Name: Dr. Siddhartha Sankar Ghosh

Designation: Professor (HAG)

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Google Scholar: https://scholar.google.com/Siddhartha Ghosh

Educational Qualifications

- Ph. D. (Mol. Biology): 1998, Indian Institute of Chemical Biology (IICB), Kolkata
- M. Sc. (Biochemistry): 1991, University College of Science, Kolkata
- B. Sc. (Chemistry Honors): 1988, Ramakrishna Vivekananda Mission College, Kolkata

Professional Experience

- Professor: July 2012 and HAG since December 2021, IITG
- Associate Professor: July 2007- June 2012, IITG
- Assistant Professor: March 2003-July 2007, IITG
- Post Doctoral Fellow: March 1998-February 2003, Albert Einstein College of Medicine, NY, USA

Administrative Experience

- Head, Centre for Nanotechnology: April 2009- June 2013, IITG
- Served as Member of Several Institute committees: Institute Biosafety Committee, Institute Animal Ethics Committee, DPPC Secretory

Teaching:

-Various undergraduate, postgraduate and PhD level courses at the department, which include fundamental, advanced and applied courses on molecular biology, analytical techniques and related areas.

-Interdisciplinary open elective courses at the Centre for Nanotechnology, The Jyoti and Bhupat Mehta School of Health Sciences and Technology for the students of other disciplines.

Current Research Focus Areas:

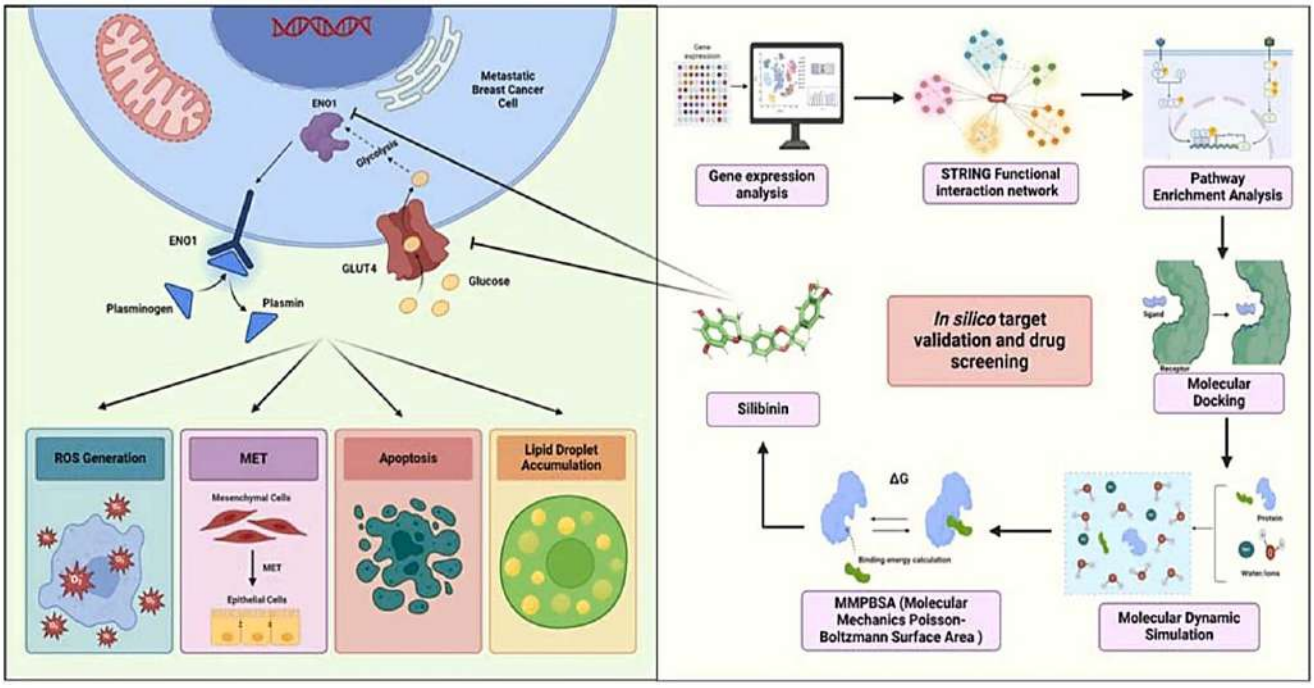
1. Cancer Therapeutics

2. Cancer Hallmark Perturbations

3. NanoTheranostics

Cancer Therapeutics: Drug Repurposing, Protein Therapy, Combination Strategies

A. Drug Repurposing



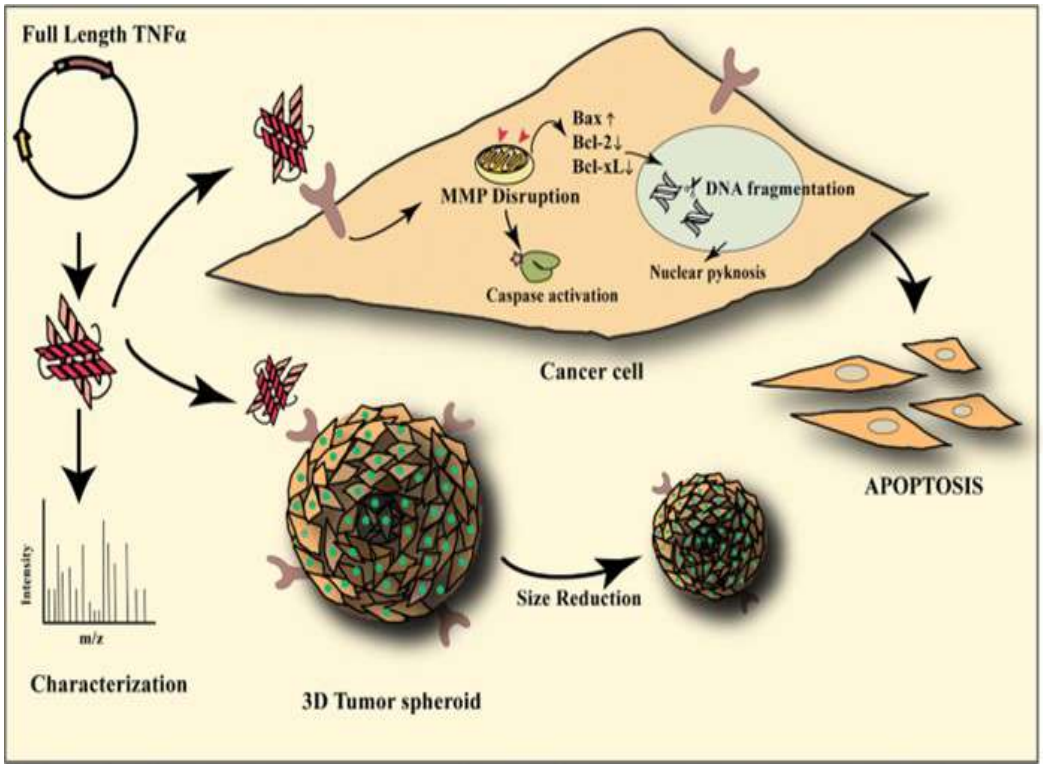
Workflow for Drug Repurposing strategy for cancer therapeutic functions

DOI: 10.1016/j.cellsig.2022.110529; 10.1016/j.compbiolchem.2024.108312

Our lab focuses on innovative drug repurposing strategies for cancer therapeutics, targeting complex tumour progression mechanisms. We employ advanced computational techniques, such as Molecular Docking, Molecular Dynamics Simulations, and MMPBSA energy analysis, to systematically evaluate FDA-approved medications, inhibitors, and therapeutic phytochemicals for their potential as anti-cancer agents. Our research methodology focuses on investigating drug interactions with essential cancer-related proteins. In a significant breakthrough, we discovered that Lomitapide could inhibit TACE and γ-secretase proteases, which are responsible for activating Notch signalling. This inhibition results in anti-proliferative and anti-metastatic effects in triple-negative breast cancer (TNBC) cell lines. Additionally, through comprehensive in silico screening that includes molecular dynamics simulations and MM-PBSA binding energy assessments, we demonstrated that Pimozide, an antipsychotic medication, disrupts the interconnected functional network that regulates energy metabolism and epithelial-mesenchymal transition (EMT) signalling pathways, offering a promising alternative to conventional chemotherapy by targeting key cancer-promoting mechanisms.

Additionally, our work advances combination strategies targeting cancer-invasive mechanisms and therapeutic resistance pathways through rationally designed drug cocktails that synergistically disrupt tumour progression networks.

B. Protein Therapy



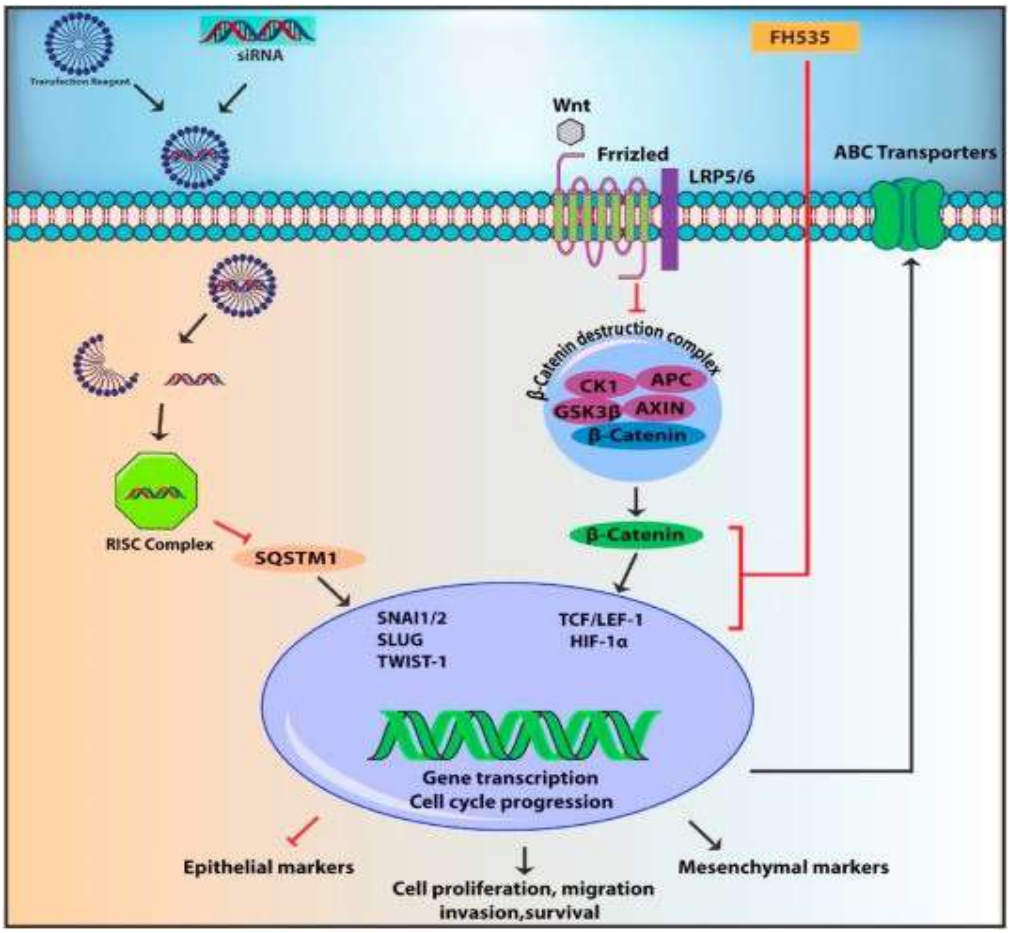
Anti-cancer mechanisms of recombinant tmTNFα

DOI: 10.1007/s11033-020-05488-2; 10.1016/j.tiv.2023.105737

Our research group focuses on the heterologous production, purification, and characterization of cellular proteins an attractive option for cancer therapeutics. Recombinant proteins hold substantial promise as anti-cancer therapeutic agents due to their high specificity, low immunogenicity, and increased tolerance. Cellular proteins are engineered to target specific pathways mediating cancer progression. For example, recombinant proteins such as SFRPs and PEDF inhibit the canonical Wnt pathway by targeting the signaling receptors; and recombinant fungal ribotoxins inhibit the activated NFκB signaling, thereby significantly impeding cancer cell proliferation and metastasis. Additionally, our lab has demonstrated the anti-cancer activity of recombinantly expressed tmTNFα in both 2D and 3D cell cultures, which induces cell cycle arrest accompanied by disruption of mitochondrial membrane potential and activation of executioner caspases. Overall, our research aims to complement protein therapeutics with existing strategies involving small molecule inhibitors and drugs, offering a versatile and precise approach to cancer treatment.

