PROFORMA - 2

UNIVERSITY OF CALCUTTA

Updating University Website

ACADEMIC DEPARTMENT

FACULTY ACADEMIC PROFILE/ CV

1. Full name of the faculty member: **SREYA CHATTOPADHYAY**

2. Designation: **ASSISTANT PROFESSOR**
   DEPARTMENT OF PHYSIOLOGY

3. Specialisation : **IMMUNOLOGY; CELL SIGNALLING AND CANCER BIOLOGY**

4. Passport size photograph :
   Please attach a digital passport size coloured photograph with the soft copy'

5. Contact information :
   Please provide contact address, email, phone number (optional), etc.

   UCSTA, 92 APC ROAD, KOLKATA 700 009;
   ROOM NO. 76, PALIT BUILDING
   KOLKATA 700 009;
   sreyasaha@gmail.com; scphys@caluniv.ac.in
   Ext: 319

6. Academic qualifications :
   Please mention here the degrees (graduation onward):

Sl. No.	Degrees obtained	University	Year of Passing	Class or Division
1.	B.Sc. (Physiology Hons.)	University of Calcutta	1995	I
2.	M.Sc. (Physiology)	University of Calcutta	1997	I
3.	PhD (From Bose Institute, Kolkata)	Jadavpur University	2004	-

7. Positions held/ holding:

Name of the Institution	Position Held	Name of the University/ Institute	Course Taught	No. of years
University of Calcutta 92 APC Road, Kolkata 700 009	Assistant Professor	University of Calcutta, Kolkata	**M.Sc. Human Physiology**	December 2008 till date and continuing

8. Research interests:

Please cite briefly the areas of research interests

a. Tumor Immunology

i. Exploration of the mechanisms of tumor-induced immune dysfunction
ii. Approach towards development of immunomodulatory therapy of cancer
iii. Amelioration of cancer-induced immunosuppression using food-derived phytochemicals

b. Inflammation:

i. Understanding the relationship and interplay between inflammation and diseases
ii. Approach towards modulating inflammation towards management of major diseases

c. Cancer Biology:

i. Development, characterization of selective anti-cancer drugs from natural sources. Assessment of the molecular basis of their mechanism of action
ii. Induction of tumor cell apoptosis and retardation of metastasis -Targeted alteration of signalling molecules to induce apoptosis in cancer cells
iii. Studies on signalling events of the inflammatory pathways and intersection with carcinogenesis
iv. Evaluation of the role of tumor derived products in modulating inflammation, cancer cell signalling and immunosuppression

d. Nano-biotechnology:

i. Designing Nano-delivery/Nano-encapsulation systems using
    1. Dietary anti-oxidants
    2. Purified compounds from dietary polyphenols

9. Research guidance:

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

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

SL. NO.	NAME OF THE CANDIDATE	DEPARTMENT	ROLE	STATUS
1.	Sudeshna Mukherjee Registration Code: 02210.15.05.2012	Physiology, CU	Supervisor	Degree awarded on 11.8.2016
2.	Sreetama Choudhury Registration Code: 00578.29.01.2014	Physiology, CU	Supervisor	Degree awarded on 17.03.2017

3.	Sayan Ghosh Registration Code: 02548.10.05.2013	Neuroscience, CU	Supervisor	Degree awarded on 17.08.2017
4.	Payal Gupta Registration Code: 05997.31.08.2015	Genetics, CU	Supervisor	Registered as on 31.08.2015
5.	Saurav Bhattacharya Registration Code: 06911.16.10.2015	CRNN, CU	Joint Supervisor	Thesis submitted as on 04 Oct.2018
6.	Zarqua Jamal Registration Code: 04308.20.06.2016	Zoology, CU	Joint Supervisor	Registered as on 20.Jun.2016 5000 words presented on 24th September 2019
7.	Deotima Sarkar Registration Code: 07026.29.09.2016	Physiology, CU	Joint Supervisor	Registered as on 29.Sep.2016
8.	DakshayaniMahapatra Registration Code: 03254.11.05.2015	Physiology, CU	Associate Supervisor	Degree Awarded on May 08, 2018
9.	BiswajitChaki Registration Code: 03227.07.06.2013	Physiology, CU	Associate Supervisor	Registered as on 07.Jun.2013

10.	Sangita Pal Registration Code: 03609.30.07.2012	Physiology, CU	Associate Supervisor	Registered as on 29.Jul.2017

10. Projects :

Completed projects:

Sl. No	**Title of Project**	**Sponsoring Agency**	**Period**	**Grant/ Amount mobilized**
1.	Evaluation of in-vivo anti-tumor activities of nano-encapsulated EGCG. (Principal Investigator)	**Intramural** (CRNN, University of Calcutta)	December 2010 till February 2014	Rs. 5,60,000.00
2.	Effect of arsenic treatment on endocrine physiology and immune status of Swiss albino mice(Co Investigator)	**University Grants Commission**	From August 2012 For 3 years	~ Rs. 12,30,000.00
3.	Exploration of Therapeutic Efficacy of Diet-derived Antioxidants in reducing Arsenic-induced Hepatotoxicity (Principal Investigator)	**Department of Biotechnology, Government of West Bengal (WB-DBT)**	From September 2012 For 3 years	~ Rs. 20,40,000.00
4.	Effects of Arsenic Exposure on Modulation of Survival, Death and Stress Responsive Pathways in Immune cells(Principal Investigator)	**University Grants Commission**	From March 2013 For 3 years	~Rs. 9,75,500.00
5.	Studies on Anti-thyroidal Biomolecules in Bamboo-shoots of North –East and Evaluation of their Molecular and Physiological Actions in Thyroid Disruption(Co	**DBT (Twinning Programme)**	From January 2015 For 3 years	~Rs. 1,00,00,000.00

	Investigator)			
6.	Exploring the role of dietary antioxidants in inflammation, immune-editing and pancreatic cancer(Principal Investigator)	**DBT (Pilot Project Grant for Young Investigators in Cancer Biology)**	From 29th July, 2015 For 3 years	~Rs. 24,98,000.00
7.	A therapeutic approach of targeted delivery of miRNAs through nanoparticles to control metastasis of Triple Negative Breast cancer in-vitro and in-vivo(Co Investigator)	**DST Nano Mission**	From 2nd August, 2016 For 3 years	~Rs. 49,97,000.00
8.	Anti-migratory role of black seed extract (thymoquinone) nanoparticle in triple negative breast cancer cells: Evaluation of Molecular mechanisms via miRNA axis(Co Investigator)	**Ministry of AYUSH**	From 14th December, 2016 For 3 years	Rs. 35,36,890.00
9.	Investigating mechanistic approaches for delineating proliferative diseases (Principal Investigator)	A project under **University with Potential for Excellence** (UPE-Phase II) Scheme (Focus Area Modern Biology; Thrust Area : Health and Diseases) of **UGC, Govt. of India**, awarded to University of Calcutta	2017	
10.	Evaluation of molecular cascades dictating Arsenic-induced immunosuppression and T regulatory cell bias (Principal Investigator)	**Department of Biotechnology, Govt. of West Bengal (WB-DBT)**	FromFebruary 2018 For 3 years	Rs. 31,55,800.00

11. Select list of publications:

2019

1. Jamal Z, Das J, Ghosh S, Gupta A, **Chattopadhyay S**, Chatterji U. Arsenic-induced immunomodulatory effects disorient the survival-death interface by stabilizing the Hsp90/Beclin1 interaction.**Chemosphere.** 2019 Aug 22;238:124647. doi: 10.1016/j.chemosphere.2019.124647. [Epub ahead of print]

2. Upadhyay P, Sarker S, Ghosh A, Gupta P, Das S, Ahir M, Bhattacharya S, **Chattopadhyay S**, Ghosh S, Adhikary A. Transferrin-decorated thymoquinone-loaded PEG-PLGA nanoparticles exhibit anticarcinogenic effect in non-small cell lung carcinoma via the modulation of miR-34a and miR-16.**Biomater Sci.** 2019 Oct 1;7(10):4325-4344. doi: 10.1039/c9bm00912d. Epub 2019 Aug 14.

2018

3. Sayan Ghosh, Sreetama Choudhury, Sudeshna Mukherjee, Payal Gupta, Olivia Chowdhury, RathindranathBaral and **Sreya Chattopadhyay**. Fluoxetine triggers selective apoptosis in inflammation-induced proliferating (Ki-67^{high}) thymocytes. **Immunology & Cell Biology.** 2018. **Accepted Manuscript In Press**(Impact Factor 4.557)

4. Payal Gupta, Sreetama Choudhury, Sayan Ghosh, Sudeshna Mukherjee, Olivia Chowdhury, ArindamSain and **Sreya Chattopadhyay**. Pomegranate fruit extract rescues pancreatic cells from inflammation-associated oxidative stress-induced apoptosis by activating the p21/Nrf2/Bcl-2 axis. **J NutrBiochem.** 2018. **Accepted Manuscript In Press** *Available online 21 December 2018*(Impact Factor 4.539)

