

Curriculum Vitae



1. Name of the faculty: **NILKANTA CHAKRABARTI**
2. University: **UNIVERSITY OF CALCUTTA**
3. Designation: **PROFESSOR**, Department of Physiology, University of Calcutta.
4. Other Assignments:
 - Head of the Department**, Department of Physiology, University of Calcutta (w.e.f. 01.12.2019)
 - Director (additional charge)**, S. N. Pradhan Centre for Neurosciences, University of Calcutta (01.08.2017– 24.03.2019)
 - Principal Investigator**, Centre with Potential for Excellence in Particular Area (CPEPA)-UGC centre for “*Electrophysiology & Neuroimaging studies including Mathematical Modelling*”, University of Calcutta. (2012 - 2019)
 - Member of Academic Committee**, Department of Sports Science, University of Calcutta (Continuing with new curriculum started on 2018)
5. Specialization : **Physiology**
(Brain & Cognitive Physiology; Neuro-endocrinology; Reproductive Physiology)
6. **Contact information:**
 - Office:** Department of Physiology, University of Calcutta, 92 APC Road, Kolkata - 700 009, West Bengal, India
 - Residence:** Flat- E04/203, “Prantik”, Peerless Housing Complex, Sonarpur Station Road, P.O.- Sonarpur, Kolkata – 700 150, West Bengal, India.
 - Email:** ncphys@caluniv.ac.in; ncphysiolcu@gmail.com; nilchakra@hotmail.com
 - Phone:** +9432159250
7. **Academic qualifications: Degrees (graduation onward)**

B.Sc.	1989	Physiology	Vidyasagar University (Midnapore College)
M.Sc.	1991	Physiology (Biochemistry Specialization)	University of Calcutta
M.Phil.	1992	Environmental Science	University of Calcutta
Ph.D.	2001	Physiology (Neuroendocrinology)	University of Calcutta (Bose Institute, Kolkata)
- Postdoctoral Research (2005 - 2007): USA,**
Department of Physiology, Morehouse School of Medicine, Atlanta, Georgia
[Research topic: Neuroendocrine vs. Peripheral (local) peptides (GnRH)]

8. Positions held/ holding:

<u>Position</u>	<u>Period</u>	<u>Place of Work</u>
Lecturer & Senior Lecturer	23.04.1997 to 16.06.2008	Rammohan College, Kolkata (under University of Calcutta)
Reader	17.06.2008 to 16.06.2011	University of Calcutta
Associate Professor	17.06.2011 to 31.03.2016	University of Calcutta
Professor	01.04.2016 - continuing	University of Calcutta

9. Research interests:

Research Topic:

- Ageing and Neurodegenerative Diseases (Parkinson; Alzheimer, Epilepsy):
Molecular and Cellular studies
- Brain imaging and Integrative Physiology of cellular and molecular Cognition.
- Neuro-Computational approach of Cognitive Physiology

Research experience & Technical specialization:

Animal (rodent) and Human model: Biochemical assays, Molecular Biological techniques (including WB, IHC, PCR, FACS), Imaging (microscopy, MRI, EEG, f-NIRS), Behavioural & Cognitive studies.

10. Research guidance:

Number of researchers awarded M.Phil/ Ph.D degrees : 03 Ph.D.

Number of researchers submitted M.Phil/PhD Thesis: Nil

Number of researchers pursuing M.Phil/ Ph.D : 06 Ph.D.

10. Research Projects:

Completed projects:

DST-CSI (Govt. of India); Period: Jul. 2010 to Jan. 2014 (3 years 6months); Grant / Amount: 27.48 Lakh : Title : Thyroid hormone and cognition: *in vitro* study in quest of molecular events induced by T3 in synaptosomes isolated from adult rat brain cerebral cortex. (PI) [Co-PI : Prof. Arun Ray, Bose Institute, Kolkata]

DBT (Govt. of India); Period Jul. 2013 for 3 years ; 61.31 Lakh : Mechanism of neuroinflammation in Parkinson's Diseases : Putative role of estrogen and NFκB. (Co-PI) [PI : Dr. Arindam Bhattacharyay, Dept of Zoology, University of Calcutta]

UGC-CPEPA (Under University of Calcutta) ; Period Feb. 2012 for 5 years, 615 Lakh shared by 9 PIs : Brain structure and activation pattern correlates of cognition: Identification by EEG and brain MR-imaging of healthy young adults. (PI)

UGC Major Research Project (Govt. of India); Period Jul. 2015 For 3 years ; 11.60 Lakh : Evaluation of Molecular Marker(s) and Therapy by Multi-targeted Drugs for Parkinson's Diseases in Paraquat-induced mice model. (PI) [Co-PI : Dr. Arindam Bhattacharyay, Dept of Zoology, University of Calcutta]