Cancer Hallmark Perturbations: EMT, Metabolism, Autophagy, Drug Resistance

A. Cancer Cell Signaling & EMT dynamics

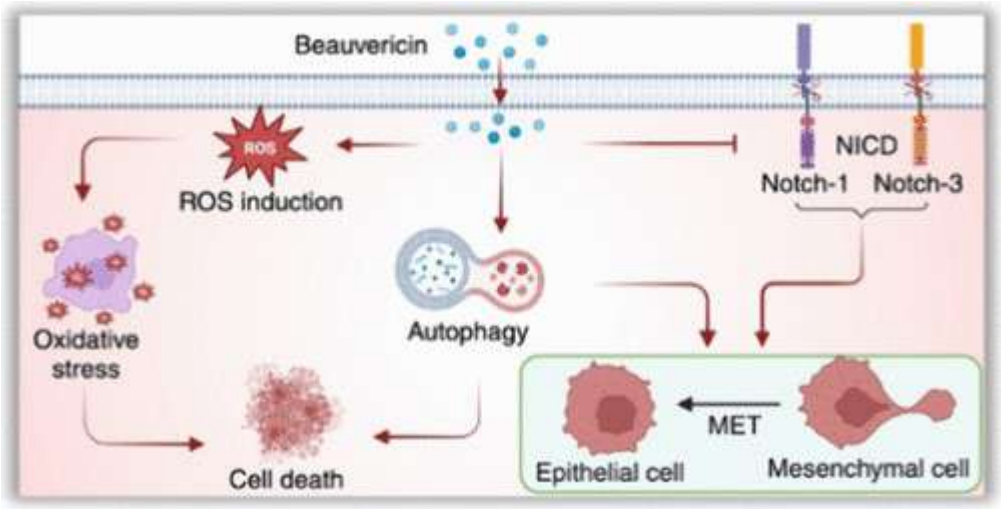


SQSTM1/P62 siRNA + FH535 co-treatment regulating EMT, stemness and MDR signalling

DOI: 10.1016/j.yexcr.2024.114032; 10.1021/acsptsci.3c00099

Our lab explores the molecular mechanisms driving cancer progression, focusing on EMT dynamics and key signalling pathways like Notch, Wnt, and PI3K. We investigate how these pathways regulate metastasis, cellular plasticity, and metabolic reprogramming in cancer. By targeting critical regulators within these networks, we aim to modulate EMT states and tumour progression. Our work integrates molecular profiling, functional assays, and therapeutic interventions to identify novel strategies for disrupting oncogenic signalling and reducing cancer aggressiveness.

B. Drug Resistance, Autophagy, Cellular Metabolism



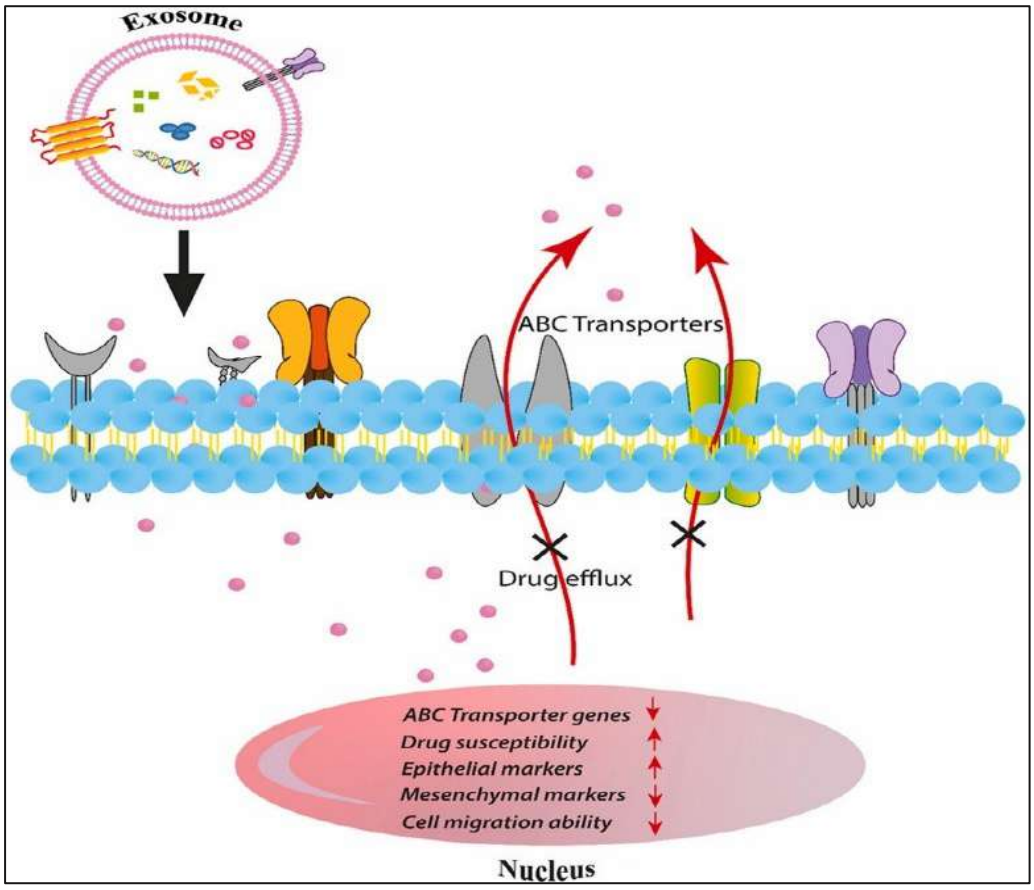
Beauvericin-mediated signalling cascade inducing autophagy, oxidative stress, and EMT reversal leading to cancer cell death.

DOI: 10.1002/jcb.30574; 10.1021/acsptsci.4c00370

Our lab does extensive research on autophagy modulation as a therapeutic strategy to reverse EMT and combat aggressive cancer progression. Autophagy presents a paradox in cell signalling—it can either promote cancer progression through multidrug resistance, invasion, and EMT activation or restore cellular health by clearing debris and dysfunctional proteins to reestablish homeostasis. In one study, research shows synergistic administration of Budesonide and Salinomycin promotes EMT reversal through autophagy induction in triple-negative breast cancer (TNBC). Another study highlights that targeting the autophagy protein SQSTM1/p62 with siRNA combined with Wnt/β-catenin inhibitor FH535 reduces autophagic activity, impairing EMT-mediated TNBC cell survival. Additionally, in a recent study by our group, the fungal metabolite Beauvericin also demonstrates potential by reversing EMT while inducing autophagy through Notch signalling.

Nanotheranostics

A. Extracellular-Vesicle meditated Cancer Therapy

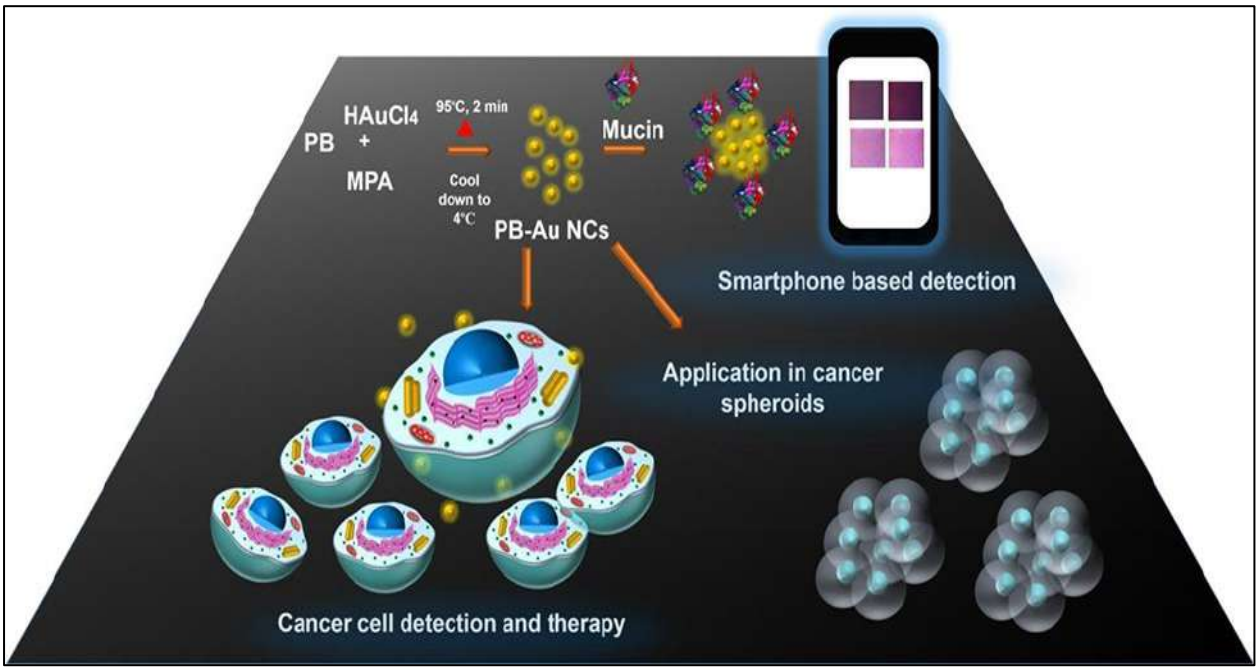


Modulation of tumor micro-environment and drug resistance of metastatic TNBC cells via exosomes

DOI: 10.1016/j.jddst.2023.105028

Our lab investigates the potential of exosomes (extracellular vesicles) as drug delivery vehicles in cancer theranostics. Exosomes are nanosized vesicles that facilitate intercellular communication. They show promise in cancer therapeutics by delivering targeted payloads (drugs, siRNA, proteins) to tumor cells with minimal off-target effects. Tumor-derived exosomes promote metastasis by carrying pro-EMT factors like HIFs, TGF-β, and miRNAs. As delivery vehicles, exosomes offer biocompatibility advantages over existing systems. Their cargo of nucleic acids regulates gene expression, while tumor-associated antigens can induce anti-tumor immune responses. 3D cell cultures provide more realistic conditions than 2D cultures for studying exosome signaling in tumor microenvironments. Hybrid biomimetic nano-carriers, created by fusing exosomes with liposomes or other vesicles, improve drug delivery to cancer cells Our research aims to advance the exosome-based strategies for improved cancer diagnosis and targeted therapy.

B. Multi-faceted application of Nanocomposites



Synthesis of PB-Au NCs for mucin detection and targeted cancer theranostics

DOI: 10.1021/acsami.7b13782

Our research group specializes in nano-based cancer diagnostics, therapeutics, sensing, and microfluidic approaches. We develop fluorescence imaging techniques using biocompatible nanoclusters and nanocomposites for cancer cell labelling and create sensing devices like glutathione-S-transferase-ZnO nanoconjugates for detection. Our work encompasses synthesizing targeted nano-delivery systems (including Au, Ag, Cu nanoparticles, carbon dots, quantum dots, PLGA, PEG-coated nanoparticles, and various nanocomposites) and developing photothermal therapies (PTT and PDT). We conduct comprehensive studies on drug loading, release, efficacy, and in vitro performance while also investigating the transport behaviour of these delivery systems in blood capillaries using microfluidic channels to evaluate drug migration and hydrogel-based carrier efficacy.

