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ResearchGate

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Dr. Mukesh Tanwar

Current Status

Working as an **Assistant Professor** in Department of Genetics, Maharshi Dayanand University, Rohtak, Haryana

Professional Memberships

- Life Member of **Indian Society of Human Genetics** (Membership no. L/2006/2020)
- Life Member of **The Indian Science Congress Association** (Membership no. L40087)
- Member of **Association of Researchers in Vision and Ophthalmology** (Membership no. 218528)

Educational Qualifications

- **Ph. D:** All India Institute of Medical Sciences, New Delhi, India.
Thesis Title: Mutation analysis in Congenital Glaucoma (2010).
- **Post Graduation:** Master of Science (M.Sc) in Genetics from Department of Bio-Sciences, Maharshi Dayanand University, Rohtak, Haryana, India (2004)
- **Bachelor of Education:** Bachelor of Education (B.Ed.) from Maharshi Dayanand University Rohtak, Haryana (2002).
- **Bachelor of Science:** Bachelor of Sciences (B.Sc.) with Botany, Zoology and Chemistry as subjects from Maharshi Dayanand University, Rohtak, Haryana, India (2001).

Research Projects

1. Research Project entitled "**Juvenile Open Angle Glaucoma : An Exploratory Study**" sanctioned from Indian Council of Medical Research New Delhi (2017-2020) **Completed**

Work Experience

1. **Assistant Professor** at **Department of Genetics, Maharshi Dayanand University, Rohtak**, Haryana from August 3rd 2012 till date
2. **Post-Doctoral Visiting Fellow** at **National Institutes of Health**, Bethesda MD, USA from **May 2011–July 2012**.
3. **Senior Research Fellow** (ICMR Project) from 13th Feb. 2010 to May 2011 at All India Institute of Medical Sciences (**A.I.I.M.S**), New Delhi
4. **Junior Research Fellow** (JRF) and PhD Scholar from 13th Jan. 2005 to 12th Jan. 2007 at **A.I.I.M.S**, New Delhi

Orientation/Refresher Courses

1. Participated and completed two week Capacity Building Programme on "**Teaching, Learning, and Research**" organized by Faculty Development Centre, M.D. University, Rohtak organized by Faculty Development Centre, M.D.U. Rohtak from 12.01.2022 to 25.01.2022 under PMMMNMTT Scheme.
2. Participated and completed one week Faculty Development Programme "**Research Methodology and Data Analysis (Online Mode only)**" organized by Faculty Development Centre, M.D.U. Rohtak from 19th to 24th December 2020 under PMMMNMTT Scheme.
3. Participated and completed one week Faculty Development Programme "**Training Programme on E-Learning Technologies**" organized by Faculty Development Centre, M.D.U. Rohtak from 18th July to 24th July 2019 under PMMMNMTT Scheme.
4. Participated and completed three weeks **Refresher's Course** entitled "**High Impact Teaching Strategies/Teaching Methodology**" organized by Faculty Development Centre, M.D.U. Rohtak from 15th May to 4th June 2019 under PMMMNMTT Scheme.
5. Participated and completed **Refresher Course in Environmental Studies (ID)** on the theme "Environment Awareness, Disaster Management and Sustainable Development," organized by UGC-HRDC B.P.S. Mahila University, Khanpur Kalan, Sonapat, Haryana from 1st July 2016 to 22nd July 2016 (Reference No. **UGC/HRDC/16/2RCEVSID/20**)
6. Participated and completed **92nd Orientation Course** at Jawaharlal Nehru University (JNU) New Delhi from 10th November 2014 to 5th December 2014 at Academic Staff College (ASC) JNU New Delhi

Manuscripts under Preparation

- Yadav M, Deora A, Sachdeva S, Rathi M, Phogat J, Dhull CS, Vashist M, Tanwar M.

Myocilin gene mutations: A cause of juvenile open-angle glaucoma in north India.

