

## Prof. D.K Dhawan

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### BRIEF INTRODUCTION

<b>Date of Birth :</b>	29 <sup>th</sup> April, 1955
<b>Place of Birth :</b>	Sampla, District Rohtak, Haryana, India
<b>Present Position :</b>	Professor, Department of Biophysics, Coordinator, Centre for Nuclear Medicine, Coordinator, Centre for Medical Physics Panjab University, Chandigarh, India
<b>Academic Qualifications :</b>	Ph.D. (PGIMER), Post Graduate Diploma In Medical Radioisotopes Techniques, (BARC)
<b>Research Experience :</b>	32 years
<b>Teaching Experience :</b>	29 years
<b>Research Publications :</b>	<b>156 (126 are listed in Scopus, website for citations)</b>
<b>Book Chapters</b>	<b>3</b>
<b>Ph.D.Theses (Supervised) :</b>	<b>26</b>
<b>Ph.D. Theses (under Supervision) :</b>	<b>8</b>

**M.Sc. Thesis Supervised** 35

**Member Editorial Board : International** 9

**Research Journals**

**Reviewer of Research Journals :** 44

**Invited Talks :** 60

**Patents :** 1

**Scientific Sessions Chaired :** 22

**Conferences organized :** 13

**Papers Presented at International Conferences** : 10

**Papers Presented at National Conferences** : 44

**Fellow :** **Indian College of Nuclear Medicine**  
**Indian Association of Biomedical Scientists**

**Achievements:**

Created and Heading the Centre for Nuclear Medicine, Panjab University.

Started M.Sc. Nuclear Medicine and Medical Physics courses jointly with the Departments of Nuclear Medicine and Radiation Therapy, PGIMER in the year 2007.

**ACADEMIC QUALIFICATIONS**

<b>Degree</b>	<b>Institution</b>	<b>Field(s)</b>	<b>Year</b>
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M.Sc. (Hons. School)	Panjab University	Biophysics	1978
Post Graduate Diploma in Medical Radioisotope Techniques (DMRIT)	BARC, Mumbai	Radiation Medicine	1979
Ph.D.	P.G.I .M.E.R	Radiation Biophysics	1984

## RESEARCH EXPERIENCE

	<b>Institution conferring</b>	<b>Field (s)</b>	<b>Year</b>
DMRIT Trainee	Division of BARC, Mumbai Camera ,Radionuclide activity	Nuclear medicine	1978-1979
Research Fellow	Body burden measurement section health physics division of BARC and department of hepatology, PGIMER, CHD	Trace element research	1979-80
Ph.D. Scholar	Department of Biophysics , PGI	Radiation Biophysics	1980-1984
Research Fellow.	Department of cardiology, PGIMER, CHD	Physiology	1984- 85
Senior demonstrator	Department of Biophysics , PGIMER, CHD	Radiation Medicine	1985-86

Assistant Professor	Department of Biophysics, Panjab University, Chandigarh	Radiation Biophysics	1986
Associate Professor	do	do	1996
Professor	do	do	2006- to date

## TEACHING EXPERIENCE

<b>Professor</b>	<b>Department of Biophysics, Panjab University</b>	<b>Radiation Biophysics and Radiation Medicine</b>
<b>Professor</b>	<b>Coordinator Center for Nuclear Medicine, Panjab University, Chandigarh</b>	
<b>Professor</b>	<b>Coordinator, Centre for Medical Physics, Panjab University, Chandigarh</b>	

## THESES SUPERVISED

<b>Ph.D. (supervised)</b>	26
<b>Ph.D. (under supervision)</b>	8
<b>M. Sc. (supervised)</b>	35
<b>M.Sc. (under supervision)</b>	3

### Titles of Ph.D. Theses Supervised

1. Combined effects of lead and lithium in rat tissues. Baljinder Singh, 1993
2. Studies to evaluate the role of lithium on liver functions of normal and diabetic rats. Ajaib Singh, 1995

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3. Biophysical and biochemical studies on chlorpyrifos toxicity in liver-evaluation of role of zinc. Ajay Goel, 1996
  4. Studies on the effects of lithium on rat liver and brain under different dietary protein regimens. Aparna Tondon, 1998
  5. Biochemical and histopathological studies on methomyl toxicity in rats: Role of Vitamin E. Dharam Paul Garg, 1999
  6. Role of Zinc in liver functions following protein deficiency and lead toxicity-An epidemiological and experimental study. Harish Kumar Bandhu, 2000
  7. Role of zinc in the metabolic effects of ethanol in rat liver and intestine. Ashima Vashist, 2002
  8. To evaluate the role of zinc on thyroid functions following lithium treatment to alcoholic rats. Rajiv Pathak, 2003
  9. Evaluation of hepatoprotective role of zinc in conditions of nickel toxicity induced in protein deficient rats. Pardeep Sing Sidhu, 2004
  10. Biophysical and biochemical studies on the role of zinc during the development of experimentally induced colon cancer-Vijayta Dani, 2007
  11. Studies on the role of zinc and selenium in arsenic toxicity-Ashok Kumar, 2008
  12. Studies of the role of lithium in modulating aluminium induced neurotoxicity in rats. Punita Bhalla, 2008
  13. Studies on the effects of neem (*Azadirachta indica*) in 1,2-Dimethylhydrazine induced colon carcinogenesis in rats-Abdollah Ramzani Ghara, 2009
  14. Studies to evaluate the role of selenium during the development of experimentally induced colon cancer. Fereshteh Ezzati Ghadi, 2009.
  15. Evaluation of synergistic role of curcumin and resveratrol in chemoprevention during benzo(a)pyrene induced lung carcinogenesis in mice. Anshoo Malhotra, 2010.
  16. Evaluation of combined chemopreventive effects of curcumin and quercetin during benzo(a)pyrene induced lung carcinogenesis. Praveen Nair, 2010.
  17. Effects of on metabolic functions of liver in diabetic rats—A biophysical and biochemical study. Vishawjoyti Sharma, 2011.
  18. Studies to evaluate the combined effects of curcumin and piperine on benzopyrene induced genotoxicity in murine model. Amit Sehgal, 2011
  19. Studies to evaluate the role of Zinc during Aluminium induced neurotoxicity. Neha, 2012.
  20. Development of radio-labeled anti-cancer agents for the early detection of cancer and for the accurate evaluation of treatment response, Pardeep, 2013.
  21. Role of wheat grass extract and zinc in prevention of experimentally induced colon cancer in rats. Jaspreet Kaur Kamboj, 2013.
  22. Comparison of factors involved in Gallbladder Cancer formation in Gallstone patients. Jaspreet Kaur, 2013.
  23. Evaluation of Effectiveness of Curcumin in enhancing chemotherapeutic response of doxycycline by modulation of miRNA expression and apoptotic machinery during DMH induced colon carcinogenesis, Neha Nanda, 2014.
  24. Effect of cell –phone frequency electromagnetic radiations on early development of chick and brain

of rat, Jyoti, 2014.

25. Development and characterization of <sup>99m</sup>Tc labeled resveratrol and elucidation of its binding targets in rat model of colon carcinogenesis, Rozy Kamal, 2014
26. Evaluation of synergistic effects of curcumin and zinc in chemoprevention and diagnostic efficacy of <sup>99m</sup>Tc-curcumin in DMH induced colon carcinogenesis in rats, Klnri Jain, 2015.

