



**UNIVERSITY OF CALCUTTA**  
**FACULTY ACADEMICPROFILE/CV**

1. Full name of the faculty member: **Dr. RajenHaldar**
2. Designation: **Assistant Professor**
3. Specialization: **BiophysicalChemistry.**
4. Passport size photograph:



5. Contact information: Department of Physiology, UCSTA, University of Calcutta, 92, APC Road, Kolkata-9; email: rhphys@caluniv.ac.in; ranjhal@yahoo.com; Mobile:+91-9475507919; +91-8777523822
6. Academicqualifications:

College/ University from whichthedegree wasobtained	Abbreviation of thedegree
<b>University of Calcutta</b>	<b>B.Sc.</b>
<b>University of Calcutta</b>	<b>M.Sc.</b>
<b>University of Calcutta</b>	<b>Ph.D.</b>

7. Positionsheld/holding:
  - 20.04.2005 to 31.12.2005: Lecturer at Department of Physiology with Community Hall, Vidyasagar University, Midnapore.
  - 01.01.2006 to 16.04.2009: Assistant Professor (Stage-1) at Department of Physiology with CommunityHealth, Vidyasagar University, Midnapore.
  - 17.04.2009 to 16.04.2014: Assistant Professor (Stage-2) at Department of Physiology, University of Calcutta, Kolkata-9.
  - 17.04.2014 to till date: Assistant Professor (Stage-3) at Department of Physiology, University of Calcutta, Kolkata-9.

8. Researchinterests:

Mostly interested in basic sciences.

- Interested in characterization of biological macromolecules- structure and function analysis; interaction dynamics of variety of ligands-protein complexes.
- Interested in molecular modelling.

9. Research guidance:

- Number of researchers awarded Ph.D degrees :**two**
- Number of researchers submitted Ph.D. Thesis: **One**
- Number of researchers pursuing Ph.D:...**Two registered & five enrolled.**

10. Projects:

*Completed projects:*

Project title	Start date	Completion date	Project cost	Sponsoring organization
Biophysical and biochemical characterization of erythrocyte membrane in smokers.	13.02.2013	12.02.2018	19	UGC, Govt. of India. (RGNF)
Structural and functional alteration of hemoglobin due to arsenic toxicity.	02.04.2012	01.04.2017	18	UGC, Govt. of India. (RGNF)
Study of smoking induced secondary modifications of cellular constituents by hemoglobin	01.07.2012	31.12.2015	12	UGC, Govt. India.
Studies on Interaction of Nanoparticles with Hemoglobin and its Biological Implications: Biophysical and Biochemical Approach.	01.07.2011	31.12.2014	6.2	CRNN, Calcutta University (from UGC)
Study of hematological parameters and characterization of hemoglobin in smokers	01.04.2008	31.03.2010	1	UGC, Govt. India.

*Current projects: Nil*

11. Select list of publications:

*a) Journals:*

National:

1. Roy A, Sikdar J, Seal P and **Haldar R**(2014): A comparative study on detailed hematological variables as well as erythrocyte membrane fragility among smokers having different smoking habits and non-smokers, *Ind. J. Physiol. & Allied Sc.*, **68**(1), 3-9.
2. Sasmal S, Roy A, Sikdar J and **Haldar R**(2014): Study of nutritional status among santal children of medinipur and bankura with special reference to under nutrition, *Ind. J. Physiol. & Allied Sc.*, **68**(2), 52-58.

3. Dalui B and **Haldar R** (2013): Bovine serum albumin loses its structural integrity upon interaction with trivalent arsenic: an *in vitro* spectroscopic study. *Ind. J. Physiol. & Allied Sc.*, **67**(4), 139-149.
4. **Haldar R**, Koley BN and Koley J (2005): Nicotine-induced initial antidiuresis followed by diuresis: Role of alpha-adrenergic receptors, *Ind. J. Physiol. & Allied Sc.*, **59**(1), 1-7.
5. **Haldar R**, Haque MZ, Koley J and Koley BN (2001): Neurotransmitters involved in nicotine-induced alteration in urine flow, *Ind. J. Physiol. & Allied Sc.*, **55**(1), 1-6.

