

TANMOY KUMAR DEY, Ph.D. (Sc.)

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**PERSONAL DETAILS:****S/o: TAPAN KUMAR DEY & KABITA DEY****Residential Address:** Patulia, Schoolpara, P.O.: Patulia, P.S.: Khardaha. Dist. North 24 Parganas; Kolkata, West Bengal, India, PIN: 700119.**Date of Birth:** 22nd July, 1985.**Nationality:** Indian.**SUMMARY:**

My academic endeavors during my multi-disciplinary research career of more than 9 years have enabled me of critical thinking, in-depth learning of the subject and experiences in the field of Environmental Science and allied subjects. My academic efforts and achievements have developed a degree of confidence and proficiency in the academic research arena. My **academic and research scores are 79 and 225.5 respectively**, as specified in Appendix II (Table 2 and Table 3A) of the **UGC regulations on minimum qualifications for appointment of teachers and other academic staff in universities and colleges and measures for the maintenance of standards in higher education, 2018**. My interpersonal communication skills and adaptability in collaborative efforts, gives me the confidence. My academic records and publications in international peer-reviewed scientific journals and books, assert my expertise in the academic field.

EDUCATION:

2017	Ph.D. (Sc.) in Environmental Science		University of Calcutta
2012	Qualified in GATE 2012	(Score: 379; AIR: 794).	
2009	M.Sc. in Environmental Science	(CGPA 4.64, Grade A+)	University of Calcutta
2007	B.Sc. in Zoology (Honours)	(2nd class, 58.4%)	University of Calcutta
2004	Higher Secondary	(1 st division, 64.8%),	WBCHSE, India.
2002	Madhyamik (Secondary)	(1 st division, 76.1%),	WBBSE, India.

DOCTORAL RESEARCH:February 2012- June 2017 **Formulation of Functional Food Emulsions and Their *in vivo* Studies.**

RESEARCH CAREER:

January 2020- February, 2021	Research Associate (Division of Bacteriology, ICMR-National Institute of cholera and Enteric Diseases), under Dr. Amit Ghosh, Distinguished J.C. Bose Chair Professor, ICMR-NICED.	“Studies on enteric pathogens in relation to virulence.” Funding agency: National Academy of Sciences, India.
June 2017 – December 2019	ICMR Centenary Post-doctoral Fellow (Division of Bacteriology, ICMR-National Institute of cholera and Enteric Diseases), under Dr. Asish Kumar Mukhopadhyay, Scientist F, and Dr. Hemanta Koley, Scientist E, Division of Bacteriology, ICMR-NICED.	Study on therapeutic application of omega-3 fatty acid enriched nanoemulsion against invasive infective diarrhea: focus on enhanced biodelivery potential of nanoceuticals. Funding Agency: Indian Council of Medical Research, India.
November 2014 - June 2016	Senior research Fellow (Laboratory of Food Science and Technology, Food and Nutrition division, University of Calcutta), under Dr. Pubali Dhar, Laboratory of Food Science and Nutrition, Department of Home Science, University of Calcutta.	Study on synthesis of a novel bioactive lutein ester of EPA-DHA and assessment of its bioactivity using nanoemulsion technology. Funding Agency: Trans-Disciplinary Research, Council of Scientific and Industrial Research, Government of India.
June 2012 - October 2014	Senior research Fellow (Laboratory of Food Science and Technology, Food and Nutrition division, University of Calcutta), under Dr. Pubali Dhar, Laboratory of Food Science and Nutrition, Department of Home Science, University of Calcutta.	Studies on the effect of dietary seed proteins and hydrolysates on lipid profile of rats. Funding Agency: Directorate of Vanaspati, Vegetable Oil and Fats, Government of India.

December 2009 - Project Fellow (Laboratory of **Formulation and Development of**
 May 2012 Food Science and Technology, **nanoemulsion with Functional Food.**
 Food and Nutrition division, Funding Agency: Center for Research in
 University of Calcutta), under Nanoscience and Nanotechnology,
 Dr. Pubali Dhar, Laboratory of University of Calcutta
 Food Science and Nutrition,
 Department of Home Science,
 University of Calcutta.