Journal Publications: [Citations: 10785, h-index:51, i-10 index:145] (Hyperlink to Google Scholar)

SL. No	Title of Paper	Author	Journal	Year
1.	In-silico identification and validation of Silibinin as a dual inhibitor for ENO1 and GLUT4 to curtail EMT signaling and TNBC progression	Dheepika Venkatesh, Shilpi Sarkar, Thirukumaran Kandasamy, **Siddhartha Sankar Ghosh**	*Computational Biology and Chemistry* *https://www.sciencedirect.com/science/article/pii/S1476927124003001*	**2025**
2.	Imatinib Impedes EMT and Notch Signalling by Inhibiting p300 Acetyltransferase in Breast Cancer Cells	Shilpi Sarkar, Thirukumaran Kandasamy, **Siddhartha Sankar Ghosh**	*Molecular Carcinogenesis* *https://onlinelibrary.wiley.com/doi/full/10.1002/mc.23848*	**2025**
3.	Unveiling the Cytotoxic Potential of Quercetin-Loaded Magnetic Bacterial Bots against Cervical Cancer	Sawna Roy, Debashree Debasmita, Ujjala Dey, **Siddhartha Sankar Ghosh,** Arun Chattopadhyay	*ACS Applied Materials & Interfaces* *https://pubs.acs.org/doi/full/10.1021/acsami.4c17079*	**2025**
4.	Modulation of Donor in Purely Organic Triplet Harvesting AIE-TADF Photosensitizer for Image-guided Photodynamic Therapy	Debasish Barman, Pachaiyappan Rajamalli, Anil Parsram Bidkar, Tapashi Sarmah, **Siddhartha Sankar Ghosh**, Eli Zysman-Colman, Parameswar Krishnan Iyer	*Small* *https://onlinelibrary.wiley.com/doi/full/10.1002/smll.202409533*	**2025**
5.	Multifunctional hydroxyquinoline-derived turn-on fluorescent probe for Alzheimer's disease detection and therapy	Priyam Ghosh, Sayantani Mukhopadhyay, Thirukumaran Kandasamy, Subrata Mondal, **Siddhartha Sankar Ghosh,** Parameswar Krishnan Iyer	*Journal of Materials Chemistry B* *https://pubs.rsc.org/en/content/articlehtml/2025/tb/d4tb01740d*	**2025**

6.	Position-induced differential aggregation behavior with red-shifted emission: A case study of the promising copper ion sensor skeleton-based regio-isomers	Abhinav Jain, Pranjal Saraswat, Soumik De, Hirakjyoti Roy, Binita Nath, **Siddhartha Sankar Ghosh**, Pranjit Barman	*Journal of Photochemistry and Photobiology A: Chemistry* *https://www.sciencedirect.com/science/article/pii/S1010603024004751*	**2025**
7.	In silico screening and identification of potential drug against p300 acetyltransferase activity in breast cancer via drug repurposing approach	Shilpi Sarkar, Thirukumaran Kandasamy, Rajib Shome, **Siddhartha Sankar Ghosh**	*Journal of Biomolecular Structure and Dynamics* *https://www.tandfonline.com/doi/full/10.1080/07391102.2023.2270086*	**2024**
8.	Synergistic Effect of Salinomycin With Budesonide on TNBC Regression via EMT Reversal and Autophagy Induction\	Shilpi Sarkar, **Siddhartha Sankar Ghosh**	*Biochemical and Molecular Toxicology* *https://onlinelibrary.wiley.com/doi/full/10.1002/jbt.70045*	**2024**
9.	Harnessing Drug Repurposing to Combat Breast Cancer by Targeting Altered Metabolism and Epithelial-to-Mesenchymal Transition Pathways	Thirukumaran Kandasamy, Shilpi Sarkar, **Siddhartha Sankar Ghosh**	*ACS Publications* *https://pubs.acs.org/doi/full/10.1021/acsptsci.4c00545*	**2024**
10.	Targeting Cross-Talks of Notch and VEGF to Tweak the EMT and EPT Dynamics in Triple Negative Breast Cancer Cells	Plaboni Sen, **Siddhartha Sankar Ghosh**	*Advanced Therapeutics* *https://onlinelibrary.wiley.com/doi/full/10.1002/adtp.202400059*	**2024**
11.	Gliotoxin triggers cell death through multifaceted targeting of cancer-inducing genes in breast cancer therapy	Sujisha S Nambiar, **Siddhartha Sankar Ghosh,** Gurvinder Kaur Saini	*Computational Biology and Chemistry*	**2024**

			https://www.sciencedirect.com/science/article/pii/S1476927124001580	
12.	Exploring potential molecular targets and therapeutic efficacy of beauvericin in triple-negative breast cancer cells	Arupam Patra, **Siddhartha Sankar Ghosh**, Gurvinder Kaur Saini	*Computational Biology and Chemistry* *https://www.sciencedirect.com/science/article/pii/S1476927124001427*	**2024**
13.	Gliotoxin Triggers Cell Death Through Multifaceted Targeting of Cancer-Inducing Genes in Breast Cancer Therapy	Sujisha S Nambiar, **Siddhartha Sankar Ghosh**, Gurvinder Kaur Saini	*Computational Biology and Chemistry* *https://www.sciencedirect.com/science/article/pii/S1476927124001580*	**2024**
14.	Abhinav Jain, Pranjal Saraswat, Soumik De, Hirakjyoti Roy, Binita Nath, Siddhartha Sankar Ghosh, Pranjit Barman	Abhinav Jain, Pranjal Saraswat, Soumik De, Hirakjyoti Roy, Binita Nath, **Siddhartha Sankar Ghosh**, Pranjit Barman	*Journal of Photochemistry and Photobiology A: Chemistry* *https://www.sciencedirect.com/science/article/pii/S1010603024004751*	**2024**
15.	Concurrent inhibition of IR, ITGB1, and CD36 perturbated the interconnected network of energy metabolism and epithelial-to-mesenchymal transition in breast cancer cells	Thirukumaran Kandasamy, Shilpi Sarkar, Plaboni Sen, Dheepika Venkatesh, **Siddhartha Sankar Ghosh**	*Journal of Cellular Biochemistry* *https://onlinelibrary.wiley.com/doi/abs/10.1002/jcb.30574*	**2024**
16.	Single-cell transcriptomics reveals the intra-tumoral heterogeneity and SQSTM1/P62 and Wnt/β-catenin mediated epithelial to mesenchymal transition and stemness of triple-negative breast cancer	Rajib Shome, Plaboni Sen, Shilpi Sarkar, **Siddhartha Sankar Ghosh**	*Experimental Cell Research* *https://www.sciencedirect.com/science/article/pii/S001448272400123X*	**2024**
17.	Therapeutic targeting of MELK using a drug repurposing approach to combat TNBC cells	Arisha Arora, Shilpi Sarkar, **Siddhartha S Ghosh**	*Cancer Research*	**2024**

			https://aacrjournals.org/cancerres/article/84/6_Supplement/5978/739002	
18.	Ameliorating Old Drugs with New Tricks in the Nano Realms	Konika Choudhury, **Siddhartha Sankar Ghosh**	*ACS Applied Nano Materials* *https://pubs.acs.org/doi/full/10.1021/acsanm.3c06195*	**2024**
19.	Targeting AR-positive breast cancer cells via drug repurposing approach	Parijat Dutta, Plaboni Sen, Thirukumaran Kandasamy, **Siddhartha Sankar Ghosh**	*Computational Biology and Chemistry* *https://www.sciencedirect.com/science/article/pii/S1476927123001986*	**2024**
20.	In vitro anticancer effects of recombinant anisoplin through activation of SAPK/JNK and downregulation of NFκB	Arupam Patra, Thirukumaran Kandasamy, **Siddhartha Sankar Ghosh**, Gurvinder Kaur Saini	*Toxicology in Vitro* *https://www.sciencedirect.com/science/article/pii/S0887233323001868*	**2024**
21.	Amyloid Targeting Red Emitting AIE Dots for Diagnostic and Therapeutic Application against Alzheimer's Disease	Priyam Ghosh, Kamal Shokeen, Subrata Mondal, Thirukumaran Kandasamy, Sachin Kumar, **Siddhartha Sankar Ghosh**, Parameswar Krishnan Iyer	*ACS Chemical Neuroscience* *https://pubs.acs.org/doi/full/10.1021/acschemneuro.3c00473*	**2024**
22.	l-Proline-catalysed synthesis of chromeno [2, 3-b] chromene from 4-hydroxy-2 H-chromene-2-thione and an anti-proliferative study	Arnab Mandal, Satyajit Singh, Arisha Arora, Sujisha S Nambiar, **Siddhartha S Ghosh**, Abu Taleb Khan	*Organic & Biomolecular Chemistry* *https://pubs.rsc.org/en/content/articlehtml/2024/ob/d4ob00509k*	**2024**
23.	Sulphur-atom positional engineering in perylenimide: structure–property relationships and H-aggregation directed type-I photodynamic therapy	Mst Nasima Khatun, Satyendu Nandy, Hirakjyoti Roy, **Siddhartha Sankar Ghosh**, Sachin Kumar, Parameswar Krishnan Iyer	*Chemical Science* *https://pubs.rsc.org/en/content/articlehtml/2024/sc/d4sc01180e*	**2024**
24.	Synthesis of 3-sulfenylindole derivatives from 4-hydroxy-2H-chromene-2-thione and	Anjela Xalxo, Ujjwal Jyoti Goswami, Shilpi Sarkar, Thirukumaran Kandasamy,	*Bioorganic Chemistry*	**2023**

	indole using oxidative cross-dehydrogenative coupling reaction and anti-proliferative activity study of some of their sulfone derivatives	Kriti Mehta, **Siddhartha S Ghosh**, Prasad V Bharatam, Abu T Khan	*https://www.sciencedirect.com/science/article/pii/S0045206823005618*	
25.	Therapeutic Targeting of Lung Adenocarcinoma with Mannose-Coated Chitosan/Copper Nanocluster–Levocetirizine Nanocomposite	Konika Choudhury, Arun Chattopadhyay, **Siddhartha Sankar Ghosh**	*ACS Applied Nano Materials* *https://pubs.acs.org/doi/full/10.1021/acsanm.3c04868*	**2023**
26.	Targeting tumor microenvironment of metastatic triple negative breast cancer cells via exosomes derived from non-invasive breast cancer cells for multi-drug resistance inhibition and enhancing drug susceptibility	Muktashree Saha, **Siddhartha Sankar Ghosh**	*Journal of Drug Delivery Science and Technology* *https://www.sciencedirect.com/science/article/pii/S1773224723008808*	**2023**
27.	Highly efficient color-tunable organic co-crystals unveiling polymorphism, isomerism, delayed fluorescence for optical waveguides and cell-imaging	Debasish Barman, Mari Annadhasan, Anil Parsram Bidkar, Pachaiyappan Rajamalli, Debika Barman, **Siddhartha Sankar Ghosh**, Rajadurai Chandrasekar, Parameswar Krishnan Iyer	*Nature communications* *https://www.nature.com/articles/s41467-023-42017-8*	**2023**
28.	In silico screening and identification of potential drug against p300 acetyltransferase activity in breast cancer via drug repurposing approach	Shilpi Sarkar, Thirukumaran Kandasamy, Rajib Shome, **Siddhartha Sankar Ghosh**	*Journal of Biomolecular Structure and Dynamics* *https://www.tandfonline.com/doi/full/10.1080/07391102.2023.2270086*	**2023**
29.	γ-Secretase Inhibitor Potentiates the Activity of Suberoylanilide Hydroxamic Acid by Inhibiting Its Ability to Induce Epithelial to Mesenchymal Transition and Stemness via Notch Pathway Activation in Triple-Negative Breast Cancer Cells	Plaboni Sen, **Siddhartha Sankar Ghosh**	*ACS Pharmacology & Translational Science* *https://pubs.acs.org/doi/full/10.1021/acsptsci.3c00099*	**2023**

