Curriculum Vitae

Name: Dr. Urmila Nair

Overall Scientific Expertise/ Major Research Interests:

Toxicology, carcinogenicity, mutagenicity, reactive oxygen species(ROS), Oxidative damage, host risk factors, with special focus on tobacco, smoked and smokeless, betel quid, areca-nuts. Tobacco/Cigarette additives/Ingredients: Health effects, including attractiveness, addictiveness, and toxic effects, burnt and unburnt forms. E-Cigarette ingredients and effects

Research Experience: Biochemical, Microbiological, Chemical analysis. Fermentation, Extraction, purification ans scale-up pilot studies for preparation of biochemicals.

Professional Experience

Years employed from – to	Title of position	Employer – name and location	Areas of professional specialisation♠
1995-June 2014, Retired	Sr. Research Scientist	German Cancer Research Center (DKFZ), Im Neuenheimer Feld 280, 69120 Heidelberg, Germany *Div. of Toxicology&Host Risk Factors *Unit of Cancer Prevention & WHO Collaborating Centre (Tobacco Control)	Toxicology and host risk factors tobacco and tobacco products Tobacco & tobacco products constituents, additives and emissions
01/89-12/1989 &05/85-10/1985:	Visiting Scientist,	International Agency for Research on Cancer (IARC), Lyon , France	Toxicology (Tobacco/ tobacco products and Betelquid & ingredients)
10/ 83-02/1984	Guest Scientist	Gesselschaft für Strahlen ünd Umweltforschung (GSF), München, & DKFZ, Heidelberg, Germany	Toxicology (Tobacco, Betel quid, arecanut)
10/1980-05/1994	Scientific Officer	Cancer Research Institute, Tata Memorial Centre, Bombay, India.	Toxicology, Carcinogenesis, Exposure assessment, Genotoxicity
07/1976-	Sr.Res Scientist,	Haffkine Institute for Research and	Biochemicals, scale-up pilot

09/1980	Officer-in-Charge,	Training , Bombay. Glandular Products Research Division	studies
09/1975-06/1976:	Scientific Officer	Bombay University Department of Chemical Technology, India	Biochemistry
10/1974-08/1975	Microbiologist	Centron Research Laboratories, Bombay	Biochemistry, Microbiology, Fermentation

Educational Background

Year	Degree awarded	Educational Institution – name and location	Areas of educational specialisation*
1974	Ph.D.	Bombay University Department of Chemical Technology , Bombay	Science (Biochemistry)
1970	M.Sc.	Bombay University Department of Chemical Technology, Bombay.	Biochemistry
1967	B.Sc.	Bombay University (Bombay)	Chemistry, Botany

Memberships in Scientific Advisory Bodies/Committees/Panels*):*

- SCHEER (Scientific Committee on Health, Environmental and Emerging Risks), Additives used in tobacco products, Opinion II, 16 December 2016.
- SCENIHR (Scientific Committee on Emerging and Newly Identified Health Risks), Additives used in tobacco products, 25 January 2016.
- Harvesting Global Learning on Electronic Nicotine Delivery Systems to Inform U.S. Research, Surveillance and Policy, Warsaw, June 6-7 2015
- WHO-Manila (WPRO), Informal Technical Consultation on the regulation of Electronic Nicotine Delivery Systems, (2014).
- SCENIHR- Opinion on the Addictiveness and Attractiveness of Tobacco Additives (2010)

WHO-IARC Monographs: Member IARC WG on the evaluation of carcinogenic risks to humans:

- Volume 89, (2007): Smokeless Tobacco and some Tobacco-specific *N*-Nitrosamine.
- Volume 85, (2004): Betel-quid and Areca-nut Chewing and some Areca-nut-derived Nitrosamines

Memberships in Learned Societies*):#*

- Action Council against Tobacco (ACT), Bombay Life and Founder member
- Indian Association of cancer research (IACR) ,Bombay, Life Member
- Indian Women Scientist Association (IWSA),Bombay, Life Member

Publications:

Peer reviewed articles/ Book Chapters ~ 57. Comprehensive reports on tobacco additives/ emissions, cancer prevention & tobacco/e cigarette related publications and lay fact sheets available at https://www.dkfz.de/de/tabakkontrolle/Informationen_zur_Tabakontrolle.html