TEACHING EXPERIENCE:

- Presently serving as Assistant Professor (Environmental Science), Department of Chemistry, School of Basic and Applied Sciences, Adamas University, Kolkata.
- Served as Guest Lecturer for Environmental Studies (compulsory) in Viharilal College of Home Sciences, University of Calcutta, India from 06/09/2011 to 20/03/2013.
- Served as Guest Lecturer for Environmental Studies (compulsory) in Deshbandhu College for Girls, under University of Calcutta, India from October, 2016 to March 2017.

HONOURS AND AWARDS:

- 2019 Awarded Dr. Santinath Ghosh Memorial Research award for the best research paper in the year 2018-19 by Oil Technologists' Association of India.
- 2017 Awarded ICMR-Post-Doctoral Research Fellowship by Indian Council Medical Research, India (Sanction No. 3/1/3/PDF (15)/2017-HR, dated 29/3/2017)
- 2015 Awarded International Travel Grant for Non ICMR scientists by Indian Council Medical Research, India to attend 12th Asian Congress of Nutrition, in Yokohama, Japan (3/2/TG-61/HRD-2015 (47); dt. 26.02.2015).
- 2015 Awarded financial support by Science and Engineering Board (SERB, under DST, Govt. of India) to attend 12th Asian Congress of Nutrition, in Yokohama, Japan (ITS/0477/2015-16, dt. 31.03.2015).
- 2014 Awarded Senior Research Fellowship in Trans-disciplinary Research Category (Sanction no.: 09/ 028 (0926)/ 2014-EMR-I, dated: 07/08/2014), by Council Scientific and Industrial Research, India.
- 2014 Awarded Senior Research Fellowship in Bio-Medical Science Category (Sanction no.: 45/ 6/2014-Nan/BMS, dated: 10/12/2014), by Indian Council of Medical Research, India.
- 2012 Awarded 2nd Best Oral Presentation Award for the presentation entitled "Enhancing gastrointestinal absorption of EPA & DHA rich fish oil in rats by nanoemulsification" in the National Seminar on Rural health & monitoring: recent trends & monitoring, organized by Department of Physiology, Bajkul Sammilani Mahavidyalaya & Biotech

JOURNAL PUBLICATIONS :

