

# **JOURNAL OF CELL AND TISSUE RESEARCH**

**ISSN: 0973-0028; E-ISSN: 0974-0910**

**Vol. 23(2): 7289-7294 (2023)**

**Editor-in-Chief  
Prof. P.P. Sood**

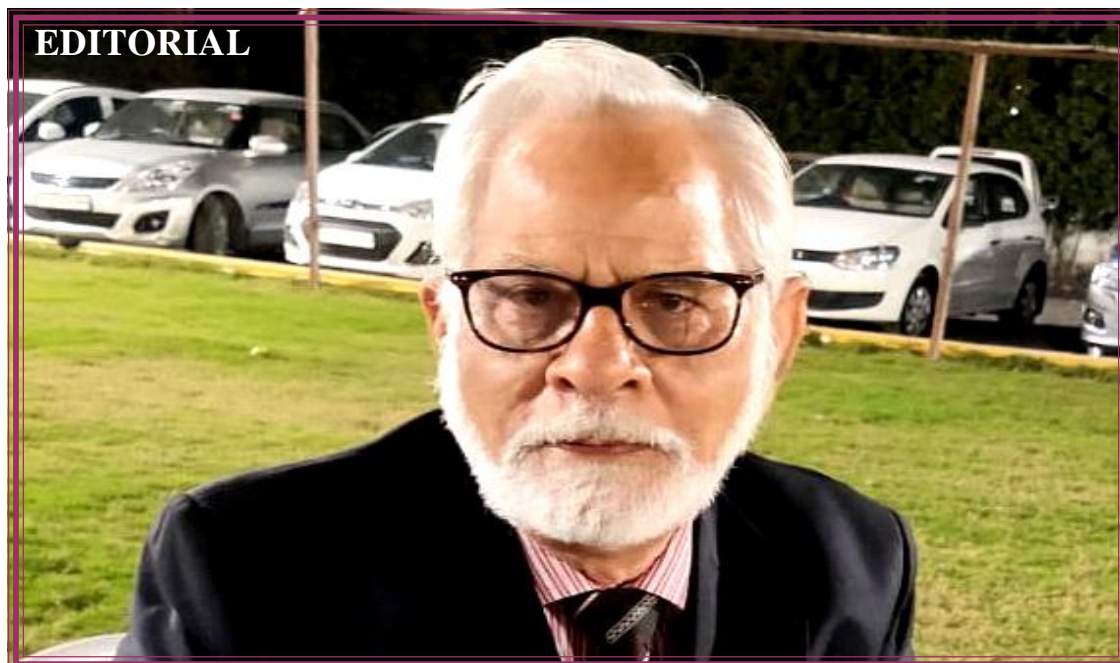
**On the occasion of his 85<sup>th</sup> birth day, this issue of  
Journal is being dedicated to Dr. P. D. Gupta,  
Director Grade Scientist, CCMB, Hyderabad,**

