Curriculum Vitae

SAMIR KUMAR PATRA, Ph D (Biochemistry)
Associate Professor and Head of the Department of Life Science, NIT-Rourkela

Dr Samir Kumar Patra
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Residence Address: D-27, NIT Campus, NIT-Rkl, Rourkela, Orissa
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Date of Birth: 11 April 1966 Sex (M/F): M SC/ST: General

Education (Post-Graduation onwards & Professional Career)

Sl No.	Institution Place	Degree Awarded	Year	Field of Study
1	University of Kalyani, West Bengal	M. Sc.	1990	Biochemistry, Mol Biol, Genetics, Cell Biol etc.
2	University of Kalyani, West Bengal	Ph. D.	1997	Biochemistry, Molecular Medicine, Spectroscopy
3	Univ of the Basque Country, SPAIN	Postdoctoral research fellow	1997-1999	Membrane biology, cell signaling
4	Univ of California San Francisco (UCSF), California, USA	Postdoctoral research fellow	1999-2002	Epigenetic DNA-methylation, histone modifications and Human Prostate Cancer
5	McGill University, Montreal, CANADA	Sr Academic Trainee	2002-2004	Research on DNA-demethylation and assisting MS and PhD students

Position and Employment (Starting with the most recent employment)

Sl No.	Institution Place	Position	From (Date)	To (date)
1	National Institute of Technology, Rourkela, Orissa	Associate Professor	July 2009	Continuing
2	National Institute of Technology, Rourkela, Orissa	Visiting Professor	May 2009	June 2009
3	University of Parma, ITALY	Visiting Scientist	May 2008	May 2009
4	Univ of Burdwan and NGOs at Kalyani, West Bengal	Guest faculty / Academic Coordinator	Aug 2004	May 2008
5	University of Kalyani, West Bengal	Project Assistant	December 1989	February 1991

Awards:
INBB fellow, Rome, Italy 2008-2009
NCIC, (McGill Univ) CANADA Fellow, 2002 -2003
NIH and NCIRE (UCSF) USA fellow, 1999 – 2002
Japan Society for Promotion of Science (JSPS) Fellowship, 1999

Honours:
Academic visits to Institutes in Abroad: UCSF, USA; McGill, Canada; Univ of the Basque Country & Univ of Salamanca, Spain; Univ of Parma, Italy and Univ. Virginia, USA.
Invited as expert scientist and chaired in many sessions at Int. Conferences and Workshops.
Active Member: American Association for Cancer Research (AACR), since 2000
Life Member: Indian Association for the Cultivation of Science (IACS), since 1994

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Life Member: Indian Science Congress Association (ISCA), since 2011[Memb^{p}. No.: L18907]
Life Member: Indian Association for Cancer Research (IACR), since 2012
Life Member: Society of Biological Chemists, India (SBC), since 2013 [Memb^{p}. No.: 3093]
National Scholarship, Govt. of India, INDIA, 1983 – 1986.

International Activities:

Editorial Board Member: International Journal of Chronic Disease (Hindawi)
Editorial Advisory Board Member: Epigenetic Diagnosis & Therapy (Bentham)
International Expert Reviewer, Comisión Nacional de Investigación Científica y Tecnológica de Chile (CONICYT), Santiago, **Chile** in 2008-2009 (Cell and Molecular Biology, cell signaling)
International Expert Reviewer, French National Research Agency (ANR), **France** in 2013, (Biochemistry and Molecular Biology)
Reviewer of many world class journals, namely, Gene, Proteomics, Oncogene, FEBS J, Int. J Cancer etc

