

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientician.com/>

Personal

- **Date of Birth:** 15.07.1981
- **Sex:** Female
- **Nationality:** Indian
- **Marital Status:** Single



Education/Training

INSTITUTION AND LOCATION	DEGREE	COMPLETION DATE	FIELD OF STUDY	CLASS/ MARKS OBTAINED (%)
Indian Institute of Technology (IIT), Kharagpur, IIT Kharagpur, India	PhD	14/02/2011	Chemistry	NA
	MS.	30/06/2005	Chemistry	1 st / 80.9
Hooghly Mohsin College, Burdwan University, India	BS.	16/07/2003	Chemistry (Hons.)	1 st / 61.5
Higher Secondary, WBCHE	10+2	07/2000	Science	1 st / 82.4
School Final, WBBSE	10 th	06/1998	-	1 st / 87.88

Positions, Employment, Research Experience and Responsibilities

ASSISTANT PROFESSOR

June 2022- Present

Institute of Health Science, Presidency University, Kolkata

- Teaching and Research at the interface of synthetic chemistry, and molecular diagnostics

FREELANCE SCIENCE COMMUNICATOR & EDUCATIONAL ENTREPRENEUR

March 2020- June 2022

- Freelance Science Communicator. Providing scientific consultancy and writing manuscripts, white papers, technical blogs, and reviews for academic researchers and industry-based clients from all over the world.
- Founder of WINGS, an e-learning platform for the promotion of STEM education for high school and college students. This online platform was developed to guide the meritorious yet financially challenged students during the pandemic situation to prepare for medical and engineering entrance as well as university examinations. For more details, please visit <https://wings.winuall.com/>.

DIRECTOR, CONTRAST AGENT AND MOLECULAR MRI

July 2015-December 2020

Center for Animal MRI (CAMRI), UNC Chapel Hill

- Established the **Contrast Agent and Molecular MRI Core Facility** at CAMRI, UNC Chapel Hill. Developed various cost-effective nanoformulations for application in magnetic resonance angiography, cerebral blood volume-fMRI, hyperpolarized gas MRI, simultaneous MR and optical imaging, cell labeling and magnetomotive ultrasound imaging. This core extended contrast agent support and efficacy evaluation service for new probes to research groups within UNC as well as prominent investigators from **Stanford University (US)**, **Emory University (US)**, **NIEHS, NIH (US)**, **UT San Antonio (US)**, **Huck Institute Life Sc.(US)**, **McGill University (Canada)**, **University of Antwerp (Belgium)**, **The University of Hong Kong (China)**, **University of Queensland (Australia)**, **China Medical University (Taiwan)**, **Charles River Laboratories (Finland)**, **Istituto Italiano di Tecnologia** and **CSMCRI Bhavnagar (India)**.

POST-DOCTORAL RESEARCH FELLOW

July 2013-August 2018

Department of Neurology and BRIC, UNC Chapel Hill

- Developed novel **chemogenetics based MR imaging tools** for non-invasive assessment of brain functions

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientician.com/>

- Mapping functional neurocircuits of central noradrenergic system using **chemogenetic fMRI** and **18F-FDG PET**
- Mapping functional neurocircuits of dopaminergic neurons using **optogenetic fMRI**
- Interrogating the role of specific **astrocytic GPCR signaling pathways to BOLD** signal using chemogenetic fMRI.
- Teaching and supervising undergraduate students at UNC Chapel Hill for Chem 395, Biology 395 and BMME 395 courses focused on undergraduate research in the area of Biomedical engineering, Chemistry and Biology

SUMMER TRAINEE – NIH MULTIMODAL NEUROIMAGING TRAINING PROGRAM

June-July 2014

School of Medicine, University of Pittsburgh and CNBC, Carnegie Mellon University

- Assessed outcomes of **Temozolomide therapy** in human glioma patients using [**18F**] FLT-PET and MRI
- Trained in **pharmacokinetic modeling of PET tracers**, PET physics and PET instrumentation
- Learnt various neuroimaging modalities including **fMRI, DTI, MEG, EEG, NIRF** and **optical imaging**.

POST-DOCTORAL FELLOW – NANOSCIENCE AND NANOTECHNOLOGY

February 2012-July 2013

National Institute of Pharmaceutical Education and Research – Mohali, India

- Developed novel steroids-anchored polymeric nanoparticles and dual drug macromolecular bio-conjugates for targeted cancer therapy.
- Mentored and trained Masters and Doctoral candidates on their dissertation work, scientific writing and soft skill development including interpersonal management, effective communication, work-life balance.

