
Curriculum Vitae

Chandrima Das, Ph.D.



Professor-G

Biophysics and Structural Genomics Division
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Academics:

- 2012-Present, Biophysics and Structural Genomics Division, Saha Institute of Nuclear Physics, Salt Lake, Sector-I, Block-AF, Bidhan nagar, Kolkata-700064, India
- Postdoctoral Fellow (2008-2012) at UT MD. Anderson Cancer Center, Houston, TX-77030, USA and University of Colorado Denver, Aurora-80045, USA.
- Ph.D. (2007) at Jawaharlal Nehru Centre for advanced Scientific Research (JNCASR), Bangalore-560064, India.
- M.Sc. (2001) in Biochemistry (Molecular Biology Specialization), University of Calcutta, Kolkata-700009, India.
- B.Sc. (1999) in Chemistry, University of Calcutta, Kolkata-700053, India.

Awards/Honors:

- CDRI Award for Excellence in Drug Research in Life Science category, from Council of Scientific & Industrial Research (CSIR), 2021
- S. Ramachandran - National Bioscience Award For Career Development-2019, from Department of Biotechnology (2020-2022)
- SwarnaJayanti Fellowship from Department of Science and Technology-2018 (2019-2024)
- Ramalingaswami Fellowship from Department of Biotechnology-2011 (2012-2017)
- Susan G. Komen Postdoctoral Fellowship awarded for basic sciences in Breast Cancer Research-2009 (2009-2012)

Membership of national and international academies:

- Elected Fellow The National Academy of Sciences (**FNASc.**), India (2020)
- American Chemical Society (**ACS**) Chemical Biology, Early Career Board Member (2020)
- Elected Fellow of West Bengal Academy of Science and Technology (**FAScT**) (2019)
- Elected member of Guha Research Conference (**GRC**) (2018)
- Life Member of Indian Society of Cell Biology (**ISCB**) India (2017)
- Life Member of Indian Association for Cancer Research (**IACR**) India (2017)
- Life Member of Chemical Biology Society (**CBS**) India (2016)
- Life Member of Society of Biological Chemists (**SBC**) India (2007)
- Member of The American Society for Biochemistry and Molecular Biology (**ASBMB**) and The American Chemical Society (**ACS**)

Field of specialization and expertise: The broad research focus of *Chromatin Dynamics laboratory* is to understand the diverse function of the epigenetic regulators in the context of human disease. Here we are delineating the role of a family of chromatin ‘readers/effectors’ in difficult to prognose cancers, metabolic disorders as well as infectious diseases. We intend to employ these chromatin readers as potential therapeutic targets in future.

Lab Website: <https://chandrimadascdl.wixsite.com/cromatindynamicslab>

Publications-

A) Research Articles

2022

1. Adhikary S., Singh V., Choudhari R., Yang B., Adhikari S., Ramos E.I., Chaudhuri S., Roy S., Gadad S.S.*, **Das C.*** **2022**. ZMYND8 suppresses MAPT213 LncRNA transcription to promote neuronal differentiation. *Cell Death Dis.* 13(9):766. **JIF: 9.624**
2. Sengupta I., Mondal P., Sengupta A., Mondal A., Singh V., Adhikari S., Dhang S., Roy S. and **Das C.*** **2022**. Epigenetic regulation of Fructose-1,6-Bisphosphatase 1 by host transcription factor Speckled 110 kDa during Hepatitis B Virus infection. *FEBS J.* 289(21):6694-6713 **JIF: 5.54**
3. Mustafi P., Hu M., Kumari S., **Das C**, Li G., Kundu TK. **2022**. Phosphorylation-dependent association of human chromatin protein PC4 to linker histone H1 regulates genome organization and transcription. *Nucleic Acids Res.* 150(11):6116-6136. **JIF: 16.971**
4. Dalui S, Dasgupta A, Adhikari S, **Das C**, Roy S. **2022**. Human testis-specific Y-encoded like protein 5 is a histone H3/H4 specific chaperone which facilitates histone deposition in vitro. *J. Biol Chem.* 298(8):102200. **JIF: 5.157**
5. Chakraborty S, Singh M, Pandita R.K., Singh V., Lo C.S.C., Leonard F., Horikoshi N., Moros E.G., Guha D, Hunt C.R., Makhijani K., Chau E., Ahmed K.M., Sethi P., Charaka V., Godin B., Makhijani K., Scherthan H, Deck J., Hausmann M., Mushtaq A., Altaf M., Ramos K.S., Bhat K.M., Taneja N., **Das C*** and Pandita T.K*. **2022**. Heat-induced SIRT1-mediated H4K16ac deacetylation impairs resection and SMARCD1 recruitment to double strand breaks. *iScience.* 25(4):104142. **JIF: 5.458**

