

# Dr. ANIRBAN DEEP BOSE

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**Date of Birth:** 7<sup>th</sup> of August 1979

**Age:** 43

**Sex:** Male

**Nationality:** Indian **Languages known:** English, Hindi, Bengali

**Permanent Address:** C/O. Bulu Bose.

P.O. Dhalua, Kolkata-700152, West Bengal, India



## Experience

16/07/2002 to till now

1. **Head R& D,QA** at TAAB Biostudy services,Kolkata-700032, from 30/10/2022 to till date
2. **Professor** at Yuva Institute Of Pharmacy In Front Of Bees Bhuji Mata Mandir Bajrangghar Guna, from 2021-12-01 to 28/10/2022
3. **Professor** at R S Roy College Of Pharmacy Sido Kanhu Public Charitable Trust Patharbagan Saddipur Ranewar Dumka, from 01/01/2019 to 30/11/2021
4. **Asst. Prof** at Acharya and BM Reddy college of Pharmacy, Bangalore from 12/12/2013 to 31/03/2018
5. **Post Doctorate fellow** at University Technology Mara, Malaysia, from 27/10/2011 to 23/10/2013
6. **Asst. Prof** at NRI Institute of Pharmaceutical Sciences, Bhopal, India from 02/03/2010 to 18/10/2011
7. **Senior Research Scientist** at Bioequivalence studycenter, Kolkata, Jadavpur University from 01/07/2006 to 26/02/2010
8. **Production Chemist** at BHP(1981) PVT LTD, Kolkata from 16/07/2002 to 17/07/2004

## Highlights

- Management skill
- Research and development
- Business development
- Effective marketing
- Organisational capacity
- Operability and commitment
- Ability to motivate staff and maintain good relations
- Resistance to stress
- Good manners

## Education

B. Pharm from Jadavpur University  
M. Pharm (Pharmaceutics) from Jadavpur University  
PhD in pharmacy from Jadavpur University (2010)

**PhD topic: Development of sustained release fixed dose combination drugs and its *invitro-  
invivo* correlation.**

## Research Competency

- Behavioral research studies on zebra fish
- Formulation development of tablets, capsules.
- Formulation development of oral controlled and immediate release dosage forms for US generic market (ANDA)
- process improvement and scale - up trials
- Evaluation of critical process parameters & formulation variables by various optimization techniques
- Documentation of research data viz. preparation of Batch Manufacturing Records, Product Development Reports, Batch Summary Reports etc.
- Preparation and execution of Process Evaluation protocol, Validation protocol and other relevant documents for execution of validation batches.
- Preparation of SOP and calibration protocols for equipments used in Analysis and formulation development.
- In Vitro In Vivo Correlation (IVIVC)

### Awards & Honours

1. Obtained the *Senior Research Fellowship (SRF)* for carrying out Ph.D. work from the Indian Council of Medical Research, Govt. of India.
2. Qualified Graduate Aptitude Test in Engineering (GATE) exam 2004 with 98.97 percentile.
3. Awarded postdoctoral fellowship in 2011 by UiTM, Malaysia

### Organizing Committee Experience

1. Acted as a member of the Working Committee of the National Seminar on “*Clinical Research – Practice & Prospects*” held from 30<sup>th</sup> Sept to 1<sup>st</sup> Oct. 2005 at Dept. of Pharmaceutical Technology, Jadavpur University, Kolkata.
2. Acted as a core member Working Committee of the “Two-week certificate course on biopharmaceutical analysis under the purview of bioequivalence study, toxicity study and clinical trials”
3. Acted as a Key member of the Working Committee of the PHARMATECH 2012, International Conference, KLCC, Kuala Lumpur, 2012

### Bioanalytical activities

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- Bioanalytical method development of drugs & pharmaceuticals by LC-MS/MS and HPLC methods.
- Validation of bioanalytical methods as per USFDA Guidelines.
- Preparation of Protocol for BE study and coordination for study initiation & completion.
- Analysis of Pharmacokinetic study samples.
- Preparation of bioanalytical validation study report
- Performing stability studies of the dosage formulations as per protocol.
- Day to day monitoring and maintenance of GLP in laboratory
- Bioavailability and Bioequivalence studies.
- Statistical analysis & interpretation