## AWARDS

1. 1<sup>st</sup> prize for the best paper during 2<sup>nd</sup> Medical Olympiad at Thessaloniki, Greece, Oct.18-20, 2013
2. International Fellowship by Union International on Cancer Control( UICC) to work at Baylor Medical Centre,Dallas,USA,June-July,2013
3. Best Paper Award for the paper entitled (Zinc as a prophylactic intervention during diabetes) D.K.Dhawan, Vishawjyoti and Ashima Pathak, in 1<sup>st</sup> International Medical Olympics 2011,Thessalonoki, Greece.
4. Rashtriya Gaurav award , 2010, by India International friendship society
5. International Fellowship by Union International on Cancer Control( UICC) to work at Baylor Medical Centre,Dallas,USA,June-July,2010
6. Best Citizen Award 2010, by best citizen publishing house, Delhi.
7. Best paper presentation award for the paper entitled “Membrane fluidity and surfacechanges during initiation of 1,2 DMH induced colon carcinogenesis:Protection by Zinc ” V.Dani Chadha and D.K.Dhawan in the 30<sup>th</sup> conference of Indian association of biomedical scientists held in the November 2009, Chandigarh.
8. Best Paper presentation award for the paper entitled (Modulatory role of Zinc during Aluminium altered calcium signaling in rat brain) Punita Bhalla,Neha and D.K.Dhawan in the 3<sup>rd</sup> Chandigarh Science congress held in March, 2009.
9. Best Paper presentation award to the paper entitled 'Uncovering the role of zinc for colon cancer chemoprevention–. future prospect-Vijayta Dani, Anshoo Malhotra & D.K. Dhawan' in the first Chandigarh Science congress (Basic Medical Sciences, Section), held in March 2007.
10. Best publication award by Hellenic Society of Nuclear Medicine, Greece, 2005
11. Golden Scroll of excellence awarded by International Biographic Centre, Cambridge, U.K

## FELLOW

1. Indian association of biomedical scientists

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## 2. Indian College of Nuclear Medicine

### CHAired (SCIENTIFIC SESSIONS)

1. Chaired the scientific session during the annual conference of Indian Biophysical society held at Chandigarh in the November 2007.
2. Chaired the opening session and delivered a lecture during the 4<sup>th</sup> international meeting of Nuclear medicine organized by Hellenic society of Nuclear Medicine , held at, Thessaloniki, Greece in November 2008
3. Chaired the opening session of the workshop on nuclear medicine organized by Defense Research Development Organization in conjunction with 30<sup>th</sup> conference of Indian association of biomedical scientists in November, Chandigarh 2009.
4. Chaired the scientific session during 41<sup>st</sup> conference of society of Nuclear medicine held at Jaipur in December, 2009.
5. Chaired the scientific session during the symposium on Continuing medical education in Nuclear medicine at Institute of cancer, Himalayan hill University, Dehradun, Feb. 2010.
- 6 Chaired the scientific session during the National symposium on natural products in health and disease organized by the dept. of Biochemistry, PU Chandigarh, March2010.
- 7 Chaired the scientific session during 31<sup>st</sup> Indian association of biomedical scientists' conference, Chandigarh, Nov. 2010.
- 8 Chaired the scientific session during 42<sup>nd</sup> Annual conference of society of Nuclear Medicine India (SNMCON), Nov 2010.
- 9 Chaired the scientific session during UGC SAP sponsored National Symposium on ' Molecular pathogenesis of Neurodegenerative Diseases'. Feb 22, 2011.
- 10 Chaired the scientific session in the life science section during 5<sup>th</sup> CHASCON, Feb 27 2011.
- 11 Chaired the Scientific session during Nuclear Medicine CME by Indian College of Nuclear Medicine (ICNM) from 12th-13th March, 2011 at Faridkot, Panjab.
- 12 Chaired the Scientific session during 2<sup>nd</sup> International Medical Olympiad, Thessaloniki, Greece, 2011
- 13 Chaired the scientific session during 32<sup>nd</sup> Annual conference of Indian association of Basic Medical Scientists held at Trichanagode, Tamil Nadu, Nov., 2011
- 14 Chaired the scientific session during 32<sup>nd</sup> Annual conference of Indian association of Basic Medical Scientists held at Panjab University, Chandigarh, Nov., 2012
- 15 Chaired the scientific session during golden jubilee symposium from Feb. 10-11, 2012.
- 16 Chaired the scientific session during International conference on frontiers in Nanomedicine,

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Nanotechnology and Applications from Feb.15-18, 2012.

- 17 Chaired the scientific session during 32<sup>nd</sup> Annual conference of Indian association of Basic Medical Scientists held at Panjab University, Chandigarh ,Nov. 11-13,2012.
- 18 Chaired the scientific session during 34<sup>th</sup> Annual conference of Indian association of Biomedical Scientists at Chennai, Nov.,1-3, 2012.
- 19 Chaired the scientific session during 2<sup>nd</sup> International Medical Olympiad, Thessaloniki,Greece,Oct.18-20, 2013.
- 20 Chaired the scientific session during 34<sup>th</sup> Annual conference of Indian association of Biomedical Scientists at Chennai, Dec 26-29,2013.
- 21 Chaired the scientific session during International conference on Nanotechnology in the service of Health, Environment and Society, Feb.,13-15,2014.
- 22 Chaired the scientific session during 35<sup>th</sup> Annual conference of Indian association of Biomedical Scientists at Palampur Agricultural University, Nov.,14-16,2014.

#### **SCIENTIFIC CONFERENCES ORGANIZED.**

1. Organizing Secretary, National Symposium on experimental models in radiation medicine, 1997.
2. Organizing Secretary, Refresher course for University and College teachers, Jan 2006-07.
3. Organizing Secretary, (B.M.S Section), First Chandigarh Science Congress, March 2007.
4. Organized Public Awareness program jointly with BARC, March 2007.
5. Organizing Secretary, National Symposium on Biophysics under the aegis of Indian Biophysical Society, November, 2007.
6. Organized Refresher course for Panjab University teachers, Feb.2008.
7. Organizing Secretary, faculty development programme of UGC for university teachers , March 2008.
8. Organizing Secretary, (B.M.S Section), second Chandigarh Science Congress, March 2008
9. Organizing Secretary, (B.M.S Section), third Chandigarh Science Congress, March 2009
10. Organizing Secretary, (Centre for emerging areas in science and technology), fourth Chandigarh Science Congress, March 2010.
11. Awareness Program on Radiation Safety and Research Applications jointly organized by Atomic Energy Regulatory Board of India and Panjab University, Chandigarh, August 2011
12. Organizing Secretary, 32nd Indian Association of Biomedical Conference (IABMS), Nov 2011.
13. Biophysics Symposium and Golden Jubilee Alumni Meet, Nov., 3-5, 2015

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#### **MEMBER- ADVISORY BOARD**



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1. Advisory board, Monad University, Noida UP
  2. Advisory board, Biomedical Engineering, Shobit University, Meerut

### **MEMBERSHIP**

1. Faculty of science , Panjab University since 1993 to date
2. Indian Biophysical Society.
3. Society of Nuclear Medicine, India.
4. India Association of Biomedical Scientists.
5. Nutrition society of India
6. International Brain Research Organization
7. International Society of Neurochemistry in 1990s.