2021

1. Mondal P, Gadad S.S., Adhikari S., Ramos E.I., Sen S., Prasad P. and **Das C***. **2021**. TCF19 and p53 Regulate Transcription of TIGAR and SCO2 in HCC for Mitochondrial Energy Metabolism and Stress Adaptation. *FASEB J.* 35(9): e21814. **JIF: 5.191**
2. Dasgupta A., Mondal P., Dalui S., **Das C**, Roy S. **2021**. Molecular characterization of substrate-induced ubiquitin transfer by UBR7-PHD finger, a newly identified histone H2BK120 ubiquitin ligase. *FEBS J.* 289(7):1842-1857. **JIF: 5.54**

3. Srivastava DK, Gunjan S, **Das C**, Seshadri V, Roy S. **2021**. Structural insights into histone chaperone Asf1 and its characterization from Plasmodium falciparum. *Biochem J*. 478(5):1117-1136. **JIF: 4.12**

2020

1. Mukherjee S, Adhikary S, Gadad S.S., Mondal P, Sen S., Choudhari R., Singh V., Adhikari S., Mandal P., Chaudhuri S., Sengupta A., Lakshmanaswamy R., Chakrabarti P, Roy S and **Das C***. **2020**. Suppression of poised oncogenes by ZMYND8 promotes chemo-sensitization. *Cell Death Dis*. 11(12):1073. **JIF: 9.624**
2. Sanyal S, Mondal P, Sen S, Sengupta Bandyopadhyay S, **Das C***. **2020**. SUMO E3 ligase CBX4 regulates hTERT-mediated transcription of CDH1 and promotes breast cancer cell migration and invasion. *Biochem J*. 477(19):3803-3818. **JIF: 4.12**
3. Mondal P., Sen S., Klein B.J., Tiwary N., Gadad S.S., Kutateladze T.G., Roy S. and **Das C***. **2020**. TCF19 promotes cell proliferation through binding to the histone H3K4me3 mark. *Biochemistry*. 59(4):389. **JIF: 2.952 (Accepted for Supplementary Cover Page Publication)**
4. Mukherjee S, Sen S, Adhikary S, Sengupta A, Mandal P, Dasgupta D, Chakrabarti P, Roy S and **Das C***. **2020**. A novel role of tumor suppressor ZMYND8 in inducing differentiation of breast cancer cells through its dual histone binding function. *J Biosci*. 45. pii:2, **JIF: 1.831**
5. Karmakar D, Maity J, Mondal P, Shyam Chowdhury P, Sikdar N, Karmakar P, **Das C**, Sengupta S. **2020**. E2F5 promotes prostate cancer cell migration and invasion through regulation of TFPI2, MMP-2 and MMP-9. *Carcinogenesis*. 41(12):1767-1780. **JIF: 4.646**

2019

1. Adhikary S., Chakravarti D., Terranova C., Sengupta I., Maitituoheti M., Dasgupta A., Srivastava D.K., Ma J., Raman A.T., Tarco E., Sahin A. A., Bassett R., Yang F., Tapia C., Roy S.*, Rai K.* and **Das C***. **2019**. Atypical Plant Homeodomain of UBR7 Functions as an H2BK120Ub Ligase and Breast Tumor Suppressor. *Nat Commun*. 10(1):1398. **JIF: 13.691**

