




Faculty Details proforma for DU Web-site

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cc: director@ducc.du.ac.in)

Title	Dr.	First Name	Sharmila	Last Name	Basu-Modak	Photograph
Designation		Professor				
Address		Department of Zoology University of Delhi Delhi 110 007				
Phone No	Office	+ 91 (0) 11 2766 7212 Ext. 133				
	Residence					
	Mobile					
Email		sbasumodak@zoology.du.ac.in				
Web-Page						
Educational Qualifications						
Degree		Institution			Year	
Ph.D. (Zoology)		University of Poona			1993	
M.Sc. (Zoology)		University of Poona			1984	
B.Sc. (Zoology-principal subj)		University of Poona			1982	
Career Profile						
<p>Since July 2012: Professor in the Department of Zoology, University of Delhi, Delhi.</p> <p>November 2006-June 2012: Associate Professor in the Department of Zoology, University of Delhi.</p> <p>October, 2003 - October 2006: Reader in the Department of Zoology, University of Delhi, Delhi.</p> <p>May, 2000-September 2003: Research officer in the Department of Pharmacy and Pharmacology, University of Bath, Bath, United Kingdom.</p> <p>February, 1999-April 2000: Expert teacher for various courses in the Department of Zoology, University of Poona, Pune, India.</p> <p>October, 1995-January 1999: Marie Heim-Vogtlin fellow in the Institute of Animal Biology, University of Lausanne, Lausanne, Switzerland.</p> <p>September, 1993-June, 1995: Postdoctoral fellow in the Physical Carcinogenesis Unit, Swiss Institute for Experimental Cancer Research (ISREC), Epalinges, Switzerland.</p> <p>November, 1990-August, 1993: Research fellow in the Physical Carcinogenesis Unit, ISREC, Epalinges, Switzerland.</p>						
Areas of Interest / Specialization						
<p>Specialization Molecular and Cell Biology</p> <p>Areas of interest Molecular genetics; Molecular phylogeny; Gene expression (embryogenesis); Angiogenesis; Heme metabolism</p>						
Subjects Taught						
Structure & function of Genes Molecular Cell Biology Comparative Animal Physiology Genetics & Cytogenetics Cell Physiology Developmental Biology						
Research Guidance						

Supervision of Doctoral Thesis

Awarded: 5

Ongoing: 3

Supervision of M. Phil. Thesis

Ongoing: 1

Publications Profile

Books/Monographs (Authored/Edited)

Dubey, N., Singh, R., Sharma, A. K., Basu-Modak, S., & Singh, Y. 2015. *The Survivors of the Extreme: Bacterial Biofilms*. In *Microbial Factories*, ed. V. C. Kalia, Vol. 2, 161-182, Springer India.

Basu-Modak, S. and Tyrrell, R.M. 2001. *Modulation of gene expression by solar ultraviolet radiation in Sun protection in man*, ed. P.U. Giacomoni, 303-320, Elsevier Science B.V.

Modak, S.P., Deobagkar, D.D., Leuba-Gfeller, G. and Basu-Modak, S. 1986 *The biology of human aging in Symposia of the society for the study of human biology*, ed. A.H. Bittles and K.J. Collins, Vol. 25, 17-32.

Research papers published in Refereed/Peer Reviewed Journals

Rana, M., & Basu-Modak, S. *Immunohistochemical analysis of Heme oxygenases, Prolactin and VEGF in the mouse placenta*. IJSR.2016,5 (11), 712-716.

Arora G, Sajid A, Arulanandh MD, Misra R, Singhal A, Kumar S, Singh LK, Mattoo AR, Raj R, Maiti S, Basu-Modak S, Singh Y. *Zinc regulates the activity of kinase-phosphatase pair (BasPrkC/BasPrpC) in Bacillus anthracis*. Biometals. 2013; 26(5):715-30.

Arora G, Sajid A, Gupta M., Bhaduri A, Kumar P, Basu-Modak S, Singh Y. *Understanding the role of PknJ in Mycobacterium tuberculosis: Biochemical characterization and identification of novel substrate pyruvate kinase A*. PLoS One.2010;5(5):e10772.

Dubey GP, Narayan A, Mattoo AR, Singh GP, Kurupati RK, Zaman MS, Aggarwal A, Baweja RB, Basu-Modak S, Singh Y. *Comparative genomic study of spo0E family genes and elucidation of the role of Spo0E in Bacillus anthracis*. Arch Microbiol. 2009;191(3):241-53.

Basu-Modak S, Ali D, Gordon M, Polte T, Yiakouvaki A, Pourzand C, Rice-Evans C, Tyrrell RM. *Suppression of UVA-mediated release of labile iron by epicatechin--a link to lysosomal protection*. Free Radic Biol Med. 2006; 41(8):1197-204.

Nadra K, Anghel SI, Joye E, Tan NS, Basu-Modak S, Trono D, Wahli W, Desvergne B. *Differentiation of trophoblast giant cells and their metabolic functions are dependent on peroxisome proliferator-activated receptor beta/delta*. Mol Cell Biol. 2006;26(8):3266-81.

Thompson, D., Basu-Modak, S., Gordon, M., Poore, S., Markovitch, D. and Tyrrell, R.M. *Exercise-induced expression of heme oxygenase-1 in human lymphocytes*. Free Radic Res. 2005; 39, 63-69.

Basu-Modak, S., Gordon, M.J., Dobson, L.H., Spencer, J.P.E., Rice-Evans, C. and Tyrrell, R.M. *Epicatechin and its methylated metabolite attenuate UVA-induced oxidative damage to human skin fibroblasts*. Free Radical Bio. Med. 2003; 35, 910-921.

Protegente, A.R., Basu-Modak, S., Kuhnle, G., Gordon, M.J., Youdim, K., Tyrrell R.M. and Rice-Evans, C.A. *Hesperetin glucuronide, a photoprotective agent arising from flavonoid metabolism*. Photochem. Photobiol. 2003; 78, 256-261.

Escher, P., Braissant, O., Basu-Modak S., Michalik, L., Wahli, W. and Desvergne, B. *Rat peroxisome proliferator-activated receptors (PPARs) : Rat peroxisome proliferator-activated receptors (PPARs): quantitative analysis in adult rat tissues and regulation in fasting and refeeding*. Endocrinology. 2001; 142, 4195-4202.

Michalik, L., Desvergne, B., Tan, N.S., Basu-Modak, S., Escher, P., Rieusset, J., Peters, J.M., Kaya, G., Gonzalez, F.J., Zakany, J., Metzger, D., Chambon, P., Duboule, D. and Wahli, W. *Impaired skin wound healing in PPAR α and PPAR γ mutant mice*. J. Cell Biol., 154, 799-714 (2001).

Michalik, L., Desvergne, B., Basu-Modak, S., Tan, N.S., Wahli, W. *Nuclear hormone receptors and Mouse skin homeostasis: Implication of PPAR γ* . Horm. Res., 54, 263-268 (2000).

Basu-Modak, S., Braissant, O., Escher, P., Desvergne, B., Honegger, P. and Wahli, W. *Peroxisome proliferator activated receptor α regulates acyl-CoA synthetase 2 in reaggregated rat brain cell cultures.* J.Biol. Chem., 274, 35881-35888 (1999).

Kvam, E., Noel A. Basu-Modak, S. and Tyrrell, R.M. *Cyclooxygenase dependent release of heme from microsomal heme proteins correlates with induction of hemoxygenase-1 transcription in human fibroblasts.* Free Radical Bio. Med., 26, 511-517 (1999).

Basu-Modak, S., Luscher, P. and Tyrrell, R.M. *Lipid metabolites involvement in the activation of the human heme oxygenase-1 gene.* Free Radical Biol. Med., 20, 887-897, 1996.

Vile, G.F., Basu-Modak, S., Waltner, C. and Tyrrell, R.M., *Heme oxygenase-1 mediates an adaptive response to oxidative stress in human skin fibroblasts.* Proc. Natl. Acad. Sci., 91, 2607-2610, 1994.

Tyrrell, R.M. and Basu-Modak, S.; *Transient enhancement of heme oxygenase 1 mRNA accumulation- a marker of oxidative stress to eucaryotic cells.* Methods in Enzymology, 234, 224-235, 1994.

Basu-Modak, S. and Tyrrell, R.M.; *Singlet oxygen: A primary effector in the UVA/near visible light induction of the human heme oxygenase gene.* Cancer Research, 53, 4505-4510, 1993.

Other publications (Edited works, Book reviews, Festschrift volumes, etc.)

Thompson, D., Basu-Modak, S., Poore, S., Markovitch, D. and Tyrrell, R.M. *Exercise-induced expression of heme oxygenase-1 in human lymphocytes.* J. Physiol. 555P, C111 (2004).

Basu-Modak, S., Braissant, O., Escher, P., Desvergne, B., Honegger, P. and Wahli, W. *Peroxisome proliferator activated receptors in the developing rat brain.* Abstract submitted for the 30th Annual meeting of the Swiss Societies for Experimental Biology, Switzerland, March 98.

Escher, P., Basu-Modak, S., Braissant, O., Wahli, W. and Desvergne, B. *Differential activation and expression of the rat peroxisome proliferator activated receptors.* Abstract submitted for USGEB 98, Switzerland.

Basu-Modak, S. and Tyrrell, R.M. *Free radical and lipid metabolite involvement in the transcriptional activation of the human heme oxygenase-1 gene.* Int. J. Tiss. React., 19, 79-80, 1997.

Basu-Modak, S., Luscher, P. and Tyrrell, R.M.: *Early signal transduction events in the ultraviolet A induction of the human heme oxygenase-1 gene.* J. Cell. Biochemistry, suppl. 18D, 28, 1994.

Basu-Modak, S. and Modak, S.P. *Sunlight as stress in human fibroblasts.* UGC educational media network, Doordarshan, India. Telecast on April 11, 1995.

Research Projects

“Structure-Function relationship in Pregnant Mare Serum Gonadotropins (PMSG)” PI:Prof. K. Muralidhar, CSIR, May 2012-April 2015 (~ Rs35 lakhs)

“Heme oxygenase 1 in rodent embryogenesis”, DST, December 2006 -December 2010 (Rs. 23, 97,240.-).

“Expression of Prolactin and its receptor in the developing Heme oxygenase-1 knockout embryos”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2014-2015 (Rs 3 lakhs).

“Phenotype analysis of Heme oxygenase-1 mutation – Tying up loose ends”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2013-2014 (Rs 2.8 lakhs).

“Developmental profile of Heme oxygenase-proteins in wild type and Hmox1 mutant mouse embryos”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2012-2013 (Rs 2.5 lakhs).

“Heme oxygenases-1 knockout mouse embryos – A search for clues”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2011-2012 (Rs 1 lakh).

“Developmental profile of the Heme oxygenase 1 gene expression in mouse”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2010-2011 (Rs 2.5 lakhs).

“Hemoxygenases in mouse development”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2009-2010 (Rs 2.5 lakhs).

“Hemeoxygenases in mouse development: A comparative study in the heme oxygenase 1 knockout mouse”; Partial funding from Scheme to strengthen R&D Doctoral Research Programme from University of Delhi, 2007-2008 (Rs 2.5 lakhs).

Awards and Distinctions

1995-1996: Marie Heim-Vogtlin fellowship for women scientists awarded from the Swiss National Science Foundation, Switzerland

1993-1994: ISREC post doctoral fellowship from the Swiss Institute for Experimental Cancer Research

1987-1990: UGC-SRF

1985-1987: UGC-JRF

1984: Silver Jubilee Prize for securing highest marks in M.Sc. (III and IV semesters)

1984: Nandu Dixit Memorial Prize for securing first rank in M.Sc.(I and II semesters)

1982 – 1984: National Merit Scholarship for the course of post graduation

1982: Mrs. Radhabai Joshi prize awarded for standing first amongst all lady students of the college at final B.Sc. examination in April 1982

Shri B.R. Patankar prize awarded for passing B.Sc. examination with first rank in college

Manolikar Foundation prize for securing highest marks in B.Sc. Zoology

Shri R.K. Karandikar and Sou Indirabai Karandikar prize for topping in April 1982 examinations

Maganlal Chikkiwala Lonawala Prize for obtaining highest marks in third year B.Sc

Late Prof. T.S. Suratkar prize for standing first in third year B.Sc.

1976: Best Student Award for overall performance in high school

Association With Professional Bodies

Member of Governing body Holy Family College of Nursing, New Delhi from January 2018.

Life member, Indian Society of Cell Biology

Other Activities

Member of Institutional Animal Ethics Committee (Department of Zoology, DU) since 2009.

Member of M. Phil. Committee (Department of Zoology, DU) since November 2017.

Member of Board of Research Studies (Sciences) University of Delhi, for the period 24.9.12 to 23.09.14.

Member of Human Ethics Committee (Department of Zoology).

Participate actively in administrative and academic activities of the department in the capacity of member of the various departmental committees.

Also participate as panel member of selection committees for award of various national level fellowships.

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.