1. **Dey, T.K.**, Ghosh. S, Ghosh. M, Koley. H and Dhar. P, 2012; Comparative Study of Gastrointestinal Absorption of EPA & DHA Rich Fish Lipid Oil from Nano and Conventional emulsion Formulation in Rats. *Food Research International*, 49, 72-79.
2. Sengupta, A.; **Dey, T.**; Ghosh, M.; Ghosh, J. and Ghosh, S. 2012; Enzymatic Synthesis of Furfuryl Alcohol Ester with Oleic Acid by *Candida antarctica* Lipase B and Its Kinetic Study. *Journal of the Institution of Engineers (India): Series E* (Chemical and Textile Engineering). 93, 31-36.
3. Paul, D.; **Dey, T.K.**; Mukherjee, S.; Ghosh, M. & Dhar, P. 2014; Comparative prophylactic effects of α -eleostearic acid rich nano and conventional emulsions in induced diabetic rats. *Journal of Food Science and Technology*, 51(9), 1724-36.
4. Banerjee, P., Sarkar, S., **Dey, T.K.**, Bakshi, M., Swarnakar, S., Mukhopadhyay, A., Ghosh, S. 2014; Application of isolated bacterial consortium in UMBR for detoxification of textile effluent: Comparative analysis of resultant oxidative stress and genotoxicity in catfish (*Heteropneustes fossilis*) exposed to raw and treated effluents. *Ecotoxicology*, 23(6), 1073-85.
5. Halder, A., **Dey, T.K.**, Dhar, P., Chakrabarti, J. 2014, Exploring the Nutritive Values of the Fresh Water Mussel *Lamellidens marginalis* as Potential Functional Food. *IOSR Journal of Environmental Science, Toxicology and Food Technology*, 8(8) III, 01-07.
6. **Dey, T.K.**, Banerjee, P., Bakshi, M., Ghosh A. and Ghosh, S. 2014 Groundwater Arsenic Contamination in West Bengal: Current Scenario, Effects and Probable Ways of Mitigation. *International Letters of Natural Sciences*, 13, 45-58.
7. Chatterjee, R., **Dey, T.K.**, Ghosh, M., Dhar, P. 2015; Enzymatic Modification of Sesame Seed Protein, Sourced from Waste Resources for Nutraceutical Application. *Food and Bioproducts Processing*, 94, 70-81.
8. Banerjee, P., **Dey, T.K.**, Sarkar, S., Swarnakar, S., Mukhopadhyay, A., Ghosh, S. 2016; Treatment of cosmetic effluent in different configurations of ceramic UF membrane based bioreactor: toxicity evaluation of the untreated and treated wastewater using catfish (*Heteropneustes fossilis*). *Chemosphere*, 146, 133-144.
9. Roy, S., Mukherjee, S., Sengupta, A., **Dey, T.K.**, Dhar, P., Ghosh, M. 2017; Comparative Study of *in vivo* Gastrointestinal Absorption of Mustard Oil Emulsions Prepared with Different Types of Medium Chain Fatty Acids. *Malaysian Journal of Nutrition*, 23(1), 107 – 115.

10. **Dey, T.K.**, Banerjee, P., Chatterjee, R. and Dhar, P. 2018. Designing of ω -3 PUFA enriched biocompatible nanoemulsion with sesame protein isolate as a natural surfactant: Focus on enhanced shelf-life stability and biocompatibility. *Colloids and Surfaces A, Physicochemical and Engineering Aspects*. 538, 36-44.
11. Halder, A., Das, M., Chatterjee, R., **Dey, T.K.**, Dhar, P., Chakrabarti, J. 2018. Functional properties of protein hydrolysates from fresh water mussel *Lamellidens marginalis* (Lam.). *Indian Journal of Biochemistry & Biophysics*, 55, 105-113.
12. **Dey, T.K.**, Koley, H., Ghosh, M., Dey, S. and Dhar, P., 2019. Effects of nano-sizing on lipid bioaccessibility and ex vivo bioavailability from EPA-DHA rich oil in water nanoemulsion. *Food Chemistry*, 275(1), 135-142.
13. **Dey, T.K.**, Maiti, I., Chakraborty, S., Ghosh, M. and Dhar, P., 2019. Enzymatic synthesis of lipophilic lutein-PUFA esters and assessment of their stabilization potential in EPA-DHA rich fish oil matrix. *Journal of Food Science and Technology*, 56(5), pp.2345-2354.
14. Chatterjee, R., **Dey, T.K.**, RoyChowdhury, A., Paul, D., and Dhar, P. 2020. Enzymatically excised Oligopeptides from *Bellamyia bengalensis* shows Potent Antioxidative and Anti-Hypertensive Activity. *Journal of Food Science and Technology*, 57, pp. 2586-2601.
15. Das, S., **Dey, T.K.**, De, A., Banerjee, A., Chakraborty, S., Das, B., Mukhopadhyay, A.K., Mukherjee, B. and Samanta, A., 2021. Antimicrobial loaded gum odina-gelatin based biomimetic spongy scaffold for accelerated wound healing with complete cutaneous texture. *International Journal of Pharmaceutics*, 606, p.120892.
16. **Dey, T.K.**, Chatterjee, R., Mandal, R.S., Roychoudhury, A., Paul, D., Roy, S., Pateiro, M., Das, A.K., Lorenzo, J.M. and Dhar, P., 2021. ACE Inhibitory Peptides from *Bellamyia bengalensis* Protein Hydrolysates: *In Vitro* and *In Silico* Molecular Assessment. *Processes*, 9(8), p.1316.
17. Halder, A., Das, M., **Dey, T. K.**, Dhar, P., and Chakraborty, J., 2022. Isolation of an Antihypertensive Bioactive Peptide from the Freshwater Mussel *Lamellidens marginalis*. *International Journal of Food and Nutritional Sciences*, 11, p.1-8.
18. Shaw, S., Samanta, P., Chowdhury, G., Ghosh, D., Dey, T.K., Deb, A.K., Ramamurthy, T., Miyoshi, S.I., Ghosh, A., Dutta, S. and Mukhopadhyay, A.K., 2022. Altered molecular attributes and antimicrobial resistance patterns of *Vibrio cholerae* O1 El Tor strains isolated from the cholera endemic regions of India. *Journal of Applied Microbiology. J Appl Microbiol.* 00:1-12. DOI: 10.1111/jam.15794.
19. Dey, T.K., Bose, P., Paul, S., Karmakar, B.C., Saha, R.N., Gope, A., Koley, H., Ghosh, A., Dutta, S., Dhar, P. and Mukhopadhyay, A.K., 2022. Protective efficacy of fish oil nanoemulsion