2018

1. Sau A., Sanyal S., Bera K., Sen S., Mitra A.K., Pal U., Chakraborty P.K., Ganguly S., Satpati B., **Das C.*** and Basu S.* **2018**. DNA Damage and Apoptosis Induction in Cancer Cells by Chemically Engineered Thiolated Riboflavin Gold Nanoassembly. *ACS Appl Mater Interfaces*, 10(5):4582-4589. **JIF: 7.504**
2. Chakraborty B, Mondal P, Gajendra P, Mitra M, **Das C**, Sengupta S. **2018**. Deciphering genetic regulation of CD14 by SP1 through characterization of peripheral blood

mononuclear transcriptome of *P. faiciparum* and *P. vivax* infected malaria patients. *EBioMedicine*. 37:442-452. **JIF: 6.183**

2017

1. Sen S., Sanyal S., Srivastava D.K., Dasgupta D., Roy S. and **Das C.* 2017**. Transcription factor 19 regulates gluconeogenesis in concert with the nucleosome-remodelling-deacetylase complex via histone 3 lysine 4 trimethylation recognition. *J Biol Chem.*, 292(50):20362-20378. (**Accepted for Cover Page Publication**) **JIF: 4.403**
2. Sengupta I., Das D., Singh S.P., Chakravarty R. and **Das C.* 2017**. Host transcription factor Speckled 110 kDa (Sp110), a nuclear body protein, is hijacked by Hepatitis B virus protein X for viral persistence. *J Biol Chem.*, 292(50):20379-20393. **JIF: 4.403**
3. Basu M., Sengupta I., Khan W., Srivastava D.K., Chakrabarti P., Roy S. and **Das C.* 2017**. Dual histone reader ZMYND8 inhibits cancer cell invasion by positively regulating epithelial genes. *Biochem J.*, 474(11):1919-1934. **JIF: 4.12**
4. Basu M., Khan M.W., Chakrabarti P. and **Das C.* 2017**. Chromatin reader ZMYND8 is a key target of all trans retinoic acid-mediated inhibition of cancer cell proliferation. *Biochim Biophys Acta- Gene Regul Mech.* 1860(4):450-459. **JIF: 5.550**
5. Goswami S., Sanyal S., Chakraborty P., **Das C.***, Sarkar M.* **2017**. Interaction of a Common Painkiller Piroxicam and Copper-piroxicam with Chromatin Causes Structural Alterations Accompanied by Modulation at the Epigenomic/Genomic level. *Biochim Biophys Acta- Gen Subj.* 4165(17):30131-30139. **JIF: 5.08**
6. Das D., Sengupta I., Sarkar N., Pal A., Saha D., Bandopadhyay M., **Das C.**, Narayan J., Singh S.P., Chakrabarti S., Chakravarty R. **2017**. Anti-hepatitis B virus (HBV) response of imiquimod based toll like receptor 7 ligand in hbv-positive human hepatocellular carcinoma cell line. *BMC Infect Dis.*, 17(1):76. **JIF: 2.864**

2016

1. Adhikary S., Sanyal S., Basu M., Sengupta I., Sen S., Srivastava D.K., Roy S.* and **Das C.* 2016**. Selective Recognition of H3.1K36 dimethylation / H4K16 acetylation facilitates the regulation of ATRA-responsive genes by putative chromatin reader ZMYND8. *J Biol Chem.*, 291:2664-2681. **JIF: 4.403**
2. Banerjee A., Sanyal S., Dutta S., Chakraborty P., Das P.P., Jana K., Vasudevan M., **Das C.***, Dasgupta D.* **2016**. The plant alkaloid chelerythrine binds to chromatin, alters H3K9Ac and modulates global gene expression. *J Biomol Struct Dyn.* 35(7):1491-1499. **JIF: 2.689**
3. Das D., Sarkar N., Sengupta I., Pal A., Saha D., Bandopadhyay M., **Das C.**, Narayan J., Singh S.P., Chakravarty R. **2016**. Anti-viral role of toll like receptor 4 in hepatitis B virus infection: An *in vitro* study. *World J Gastroenterol.*, 22(47):10341-10352. **JIF: 2.848**
4. Bandopadhyay M., Sarkar N., Datta S., Das D., Pal A., Panigrahi R., Banerjee A., Panda C.K., **Das C.**, Chakrabarti S., Chakravarty R. **2016**. Hepatitis B virus X protein mediated suppression of miRNA-122 expression enhances hepatoblastoma cell proliferation through cyclin G1-p53 axis. *Infect Agent Cancer.* 11:40..**JIF: 1.718**