Current projects:

UPE, (Under University of Calcutta) Title of the Project: "Finding Peripheral Biomarkers and related Biosensors for Alzheimer's and Parkinson's Disease. 2016 - continued

12. Research Collaboration

In house

1. Department of Food & Nutrition, University of Calcutta.
2. Department of Zoology, University of Calcutta.

Other Institutes

1. Bangur Institute of Neurosciences (BIN), IPGME&R-SSKM Hospital, Govt. of West Bengal, India
2. Department of Radiology, IPGME&R-SSKM Hospital, (MRI section) Govt. of WB, Kolkata in association with NBRC (National Brain Research Center), Gurgoan under the NKN (National Knowledge Network) program, Govt. of India [Human brain MR-imaging].
3. Division of Molecular Medicine, Bose Institute, Kolkata, India
4. Centre for Bioinformatics, Pondicherry University, India

13. Research Publications: 20 in International peer reviewed journal

1. **Chakrabarti N**, Ray AK. (2000): Rise of intrasynaptosomal Ca²⁺ level and activation of nitric oxide synthase in adult rat cerebral cortex pretreated with 3-5-3'-L-triiodothyronine. **Neuropsychopharmacology** (Elsevier Science Inc.; Nature Publishing Group since 2003). Jan; 22(1):36-41. DOI: 10.1016/S0893-133X(99)00073-1. [**Impact Factor: 5.09**]
2. **Nilkanta Chakrabarti**, Arun K. Ray. (2002): Stimulation of Ca²⁺/Mg²⁺-ATPase activity in adult rat cerebrocortical synaptosomes by 3-5-3'-L-triiodothyronine. **Neuroscience Research Communications**. [John Wiley & Backwell Sons, Inc.], Dec 27:31(3):193-201. [**Impact Factor: 0.98**]
3. **Chakrabarti N** and Ray AK. (2003): Stimulation of AChE activity in relation to changes in electronmicroscopic structure of adult rat cerebrocortical synaptosomes pretreated with 3-5-3'-triiodo-L-thyronine. **NeuroReport**. [Lippincott Williams &Wilkins Publishers (Walters Kluwer)], Aug., 2003, 14(11): 1497-501. [**Impact Factor: 2.57**]
4. Anamika Sengupta, Tabari bekar, **Nilkanta Chakrabarti**, Josep Witteker, Rajagopala Sridaran. (2007): Localization of immunoreactive Gonadotropin relaeasing hormone (GnRH) and relative expression of its mRNA in the oviduct during pregnancy in rats. **Journal of Histochemistry and Cytochemistry**. [**Impact Factor: 2.38**]
5. Sengupta A, **Chakrabarti N**, Sridaran R. (2008): Presence of immunoreactive gonadotropin releasing hormone (GnRH) and its receptor (GnRHR) in rat ovary during pregnancy. **Molecular Reproduction & Development**. [WILEY-LISS, INC. – Blackwell], Jun., 75(6):1031-44. [**Impact Factor: 2.39**]
6. **Chakrabarti N**, Subbarao T, Sengupta A, Stouffer RL, Sridaran R. (2008): Expression of mRNA and proteins for GnRH I and II and their receptors in primate corpus luteum during menstrual cycle. **Molecular Reproduction & Development**. [WILEY-LISS, INC. – Blackwell], Oct., 75(10):1567-1577. [**Impact Factor: 2.39**]
7. Mitra S, **Chakrabarti N**, Bhattacharyya A. (2011) : Differential regional expression patterns of alpha-synuclein, TNF- α , and IL-1 α ; and variable status of dopaminergic neurotoxicity in mouse brain after Paraquat treatment. **J Neuroinflammation**, (BioMed Central) Nov 24; 8:163-184. [**impact factor: 5.79**]
8. Mitra S, **Chakrabarti N**, Dutta SS, Ray S, Bhattacharya P, Sinha P, Bhattacharyya A. (2015) :Gender-specific brain regional variation of neurons, endogenous estrogen, neuroinflammation and glial cells during rotenone-inducedmouse model of Parkinson's disease. **Neuroscience** (Elsevier). Apr 30; 292:46-70. [**impact factor:3.357**]
9. Datta S, Sarkar S, Chakraborty S, Mulpuru SK, Basu S, Tiwary BK, **Chakrabarti N**, Roy PK. (2015) MRI characterization of temporal lobe epilepsy using rapidly measurable spatial