International:

1. Seal P, Sikdar J, Ghosh N, Biswas P, and **Haldar R**. (2019): Exploring the binding dynamics of etoricoxib with human hemoglobin: A spectroscopic, calorimetric and molecular modeling approach. *Journal of Biomolecular Structure and Dynamics*, 37(11): 3018-3028. doi: org/10.1080/07391102.2018.1508369. (IF-3.2).
2. Seal P, Sikdar J, Roy A, **Haldar R**. (2018): Binding of ibuprofen to human hemoglobin: elucidation of their molecular recognition by spectroscopy, calorimetry, and molecular modeling techniques. *Journal of Biomolecular Structure and Dynamics*, 36(12): 3137-3154. doi: org/10.1080/07391102.2017.1384399. (IF-3.2).
3. Roy A, Seal P, Sikdar J, Banerjee S and **Haldar R** (2018): Underlying molecular interaction of bovine serum albumin and linezolid: A biophysical outlook, *Journal of Biomolecular Structure and Dynamics*, 36(2): 387-397. doi: 10.1080/07391102.2017.1278721. (IF-3.2).
4. Sikdar J, Seal P, Roy A, **Haldar R**. (2017): Cigarette smoker develop altered erythrocyte membrane composition: an investigation unmasking the role of membrane bound integral protein GLUT 1. *Free Radical Research*, 51(4): 375-388. doi: 10.1080/10715762.2017.1321744. (IF-3.2)
5. Seal P, Sikdar J, Roy A and **Haldar R** (2017): Acetaminophen interacts with human hemoglobin: optical, physical and molecular modeling studies, *Journal of Biomolecular Structure and Dynamics*, 35(6):1307-1321. doi: 10.1080/07391102.2016.1180262. (IF-3.2).
6. Roy A, Sikdar J, Seal P and **Haldar R** (2015): Cigarette smokers develop structurally modified hemoglobin: a possible way of increasing oxidative stress, *Inhalation Toxicology*, 27(6): 300-307. doi: 10.3109/08958378.2015.1045052. (IF-2.0).
7. Singh AK, Haldar R, Mandal D and Kundu M (2006): Analysis of the topology of *Vibrio cholerae* NorM and identification of amino acid residues involved in norfloxacin resistance, *Antimicrob. Agents Chemother.*, **50** (11), 3717-3723. (IF-4.7).

b) Books/ book chapters: *Nil*

c) *Conference/seminar volumes:*

**National and International:**

1. Seal P, Sikdar J, Ghosh N, Biswas P and **Haldar R** (2018): Exploring the binding dynamics of etoricoxib with human hemoglobin: A spectroscopic, calorimetric and molecular modeling approach. Presented at *30th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Serampore College, Serampore. **Hooghly**.  
[**Prof. B. B. Sarkar Memorial Research Award** to Seal P]
2. Sikdar J, Seal P, Roy A, Biswas P and **Haldar R** (2018): Cigarette smokers possess high possibilities of erythrocyte senescence. Presented at *30th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Serampore College, Serampore. **Hooghly**.
3. Biswas P, Sikdar J, Seal P, Roy A and **Haldar R** (2018): Increased GLUT1 expression in cigarette smokers: a possible way of developing defense system in erythrocyte. Presented at *30th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Serampore College, Serampore. **Hooghly**.
4. Seal P, Sikdar J, Roy A and **Haldar R** (2016): Multispectroscopic, calorimetric and molecular modeling approach on the interaction between ibuprofen and human hemoglobin. Presented at *28th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Midnapore College, **Midnapore**.
5. Biswas P, Ghosh N, Roy A, Sikdar J, Seal P and **Haldar R** (2016): Smokers have lower risk of diabetes and obesity: A cross sectional study addressing the underline possible factors. Presented at *28th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Midnapore College, **Midnapore**.
6. Ghosh N, Biswas P and **Haldar R** (2016): Iron Deficiency Anaemia and its management: A review concerning present scenario and future perspectives. Presented at *28th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Midnapore College, **Midnapore**.
7. Sikdar J, Seal P, Roy A and **Haldar R** (2016): Erythrocytes of cigarette smokers show decreased binding of eosin-5-maleimide; a fluorescent probe used for biophysical characterization of Band 3. Presented at *28th Annual Conference of the Physiological Society of India (PSI)*, organized by the Department of Physiology, Midnapore College, **Midnapore**.
8. Sikdar J, Roy A, Seal P, and **Haldar R**(2015): Chronic cigarette smoking alters both biophysical and biochemical properties of erythrocyte membrane in human male volunteers. Presented at *103rd Indian Science Congress, Section: Medical Sciences (Including Physiology)*, held at University of Mysore, **Mysuru**.
9. Seal P, Roy A, Sikdar J and **Haldar R**(2015): Studies on cigarette smoking-induced secondary modifications of cellular constituents by hemoglobin. Presented at *103rd Indian Science Congress Section: Medical Sciences (Including Physiology)*, held at University of Mysore, **Mysuru**.
10. Sikdar J, Roy A, Seal P, and **Haldar R**(2015): Erythrocyte membrane develops self-defense mechanism: A probable way to combat augmented oxidative stress in cigarette smokers. Presented at *27th Annual Conference of the Physiological Society of India (PSI)*, held at University of Calcutta, **Kolkata**.