### **HONORARY MEMBERSHIP**

1. Awarded by New York academy of sciences USA, 1994, 1996.
2. Awarded by American diabetic association, 2000, 2003.
3. Who's who in the world (Marquis, 16<sup>th</sup> edition.)
4. Who's who in America (Marquis, 16<sup>th</sup> edition.)
5. Who's who in science and engineering (Marquis, 4<sup>th</sup> edition.)
6. Indian association of biomedical scientists. (IABMS).
7. Indian College of Nuclear Medicine

### **MEMBER- EDITORIAL BOARD**

1. World journal of Gastroenterology
2. World Journal of Methodology
3. Hellenic journal of Nuclear Medicine
4. Int. journal of Biology, Pharmacy and Allied Sciences

5. Panjab University research bulletin ( 2006-09)
6. Asian Journal of Pharmacological Sciences
7. Nuclear Medicine and Radiotherapy
8. Journal of Liver and Pancreatic Diseases
9. Advances in Modern Oncology Research
10. Journal of Natural Products Research Updates
11. World Journal of Thyroid Research Updates
12. International Journal of Current Toxins Research

## REVIEWERSHIP

1. World journal of gastroenterology
2. Indian journal of experimental biology,
3. Biochemie,
4. Toxicology methods and mechanisms,
5. Environmental toxicology
6. Nutrition and cancer
7. Food and chemical toxicology
8. Indian journal of medical research
9. European journal of Biochemistry
10. Applied Radiation Isotope
11. Journal of Gastroenterology and Hepatology.
12. Toxicology International.
13. Metabolism
14. Toxicology letters
15. Anticancer drugs
16. Pharmaocolgy, Behaviour and Biochemistry

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17. Journal of Tropical Pediatrics
  18. Nutrition and metabolism
  19. World journal of gastrointestinal oncology
  20. Oncology research
  21. Environmental Engineering and Management Journal
  22. Webmedcentral
  23. X ray spectrometry.
  24. African Journal of Biotechnology.
  25. Human toxicology and mechanism.
  26. Bioinorganic Chemistry and applications.
  27. Medical Oncology.
  28. Molecular Medicine
  29. African Journal of Agriculture research
  30. Open journal of Medical Devices.
  31. Neurotoxicology.
  32. Environmental Toxicology and Chemistry.
  33. Arzneimittelforschung/Drug Research/Pharmacology.
  34. Biometals
  35. Plant Medica
  36. Acta Biochimica et Biophysica Sinica
  37. Ecotoxicology and environmental safety.
  38. African Journal of Biochem. Research
  39. Cell Biochem.and Biochem.
  40. African journal of Biochem.Res

41. Expert opinion on Drug Metab.and Toxicol.
42. Nutrition
43. Hellenic Journal of Nuc.Med.
44. Current Alzheimer Research

## **INTERNATIONAL CONFERENCES**

Papers Presented :

1. Third IBRO conference at Montreal, Canada, July, 1991.
2. Asia Pacific meeting of Society of Neurochemistry held at Nagoya, Japan, Oct. 1992.
3. 7<sup>th</sup> Conference of international society of toxicology at Seattle, USA, June, 1995.
4. 3<sup>rd</sup> international meeting of Hellenic society of Nuclear Medicine, Thessaloniki Greece, Nov. 2005
5. 4<sup>th</sup> international meeting of Hellenic society of Nuclear Medicine, Thessaloniki Greece, Nov. 2008
6. 57<sup>th</sup> Annual meeting of the society of nuclear medicine, salt lake city, USA June, 2010.
7. 1<sup>st</sup> International Medical Olympics Conference, Thessaloniki, Greece, Sept. 2011
8. 17<sup>th</sup> National and 5<sup>th</sup> International Iranian Biology conference held at Shahid Bahonar University, Kerman, Iran, Sept. 2012
9. 2<sup>nd</sup> International Medical Olympiad, Thessaloniki, Greece, Oct. 2013.
10. BITs 5<sup>th</sup> Neuro-Talk at Nanjing, China May 17, 2014.

## **NATIONAL CONFERENCES**

1. D.K. Dhawan, M.M Rehani, R.R Sharma, S. Ateja and R J Dash. Comparative effects of I-125 and I-131 on rat thyroid: 12<sup>th</sup> society of nuclear medicine conference (SNM), BURLA, 1980.
2. D.K. Dhawan, M.M Rehani, Sudershan, R.K Garg, R.R Sharma, K.C Aggarwal and B.N.S Walia. Radiorespirometric detection of bacteria of blood culture. 12<sup>th</sup> SNM conference, BURLA, 1980.
3. D. K. Dhawan and S.R. Bawa. Immunological and biochemical studies on fractionated bull spermatozoa: Golden Jubilee Conference, society of biological chemists conference, BANGALORE, 1980.

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4. M.M Rehani, D.K. Dhawan and I.P. Kaur. A color strip method for determination of stannous: 13<sup>th</sup> SNM conference, SRINAGAR, 1981.
  5. D. K. Dhawan and D.V Datta. Levels of arsenic and copper in liver disorders: Golden Jubilee Conference, society of biological chemists conference, BANGALORE, 1980.
  6. D.K. Dhawan, I.P Kaur, M.M Rehani and R.R Sharma. Stable solution of stannous chloride: 13<sup>th</sup> SNM conference, SRINAGAR, 1981.
  7. D.K. Dhawan, R. Sharma, R.R Sharma, R.J Dash and C.R. Nair. Effect of I-131 on thyroid of normal and lithium treated rats: 14<sup>th</sup> SNM conference, CHANDIGARH, 1982.
  8. R. Sharma, D.K. Dhawan, R.R Sharma and R.J Dash. Thyroid function in diabetic rats: 14<sup>th</sup> SNM conference, CHANDIGARH, 1982.
  9. R. Sharma. D.K. Dhawan, R.R Sharma and R J Dash. Effect of alloxan induced diabetes on I-131 trapping efficiency in rat thyroid: 15<sup>th</sup> SNM conference, JAIPUR, 1983.
  10. D.K. Dhawan, R. Sharma, R. R. Sharma and R.J. Dash. Effect of lithium on retention of I-131 in rat thyroid: 15<sup>th</sup> SNM conference, JAIPUR, 1983.
  11. D.K. Dhawan, R. Sharma and R.J. Dash. Effects of short and long term lithium treatment on uptake and retention of I-131 in rat thyroid: 17<sup>th</sup> SNM conference, BANGALORE, JANUARY, 1986.
  12. D.K. Dhawan, R. Sharma and R.J. Dash. Correlation in variation of Na+K+ATPase activity and I-131 trapping efficiency in rat thyroid following lithium treatment. 18<sup>th</sup> SNM conference, MADRAS, 1986.
  13. D.K. Dhawan and Arveen Kumari. Studies to evaluate carbimazole as an adjunct to radioiodine-131 in rat thyroid. 20<sup>th</sup> SNM conference, DIBRUGARH, 1988.
  14. , R. Sharma, D.K. Dhawan and R.R Sharma. Effects on the iodine metabolism in rat thyroid of alloxan induced diabetes mellitus. 20<sup>th</sup> SNM conference, DIBRUGARH, 1988.
  15. D.K.Dhawan, A.Goel, K. Singh and C.S Gautam. Studies on the variation of biological half-life of I-131 rose Bengal in liver of rats treated with CCl<sub>4</sub> and Tefroli. 21<sup>st</sup> SNM conference, LUCKNOW, 1989.
  16. A. Goel, D.K.Dhawan and K.Singh. Effects of carbontetrachloride and LIV-52 on the clearance rate of I-131 –Rose Bengal in rat liver. X<sup>th</sup> AMPI medical physics conference, GWALIOR, 1990.
  17. B. Singh, D.K.Dhawan, N.K.Relan, P.C.Mangal and Ajay Goel. Effects of lead on I-131