- indices with hemisphere asymmetries and gender features. **Neuroradiology** (Springer) Sep;57(9):873-86. **[Impact factor: 2.485]**
10. Mitra S, Ghosh N, Sinha P, **Chakrabarti N**, Bhattacharyya A. (2015) : Alteration in Nuclear Factor-KappaB Pathway and Functionality of Estrogen via Receptors Promote Neuroinflammation in Frontal Cortex after 1-Methyl-4-Phenyl-1,2,3,6 Tetrahydropyridine Treatment. **Scientific Reports**. (Nature Group of Publications) Sep 14;5:13949. **[Impact factor: 5.578]**
 11. Soham Mitra, Nabanita Ghosh , Priyobrata Sinha , **Nilkanta Chakrabarti** , Arindam Bhattacharyya (2016) : Alteration of nuclear factor-kappaB pathway promote neuroinflammation depending on the functions of estrogen receptors in substantia nigra after 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine treatment. **Neuroscience Letters** (Elsevier) Jan 28; 616: 86–92. **[Impact factor: 2.03]**
 12. Datta S, Samanta D, Sinha P, **Chakrabarti N**. (2016) : Gender features and estrous cycle variations of nocturnal behavior of mice after a single exposure to light at night. **Physiol Behav** (Elsevier). May 27;164(Pt A):113-122. **[Impact factor: 2.97]**
 13. Sengupta A, Manna K, Datta S, Das U, Biswas S, **Chakrabarti N** & Dey S, (2017) Herbicide exposure induces apoptosis, inflammation, immune modulation and suppression of cell survival mechanism in murine model, **RSC Advances** , 7, 13957-13970. **[Impact factor: 3.29]**
 14. **Chakrabarti N**, Datta S, Samanta D, Chaudhuri AG & Ray AK, (2017) Alterations in cerebrocortical synaptosomal acetylcholinesterase activity and histomorphology of thyroid gland of adult rat during different thyroidal conditions, **Indian Journal of Experimental Biology**, 55, 201-208. **[Impact factor: 1.13]**
 15. Ghosh N, Mitra S, Sinha P, **Chakrabarti N**, Bhattacharyya A. (2018) TNFR2 mediated TNF- α signaling and NF- κ B activation in hippocampus of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-treated mice. **Neurosci Res**. (Elsevier) Feb 23. pii: S0168-0102(17)306. **[Impact factor: 2.27]**
 16. Datta S, **Chakrabarti N**. (2018) Age related rise in lactate and its correlation with lactate dehydrogenase (LDH) status in postmitochondrial fractions isolated from different regions of brain in mice. **Neurochem Int**. (Elsevier) Apr 18;118:23-33. **[Impact factor: 3.026]**
 17. Datta S, Samanta D, Tiwary B, Chaudhuri AG, **Chakrabarti N**. (2019): Sex and estrous cycle dependent changes in locomotor activity, anxiety and memory performance in ged mice after exposure of light at night. **Behavioral Brain Research**. (Elsevier Science Bv), Jun 3, 2019, 365:198-209. . **[Impact factor: 2.77]**
 18. Sinha P, **Chakrabarti N**, Ghosh N, Mitra S, Dalui S, Bhattacharyya A. (2020) Alterations of thyroidal status in brain regions and hypothalamo-pituitary-blood-thyroid-axis associated with dopaminergic depletion in substantia nigra and ROS formation in different brain regions after MPTP treatment in adult male mice. **Brain Res Bull.**; 156:131–140. doi:10.1016/j.brainresbull.2019.12.013 **[Impact factor: 3.1]**
 19. Hazra S, Chaudhuri AG, Tiwary BK, **Chakrabarti N**. (2020): Matrix metalloproteinase 9 as a host protein target of chloroquine and melatonin for immunoregulation in COVID-19: A network-based meta-analysis. **Life Sci**. Sep 15;257:118096. doi: 10.1016/j.lfs.2020.118096. **[Impact factor: 3.53]**
 20. M. Seth, R. Biswas, S. Ganguly, **N. Chakrabarti**, and A.G. Chaudhuri (2020): Leptin and obesity. (Review article) **Physiology International**, <https://doi.org/10.1556/2060.2020.00038> (Online Publication Date: 22 Dec., 2020) **[Impact Factor: 1.41]**

Other Publications

Nilkanta Chakrabarti (2016): Trends in research on paraquat-induced parkinsonism. Indian Journal of Physiology and Allied Sciences. (Physiological Society of India), 69(4):103-115. ISSN: 0367-8350

Nabanita Ghosh, Soham Mitra, Priyobrata Sinha, **Nilkanta Chakrabarti**, Arindam Bhattacharyya. (2020): Study of Microglial and Astroglial Alterations Induced by Acute 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine Treatment in Mouse Brain. **Proceedings of the Zoological Society** (Springer India; Zoological Society of India). **73**, 32–39. <https://doi.org/10.1007/s12595-019-00296-4> [**UGC enlisted: 20396**]

14. Membership of Learned Societies:

- (a) Physiological Society of India
- (b) Indian Academy of Neurosciences
- (c) Zoological Society of India
- (d) Indian Science Congress Association

15. Invited lectures delivered:

1. National and International Conferences held at India : 27 (last 9 years)
2. Orientation Program, Refresher Courses & Short term courses for University and College teachers, Organized by Academic Staff College, University of Calcutta.