11. Seal P, Roy A, Sikdar J, and **Haldar R**(2015): The molecular interactions between cotinine and human hemoglobin: A biophysical approach. Presented at *27th Annual Conference of the Physiological Society of India (PSI)*, held at University of Calcutta, **Kolkata**.
12. Seal P, Sikdar J, Roy A and **Haldar R**(2014): *In vitro* study of the interaction of acetaminophen with human hemoglobin by different spectroscopic techniques and molecular modelling. Presented at *26th Annual Conference of the Physiological Society of India (PSI)*, held at **Berhampore, Murshidabad**.
13. Sikdar J, Roy A, Seal P, and **Haldar R**(2014): Characterization of erythrocyte membrane in cigarette smokers: Biophysical and biochemical approach. Presented at *26th Annual Conference of the Physiological Society of India (PSI)*, held at **Berhampore, Murshidabad**.
14. Roy A., Bannerjee S and Haldar R. (2013) *In vitro* study of the interaction of Linezolid with Bovine Serum Albumin. Presented at *100<sup>th</sup> Indian Science Congress, Section: Medical Sciences (Including Physiology)*, Part II, pp-223 held at **Kolkata**.
15. Roy A. and Haldar R. (2012) Cigarette Smoking Alters Some Functional Properties of Hemoglobin In Male Human Volunteers. Presented at *99<sup>th</sup> Indian Science Congress, Section Medical Sciences (Including Physiology)*, Part II, pp-135 held at **Bhubneswar**.
16. Sasmal S, Roy A and **Haldar R**(2009): A comparative study of nutritional status among Santal girls (5-9 years) of Medinipur and Bankura with special reference to under nutrition. Presented at *International Conference on Integrative Physiology: Modern Perspective & Platinum Jubilee Celebration of the Physiological Society of India*, held in **Kolkata**.
17. Roy A and **Haldar R**(2009): A comparative study on detailed hematological variables as well as erythrocyte membrane fragility among smokers having different smoking habit. Presented at *96th Indian Science Congress, Section: Medical Sciences (Including Physiology)*, held at NEHU, **Shilong**.
18. Sasmal S and **Haldar R**(2009): Study of nutritional status among santal children of medinipur and bankura with special reference to under nutrition. Presented at *96th Indian Science Congress, Section: Medical Sciences (Including Physiology)*, held at **NEHU, Shilong**.
19. Sinha SK, **Haldar R**, Roy K, Koley BN and Koley J (2003): Asphyxia and nicotine oncardiovascular function: role of alpha adrenoceptors. Presented at *15th Annual Conference of the Physiological Society of India (PSI)*, held at Al-Ameen Medical College, Bijapur, **Karnataka**.
20. **Haldar R**, Haque MZ, Ray K, Sinha S, Koley BN and Koley J (2002): Nicotine-induced initial antidiuresis and diuresis: mechanism involved at kidney level. Presented at *14th Annual Conference of the Physiological Society of India (PSI)*, held at Serampore College, **Hoogly**.
21. Sinha SK, **Haldar R**, Roy K, Koley BN and Koley J (2002): Asphyxia and Nicotine induced alterations in Blood Pressure and Urine Flow: involvement of rennin-angiotensin system. Presented at *14th Annual Conference of the Physiological Society of India (PSI)*, held at Serampore College, **Hoogly**.
22. Sinha SK, **Haldar R**, Koley BN and Koley J (2002): Asphyxia and Nicotine on Blood Pressure and Urine Flow: Role of Neurotransmitters. Presented at *13th Annual Conference of the Physiological society of India (PSI)*, held in **Calcutta**.