2015

1. Chakrabarti R., Sanyal S., Ghosh A., Bhar K., **Das C.*** and Siddhanta A.* **2015**. Phosphatidylinositol 4-phosphate 5-kinase 1-alpha modulates ribosomal RNA gene silencing through its interaction with histone H3 lysine 9 trimethylation and heterochromatin protein HP1-alpha. *J Biol Chem.* 290:20893-20903. **JIF: 4.403**

2014

1. **Das C.**, Roy S., Namjoshi S., Malarkey C.S., Jones D.N., Kutateladze T.G., Churchill M.E. and Tyler J.K. **2014**. Binding of the histone chaperone ASF1 to the CBP bromodomain promotes histone acetylation. *Proc Natl Acad Sci U S A.*, 111(12): E1072-81. **JIF: 10.285**
2. Banerjee A., Sanyal S., Kulkarni K.K., Jana K., Roy S., **Das C.***, Dasgupta D.* **2014**. Anticancer drug mithramycin interacts with core histones: an additional mode of action of the DNA groove binder. *FEBS Open Bio.* 4:987-995. **JIF: 2.143**

2010

1. **Das C.**, Gadad S.S., and Kundu T.K. **2010**. Human positive coactivator 4 controls heterochromatinization and silencing of neural gene expression by interacting with REST/NRSF and CoREST. *J Mol Biol.*, 397(1):1-12. **JIF: 4.632**
2. Feser J., Truong D., **Das C.**, Carson J.J., Kieft J., Harkness T., and Tyler J.K. **2010**. Elevated histone expression promotes lifespan extension. *Mol. Cell*, 39(5):724-35. **JIF: 14.708**

2009

1. **Das C.**, Lucia M.S., Hansen K.C., and Tyler J.K. **2009**. CBP/p300- mediated acetylation of histone H3 on Lysine 56. *Nature*, 459(7243):113-7 (*Commentaries in Nature and Faculty of 1000 Biology*) **JIF: 41.458**
2. Selvi B.R., Pradhan S.K., Shandilya J., **Das C.**, Sailaja B.S., Shankar G.N., Gadad S.S., Dasgupta D., and Kundu T.K. **2009**. Putative anticancer therapeutic, Sanguinarine interacts with chromatin; modulates epigenetic modifications and chromatin transcription. *Chem Biol.*, 16(2):203-16. **JIF: 6.480**
3. Ransom M., Williams S.K., Dechassa M.L., **Das C.**, Linger J., Adkins M., Liu C., Bartholomew B., and Tyler J.K.. **2009**. FACT and the proteasome promote promoter chromatin disassembly and transcriptional initiation. *J Biol Chem.*, 284(35):23461-71. **JIF: 4.403**

2007

1. Kishore A.H., Batta K., **Das C.**, Agarwal S., and Kundu T.K. p53 Regulates Its Own Activator - Transcriptional Coactivator PC4: A New p53 Responsive Gene. *Biochem J.*, 406(3), 437-444, (2007). **JIF: 4.116.**

2006

1. **Das C.**, Hizume K., Batta K., Kumar B.R., Gadad S.S., Ganguly S., Lorain S., Verreault A., Sadhale P.P., Takeyasu K., and Kundu T.K. **2006**. Transcriptional Coactivator PC4, A Chromatin-associated Protein, Induces Chromatin Condensation. *Mol Cell Biol.*, 26(22), 8303-8315.