30.	Understanding deformation and breakup tendency of shear-thinning viscoelastic drops in constricted microchannels	Niraj Kr Prasad, **Siddhartha Sankar Ghosh**, Amaresh Dalal	*Langmuir* *https://pubs.acs.org/doi/full/10.1021/acs.langmuir.3c00716*	**2023**
31.	Reinforced non-mulberry silk fibroin–fibroin nanocomposites and their optimization for tissue engineering applications	Rashmi Rekha Baruah, Yugal Kishore Mohanta, Muktashree Saha, **Siddhartha Sankar Ghosh**, Mohan Chandra Kalita, Dipali Devi	*Journal of Materials Science* *https://link.springer.com/article/10.1007/s10853-023-08625-x*	**2023**
32.	The intricate notch signaling dynamics in therapeutic realms of cancer	Plaboni Sen, **Siddhartha Sankar Ghosh**	*ACS pharmacology & translational science* *https://pubs.acs.org/doi/full/10.1021/acsptsci.2c00239*	**2023**
33.	An *in-silico* approach to understand the potential role of Wnt inhibitory factor-1 (WIF-1) in the inhibition of the Wnt signalling pathway	Sen P, Acharyya SR, Arora A, **Ghosh SS**	*Journal of Biomolecular Structure and Dynamics* https://www.tandfonline.com/doi/full/10.1080/07391102.2023.2192810	**2023**
34.	Multi-targeting TACE/ADAM17 and gamma-secretase of notch signalling pathway in TNBC via drug repurposing approach using Lomitapide.	Sen P, Kandasamy T, **Ghosh SS**	*Cellular Signalling* https://www.sciencedirect.com/science/article/pii/S0898656822002911?via%3Dihub	**2023**
35.	Engineered Hybrid Nanosystem for Homologous Targeting of EMT Induced Triple Negative Breast Cancer Cells	Saha M, **Ghosh SS**	*ACS Applied Bio Materials* https://pubs.acs.org/doi/10.1021/acsabm.2c00925	**2023**
36.	Living Gut Bacteria Functionalized with Gold Nanoclusters and Drug for Facile Cancer Theranostics.	Debasmita D, **Ghosh SS**, Chattopadhyay A	*ACS Applied Bio Materials* https://pubs.acs.org/doi/full/10.1021/acsabm.2c00911	**2023**

37.	Analytical techniques in identifying and purifying the proteins	Ghosh P, Roy H, Mukhopadhyay S, Mondal S, **Ghosh SS**, Iyer PK	Book: *Lantibiotics as Alternative Therapeutics* https://www.sciencedirect.com/science/article/abs/pii/B9780323991414000059	**2023**
38.	Unconventional sulfur transfer behaviour of 4-hydroxy-dithiocoumarin: an easy access to biologically potent 1, 2-dithiolane scaffolds	Mahato K, MondalS, Ali A, Bagdi PR, Khan AT, Arora N, **Ghosh SS**	*New Journal of Chemistry* https://pubs.rsc.org/en/content/articlelanding/2023/nj/d3nj90011h	**2023**
39.	*In-silico* evidence of ADAM metalloproteinase pathology in cancer signaling networks.	Sen P, Kandasamy T, **Ghosh SS**	*Journal of Biomolecular Structure and Dynamics* https://www.tandfonline.com/doi/full/10.1080/07391102.2021.1964602	**2022**
40.	Mannosylated Gold Nanoclusters Incorporated with a Repurposed Antihistamine Drug Promethazine for Antibacterial and Antibiofilm Applications.	Choudhury K, Chattopadhyay A, **Ghosh SS**	*ACS Applied Bio Materials* https://pubs.acs.org/doi/10.1021/acsabm.2c00867	**2022**
41.	Computational study on the breakup of FENE-P drop migrating through microconfinement with gradual entry and exit.	Prasad NK, Dalal A, **Ghosh SS**	Bulletin of the American Physical Society *https://meetings.aps.org/Meeting/DFD22/Session/L12.8*	**2022**
42.	Designing of disruptor molecules to restrain the protein–protein interaction network of VANG1/SCRIB/NOS1AP using fragment-based drug discovery techniques	Acharyya, S.R., Sen, P., Kandasamy, T., **Ghosh SS**	*Molecular Diversity* *https://link.springer.com/article/10.1007/s11030-022-10462-0*	**2022**
43.	*In Vitro* Therapeutic Attributes of Luminescent Hydroxyapatite Nanoparticles in Codelivery Module	Simon AT, Chattopadhyay A, **Ghosh SS**	*ACS Applied Bio Materials* *https://pubs.acs.org/doi/10.1021/acsabm.2c00201*	**2022**

44.	Hierarchical Passage of Gold Nanoclusters in Living Bacteria	Debasmita S, **Ghosh SS**, Chattopadhyay A	*ACS Applied Bio Materials* *https://pubs.acs.org/doi/10.1021/acsabm.2c00315#:~:text=The%20nanoclusters%20were%20passed%20on,may%20help%20carry%20the%20nanoclusters.*	**2022**
45.	Dual therapeutic approach to modulate Glycogen Synthase kinase −3 beta (GSK-3B) and inhibitor of nuclear factor kappa kinase-beta (IKK-β) receptors by in silico designing of inhibitors	Acharyya SR, Sen P, Kandasamy T,, **Ghosh SS**	*Journal of Molecular Graphics and Modelling* *https://www.sciencedirect.com/science/article/pii/S1093326322001048*	**2022**
46.	Regioselective Ring-Opening of Epoxide and N-Tosylaziridine with 4-Hydroxydithiocoumarin: Key Precursors for 2,3-Dihydro-1,4-oxathiin and 2,3-Dihydro-1,4-thiazine Derivatives	Mondal S, Sarkar S, **Ghosh S S**, Khan AT	*European Journal of Organic Chemistry* *https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/ejoc.202200355*	**2022**
47.	Multi-targeted drug repurposing approach for breast cancer via integrated functional network analysis	Kandasamy T, Sen P, **Ghosh SS**	*Molecular Informatics* *https://doi.org/10.1002/minf.202100300*	**2022**
48.	Transport Behavior of Commercial Anticancer Drug Protein-Bound Paclitaxel (Paclicad) in a Micron-Sized Channel	Prasad NK, Shome R, Biswas G, **Ghosh SS**, Dalal A	*Langmuir* *https://doi.org/10.1021/acs.langmuir.1c02782*	**2022**
49.	Copper(I)-Mediated Cascade Annulation via Dual C–H/C–H Activation: Access to Benzo[*a*]carbazolic AEEgens	Khandelia T, Ghosh S, Panigrahi P, Shome R, **Ghosh SS**, Patel BK	*The Journal of Organic Chemistry* *https://doi.org/10.1021/acs.joc.1c02109*	**2021**

50.	Fabrication of ZnO Nanoparticle-Based FET Device for Label-Free Bacteria Detection	Barman U, Goswami U, **Ghosh SS**, Paily RP	*IEEE Transactions on NanoBioscience* *10.1109/TNB.2021.3127349*	**2021**
51.	Discerning the self-healing, shear-thinning characteristics and therapeutic efficacy of hydrogel drug carriers migrating through constricted microchannel resembling blood microcapillary	Prasad NK, Shome R, Biswas G, **Ghosh SS**, Dalal A	*Colloids and Surfaces A: Physicochemical and Engineering Aspects* *https://doi.org/10.1016/j.colsurfa.2021.127070*	**2021**
52.	Real-time transport kinetics of drug encapsulated nanoparticles into apoptotic cancer cells inside microchannels	Maity S, Bhuyan T, Pattanayak JP, **Ghosh SS**, Bandyopadhyay D	*Nanotechnology* *https://doi.org/10.1088/1361-6528/ac2391*	**2021**
53.	Developing membrane-derived nanocarriers for *ex vivo* therapy of homologous breast cancer cells	Saha M, Bidkar A, **Ghosh SS**	*Nanomedicine* https://doi.org/10.2217/nnm-2021-0153	**2021**
54.	Connexin and gap junctions: perspectives from biology to nanotechnology based therapeutics	Jindal S, S Chockalingam, **Ghosh SS**, Packirisamy G	*Translational Research* https://doi.org/10.1016/j.trsl.2021.02.008	**2021**
55.	*In-silico* evidence of ADAM metalloproteinase pathology in cancer signaling networks	Sen P, Thirukumaran Kandasamy T, **Ghosh SS**	*Journal of Biomolecular Structure and Dynamics* https://doi.org/10.1080/07391102.2021.1964602	**2021**

56.	Transferrin Coated d-penicillamine–Au-Cu Nanocluster PLGA Nanocomposite Reverses Hypoxia-Induced EMT and MDR of Triple-Negative Breast Cancers	Shome R and **Ghosh SS**	*ACS Applied Bio Materials* https://doi.org/10.1021/acsabm.1c00296	**2021**
57.	Quercetin-Loaded Luminescent Hydroxyapatite Nanoparticles for Theranostic Application in Monolayer and Spheroid Cultures of Cervical Cancer Cell Line In Vitro	Simon AT, Dutta D, Chattopadhyay A, **Ghosh SS**	*ACS Applied Bio Materials*, 4 (5), 4495-4506	**2021**
58.	Tweaking EMT and MDR dynamics to constrain triple-negative breast cancer invasiveness by EGFR and Wnt/β-catenin signaling regulation	Shome R and **Ghosh SS**	*Cellular Oncology*, 44 (2), 405-422	**2021**
59.	Connexin and gap junctions: Perspectives from biology to nanotechnology based therapeutics	Jindal S, S Chockalingam, **Ghosh SS,** P Gopinath	*Translational Research* doi: 10.1016/j.trsl.2021.02.008	**2021**
60.	Fabrication of Glutathione-S-Transferase–ZnO Nanoconjugate Ensemble FET Device for Detection of Glutathione	Barman U, Goswami N, **Ghosh SS**, Paily RP	*IEEE Transactions on Electron Devices,* 68 (3), 1242-1249	**2021**
61.	Synthesis of biologically active fused 1, 4-oxathiin derivatives from 4-hydroxydithiocoumarins, arylacetylenes and dimethyl sulfoxide by Cu (I)-catalyzed CH functionalization	Mondal, S Yashmin, R Ali, Soundaram R, **Ghosh SS**, Khan AT	*Organic & Biomolecular Chemistry,* doi: 10.1039/d1ob00846c	**2021**

62.	Multifunctional liquid marbles to stabilize and transport reactive fluids	Harsha L, Bhuyan T, Maity S, Mondal PK, **Ghosh SS,** Bandyopadhyay D	*Soft Matter,* *2021,17, 5084-5095*	**2021**
63.	Unfolding transmembrane TNFα dynamics in cancer therapeutics	Bhattacharyya S**, Ghosh SS**	Cytokine doi: 10.1016/j.cyto.2020.155303	**2021**
64.	Magnetotactic curcumin iButtonbots as efficient bactericidal agents	Bhuyan T, Singh AK, **Ghosh SS,** Bandyopadhyay D	*Bulletin of Materials Science*, 43 (1), 1-10	**2020**
65.	Magnetotactic T-budbots to kill-n-clean biofilms	Bhuyan T, Simon AT, Maity S,Singh AK, **Ghosh SS,** Bandyopadhyay D	*ACS Applied Materials & Interfaces* 12 (39), 43352-43364	**2020**
66.	Protein Therapeutics from Monolayer to Spheroids-A Model for Preclinical Investigations	Arora N, **Ghosh SS**	*Journal of Cancer Immunology* 2(2): 40-43.	**2020**
67.	Nanoparticle Mediated Alteration of EMT Dynamics: An Approach to Modulate Cancer Therapeutics	Sen P, Saha M, **Ghosh SS**	*Materials Advances,*1 (8), 2614-2630	**2020**
68.	Deciphering insights of novel recombinant tmTNFα in cell growth inhibition	Bhattacharyya S, **Ghosh SS**	*Molecular Biology Reports,* 47, 3949–3961)	**2020**
69.	Transferrin-Conjugated Red Blood Cell Membrane-Coated Poly (lactic-co-glycolic acid) Nanoparticles for the Delivery of Doxorubicin and Methylene Blue.	Bidkar AP, Sanpui P, **Ghosh SS.**	*ACSApplied Nano Materials*. 3, 4, 3807-3819	**2020**
70.	Nerve growth factor from Indian Russell's viper venom (RVV-NGF) shows high affinity binding to TrkA receptor expressed in breast cancer cells: Application of fluorescence labeled RVV-	IslamT, Majumder M, **Bidkar AP, Ghosh SS**, Mukhopadhyay R, Utkin Y, Mukherjee AK,	*Biochimie*, 176, 31-44, 2	**2020**