### Instrument Handling Capabilities

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- ❖ Liquid chromatography mass spectrometry – API 2000 LC-MS/MS, Applied Biosystems.
- ❖ High performance liquid chromatography – Knauer, Shimadzu, Jasco systems.
- ❖ Particle size analyzer – Malvern Mastersizer 2000
- ❖ Double beam UV – Visible spectrophotometer – Chemito Technologies Ltd.
- ❖ Automated Dissolution Tester USP XXIII – Electrolab & other minor equipments

### Software Knowledge

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Win Nonlin version 4.1 – Pharmacokinetic evaluation Design Expert 7.1 – Design of Experiments and Optimization Statistica – Artificial neural network & modeling Analyst version 1.4.1 – API 2000 LC-MS/MS

### Research Interests

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- Formulation development studies
- Liquid Chromatography Mass spectrometry, HPLC techniques
- Analysis of samples in biological matrix
- Pharmacokinetic & Pharmacodynamic studies and Toxicity studies. □ In Vitro In Vivo Correlation (IVIVC)
- Novel analytical techniques  
Novel drug delivery systems

## Chapters / Books

1. Authored a chapter on ***“Repeated Dose Subchronic Oral Toxicity study of Aceclofenac Sodium in Experimental Rats”*** in the book entitled Clinical Research - Practice & Prospects. (CBS Publishers, New Delhi, India).
2. Bose A, **Wong T.W.** Nanotechnology enabled drug delivery for cancer therapy. In Nanotechnology Application for Tissue Engineering, S Thomas, Y Grohens, N Ninan (Eds), Elsevier (In Press)
3. Emerging trend of nanotechnology in Pharmacy.  
<http://www.pharmainfo.net/>

## Workshops / Conferences attended

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1. Participated in the 5<sup>th</sup> National Symposium on ***“Globalization and its impact on education”*** organized by Association of DAAD Fellows and Invitees on 5<sup>th</sup> April 2007 at CGCRI, Kolkata.
2. Attended the seminar on ***“Theory and applications of LC-MS/MS”*** *conducted* by Lab India Instruments Pvt. Ltd., at Dept. of Pharmaceutical Technology, Jadavpur University on 24<sup>th</sup> of April 2007 at Kolkata.
3. Participated in the 56<sup>th</sup>, 57<sup>th</sup>, 58<sup>th</sup>, 59<sup>th</sup> ***Indian Pharmaceutical Congress*** in the year of 2004,2005,2006,2007.
4. Participated in the National Seminar on ***“Clinical Research – Practice & Prospects”*** held from 30<sup>th</sup> Sept to 1<sup>st</sup> Oct. 2005 at Dept. of Pharmaceutical Technology, Jadavpur University, Kolkata.
5. Participated in the International Workshop on ***“Clinical research and clinical data management conducted by the institution of computational biology in association with Dbt New Delhi from 31<sup>st</sup> January to 2<sup>nd</sup> February at Presidency college, Kolkata”***.
6. Participated in the 37<sup>th</sup> Annual conference of ***Indian Pharmacological Society*** on Jan 13<sup>th</sup> 2005 at IGPME&R, Kolkata