**A BIENNIAL JOURNAL FOR RAPID  
ONLINE AND PRINTED PUBLICATIONS**

visit us at - <http://www.tcrjournals.com>

**This journal is indexed in ICI, which is well recognized by UGC  
NAAS Impact Factor 4.04**





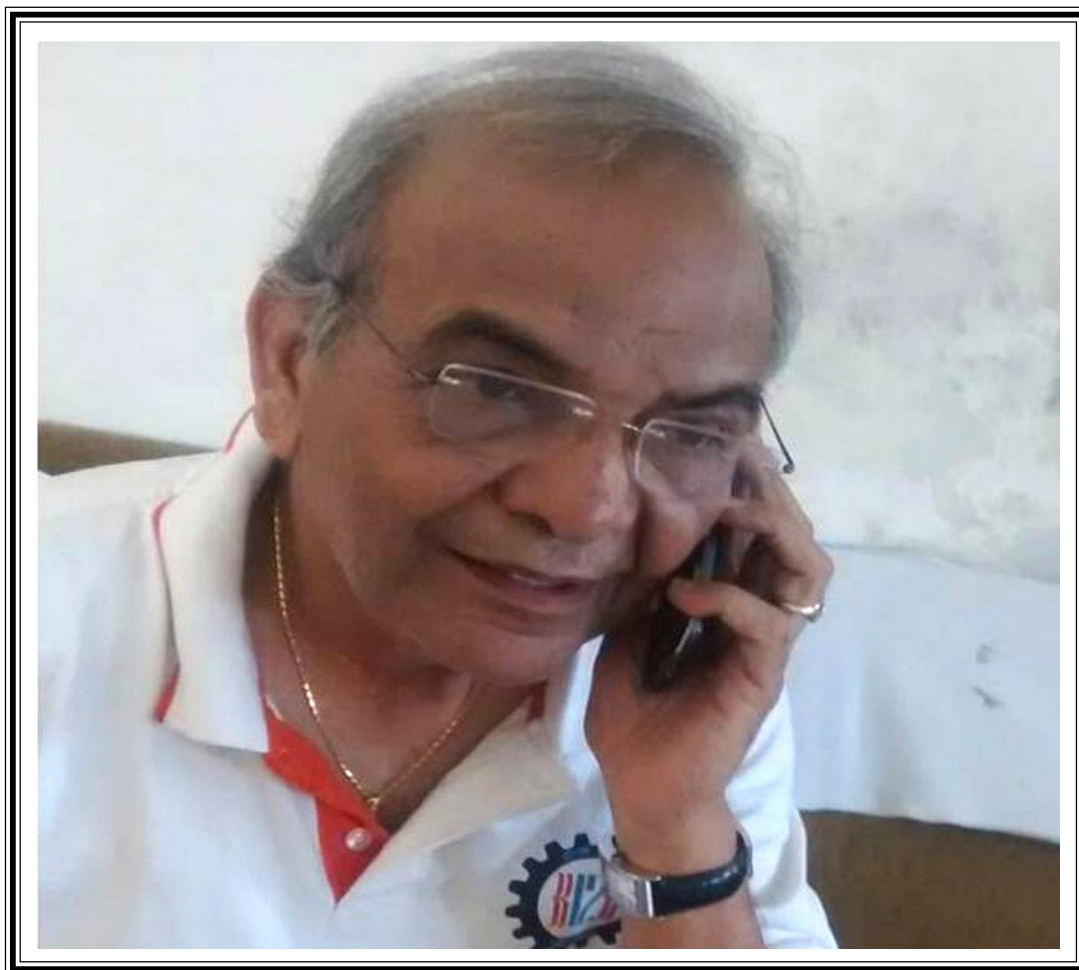
**Prof. P. P. Sood, Editor-in-Chief & Founder of “Journal of Cell and Tissue Research”**

Since the inception (2003), growth of “**Journal of Cell and Tissue Research (JCTR)**” is exponential. It has attracted not only Indian scholars but also many intellectuals from various International Institutions of repute, simply because of rigorous peer reviewing process, its high quality printing, minimum paper reviewing time, publication in time, quality of publication and popularity of the journal. During this long journey it has attracted research papers from various countries such as, Japan, Germany, Canada, South Arabia, Egypt, Turkey, New Zealand, Poland, Portugal, Brazil, USA, etc. In addition to factors mentioned above, the credit also goes to the editorial board members who come from various countries of the world putting their efforts to get quality papers from their area. Up to now we have published 23 vol. and 7420 pages in 20 years. Many research articles has very high citation.

