (PLOS One), Saudi Journal of Biological Sciences (Elsevier), Nutrients (MDPI); Scientific Reports (Springer-Nature); **Role as a Guest-editor: Title of the special issue:** Neglected Mushrooms, Food Plants, Nuts: Functional Food Properties and Bioactive Compounds (Journal Name: Pharmaceuticals, MDPI Publisher. **Title of the special issue: Bioinformatics Methods in Natural Product Drug Discovery** (Journal Name: Combinatorial Chemistry & High Throughput Screening, Bentham Science Publisher.

MEMBERSHIP (NATIONAL / INTERNATIONAL)

1. Life Member, Association of Indian Science Congress Association, INDIA.
2. Life Member, Association of Society of Biotechnology and Bioinformatics, INDIA.
3. Life Member, Indian Society of Chemists & Biologist, INDIA.
4. Life Member, Society of Biological Chemists, INDIA.
5. Life Member, Healthcare and Biological Sciences Research Association, Rajasthan, INDIA.
6. Life Member, International Society for Infectious Diseases, USA.
7. Life Member, British Society for Antimicrobial Chemotherapy, UK.
8. Life Member, Indian Chemical Society, INDIA.
9. Life Member, Bioclues Innovation, Research and Development, INDIA
10. Life Member, Orissa Chemical Society, Salipur, Odisha, INDIA
11. Life Member, Odisha Bigyan Academy, Bhubaneswar, Odisha, INDIA
12. Life Member, Bose Science Society, Pudukkottai, Tamil Nadu, INDIA
13. Member, International Natural Product Sciences Taskforce (INPST)
14. Annual Member, Asia Pacific Bioinformatics Network, INDIA
15. Annual Member, Microbiology Society Membership, UK

PERSONAL INFORMATION

- Name : Dr. Shasank Sekhar Swain
- Mother name : Smt. Buli Swain
- Father name : Sri. Braja Kishore Swain
- Date of Birth : 2nd July 1990
- Gender : Male
- Marital status : Married (Wife: Ms. Alaka Sahoo)
- Nationality : Indian
- Language Proficiency : English, Hindi and Oriya.
- Permanent address : C/O-Braja Kishore Swain, At-Ekadalia, Po-Kumarang Sasan, Via-Banpur, Dist.-Khordha, Odisha-752031, India

REFERENCES

Dr. Tahziba Hussain

Scientist E (Guide, ICMR-Postdoc,
ICMR-Regional Medical Research Centre,
Chandarsekharapur, Bhubaneswar-23
Email: tahziba_hussain@hotmail.com

Prof. Rabindra Nath Padhy

Research Scientist & Head (Guide, Ph.D.),
Central Research Laboratory, Institute of Medical
Sciences and SUM Hospital, Bhubaneswar-03
Email: rnpadhy54@yahoo.com

Dr. Sanghamitra Pati

Scientist G & Director (Co-guide, ICMR-Postdoc,
ICMR-Regional Medical Research Centre,
Chandarsekharapur, Bhubaneswar-23
Email: drsanghamitra12@gmail.com

Prof. P. Sudhir Kumar,

Professor (Co-guide, Ph.D. & Mentor DHR-YS),
Department of Medicinal Chemistry,
Siksha 'O' Anusandhan University, Bhubaneswar-03
Email: sairampaidesetty@gmail.com

DECLARATION

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Date: 1st March 2023

Place: Bhubaneswar

Shasank Sekhar Swain

(Shasank Sekhar Swain)