- Yadav M, Sachdeva S, Rathi M, Phogat J, Dhull CS, Vashist M, Tanwar M. Pathogenic variations in CYP1B1: Predominant cause of Juvenile Open-Angle Glaucoma in north-India

Research Publications in PubMed Indexed Journals

1. Sharma B, Angurana S, Shah R, Verma S, Bhat A, Bhat GR, Bakshi D, Jamwal RS, **Tanwar M**, Singh S, Bhat A. Genetic association of ARID5B with the risk of colorectal cancer within Jammu and Kashmir, India. **Genes & Genetic Systems**. 2021 Nov 19. doi: 10.1266/ggs.21-00010. Online ahead of print.
2. Bhat A, Bhat Gh, Verma S, Shah R, Nagpal A, Sharma B, Bakshi D, Suri J, Singh S, **Tanwar M**, Vaishnavi S, Bhat A, Kumar R. Polymorphism in the TP63 gene imparts a potential risk for leukemia in the North Indian population. **African Health Sciences**. 2021; 21(3). 1243-1249. <https://dx.doi.org/10.4314/ahs.v21i3.34>.
3. **Tanwar M**. Microbiome of the Human Eye. **Reference Module in Food Science**. <https://doi.org/10.1016/B978-0-12-819265-8.00106-6>
4. Li L, Chen Y, Jiao X, Jin C, Jiang D, Tanwar M, Ma Z, Huang L, Ma X, Sun W, Chen J. Homozygosity mapping and genetic analysis of autosomal recessive retinal dystrophies in 144 consanguineous Pakistani families. **Investigative ophthalmology & visual science**. 2017 Apr 1;58(4):2218-38. [PMID: 28418496].
5. Shah BM, Dada T, Panda A, **Tanwar M**, Bhartiya S, Dada R. Novel occurrence of axenfeld: Rieger syndrome in a patient with blepharophimosis ptosis epicanthus inversus syndrome. **Indian J Ophthalmol**. 2014 Mar; 62 (3): 358-60. doi: 10.4103/0301-4738.121144. [PMID: 24722273]
6. Kumar M, **Tanwar M**, Faiq MA, Pani J, Shamsi MB, Dada T, Dada R. Mitochondrial DNA nucleotide changes in primary congenital glaucoma patients. **Mol Vis** 2013; 19:220-230 [PMID: 23401651]
7. Mohanty K, **Tanwar M**, Dada R, Dada T. Screening of the LTBP2 gene in a north Indian population with primary congenital glaucoma. **Mol Vis** 2013; 19:78-84 [PMID: 23378721]
8. **Tanwar M**, Kumar M, Nayak B, Pathak D, Sharma N, Titiyal JS, Dada R. VSX1 gene analysis in keratoconus. **Mol Vis** 2010; 16: 2395-2401 [PMID: 21139977]
9. **Tanwar M**, Kumar M, Dada T, Sihota R, Dada R. MYOC and FOXC1 gene analysis in primary congenital glaucoma. **Mol Vis** 2010;16:1996-2006 [PMID:21031026]

10. **Tanwar M**, Dada T, Dada R. Axenfeld-Rieger syndrome associated with congenital glaucoma and cytochrome P4501B1 gene mutations. **Case Reports in Medicine** vol. 2010, Article ID 212656, 6 pages, 2010. doi:10.1155/2010/212656. [PMID:20827438]
11. **Tanwar M**, Dada T, Sihota R, Dada R. Mitochondrial DNA analysis in primary congenital glaucoma. **Mol Vis** 2010;16:518-533. [PMID: 20361014]
12. **Tanwar M**, Dada T, Sihota R, Dada R. Identification of four novel CYP1B1 mutations (p.I94X, p.H279D, p.Q340H and p.K433K) in Congenital Glaucoma patients. **Mol Vis** 2009; 15:2926-2937 [PMID: 20057908]
13. **Tanwar M**, Dada T, Sihota R, Yadav U, Das TK, Dada R. Mutation spectrum of CYP1B1 in North Indian congenital glaucoma patients. **Mol Vis** 2009;15:1200-1209 [PMID:19536304]
14. **Tanwar M**, Sihota R, Dada T, Gupta V, Das TK, Yadav U, Dada R. Sturge-Weber syndrome with CYP1B1 mutations and severe trabecular dysgenesis. **J Glaucoma**. 2010 Aug;19(6):398-404 doi: 10.1097/IJG.0b013e3181c4ae74 [PMID: 20051892]
15. **Tanwar M**, Kumar R, Gadia R, Goyal A, Kumar M, Singh G, Dada T, Dada R. Rieger syndrome with multiple chromosome breaks and chromosome 4 deletion. **BMJ Case Rep**. 2009;2009. pii: bcr06.2008.0297. Epub 2009 Feb 16 [PMID:21686867]
16. Kumar M, Kumar R, **Tanwar M**, Ghose S, Kaur J, Dada R. Cytogenetic and clinical assessment of a family with Treacher Collins Syndrome (TCS). **Case Reports in Medicine** 2011;2011:708450. Epub 2011 Jun 23. [PMID: 21765846]
17. Kumar K, **Tanwar M**, Naithani P, Insaan R, Garg S, Venkatesh P, Dada R. PAX6 gene analysis in irido-fundal coloboma. **Mol Vis** 2011;17:1414-[PMID: 21655361]
18. Kumar M, **Tanwar M**, Saxena R, Sharma P, Dada R. Identification of novel mitochondrial mutations in Leber's hereditary optic neuropathy. **Mol Vis**. 2010; 16:782-792 [PMID: 20454697]
19. Shamsi MB, **Tanwar M**, Venkatesh S, Dhawan A, Singh G, Mukherjee S, Malhotra N, Kumar R, Gupta NP, Mittal S, Dada R. Comet assay: A prognostic tool for DNA integrity assessment in infertile men opting for Assisted Reproduction. **Indian J Med Res**. 2010;131;675-681. [PMID: 20516540]
20. Shamsi MB, Venkatesh S, **Tanwar M**, Talwar P, Sharma RK, Dhawan A, Kumar R, Gupta NP, Malhotra N, Singh N, Mittal S, Dada R. DNA integrity and semen quality in men with low seminal antioxidant levels. **Mutat Res** 2009 Jun 1;665(1-2):29-36 [PMID:19427508]
21. Kumar R, Sunderajan V, **Tanwar M**, Shamsi MB, Gupta NP, Sharma RK, Talwar P,