16. Awards:

- a. Silver medal (1st Class 2nd Rank) in B.Sc. examination (Graduate level – 1989) : Conducted by Vidyasagar University, West Bengal, India.
- b. Graduate Aptitude Test in Engineering (GATE - 1992, Fellowship award, qualified) in Basic Sciences: Conducted by Indian Institute of Technology (IIT) on behalf of Department of Education, Ministry of Human Resource Development, Government of India.
- c. State Level Eligibility Test for Lectureship (SLET – 1994, qualified) in Life Sciences : Conducted by The West Bengal College Service Commission (State Agency), India.
- d. Junior Research Fellowship (JRF - 13.12.1993 to 13.12.1995) : Granted by Department of Science & Technology (DST), Ministry of Science & Technology, Government of India.
- e. Senior Research Fellowship (SRF - 13.12.1995 to 22.04.1997) : Granted by Department of Science & Technology (DST), Ministry of Science & Technology, Government of India.
- f. Postdoctoral Research Fellow (PDF - 15.07.2005 to 30.06.2007) : NIH (USA) grant through Department of Physiology, Morehouse School of Medicine, Atlanta, Georgia, USA.
- g. A. K. Mukherjee Memorial Oration award (2014) by Physiological Society of India (PSI)

17. Other notable activities:

Reviewed Research Articles (last 9 years)

1. Integrative Biology (Published by Royal Society of Chemistry); Impact Factor: 3.37
2. Journal of Thyroid Research (Published by Hindawi Publishing Corporation); Impact Factor: 2.5
3. Hormone and Metabolic Research (Published by Thieme); Impact Factor: 2.03
4. Indian Journal of Physiology and Allied Sciences (Physiological Society of India), [ISSN:

03678350]

Served as Coordinator

1. Orientation Program for University and College teachers, Organized by Academic Staff College, University of Calcutta, Held on : Jun. 11 – Jul. 09, 2011
2. Short term course in Life Sciences (Computational Biology), Organized by Academic Staff College, University of Calcutta, Held on : Mar. 13 – 19, 2012
3. Refresher Course in Life Sciences for University and College teachers, Organized by Academic Staff College, University of Calcutta, Held on : Mar. 30 – Apr. 22, 2015
4. Coordinator of Special paper in M.Sc. Physiology curriculum under the University of Calcutta: “Environmental Physiology” (upto 2015), “Endocrinology & Reproductive Physiology” (2016). Presently “Neurophysiology” (2017 continued)

Student related co-curricular (Courses updating & Design of Curriculum etc.)

1. **CUIIPP (Calcutta University Industry Institute Partnership Program):** Act as an **Advisor of Ph.D. program in Institute of Neurosciences, Kolkata (INK)**, Sister Institute of the University of Calcutta including designing the Research Eligibility Test (RET) and its syllabus. Since 28.01.2016.
2. Act as Director & updated CBCS course of **M.Sc. in Neuroscience, University of Calcutta** in 2018.
3. Act as member of Academic Committee of Department of Sports Sciences & designed CBCS course of **M.Sc. program in Sports Physiology, Sports Nutrition and Sports Biochemistry**, University of Calcutta (Curriculum started on 2018).
4. **Study visit** (2011-continuing) to National Laboratory for partial fulfilment of M.Sc. curriculum of 4th Semester students of Physiology under University of Calcutta.

Members of Committees on Educational/Research Development

1. Institutional Animal Ethics Committee (IAEC), Department of Physiology, University of Calcutta; since 2011
2. Institutional Human Ethical Committee (IHAC), Central body of the University of Calcutta; since 2016.
3. Academic Committee of Department of Sports Sciences (M.Sc. program in Sports Physiology, Sports Nutrition and Sports Biochemistry), University of Calcutta (Curriculum started on 2018).
4. Member of the Governing Body of “City College of Commerce & Business Administration”, Kolkata, Since May 2018.

International Conference Organized (Feb., 2017, Grand Oberoi, Kolkata)

Topic: Neurodegenerative Diseases

Co-organizers: **INK** (Institute of Neurosciences Kolkata), a Sister Institute of University of Calcutta., and **Institute of Neurosciences, Newcastle Upon Tyne, UK**