1. Bartsch H, and **Nair UJ**,(2014) Lipid peroxidation-derived DNA adducts and the role of inflammation-related carcinogens in Cancer and Inflammation Mechanisms, Chemical, Biological, and Clinical Aspects, ed Y. Hiraku, S. Kawanishi, H. Ohshima John Wiley & Sons, Inc.Hoboken, NJ, p61-74
2. **Nair U**, Incense: Ritual, Health Effects and Prudenc, Journal of the Royal Asiatic Society; 23(01) (2013).
3. Schaller K, Rupert L, Kahnert S, Bethke C, **Nair U**, Pötschke-Langer M, (2013), Konsum Elektrischer Zigaretten-Teil 1, Umweltmedizin.Hygiene.Arbeitmedizin, Journal of Environmental and Occupational Health Sciences, 18(6),313-328
4. Schaller K, **Nair U**, Pötschke-Langer M , Tabakprodukte und Prävention, Chance für den Gesundheitsschutz , Deutsches Ärzteblatt | Jg. 109 | Heft 39 | 28. September 2012
5. Kahnert S, **Nair U**, Mons U, Pötschke-Langer M., Wirkungen von Menthol als Zusatzstoff in Tabakprodukten und die Notwendigkeit einer Regulierung, [Effects of menthol as an additive in tobacco products and the need for regulation]. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2012 Mar;55(3):409-15. Review.
6. Nair J, Godschalk RW, **Nair U**, Owen RW, Hull WE, Bartsch H, Identification of 3,N(4)-etheno-5-methyl-2'-deoxycytidine in human DNA: a new modified nucleoside which may perturb genome methylation. Chemical Research in Toxicology 12/2011; 25(1):162-9.
7. Nair J, **Nair UJ**, Sun X, Wang Y, ArabK , Bartsch H, Quantifying etheno-DNA adducts in human tissues, white blood cells, and urine by ultrasensitive (32)P-postlabeling and immunohistochemistry. Methods in molecular biology (Clifton, N.J.) 01/2011; 682:189-205.

8. Pötschke-Langer M, **Nair U**, Kahnert S, Thielmann Heinz W (2010): Tabak, Tabakzusatzstoffe und Inhaltsstoffe des Tabakrauchs. (Tobacco, Tobacco additives and tobacco smoke emissions) In: Singer M, Batra A, Mann K (Hrsg.): Alkohol und Tabak. Georg Thieme Verlag Stuttgart.
9. Cooke MS, Olinski R, Loft S, Evans MD, Singh R, Mistry V, Farmer PB, Rozalski R, Gachowski D, Foksinski M, [.....], Danielsen P, Vaklavik E, Forchhammer L, Cadet J, Ravanat JL, Nair J, **Nair U,** Poulsen HE, Weimann A, Hilletrom PR, Measurement and meaning of oxidatively modified DNA lesions in urine Cancer Epidemiology Biomarkers & Prevention 01/2008; 17(1):3-14.
10. **Nair U,** Bartsch H, Nair J, Lipid peroxidation-induced DNA damage in cancer-prone inflammatory diseases: a review of published adduct types and levels in humans. Free Radical Biology and Medicine 11/2007; 43(8):1109-20.
11. **Nair U**. and Nair J. (2007) in State of validation of biomarkers of carcinogen exposure and earlyx effects and their applicability to molecular epidemiology ; edited by P.B. Farmer, S.A.Kyrtopoulos and J.M.Emery, p40-47 ; Publ: Nofer Institute of Occupational Medicine, Poland.
12. **Nair U**, Bartsch H, Nair J. Alert for an epidemic of oral cancer due to use of the betel quid substitutes gutkha and pan masala: a review of agents and causative mechanisms. *Mutagenesis.* 2004;19:251-62.
13. **Nair U**, Bartsch H, Nair J. Prevention of degenerative diseases; clues from studies investigating oxidative stress, Brussels, 13 November 2002. *Mutagenesis.* 2003;18:477-83.
14. **Nair U**, Bartsch H. Metabolic polymorphisms as susceptibility markers for lung and oral cavity cancer. *IARC Sci.Publ.* 2001;154:271-90.:271-90.
15. Bartsch H, **Nair U**, Risch A, Rojas M, Wikman H, Alexandrov K. Genetic polymorphism of CYP genes, alone or in combination, as a risk modifier of tobacco-related cancers. *Cancer Epidemiol.Biomarkers Prev.* 2000;9:3-28.
16. Bartsch H, Rojas M, **Nair U**, Nair J, Alexandrov K. Genetic cancer susceptibility and DNA adducts: studies in smokers, tobacco chewers, and coke oven workers. *Cancer Detect.Prev.* 1999;23:445-53.
17. **Nair UJ**, Nair J, Mathew B, Bartsch H. Glutathione S-transferase M1 and T1 null genotypes as risk factors for oral leukoplakia in ethnic Indian betel quid/tobacco chewers. *Carcinogenesis.* 1999;20:743-8.