B) Reviews

1. **Das C.***, Adhikari S., Bhattacharya A., Chakraborty S., Mondal P., Yadav S.S., Adhikary S., Hunt C.R., Yadav K., Pandita S., Roy S., Tainer J.A., Ahmed Z., Pandita T.K.* **2023**. Epigenetic-Metabolic Interplay in the DNA Damage Response and Therapeutic Resistance of Breast Cancer. *Cancer Res.* 83(5):657-666. **JIF: 13.312**
2. Adhikari S., Bhattacharya A., Adhikary S., Singh V., Gadad S.S., Roy S., **Das C***. **2022**. The paradigm of drug resistance in cancer: an epigenetic perspective. *Bioscience Reports.* 42(4):BSR20211812. **JIF: 3.840**
3. Mondal A, Bhattacharya A, Singh V, Pandita S, Bacolla A, Pandita RK, Tainer JA, Ramos KS, Pandita TK*, **Das C***. **2022**. Stress responses as master keys to epigenomic changes in transcriptome and metabolome for cancer etiology and therapeutics. *Mol Cell Biol.*: 42(1): e0048321
4. Mohan C, **Das C**, Tyler J. **2021**. Histone and Chromatin Dynamics Facilitating DNA repair. *DNA Repair (Amst).* 107:103183. **JIF: 4.913**
5. Adhikary S, Roy S, Chacon J, Gadad S.S. and **Das C***. **2021**. Implications of enhancer transcription and eRNAs in cancer. *Cancer Res.* 81(16):4174-4182. **JIF: 9.727**
6. Sedano MJ, Harrison AL, Zilaie M, **Das C**, Choudhari R, Ramos E, Gadad SS. **2020**. Emerging Roles of Estrogen-Regulated Enhancer and Long Non-Coding RNAs. *Int J Mol Sci.*, 21(10):3711. **JIF: 4.653**
7. Sen S, **Das C***. **2018**. Managing the sugar factory: A new feather in the cap for nuclear factor Y. *J Biol Chem.* 293(20):7905-7906. **JIF: 4.403**
8. **Das C.**, and Tyler J.K. **2013**. Histone exchange and histone modifications during transcription and aging. *Biochim Biophys Acta*, Special issue: *Histone chaperones and Chromatin assembly*, 1819(3-4): 332-42. **JIF: 3.595**
9. **Das C.**, Tyler J.K., and Churchill M.E. **2010**. The histone shuffle: histone chaperones in an energetic dance. *Trends Biochem Sci.*, 35(9):476-89. (Accepted for Cover Page publication) **JIF: 13.026**
10. **Das C.**, and Kundu T.K. **2005**. Transcriptional regulation by the acetylation of nonhistone proteins in humans- a new target for therapeutics. *IUBMB Life*, 57(3), 137-149. **JIF: 3.257**

B) Book Chapters

1. Nandi S., Mondal A., Ghosh A., Mukherjee S., **Das C.* 2023.** Lnc-ing epigenetic mechanisms with autophagy and cancer drug resistance. *Advances in Cancer Research*. Publisher: Elsevier (In Press)
2. Adhikari S., Guha D., Mohan C., Mukherjee S., Tyler J.K., **Das C.* 2022.** Reprogramming carbohydrate metabolism in cancer and its role in regulating the tumor microenvironment. *Subcellular Biochemistry. In Metabolism and Epigenetic Regulation: Implications in Cancer*. Publisher: Springer Nature. 100:3-65.
3. Mondal P., Tiwary N., Sengupta A., Dhang S., Roy S., **Das C.* 2022.** Epigenetic reprogramming of the Glucose metabolic pathways by the Chromatin effectors during Cancer. *Subcellular Biochemistry. In Metabolism and Epigenetic Regulation: Implications in Cancer*. Publisher: Springer Nature. 100:269-336.
4. Pandita T.K.*, Hunt C.R., Singh V., Adhikary S., Pandita S., Roy S., Ramos K., **Das C.* 2022.** Role of the histone acetyl transferase MOF and the histone deacetylase Sirtuins in regulation of H4K16ac during DNA damage repair and metabolic programming: Implications in Cancer and Aging. *Subcellular Biochemistry. In Metabolism and Epigenetic Regulation: Implications in Cancer*. Publisher: Springer Nature. 100:115-141.
5. Sikder S., Mondal A., **Das C.**, Kundu T.K.* **2022.** Autophagy in cancer: a metabolic perspective *Subcellular Biochemistry. In Metabolism and Epigenetic Regulation: Implications in Cancer*. Publisher: Springer Nature. 100:143-172.
6. Sengupta I., Mondal A., Sengupta A., and **Das C.* 2022.** Oncogenic Virus Induced Oxidative Stress and Epigenetic regulation: An Insight into host DNA methylation. **MRW Book: Handbook of Oxidative Stress in Cancer: Therapeutic Aspects**. Volume Editor: Sajal Chakraborti. Publisher: Springer Nature. 1-26.
7. Mukherjee S., Adhikary S., Roy S., **Das C.* 2017.** Noncoding RNAs as chromatin scaffold of histone modification complexes in cancer. In *Cancer and Non-coding RNAs, Translational Epigenetics Series*, Volume eds: Jayprokas Chakrabarti and Sanga Mitra; Series ed: Trygve Tollefsbol, (Elsevier), 1: 329-357.
8. Kumari S., **Das C.**, Sikder S., Kumar M., Bachu M., Ranga U., Kundu T.K.* **2015.** Identification and characterization of nonhistone chromatin proteins: human positive coactivator 4 as a candidate. In *Chromatin Protocols*, ed: Srikumar P. Chellappan, (Springer) *Methods Mol. Biol.*, 1288: 245-72.
9. Batta K., **Das C.**, Gadad S., Shandilya J., Kundu T.K.* **2007.** Reversible acetylation of nonhistone proteins: Role in cellular functions and diseases. *Subcell Biochem. In Chromatin and Disease*, eds: T. K. Kundu and D. Dasgupta, (Springer). 41:193–212.