2017

5. Pal S, Chaki B, **Chattopadhyay S**, Bandyopadhyay A. High intensity exercise induced oxidative stress and skeletal muscle damage in post-pubertal boys and girls: A comparative study. **J Strength Cond Res.** 2017 Jul 31. doi: 10.1519/JSC.0000000000002167. [Epub ahead of print] PMID: 28767482 (Impact Factor 2.060)

6. Das U, Biswas S, **Chattopadhyay S**, Chakraborty A, Dey Sharma R, Banerji A, Dey S. Radiosensitizing effect of ellagic acid on growth of Hepatocellular carcinoma cells: an in vitro study. **Sci Rep.** 2017 Oct 25;7(1):14043. doi: 10.1038/s41598-017-14211-4. PMID: 29070894 (Impact Factor 4.259)

7. Ghosh S, Shang P, Yazdankhah M, Bhutto I, Hose S, Montezuma SR, Luo T, **Chattopadhyay S**, Qian J, Lutty GA, Ferrington DA, Samuel Zigler J Jr, Sinha D. Activating the AKT2/NFκB/LCN-2 axis elicits an inflammatory response in age-related macular degeneration. **J Pathol.** 2017 241(5):583-588. doi: 10.1002/path.4870. Epub 2017 Feb 20. PMID: 28026019(Impact Factor 6.894)

2016

8. Choudhury S, Ghosh S, Mukherjee S, Gupta P, Bhattacharya S, Adhikary A and **Chattopadhyay S.** Pomegranate protects against arsenic-induced p53-dependent ROS-mediated inflammation and apoptosis in liver cells. ***J NutrBiochem*** 2016 38:25-40. doi: 10.1016/j.jnutbio.2016.09.001. Epub 2016 Sep 6. PMID: 27723467 (Impact Factor 4.539)

9. Choudhury S, Gupta P, Ghosh S, Mukherjee S, Chakraborty P Chatterji U and **Chattopadhyay S.** Arsenic-induced dose-dependent modulation of the NF-kB/IL-6 axis in thymocytes triggers differential immune responses. ***Toxicology.*** 2016 357: 85–96 (Impact Factor 3.943)

10. Ahir M, Bhattacharya S, Karmakar S, Mukhopadhyay A, Mukherjee S, Ghosh S, **Chattopadhyay S**, Patra P, Adhikary A. Tailored-CuO-Nanowire decorated with Folic acid mediated coupling of the mitochondrial ROS-generation and miR425-PTEN axis in furnishing potent anti-cancer activity in human triple negative breast carcinoma cells. ***Biomat.*** 2016 Jan; 76:115-132. doi: 10.1016/j.biomaterials.2015.10.044. [Epub ahead of print]**(Impact Factor 8.946)**

2015

11. Adhikary J, Kundu P, Dasgupta S, Mukherjee S, **Chattopadhyay S**, Aullón G, Das D, Nickel(II) complexes having different configurations controlled by N,N,O-donor Schiff-base ligands in presence of isothiocyanate as co-ligand: Synthesis, structures, comparative biological activity and DFT study. ***Polyhedron.*** 101 (2015) 93-105. (Impact Factor 1.926)

12. Choudhury S, Ghosh S, Gupta P, Mukherjee S, **Chattopadhyay S**. Inflammation-induced ROS generation causes pancreatic cell death through modulation of Nrf2-NF-κB and SAPK/JNK pathway. ***Free Radic Res.*** 2015 Jul 20:1-41. [Epub ahead of print] PubMed PMID: 26189548. (Impact Factor 3.188)

13. Mukherjee S, Ghosh S, Das DK, Chakraborty P, Choudhury S, Gupta P, Adhikary A, Dey S, **Chattopadhyay S**. Gold-conjugated green tea nanoparticles for enhanced anti-tumor activities and hepatoprotection - synthesis, characterization and in vitro evaluation.***J***

NutrBiochem. 2015 Jul 26. pii: S0955-2863(15)00152-7. doi: 10.1016/j.jnutbio.2015.06.003. [Epub ahead of print] (Impact Factor 4.539)

14. Patra P, Mitra S, Das Gupta A, Pradhan S, Bhattacharya S, Ahir M, Mukherjee S, Sarkar S, Roy S, **Chattopadhyay S**, Adhikary A, Goswami A, Chattopadhyay D. Simple synthesis of biocompatible biotinylated porous hexagonal ZnOnanodisc for targeted doxorubicin delivery against breast cancer cell: In vitro and in vivo cytotoxic potential. ***Colloids Surf B Biointerfaces.*** 2015 Sep 1; 133:88-98. doi:10.1016/j.colsurfb.2015.05.052. Epub 2015 Jun 6. PubMed PMID: 26093304. (Impact Factor 4.295)