18. Nair J, Ohshima H, **Nair UJ**, Bartsch H. Endogenous formation of nitrosamines and oxidative DNA-damaging agents in tobacco users. *Crit Rev.Toxicol.* 1996;26:149-61.
19. **Nair UJ**, Nair J, Friesen MD, Bartsch H, Ohshima H. Ortho- and meta-tyrosine formation from phenylalanine in human saliva as a marker of hydroxyl radical generation during betel quid chewing. *Carcinogenesis.* 1995;16:1195-8.
20. Kayal JJ, Trivedi AH, Dave BJ, Nair J, **Nair UJ**, Bhide SV et al. Incidence of micronuclei in oral mucosa of users of tobacco products singly or in various combinations. *Mutagenesis.* 1993;8:31-3.
21. **Nair UJ**, Obe G, Friesen M, Goldberg MT, Bartsch H. Role of lime in the generation of reactive oxygen species from betel-quid ingredients. *Environ.Health Perspect.* 1992;98:203-5.:203-5.
22. Ammigan N, **Nair UJ**, Lalitha VS, Bhide SV. Carcinogenicity studies of masheri: pyrolysed tobacco product, in vitamin-A-deficient Sprague Dawley rats. *J.Cancer Res.Clin.Oncol.* 1991;117:50-4.
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24. Nair J, **Nair UJ**, Amonkar AJ, Bhide SV. Activation of N'-nitrosonornicotine by hydrogen peroxide in vitro. *IARC Sci.Publ.* 1991;516-9.
25. **Nair U**, Obe G, Nair J, Maru GB, Bhide SV, Pieper R et al. Evaluation of frequency of micronucleated oral mucosa cells as a marker for genotoxic damage in chewers of betel quid with or without tobacco. *Mutat.Res.* 1991;261:163-8.
26. **Nair UJ**, Ammigan N, Nagabhushan M, Amonkar AJ, Bhide SV. Effect of vitamin A status of rats on metabolizing enzymes after exposure to tobacco extract or N'-nitrosonornicotine. *IARC Sci.Publ.* 1991;525-8.
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28. **Nair UJ**, Ammigan N, Kulkarni JR, Bhide SV. Species difference in intestinal drug metabolising enzymes in mouse, rat and hamster and their inducibility by masheri, a pyrolysed tobacco product. *Indian J.Exp.Biol.* 1991;29:256-8.
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45. **Nair UJ**, Floyd RA, Nair J, Bussachini V, Friesen M, Bartsch H. Formation of reactive oxygen species and of 8-hydroxydeoxyguanosine in DNA in vitro with betel quid ingredients. *Chem.Biol.Interact.* 1987;63:157-69.
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47. Bhide SV, **Nair UJ**, Nair J, Spiegelhalder B, Preussmann R. N-nitrosamines in the saliva of tobacco chewers or masheri users. *Food Chem.Toxicol.* 1986;24:293-7.
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56. **Murdia,US**, Tamhane,D.V. Fermentative Production of Brevimycins on Hydrocarbon Media by Brevibacterium ammoniagenes, The Society for Bioscience and Bioengineering, Japan, 1974; 52(8), 598-603
57. **Murdia,US** and Tamhane, DV; Studies on Acetylation of Sulfanilamide in Ochromonas Malhamensis, Current Science, 1973; 42: 6

OTHER PUBLICATIONS:

EU-Project Public Information Tobacco Control (PITOC)

Additives in Tobacco Products / EU-Project, Information on Health Hazards of Tobacco Additives, preparation a comprehensive report on the mode of action of selected 14 additives and explains their impact on health by partners DKFZ (7) and RIVM (7). Around sixteen European countries launched websites, with the translated versions in their national languages, of the lay fact sheets with an aim towards educating the public about the manifold effects of tobacco additives.

web page: German and English

http://www.dkfz.de/de/tabakkontrolle/PITOC_Additives_in_Tobacco_Products.html

Nair,U. (2010), Report- Additives in Tobacco Products Contribution of Carob Bean Extract, Cellulose Fibre, Guar Gum, Liquorice, Menthol, Prune Juice Concentrate and Vanillin to Attractiveness, Addictiveness and Toxicity of Tobacco Smoking, http://www.dkfz.de/de/tabakkontrolle/download/PITOC/PITOC_Additives_in_Tobacco_Products_Report.pdf