- uptake in rat thyroid. International conference on low level radiation and living state, BOMBAY, 1992.
18. D.K. Dhawan. 3<sup>rd</sup> Chandigarh symposium on new biology held at IMTECH, CHANDIGARH, 2003.
  19. D Dhawan B Singh, H.K Bandhu and PN Trehan. Lithium induced alterations in essential and non essential elements in rat brain during 7<sup>th</sup> conference of interantainational conference society of toxicology at seattle USA, 1995
  20. R. Thakur, B.Singh and D.K.Dhawan. Biokinetics of I-131 in thyroid of lithium treated diabetic rats. 29<sup>th</sup> SNM conference, CHANDIGARH, 1997.
  21. H.K.Bandhu, B.Singh, S.D. Deodhar, M.L. Garg, N. Singh, P.C. Mangal and D.K. Dhawan. Hepatobiliary clearance of Tc-99m-Mebrefuin in zinc supplemented protein deficient rats intoxicated with lead acetate: 29<sup>th</sup> SNM conference, CHANDIGARH, 1997.
  22. A. Verma and D.K.Dhawan. Thermal effects on the stability of FBX chemical dosimeter system: 29<sup>th</sup> SNM conference, CHANDIGARH, 1997.
  23. A. Verma and D.K Dhawan. Evaluation of radioprotective role of zinc in mouse liver: 29<sup>th</sup> SNM conference, CHANDIGARH, 1997.
  24. S. Bhattacharya and D.K.Dhawan. Zn-65 in the assessment of lead toxicity in rat liver: 29<sup>th</sup> SNM conference, CHANDIGARH, 1997.
  25. D.K Dhawan, M.L. Garg and Pardeep Sidhu. Indian biophysical society, ROORKE, 2003.
  26. D. K Dhawan, Punita Bhalla, Vijayta Dani Chadha and Praveen Nair. Influence of zinc on the biokinetics of I-131 in lithium treated rat thyroid: Indian biophysical society, CHANDIGARH, 2007.
  27. Avdesh, A Malhotra, V. Dani and D.K Dhawan. Evidences of anti-hepatotoxic ability of zinc: Radioisotopic investigations: Indian biophysical society, CHANDIGARH, 2007
  28. V.Dani, K Vaiphei, D.K Dhawan. Uncovering the role of zinc in experimentally induced colon carcinogenesis: Indian biophysical society, CHANDIGARH, 2007
  29. A. Malhotra, V. Dani and D.K. Dhawan. I-131 induced hematological alterations in rat blood: protection by zinc: Indian biophysical society, CHANDIGARH, 2007
  30. V dani, A malhotra & D.K. Dhawan. Uncovering the role of zinc for colon cancer chemoprevention–. Future prospect-' In the first chandigarh science congress (basic medical sciences, section), held in March 2007

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31. P. Bhalla, M.L. Garg and D.K.Dhawan. Insight into a new role of lithium in neuroregulation. second science Chandigarh Science congress held in March , 2008
  32. A Malhotra, P Nair, P Bhalla and D.K.Dhawan. zinc attenuates aluminium induced alteration in blood. second science Chandigarh Science congress held in March , 2008
  33. P Nair, P Bhalla and D K Dhawan. Potential of zinc in lithium induced adverse effects in rat thyroid. second science Chandigarh Science congress held in March , 2008
  34. Punita Bhalla, M.L.garg and D.K.Dhawan. Regulation of calcium homeostasis by lithium during aluminum neurotoxic condition .Third science Chandigarh Science congress held in March , 2009
  35. Anshoo Malhotra,\_Praveen Nair and D.K Dhawan· A dietary role of zinc in modulating lipid peroxidation antioxidant defense enzymes, intestinal marker enzymes and cancer marker enzymes in DMH induced rat colon carcinogenesis. Third science Chandigarh Science congress held in March , 2009.
  36. Praveen Nair, Sonia Chauhan, D. K Dhawan. Potential of selenium in regulating thyroid functions of <sup>131</sup>I treated rats. Third science Chandigarh Science congress held in March , 2009.
  37. Vishawjyoti Sharma, Ashima Pathak, D. K Dhawan. Effect of zinc supplementation on antioxidative enzyme status in liver of diabetic rats. Third science Chandigarh Science congress held in March , 2009.
  38. Vijayata Dani and D.K Dhawan. Membrane fluidity and surface changes during initiation of 1,2 DMH induced colon carcinogenesis-protection by zinc “ in the 30<sup>th</sup> conference of Indian association of biomedical scientists held in the November 2009, Chandigarh.
  39. D.K.Dhawan.Regulations of thyroid functions by Zinc during 31<sup>st</sup> conference of Indian Association of Biomedical Scientists,Trichanagode,Tamil Nadu,Nov.2010.
  40. D,K.Dhawan.Radiotracers in Biomedical Applications.Joint Awareness Program by Atomic Energy Regulatory Board of India and Panjab University,Chandigarh.August,2011.
  41. D.k.Dhawan.Imaging by Radionuclides –An Overview.32<sup>ND</sup> Annual conference of Indian Biomedical Scientists. Panjab University ,Chandigarh Nov.2011.
  42. Kinri Jain.Vijayta.D.Chadha and D.K.Dhawan-Evaluation of radiolabeled Curcumin-<sup>99m</sup>Tcomplex as an imaging agent in colon carcinogenesis. Annual conference of Indian Biomedical Scientists.Manglore, Nov.2012.

43. Rozy Kamal ,V.D.Chadha and D.K.Dhawan, Development and characterization of <sup>99m</sup>Tc labeled resevertrol loaded nanoparticles for early detection of colon cancer in rats, Chennai,Dec.,2013.
- 44 Rozy Kamal and D.K.Dhawan, In Vitro applications of Radioisotopes in Biomedical Research. 35<sup>th</sup> Annual Conference of Association of Biomedical Scientists, Palmpur Agricultural University, Nov., 14-16,2014

## **INVITED TALKS**

### **INTERNATIONAL**

1. 3<sup>rd</sup> international Conference of Hellenic Society of Nuclear Medicine held at ThessalonikiGreece, 2005.
2. 4<sup>th</sup> international Conference of Hellenic Society of Nuclear Medicine held at Greece, 2008.
3. Ist. Medical Olymics organized by International Medical Olymicus association held at Thessaloniki,Greece,2010.
- 4 17<sup>th</sup> National and 5<sup>th</sup> International Iranian Biology conference held at Shahid Bahonar University, Kerman, Iran.
- 5 2<sup>nd</sup> International Medical Olympiad,Thessaloniki,Greece,Oct.2013.
- 6 BITs 5<sup>th</sup> Neuro-Talk at Nanjing, China May 17,2014

### **NATIONAL**

- 1 ‘Uptake of radionuclides with different affinities for different organs” during Refresher course organized academic staff college, Panjab university under the UGC programme for college and University teachers. August 2007
- 5 Uses of radionuclides in agriculture and medicine’ during Public Awareness program organized jointly with Panjab University and BARC, March 2007 organized by department of biophysics under UGC-SAP programme, March 2008.
- 6 ‘Radioisotopes in medicine and biology’ during Refresher course organized academic staff college, Panjab University under the UGC programme for college and University teachers, May 2008.
- 7 ‘Applications of radiopharmaceuticals in imaging’ during Faculty Development programme for University and College teachers, Panjab University, March 2008.
- 8 Radioisotopes in Imaging and Therapy, 3<sup>rd</sup> Chandigarh science congress, March,2009
- 9 ‘Biological effects of ionizing radiations’ during Workshop jointly organized Indian College of Nuclear medicine and Department of Nuclear Medicine, PGIMER, October 2009.