- Dada R. Oxidative Stress and sperm mitochondrial DNA mutation in Idiopathic oligoasthenozoospermic men. **Indian J Biochem Biophys** 2009;46:172-177. [PMID:19517995]
22. Kumar R, **Tanwar M**, Ammini AC, Kumar R, Gupta NP, Sharma RK, Dada R. Robertsonian Translocation and their role in Pathogenesis of Recurrent IVF Failure. **Med Sci Monit.** 2008;14(12):CR617-20. [PMID: 19043369]
23. Dada R, Kumar R, Shamsi MB, **Tanwar M**, Pathak D, Venkatesh S, Kumar M, Singh H, Singh K, Aron M, Kumar R, G Singh G, Sharma RK, Gupta NP. Genetic screening in couples experiencing recurrent assisted procreation failure. **Indian J Biochem Biophys** 2008;45:116-120. [PMID:21086725]

Research Publications in other Referred Journals

1. Rima Dada, Shiv Basant Kumar, Madhuri Tolahunase, Swetasmita Mishra, Kuldeep Mohanty and **Tanwar Mukesh**. Yoga and Meditation as a Therapeutic Intervention in Oxidative Stress and Oxidative DNA Damage to Paternal Genome. **J Yoga Phys Ther** 2015;5:217. doi:10.4172/2157-7595.1000217
2. Manoj Kumar, **Rakesh Kumar**, Mukesh Tanwar, Supriyo Ghose, Jasbir Kaur and Rima Dada. Cytogenetic and clinical assessment of a family with Treacher Collins Syndrome (TCS). **Case Rep Med**;2011:708450.
3. Tanwar M, Kumar R, Gadia R, Goyal A, Kumar M, Singh G, Dada T, Dada R. Rieger syndrome with multiple chromosome breaks and chromosome 4 deletion. **BMJ Case Reports** (2009) 2009:bcr06.2008.0297.
4. Dada R, Venkatesh S, Kumar M, Kumar R, **Tanwar M**, Pathak D, Sharma A, Shamsi MB. New perspectives on the genetics of male infertility. **Arch Med Sci** 2009; 5, 1A: S84-S91
5. Venkatesh S, Riaz AM, Shamsi MB, Tanwar M, Kumar R, Gupta NP, Dada R. Oxidative Stress- a marker of male infertility. **Obs & Gynae Today** 2009;Vol. XIV No.1:34-36
6. Shamsi MB, Venkatesh S, Tanwar M, Talwar P, Sharma RK, Mukherjee, Kumar R, Gupta NP, Malhotra N, Mittal S, Dada R. **Obs & Gynae Today** 2008: Vol. XII No.9: 388-390
7. Major Review: Genetics of common ocular disorders. **Delhi Journal of Ophthalmology** 2007;Vol. Vol 12 No. 4:31-40
8. Dada R, **Tanwar M**, Dada T, Goyal A, Idris G, Pathak D, Gupta V, Sihota R, Panda A. Genetics of Glaucoma. **DOS Times**, 2007, Vol. 13, No. 5, 15-24.