## LIST OF SELECTED PUBLICATION

- Kumari N, Roy P, Roy S, Parmar PK, Chakraborty S, Das S, Pandey N, **Bose A**, Bansal AK, Ghosh A. Investigating the Role of the Reduced Solubility of the Pirfenidone–Fumaric Acid Cocrystal in Sustaining the Release Rate from Its Tablet Dosage Form by Conducting Comparative Bioavailability Study in Healthy Human Volunteers. *Molecular Pharmaceutics*. 2022 Mar 15;19(5):1557-72. impact factor. 5.364
- Roy A, Guha Ray P, **Bose A**, Dhara S, Pal S. pH-Responsive Copolymeric Network Gel Using Methacrylated  $\beta$ -Cyclodextrin for Controlled Codelivery of Hydrophilic and Hydrophobic Drugs. *ACS Applied Bio Materials*. 2022 Jun 23;5(7):3530-43. impact factor. 3.25
- Razali S, **Bose A**, Benetti C, Chong PW, Miller M, Colombo P, Colombo G, Wong TW. Advanced Dome cellulose/alginate/chitosan composite matrix design with gastric and intestinal co-targeting capacities. *International Journal of Pharmaceutics*. 2022 Nov 25; 628:122226. impact factor. 6.51
- SharipahRazali, **Anirbandeep Bose**, Pee Win Chong, Camillo Benetti, Paolo Colombo, Tin Wui Wong Design of multi-particulate “Dome matrix” with sustained-release melatonin and delayed- release caffeine for jet lag treatment. **International Journal of Pharmaceutics**. Volume 587, 25 September 2020, 119618. **Impact factor.4.845**.
- Roy A.; Maity P. P.; **Bose A**.; Dhara S.; Pal S. $\beta$ -Cyclodextrin Based pH and Thermo- Responsive Biopolymeric Hydrogel as a Dual Drug Carrier. *Mater. Chem. Front.***2019, 3, 385–393. Impact factor.5-7.5**.
- Siti Hajar, Md Ramli, Tin Wui Wong, IdanawatiNaharudin, **Anirbandeep Bose**. Coatless alginate pellets as sustained-release drug carrier for inflammatory bowel disease treatment. **Carbohydrate Polymers**. Volume 152, 5 November 2016, Pages 370-381
- A critical insight of modern herbal drugs therapy under the purview of toxicity and authenticity. MohiIqbal Mohammed Abdul, Sabahuddin Siddique, Syed Ata Ur Rahman, Durdana Lateef, Shubhasis Dan, Pallab Mandal and Anirbandeep Bose. **Biomedical Research (2018) Volume 29, Issue 16**
- Wong TW, **Bose A**. Glyoxalated chitosan-5-fluorouracil/chitosan-folate as colon-specific and colon cancer cell-targeted device. *Abstracts / Journal of Controlled Release* 213 (2015) e8–e152. Doi. doi:10.1016/j.jconrel.2015.05.176. **Impact factor.7.705**.
- **Bose A**, Harjoh N, Pal TK, Dan S, Wong TW. Drug release, preclinical and clinical pharmacokinetics relationships of alginate pellets prepared by melt technology. **Expert Opin. Drug Deliv.** (2015) doi 10.1517/17425247.2015. **Impact factor.4.84**.
- Bose A, Elyagoby A, Wong TW. Oral 5-fluorouracil colon-specific delivery through *in vivo* pellet coating for colon cancer and aberrant crypt foci treatment. **International J Pharmaceutics**. 2014 Jul 1; 468:1-2. **Impact factor.3.65**
- Kaity S, Isaac J, Mahesh Kumar P, **Bose A**, Wong TW, Ghosh A. Microwave assisted synthesis of acrylamide grafted locust bean gum and its application in drug delivery. **Carbohydrate Polymers**. 2013 Oct 1; 98: 1083-1094. **Impact factor.4.074**
- **Bose A**, **Wong**, T.W. **Convolution** and validation of in vitro-in vivo correlation of water insoluble sustained release drug (domperidone) by first order one compartmental fitting equation. **European Journal of Drug Metabolism and Pharmacokinetics**. 2012 DOI: 10.1007/s13318-012-0116-7 **Impact factor.1.567**
- **Bose A**, **Wong** T.W, **Singh** N. **Formulation** development and optimization of sustained release matrix tablet of Itopride HCl by response surface methodology and its evaluation of release kinetics. **Saudi Pharmaceutical Journal**. 2012 Apr 21; 2: 201-213. **Impact factor.1.283**
- Siddique S, **Bose A**, Khanam J. Modulation of drug (metoprolol succinate) release by inclusion of hydrophobic polymer in hydrophilic matrix. **Drug Development and Industrial Pharmacy**. 2011, 37; 9: 1016-1025. **Impact factor.2.101**
- Bhaumik U, **Bose A**, Chatterjee B, Ghosh A, Sengupta P, Agarwal S, Das A, Pal T.K. Stability- indicating HPLC method for the determination of oxcarbazepine in pharmaceutical formulation. **Asian Journal of Chemistry**. 2010, 22; 3: 2051-2057. **Impact factor. 0.355**.
- Roy B, Das A, Bhaumik U, Sarkar A.K, **Bose A**, Mukharjee J, Chakrabarty U.S, Pal T.K. Determination of gemifloxacin in different tissues of rat after oral dosing of gemifloxacin mesylate by LC-MS/MS and its application in drug tissue distribution study. **Journal of Pharmaceutical and Biomedical Analysis**. 2010, 52;2: 216-226. **Impact factor. 2.83**
- Sahoo B.K, Das A, Agarwal S, Bhaumik U, **Bose A**, Ghosh D, Roy B, Pal T.K. Pharmacokinetics and bioequivalence study of a fixed dose combination of rabeprazole and itopride in healthy Indian volunteers. *Arzneimittel-Forschung/Drug Research*. 2009, 59 ;9: 451-454. **Impact factor.0.701**.
- **Bose A**, **Darbar** S, **Chatterjee** N, **Roy** B, **Chattaraj** T.K, **Pal** T.K. **Antioxidant** and hepatoprotective activity of ascorbic acid against diclofenac induced hepatotoxicity in rats. **Asian Journal of Chemistry**. 2009, 21;1: 725-736. **Impact factor. 0.355**.
- Das A, Bhaumik U, Chakrabarty U.S, Sarkar A.K, Ghosh A, **Bose A**, Chatterjee B, Pal T.K. Comparative bioavailability study of amisulpride tablets in healthy Indian volunteers. *Arzneimittel- Forschung/Drug Research*. 2009, 59; 4: 166-170. **Impact factor.0.701**.
- **Bose A**, Bhaumik U, **Ghosh** A, **Chatterjee** B, **Chakrabarty** U.S, **Sarkar** A.K, **Pal** T.K. LC-MS simultaneous determination of itopride hydrochloride and domperidone in human plasma. *Chromatographia*. 2009, 69;11-12: 1233-1241. **Impact factor. 1.411**
- Sengupta P, Bhaumik U, Ghosh A, Sarkar A.K, Chatterjee B, **Bose A**, Pal T.K. LC-MS-MS development and validation for simultaneous quantitation of metformin, glimepiride and pioglitazone in human plasma and its application to a bioequivalence study. *Chromatographia*. 2009, 69;11-12: 1243-1250. **Impact factor. 1.411**
- Chatterjee N, **Bose A**, **Darbar** S, **Roy** B, **Chattaraj** T.K, **Pal** T.K. Clinical evaluation of occupational lead exposure in adults of road side market places of South Kolkata, India. **Asian Journal of Chemistry**. 2009, 21;6: 4564-4570. **Impact factor. 0.355**.