against non-typhoidal Salmonella mediated mucosal inflammation and loss of barrier function. *Food & Function*, 13(19), pp.10083-10095.

20. Das, M., Halder, A., Chatterjee, R., Gangopadhyay, A., Dey, T. K., Roy, S., Dhar, P., Chakrabarti, J. *In vitro* Structure–Activity Relationship Study of a Novel Octapeptide Angiotensin-I Converting Enzyme (ACE) Inhibitor from the Freshwater Mussel *Lamellidens marginalis*. *Int J Pept Res Ther.* **29**, 18 (2023). <https://doi.org/10.1007/s10989-023-10495-5>
21. Dey T. K., Chowdhury P, Barman N, Basu Roy A, Barve V (2023). Biodiversity around home: A case study for monitoring urban biodiversity at Barrackpore town, North 24 Parganas, West Bengal. Nature Mates-Nature Club. Occurrence dataset <https://doi.org/10.15468/c8vbcr> accessed via GBIF.org on 2023-04-03.

BOOK CHAPTER PUBLICATIONS:

1. Paul, D., **Dey, T.K.**, Dhar, P. 2017. “Nano-formulation and administration of PUFA rich systems for application in modern health-care”. Chapter 7, pp 165-200, in “*Nanostructures for novel therapy: synthesis, characterization and application*” Edited by Alexandru Mihai Grumezescu, and Denisa Ficai, Elsevier Inc., Netherland. ISBN: 978-0323461429.
2. Paul, D., **Dey, T.K.**, Chakraborty, A., Dhar, P. 2016. “Functional and Bioactive lipid mediators in modulating CVD Precursors” Chapter 3, pp 58, in “*Functional Foods for Chronic Diseases*” Part-1, Edited by: Danik M. Martirosyan, Functional Food Center Inc., CA., USA. ISBN: 978-1536919431.
3. **Dey, T.K.**, Paul, D., Dhar, P. 2017. “Bioactivity of Nano-sized Nutraceuticals against Cancer” Chapter 4, pp. 100, in “*Functional Foods and Cancer: Bioactive Compounds and Cancer*”. Volume 4, 1st Edn. Edited by: Danik M. Martirosyan & Jin-Rong Zhou. Functional Food Center Inc. CA, USA. ISBN-13: 978-1975953171.
4. Paul, D., **Dey, T.K.**, Chakraborty, A., Dhar, P. 2018. “Promising Functional Lipids for Therapeutic Applications” in “*Role of Materials Science in Food Bioengineering: Handbook of Food Bioengineering*” Volume 19, 1st Edn., Edited by: Alexandru Grumezescu and Alina Maria Holban. Academic Press, London. ISBN: 978-0128114483.
5. **Dey, T.K.**, Karmakar, B.C., Sarkar, A., Paul, S., Mukhopadhyay, A. K. 2021. “A mouse model of *Helicobacter pylori* infection”. in *Helicobacter pylori – Methods and Protocols- The lab protocol series Methods in Molecular Biology*, edited by: Sinéad M. Smith, Springer Nature. (Clifton, NJ), 2283, pp.131-151. ISBM: 978-1-0716-1301-6; PMID: 33765316; DOI: 10.1007/978-1-0716-1302-3_14.