This registered (**ISSN: 0973-0028; E-ISSN: 0974-0910**) journal, affiliated to Society of Applied Biology and Biotechnology” (Registration No. 2369, Mumbai) was introduced by Prof. P.P. Sood, Head, Department of Biosciences, Saurashtra University, Rajkot, Gujarat. He retired in 2003 and immediately offered **Emeritus Medical Scientist** position by ICMR, New Delhi for 3 year. He also received **Life Time Achievement Award** IN TOXICOLOGY IN 2003, from Society of Science and Environmental, New Delhi. Thereafter, looking his experience in Neurosciences, another **Emeritus Scientist Position** was offered to him by UGC, New Delhi. For his work on Neurosciences, he was offer another **Life Time Achievement Award**, IN NEUROSCIENCES by Institute of Medical Sciences and Research, Haldia, West Bengal 2015. His vast experience in research publications (more than 200, one in NATURE) and wide knowledge on vivid subjects of Biosciences, made him a successful editor to run an International Journal.

**Now at the age of 83, he wants to give up this work to some experience devoted and hard working professor without any condition. The search of such person is in progress.**

**This issue of Journal is being dedicated To Dr . P. D. Gupta, Associate Editor of Journal, On His 85<sup>th</sup> Birth Day**



## **Dr. P. D. Gupta**

**(Scientific adviser - Journal of Cell and Tissue Research)**

**We (Editor-in-Chief and Editorial Members) wishing you  
85<sup>th</sup> birthday as perfect as you are for us**

Dr. P. D. Gupta was born on 10 August 1939 in Jaipur, Rajasthan. After his graduation from Rajasthan University, he obtained his Ph.D. from the Panjab University in 1968, and did his postdoctoral research at the University of Alberta, Edmonton, Canada (1969-1970). Even before completing his postdoc, he was offered a Research Associate position at the University of Pennsylvania in 1971. He returned to India on an invitation from the renowned All India Institute of Medical Sciences (AIIMS), New Delhi, in 1972. He subsequently joined Centre for Cellular and Molecular Biology (CCMB) in 1979, and retired as Director Grade Scientist (1995 to 1999).

Very early on in his career, Dr. Gupta was much sought after not only within India, but internationally as well, because of his broad research experience and impressive ability to connect the basic scientific disciplines (Physics, Chemistry, Engineering, and Biology) and come up with intriguing hypotheses, to be verified through experiments.

On your 85<sup>th</sup> birthday, I pray that God bless you with all the good things in life? health, wealth, happiness, and success. May your dreams come true and may you achieve all that you set out to do. Happy birthday to someone who is not just a friend, but a true inspiration.

**Prof. P. P. Sood, Editor-in-Chief,**

**(10th August. 2023)**

### MAJOR ACHIEVEMENTS OF Dr. P. D. GUPTA.:

It is impossible to list all his achievements during his illustrious career and beyond, but here are a select few:

**1. Invited Guest Lectures:** His most notable invited guest lectures were at - The Royal Society (1984); CNRS, France (1986); Alberta Heritage Foundation, Canada (1994); PERDAMI, Indonesia (2000); Japanese Chromosome Society, Japan (2002); Asia and Pacific Cell Biology Conference, Taipei, Taiwan (2002); JSPS, Japan (2005). In addition, he has delivered several talks at 170 National, and 110 International Institutes. & and still continuing.

**2. Fellowships, Honors and Awards:** Royal Society Fellowship, UK (1984); Czech Academy of Sciences Fellowship, (1991); DAAD Fellowship (1992), Max-Planck, Germany (1994); Bulgarian Academy of Science Fellowship (1992); Silver Jubilee Commemorative Lecture at Regional Research Laboratory, Jammu (1984); Best Invention Award (1998), for developing 2 nanogram protein estimation method; Life Time Achievement Award in Life Sciences by the Electron Microscopy Society of India