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- 10 'In vivo imaging of organs using radionuclides' during symposium cum workshop organized by Shobit University, Meerut, February 2010.
  - 11 'Radioisotopes in research' during Refresher course organized academic staff college, Panjab university under the UGC programme for college and University teachers, March 2010
  - 12 '*In vivo* imaging and biokinetic studies with Radioisotopes' during 4<sup>th</sup> Chandigarh Science Congress, March, 2010.
  - 13 'Biological effects of radiation', during ICNM workshop on radiation safety, INMAS, Delhi Aug.2010.
  - 14 Radioisotopes in research during the refresher course organized by academic staff college, Panjab University, August 20,2010
  - 15 'Applications of radioisotopes in medicine' at Hemopathic medical college, Sep. 2010.
  - 16 'Radioisotopes in life during the orientation course organized by academic staff college, Panjab University, Sep, 2010.
  - 17 "Regulation of thyroid activity by zinc during thyroid" 31<sup>st</sup> conference of IABMS, Nov 2010.
  - 18 'Radioisotopes general applications' during the orientation course organized by academic staff college, Panjab University, Dec 2010.
  - 19 "Medical and general applications of radionuclides" during the orientation course organized by academic staff college, Panjab University, Sep, 2010.
  - 20 "Radioisotopes in medicine, agriculture and industry" during the orientation course organized by academic staff college, Panjab University, March1, 2011.
  - 21 "Radioisotopes in molecular imaging and research" during the refresher course organized by academic staff college, Panjab University, May26, 2011.
  - 22 "Radioisotopes in life Sciences" during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, June 29<sup>th</sup> 2011.
  - 23 "Experimental models in radiation research" during Awareness program organized jointly by Panjab University and Atomic Energy Regulatory Board,Mumbai (Govt. of India),August 10-11,2011.
  - 24 "Scientific temperament and importance of radiations in life" during the orientation course organized by academic staff college, Panjab University, September 15, 2011.
  - 25 "Radioisotopes in life sciences" during INSPIRE awareness program of Dept. of Science and

Technology (Govt. of India) organized by Dept.of Micribiology, Palampur University, October 19 2011.

- 26 "Radioisotopes in life sciences" to Biotechnology students (UIET) October 22, 2011.
- 27 "General concepts in Imaging –An Overview" during 32<sup>nd</sup> annual conference of Indian Association of Biomedical Scientists, November 11, 2011.
- 28 "Importance of radioisotopes in life" during the orientation course organized by academic staff college, Panjab University, December 12, 2011.
- 29 Radioisotopes in Imaging, research and Therapy during the Refresher course organized by academic staff college, Panjab University, March 2, 2012.
- 30 "Applications of radioisotopes in life" during the orientation course organized by academic staff college, Panjab University, March 7, 2012.
- 31 "Radioisotopes in life Sciences" during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, May25, 2012.
- 32 "Radioisotopes in life Sciences" during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, Palampur University, July 26 2012.
- 33 "Radioisotopes in life Sciences" during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University,at Kulu August 24, 2012.
- 34 "Radioisotopes in Life" during the orientation course organized by academic staff college, Panjab University, September 22, 2012.
- 35 "Radioisotopes in life Sciences" during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, at Una October,2012.
- 36 Development, characterization and bioevaluation of Tc-99m labeled curcumin as a potential imaging agent for GI Tract and Colon Carcinogenesis during 33<sup>rd</sup> Annual conference of IABMS at Manglore Nov 3,2012
- 37 Radioisotopes in research and safety aspects during the Refresher course on Environmental science at Botany Dept. organized by academic staff college, Panjab University, Chandigarh Nov 24,2012.
- 38 Radionuclides in imaging and therapy, during the orientation course organized by academic staff college, Panjab University PU, Dec 6, 2012

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- 39 Radiation Basics and Radioisotopes applications in Mata Gujri College-Fateh Garh Sahib August 26,2013
  - 40 “Radioisotopes and Life” during the Refresher course on Environmental science at Biochem. Dept. PU, organized by academic staff college, Panjab University, Chandigarh, Feb 14,2013
  - 41 “Radioisotopes in Life” during the orientation course organized by academic staff college, Panjab University, March7, 2013
  - 42 “Radioisotopes in Life” during the orientation course organized by academic staff college, Panjab University, May 28, 2013
  - 43 “Radioisotopes and Life” during the Refresher course organized by academic staff college, Panjab University, Chandigarh, June 5,2013
  - 44 “Radioisotopes in Life” during the orientation course organized by academic staff college, Panjab University, September 22, 2013
  - 45 The favourable effects of low dose of X-rays during diazepam induced depression in rat brain during 2<sup>nd</sup> Medical Olymics at Thessaloniki , Greece,Dec 20,2013
  - 46 “Radiation Basics” during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, Palampur University, Nov 13,2013
  - 47 Development and characterization of <sup>99m</sup>Tc-radiolabeled nanoparticles to enhance uptake and retention of resveratrol in colon cancer for application in radionuclide imaging during 34<sup>th</sup> conference of IABMS,Chennai, Dec 28,2013
  - 48 In vitro applications of Radioisotopes at Christian Medical College, Ludhiana Feb 15,2014
  - 49 “Radioisotopes and Life” during the Refresher course organized by academic staff college, Panjab University, Chandigarh. March31, 2014.
  - 50 “Radiations and life” during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, Palampur University, April 5,2014
  - 51 Role of Zinc during Aluminium induced Neurodegeneration during BITs 5<sup>th</sup> Neuro-Talk at Nanjing, China May 17,2014
  - 52 Radiation Protection and Precautions Microbial Biotechnology Students, Panjab Univrsity, Chandigarh,June 3,2014.

53 In Vitro applications of Radioisotopes in Biomedical Research. 35<sup>th</sup> Annual Conference of Association of Biomedical Scientists, Palampur Agricultural University, Nov., 14-16,2014

54 Radiations in Life during INSPIRE internship camp of Dept.of Science and Technology (Govt.of India) organized by Department of Microbiology, College of Basic Sciences, Palampur University, Palampur University, March 28, 2015

#### **ADMINISTRATIVE EXPERIENCE**

<b>Chairman</b>	Department of Biophysics (2005-2008)
<b>Chairman</b>	Department of Biophysics, Panjab University, Chandigarh. July 28, 2014-Till Date
<b>Coordinator</b>	Centre for Nuclear Medicine, Panjab University, Chandigarh. June 2007-Till Date
<b>Coordinator</b>	Centre for Medical Physics, Panjab University, Chandigarh. September 2013 –Till Date
<b>Coordinator</b>	Common entrance test conducted by PU 2010-11

#### **RESEARCH PROJECTS AS A PRINCIPAL INVESTIGATOR**

<b>Name of sponsoring agency</b>	<b>Title of the project</b>
ICMR	Evaluation of protective role of zinc in the initiation and regression of experimentally induced colon cancer (completed).
UGC- DAE	Evaluation of protective role of zinc and selenium on liver function in arsenic treated rats. (completed)
UGC- DAE	Role of Zinc in Liver Functions following Protein Deficiency Heavy Metal Toxicity – An Epidemiological and Experimental Study. (completed)
ICMR	Evaluation of hepatoprotective role of zinc in conditions of nickel Toxicity (completed)