The following simplified PITOC fact sheets were prepared with an aim to inform the public on the uses, and harmful health effects of the selected tobacco additives.

a) Carob Bean Extract, b) Cellulose Fibre, c) Guar Gum, d)Liquorice, e)Menthol, f) Prune Juice Concentrate and g) Vanillin Lay fact sheets: Additives in Tobacco Products

http://www.dkfz.de/de/tabakkontrolle/download/PITOC/PITOC_Tobacco_Additives_combined_pdf.pdf

Co-author of following DKFZ , Unit Cancr Prevention, WHO-CC publications:

BOOKS:

1. Perspektiven für Deutschland: Das Rahmenübereinkommen der WHO zur Eindämmung des Tabakgebrauchs WHO Framework Convention on Tobacco Control (FCTC) (2011) Deutsches Krebsforschungszentrum, Heidelberg
http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/sonstVeroeffentlichungen/Das_Rahmenuebereinkommen_der_WHO_zur_Eindaemmung_des_Tabakgebrauchs_FCTC.pdf

2. Tabakatlas Deutschland (2009), Deutsches Krebsforschungszentrum, Heidelberg
http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/sonstVeroeffentlichungen/Tabakatlas_2009.pdf

COMPREHENSIVE STATE OF THE ART REPORTS:

Red Series Tobacco Prevention and Tobacco Control

3. Electronic Cigarettes – An Overview – Supplement March 2014
http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_19_e-cigarettes_an_overview_supplement_March_2014.pdf
4. a. Electronic Cigarettes – An Overview; Red Series Tobacco Prevention and Tobacco Control Volume 19: © 2013, German Cancer Research Center (DKFZ), Heidelberg
http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_19_e-cigarettes_an_overview.pdf

b. Elektrische Zigaretten – ein Überblick, Heidelberg, 2013 Deutsches Krebsforschungszentrum (Hrsg.) (de) http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_19_e-zigaretten_ein_ueberblick.pdf

5. a. Menthol Capsules in Cigarette Filters –Increasing the Attractiveness of a Harmful Product, Red Series Tobacco Prevention and Tobacco Control Volume 17: © 2012, German Cancer Research Center (DKFZ), Heidelberg http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_17_Menthol_Capsules_in_Cigarette_Filters_en.pdf

   b. German version: http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_17_Mentholkapseln_in_Zigarttenfiltern_de.pdf

6. a. Improvement of youth and consumer protection by revision of the EU Tobacco Product Directive 2001/37/EC; Red Series Tobacco Prevention and Tobacco Control Volume 16: © 2010, German Cancer Research Center, Heidelberg http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_16_Tobacco_Product_Directive_en.pdf

   b. Verbesserung des Jugend- und Verbraucherschutzes durch die Überarbeitung der europäischen Tabakprodukt-Richtlinie 2001/37/EG Deutsches Krebsforschungszentrum (Hrsg.) Heidelberg, 2010 (de) http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/RoteReihe/Band_16_Tabakprodukt_Richtlinie_de.pdf

Concise Fact sheets: Facts on Smoking:

1. Why menthol as a tobacco additive should be banned- July 2013 Kahnert S, **Nair U**, Pötschke-Langer M.
2. a. Snus, a harmful tobacco product (2010) . Schaller K, **Nair U**, Kahnert S http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/AdWfP/AdWfdP_Snus_en.pdf

   b. Snus, ein gesundheitsschädliches Tabakprodukt (2010) (de)

http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/AdWfP/AdWfdP_Snus_de.pdf

3. Elektrische Zigaretten (2010), Gleich F, Schaller K, **Nair U.**
   http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/AdWfP/AdWfP_Elektrische_Zigaretten.pdf

4. a.Carcinogens in Tobacco Smoke (2009), **Nair U**, Thielman HW, Pötschke-Langer M.
   http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/FzR/FzR_Carcinogens.pdf
   b. Krebserzeugende Substanzen im Tabakrauch (2009)(de)
   http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/FzR/FzR_Kanzerogene_im_Tabakrauch.pdf

5. Nikotin: Pharmakologische Wirkung und Entstehung der Abhängigkeit (2008)
   http://www.dkfz.de/de/tabakkontrolle/download/Publikationen/FzR/FzR_Nikotin.pdf