**3. Academy Memberships:** Fellow of the Histchemical and Cytochemical Society of America (1971), Fellow of the New York Academy of Sciences, U.S.A. (1996); Fellow of the Royal Microscope Society, Oxford, England (1982); Fellow of the Society of Cytologist and Genetics, India (1996); Fellow of the National Academy of Sciences, India (1990); Fellow of the Electron Microscope Society of India (2007). International Study Group for Steroid Hormones, Rome, Italy; Indian Biophysical Society, Calcutta; Electron Microscopic Society of India, New Delhi, India; Indian Analytical Society, Bombay, India; Society of Cytologist and Genetics, Bangalore, India (Executive committee member 1993-1995); Indian Society for the study of Reproduction and Fertility, Bombay, India; Society for Endocrinology, Bristol, UK. **Positions held;** Indian Society of Cell Biology, New Delhi, India (Jt. Sec. 1985-1987), Vice-President (Jan 1991- Dec 1992), Secretary (Jan 1993- Dec 1994); Indian Immunology Society, New Delhi, India (Jt. Sec. 1984-1987, Vice President 1988-90).

**4. Committee Memberships:** Ethic Committee, Nizam's Institute of Medical Sciences, Hyderabad (1996-1998); Management Council, N G R I , Hyderabad (1996-1998); Permanent Invitee, Research Committee, Centre for Cellular and Molecular Biology, Hyderabad (1996-1998); Research Advisory Committee, Deccan College of Medical Sciences and Allied Hospitals, Hyderabad (1996-2000); Review Committee, Indian Veterinary Research Institute, Izatnagar (1997-1999); Selection committees of many CSIR institutions and IISc, Banalore, Supervisory Committee for Ph.D. students at the All India Institute of Medical Sciences, New Delhi (1973-1980); Research Advisory Committee, Sir Gangaram Hospital, New Delhi (2003 to 310); Research Advisory Committee, Dr. Jivraj Mehta Smarak Health Foundation and Bakeri Medical Research Centre (2003 to 2005).

**5. Editorship:** Dr. Gupta was the Editor, or on the Board of Editors for several scientific journals. Editor-Cell Biology Newsletter (1984-90; 1993-94); Joint Editor, The Journal of Cytology and Genetics, India (1996 to 2001); Guest Editor, Cellular and Molecular Biology, Special Issue on Cytoskeletal proteins (1998); and Editor, Advisory Committee of Asian Journal Experimental Science; Guest Editor, Asian J. Exptl. Sc. Genetics of eye diseases (2005); Editor-in-Chief, World Journal of Medical Sciences (WJMS); Molecular Biology, Special Issue on Cytoskeletal proteins (1998); Member of Editorial Board, Journal of Basic and Applied Biomedicine (1994 to 2000); Member of Editorial Board, Tissue and Cell Res.; Co editor- Journal of Cell & Tissue Research.

**6. Publications:** Dr. Gupta is a well known writer. He has more than 250 original research papers, 20 books, about 100 popular science articles in many languages to his credit. He has also delivered radio talks (5) and made television programs (5) for science students. His work has been cited by many authors and he has been invited to write chapters in edited books, by Indian and foreign authors, alike. His work was displayed in National Science Museums, Patna and Chennai

#### 7. Bibliographic Citations

- a. Who's and Who in Dictionary of International Bibliography, 1982, International Bibliographical Society, Cambridge, England.
- b. Who's and Who in Medicine and Health Care (Marques), USA 2005.
- c. Who's and Who in Science and Engineering (Marques), USA 2006.
- d. Who's and Who in Asia (Marques), USA 2007.
- f. Who's and Who in the World (Marques), USA 2007.

**8. Major Scientific Contributions:** coordination between cellular structures and functions at the membrane level on liver cancer. hormones estradiol modulates  $Ca^{++}$  uptake by the cells and in turn regulates activity of a number of  $Ca^{++}$  dependent enzymes programmed cell death (PCD). Dr. Gupta and his associates have shown that estradiol-regulated PCD, estradiol initiates signal transduction pathway mechanism of pathogenesis in keratin-related skin diseases, coping with nutritional stress in rat intestinal epithelial cells (IEC) and sexual dimorphism in the human eye.

#### Post Retirement

Busier after retirement he was Adjunct Professor BITS, Pilani (2000-2004) and S. P. University, Vallabh Vidyanagar, India (2003 -2005). He was in charge of the human eye lens research at the Iladevi Cataract and IOL Research Centre, Ahmadabad (2000-2005). He also developed and directed multidisciplinary research on Aging at Atmiya Institute of Gerontology Research, Rajkot and MIET, Meerut, where he and his colleagues studied anti-gravitational forces and synthesis of anti-aging molecules. Subsequently, he was an Adjunct Professor at the Manipal University, Manipal, where he guided research in Chronopharmacology.

To mark the occasion of Dr. Gupta's 81st birthday, it would be remiss not to mention some of the highlights and his contributions during his "retired" life. In the past 20 years or so, he has traveled widely within India and abroad; he was instrumental in organizing a week long "Festival of India" in Lublin, Poland in Oct. 2017. This festival featured keynote address and scientific presentations by Dr. Gupta, Indian cooking, cultural and health events such as yoga demos, henna art work, Ayurvedic practices and of course, Bollywood movies! He also organized a few scientific exhibitions for students in Chennai.

Dr. Gupta is known among his friends and colleagues as PD, but probably, only a few people know his first name – Purshottam. His name exemplifies what he is as a Scientist and as a person, which is very well depicted in this poem. This poem on "**PURSHOTTAM**" was written for, and dedicated to Dr. Gupta, by his children on his 80<sup>th</sup> birthday:

**P** is for being a Pioneer in Life Sciences, working up a storm, **U** is for having an Ultra modern mind-set, different from the norm, **R** is for Regal, with a noble and pure heart, **S** is for Stylish, trendy and smart, **H** is for Honorable, one who always keeps his word, **O** is for being an excellent Orator, gets the point across, makes his voice heard, **T** is for Trustworthy, reliable and stable, **T** is for Trying hard, yet relaxed and comfortable, **A** is for Admirable, friendly and amiable, **M** is for Magnanimous, generous and caring.

**Who's Who in Dr. P. D. Gupta's family:** Behind every successful man there is a woman, and that woman in Dr. P. D. Gupta's life was his late wife, **Mrs. Kanta Gupta**. She stood like a pillar, lending her unwavering support behind the scenes, to help Dr. Gupta achieve his incredible successes, and allow him to full fill his scientific dreams. Kanta and PD have three children – two daughters and a son. **Kalpna Gupta** is their eldest daughter, completed BA in English Literature, and MA in Hindi Literature, both from Osmania University, Hyderabad. She lives in Jaipur and like her mother; works at home to help her husband and children achieve their career aspirations. **Dr. Suresh Gupta** married to Kalpana, currently Heading Neurosciences Department, Eternal hospital, Jaipur. He obtained DM degree from NIMHANS, Bangalore. **Sanjay Gupta** is the only son of Kanta and PD, He completed his BE in Chemical Engineering and MBA, then Joined Indian Oil, Bangalore, HMT, Pune. Now he started his own a mid-sized industry in textiles in Jaipur. **Rachna Gupta** married to Sanjay, did her Master's in Mass Communications from Pune, and now performing double duty, helps to Sanjay in running the Industry as well the house hold. **Alpana Gupta** Ph.D. is the youngest daughter lives in New York, USA and works at Boehringer Ingelheim Pharmaceuticals. **Dinesh Gupta** married to Alpana, Currently he is Executive Project Manager at IBM, NY, USA. Dinesh is an IBM fellow and has several patents and publications to his credit.

**Kanta and PD have 6 grand children, two from each of their off springs:** **Mridul Gupta** is the elder son of Kalpana and Suresh. Mridul completed his BE & Master's from Carnegie Mellon University (Pennsylvania). Currently he is employed as a Senior Engineer in Sales Force, Inc. in California, USA; **Radhika Bhargava**, MS, Ph.D ( married to Mridul, employed at Twitter, California, USA; **Pranjal Gupta**, MD ( Medicine). He is youngest son of Kalpana and Suresh. He is currently pursuing his DM in Neurology from AIIMS, New Delhi; **Dhiraj Gupta** is elder son Alpana and Dinesh. He did BS (Computer Science) from Cornell University, NY, USA. Currently working as an Engineer in California; **Gaurav Gupta** younger son of Alpana and Dinesh. He is currently pursuing his BS in Biochemistry at the University of Pennsylvania, USA; **Aradhya Gupta**, son of Sanjay and Rachna Gupta is studying at NIFT Chennai, and specializing in product design. **Anandita Gupta:** She is the youngest in the family, daughter of Sanjay and Rachna Gupta. She has chosen a unique career in designing shoes. She is currently studying at Footwear Design and Development Institute, Jodhpur Branch, the one and only premier institution in India providing such a course. Anandita plans to establish a footwear line of her own.

# Journal of Cell and Tissue Research Vol. 23(2): 2023, July issue

## CONTENTS

1. **Diagnostic reliability of thyroid imaging reporting and data system (TIRADS), a non invasive classification in differentiation between benign and malignant thyroid lesions**  
Thejashwini, S.I., Shetty Prasad, S., Suresh Badiger, S., Udupa, N. and Srinivas Pai, B. .... 7289-7294
2. **Heavy metal intoxication, mobilization and therapy in children and adults: A review**  
Sood, P. P. and Tyagi, S. .... 7295-7301
3. **Phytochemical screening, free radical scavenging activity, *invitro* antioxidant and antihelm-  
inthic activity of *mucuna pruriens* seed**  
Chitra Kalyanaraman ..... 72303-7310
4. **Effect of dietary chromium supplementation in broiler diet on serum lipid profile and abdominal  
fat percentage**  
Sathyabama, T. and Kirubakaran, A. .... 7311-7314
5. **Clinic alimplications of pancreatic cancers in immune associated therapies**  
Kumaresan, H. .... 7315-7320
6. **Faecal transplant technology in therapeutics of Alzheimer's**  
Pushkala, K. .... 7321-7325
7. **An overview of the increasing landscape of artificial intelligence in healthcare and medicine  
use cases**  
Gupta, M. and Bhargava, R. .... 7327-7334
8. **Potato (*Solanum tuberosum*.) as a rich source of nutrients and bioactive compounds: A review**  
Piotr Barba , Ali Hulail Noaema and Barbara Sawicka ..... 7337-7355
9. **Food and health : past, present and future: A review**  
Asha, A. K. .... 7357-7360
10. **The interplay between neurodegeneration, neuroinflammation, gut microbiota, and the blood-  
brain barrier: elucidating their interconnected relationship**  
Akila Parvathy Dharshini. S. .... 7361-7366
11. **Antibodies in neurological disorders**  
Gupta, P., Swadha Das Guru and Gupta, S. K. .... 7367-7370
12. **Herbs and herbal extracts, the future medicines (problems and solutions): A review**  
Badami, S. .... 7371-7374
13. **TOLIG2-astrocytes: a comprehensive mini-review of a distinct astrocytic subpopulation**  
Tatsumi, K. and Wanaka, A. .... 7375-7384
14. **Regulatory considerations for biotherapeutics: focus on chemistry, manufacturing and controls:**  
Gupta, A. .... 7385-7388
15. **Biocomposition of dental implants. A review**  
Wang, S. and Gupta, G. .... 7389-7396
16. **Wound healing: A short review**  
Prathiba, V. .... 7397-7402
17. **Multilayering of central zone lens epithelial cells in human cataracts**  
Kaid Johar, S. R, Tatsumi, K. and Vasavada, A. ....7403-7408
18. **Seasonal variations in oocyte and embryo retrieval during *in vitro* fertilization: A review**  
Rasool, A. and Sarath, T. .... 7409-7412
19. **Association of Zip14 gene polymorphism in colorectal cancer of Telangana & Andhra Pradesh Cohort**  
Beesa, S., Bodiga, S., Sowjanya, P., Avancha, R., Latha, J. and Bodiga, V. L. .... 7 413-7420