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ICMR	Role of zinc & selenium in Arsenic Toxicity: An Experimental & Environmental Study. (completed)
ICMR	Evaluation of effectiveness of zinc in restoring the altered thyroid and liver functions (completed)
UGC	Lithium as an adjunct to radioiodine-131 therapy in rat thyroid
Himalya Drug Company, India	Studies to evaluate the role of mentat( a herbal formulation) on brain functions on X ray irradiated rats.
Himalya Drug Company, India	Investigation of the role of D-400 on liver function on liver functions in diabetic rats.
ICMR	Evaluation of effectiveness of selenium in the regulation of thyroid functions following treatment of rats. (completed)
UGC	Studies to explore the neuroprotective role of zinc in aluminum induced neurotoxicity (completed)
UGC	Molecular action of zinc on glucose transporters in liver of diabetic rats (completed)
ICMR	Evaluation of effectiveness of zinc in ameliorating chlorpyrifos induced alteration in rat brain (completed)
ICMR	Evaluation of potential of selenium in regulating thyroid functions following lithium therapy (completed)
UGC-DAE	Studies to investigate the role of zinc during arsenic induced genotoxicity in rat liver

ICMR	(completed) Evaluation of effectiveness of selenium in the regulation of thyroid functions following <sup>131</sup> I treatment to rats (completed).
PURSE	Development of radiopharmaceuticals for the early detection of cancer (in progress).
CSIR	Development and evaluation of <sup>99m</sup> Tc labeled finasteride and its related analogues for early detection of cancer in experimental model of prostate cancer (In progress as co –investigator)

### **SPECIAL ACHIEVEMENT**

Started new Masters courses in the field of Nuclear Medicine and Medical Physics which is one of its kind in India and being successfully conducted in collaboration with Department of Nuclear Medicine and Radiotherapy, PGIMER, Chandigarh.

### **BOOKS/BOOK CHAPTER**

1. Experimental models of colon carcinogenesis: Chemopreventive studies with zinc in book "Rat in cancer Research-a crucial tool for all aspects of translational studies" : by D.K.Dhawan, P. Nair and V. Dani Edited by Daniel Pouliquen.
2. Selenium as a Modulator of Fourier Transform Infrared Spectra in Cancer in Selenium: Chemistry, Analysis, Function and Effects :by Anshoo Malhotra and D.K. Dhawan, Edited by Professor Victor Preedy published by Royal Society of Chemistry.
3. Radiochemistry and Biochemistry in Text book of Clinical Laboratory Nuclear Medicine Edited by Phillips Grammaticos.

### **PLACEMENT OF STUDENTS AWARDED Ph.D. DEGREES**

1. Prof Baljinder Singh- Professor, Department of Nuclear medicine, PGIMER, Chandigarh, INDIA
2. Prof. Ajay Goel-, Director, Epigenetics and Cancer Prevention, Baylor University Medical Centre, TX, USA.

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3. Dr. Ajaib Singh- Former Director, Department of Adult education, Panjab University, Chandigarh, and Presently, Member Minority Commission Govt.of INDIA.
  4. Dr. Aparna Tondon- Head, Department of Biophysics, Dental College, Derabassi, INDIA.
  5. Dr. Harish Bandhu- Head, Division of radiation and medical physics, Govt.Medical College,Haldwani, Dist. Nanital, Uttarakhand, INDIA.
  6. Dr. Ashima Pathak- Assistant Professor, Department of Biotechnology, S.D College, sector 32, Chandigarh, INDIA.
  7. Dr. Dharam Paul Garg- Associate professor, Department of Physiology, Medical College, Patiala, INDIA.
  8. Dr. Pardeep Sidhu coordinator, placement cell, school of pharmacy, University of Waterloo, Canada
  9. Dr. Rajiv Pathak- Professor of Physiology,Medical University of Americas, St. Kitts ASND Nevis, West Indies.
  10. Dr. Vijayta Dani Chadha- Assistant Professor, Centre for Nuclear Medicine, Panjab University, Chandigarh, INDIA.
  11. Dr. Punita Bhalla, Patent consultant, Biotech, San Fransisco,California,USA.
  12. Dr. Ashok Kumar, Assistant Professor, Department of Biotechnology, SUSCET
  13. Dr. Abdollah- Assistant Professor, Department of Basic Sciences, Kemran University, Iran.
  14. Dr. Fereshteh-Head, Department of Basic Sciences, Payame Noor University,Iran
  15. Dr.Anshoo Malhotra, Senior Demonstrator, Dept. of Biophysics, PGIMER.Chandigarh.
  16. Dr.Praveen Nair, Scientist, Dept.of Biomechanics, National Unstitute of Sports, Bangloru,.
  17. Dr.Vishwjyoti,Assistant Professor,DAV Cllege,Gurdaspur,Punjab.
  18. Dr.Amit Sehgal,Assistant Professor,Dept.of Biotech.Lovely University,Jallandhr,Punjab.
  19. Dr.Neha SinglaAssitant Professor,Dept.Biophysics,P.U,Chandigarh.
  20. Dr.Pardeep,Post Doctral Fellow in the Lab. Prof.Mathew Thakur,Former President American Society of Nuclear Medicine,Florida,USA.
  21. Jaspreet Kaur, Post Doctral Fellow, Denver, USA

22. Jaspreet Kaur, Senior Demonstrator, Department of Biophysics, PGIMER, Gastroenterology Dept., PGIMER, Chandigarh

## AREAS OF EXPERTISE

- Nuclear Medicine.
- Radiation Biophysics.
- Cancer Research

## ASSOCIATION -MEMBERSHIP

1. Elected executive member, Panjab University Teachers Association (PUTA), 1989.
2. Elected Treasure, Panjab University Teachers Association (PUTA), 1991.
3. Elected Vice President, PUTA, Panjab University, Chandigarh, 2008.
4. Elected Vice President, Indian Association of Basic Medical Scientists, 2012

## PATENTS

Filed a patent application for the development of  $^{99m}\text{Tc}$  labeled albumin/ Cisplatin radiopharmaceutical for the early detection of cancer (2007). The Patent application has been filed by the Dept. of Science and Technology, Govt. of India

## MISCELLANEOUS

1. Acted as an evaluator from time to time for the orientation and refresher courses organized by Academic staff college, P U.
2. Acted as an observer during the examinations conducted by PU.
3. Acted as a superintendent for UGC NET examination.
4. Acted as an observer for the examinations conducted by DRDO for the recruitment of scientists/Technical staff.
5. Acted as an expert for the recruitment of technical persons organized by DRDO.
6. Acted as an evaluator for M.Sc. / Ph.D. theses in Panjab University, as well as other Universities.