- Chakrabarty U.S, Das A, Bhaumik U, Chatterjee B, Ghosh A, **Bose A**, Sengupta P, Pal T.K. Rapid and sensitive LC method for the analysis of gemifloxacin in human plasma. **Chromatographia**. 2009, 69;9-10: 853-858. **Impact factor. 1.411**
- Darbar S, **Bose A**, Chatterjee N, Roy B, Chattaraj T.K, Pal T.K. Hepatoprotective and antioxidant effect of vitamin C and E against some common non-steroidal antiinflammatory drugs induced hepatic damage in rats. **Asian Journal of Chemistry**, 2009, 21;2: 1273-1281. **Impact factor. 0.355.**
- Bhaumik U, Ghosh A, Sarkar A.K, **Bose A**, Selvan P.S, Sengupta P, Chakraborty U.S, Pal T.K. Determination of ranolazine in human plasma by LC-MS/MS and its application in bioequivalence study. **Journal of Pharmaceutical and Biomedical Analysis**. 2008. 48; 5: 1404-1410. **Impact factor. 2.83**
- Bhaumik U, Ghosh A, Chakrabarty U.S, Mandal U, **Bose A**, Das A, Ray K.K, Pal T.K. Evaluation of the bioequivalence of two faropenem formulations in healthy indian subjects. *Arzneimittel- Forschung/Drug Research*. 2008, 58;12: 681-685. **Impact factor.0.701.**
- Bhaumik U, Ghosh A, Mandal U, Chatterjee B, Sarkar A.K, **Bose A**, Ray K.K, Pal T.K. Determination of drospirenone in human plasma by LC-tandem-MS. **Chromatographia**. 2008, 68;9- 10: 713-720. **Impact factor. 1.411**
- Ghosh A, Bhaumik U.K, **Bose A**, Mandal U, Gowda V, Chatterjee B, Chakrabarty U.S, Pal T.K. Extended release dosage form of glipizide: Development and validation of a level a in vitro-in vivo correlation. **Biological and Pharmaceutical Bulletin**. 2008, 31; 10: 1946-1951. **Impact factor. 1.828**
- Sarkar A.K, Ghosh D, Das A, Selvan P.S, Gowda K.V, Mandal U, **Bose A**, Pal T.K. Simultaneous determination of metoprolol succinate and amlodipine besylate in human plasma by liquid chromatography-tandem mass spectrometry method and its application in bioequivalence study. **Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences**. 2008, 873; 1: 77-85. **impact factor 2.729**
- Darbar S, **Bose A**, Chatterjee N, Roy B, Mandal U, Veeran G.K, Ghosh A, Pal T.K. Effect of ascorbic acid on aceclofenac induced gastric mucosal damage: Role of antioxidant enzymes and lipid profile. **Asian Journal of Chemistry**. 2008, 20;7: 5567-5572. **Impact factor. 0.355.**
- Mandal U, Gowda V, Ghosh A, **Bose A**, Bhaumik U, Chatterjee B, Pal T.K. Optimization of metformin HCl 500 mg sustained release matrix tablets using Artificial Neural Network (ANN) based on Multilayer Perceptrons (MLP) model. **Chemical and Pharmaceutical Bulletin**. 2008, 56;2: 150-155. **Impact factor. 1.375.**
- Chakrabarty U.S, Mandal U, Bhaumik U, Chatterjee B, Ghosh A, Bose A, Pal T.K. Bioequivalence study of two capsule formulations containing diacerein 50 mg in healthy human subjects. **Arzneimittel-Forschung/Drug Research**. 2008, 58;8: 405-409. **Impact factor.0.701.**
- Mandal U, Sarkar A.K, Gowda K.V, Agarwal S, **Bose A**, Bhaumik U, Ghosh D, Pal T.K. Determination of pregabalin in human plasma using LC-MS-MS. **Chromatographia**. 2008, 67; 3-4: 237-243. **Impact factor. 1.411**
- Agarwal S, Gowda K.V, Mandal U, Ghosh D, **Bose A**, Sarkar A.K, Chattaraj T.K, Pal T.K. Bioequivalence study of a sustained release fixed dose combination capsule containing esomeprazole and domperidone in healthy subjects. **Arzneimittel-Forschung/Drug Research**. 2007, 57;5: 274-277. **Impact factor.0.701.**
- Gowda K.V, Rajan D.S, Mandal U, Solomon W.D.S, Selvan P.S, **Bose A**, Sarkar A.K, Pal T.K. Bioequivalence study of fixed dose combination of atorvastatin and ezetimibe tablet in healthy volunteers by LC-MS/MS method. **Asian Journal of Chemistry**. 2007, 19; 2: 1293-1300. **Impact factor. 0.355.**
- Agarwal S, Gowda K.V, Mandal U, Ghosh D, **Bose A**, Sarkar A.K, Pal T.K., Chattaraj, T.K. Analysis of pyridostigmine bromide in human plasma and its application in bioequivalence studies. **Journal of Liquid Chromatography and Related Technologies**. 2007, 30;17: 2605-2615. **Impact factor.0.638.**
- Gowda K.V, Rajan D.S, Mandal U, Selvan P.S, Solomon W.D.S, **Bose A**, Sarkar A.K, Chattaraj T.K. Evaluation of bioequivalence of two formulations containing 1008 milligrams of aceclofenac. **Drug Development and Industrial Pharmacy**. 2006, 32;10: 1219-1225. **Impact factor.2.101**
- Rajan D.S, Gowda K.V, Mandal U, Ganesan M, **Bose A**, Sarkar A.K, Pal T.K. Development of RP- HPLC for analysis of human insulin. **Indian Journal of Pharmaceutical Sciences**. 2006, 68;5: 662- 665. **Impact factor. 0.479.**