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72.	Integration of Nonsteroidal Anti-Inflammatory Drug with Luminescent Copper for *in vivo* Cancer Therapy in Mouse Model.	Das M, Goswami U, Bhattacharyya S, Kandimalla R, Chattopadhyay A, **Ghosh SS**	*ACSApplied Bio Materials*, 3, 1, 227-238.	**2020**
73.	A facile synthesis of nontoxic luminescent carbon dots for detection of chromium and iron in real water sample and bio-imaging.	Sinha R, Bidkar AP, Rajasekhar R, **Ghosh SS,** Mandal TK.	*The Canadian Journal of Chemical Engineering*, 98 (1), 194-204.	**2020**
74.	Iron-Copper Bimetallic Nanocomposite Reinforced Dressing Materials for Infection Control and Healing of Diabetic Wound.	Das M, Goswami U, Kanimbla R, Kalita S, **Ghosh SS**, Chattopadhyay A.	*ACS Applied Bio Materials,* 2, 12, 5434-5445.	**2019**
75.	Copper Nanocluster-Doped Luminescent Hydroxyapatite Nanoparticles for Antibacterial and Antibiofilm Applications.	Simon AT, Dutta D, Chattopadhyay A, **Ghosh SS**	*ACS Omega*, 4, 3, 4697-4706.	**2019**
76.	Gold-Nanocluster-Embedded Mucin Nanoparticles for Photodynamic Therapy and Bioimaging.	Sailapu SK, Dutta D, Simon AT, **Ghosh SS,** Chattopadhyay A.	*Langmuir,* 35, 32, 10475-10483.	**2019**
77.	Acoustic Propulsion of Vitamin C loaded Teabots for Targeted Oxidative Stress and Amyloid Therapeutics,	Bhuyan T, Dutta D, Bhattacharjee M, Singh AK, **Ghosh SS,** Bandyopadhyay D	*ACS Applied Bio Materials,* 2, 10, 4571-4582	**2019**
78.	Smartphone controlled interactive portable device for theranostics in vitro.	Sailapu SK, Dutta D, Simon AT, **Ghosh SS**, Chattopadhya A.	*Biosensors & Bioelectronics*, 146:111745.	**2019**

79.	Deciphering therapeutic potential of PEGylated recombinant PTEN-silver nanoclusters ensemble on 3D spheroids.	Arora N, Shome R, **Ghosh SS**	*Molecular Biology Reports,* 8, 1-10.	**2019**
80.	Deciphering Hydrodynamic and Drug-Resistant Behaviors of Metastatic EMT Breast Cancer Cells Moving in a Constricted Microcapillary.	Nath B, Bidkar AP, Kumar V, Dalal A, Kumar Jolly MK, **Ghosh SS,** Biswas G.	*Journal of Clinical Medicine,* 8, 1 – 10.	**2019**
81.	Rapid and label-free bacteria detection using a hybrid tri-layer dielectric integrated n-type organic field effect transistor	Dey A, Singh A, Dutta D, **Ghosh SS**, PK Iyer.	*Journal of Materials Chemistry A,* 7, 18330 – 18337.	**2019**
82.	Red Blood Cell (RBC) Membrane Coated Poly (lactic-co-glycolic acid) Nanoparticles for Enhanced Chemo and Hypoxia Activated Therapy	Bidkar AP, Sanpui P, **Ghosh SS.**	*ACS Applied Bio Materials*, 2 (9), 4077 – 4086.	**2019**
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84.	Connexin-43 Enhances the Redesigned Cytosine Deaminase Activity for Suicide Gene Therapy in Human Breast Cancer Cells	Raza A, **Ghosh SS**	*Biochemistry Insights,* 12: 1–8,DOI:10.1177/1178626418818 [SAGE Publishing Group]	**2019**
85.	Access to Multifunctional AEEgens via Ru (II)-Catalyzed Quinoxaline-Directed Oxidative Annulation	Ghosh S, Pal S, Rajamanickam S, Shome R, Mohanta PR, **Ghosh SS,** Patel BK	*ACS Omega*, 4, 3, 5565-5577 [ACS Publishing Group]	**2019**
86.	Understanding flow dynamics, viability and metastatic potency of cervical cancer (HeLa) cells through constricted microchannel	Nath B, Raza A, Sethi V, Dalal A, **Ghosh SS,** Biswas G	*Scientific Reports,* 8(1): 17357. DOI: 10.1038/s41598-018-35646-3 [Nature Publishing Group]	**2018**

87.	Bimetallic Fe-Cu-Nanocomposites on Sand-Particles for Inactivation of Clinical Isolates and Point of Use Water Filtration	Das M, Goswami U, **Ghosh SS**, Chattopadhyay A	*ACS Applied Bio Materials*, 1, 6, 2153-2166 [ACS Publishing Group]	**2018**
88.	Polyethylene Glycol-Encapsulated Histone Deacetylase Inhibitor Drug-Composite Nanoparticles for Combination Therapy with Artesunate	Goswami U, Raghuram K, Kalita S, Chattopadhyay A **Ghosh SS**	*ACS Omega*, 3 (9), 11504–1151 [ACS Publishing Group]	**2018**
89.	*In Situ* Synthesis of Luminescent Au Nanoclusters on a Bacterial Template for Rapid Detection, Quantification, and Distinction of Kanamycin-Resistant Bacteria	Goswami U, Sahoo A, Chattopadhyay A **Ghosh SS**	*ACS Omega*, 3 (6), 6113–6119 [ACS Publishing Group]	**2018**
90.	Multi-facet implications of PEGylated lysozyme stabilized-silver nanoclusters loaded recombinant PTEN cargo in cancer theranostics	Arora N, Gavya SL, **Ghosh SS**	*Biotechnology and Bioengineering,*115(5), 1116-1127 [WILEY Publishing Group]	**2018**
91.	dGTP Templated Luminescent Gold Nanocluster Based Composite Nanoparticles for Cancer Theranostics	Chatterjee B, Ghoshal A, Chattopadhyay A, **Ghosh SS**	*ACS Biomaterials Science &Engineering*, 4 (3), 1005–1012. [ACS Publishing Group]	**2018**
92.	An oxidative cross-coupling reaction of 4-hydroxydithiocoumarin and amines/thiols using a combination of I2 and TBHP: access to lead molecules for biomedical applications	Mahato K, Arora N, Bagdi PR, Gattu R, **Ghosh SS,** Khan AT	*Chemical Communications*, 54, 1513-1516 [Royal Society of Chemistry]	**2018**
93.	Single Platform for Gene and Protein Expression Analyses Using Luminescent Gold Nanoclusters	Sailapu SK, Dutta D, Sahoo AK, **Ghosh SS,** Chattopadhyay A	*ACS Omega*, 3 (2), 2119–2129 [ACS Publishing Group]	**2018**

94.	DNA-Templated Single Thermal Cycle Based Synthesis of Highly Luminescent Au Nanoclusters for Probing Gene Expression	Sahoo AK, Sailapu SK, Dutta D, Banerjee S, **Ghosh SS,** Chattopadhyay A	*ACS Sustainable Chemistry & Engineering, 6 (2), 2142–2151* [ACS Publishing Group]	**2018**
95.	Fluorescence resonance energy transfer-based wash-free bacterial imaging and antibacterial application using a cationic conjugated polyelectrolyte	N. Zehra, D. Dutta, A. H. Malik, Siddhartha S. S. Ghosh and P. K. Iyer	*ACS Applied Materials and Interfaces*, 10, 27603-27611 [ACS Publishing Group]	**2018**
96.	Anticoagulant mechanism, pharmacological activity, and assessment of preclinical safety of a novel fibrin(ogen)olytic serine protease from leaves of *Leucas indica*	Gogoi D, Arora N, Kalita B., Sarma R, Islam T, **Ghosh SS,** Devi R, Mukherjee A K	*Scientific Reports,*18; 8(1):6210. [Nature Publishing Group]	**2018**
97.	Phenylboronic acid templated gold nanoclusters for mucin detection using a smartphone based device and targeted cancer cell theranostics	Dutta D, Sailapu SK, Chattopadhyay A, **Ghosh SS**	*ACS Applied Materials & Interfaces*, 10 (4), 3210–3218 [ACS Publishing Group]	**2018**
98.	Transferrin−Copper Nanocluster−Doxorubicin Nanoparticles as Targeted Theranostic Cancer Nanodrug	Goswami U, Dutta A, Raza A, Raghuram K, Kalita S, **Ghosh SS,** Chattopadhyay A	*ACS Applied Materials & Interfaces*, 10 (4), 3282–3294 [ACS Publishing Group]	**2018**
99.	Developing single entity theranostic: Drug based luminescent nanoclusters with augmented cytotoxicity	Chatterjee B, Raza A, **Ghosh SS**	*Nanomedicine,* 13(3), 283-295 [Future Science Group]	**2018**
100.	White light emission from gold nanoclusters embedded bacteria	Goswami U, Basu, S, Raza A, Paul A, **Ghosh SS**, Chattopadhyay A	*Journal of Materials Chemistry C,* 5, 12360--12364 [Royal Society of Chemistry]	**2017**
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102.	Retention of Functional characteristics of Gulathione-S-Transferase and Lactate Dehydrogenase-A in Fusion Protein	Lalitha GS, Arora N, **Ghosh SS**	*Preparative Biochemistry & Biotechnology,* DOI: 10.1080/10826068.2017.1405022[Taylor & Francis Publishing Group]	**2017**
103.	Connexin-43 enhances tumor suppressing activity of artesunate via gap junction-dependent as well as independent pathways in human breast cancer cells	Raza A, Ghoshal A, Chockalingam S, **Ghosh SS**	*Scientific Reports,* 7, 7580, DOI:10.1038/s41598-017-08058-y [Nature publishing Group]	**2017**
104.	Phytaspase-loaded, Mn-doped ZnS quantum dots when embedded into chitosan nanoparticles leads to improved chemotherapy of HeLa cells using in cisplatin	Narayanan S, D Dutta, N Arora, Sahoo L, **Ghosh SS**	*Biotechnology Letters,*39 (10), 1591–1598 [Springer Publishing Group]	**2017**
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106.	Detection of Glutathione by Glutathione-S-Transferase-Nanoconjugate Ensemble Electrochemical Device	Barman U, Mukhopadhyay G, Goswami N**, Ghosh SS,** Paily P. Roy	*IEEE Transactions on NanoBioscience,* 16 (4), 271-279 [IEEE Publishing Group]	**2017**
107.	Magnetic Field Guided Chemotaxis of iMushbots for Targeted Anticancer Therapeutics	Bhuyan T, Singh AK, Dutta D, Unal A, **Ghosh SS,** Bandyopadhyay D	*ACS Biomaterials Science & Engineering*, 3(8), 1627–1640 [ACS Publishing Group]	**2017**
108.	Heterologous expression and functional characterization of phytaspase, a caspase-like plant protease	Narayanan S, Sanpui P, Sahoo L, **Ghosh SS**	*International Journal of Biological Macromolecules,*95, 288-293 [Elsevier publishing group]	**2017**
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111.	Cationic BSA Templated Au-Ag Bimetallic Nanoclusters As a Theranostic Gene Delivery Vector for HeLa Cancer Cells	Dutta D, Chattopadhyay A, **Ghosh SS**	*ACS Biomaterials Science & Engineering,* 2(11), 2090-2098[ACS publishing group]	**2016**
112.	Chattopadhyay Interactive luminescent gold nanocluster embedded dsDNA and cisplatin as model nanoparticles for cancer theranostics	Chatterjee B, Sahoo AK, Chattopadhyay A, **Ghosh SS**	*RSC Advances*, 6, 113053-113057 [RSC publishing group]	**2016**
113.	Functional Characterizations of Interactive Recombinant PTEN-Silica Nanoparticles for Potential Biomedical Applications	Arora N, **Ghosh SS**	*RSC Advances,* 6, 114944-114954 [RSC publishing group]	**2016**
114.	Recombinant sFRP4 bound Chitosan-Alginate Composite Nanoparticles Embedded with Silver Nanoclusters for Wnt/beta-catenin targeting in Cancer Theranostics	Ghoshal A, Goswami U, Raza A, Chattopadhyay A, **Ghosh SS**	*RSC Advances,* 6, 85763-85772[RSC publishing group]	**2016**
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118.	Unravelling the potential of a new uracil phosphoribosyltransferase (UPRT) from Arabidopsis thaliana in sensitizing HeLa cells towards 5-fluorouracil	Narayanan S, Sanpui P, Sahoo L, **Ghosh SS**	*International Journal of Biological Macromolecules,* 91,310-316[Elsevier publishing group]	**2016**
119.	Bimetallic silver nanoparticle-gold nanocluster embedded composite nanoparticles for cancer theranostics	Dutta D, Sahoo AK, Chattopadhyay A, **Ghosh SS**	*Journal of Materials Chemistry B,* 4, 793-800[RSC publishing group]	**2016**
120.	FunctionalCharacterization of Recombinant Human Granulocyte Colony StimulatingFactor (hGMCSF) Immobilized onto Silica Nanoparticles	Vanitha S.,Goswami U, Chaubey N, **Ghosh SS** and Sanpui P	*Biotechnology Letters*, 38 (2), 243-249 [Springer publishing group]	**2016**
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122.	Phytogenic “green synthesis” of silver nanoparticles with enhanced antibacterial and anticancer activity	Marvi DK, Sahoo AK, Goswami U, Prasad DS, Sahoo L, **Ghosh SS**	*International J Pharm Bio Sci.,*6 (4), 482 – 493 [IJPBS publishing group]	**2015**
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126.	Expression, Purification, and Therapeutic Implications of Recombinant sFRP1	Ghoshal A and **Ghosh SS**	*Applied Biochemistry and Biotechnology,* 175 (4), 2087-2103. [Springer publishing group]	**2015**
127.	Overexpression of Granulocyte Macrophage Colony Stimulating Factor in Breast Cancer Cells Leads Towards Drug Sensitization	Chaubey N and **Ghosh SS**	*Applied Biochemistry and Biotechnology,*175 (4), 1948-1959 [Springer publishing group]	**2015**
128.	Synergistic Anticancer Activity of Fluorescent Copper Nanoclusters and Cisplatin Delivered through a Hydrogel Nanocarrier	Ghosh R, Goswami U, **Ghosh SS,** Paul A and Chattopadhyay	*ACS Applied Materials and Interfaces,* 7(1), 209-222[ACS publishing group]	**2015**
129.	Synthesis, characterization and enhanced bactericidal action of a chitosan supported core–shell copper–silver nanoparticle composite	Mallick S, Sanpui P, **Ghosh SS**, Chattopadhyay A, Paul A	*RSC Advances,* 5, 12268-12276 [RSC publishing group]	**2015**
130.	Elucidation of procoagulant mechanism and pathophysiological significance of a new prothrombin activating metalloprotease purified from Daboia russelii russelii venom	Thakur R, Chattopadhyay D, **Ghosh SS**, Mukherjee AK	*Toxicon,* 100, 1-12	**2015**
131.	Chemosensitization of IκBα overexpressing glioblastoma towards anti-cancer agents	Banerjee S, Sahoo AK, Chattopadhyay A, **Ghosh SS**	*RSC Advances,*4, 39257-39267 [RSC publishing group]	**2014**