RESEARCH SCIENTIST (GRADE I)

March 2011-February 2012

National Institute of Pharmaceutical Education and Research – Mohali, India

- Developed novel ligand-anchored carbon nanotubes for tumor-specific drug targeting and therapy

RESEARCH SCIENTIST (GRADE-II)

February 2010-March 2011

National Institute of Pharmaceutical Education and Research – Mohali, India

- Developed novel drug delivery systems for targeted parenteral and oral treatment of cancer, diabetes and fungal infections
- Assessed pharmacokinetics, pharmacodynamics and toxicity of various nanoformulations in tumor and diabetic animal models.

GRADUATE RESEARCH FELLOW AND TEACHING ASSISTANT

October 2005-January 2010

Chemistry Department, Indian Institute of Technology – Kharagpur, India

- Worked on synthesis, characterization and in vitro evaluation of novel magnetic nanoparticle-based targeted probes for cancer theranostics.
- Synthesized novel Trienediynes with enhanced reactivity and DNA cleavage efficacy.
- Tutored *Organic Chemistry* courses (CY14001) for 1st year B. Tech students. Co-instructed two Masters' level laboratory courses on *Principles of Organic Synthesis* (CY43015) and *Organic Synthesis Laboratory* (CY59001).

UNDERGRADUATE PROJECT TRAINEE

May 2004-June 2005

Chemistry Department, Indian Institute of Technology – Kharagpur, India

- Developed chemoenzymatic synthesis route to synthesize intermediates for nucleoside analogues.

Awards and Honors

- **2019:** Invitation to join Consultative Group of Primary Scientific Advisor, Govt. of India. Working on National Science Policy on various socio-economic issues.
- **2017:** *Summa Cum Laude Merit Award* from International Society for Magnetic Resonance in Medicine (ISMRM, the largest meeting in the world dedicated to MRI) for the work, "Chemogenetic fMRI and ¹⁸F-FDG PET Reveal Functional Projections of Hoxb1-Derived Noradrenergic Neurons".

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientisician.com/>

- **2015, 2016, 2017:** *Educational Stipend Award* for 3 consecutive years for significant contribution in the area of chemogenetic fMRI and new MRI contrast agent development.
- **2014-2017:** *Cross disciplinary fellowship (CDF)* grant award (160,000\$) from international Human Frontier Science Program Organization (HFSP) for dissecting the neuronal and astrocytic component of BOLD-fMRI signal using chemogenetic and optogenetic fMRI
- **2014:** *Training award* (2500\$ + Travel stipend) for participation in the highly competitive *NIH-sponsored Multimodal Neuroimaging Training Program* at University of Pittsburgh and Carnegie Melon University
- **2012:** *International travel grant award*, Indian Council of Medical Research (ICMR), Department of Biotechnology (DBT) and Department of Science and Technology (DST), Government of India (GOI)
- **2012:** *DST Postdoctoral Fellowship in Nanoscience and Nanotechnology*, DST, GOI
- **2011:** *International travel grant award* ICMR and Council of Scientific and Industrial Research (CSIR, GOI)
- **2008:** *Travel stipend* for participation in Science Conclave: A congregation of Nobel Laureates, DST-GOI
- **2005:** *Junior Research Fellowship (JRF)* and *Senior Research Fellowship* in Chemical Science by CSIR, GOI
- **2005:** Scored 98.35 percentile in *Graduate Aptitude Test to Engineering (GATE)*; All India Rank 57, Chemical Sc.
- **2003:** *National Scholarship*, GOI for securing 1st class in B.Sc. Final Examination
- **2000:** *Binoy Krishna Modok Trust Fund Scholarship* (Mathematics Topper in High School), Hooghly Mohsin College, India
- **1998:** *National Prize* for securing 55th rank in Secondary (school leaving) Examination among 600000 candidates