- Mandal U, Rajan D.S, **Bose A**, Gowda K.V, Ghosh A, Pal T.K. Development and validation of an HPLC method for analysis of etoricoxib in human plasma. Indian Journal of Pharmaceutical Sciences.2006,68;4: 485-489. **Indian Journal of Pharmaceutical Sciences. Impact factor. 0.479.**
- Senthil R.D, Mandal U.K, Veeran G.K, **Bose A**, Ganesan M, Pal T.K. Oral delivery system of insulin microspheres: effect on relative hypoglycemia of diabetic albino rats. **Bollettino chimicofarmaceutico.** 2004, 143;8: 315-318

### Referees

S. No.	Name	Contact details	
1	<b>Dr. Wong Tin Wui</b>	<b>Associate Professor</b> Faculty of Pharmacy Director of Non-Destructive Biomedical and Pharmaceutical Research Centre University Technology MARA Malaysia wongtinwui@salam.uitm.edu.my/ wongtinwui@yahoo.com	Post-doctoral Supervisor
2	<b>Dr. Animesh Ghosh</b>	<b>Associate Professor</b> Dept. of Pharmaceutical Technology, BIT Mesra. India. Email: animju1607@gmail.com	Co-researcher

**I declare that the information given above is true to the best of my knowledge and belief.**

**Date:**

**Place: Kolkata**

*Anirban Deep Bose*

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