23. **Haldar R**, Haque MZ, Sinha S, Koley BN and Koley J (2002): Study of nicotine induced alterations in urine flow and blood pressure. Presented at *13th Ann. Conference of The Physiol. Soc. Ind. (PSI)*, held in **Calcutta**.
24. **Haldar R**, Haque MZ, Koley BN, Koley J and Sinha S (2001): Nicotine and Hypertension in association with altered kidney function. Presented at *the 34th International Congress of Physiological Science (IUPS)*, held in New Zealand.
25. Koley J, **Haldar R**, Haque MZ and Koley BN (2000): Nicotine and urine flow. Presented at *88th Indian Science Congress, Section: Medical Sciences (Including Physiology)*, held in **Delhi**.
26. **Haldar R**, Haque MZ, Koley BN and Koley J (2000): Nicotine and hypertension. Presented at *3rd Congress of Federation of Indian Physiological Society (FIPS)*, held in **Calcutta**.

d) Other publications:

#### **INVITED LECTURES/ ORATIONS/ RESOURCE PERSON:**

1. **2019: Invited Lecture:** Topic: “Cigarette smoking and its threat to erythrocyte: An investigation searching for its survival strategies”, delivered at *106th Indian Science Congress, Section: Medical Sciences (Including Physiology)*, held at Lovely Professional University, **Punjab**.
2. **2018: Invited Lecture:** Topic: “Cyclooxygenase inhibitors and their interactions with human hemoglobin: A biophysical approach”, delivered at *Department of Higher Education, Science & Technology and Biotechnology (Govt. of West Bengal) Sponsored State level Seminar*, organized by Department of Physiology, Berhampore Girls’ College, **Berhampore**.
3. **2017: Invited Lecture:** Topic: “Cigarette smokers possess high amount of met-hemoglobin: A possible cause of reduced erythrocytes life span” delivered at *29<sup>th</sup> Annual Conference of The Physiological Society of India (PSI) & 7<sup>th</sup> Congress of the Federation of Indian Physiological Societies (FIPS)*, organized by the Defence Institute of Physiology & Allied Sciences, **Delhi**.
4. **2017: Resource Person:** Topic: “Micronutrient Deficiencies: Prevention and Control”, delivered at *Department of Higher Education, Science & Technology and Biotechnology (Govt. of West Bengal) Sponsored State level Seminar*, organized by Department of Physiology, Berhampore Girls’ College, **Berhampore**.
5. **2016: Oration:** Topic: “Tobacco smoking induced oxidative damage and cellular defense system: A new insight into the preset concept” delivered at *28<sup>th</sup> Annual Conference of The Physiological Society of India (PSI)*, organized by the Department of Physiology, Midnapore College, **Midnapore**.
6. **2015: Invited Lecture:** Topic: “Erythrocyte membrane develops self-defense mechanism: A probable way to combat augmented oxidative stress in cigarette smokers” delivered at *27<sup>th</sup> Annual Conference of The Physiological Society of India (PSI) & 6<sup>th</sup> Congress of the Federation of Indian Physiological Societies (FIPS)*, organized by the Department of Physiology, University of Calcutta, **Kolkata**.

7. **2014: Invited Lecture:** Topic: “*In vitro* study of the interaction of acetaminophen with human hemoglobin by different spectroscopic techniques and molecular modelling” delivered at 26<sup>th</sup> Annual Conference of The Physiological Society of India (PSI), organized by the Department of Physiology, Berhampore Girls’ College, **Berhampore**.

12. Membership of Learned Societies:

- **Physiological Society of India**
- **Indian Science Congress Association**
- **Federation of Indian Physiological Societies**
- **International Union of Physiological Sciences (IUPS)**

13. Patents: **Nil**

14. Invited lectures delivered: **Six**

15. Awards:

<b>Name of Award</b>	<b>Awarding Agency</b>	<b>Year</b>
Certificate of Commendation	24 <sup>th</sup> West Bengal Science and Technology Congress	2017
Outstanding Paper Award	1 <sup>st</sup> Regional Science and Technology Congress	2016
Siddhartha Debnath Memorial Oration Award	The Physiological Society of India	2016
Prof. A. K. Mukherjee Memorial Award	The Physiological Society of India	1999