132.	Macrophage Colony Stimulating Factor and Cancer	Chockalingam S and **Ghosh SS**	*Tumor biology,* 35(11),10635-10644[Springer publishing group]	**2014**
133.	Recombinant IκBα-loaded curcumin nanoparticles for improved cancer therapeutics	Banerjee S, Sahoo AK, Chattopadhyay A, **Ghosh SS**	*Nanotechnology,* 25 (2014) 345102 (11pp), [IOP publishing group]	**2014**
134.	Hierarchical Logic Structures Based on Responsive Fluorescent Gold Nanoclusters	Sailapu S K, Sahoo AK, **Ghosh SS** and Chattopadhyay A	*Small,*29, 10(20), 4067-71 [Wiley publishing group]	**2014**
135.	Polymer coated Gold Nanoparticle-Protein Agglomerates as Nanocarriers for Hydrophobic Drug Delivery	Khandelia R, Jaiswal A, **Ghosh SS** and Chattopadhyay A	*Journal of Materials Chemistry B,* 2 (38), 6472 – 6477[RSC publishing group]	**2014**
136.	Silver nanoparticle loaded PLGA composite nanoparticles for improving therapeutic efficacy of recombinant IFNγ by targeting the cell surface	Chaubey N, Sahoo A, Chattopadhyay A and **Ghosh SS**	*Biomaterials Science,* 2, 1080-1089[RSC publishing group]	**2014**
137.	Blue Emitting Copper Nanoclusters Synthesized in the Presence of Lysozyme as Candidates for Cell Labeling	Ghosh R, Sahoo A, **Ghosh SS**, Paul A and Chattopadhyay A	*ACS Applied Materials & Interfaces,*6(6), 3822-3828. [ACS publishing group]	**2014**
138.	Silver Nanoparticles impregnated Alginate-Chitosanblended Nanocarrier Induces Apoptosis in Human Glioblastoma Cells	Sharma S, Chockalingam S, Sanpui P, Chattopadhyay A and **Ghosh SS**	*Advanced Healthcare Materials,*3, 106–114. [Wiley publishing group]	**2014**
139.	Characterization, mechanism of anticoagulant action, and assessment of therapeutic potential of a fibrinolytic serine protease (Brevithrombolase) purified from Brevibacillus brevis strain *FF02B*	Majumdar S, Sarmah B, Gogoi D, Banerjee S, **Ghosh SS**, Chattopadhyay P, AK Mukherjee AK	*Biochimie,* 103, 50-60[Elsevier publishing group]	**2014**

140.	Molecular Characterization and Expression of a Novel Alcohol Oxidase from Aspergillus terreus MTCC6324	Chakraborty M, **Ghosh SS** andGoswami P	*PLoS ONE,*9(4): e95368. [Public Library of science publishing group]	**2014**
141.	Folic acid conjugated-bio Polymeric nanocarriers: synthesis, characterization and In vitro delivery of prodrug converting enzyme	Yata V, Banerjee S, **Ghosh SS**	*Advanced Science, Engineering and Medicine,* 6 (4), 388-392[American Scientific publishing group]	**2014**
142.	Recovering Hidden Quanta of Cu2+-doped ZnS Quantum Dots in Reductive Environment	Begum R, Sahoo A, **Ghosh S.S** and Chattopadhyay A	*Nanoscale,*6, 953-96,[RSC publishing group]	**2014**
143.	Simultaneous RGB emitting Au nanoclusters in chitosan nanoparticles for anticancer gene theranostic	Sahoo A, Banerjee S, **Ghosh SS** and Chattopadhyay A	*ACS Applied Materials & Interfaces*, 6 (1), 712–724. [ACS publishing group]	**2014**
144.	Carbon dots mediated room-temperature synthesis of gold nanoparticles in poly (ethylene glycol)	Jaiswal A, Gautam PK, **Ghosh SS** and Chattopadhyay A	*Journal of Nanoparticle Research,* 16 (1), 1-14. [Springer publishing group]	**2014**
145.	Amelioration of cancer stem cells in Macrophage Colony Stimulating Factor-Expressing U87MG-human glioblastoma upon 5-fluorouracil therapy	Chockalingam S and **Ghosh SS**	*PLoS ONE,* 8 (12), e83877. [Public Library of science publishing group]	**2013**
146.	Hydrogel nanocarrier encapsulated recombinant IκBα as a novel anticancer protein therapeutics	Banerjee S, Sahoo A, Chattopadhyay A and **Ghosh SS**	*RSC Advances*, 3 (33), 14123 - 14131 [RSC publishing group]	**2013**
147.	Gold nanoparticle–protein agglomerates as versatilenanocarriers for drug delivery	Khandelia R, Jaiswal A, **Ghosh S.S**, and Chattopadhyay A	*Small,*9(20), 3494-505.[Wiley publishing group]	**2013**

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149.	Rationally designed *Escherichia coli* cytosine deaminase mutants with improved specificity towards the prodrug 5-fluorocytosine for potential gene therapy applications	V. Kohila, Jaiswal A, **Ghosh SS**	*Med. Chem. Commun.*,3, 1316-1322[RSC publishing group]	**2012**
150.	A quantum dot impregnated-chitosan film for heavy metal ion sensing and removal	Jaiswal A, **Ghosh SS** and Chattopadhyay A	*Langmuir,*28 (44), 15687–15696. [ACS publishing group]	**2012**
151.	Differential mode of attack on membrane phospholipids by an acidic phospholipase A_2 (RVVA-PLA_2-I) from *Daboia russelli* venom	Saikia D, Bordoloi NK,Chattopadhyay P, Chockalingam S, **Ghosh SS,** Mukherjee AK	*Biochim Biophys Acta.*18(12), 3149-3157. [Elsevier publishing group]	**2012**
152.	Fabrication of Antibacterial Silver Nanoparticle – Sodium Alginate – Chitosan Composite Films	Sharma S, Sanpui P, Chattopadhyay A and **Ghosh SS**	*RSC Advances*, 2, 5837–5843 [RSC publishing group]	**2012**
153.	Presence of Amorphous Carbon Nanoparticles in Food Caramels	Md Palashuddin Sk, Jaiswal A, Paul A, **Ghosh SS,** Chattopadhyay A, Paul A	*Scientific Reports*, DOI:10.1038/srep00383 [Nature publishing group]	**2012**
154.	Emerging Implications of Nonmammalian Cytosine Deaminases on Cancer Therapeutics,	Yata VK, Gopinath P and **Ghosh SS**	*Applied Biochemistry Biotechnology,*167(7),2103-2116 [Springer publishing group]	**2012**
155.	Iodine - Stabilized Cu Nanoparticle Chitosan Composite for Antibacterial applications	Mallick S,Sharma S, Banerjee M, **Ghosh SS,** Chattopadhyay A, Paul A	*ACS Applied Materials & Interfaces*, 4(3),1313-1323 [ACS publishing group]	**2012**

156.	Investigating structure and fluorescence properties of green fluorescent protein released from chitosan nanoparticles	Yata VK and **Ghosh SS**	*Materials Letters,* 73, 209–211[Elsevier publishing group]	**2012**
157.	Quick and simple estimation of bacteria using a fluorescent paracetamol dimer-Au nanoparticle composite	Sahoo A.K, Sharma S, Chattopadhyay A and **Ghosh SS**	*Nanoscale,* 4 (5), 1688 – 1694[RSC publishing group]	**2012**
158.	One step synthesis of C-dots by microwave mediated caramelization of poly(ethylene glycol)	Jaiswal A, **Ghosh SS** and Chattopadhyay A	*Chemical Communications,*48(3), 407-409[RSC publishing group]	**2012**
159.	Functional chitosan nanocarriers for potential applications in gene therapy	Jaiswal A, Chattopadhyay A and **Ghosh SS**	*Materials Letters*, 68(1), 261-264[Elsevier publishing group]	**2012**
160.	Enhanced antibacterial activity of bimetallic gold-silver core-shell nanoparticles at low silver concentration	Banerjee M, Sharma S, Chattopadhyay A and **Ghosh SS**	*Nanoscale,* 3(12), 5120-5125[RSC publishing group]	**2011**
161.	Plasmid DNA linearization in the antibacterial Action of a new Fluorescent Ag Nanoparticle-Paracetametol Dimer composite	Sahoo A.K,Md Palashuddin Sk, **Ghosh SS** and Chattopadhyay A	*Nanoscale,* 3(10) ,4226-4233[RSC publishing group]	**2011**
162.	Induction of apoptosis in cancer cells at low silver nanoparticle concentrations using chitosan nanocarrier	Sanpui P, Chattopadhyay A and **Ghosh SS**	*ACS Applied Materials & Interfaces*, 3(2), 218-228[ACS publishing group]	**2011**
163.	Synthesis and characterization of a novel chitosan based *E. coli* cytosine deaminase nanocomposite for potential application in prodrug enzyme therapy,	Yata V.K.and **Ghosh SS**	*Biotechnology Letters,* 33(1), 153-157[Springer publishing group]	**2011**