PAPER PRESENTED IN SEMINARS/CONFERENCES:

State level:

1. **Dey, T.K.** “Groundwater Arsenic Contamination in West Bengal: Source, Effects and Possible mitigation measures, A review” in State level seminar on “Groundwater Pollution & Its management: Perspective and Future Approaches” Organized by Department of Environmental Science & Zoology, Netaji Nagar College for Women, Kolkata, West Bengal. 7-8th December, 2010 (**Oral presentation**).
2. **Dey, T.K.,** RoyChowdhury, A., Banerjee, S., Chakroborty, J., Ghosh, S. and Dhar, P. “Comparative nutritive analysis of three edible molluscs: *Lamellidens marginalis*, *Anadara granosa* and *Bellamyia bengalensis*” in State level seminar on “Environmental Crisis: Challenges in the 21st Century” Organized by Department of Environmental Science & Zoology, Netaji Nagar College for Women, Kolkata, West Bengal. 31st January, 2012 (**Oral presentation**).
3. **Dey, T.K.,** Ghosh, S, Koley, H. and Dhar, P. “Preparation and Absorption of Functional Food Nanoemulsion” in “18th West Bengal State Science & Technology Congress”, organized by West Bengal State Council of Science & Technology, Department of Science & Technology, Government of West Bengal, Kolkata, 28th February to 1st March, 2011 (**Oral presentation**).

National:

1. **Dey, T. K.** and Dhar, P. “Enhancing gastrointestinal absorption of EPA & DHA rich fish oil in rats by nanoemulsification” National Seminar on “Rural Health & Monitoring: Recent Trends & Monitoring” organized by Department of Physiology, Bajkul Sammilani Mahavidyalaya & Biotech Research Society of India, Vidyasagar University Unit, Medinipur, West Bengal, India. 20-21st January, 2012 (**Oral presentation**).
2. **Dey, T. K.,** Banerjee, P., Bakshi, M, Kar, A, Dhar, P. and Swarnakar, S. “Cosmetic Effluent as New Generation threat: Role in Organ-specific Cyto-genotoxicity and oxidative stress” in the Environmental Science Section of 100th Indian Science Congress, 3-7th January, 2013 (**Poster Presentation**).
3. Halder, A., **Dey, T. K.,** Chakrabarti, J. and Dhar, P. “Evaluation of Nutritive values of *Lamellidens marginalis* as Potential Functional Food” in the Animal, Veterinary and Fishery sciences Section of 100th Indian Science Congress, 3-7th January, 2013 (**Poster Presentation**).
4. **Dey, T. K.,** Paul, D. and Dhar, P. “Formulation of a Stable nanoemulsion system for delivering Lipophilic Nutraceutical to PBMCs” in “National Conference on Nanoscience and Nanotechnology”, organized by Centre for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta, Kolkata, West Bengal, 18th -19th September, 2014 (**Poster Presentation**).