Core skills and Competencies

- **Chemistry.** Organic synthesis, Bioconjugation techniques, Nanomaterial synthesis and functionalization, Laboratory safety and chemical hazard management.
- **Formulation.** Novel Drug Delivery Systems (NDDS) based on polymeric and protein nanoparticles, liquid crystalline nanoparticles, solid-lipid nanoparticles, hydroxyapatite nanoparticles, liposomes, functionalized carbon nanotubes; Diagnostic and theranostic probes based on magnetic and gold nanoparticles.
- **Physicochemical characterization techniques:** UV, FTIR, NMR, XRD (Powder diffraction), TEM, SEM, AFM, XPS, EDX, HRMAS-NMR, TGDTA, DLS, NTA, HPLC, GC, and Mass Spectroscopy (ESI-MS, MALDI-TOF MS, ICP-MS).
- **Imaging modalities:** MRI, PET, CT, Two photon microscopy, Whole body optical imaging, fNIR, EEG and MEG
- **Preclinical MRI:** Substantial experience with Bruker 9.4T Small Animal MRI system. Extensively trained in acquisition and optimization of various MR imaging protocols including BOLD fMRI, continuous arterial spin labeling (CASL) for simultaneous determination of BOLD and cerebral blood flow, cerebral blood volume fMRI, manganese-enhanced MRI (MEMRI), T1 and T2 mapping/ Relaxometry, DSC and DCE-MRI, high resolution micro-MR angiography, resting-state functional connectivity MRI and Magnetic Resonance Spectroscopy.
- **Image Analysis.** Has significant experience in fMRI and PET data analysis using custom MATLAB-based GUI as well as advanced image analysis software packages such as FSL, FEAT, AFNI, ANTs, ITK-Snap, AMIRA and PMOD
- **In vivo techniques:** Hands-on experience in handling and restraining of rodents (including both rats and mice); various injection techniques including intravenous, intraperitoneal, subcutaneous and intravitreal; oral gavage feeding; anesthesia (injectables and inhalation); tail nick bleed and tail clip bleed/genotyping; ear notch and ear tag; CO₂ Flow meter w/Phys. Euthanasia; orotracheal intubation; ventilation; arterial/venous cannulation; blood sample collection; aseptic techniques; advanced stereotactic brain surgeries for virus and drug injection, optical fiber and electrode implantation in brain for optogenetic/electrical stimulation; development of tumor models by chemical induction and xenografting; pharmacokinetic, pharmacodynamic and toxicological evaluation of therapeutic drugs and novel drug delivery systems in tumor and diabetic animal models.
- **Tissue culture and histology.** Hands-on experience in brain histology and confocal microscopy. Knowledgeable in a variety of cancer cell culture and immunohistochemical techniques.

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientician.com/>

Research Projects, Funding, Collaborations and Industrial Interactions

- CAMRI Contrast agent and Molecular MRI Core service (Das, Director) July 2015-Present
Developing novel iron-oxide based MRI contrast agents for preclinical MRI
The mission of this project is to provide cost-effective solutions and consultancy to preclinical researchers worldwide using contrast agents for several diagnostic applications.
- R01 MH111429 (NIH BRAIN Initiative grant) (Shih, PI; Das, Co-Investigator) July 2016- Present
Chemogenetic dissection of neuronal and astrocytic components of BOLD signal
The overall objective of this project is to determine the fractional contribution of neurons and astrocytic GPCRs to Blood Oxygenation Level Dependent (BOLD) fMRI and develop a more complete model of the BOLD signal.
- Collaborative project with CSMCRI, Bhavnagar, India (Das, Collaborator) December 2017-Present
Evaluating the MRI efficacy of novel NaYF₄:Eu, Gd nanorods and Gd-metal framework
This project aims to assess the efficacy of I NaYF₄:Eu,Gd nanorods and Gd-metal framework for intravascular MRI.
- Human Frontier Science Program (HFSP) (Das, PI) May 2014-May 2017
Dissecting neuronal and glial contribution to BOLD signal using chemogenetic and optogenetic fMRI
The goal of this project was to determine how neurons and astrocytes orchestrate BOLD-fMRI signal in vivo using novel genetic approaches based on (i) Designer Receptors Exclusively Activated by Designer Drugs (DREADD, a chemogenetic tool) and (ii) light-activated photosensitive proteins (optogenetic tools).
- Industrial Consultancy Project with See Cure LLC, Taiwan (Das, Collaborator) December 2013-April 2015
Evaluating the MRI efficacy of new blood pool agents based on Gd-chitosan complexes
The goal of this project is to evaluate the efficacy of new Gd-based blood pool agents for blood flow imaging
- DST-PDF NST (3rd series) Award (Das, PI) February 2012-July 2013
Development of steroids anchored polymeric nanoparticles for targeted cancer therapy
The goal of this project was to develop and exploit steroids anchored polymeric nanoparticles for estrogen/androgen receptor targeted cancer therapy.