***Corresponding author**

JIF- 5 Year Impact Factor, from ISI Web of Science (Thomson Reuters)

List of Patents:

Invention: Highly Specific Polyclonal Antibodies of Individual Core Histone and Uses Thereof

Inventors: Tapas Kumar Kundu, *Chandrima Das*, Radhika Ashish Varier, Febitha Kandan Kulangara

Patents granted to date: India (239873)

Ongoing Research Support

I. Science and Engineering Research Board (SERB), Das (PI) 06/1/19-05/30/24
Department of Science and Technology, Govt. of India

Sensitizing the drug resistant triple negative breast cancer through Extracellular Matrix Remodelling by the epigenetic regulators

Role: PI

II. SwarnaJayanti Fellowship, Department Das (PI) 06/1/19-05/30/24
of Science and Technology, Govt. of India

Reprogramming of Host Epigenomic landscape during viral infection

Role: PI

III. Department of Atomic Energy, Govt. of India Das (One of the PI) 11/01/20-10/31/24

The role of epigenetic regulators in sensitizing drug resistant triple negative breast tumors

Role: One of the PI

Completed Research Support

I. Ramalingaswami Fellowship, Department of Das (PI) 04/01/12-6/31/17
Biotechnology, Govt. of India

Prolyl isomerization as a novel mode to regulate chromatin function

Role: PI

II. Science and Engineering Research Board, Department Das (PI) 06/01/15-05/31/18
of Science and Technology, Govt. of India

A putative chromatin reader ZMYND8 and its role in neuronal differentiation

Role: PI

III. Department of Atomic Energy, Govt. of India Das (One of the PI) 10/01/12-09/31/20

Chromatin dynamics and its modulation by transcription factors

Role: One of the PI

IV. Science and Engineering Research Board, Das (PI) 05/01/19-4/30/22
Department of Science and Technology, Govt. of India

Title: Investigating the role of epigenetic reader TCF19 as a cellular glucose sensor in conjunction with p53

Role: PI

V. The mission of Life Sciences research
Board (LSRB) of Defense Research &
Development Organization (DRDO)

Das (Co-PI)

11/15/19-11/14/22

Title: Development of aptamer based selective localization of gold nanoparticles for early-stage detection and future applications in therapeutic prevention of dengue infection

Role: Co-Investigator

VI. Department of Biotechnology, Govt. of India

Das (PI)

11/15/19-11/14/22

Title: Zinc Finger Transcription Factors as regulators of neuronal differentiation programs through epigenetic reprogramming

Role: PI

VII. S. Ramachandran - National Bioscience Award for
Career Development, Department of Biotechnology,
Govt. of India

Das (PI)

03/01/20-02/28/23

Title: Investigating the functional interplay between key transcription factor TCF7L2 and epigenetic regulator TCF19 to modulate metabolic gene expression programs during Endoplasmic Reticulum stress

Role: PI