15. Ghosh S, Mukherjee S, Choudhury S, Gupta P, Adhikary A, Baral R, **ChattopadhyayS.** Reactive oxygen species in the tumor niche triggers altered activation ofmacrophages and immunosuppression: Role of fluoxetine. ***Cell Signal.*** 2015 Mar 27. pii: S0898-6568(15)00112-6. doi: 10.1016/j.cellsig.2015.03.013. [Epub ahead ofprint] PubMed PMID: 25819340. (Impact Factor 4.121)

16. Bhattacharya S, Ahir M, Patra P, Mukherjee S, Ghosh S, Mazumdar M,**Chattopadhyay S,** Das T, Chattopadhyay D, Adhikary A.PEGylated-thymoquinone-nanoparticle mediated retardation of breast cancer cellmigration by deregulation of cytoskeletal actin polymerization through miR-34a.***Biomaterials.*** 2015 May;51:91-107. doi: 10.1016/j.biomaterials.2015.01.007. Epub2015 Feb 17. PubMed PMID: 25771001. (Impact Factor 8.946)

2014

17. Manna K, Khan A, Kr Das D, Bandhu Kesh S, Das U, Ghosh S, Sharma Dey R, Das Saha K, Chakraborty A, **Chattopadhyay S**, Dey S, Chattopadhyay D. Protective effect of coconut water concentrate and its active component shikimic acid against hydroperoxide mediated oxidative stress through suppression of NF-κB and activation of Nrf2 pathway. ***J Ethnopharmacol.*** 2014 May 14. pii: S0378-8741(14)00334-1. doi: 10.1016/j.jep.2014.04.046. [Epub ahead of print] (Impact Factor 3.369)

2013

18. Mukherjee S, Ghosh S, Choudhury S, Adhikary A, Manna K, Dey S, Sa G, Das T, **Chattopadhyay S**. Pomegranate reverses methotrexate-induced oxidative stress and apoptosis in hepatocytes by modulating Nrf2-NF-<kappa>B pathways. ***J NutrBiochem.*** 2013; **24(12);** 2040-50(Impact Factor 4.539)

19. Mazumdar M, Adhikary A, Chakraborty S, Mukherjee S, Manna A, Saha S, Mohanty S, Dutta A, Bhattacharjee P, Ray P, **Chattopadhyay S**, Banerjee S, Chakraborty J,Ray AK, Sa

G, Das T. Targeting RET to induce medullary thyroid cancer cell apoptosis: an antagonistic interplay between PI3K/Akt and p38MAPK/caspase-8 pathways. ***Apoptosis.*** 2013 Jan 18. [Epub ahead of print] PubMed PMID: 23329180. (Impact Factor 3.833)

2000-2013

20. Chakraborty J, Banerjee S, Ray P, MdSakib Hossain D, Bhattacharyya S, Adhikary A, **Chattopadhyay S**, Das T, Sa G**.** Gain of cellular adaptation due to prolong p53 impairment leads to functional switch-over from p53 to p73 during DNA damage in acute myeloid leukemia cells. ***J Biol Chem***. 2010; 285(43):33104-12. (Impact Factor 4.125)

21. Bhattacharyya S, MdSakib Hossain D, Mohanty S, Sankar Sen G, **Chattopadhyay S**, Banerjee S, Chakraborty J, Das K, Sarkar D, Das T, Sa G; Curcumin reverses T cell-mediated adaptive immune dysfunctions in tumor-bearing hosts. *Cell MolImmunol.* 2010;7(4):306-15. Epub 2010 Mar 22. (Impact Factor 6.748)

22. **Chattopadhyay S**, Bhattacharyya S, Saha B, Chakraborty J, Mohanty S, Dewan Md Hossain S, Banerjee S, Das K, Sa G and Das T; Tumor-shed PGE_2 impairs IL2Rγc-signaling to inhibit $CD4^+$ T cell survival: Regulation by theaflavins. ***PLoS ONE.*** 2009; 4(10):e7382. (Impact Factor 2.806)

23. Lahiry L, Saha B, Chakraborty J, Bhattacharyya S, **Chattopadhyay S**, Choudhuri T, Mandal D, Bhattacharyya A, Sa G and Das T. Contribution of p53-mediated Bax transactivation in theaflavin-induced mammary epithelial carcinoma cell apoptosis. ***Apoptosis.*** 2008; 13(6):771-81.(Impact Factor 3.833)