Professional Activities and Community Outreach

- **2010 -Present:** Served as *ad-hoc* reviewer of more than 20 international journals including *Biomaterials*, *ACS Applied Materials and Interfaces*, *Advanced Functional Materials*, *Crystal Growth and Design*, *Plos One*, *Nanomedicine (London)*, *International Journal of Pharmaceutics*, *Carbohydrate Polymer*, *International Journal of Nanomedicine*, *Applied Surface Science*, *Colloids and Surfaces B-Bio interfaces*, *Chemical Engineering*, *Frontiers in Neurology*, *Micro and Nano Letters*, *Recent Patents on Nanotechnology*, *Materials Letters*, *Materials Research Express*, *Recent Patents on Drug Delivery and Formulations*, *Therapeutic Delivery*, *Future Medicinal Chemistry* and *Journal of Drug Delivery*. Also served as invited book proposal and book chapter reviewer for Bentham Publishers.
- **2012-Present:** Serving as a mentor for International Student-Alumni Mentorship Program, IIT Kharagpur, India
- **2011-Present:** Member of various professional bodies including International Society of Magnetic Resonance in Medicine (ISMRM), American Heart Association (AHA), American Association of Pharmaceutical Scientist (AAPS), American Chemical Society (ACS), Royal Chemical Society (RSC), Controlled Release Society (CRS). Life member of Chemical Research Society of India (CRSI).
- **2017-2018:** Volunteered for DooR to DooR – a healing arts program of UNC hospital. Using Indian Classical Music (vocal) to soothe and cheer patients suffering from serious life-threatening diseases including cancer, neurological disorders, accidental injury, geriatric diseases and psychiatric problems.
- **2018-Present:** Working on the cultural heritage preservation, documentation, analysis, reinterpretation, and preservation of around 250 Dhrupad compositions of Bishnupur gharana

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientiscian.com/>

International Peer-reviewed Journal Publications

Total Citations: 2388; h index =24 as of 22.03.2022. (**Citation/article, Impact Factor** provided in parenthesis)

Source of citation: <https://scholar.google.com/citations?user=dH0ql6cAAAAJ&hl=en>

1. Oyarzabal, E. A\$.; Hsu, L.M\$.; **Das, M\$.**; Chao, H; Zhou, J; Song, S; Zhang, W; Smith, K.G.; Siolino, N.R.; Evsyukova, I.Y.; Yuan, H; Lee, S.H.; Cui, G.; Jensen, P.; Shih, Y.Y.I. Chemogenetic activation of Locus Coeruleus Noradrenergic Neurons Modulates the Default Mode Network *Science Advances* **2022**, 8 (17) \$ **Authors contributed equally and are co-first authors (14.14)**
2. **Das, M.* \$**; Oyarzabal, E. A\$., Chen, L; Lee, S.H.; Shah, N; Gerlach, G; Zhang, W; Chao TH, Van Den Berg, N; Liu, C; Donley, C; Montgomery, S.; Shih, Y.Y*. One-Pot Synthesis of carboxymethyl-dextran coated iron-oxide nanoparticles (CION) for preclinical fMRI and MRA applications Accepted in *Neuroimage*, **2021**, 238, 118213 \$ **Authors contributed equally * Co-corresponding authors (4, 6.556)**