Conference/ Seminar/Workshop conducted

Organizer-**Convener**, International Conference on Frontiers in Biological Sciences (InCOFIBS-2010), Department of Life Science, NIT-Rourkela, 01-03 October, 2010
Organizer-Chairman, Seminar on Conservation of Biodiversity (COB), Department of Life Science, NIT-Rourkela; 11 January 2013
Organizer-Chairman, Workshop on Advanced Techniques in Life Science (ATLIS), Department of Life Science, NIT-Rourkela; 7-8 March, 2013
Organizer-Chairman, Workshop on Microbial Diversity and Bioremediation Technology (MIDBIT-2013) Department of Life Science, NIT-Rourkela; 11-13 September, 2013

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RESEARCH

Epigenetics and Cancer Research Laboratory
BIOCHEMISTRY AND MOLECULAR BIOLOGY GROUP

TEAM
Group Leader- Dr Samir Kumar Patra (myself)

Lab Technician- Ms Chahat Kauser

Postdoctoral fellow: Dr Madhumita Rakshit, **Research Associate**

A. Research students for Ph. D. Thesis (ongoing)

Sl No.	Name	Qualification [with NET/GATE]	Designation, fellowship	Project/Thesis Title
1	Ms Moonmoon Deb	M Sc with GATE	SRF, Institute fellowship	DNA and histone modifications of genes in cancer
2	Mr Dipta Sengupta	M Sc with GATE	JRF, Institute fellowship	Regulation of gene expression by microRNA vis-à-vis regulation of microRNA by DNA methylation in human cancer
3	Ms Arunima Shilpi	M Sc with NET and GATE	JRF, Institute fellowship	Signaling molecules and DNA-sequence pattern for tissue specific methylation of genes
4	Ms Swayamsiddha Kar	M Sc with GATE	JRF, Institute fellowship	DNA-demethylase enzyme (complex) and mechanisms of DNA-demethylation
5	Ms Sabnam Parbin	M Sc with INSPIRE	JRF, INSPIRE fellowship	Histone deacetylases and cancer
6	Mrs. Nibedita Pradhan	M Sc with INSPIRE	JRF, INSPIRE fellowship	Epigenetic regulation of genes: Impact of dietary components
7	Mr. Sandip K Rath	M Sc with GATE	JRF, Institute fellowship	Apoptosis mechanisms and therapeutic approaches against cancer

+ Three more as Co-guide of Ph. D. Thesis

8	Ms Niharika Sinha	M Sc with GATE	JRF, Institute fellowship	Autophagy and cancer
9	Mr Subhadip Mukhopadhyay	M Sc with GATE	JRF, Institute fellowship	Epigenetics of autophagy
10	Ms Supriya Kumari	M Sc with GATE	JRF, DBT-project fellowship	Quorum sensing and biofilm

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B. Research students for M. Sc. Thesis Project (completed – 25)

Sl No.	Name	Year of Completion	**Project/Thesis Title**
1	Mr Dibyojyoti Baruah	2013	Induction of apoptosis by epigenetic modulators in human breast cancer and expression profile of EZH2 and Ras signaling components.
2	Mr Tapas Tripathy	2013	Modulation of Notch signaling components in presence of epigenetic modulators.
3	Ms Monalisa Lenka	2013	Gene expression analysis of MBD proteins after treatment with DNMT inhibitors in breast cancer.
4	Ms Namita Panigrahi	2013	Effect of HDAC inhibitors on the expression of MBD proteins coding genes in breast cancer.
5	Mr Debdutta Bhoi	2012	Dietary bioactive compounds as histone deacetylase inhibitor for cancer prevention
6	Ms Sobha Biswal	2012	Cloning of DNA-methyltransferase 3A and 3B
7	Ms Subhosmita Mondal	2012	Expression profile of G9A and p300 in leukemia and normal blood sample
8	Mr Gagan K Panigrahi	2012	Regulatory circuit of p300 and DNA Methylation in cancer
9	Mr Somya R Patra	2012	Epigenetics of neonatal jaundice: Study of the expression profile of the UGT1A1 gene in neonatal jaundice patients
10	Ms Annapurna Sahoo	2012	Impact of p53 and β1 integrin expression in leukemia cells
11	Ms Moumita Sahoo	2012	Cloning and characterization DNA-methyltransferase DNMT1
12	Ms Saswati Swain	2012	Gene Expression Profile & Comparative Study of MBD Group Proteins in Leukemia Sample
13	Mr Akash Tiwary	2012	Effect of Hydrogenated Vegetable Oil on Protein Fibrillation
14	Ms Himani Sethi	2012	Expression of HDAC1 in Leukemia cells
15	Ms Debashree Das	2011	p53 and cancer
16	Ms Naina Pradhan	2011	DNA methylation and cancer
17	Ms Swayamsiddha Kar	2011	Role of DNA demethylation in cancer
18	Ms Monalisha Das	2011	Histone methyltransferase G9a in human cancer
19	Mr S Rajgandha	2011	Role of histone acetyltransferase “p300” in human cancer
20	Mr S Biswal	2011	Role of DNMT in cancer
21	Mr Rashmiranjan Sahoo	2011	Role of histone methyltransferase EZH2 in human cancer
22	Ms Menashree Jena	2011	Role of histone deacetylases (HDACs) in human cancer
23	Ms Riya Sheet	2011	Role of DNA methyltransferase 3A and 3B in human cancer
24	Ms D’Indira Priyadarshini	2011	Role of DNA methyltransferase “DNMT1” in human cancer
25	Mr Alexander Unterberger	2003	Purification and characterization of MBD2 as DNA demethylase

C. Research students for M. Sc. Project (ongoing – 6)

Sl No.	Name	Year of Completion (expected)	**Project/Thesis Title**
1	Ms Swagatika Panda	2014	Role of Elk1 in breast cancer
2	Ms Rutusmita Mishra	2014	Analysis of Notch downstream components in cervical cancer
3	Ms Kiran Kumari	2014	Structure-function studies of DNMT1
4	Ms Sonali Pradhan	2014	Search for new generation HDAC inhibitors
5	Ms Anita Singh	2014	MBD1 as epigenetic ruler
6	Ms Varsha Haibru	2014	ATM in stress response and its connection with p53

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Ongoing Research Projects (only major projects)

Sl No.	Title of Project	Funding Agency	Amount (Rs)	Date of	
				Start	Completion
1	Epigenetic profiling and induction of apoptosis for better management of Breast Cancer	NIT-Rourkela Research schemes (role as PI)	81, 47,200.00	9/ 2013	8/2016
2	Bacterial Biofilm and quorum sensing	DBT-India (role as Co-PI)	26,88,000.00	7/ 2011	6/2014

TEACHING

(a) **Teaching Experience**

Duration	Organisation	Area(s)
1. July 2009 – continuing	National Institute of Technology Rourkela	Biochemistry, Molecular Biology, Cell Biology, Physical Sciences, and Epigenetics.
2. June 2004 – May 2008	Private Institutes at Kalyani and University of Burdwan, W.B.	Biochemistry, Molecular and Cellular Biology, Genomics and Proteomics
3. October 2002 - August 2003	McGill University, Canada	Biochemistry, Structural Biology of Cell Signaling, and Epigenetics

(b) **Subjects taught / currently teaching**

Course Number & Title	UG Level / PG Level	Year taught	Whether course developed by you
LS-402 Biochemistry	PG Level	2009 - continuing	Yes
LS-470 Biochemistry Laboratory	PG Level	2009 - continuing	Yes
LS-404 Molecular Biology	PG Level	2010 - continuing	Yes
LS-474 Molecular Biology Laboratory	PG Level	2010 - continuing	Yes
LS-531 Epigenetics	PG Level	2009 - continuing	Yes
LS-572 Enzymology Laboratory	PG Level	2011- continuing	Yes
LS-431 Cell Biology	PG Level	2009 - 2010	Yes
LS-501 Physical Sciences and Instru^{n}.	PG Level	2009 - 2011	Yes
M Sc BT-1st yr Biochemistry	UG Level	2004-2008	Yes
M Sc BT-2nd yr Proteomics	PG Level	2004- 2005	Yes
P&T-601D1 Biochemistry	PG/MS Level	2002- 2003	No
P&T-601D2 Epigenetics	PG/MS Level	2002- 2003	Yes
PHAR-706 Topics in Pharmacology 5 – Structural basis of cellular signaling and disease	PG/MS and Ph D Course and Credit	2002- 2003	Yes
BM-251 Biochemistry	UG Level	2009 - 2010	No

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DETAILED PUBLICATIONS [Peer-reviewed (from most recent first)]

Impact Factors (I.F.) of Journals

International

1. Deb M, Sengupta D, Kar S, Shilpi A, Parbin S, Rath, SK, Subhendu Roy, Goutam Das and **Patra SK** (2013) Molecular mechanisms of caveolin 1 repression and over expression in human cancer: EPIGENETIC REGULATION OF CAVEOLIN 1 EXPRESSION IN HUMAN COLON CANCER. Under review, **J Biol. Chem.** [I.F. → 4.773]
2. Shilpi A, Parbin S, Sengupta D, Kar S, Deb M, Rath SK, Rakshit M and **Patra SK** (2013) Molecular mechanisms of DNA methyltransferase-Inhibitor interactions: Grape seed extract procyanidin B2 shows a new promise for therapeutic intervention of cancer. Under review, **BBA Proteins and Proteomics** [I.F. → 3.733]
3. Kar S, Parbin S, Deb M, Shilpi A, Sengupta D, Rath SK, Rakshit M, Patra A and **Patra SK (2013)** Epigenetic Choreography of Stem Cells: the DNA demethylation episode of development. **Cellular and Molecular Life Sciences, In press** [I.F. → 5.615] DOI: 10.1007/s00018-013-1482-2
4. Deb M, Sengupta D, Kar S, Shilpi A, Parbin S, Rath, SK, Londhe V and **Patra SK** (2013) Chromatin dynamics and cancer: H3K4 methylation and H3 variants. Under Review, **FEBS J.** [I.F. → 4.25]
5. Sengupta D, Deb M, Kar S, Shilpi A, Parbin S, Mallick B and **Patra SK** (2013) Epigenetic microRNA regulation of chromatin function and signaling pathways: A perspective in cancer. Under review, **Cancer Investigation.** [I.F. → 2.27]
6. Parbin S, Kar S, Shilpi A, Sengupta D, Deb M, Rath, SK and **Patra SK (2013)** Histone deacetylases: A saga of perturbed acetylation homeostasis in cancer. **J Histochem & Cytochem** (Invited Review), **In press** [I.F. → 2.255]
7. Bhutia SK, Mukhopadhyay S, Sinha N, Das DN, Panda PK, **Patra SK**, Maiti TK, Mandal M, Dent P, Wang X-Y, Das S, Sarkar D, and Fisher, PB (2013) Autophagy: Cancer's Friend or Foe? **Adv Cancer Res.** 118:61-95. [I.F. → 6.35]
8. Kar S, Deb M, Sengupta D, Shilpi A, Parbin S, Torrisani J, Pradhan S and **Patra SK** (2012) An insight into the various regulatory mechanisms modulating Human DNA Methyltransferase 1 stability and function. **Epigenetics, 7:** 994-1007. [I.F. → 4.6]
9. Kar S, Deb M, Sengupta D, Shilpi A, Bhutia SK and **Patra SK** (2012) Intricacies of Hedgehog Signaling Pathways: A perspective in tumorigenesis. **Exp Cell Res,** 318: 1959-1972. [I.F. → 3.580]
10. Deb M, Sengupta D and **Patra SK** (2012) Integrin-Epigenetics: A system with imperative impact on cancer. **Cancer Metast. Rev.,** 31:221–234. [I.F. → 10.573]
11. Patra A, Deb M, Dahiya R and **Patra SK** (2011) 5-Aza-2'-deoxycytidine stress response and apoptosis in prostate cancer **Clin Epigenet,** 2: 339-348
12. Patra SK, Deb M and Patra A (2011) Molecular Marks for Epigenetic Identification of Developmental and Cancer Stem Cells. **Clin Epigenet,** 2: 27-53
13. Patra SK and Bettuzzi S (2009) Epigenetic DNA-(Cytosine-5-Carbon) Modifications: 5-Aza-2'-Deoxycytidine and DNA-Demethylation. **Biochemistry (Moscow), 74** (6): 613-619. [I.F. → 1.149]
14. Patra SK Rizzi F., Silva, A. et al. (2008) Molecular targets of (–)-epigallocatechin-3-gallate (EGCG): specificity and interaction with membrane lipid rafts. **J Physiol Pharmacol,** 59 (Suppl 9):217-235 [I.F. → 2.476]
15. Patra, S. K and Szyf, M. (2008) DNA methylation mediated nucleosome dynamics and oncogenic Ras signaling: insights from FAS, FASL and RASSF1A **FEBS J,** 275:5217-5235 [I.F. → 3.05]
16. ****Patra SK** (2008) Ras regulation of DNA-methylation and cancer. **Exp Cell Res** 314(6): 1193-1201 [I.F. → 4.148]
17. **Patra SK**, Patra A, Rizi, F., Ghosh, T. C. et al. (2008) Demethylation of (cytosine-5-C-methyl) DNA and regulation of transcription in the epigenetic pathways of cancer development **Cancer Metast. Rev.** 27(2): 315-334 [I.F. → 8.02]
18. ****Patra SK** (2008) Dissecting lipid raft facilitated cell signaling pathways in cancer. **Biochim. Biophys. Acta.** 1785:182-206 [I.F. → 10.11]

19. **Patra SK** and Bettuzzi S (2007) Epigenetic DNA methylation regulation of genes coding for lipid raft associated components: a role for raft-proteins in cell transformation and cancer progression. **Oncol. Reports 17(6):** 1279-1290. [I.F. → 2.297]
20. **Patra SK** et al. (2003) Methyl-CpG-DNA binding proteins in human prostate cancer: expression of CXXC sequence containing MBD1 and repression of MBD2 and MeCP2. **Biochem. Biophys. Res. Commun.,** 302: 759-66. [I.F. → 3.00]
21. Patra SK et al. (2002) DNA methyltransferase and demethylase in human prostate cancer. **Molecular Carcinogenesis,** 33(3): 163-171. [I.F. → 2.37]
22. Patra SK et al. (2001) Histone deacetylase and DNA methyltransferase in human prostate cancer **Biochem. Biophys. Res. Commun.**, 287: 705-713. [I.F. → 3.00]
23. Patra SK et al. (1999) Liposome containing sphingomyelin and cholesterol: detergent solubilization and infrared spectroscopic studies. **J. Liposome Res., 9:** 247-260. [I.F. → 1.00]
24. Patra, S. K. et al. (1999) State of aggregation of bilirubin in aqueous solution: principal component analysis approach. **J. Photochem. Photobiol. A: Chem.,** 122: 23-31. [I.F. → 2.29]
25. Patra, S. K. et al. (1998) Detergent solubilisation of phospholipid bilayer in the gel state: the role of polar and hydrophobic forces. **Biochim. Biophys. Acta. (Biomembrane)** 1373: 112-118. [I.F. → 4.22]
26. Patra, S. K. and Pal, M. K. (1997) Spectroscopic probe of the individual and combined effect of triton-X-100 and chloroform on human and bovine serum albumins and serum albumin-bilirubin complexes. **Eur. J. Biochem.,** 246: 658-664. [I.F→ 3.16]
27. Patra, S. K. and Pal, M. K. (1997) Dichroic probe of the equilibrium constant of distribution of bilirubin between human and bovine serum albumins. **J. Macromol. Sci. - Pure and Applied Chemistry, A34:** 1569-1579. [I.F. → 0.75]
28. Patra, S. K. and Pal, M. K. (1997) Red edge excitation shift emission spectroscopic investigation of serum albumins and serum albumin-bilirubin complexes. **Spectrochemica Acta Part A,** 53: 1609-1614. [I.F. → 1.29]
29. Chakraboprti S., Michael JR and **Patra S. K.** (1991) Protein Kinase C dependent and independent activation of phospholipase A2 under calcium ionophore (A23187) exposure in rabbit pulmonary arterial smooth muscle cells. **FEBS Letters,** 285: 104-107. [I.F. → 3.42]

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30. Patra, S. K. and Pal, M. K. (1998) On the effect of visible light irradiation on bilirubin and bilirubin bound to serum albumins: an insight into the phototherapy of neonatal jaundice. **J. Indian Chem. Soc.**, 75:148-150. [I.F. → 0.34]
31. Pal MK and Patra SK (1994) Fluorometric probes of the individual and competitive binding of 1-anilinonaphthalene-8-sulfonate, eosine and fluoresceine to bovine serum albumin. **Indian J. Biochem. Biophys,** 31: 109-114. [I.F. → 1.02]

Conference proceedings and presentations

International

32. Deb M, Sengupta D, Kar S, Shilpi A, Parbin S, and **Patra SK** (2012) Clusterin expression and epigenetic control switch in human breast cancer. In: The 2nd Global Cancer Genomics Consortium (GCGC) TMC Symposium, 19-20 November ACTREC, Mumbai, INDIA.
33. **Patra SK**, Deb M, Sengupta D, Kar S and Shilpi A (2012) Reversible methylation at DNA-cytosine-5-carbon by DNA methyltransferase and possible mechanism of inhibition by 5-aza-2'-deoxycytidine. In: Biochemical Society Annual Symposium, 10-12 January, Cambridge, UK,. P014
    [http://www.biochemistry.org/Conferences/AllConferences/tabid/379/View/Posters/MeetingNo/SA127/Default.aspx]
34. Kar S, Deb M, Sengupta D, Shilpi A and **Patra SK** (2011) DNA methylation as a Prognostic Marker: Diagnostic and therapeutic implications in cancer research. In: The 1st Global Cancer Genomics Consortium (GCGC) TMC Symposium, 10-12 November, ACTREC, Mumbai, INDIA.
35. **Patra SK,** Patra A, Deb M and Sengupta D (2011) DNA methylation and Histone modifications around Clusterin and RASSF1A genes in Human Prostate Cancer. In: Histone Variants and Genome Regulation (w11-17), 11-histone-variants, 12 - 14 October, IGBMC, Strasbourg, France.

36. **Patra SK** and Bettuzzi S (2010) Epigenetic DNA-(Cytosine-5-Carbon) Modifications: 5-Aza-2'-Deoxycytidine and DNA-Demethylation. In: International Conference on Frontiers in Biological Sciences: Epigenetics and Molecular Biology. NIT-Rourkela, India. Book of Abstracts p73.
37. **Patra SK** and Szyf M (2010) DNA methylation mediated nucleosome dynamics and oncogenic Ras signaling: insights from FAS, FASL and RASSF1A. In: International Conference on Frontiers in Biological Sciences: Epigenetics and Molecular Biology. NIT-Rourkela, India. Book of Abstracts p 66.
38. **Patra SK** and Deb M (2010) Molecular Marks for Epigenetic Identification of Developmental and Cancer Stem Cells. In: International Conference on Frontiers in Biological Sciences: Stem Cell and Tissue Regeneration. NIT-Rourkela, India. Book of Abstracts p125.
39. Deb M and **Patra SK** (2010) Integrin Signaling and Human Cancer. In: International Conference on Frontiers in Biological Sciences: Cancer Biology. NIT-Rourkela, India. Book of Abstracts p52.
40. Deb M and **Patra SK** (2010) Turmeric as an effective anti-cancerous agent. In: International Conference on Frontiers in Biological Sciences: Cancer Biology. NIT-Rourkela, India. Book of Abstracts p53.
41. Kar S, Deb M and **Patra SK** (2010) Role of hedgehog signaling in cancer. In: International Conference on Frontiers in Biological Sciences: Cancer Biology. NIT-Rourkela, India. Book of Abstracts p57.
42. **Patra SK** and Patra A (2003) Lipid rafts in cancer metastasis — A working hypothesis. In: 94th annual meeting of American Association for Cancer Research (AACR), 5-9 April, Toronto, Ontario, CANADA. (Cancelled due to fear of SARS). Rescheduled on 11 -14 July, 2003 at the New Washington Convention Center, USA. (Abstr.), 1st Ed, Proc. Am. Assoc. Cancer Res. (AACR), 44, 2003, p. 64.
43. Patra A, **Patra SK** et al. (2002) 5-Aza-2'-deoxycytidine induced apoptosis in prostate cancer cell line TSUPr1. In: 93rd annual meeting of American Association for Cancer Research (AACR), 6-10 April, San Francisco, CA, USA.
44. **Patra SK** et al. (2002) DNA methyltransferases and MBD2 demethylase in human prostate cancer. In: 93rd annual meeting of American Association for Cancer Research (AACR), 6-10 April, San Francisco, CA, USA.
45. **Patra, S. K.,** Patra, A., Carroll, P. and Dahiya, R (2002) Methyl-CpG-DNA binding proteins in human prostate cancer. In: Breast Prostate Joint Retreat against Cancer Cause and Control, 12 March, Department Urology, UCSF and Genentech Inc., South San Francisco, CA, USA.
46. **Patra SK** et al. (2001) Role for histone deacetylases and DNA methyltransferase 1 in human prostate cancer. In 92nd annual meeting of American Association for Cancer Research (AACR), 24-28 March, New Orleans, USA.
47. **Patra SK**, Alonso A and Goni FM. (1999) Monitoring solubilisation of phospholipid bilayer in the gel state: the role of polar and hydrophobic forces. In Biophysical Society 43rd Annual Meeting, 13-17 February, Baltimore, Maryland, USA. [Presented by FM Goni]
48. **Patra SK** and Pal MK (1997) Measuring the equilibrium constant of distribution of bilirubin between human and bovine serum albumins. In International Symposium on Biological Thermodynamics, 6-8 January, Guru Nanak Dev University, Amritsar, INDIA.
49. Pal MK and **Patra SK** (1995) In vitro studies on optical properties of bovine serum albumin –bilirubin complexes in presence of xenobiotics – A spectroscopic probe. In Biologic Effect of Light, 9-11 October, Georgia, Atlanta, USA. Photodermatol. Photoimmunol. Photomed. 11(2) p78-.
50. Pal MK and **Patra SK** (1995) Studies on Serum albumin-bilirubin interaction and effects of non-ionic, anionic surfactants and hydrophobic probe 8-anilinonaphthalene-1-sulfonate. In Third International Bilirubin Workshop, 6-8 April, University of Trieste, Trieste, ITALY
51. Pal MK and **Patra SK** (1994) Spectroscopic probes of Serum albumin – bilirubin interaction and effects of non-ionic and anaionic surfactants thereon. In XVIth International Union of Biochemistry and Molecular Biology (IUBMB) satellite symposium: protein structure, function and engineering. 16-17 September, Bose Institute, Calcutta, INDIA; Book of abstract p49.

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52. Deb M, Sengupta D, Kar S, Shilpi A, Parbin S, Pradhan N and **Patra SK** (2013) Caveolin and clusterin expression and functional correlation with human breast cancer. In 100th Indian Science

Congress Association, Proceedings, New Biology, 3-7 January, Calcutta University, Kolkata, West Bengal, INDIA.

53. Kar S, Deb M, Sengupta D, Shilpi A, Parbin S, Pradhan N and **Patra SK** (2013) MBD proteins as prognostic biomarker for epigenetic cancer therapy. In 100th Indian Science Congress Association, Proceedings, New Biology, 3-7 January, Calcutta University, Kolkata, West Bengal, INDIA.
54. Sengupta D, Deb M, Kar S, Shilpi A, Parbin S, Pradhan N and **Patra SK** (2013) Expression profiling of DNA methyltransferases in breast cancer. In 100th Indian Science Congress Association, Proceedings, New Biology, 3-7 January, Calcutta University, Kolkata, West Bengal, INDIA.
55. Sengupta D, Deb M, Kar S, Shilpi A, Parbin S, Pradhan N, Rath SK and **Patra SK** (2012) Expression of DNMT1 and its modulation by epigenetic modifiers in breast cancer cells. In: National Seminar on Emerging Trends in Cell and Molecular Biology, 14th December, Jadavpur University, Kolkata, West Bengal, INDIA.
56. **Patra SK** (2012) Epigenetics of development and cancer- an **invited thematic lecture** on Trends in Cellular, Biochemical and Molecular Biology. In: Seminar on Recent Advances in Life Science Application, 8-9 December, P.G. Department of Zoology, A. B. N. Seal College of NBU and UBKV, Cooch Behar, West Bengal, INDIA.
57. **Patra SK**, Deb M, Sengupta D, Kar S and Shilpi A (2012) Molecular mechanisms of DNA-methylation during development, ageing and cancer: DNA-methyltransferase and DNA –demethylase in action. **Invited Lecture** In: National Seminar on Current Trends in Chemistry – VI (NSCTC-VI), 02 March, Kalyani University, West Bengal, India.
58. **Patra SK** and Bettuzzi S (2009) Mechanism of DNA-demethylation: No role for 5-aza-2′-deoxycytidine. National Seminar in Current Trends in Chemistry (NSCTC-III). 20-21 March 2009, Kalyani University, West Bengal.
59. **Patra SK** (2002) DNA (Cytosine-5) Methylation induced Chromatin remodeling in cancer development: Role of methyl-CpG-DNA binding proteins. In: Indian Society of developmental biologists, Biology at Kanpur IIT, 17-20 February, Indian Institute of Technology (IIT), Kanpur, INDIA
60. Pal MK, **Patra SK** and Sarkar S (1995) Hydrophobicity has the major role in binding of bilirubin to serum albumin. In Association of Medical Biochemists, India. 17-19 February, Burdwan Medical College, Burdwan, INDIA; Book of abstract p15.
61. **Patra SK** (1993) Fluorescence probe of the competitive binding of ANS and eosine to BSA. In 80th Indian Science Congress Association, Proceedings, Part III, Section V, Biochem. Biophys. and Mol. Biol., 3-8 January, Goa University, Goa, INDIA.

Book chapters

62. **Patra SK** (2010) Involvement of Lipid rafts in Growth factor receptors-Mediated signaling for cancer metastasis. In: Signal Transduction in Cancer metastasis, W.-S. Wu, C.-T. Hu (Eds.), Springer, DOI 10.1007/978-90-481-9522-0_11. Vol. 15, pp 209-224.
63. Patra SK and Pal MK (1996) In vitro studies on optical properties of bovine serum albumin-bilirubin complexes in presence of xenobiotics: a spectroscopic probe. In Biologic effect of light 1995. Holick M. F. and Jung E. G. Eds. W de G, Berlin: 136-138.

Place: **Rourkela** Signature of Investigator