## PUBLICATIONS



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1. Pathak R., Dhawan. D.K and Pathak A. (2015) Role of Zinc on uptake studies in ethanol administered rats. *World. J. of Pharmaceutical Research.*4, 1173-82.
  2. Singla N and Dhawan D.K. (2015) Modulation of  $^{14}\text{C}$  glucose metabolism by Zinc during Aluminium intoxication induces neurodegeneration. *J. of Neuroscience Research.*
  3. Ghai A., Singh B., Hazari P., Schultz M.K., Parmar A., Kumar P., Sharma S., Dhawan D.K and Mishra A. K. (2015) Radiolabeling Optimization and Characterization of  $^{68}\text{Ga}$  labeled DOTA-Polyamido-Amine Dendrimer Conjugate Animal Biodistribution and PET Imaging results. *Applied Radiation and Isotopes.* 105, 40-46.
  4. Vasta R. Bhusari P., Kumar S., Chakarborti S., Dash A., Singh G., Dhawan D.K., Shukla J and Mittal B.R. (2015). Integrin alpha VB3 as a promising target to image neoangiogenesis using in house generator produced positron emitter  $^{68}\text{Ga}$  labeled DOTA Arginine Glycine Aspartic acid Ligand Cancer Biotherapy and Radiopharmaceuticals. 30, 217-224.
  5. Khurana H., Meena V.K., Prakash S., Chuttani K., Chadha N., Jaswal A., Dhawan D.K., Mishra A.K and Hazari P.P.(2015) Preclinical evaluation of potential GSH Ester base PET/SPECT Imaging probe DT( GSHMe2) to detect gamma glutamyl transferase over expressing tumors. *PloS ONE.* 10
  6. Bhusari P., Vasta R., Singh G., Dhawan D.K., Shukla J and Mittal B.R. (2015) Development and characterization of DTPA-Trastuzumab conjugates for radiolabeling with Tc-99m: A radiopharmaceutical for HER2/neu breast cancer. *J. Drug Delivery Science and Technology.*29, 8-15.
  7. Walia S., Kamal R., Kanwar S.S and Dhawan D.K. (2015) Cyclooxygenase as a target in chemoprevention by probiotics during Dimethylhydrazine induced colon carcinogenesis in rats. *Nutrition and Cancer.* 67, 603-611
  8. Kumar, P., Singh, B., Ghai, A., Dhawan D.K., Mittal, B.R., Mishra, A.K. (2015) Document Preclinical evaluation of  $^{99\text{m}}\text{Tc}$  labeled gefitinib as a potential scintigraphic probe for the detection of tumors expressing epidermal growth factor receptors. *Applied Radiation and Isotopes.* 99, 41-45.
  9. Singla N and Dhawan D.K. (2015) Zinc down regulates Apaf-1-dependent Bax/Bcl-2 mediated caspases activation during aluminium induced neurotoxicity. *Biometals.* 28(1):61-73.
  10. Nair P, Malhotra A, Dhawan D.K. (2015) Curcumin and quercetin trigger apoptosis during benzo(a)pyrene-induced lung carcinogenesis. *Mol. Cell. Biochem.* 400(1-2):51-60.
  11. Jain K, Dhawan D.K. (2014) Regulation of biokinetics of  $(^{65}\text{Zn})$  by curcumin and zinc in experimentally induced colon carcinogenesis in rats. *Cancer Biother Radiopharm.* 29(8):310-6.
  12. Singla N and Dhawan D.K. (2014) Zinc modulates aluminium induced oxidative stress and cellular injury in rat brain. *Mettalomics.* 6(10):1941-50.

13. Kamal R., Bansal C., Khandelwa N., Rai D.V., S. C. Bansal & N. Khandelwal & D. V. Rai and Dhawan D.K (2014). Moderate Zinc Supplementation During Prolonged Steroid Therapy Exacerbates Bone Loss in Rats. *Biol. Trace Elem. Res.* 160(3):383-91.
14. Kaur J., Rana, S.V., Gupta R., Gupta V., Sharma S.K. and Dhawan D.K. (2014) Prolonged orocecal transit time enhances serum bile acids through bacterial overgrowth, contributing factor to gallstone disease. *J. of Clinical Gastroenterology.* 48, 365-369.
15. Malhotra, A and Dhawan D.K (2014) Study to evaluate molecular mechanics behind synergistic chemopreventive effects curcumin and resveratrol during lung carcinogenesis. *PLoS ONE.* 9, 1-9
16. Malhotra, A and Dhawan D.K. (2014) Current view of zinc as a hepatoprotective agent in conditions of chlorpyrifos induced toxicity. *Pesticide Biochemistry and Physiology* 112:1-6.
17. Singla N and Dhawan D.K. (2014) Influence of Zinc on the biokinetics of <sup>65</sup>Zn in brain and whole body and its distribution in Aluminium intoxicated rats. *Cellular and Molecular Neurobiology.* 34, 269-276.
18. Bhasin P, Singla N and Dhawan D.K. (2014). Protective role of zinc during aluminum induced hepatotoxicity. *Environ. Toxicol.* 29, 320-327.
19. Singla N and Dhawan D.K. Dhawan (2014) Influence of Zinc on calcium dependent signal transduction pathways. *Molecular Neurobiology* 50:613-625
20. Chadha V.D., Abhilasha and Dhawan D.K. (2014) Enhanced uptake and retention of thyroidal-<sup>131</sup>I and regulation of thyroid function by selenium following iodine-<sup>131</sup>I administration to rats. *Hellenic Journal of Nuclear Medicine.* 17, 27-30.
21. Sehgal A, Kumar M, Jain M and Dhawan D.K. (2013) Modulatory effects of Curcumin in conjunction with Piperine on Benzo(a)pyrene-mediated DNA adducts and biotransformation enzymes. *Nutrition and Cancer* 65, 885-890.
22. Singla N and Dhawan D.K. (2013) Zinc protection against aluminum induced altered lipid profile and membrane integrity. *Food Chem. Toxicol.* 55:18-28.
23. Singla N and Dhawan D.K. (2013) Zinc, A neuroprotective agent against Aluminium induced oxidative DNA injury. *Molecular Neurobiology,* 1-12.

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24. Ghadi F, Malhotra A, Ghara A and Dhawan D.K. (2013) Chemopreventive effects of selenium on cancer marker indices and ultrastructural changes during 1,2 dimethylhydrazine induced colon carcinogenesis in rats. *Journal of Gastrointestinal Cancer* 44(1): 54-9.
  25. Ghadi F ,Malhotra A, Ghara A and Dhawan D.K. Modulation of Fourier transform infrared (FTIR) spectra and total sialic acid (TSA) levels by selenium during 1,2 dimethylhydrazine induced colon carcinogenesis in rats. *Nutrition and cancer* 2013, 65(1) 92-98.
  26. Ghara,A.R.,Malhotra,A.Ghadi,F.E.Rai,D.V.,Dhawan,D.K.,(2012),Azadirachta Indica modulates mitotic Catastrophe during Dimethylhydrazine(DMH) induced colorectal carcinogenesis in rats. *Int.J.of Contemporary Res.in Engg&Tech.* 2,73-80.
  27. Ghadi F, Malhotra A, Ghara A and Dhawan D.K. (2012). Selenium as a modulator of Membrane stability parameters and surface changes during the initiation phase of 1,2 dimethylhydrazine induced colorectal carcinogenesis. *Molecular and Cellular Biochemistry* 369(1):119-126.
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  29. Kumar P, Singh B, Sharma S, Ghai A, Chuttani K, Mishra AK , Dhawan DK and Mittal BR. (2012). Preclinical Evaluation of <sup>99m</sup>Tc-labeled Doxorubicin as a potential Scintigraphic probe for tumor imaging. *Cancer Biotherapy and Radiopharmaceuticals* 27(3):221-25
  30. Sehgal A, Kumar M, Jain M and Dhawan D.K. (2012). Synergistic effects of piperine and curcumin in .modulating benzopyrene induced redox imbalance im mice lungs. *Toxicology Mechanisms and Methods* 22 ,74-80.
  31. Malhotra A, Nair P and Dhawan D.K. (2012) "Curcumin and resveratrol in combination modulates benzo(a)pyrene induced genotoxicity during lung carcinogenesis. *Human and Experimental Toxicology* 31(12)1191-1206.
  32. Malhotra, Nair P and Dhawan D.K. (2012). Pre- mature-mitochondrial senescence and related ultra-structural changes during lung carcinogenesis- modulation by Curcumin and resveratrol. *Ultrastructural Pathology* 36(3): 179-184.
  33. Singla N, Dhawan D.K. (2012). N-Methyl N-Nitrosourea Induced Functional and Structural Alterations in Mice Brain-Role of Curcumin. *Neurotox. Res.* 22(2): 11-15.