3. Singha, H.; Sreedharan, S.; Oyarzabal, E.A.; Mahapatra, T.S.; Green, N; Shih, Y.Y.I.; **Das, M***, Thomas, J.A.; * Das, A; *, and Pramanik, S.K. Mitochondriotropic Lanthanide Nanorods: Implications for Multimodal Imaging *Chem. Commun.*, **2020**, 56 (57), 7945-7948 ***Co- Corresponding authors (7, 6.222)**
4. Chen, Y.W., **Das, M**, Oyarzabal, E.A, Cheng, Q; Plummer, N.W.; Smith, K.G.; Jones, G.K.; Malawsky, D; Yakel, J.L.; Shih Y.Y.I, Jensen, P et. al. Genetic identification of a population of noradrenergic neurons implicated in stress resilience *Molecular Psychiatry (Nature Publishing Group)* **2019**, 24(5), 710-725 (**21, 12.384**)
5. Chen, Y.W., **Das, M**, Oyarzabal, E.A, Cheng, Q; Plummer, N.W.; Smith, K.G.; Jones, G.K.; Malawsky, D; Yakel, J.L.; Shih Y.Y.I, Jensen, P et. al. A subset of noradrenergic (NE) neurons defined by developmental expression of Hoxb1 have a distinct role in attenuating the behavioral response to acute stress Published as *Image in Molecular Psychiatry* through Editorial Invitation **2019**, 24(5), 625 (**12.384**)
6. Decot, H.K; Namboodiri, V.M.K; Gao, W.; McHenry, J; Jennings, J.; Lee, SH.; Kantak, P.; Kao, Y.C.; **Das, M.**; Witten, I.; Deisseroth, K.; Shih, Y.Y.I; Stuber, G Coordination of brain wide activity dynamics by dopaminergic neurons *Neuropsychopharmacology* **2017**, 42 (3), 615-627 (**57, 7.853**)
7. **Das, M#**; Jain, R#; Agrawal, A.K. et al. Macromolecular bipill of gemcitabine and methotrexate facilitates tumor-specific dual drug therapy with higher benefit-to-risk ratio *Bioconjugate Chem.* **2014**, 25, 501-9 # **Authors contributed equally (29, 4.47)**
8. Jain, S; Jain, R; **Das M** et al; Combinatorial Bio-Conjugation of Gemcitabine and Curcumin Enables Dual Drug Delivery with Synergistic Anticancer Efficacy and Reduced Toxicity *RSC Advance* **2014**, 4, 29193-29201 (**30, 3.361**)
9. **Das, M** Does the targeted delivery of theranostic carbon nanotubes have potential as a valid anticancer strategy? *Therapeutic Delivery* **2014**, 05, 01 (Invited Editorial) (**2**)
10. Hatial I; Jana, S; Bisai S; **Das M** et al. Trienediynes on a 1, 3, 5-trisubstituted benzene template: A New Approach for Enhancement of Reactivity *RSC Advance* **2014**, 4, 28041-28045 (**4, 3.361**)
11. **Das, M**; Singh, R.P; Datir S et al. Intranuclear Drug Delivery and Effective *in vivo* Cancer Therapy via Estradiol PEG-Appended Multiwalled Carbon Nanotubes. *Mol. Pharm.* **2013**, 10, 3404-3416 (**58, 4.939**)
12. **Das, M#**; Singh, R.P#; Datir, S et al. Surface Chemistry Dependent “Switch” Regulates the Trafficking and Therapeutic Performance of Drug-Loaded Carbon Nanotubes *Bioconjugate Chem.* **2013**, 23, 2201-13 # **Authors contributed equally (42, 4.47)**
13. **Das, M**; Datir, S; Singh, R.P et al. Augmented Anticancer Activity of a Targeted, Intracellularly Activatable, Theranostic Nanomedicine based on Fluorescent and Radiolabeled, Methotrexate-Folic acid-Multiwalled Carbon Nanotube Conjugate *Mol. Pharm.* **2013**, 10, 2543-2557 (**109, 4.939**)

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientician.com/>

14. Kumar, S; **Das, M**; Singh, R.P; Datir, S et al. Mathematical models for the oxidative functionalization of multiwalled carbon nanotubes, *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **2013**, 419: 156-165 (**10, 4.539**)
15. **Das, M***; Bandyopadhyay, D; R Singh, R.P; Harde, H; Kumar, S; Jain, S Orthogonal biofunctionalization of magnetic nanoparticles via “clickable” poly (ethylene glycol) silanes: a “universal ligand” strategy to design stealth and target-specific nanocarriers *J. Mat. Chem* **2012**, 22, 24652-24667 (**24, 6.626**)
16. Datir, S.; **Das, M.**; Singh R.P. et al. Hyaluronate tethered “smart” multiwalled carbon nanotubes for tumor targeted delivery of doxorubicin. *Bioconjugate Chem.* **2012**, 21,2201-13 (**129, 4.47**)
17. Singh R.P.; **Das, M.**; Thakare, V et al. Functionalization density dependent toxicity of oxidized multiwalled carbon nanotubes in a murine macrophage cell line *Chem. Res. Toxicol.*, **2012**, 25, 212737 (**47, 3.739**)
18. Jain, S.; Rathi V, V.; Jain A.K.; **Das, M.** et al. Folate decorated PLGA nanoparticles as a rationally designed vehicle for oral delivery of insulin *Nanomedicine* **2012**, 7, 1311-37 (**156, 5.307**)
19. Agrawal, A.K.; **Das, M.**; Jain, S *In situ* gel systems as ‘smart’ carriers for sustained ocular drug delivery *Expert Opinion on Drug Delivery* **2012**, 9, 383-402 (**137, 6.648**)
20. Harde, H.; **Das, M.**; Jain, S et al. Solid Lipid Nanoparticles: An Oral Bio-availability Enhancer Vehicle. *Expert Opinion on Drug Delivery* **2011**, 8, 1407-1424 (**245, 6.648**)
21. Jain, S; **Das, M** Conference Scene: Nanomedicine kindles the development of “elixir of life.” *Nanomedicine* **2011**, 6(4), 599–60 (**4, 5.307**)
22. Jain, S.; Mathur, R.; **Das, M.** et al. Synthesis, Pharmacoscintigraphic Evaluation and Antitumor Efficacy of Methotrexate-Loaded, Folate Conjugated, Stealth Albumin Nanoparticles *Nanomedicine* **2011**, 6, 1733-1734 (**37, 5.307**)
23. Swarnakar, N.K.; Jain, A. K.; Singh, R. P.; Godugu, C.; **Das, M.**; Jain, S. Oral bioavailability, therapeutic efficacy and reactive oxygen species scavenging properties of coenzyme Q-10 loaded polymeric nanoparticles **2011**, 32, 6860-6874 (**132, 10.317**)
24. Jain, A.K.; Swarnakar, N.K.; **Das, M.** et al. Augmented Anticancer Efficacy of Doxorubicin Loaded Polymeric Nanoparticles after Oral Administration in Breast Cancer Induced Animal Model *Mol. Pharm.* **2011**, 8, 11401151 (**82, 4.939**)
25. Jain, S.; Thakre, V.S.; **Das, M.** et al. Toxicity of multiwalled carbon nanotubes with end-defects critically depends on their functionalization density *Chem. Res. Toxicol.* **2011**, 24, 2028-2029 (**156, 3.739**)
26. Bhattacharya, D.; **Das, M**; Mishra, D et al. Folate receptor targeted, carboxymethyl chitosan functionalized iron oxide nanoparticles: a novel ultradispersed nanoconjugate for bimodal imaging *Nanoscale* **2011**, 3, 16531662 (**123, 7.79**)
27. Bhattacharya, D; Sahu, S.K; Banerjee, I.; **Das, M** et al. Synthesis, characterization, and *in vitro* biological evaluation of highly stable diversely functionalized superparamagnetic iron oxide nanoparticles *Journal of Nanoparticle Research* **2011**, 13, 4173-4188 (**38, 2.253**)
28. Dhak, P.; Dhak, D.; **Das, M** et al. A Novel Synthesis of FeNbO₄ Nano-rod by Hydrothermal Process *Journal of Nanoparticle Research* **2011**, 13, 4153-4159 (**10 2.253**)
29. Dhak P; Dhak D; **Das, M.** et al. Dielectric and Impedance Spectroscopy Study of Ba_{0.8} Bi_{2.133} Nb_{1.6} Ta_{0.4} O₉ Ferroelectric Ceramics, Prepared By Chemical Route, *Journal of Materials Science: Materials in Electronics* **2011**, 12, 1750-1760 (**34, 2.478**)
30. Jain, A. K.; **Das, M.**; Swarnakar, N.K et al. Engineered PLGA Nanoparticles: An emerging Delivery Tool in Cancer Therapeutics *Crit Rev Ther Drug Carrier Syst.* **2011**, 28, 1-43 (**115, 4.889**)
31. Thakre, V.S.; **Das, M.**; Jain, A.K. et al. Carbon Nanotubes in cancer theragnosis *Nanomedicine* **2010**, 5, 1277301(**118, 5.307**)

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientist.com/>

32. Dhak, P.; Dhak, D.; **Das, M.** et al. Impedence Spectroscopy study of LaMnO₃ modified BaTiO₃ ceramics *Materials Science and Engineering: B* **2009**, *164*, 165-171 (**97**, **4.051**)
 33. **Das, M.***; Mishra, D.; Dhak, P; et al. Biofunctionalized, phosphonate-grafted, ultrasmall iron oxide nanoparticles for combined targeted cancer therapy and multimodal imaging. *2009*, *5*, 2883-2893 (**180**, **13.281**)
 34. **Das, M.**; Mishra, D.; Maiti, T. K. et al. Bio-functionalization of magnetite nanoparticles using an aminophosphonic acid coupling agent: new, ultradispersed, iron-oxide folate nanoconjugates for cancer-specific targeting *Nanotechnology* **2008**, *19*, 415101 (**141**, **3.874**)
-

Book Chapter/Book

1. **Das, M.**; Pramanik P *Magnetic Nanoparticles in the Diagnosis and Imaging of Cancer Nanotechnology: Diagnosis and Treatment of Cancers (Chapter 4)*, R. Banerjee (Ed.), Narosa International Publishers, **2012**, ISBN: 978-81-8487-159-3 R. Banerjee (Ed.).
 2. Das, M., Basak, A. and Pramanik, P. **Biofunctionalized Magnetic Nanoparticles for Cancer Theragnostics** S. Campbell (Ed.) **2012** LAP Lambert Academic Publishing House, Germany. ISBN: 9783848406319
-

Peer-Reviewed Conference Abstracts

1. **Das, M.**, Oyarzabal, E. A., Chen, Y.W. et al. Chemogenetic fMRI and ¹⁸F-FDG PET Reveal Functional Projections of Hoxb1-Derived Noradrenergic Neurons *Proc Intl Soc Mag Reson Med* (2017) **Oral Presentation (Summa cum Laude Merit Award)** at ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawaii, USA
2. Oyarzabal, E. A., Lee, S.H., **Das, M.**, Song, S, Hong, J.S., and Shih, Y.Y. "How does chronic neuroinflammation affect resting state functional connectivity?", *Proc Intl Soc Mag Reson Med* (2017) ISMRM 25th Annual Meeting and Exhibition, Honolulu, Hawaii, USA.
3. **Das, M.**, Oyarzabal, E. A., Decot, H. K. et al. Development of intravascular SPION with tunable pharmacokinetics and relaxivity for preclinical fMRI and micro-MRA *Proc Intl Soc Mag Reson Med* (2016) **e-Poster presentation** ISMRM 24th Annual Meeting and Exhibition, Singapore.
4. Oyarzabal, E. A., **Das, M.**, Lee, S.H et al. Deciphering the Functional Role of Locus Coeruleus-derived Norepinephrine using Chemogenetic fMRI and 18FDG-PET *Proc Intl Soc Mag Reson Med* (2016) **Oral Presentation. (Summa cum Laude Merit Award)** ISMRM 24th Annual Meeting and Exhibition, Singapore.
5. Decot, H.K., Namboodiri, M.K.; Gao, W., MCHenry, J.H. Jennings; Lee, S.H.; Kantak, P.A., Kao, Y.C.; **Das, M.**; Witten, I.B., Deisseroth, K; Shih, Y.Y., Stuber, G.D. Coordination of brain-wide activity dynamics by dopaminergic neurons Society for Neuroscience (SfN) November 12-16, 2016 San Diego, CA
6. Decot, H.K., Gao, W., Kantak, P.A., Kao, Y.C.; **Das, M.**; Witten, I.B., Deisseroth, K; Shih, Y.Y., Stuber, G.D. Coordination and remodeling of cortico-limbic network dynamics by dopaminergic neuronal activity Society for Neuroscience (SfN) November 15-19, 2014 Washington, D.C.
7. **Das, M.**, Decot, H. K., Kao, Y. C., Oyarzabal, E. A. & Shih, Y. Y. I. Probing Gq-GPCR Signaling in Rat Primary Motor Cortex with Pharmacogenetic fMRI *Proc Intl Soc Mag Reson Med* (2015) **Poster Presentation** at ISMRM 23rd Annual Meeting and Exhibition, Toronto, Canada.
8. Johns S.*, **Das, M.***, Oborski, M., Laymon C.C., ¹⁸F-FLT-PET to monitor therapeutic response in glioblastoma patients **Oral Presentation** at Multimodal Neuroimaging Training Program Symposium 2014, Carnegie Melon University, US.
9. **Das, M.**; Datir, S.; Singh, R. P.; Kumar, S.; Jain, S. Estradiol-PEG-Appended Multiwalled Carbon Nanotubes for Estrogen Receptor Targeted, Multimodal Delivery of Anticancer Agents **Poster Presentation** at 39th Annual

MANASMITA DAS

Sandeswartala, Roysberh, Chinsurah, Hooghly, WB-712101

Phone: +91-7044756070 (M); Email: dmanasmi@gmail.com

<https://www.manasmitascientiscian.com/>

Meeting and Exposition of Controlled Release Society, Centre de Congress de Quebec, Quebec City, Canada (15th July-18th July, 2012)

10. Jain, S.; Rathi V, V.; Jain A.K.; **Das, M.** Folate Coupled Engineered Polymeric Nanoparticles as a Rationally Designed Carrier for Oral Delivery of Insulin. 39th Annual Meeting & Exposition of the Controlled Release Society, Québec City, Canada, (July 15-18, 2012) **Poster presentation**
11. Jain, S.; Rathi V, V.; **Das, M.** Jain A.K. Oral insulin nanoparticles once-a-day: A "magic pill" to combat diabetes, Bio Asia 2012, Hyderabad India, February 9-11, 2012. (**nominated for BioAsia young innovator award- 2012**)
12. **Das, M.;** Singh, R. P.; Datir, S.; Kumar, S.; Jain, S. Design, Synthesis and Biological Evaluation of a Novel, Multifunctional, Carbon Nanotube based "Smart" Drug Delivery Platform" selected for **Oral presentation** at The 38th Annual Meeting and Exposition of Controlled Release Society, National Harbor, Maryland USA.
13. **Das, M.** Novel Strategies to Design "Smart" Theragnostic Magnetic Nanoparticles: From Tailored Surface to Theragnostics **Invited Talk** in *Second World Conference for Nanomedicine and Drug Delivery WCN 2011*, Kottayam, Kerala (India).
14. Swarnakar, N.K.; Jain, A.K.; Singh, R.P.; Godugu, C.; **Das, M.;** Jain, S. Preparation, *In Vitro* and *In Vivo* Evaluation of CoQ10 Loaded Cationic Polymeric Nanoparticles: A Potential Reactive Oxygen Species Scavenger, *Fourth Winter School on Nanotechnology for Advanced Drug Delivery*, February 28-March 4, NIPER, SAS NAGAR, Mohali, Punjab, India. (**Budding Nanotechnologist Award**).
15. **Das, M.;** Basak, A.; Pramanik, P. A "Click Chemistry" Approach to the design of a Multifunctional Nanomedicine for "Smart" Cancer Diagnosis and Therapy **Oral Presentation** in *Second Summer School on Nanotechnology for Advanced Drug Delivery*, August 10-14 **2009** NIPER, SAS NAGAR, Mohali, Punjab.
16. P. Dhak, D. Dhak, **M. Das** and P. Pramanik "Dielectric diffuseness and impedance spectroscopy of nanocrystalline Ba_{0.8}Cu_{0.2}Ti_{0.8}(AlK)_{0.2}O₃ ferroelectric ceramics prepared by chemical route" *International Conference on Nnanomaterials: Synthesis, Characterization and Applications (27-29th April 2010)*, Center for Nanoscience and Nanotechnology, Mahatma Gandhi University, Priyadarshini Hills, Kottayam, Kerala, India.
17. **Das, M.;** Pramanik, P.; Development of surface-engineered superparamagnetic nanoparticles for targeted cancer therapy **Oral Presentation** in *Second Winter School on Nanotechnology for Advanced Drug Delivery*, Feb 24-28 **2009** NIPER, SAS NAGAR, Mohali, Punjab.
18. **Das, M.;** Pramanik. P.; Basak, A. Highly Water-Soluble Magnetofluorescent Iron-Oxide Nanoparticles for Cancer-Specific Targeting: Synthesis, Characterization and *In-vitro* Studies **Poster Presentation** in *International Symposium on Frontiers of Functional Materials (ISFFM-2009)*, January 6-7 **2009**, Calcutta University, Kolkata
19. **Das, M.;** Pramanik. P. Recent advancement in the use of iron-oxide nanoparticles for purification of recombinant protein and targeting cancer cells **Oral Presentation** in Workshop on Nanotechnology: An interaction session with Eric Drexler, Father of Nanotechnology at IIT Kharagpur
20. **Das, M.;** Basak, A.; Pramanik, P.; A Multifunctional Superparamagnetic Nanodevice for "Smart" Cancer-Diagnosis and Therapy **Poster Presentation** in *DAE-BRNS, International Symposium on Materials Chemistry (ISMC-2008)*, December 2-6 **2008**, BARC, Mumbai.
21. **Das, M.;** Basak, A.; Pramanik; P. Recent development in the use of superparamagnetic iron-oxide nanoparticles for "smart" cancer diagnostics and therapeutics **Oral Presentation** in National Seminar on Current Trends in Chemistry-II, March 4, 2008, Kalyani University, Kalyani, West Bengal (India) -

Patents

1. S. Jain, D.S. Chauhan, A. K. Jain, N. K. Swarnakar, H. Harde, R.R. Mahajan, D. Kumar, P.K. Valvi, **M. Das**, S.R. Datir, K. Thanki. A process for stabilization of nanodrug delivery systems by lyophilization. Patent no: 306846; Granted on 05.02.2019 *Application no.: 2559/DEL/2011* filed on September 06, 2011.
 2. S. Jain, V. Rathi, **M. Das**, A. K. Jain. Folic acid conjugated polymeric nanoparticles for oral delivery of Insulin. *Application no.: 2202/DEL/2011* filed on August 03, 2011.
-