164.	Interaction studies of *E. coli* uracil phosphoribosyltransferase with 5-fluorouracil for potent anticancer activity	Yata V.K, Sen K., Kumar M.V.S. and **Ghosh SS**	*Medicinal Chemistry Research,* DOI:10.1007/s00044-011-9627-z [Springer publishing group]	**2011**
165.	Investigating fluorescence quenching of ZnS quantum dots by silver nanoparticles	Jaiswal A, Sanpui P, Chattopadhyay A and **Ghosh SS**	*Plasmonics*,6, 125–132[Springer publishing group]	**2010**
166.	Plasmonic signatures in the composite crystals of gold nanoparticles and p-Hydroxyacetanilide (Paracetamol)	Das S, Sahoo A.K, **Ghosh SS** and Chattopadhyay A	*Langmuir*, 26(20), 15714–15717[ACS publishing group]	**2010**
167.	Incorporation of gene therapy vector in Chitosan stabilized Mn^{2+}-doped ZnS Quantum	Sanpui P, Pandey S.B, Chattopadhyay A and **Ghosh SS**	*Material Letters,*64 (22),2534-2537 [Elsevier publishing group]	**2010**
168.	Signaling gene cascade in silver nanoparticle induced apoptosis	P. Gopinath, Gogoi S. K, Sanpui, P, Paul, A, Chattopadhyay A, **Ghosh SS**	*Colloids Surface B Biointerfaces.*77(2), 240-5[Elsevier publishing group]	**2010**
169.	Heightened reactive oxygen species generation in the antimicrobial activity of a three component iodinated chitosan-silver nanoparticle composite	Banerjee M, Mallick S, Paul A, Chattopadhyay A, **Ghosh SS**	*Langmuir.* 26(8), 5901-5908[ACS publishing group]	**2010**
170.	Understanding apoptotic signaling pathways in cytosine deaminase-uracil phosphoribosyl transferase-mediated suicide gene therapy *in vitro*	P. Gopinath and **Ghosh SS**	*Molecular and Cellular Biochemistry,* 324(1-2), 21-29[Springer publishing group]	**2009**
171.	Green fluorescent protein for *in situ* synthesis of highly uniform Au nanoparticles and monitoring protein denaturation	Sanpui P, Pandey SB, **Ghosh SS**, Chattopadhyay A	*Journal of Colloid Interface Science,* 326(1), 129-137[Elsevier publishing group]	**2008**

172.	The antibacterial properties of a novel chitosan-Ag-nanoparticle composite	Sanpui P, Murugadoss A, Prasad, P.V, **Ghosh SS,** Chattopadhyay A.	*International Journal of Food Microbiology*, 24(2), 142-146[Elsevier publishing group]	**2008**
173.	Implications of silver nanoparticle induced cell apoptosis for *in vitro* gene therapy	P. Gopinath, Gogoi S. K, Chattopadhyay A and **Ghosh SS**	*Nanotechnology*, 19(7), 075104. [IOP Science publishing group]	**2008**
174.	Implication of functional activity for determining therapeutic efficacy of suicide genes *in vitro*	P. Gopinath and **Ghosh SS**	*Biotechnology Letters,* 30 (11),1913-1921[Springer publishing group]	**2008**
175.	Apoptotic induction with bifunctional *E.coli* cytosine deaminase-uracil phosphoribosyltransferase mediated suicide gene therapy is synergized by curcumin treatment *in vitro*	P. Gopinath and **Ghosh SS**	*Molecular Biotechnology*, 39(1), 39-48[Springer publishing group]	**2008**
176.	Monitoring green fluorescent protein for functional delivery of *E. coli* cytosine deaminase suicide gene and the effect of curcumin *in vitro*	P. Gopinath and **Ghosh SS**	*Gene Therapy and Molecular Biology*,11, 219-228[GTMB publishing group]	**2007**
177.	Evaporation-induced patterns from droplets containing motile and nonmotile bacteria	Nellimoottil T. T, Rao P. N, **Ghosh SS**, Chattopadhyay A	*Langmuir,* 23 (17),8655-8658 [ACS publishing group]	**2007**
178.	Reply to comment on evaporation-induced patterns from droplets containing motile and nonmotile bacteria	Nellimoottil T. T, Rao P. N, **Ghosh SS**, Chattopadhyay A	*Langmuir*. 23, 11942-11942 [ACS publishing group]	**2007**
179.	Adenoviral vectors: A promising tool for gene therapy	**Ghosh SS,** P. Gopinath and Ramesh A	*Applied Biochemistry and Biotechnology,* 133 (1), 9-29 [Springer publishing group]	**2006**

180.	Green fluorescent protein-expressing *Escherichia coli* as a model system for investigating the antimicrobial activities of silver nanoparticles	Gogoi S. K, P. Gopinath, Paul A, Ramesh A, **Ghosh SS** and Chattopadhyay A.	*Langmuir* 22, 9322-9328[ACS publishing group]	**2006**
181.	Role of cysteine residues in the function of human UDP Glucuronosyltransferase isoform 1A1 (UGT1A1)	**Ghosh SS,** Lu Y, Lee W, Wang X, Guha C, Roy-Chowdhury J and Roy-Chowdhury N	*Biochemical Journal,* 15 (392), 685-692	**2005**
182.	Hepatocyte transplantation and liver-directed gene therapy	Guha C, **Ghosh SS,** Lee SW, Roy-Chowdhury N and Roy-Chowdhury J	*Molecular Pathogenesis of Cholestasis,* 340-360,	**2004**
183.	Hepatocyte-targeted delivery of Sleeping Beauty mediates efficient gene transfer *in vivo*	Kren BT, **Ghosh SS**, Linehan C.L, Roy Chowdhury N, Hackett P.B, Roy Chowdhury J, Steer C.J	*Gene Therapy and Molecular biology*, 7, 229-238	**2003**
184.	Using new gene delivery systems to advance HIV gene therapy	Strayer D.S, Goldstein H, Cordelier P, **Ghosh SS,** Strayer M.S, Pettoello-Mantovani M, Roy Chowdhury J	*Clinical and Applied Immunology Reviews*, 3 (4-5), 247-259	**2003**
185.	Molecular therapies for viral hepatitis	Guha C, Shah SJ, **Ghosh SS**, Roy Chowdhury N and Roy Chowdhury J	*BioDrugs,* 17 (2): 81-91	**2003**
186.	Critical role of cysteine residues in human UGT1A1 in bilirubin glucuronidation	**Ghosh SS**, SW Lee, Roy Chowdhury J and Roy Chowdhury N	*Hepatology,* 38, 384	**2003**
187.	A non-immunogeneic adenoviral vector, co-expressing CTLA4Ig and bilirubin-uridine-diphospoglucuronate-glucuronosyl transferase permits long-term, repeatable transgene expression in the	N.R.Thummala, **Ghosh SS**, Lee S.W, Horwitz M.S, Reddy B, Davidson A, Roy Chowdhury J, Roy Chowdhury N	*Gene Therapy.* 9(15), 981-990	**2002**

	GUNN rat model of Crigler-Najjar syndrome			
188.	A novel intronic mutation results in the use of a cryptic splice acceptor site within the coding region of UGT1A1, causing Crigler-Najjar Syndrome Type 1	Sappal B.S, **Ghosh SS**, Shneider B, Kadakol A, Roy Chowdhury J and Roy Chowdhury N	*Molecular Genetics and Metabolism*, 75(2), 134-142	**2002**
189.	Durability of Transgene Expression and Vector Integration: Recombinant SV40-Derived Gene Therapy Vectors	Strayer D.S, Branco F, Zern M.A, Yam P, Calarota S.A, Nichols C.N, Zaia J.A, Rossi J, H.Li, Parashar B, **Ghosh SS**, and RoyChowdhury J	*Molecular Therapy*, 6(2), 227	**2002**
190.	Homodimerization of human-uridinediphosphoglucuronateglucuronosyl-transferase-1 (UGT1A1) and its functional implications	**Ghosh SS**, Sappal B.S, G.V.Kalpana, S.W.Lee, Roy Chowdhury J and Roy Chowdhury N	*Journal of Biological Chemistry*, 276 (45), 42108-42115	**2001**
191.	Amplification of Engrafted Hepatocytes by Preparative Manipulation of the Host Liver	Guha C, Deb N.J, Sappal B.S, **Ghosh S.S,** Roy Chowdhury N and Roy Chowdhury J	*Artificial Organs*, 25 (7), 522-528	**2001**
192.	Recombinant SV40 vector-mediated transfer of beta-glucuronidase gene into mucopolysaccharidosis type VII mice	Kawashita Y, Caton M, **Ghosh SS**, Takahashi M, Roy Chowdhury N, Okuyama T, Guha C, C.B Whitley, Strayer D.S, Roy Chowdhury J	*Molecular Therapy*, 3, 5	**2001**
193.	Liver directed gene therapy; promises, problems and prospects at the turn of the century	**Ghosh SS**, Takahashi M, Parashar B, N.R.Thummala, Roy Chowdhury N and Roy Chowdhury J	*The Journal of Hepatology*, 32, 238-252	**2000**
194.	Gene therapy for hyperbilirubinemic conditions	Roy Chowdhury N, Kadakol A, Sappal B.S**, Ghosh SS**, Lee SW and Roy Chowdhury J	*Journal of Perinatology*, 21, S114-118	**2001**

195.	A non-immunogenic adenoviral vector, coexpressing CTLA4Ig and bilurubin-UDP-glucuronosyltransferase (UGT1A1) permits long-term, repeatable transgene expression in the Gunn rat model of Crigler-Najjar syndrome type 1	N Thummala, **Ghosh SS,** Lee S, M Caton, A Davidson, B Reddy	*Hepatology*, 34 (4), 357A-356A	**2001**
196.	Interaction of. Crigler-Najjar-type and Gilbert's-type mutations causes intermediate degrees of hyperbilirubinemia and may cause kernicterus	Kadakol A, Sappal B.S, **Ghosh SS**, Lowenheim M, Chowdhury A, Chowdhury S, Santra A, I.M. Arias, Roy Chowdhury J, and Roy Chowdhury N	*Journal of Medical Genetics,* 38(4), 244-249	**2001**
197.	Inherited Disorders of bilirubin Metabolism	Kadakol A, Sappal B.S, **Ghosh SS**, Roy Chowdhury J and Roy Chowdhury N.	*Gastroenterology Today*. 4, 1, 2000	**2000**
198.	Comparison of currently existing methods of gene transfer to the liver and prospects of liver-directed gene therapy	Parashar B, **Ghosh SS**, Takahasi M, Roy Chowdhury N, Roy Chowdhury J	*Gastroenterology Today*, 4, (1), 2000	**2000**
199.	Genetic Lesions of Bilirubin Uridinediphospho-glucuronate Glucuronosyltransferase Causing Crigler-Najjar and Gilbert's Syndromes: Correlation of Genotype to Phenotype	Kadakol A, **Ghosh SS**, Sappal B.S**,** Sharma G., Roy Chowdhury J and Roy Chowdhury N	*Human Mutation,* 16, 297-306	**2000**
200.	Hepatocyte transplantation at the turn of the century Prospects and remaining hurdles	Kadakol A, Takahashi M, Parashar B, Guha C, **Ghosh S.S**, Roy Chowdhury N and Roy Chowdhury J	*Organ Biology*, 6, 4, 43-51	**1999**
201.	Recombinant Simian virus 40 vectors integrate into host genome, and permit efficient,	**Ghosh S.S**, Kadakol A, Sauter B.V, Takahashi M,	*Hepatology*, 30,298A	**1999**

	long-term and repeatable gene transfer to the liver *in vivo*	Roy Chowdhury N and Roy Chowdhury J		
202.	Molecular karyotyping of Indian *Leishmania donovani* strains using nuclear DNA probes	**Ghosh SS**, Mukherjee S, Adhya S.	*Journal of Biosciences*, 23, 247- 254	**1998**
203.	Role of a membrane-associated serine esterase in the oxidant activation of phospholipase A2 by t-butyl hydroperoxide	Chakraborti S, Michael J.R, Gurtner GH, **Ghosh SS**, Dutta G, Merker A	*Biochemical Journal, 292*, 585- 589	**1993**
204.	Enzymatic amplification of mini-exon-derived RNA gene spacers of *Leishmania donovani*; primers and probes for DNA diagnosis	MD. Q. Hassan, Ghosh A, **Ghosh SS**, Gupta M, Basu D, Mallik KK and Adhya S	*Parasitology,* 107, 509- 517	**1993**