34. Singla N, Dhawan D.K. (2012). Regulatory role of zinc during aluminium-induced altered carbohydrate metabolism in rat brain. *J Neurosci.Res.* 90(3):698-705.
35. Sehgal A, Kumar M, Jain M and Dhawan D.K. (2012). Piperine as an adjuvant increases the efficacy of Curcumin in mitigating benzopyrene toxicity. *Human and Experimental toxicology* 31(5): 473-82.
36. Sehgal A, Kumar M, Jain M, Dhawan D.K.(2011). Combined effects of curcumin and piperine in ameliorating benzo(a)pyrene induced DNA damage. *Food Chem. Toxicol.* 49(11): 3002-06.
37. Malhotra A, Nair P and Dhawan D. K. (2011). Efficacy of zinc as a nutritional supplement in ameliorating chlorpyrifos induced neurotoxicity in rats. *Journal of Environmental Toxicology, Oncology and Pathology* 30(3):225-233.
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39. Malhotra A, Nair P, and Dhawan D.K.(2011). Curcumin and resveratrol synergistically stimulate p21 and regulate Cox 2 by maintaining adequate zinc levels during lung carcinogenesis. *European Journal of cancer prevention* 20(5):411-416.
40. Kumar A, Nair P, Malhotra A, Majumdar S, Garg M.L and Dhawan D.K. (2011) Altered uptake and retention of 65Zn following arsenic exposure-modulation by zinc treatment. *BTER* 144(1-3):1059-68.
41. Sood A, Chadha V.D and Dhawan D.K (2011). Radio protective role of selenium following single dose radioiodine 131I exposure to red blood cells of rats. *Journal of Environmental Toxicology, Oncology and Pathology* 30(2):153-62.
42. Chadha V.D, and Dhawan D. K. (2011). In Vitro <sup>14</sup>C-Labeled Amino Acid Uptake Changes and Surface Abnormalities in the Colon after 1,2-Dimethylhydrazine—Induced Experimental Carcinogenesis: Protection by Zinc. *JEPTO* 30 (21): 103-111.
43. Chadha V, and Dhawan D. K. (2011). Regulatory role of zinc on the biokinetics and biodistribution of 65Zn during the initiation of experimentally induced colon cancer. *Nutrition and Cancer*; 63 ,212-217.

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44. Chadha V.D, Garg M.L, Dhawan D.K. (2010). Influence of extraneous supplementation of zinc on trace elemental profile leading to prevention of dimethylhydrazine-induced colon carcinogenesis. *Toxicol. Mech. Methods.* 2010 Oct;20(8):493-7.
  45. Dani V, Dhawan D. K. (2010).  $^{65}\text{Zn}$  kinetics as a biomarker of DMH induced colon carcinogenesis. *Hellenic journal of Nuclear Medicine* 13 (3) 257-260.
  46. Malhotra A, Kumar P, Sharma S, Dhawan D.K. (2010). Macro-aggregates (MAA) of albumin for lung imaging. Studies on better tissue to background ratio, on MAA stability and reuse after its first preparation. *Hellenic journal of Nuclear Medicine* 13 (3) 229-232.
  47. Dhawan D, Chadha V.D. (2010). Zinc: A promising agent in dietary chemoprevention” for consideration in *Indian Journal of Medical Research* 132(6) 676-82.
  48. Dhawan Devinder, Malhotra A, Kumar P and Sharma S. Development of cost effective and reusable macro-aggregates of albumin for lung imaging. *Journal of Nuclear medicine*, 2010; 51(S2):1477.
  49. Pathak, R., Dhawan, D. Pathak, A, (2010). Effect of Zinc Supplementation on the Status of Thyroid Hormones and Na, K, and Ca Levels in Blood Following Ethanol Feeding. *Biological Trace Element Research* pages Volume 140, Number 2, 208-214.
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  51. Dani V, Dhawan D. K.(2010). Ultrastructural changes in rat colon following 1,2 dimethylhydrazine induced colon carcinogenesis-Protection by zinc. *Oncology research* 19(1):1-11.
  52. Singla N and Dhawan D.K. (2010). Modulation of Carbohydrate Metabolism During N-Methyl N-Nitrosourea Induced Neurotoxicity in Mice: Role of Curcumin. *Neurochem. Res.* 35(4):660-5.
  53. Bhalla P., Garg M L, Dhawan D.K. (2010). Protective role of lithium during aluminium-induced neurotoxicity. *Neurochemistry International* 56(2):256-62.
  54. Chadha V.D and Dhawan D.K. (2010). Uptake and retention of  $^{65}\text{Zn}$  in lithium-treated rat liver: Role of zinc. *Digestive and liver disease* 42(6):446-50

55. Nair P, Malhotra A and Dhawan D. K. (2010). An insight into the chemopreventive role of curcumin and quercetin during promotional phase of benzo(a)pyrene-induced lung carcinogenesis in mice. *Toxicological & Environmental Chemistry* 92 (6), 1187 – 1197.
56. Malhotra A, Chadha V, Nair P and Dhawan D. K. (2009). Role of zinc in modulating histo-architectural and biochemical alterations during DMH induced rat colon. *Journal of Environmental Toxicology, Oncology and Pathology* 28 (4 ) 351-359.
57. Bhalla P, Singla N and Dhawan D.K. (2010). Potential of lithium to reduce aluminium-induced cytotoxic effects in rat brain. *Biometals* 23(2):197-206.
58. Malhotra A, Nair P, Dhawan D. K. (2010). Modulatory effects of curcumin and resveratrol on lung carcinogenesis in mice. *Phytotherapy Research* 24(9); 1271-77.
59. Chadha V D, Dhawan D. K. (2009). Membrane Fluidity and Surface Changes during Initiation of 1, 2-dimethylhydrazine induced colon carcinogenesis: Protection by Zinc. *Oncology Research*, 18 (1), 17-23.
60. Bhalla P., Dhawan D.K. (2009). Protective role of lithium in ameliorating the aluminium-induced oxidative stress and histological changes in rat brain. *Cell Mol. Neurobiol.* 29:513–521.
61. Bhalla P, Nair P, Garg M.L Dhawan D.K. (2009). Effects of lithium on membrane fluidity and lipid profile in brain membrane of aluminium treated rats. *Toxicological and Environmental Chemistry* 91, 723 – 733.
62. Ghara A, Ghadi F, Rai D.V and Dhawan D.K. (2008). Effect of Neem (*Azadirachta indica*) on serum glycoprotein contents of rats administrated 1, 2 Dimethylhydrazine. *Toxicology Mechanisms and Methods.* 19, No. 4, 298-301.
63. Ghadi F, Shalmoli, Ghara A and Dhawan D.K. (2009). Selenium as a chemopreventive agent in experimentally induced colon carcinogenesis. *World journal of Gastrointestinal Oncology* 1(1): 74-81.
64. Garg D. P, Kiran R., Bansal A. K, Malhotra A, Dhawan D. K. (2009). Vitamin E- mediated protection on methomyl- induced alterations in rat liver. *Toxicological and environmental chemistry in* 91, 685 – 698.

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65. Garg D. P, Kiran Ravi, Bansal A. K, Malhotra A, Dhawan D. K. (2009). Methomyl induced hematological and biochemical alterations-Protection by vitamin E. *Pesticides Biochemistry & Physiology*. 93(3); 127-132.
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