5. **Dey, T. K.,** Kundu, J., Mondal, P., Ghosh, M. and Dhar, P. “**A Novel PUFA-Lutein Ester: An Efficient Alternative for Oxidative Stability of PUFA Enriched Oil System**” in “70th Annual Convention of Oil Technologists’ Association of India & National Conference on the Process and Products Development or Better Economy Benefits of the Fats and Oil Industry”, organized by: Oil Technologists’ Association of India, Eastern Zone, in association with CSIR-Central Glass & Ceramic research Institute, West Bengal, 20th -21st November, 2015. (**Oral presentation**).
6. **Dey, T. K.,** “**Anti-inflammatory role of omega-3PUFA influence the protective efficacy of fish oil nanoemulsion against increased gut epithelial barrier permeability**” in 2nd International Conference on "Transforming Ripples in Healthcare Research: Obstacles, Sustenance and Cutting Edge Innovations organized by School of Medical Sciences, Adamas University in Collaboration with Central Ayurveda Research Institute (CARI), CCRAS, Ministry of Ayush, Government of India, 10th -11th February, 2022. (**Oral presentation**).

International:

1. **Dey, T. K.,** Ghosh, M, Ghosh, S., Koley, H., Mukherjee, A. and Dhar, P. “**Comparative Study of Intestinal Absorption of Fish Lipid Oil from Nano and Microemulsion formulation in Rats**” in “The International Conference on “Innovations in Oils, Fats & Allied products towards Sustainability & Lipid Expo- 2011” Organized by Oil Technologists’ Association of India, Southern Zone. Venue: Institute of Chemical Technology, Hyderabad, India. 18-19th November, 2011 (**Poster presentation**).
2. **Dey, T. K.,** Roychowdhury, A., Samanta, S., Mondal, R., Roy, A. and Dhar, P. “**Mitigative Effect of β -Sitosterol on Oxidative Damages of Vegetable Oil caused during Deep-frying**” in “International Conference and expo on Latest Developments in Vegetable Oil Processing” organized by Oil Technologists’ Association of India, Western Zone, Mumbai, India. 23-24th November, 2012 (**Poster presentation**).
3. **Dey, T. K.** and Dhar, P. “**Shelf life stability and GI-tract permeability of lipophilic nutraceutical loaded edible nanoemulsion**” in the 12th Asian Congress Of Nutrition, organized by: Japan Society of Nutrition and Food Science (JSNFS) and Science Council of Japan (SCJ), under the auspice of Federation of Asian Nutrition Societies, Yokohama, Japan, during May 14 to 18, 2015 (**Oral presentation**).
4. **Dey, T. K.,** Koley, H.; Dutta, S.; Dhar, P. and Mukhopadhyay, A. “**Effect of omega-3PUFA loaded nanoemulsion on intestinal epithelial barrier dysregulation and plausible resolution of inflammation during invasive infection by Salmonella typhimurium**” in 4th International Conference on Nutraceuticals and Chronic Diseases;, organized by IIT Guwahati, Society of Nutraceuticals and Chronic Diseases, Society for Translational Cancer Research, NIPER, Guwahati and DAICENTER, Japan, During September 23 to 25, 2019 (Oral presentation).

WORKSHOPS AND TRAINING:

- 2009** Processing and Analysis of Oil seeds and Oils. Organized by Oil Technologists' Association of India (Eastern Zone) in collaboration with Department of Chemical Technology, University of Calcutta (3 days)
- 2011** Advanced Cell Analysis Tools: Hi-content Bioimaging and Flow Cytometry with Cell sorter (BD FACS Aria III). Organized by Center for Research in Nanoscience and Nanotechnology, University of Calcutta and BD India Pvt. Ltd. (2 days).
- 2013** Chromatography-The Catapult for Unraveling the Facts of Nature, hands-on training programme for HPTLC, HPLC, GC and GCMS. Organized by Center of Advanced Study, Department of Botany, University of Calcutta. (2 days).
- 2015** Virtual Screening of QSAR and Drug design. Organized by The Biome. (3 days).
- 2018** Systematic Review and Meta Analysis In healthcare. Organized by: ICMR-National Institute of Cholera and Enteric Diseases, Kolkata (3 days).

SOCIETY MEMBERSHIPS:

- Life Member of Oil Technologists' Association of India (Membership ID: OTAI/LM/EZ/109).
- Life Member of Nutrition Society of India (Membership ID: LM-2015-024).