List of patents obtained/applied:

1. Title of the invention: *A device with integrated methods for reverse transcription polymerase chain reaction (RTPCR) and/or DNA/Protein array based analyses* **(2015). Inventors:** Chattopadhyay A, Sailapu SK, Dutta D, Sahoo AK, **Ghosh SS. Indian Patent Application No. 1259/KOL/2015 dated 09.12.2015.**

2. Title of the invention: *Wirelessly Operated Led Device for Photodynamic Therapy and Subsequent Monitoring of Therapeutic Success*. **Inventors:** Chattopadhyay A, Sailapu SK, Dutta D, **Ghosh SS. Indian Patent Application No. 201731031603.**

3. Title of the invention: *A device with integrated methods for reverse transcription polymerase chain reaction (RT-PCR) and/or DNA/protein array based analyses* **(2016). Inventors:** Chattopadhyay A, Sailapu SK, Dutta D, Sahoo AK, **Ghosh SS. International (USA) Patent Publication Number: WO 2017098521 A1**

4. Title of the invention: *Glutathione-S-transferase – nanoconjugate based FET biosensor for detection of cancer* (**2018). Inventors:** Barman U, **Ghosh SS** and Paily R P. **Indian Patent Application No. 201831031884.**

5. Title of the invention: *An ultra-low voltage operated organic field effect transistor (OFET) based bio-sensing system and a method for fabricating the same* (**2018). Inventors**: Iyer PK, Dey A, Singh A, Dutta D, **Ghosh SS**. **Indian Patent Application No. 201831000478.**

6. Title of the invention: *A composition for filtration of microorganism and heavy metals and process thereof* **(2018). Inventors**: Das M, Goswami U, **Ghosh SS,** Chattopadhyay A. **Indian Patent Application No. 201831016639.**

7. Title of the invention: *Bimetallic nanocomposite based Wound Healing System and method of manufacture Thereof* **(2019). Inventors:** Chattopadhyay A, **Ghosh SS**, Das M, Goswami U, Kandimalla R, Kalita S **Indian Patent Application No. 201931014175.**

8. Title of the invention: *An ultra-low voltage operated organic field effect transistor (OFET) based bio-sensing system and a method for fabricating the same* **(2025). Inventors:** Iyer PK, Dey A, Singh A, Dutta D, Ghosh SS**. Indian Patent No. 562759**

Technology Transfer (ToT):

ToT on "*BACTERIA DETECTION METHOD*" between Indian Institute of Technology Guwahati and M/s R.R Animal Health Care Limited Hyderabad-50006, was commended based on the joint innovation of Prof. PK Iyer and Prof. SS Ghosh Groups.

Outreach activity in COVID Pandemic:

In response to a request from the National Disaster Management (NDM) Guwahati Assam, the DBT Programme Support Facility (Prof. S. S Ghosh's group) along with the Centre for Nanotechnology (Prof. P. K. Iyer's group), IITG, have developed the COVID detection kits as per the protocols of WHO and CDC guidelines. The company M/s R R Animal Health Care Limited was also involved as a partner in this entire development and scale up processes for viral transport media (VTM), viral RNA extraction kit and Real Time PCR kit. The kits were authenticated on patient samples at the COVID testing laboratory of Guwahati Medical College and Hospital (GMCH) and validated by ICMR, India. The low cost indigenous kits were supplied to the Government of Assam through NDM. This non-profitable work led to establish of a start-up by M/s R R Animal Health Care Limited at the Research Park of IITG. The effort was acknowledged by Honorable Health Minster of India, Higher Education Minister of India, and the Prime Minister's Office.

PhD Students:

PhD Student Guided/Completed:

SL. No.	Name	Title of the Thesis	Period		Current Address
			From	To	
1	Prof. P. Gopinath	Prodrug gene therapy vectors in combination therapies	January 2004	August 2008	Professor, Department of Biosciences and Bioengineering, IIT Roorkee
2	Dr. Pallab Sanpui	Therapeutic implications of polymer-metal nanoparticle composites	July 2005	January 2011	Assistant Professor, BITS PILANI, Dubai Campus

	(Joint with Prof. A. Chattopadhyay)				
3	Dr. Vinod Kr. Yata	Suicide Enzymes: Purification, Characterization and Encapsulation for Therapeutic Implications	January 2008	March 2012	Biological Scientist, University of South Florida, USA
4	Dr. Shilpa Sharma (Joint with Prof. A. Chattopadhyay)	Metal nanoparticles and nanocomposites as antimicrobial and anticancer agents	July 2008	March 2013	Assistant Professor, Netaji Subhas University of Technology, New Delhi
5	Dr. Amit Jaiswal (Joint with Prof. A. Chattopadhyay)	Fluorescent Nanomaterials for Biological Applications	July 2010	September 2013	Associate Professor, School of Biosciences and Bioengineering, IIT Mandi
6	Dr. V. Kohila	Genetic engineering approaches to alter substrate specificity of suicide genes	July 2008	March 2014	Associate Professor, Department of Biotechnology, NIT Warangal
7	Dr. Subhamoy Banerjee	Signaling molecules in combination therapy	January 2009	April 2014	Associate Professor, Institute of Engineering and Management, Kolkata
8	Dr. S. Chokalingam	Molecular approaches for development of efficient suicide gene therapy	July 2008	June 2014	Assistant Professor, Department of Biotechnology, NIT Warangal
9	Dr. Nidhi Chaubey	Molecular Cloning, Expression, Purification and Functional Implications of Recombinant Cytokines	January 2009	June 2014	Thesis defended on June 2014
10	Dr. Mithun Chakraborty (Joint with Prof. P. Goswami)	Molecular Characterization of Broad Substrate Specific Alcohol Oxidase from Aspergillus terreus *MTCC* 6324	July 2009	August 2014	Assistant Professor, Chandigarh University, Mohali
11	Dr. Amaresh Kr. Sahoo (Joint with Prof. A. Chattopadhyay)	Drug Based Nanocomposites in Biological Applications	July 2009	March 2015	Assistant Professor, Indian Institute of Information Technology (IIIT) Allahabad

12	Dr. Archita Ghoshal	Cell Surface Targeted Recombinant Signaling Molecules	July 2011	June 2016	Associate Scientific Editor at Elsevier, Bangaluru
13	Dr. N. Sharmila (Joint with Prof. L. Sahoo)	Functional Characterizations of Plant Uracil Phosphoribosyltransferase and Phytaspase for their Potential in Cancer Therapy	July 2011	April 2017	Senior Associate Scientific Writer, Indegene
14	Dr. Asif Raza	Connexin-43 Mediated Communication in Cancer Gene Therapy	July 2012	November 2017	Postdoctoral Fellow, Penn State College of Medicine, Hershey, USA,
15	Dr. Bandhan Chatterjee (Joint with Prof. A. Chattopadhyay)	Developing Gold nanocluster Based Cancer Theranostics	July 2012	June 2018	Senior Scientific Editor at Sanofi, India
16	Dr. Deepanjalee Dutta (Joint with Prof. A. Chattopadhyay)	Multifunctional Nanomaterials for Theranostic Applications	July 2013	August 2018	R & D Specialist, Olympus Surgical Technologies, Germany
17	Dr. Upashi Goswami (Joint with Prof. A. Chattopadhyay)	Luminescent Gold and Copper Nanoclusters for Theranostic Applications	July 2012	October 2018	DST INSPIRE Faculty IISC, Bangalore
18	Dr. Ujjwol Barman (Joint with Prof. Roy P. Pailey)	Field Effect Transistor Based Biosensor for Detection of Glutathione	July 2013	April 2019	Assistant Professor, Tezpur University, Assam, India
19	Dr. Neha Arora	Understanding the Potential of Recombinant PTEN in Cancer Therapeutics	July 2013	January 2019	Postdoctoral Researcher in UTHealth, Houston, USA

20	Dr. Madhumita Das (Joint with Prof. A. Chattopadhyay)	Copper Based Nanomaterials for Potential Biomedical Applications	July 2014	November 2019	Head, Department of Pathology, GNRC Hospital, Guwahati
21	Dr. Bidkar Anil Parsram	Multifaceted Approaches for Cancer Therapeutics	July 2014	December 2019	Postdoctoral Fellow, University of California San Francisco (UCSF)
22	Dr. Tammana Bhuyan (Joint with Prof. Dipankar Bandopadhyay)	Controlled Movements of Biomotors and Microfluidics	July 2014	June 2020	Assistant Professor, University of Science and Technology, Meghalaya
23	Dr. Srirupa Bhattacharyya	Unfolding Therapeutic Potential of TNF alpha	July 2015	December 2020	Postdoctoral Researcher at Harvard Medical School
24	Dr. Rajib Shome	Tweaking EMT and MDR dynamics in TNBC cells	July 2016	April 2022	Postdoctoral Researcher at Harvard Medical School
25	Dr. Anitha T Simon (Joint with Prof, A. Chattopadhyay)	Luminescent Composites of Hydroxyapatite Nanoparticles for Theranostic Applications	July 2016	May 2022	Postdoctoral Researcher at University of Minnesota
26	Dr. Muktashree Saha	Targeting Triple Negative Breast Cancer using Membrane-Derived Nanocarriers for Potential Therapeutic Applications	July 2017	August 2023	Thesis defended on August 2023
27	Dr. Debashree Debasmita (Joint with Prof. A. Chattopadhyay)	Cancer Theranostics with Nano- enabled Bacterial Bots	July 2017	May 2023	Scientist position at CCMB Hyderabad
28	Dr. Konika Chowdhury (Joint with Prof. A. Chattopadhyay)	Nanotechnology-based Drug Repurposing for Potential Theranostic Applications	July 2018	June 2024	Postdoctoral Researcher at Albert Einstein College of Medicine, NY, USA

29	Dr. Plaboni Sen	Targeting Notch Signalling in the EMT Dynamics of Triple-Negative Breast Cancer Cells	July 2018	August 2023	Postdoctoral Researcher at University of California, San Diego
30	Dr. Arupam Patra (Joint with Prof. Gurvinder Saini)	Therapeutic Insights of Entomopathogenic Mycotoxins in Breast Cancer Cells	July 2018	October 2024	Thesis defended on October 2024
31	Dr. Niraj Kr. Prasad (Joint with Prof. Amaresh Dalal, Mech. Engg.)	Understanding Viscoelastic Behavior of Drug Carriers and Fabrication of Microdevices for Cancer Therapeutic Applications	July 2019	August 2024	Postdoctoral Researcher at Newcastle University
32	Dr. Shilpi Sarkar	Tweaking Epigenetics in EMT Signaling Regulation of Triple-Negative Breast Cancer Cells	July 2019	April 2025	Thesis defended on April 2025

Current PhD students:

SL. No.	**Name**	**Work**	**Period**	
			From	**To**
1.	K. Thirukumaran	Cancer Therapeutics	July 2020	Thesis Submitted
2.	Hirok Joyti Roy (Joint with Prof. P. K. Iyer)	Nanotheranostics	July 2020	Ongoing
3.	Sayantani Mukhopadhyay (Joint with Prof. P. K. Iyer)	Nanotheranostics	July 2020	Ongoing
4.	Arisha Arora	Cancer Therapeutics	July 2021	Ongoing
5.	Sawna Roy (Joint with Prof. Arun Chattopadhyay)	Nanotheranostics	July 2021	Ongoing

6.	Sujisha S Nambiar (Joint with Prof. Gurvinder Kaur Saini)	Cancer Therapeutics	December 2021	Ongoing
7.	Basab Ghosh	Cancer Therapeutics	July 2022	Ongoing
8.	Sayantani Biswas (Joint with Prof. Arun Chattopadhyay)	Nanotheranostics	July 2022	Ongoing
9.	Pijush Kanti Khanra	Cancer Therapeutics	July 2023	Ongoing
10.	Hachina Begum (Joint with Dr. Akshai Kumar A. S)	Nanotheranostics	December 2023	Ongoing
10.	Sailayee Choudhury	Cancer Therapeutics	July 2024	Ongoing

M. Tech Students:

- Number of students completed their M. Tech Projects: **15**
- Current Student: **01**

B. Tech Students:

- Number of students completed B.Tech projects: **42**
- Current student: **02**