24. Das T, Sa G, **Chattopadhyay S**, Saha B. Black Tea: The future panacea for cancer. Al Ameen J Med. Sci. 1(2); 2008

25. Mandal D, Bhattacharyya S, Lahiry L, **Chattopadhyay S**, Sa G and Das T. Black tea-induced decrease in IL-10 and TGF-β of tumor cells promotes Th1/Tc1 response in tumor-bearer.***Nutr Cancer.*** 2007; 58(2):213-21. (Impact Factor 2.447)

26. Bhattacharyya A, Mandal D, Lahiry L, Bhattacharyya S, **Chattopadhyay S**, Ghosh UK, Sa G and Das T.Black tea-induced amelioration of hepatic oxidative stress through anti-oxidative activity in EAC-bearing mice.***J Environ PatholToxicolOncol.*** 2007; 26(4):245-54. (Impact Factor 1.246)

27. Nath A, **Chattopadhyay S**, Chattopadhyay U, Sharma NK. Macrophage inflammatory protein (MIP)1 alpha and MIP1beta differentially regulate release of inflammatory

cytokines and generation of tumoricidal monocytes in malignancy. ***Cancer ImmunolImmunother***. 2006 Dec; 55(12):1534-41. Epub 2006 Mar 4. (Impact Factor 4.711)

28. Mandal D, Lahiry L, Bhattacharyya A, **Chattopadhyay S,** Siddiqi M, Sa G, Das T. Black tea protects thymocytes in tumor-bearing animals by differential regulationof intracellular ROS in tumor cells and thymocytes. ***J Environ PatholToxicolOncol.*** 2005;24(2):91-104. (Impact Factor 1.246)

29. Bhattacharyya A, Choudhuri T, Pal S, **Chattopadhyay S**, Datta G K, Sa G, Das T. Apoptogenic effects of black tea on Ehrlich's ascites carcinoma cell. ***Carcinogenesis***. 2003 Jan; 24(1):75-80. (Impact Factor 5.105)

30. Das T, Sa G, **Chattopadhyay S**, Ray PK. Protein A-induced apoptosis of cancer cells is effected by soluble immune mediators. ***Cancer ImmunolImmunother***. 2002 Sep; 51(7):376-80. Epub 2002 Jun 19. (Impact Factor 4.711)

31. **Chattopadhyay S**, Das T, Sa G, Ray PK. Protein A-activated macrophages induce apoptosis in Ehrlich's ascites carcinoma through a nitric oxide-dependent pathway. ***Apoptosis***. 2002 Feb;7(1):49-57. (Impact Factor 3.833)

32. Pal S, Choudhuri T, **Chattopadhyay S**, Bhattacharya A, Datta GK, Das T, Sa G. Mechanisms of curcumin-induced apoptosis of Ehrlich's ascites carcinoma cells. ***BiochemBiophys Res Commun***. 2001 Nov 2; 288(3):658-65. (Impact Factor 2.466)

33. Ray PK, Das T, Sa G, Ghosh AK, **Chattopadhyay S**. Protection of apoptotic cell death by protein A. ***Apoptosis***. 2000 Dec; 5(6):509-14. Review. (Impact Factor 3.833)

Book Chapters

1. **Chattopadhyay S**, Saha B, Mandal D, Sa G & Das T. Black tea: A Review.In: **Economic Crisis in Tea Industry: Strategies for Scientific Management**. (Ed: Dr. F. Rahman and Dr. Peter Baker). ISTS Book 3 of the Book series "Global Advances in Tea Science." ***Studium Press LLC, Houston Texas, USA.*** Chapter 34, 2007

2. Bhattacharyya A, **Chattopadhyay S**& Das T. Tea: A journey across time from beverage to anticancer agent. In: ***Emerging Pollutants: Impact on Agriculture, Environment and Health***(Ed. De A and Gupta S), ***Allied Publishers, India***. Chapter 15, 157-163, 2006

c) Conference/ seminar volumes:
d) Other publications:

12. Membership of Learned Societies:

- Life Member of **Indian Science Congress Association**
- Life Member of **The Cytometry Society - India** (TCS)
- Life Member and Honorary Assistant General Secretary **Biomedical Science Center** – A Registered National Society and Trust involved in community service
- Life Member of **The Physiological Society of India** (PSI)
- Life Member **Indian Association of Biomedical Scientists** (IABMS)
- Life Member **Association of Biomedical Sciences Kolkata** (ABSK)

13. Patents:
14. Invited lectures delivered:
15. Awards:
16. Other notable activities: