CURRICULUM VITAE

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Occupation : Research

Field of Specialization : Phototoxicity

Present Post : Senior Principal Scientist & Head
Photobiology Divisio,n
: Professor, AcSIR, IITR Campus, Lucknow

Academic Qualification (Bachelor's Degree Onwards):

Si. No.	Degree	Subject	Class	Year	University
1.	B.Sc.	Chemistry, Zoology, Botany	Ist	1988	Punjab University, Chandigarh, India
2.	M.Sc.	Chemistry	Ist	1990	Meerut University, Meerut, India.

3.	Ph.D.*	Chemistry	Awarded	2002	Kumaun University, Nainital, India.

***Title of Thesis:** **Studies on phototoxic action of drugs with emphasis to antibiotics and skin care products.**

Thesis Awarded (in year 2014)-

- Ashish Dwivedi (UGC-SRF)
- Neera Yadav (CSIR-SRF)
- Syed Faiz Mujtaba (CSIR-SRF)

Funding Agencies-

(CSIR NETWORK PROJECT)

1-UNDO

2-INDEPTH

3-NANOSHE

Professional Affiliation:

1. Joined as a Scientist B in, Indian Institute Of Toxicology Research Lucknow (A sister research organization of Council of Scientific and Industrial Research, Gov. of India) in, 1991.
2. Scientist, 1996.
3. Senior Scientist, 2002.
4. Principal Scientist, 2007.
5. Senior Principal Scientist, 2012

Membership in organizational / national / international committees.

1. American Society for Photobiology , USA
2. Indian Photobiology Society, India
3. Society of Toxicology, India
4. Bureau of Indian Standards (Cosmetics Sectional Committee PCD 19),India
5. The Academy of Environmental Biology, India

Current Research Interest: -

Effects of ultraviolet radiation (UVR) and sunlight on biomolecules/xenobiotics with particular emphasis to ***DNA damage*** *and* ***oxidative stress (ROS)***. Phototoxicity mechanism of commonly used drugs, cosmetics and environmental pollutants. Identification of new photoproducts, photosensitive ***marker genes and proteins*** for phototoxicity**.** Development of new test models for phototoxicity by using ***human skin and ocular cell lines/human skin dermal models*** and primary skin cell culture.

List of Publications (Five years):

1. Daoud Ali, **R.S. Ray** and R.K. Hans. 2010. UVA-induced cyototoxicity and DNA damaging potential of benz (e) acephenanthrylene **Toxicology Letters**. 199 (2). 193-200. **I.F. 3.5**
2. Ankit Verma, Daoud Ali, M. Farooq, A.B. Pant, **R.S. Ray,** R.K. Hans. 2011. Expression and inducibility of endosulfan metabolizing gene in *Rhodococcus* strain isolated from earthworm gut microflora for its application in bioremediation. **Bioresource Technology** 102 , 2979–2984. **I.F. 5.3**
3. Varun Tobi, O. P. Verma, P. W. Ramteke and **R. S. Ray,** 2011. Phototoxic Assesment of Polycyclic Aromatic Hydrocarbons by Using NIH-3T3 and L-929 Cell Lines. **J AIDS Clinic Res** 2(4),1000123. **I.F. 2.7**
4. Ali Daoud, Verma A, Mujtaba S.F., Dwivedi A, Hans R.K. **Ray R.S.** 2011, UVB-induced apoptosis and DNA damaging potential of chrysene via reactive oxygen species in human keratinocytes. **Toxicology Letters,** 204,199-207. **I.F. 3.5**
5. Syed Faiz Mujtaba, Ashish Dwivedi, Mohan Krisha Reddy Mudiam, Daoud Ali, Neera Yadav and **Ratan Singh Ray**. 2011. Production of ROS by photosensitized anthracene under sunlight and UV-R at ambient environmental intensities. **Photochemistry and Photobiology,** 87, 1067-1076. **I.F. 2.67**

6. Ashish Dwivedi, Syed F. Mujtaba, Hari N. Kushwaha, Daoud Ali1, Neera Yadav, S. K. Singh, **Ratan S. Ray**. 2012. Photosensitizing mechanism and identification of Levofloxacin photoproducts at ambient UV radiation. **Photochemistry and Photobiology**,88, 344-355. **I.F. 2.67**

7. Neera Yadav**,** Ashish Dwivedi, Syed F. Mujtaba, Hari N. Kushwaha S. K. Singh, **Ratan S. Ray.** 2013. Ambient UVA-induced expression of p53 and apoptosis in human skin melanoma A375 cell line by quinine. **Photochemistry and Photobiology**,89(3), 655-64. **I.F. 2.67**

8. Syed F. Mujtaba, Ashish Dwivedi, Neera Yadav**, Ratan S. Ray,** Gajendra Singh. 2013. Singlet oxygen mediated apoptosis by anthrone involving lysosomes and mitochondria at ambient UV exposure. **J. Hazard. Mater.**,252-253: 258-71. **I.F. 4.1**

9. Ashish Dwivedi, M. K. Pal, A. K. Tripathi, Neera Yadav, Syed F. Mujtaba, M. C. Pant, S. K. Singh, D. P. Mishra, **Ratan S. Ray,** B.H. Prabhu. 2013. Role of type-II pathway in apoptotic cell death induction by photosensitized CDRI-97/78 under ambient exposure of UV-B. **Toxicology Letters,** S0378-4274(13)01072-2. **I.F. 3.5**

10. **Ratan Singh Ray**, , Syed Faiz Mujtaba, Ashish Dwivedi, Neera Yadav, Ankit Verma, Hari Narayan Kushwaha, Saroj Kumar Amar, Shruti Goel, Deepti Chopra. 2013. Singlet oxygen mediated DNA damage induced phototoxicity by ketoprofen resulting in mitochondrial depolarization and lysosomal destabilization. **Toxicology** Volume 314, 229–237 **I.F 4.01**

11. Ashish Dwivedi, Syed Faiz Mujtaba, Neera Yadav, Hari Narayan Kushwaha, Saroj Kumar Amar, Shio Kumar Singh, Mohan Chand Pant, **Ratan Singh Ray**. 2014, Cellular and molecular mechanism of ofloxacin induced apoptotic cell death under ambient UV-A and sunlight exposure. **Free Radical Research,** 48(3):333-46 **I.F 3.2**

12. Tripathi AK, Dwivedi A, Pal MK, Rastogi N, Gupta P, Ali S, Prabhu MB, Kushwaha HN, **Ray RS**, Singh SK, Duggal S, Narayan B, Mishra DP. 2014,

Attenuated neuroprotective effect of riboflavin under UV-B irradiation via miR-203/c-Jun signaling pathway in vivo and in vitro. **J Biomedical Sci.** 7; 21: 39

I.F 2.74

13. Yadav N1, Dwivedi A, Mujtaba SF, Verma A, Chaturvedi R, **Ray RS**, Singh G. 2014, Photosensitized mefloquine induces ROS-mediated DNA damage and apoptosis in keratinocytes under ambient UVB and sunlight exposure **Cell Biol Toxicol.** DOI 10.1007/s10565-014-9280-7 **I.F 2.05**

14. Mujtaba SF, Dwivedi A, Yadav N, Ratnasekhar Ch, Kushwaha HN, Mudiam MK, Singh G, **Ray RS** Superoxide mediated photomodification and DNA damage induced apoptosis by Benz(a)anthracene via mitochondrial mediated pathway. **Journal of Photochemistry and Photobiology B: Biology** 142; 2015; 92-102. **IF-3.1**

15. Amar SK, Goyal S, Mujtaba SF, Dwivedi A, Kushwaha HN, Verma A, Chopra D, Chaturvedi RK, **Ray RS**. Role of type 1 and type 2 reactions in DNA damage and activation of caspase 3 via mitochondrial pathway induced by photosensitized benzophenone. **Toxicology Letters**. 235(2); 2015; 84-95.

IF-3.5

16. Goyal S, Amar S.K, Dubey D, Pal.M.K. Singh J, Verma. A., Kushwaha H.N, **Ray R.S**. Involvement of cathepsin B in mitochondrial apoptosis by p-phenylenediamine under ambient UV radiation. **J. of Hazardous Materials**: 300; 2015;415–425 **I.F. 4.1**

17. Swati Agarwal, Shashi Kant Tiwari, Brashket Seth, Anuradha Yadav, Anshuman Singh, Anubha Mudawal, Lalit Kumar Singh Chauhan, Shailendra Kumar Gupta, Vinay Choubey, Anurag Tripathi, Amit Kumar, **Ratan Singh Ray,** Shubha Shukla, Devendra Parmar, and Rajnish Kumar Chaturvedi. 2015 Activation of Autophagic Flux against Xenoestrogen Bisphenol-A-induced Hippocampal Neurodegeneration via AMP kinase (AMPK)/Mammalian Target of Rapamycin (mTOR) Pathways. **J. Biol. Chem**. 290: 21163-21184 **I.F. 4.5**

18. Tiwari SK, Agarwal S, Seth B, Yadav A, **Ray RS**, Mishra VN, Chaturvedi RK 2015, Inhibitory Effects of Bisphenol-A on Neural Stem Cells Proliferation and Differentiation in the Rat Brain Are Dependent on Wnt/β-Catenin Pathway. **Mol Neurobiol**. 52(3):1735-57. **I.F. 5.13**

19. Ajeet K. Srivastav, Syed Faiz Mujtaba, Ashish Dwivedi, Saroj K. Amar, Shruti Goyal, Ankit Verma, Hari N. Kushwaha, Rajnish K. Chaturvedi, **Ratan Singh Ray.** 2016. Photosensitized rose bengal induced phototoxicity on human melanoma cell line under natural sunlight exposure **Journal of Photochemistry and Photobiology B: Biology**, **In Press,** **IF-3.1**

20. Deepti Chopra, Lipika Ray, Ashish Dwivedi, Shashi Kant Tiwari, Jyoti Singh, Krishna P. Singh, Hari Narayan Kushwaha, Sadaf Jahan, Ankita Pandey, Shailendra K. Gupta, Rajnish Kumar Chaturvedi, Aditya Bhushan Pant, **Ratan Singh Ray**, Kailash Chand Gupta, 2016, Photoprotective efficiency of PLGA-curcumin nanoparticles versus curcumin through the involvement of ERK/AKT pathway under ambient UV-R exposure in HaCaT cell line. **Biomaterials**, **In Press.** **I.F. 8.55**

21. Jyoti Singh,, Ashish Dwivedi, Syed Faiz Mujtaba, Krishna P Singh ,Manish Kumar Pal, Deepti Chopra , Shruti Goyal, Ajeet K Srivastav, Divya Dube, Shailendra K Gupta, Chandana Haldar , **Ratan Singh Ray**, : 2016 Ambient UV-B exposure reduce the binding of ofloxacin with bacterial DNA gyrase enzyme and induced DNA damage mediated Apoptosis in human keratinocytes. **International Journal of Biochemistry & Cell Biology**. **In Press.** **IF 4.01**

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