9. Shamsi M B, **Tanwar M**, Dada R, Kumar R, Kumar R, Sharma R.K. and Kucheria K. Mosaic Status of Lymphocytes in Infertile Men with Klinefelter Syndrome. **Int J Hum Genet**, (2007) 07(2): 133-136
10. Dada R, Kumar R, Shamsi MB, Idris G, **Tanwar M**, Tomar D, Kumar R, Kucheria K. Occupational Environmental Factors and male infertility. **Embryo Talk** Vol 1, supplement 1; 2006, 86-99.
11. Dada R, Kumar R, Shamsi M B, MohdIdrisGaznavi, Tanwar M, Tomar D, Kumar R, Kucheria K, Sharma R K, Gupta S K, N P Gupta. Sperm AZF microdeletion screening and assisted reproduction. **Journal of post graduate medical education, training and research**. 1-4, (2006).

Chapter in Books:

- 1) **M Tanwar**, T Dada, R Dada. Primary congenital glaucoma. **Perspectives in Cytology and Genetics**. Volume XIV:2009:207-214
- 2) **MTanwar**, V Sundararajan, MB Shamsi, M Kumar, D Pathak, R Kumar, R Kumar, NP Gupta, P Talwar, RK Sharma and R Dada. Infertility-Yq Micro-deletions and Implications in Assisted procreation. **Perspectives in Cytology and Genetics** 2007; vol. XIII: 273-287.
- 3) MB Shamsi, V Sundararajan, **M Tanwar**, P Talwar, R K Sharma, S Mukherjee , R Kumar, NP Gupta and R Dada. Characterization of sperm chromatin quality by Comet Assay. **Perspectives in Cytology and Genetics** 2007; vol. XIII: 255-262
- 4) V Sundararajan, R. Kumar, MB Shamsi, **M Tanwar**, M Kumar, D Pathak, R Kumar, N P Gupta , S Mukherjee , N Malhotra, TK Das, P Talwar, R K Sharma, and R Dada. Mitochondrial ATPase Gene Mutations Associated With Low Antioxidant Levels In Idiopathic Asthenozoospermic Indian Men. **Perspectives in Cytology and Genetics** 2007; vol. XIII: 263-272
- 5) V Sundararajan, R. Kumar, D Pathak, MB Shamsi, **M Tanwar**, R Deccaraman, R Dada. Role of Environment, Occupational Exposure, Life Style and Diet on Free Radical Induced Mitochondrial DNA Damage and Reproductive Failure. **Environmental & Occupational Exposures** (2010) Chapter 4; Pages 78-101

Conference Publications:

1. Dada R, **Tanwar M**, Sihota R, Gupta V, Dada T. Mutation Profile of CYP1B1 Gene in North Indian Congenital Glaucoma Patients. **Invest Ophthalmol Vis Sci**. 2009;50(13):869

Conferences/ Symposium/ Workshops Organized:

- 1.
2. **Organizing Secretary** in National Workshop cum Awareness Program on **“Bioethics in Research: A Need or Compulsion”** organized by Department of Genetics held on 15th Nov. 2018 at Seminar Hall, Department of Genetics
3. **Joint Organizing Secretary** in National Workshop on **“Intellectual Property Rights Protection”** organized by Department of Genetics and IPR Cell Maharshi Dayanand University, Rohtak held on 3rd Nov. 2018 at IHTM Conference Hall.
4. **Joint Secretary** in National Workshop on **“DNA Forensics- The Brouhaha or The Science”** held on November 21st, 2017 at Deptt. of Genetics, MDU Rohtak
5. **Joint Secretary** in National Seminar on **“Current Scenario in Forensic Investigative Techniques”** held on September 7th, 2017 at DDE Hall MDU Rohtak.
6. **Joint Secretary** in Workshop on **“Skill Development in Molecular Techniques”** sponsored by Radha Krishnan Foundation Fund held on November 12th, 2016 at Deptt. of Genetics, MDU Rohtak
7. **Treasurer** in National Conference on **“Genetic Diversity and Therapeutic Potential of Natural Products”** sponsored by UGC-SAP held on September 17, 2016 at DDE Hall MDU Rohtak.
8. **Joint Secretary** in National Workshop on **“Advanced Forensic Aspects of CSI & Fingerprint Examination”** held on November 21, 2015 at Deptt. of Genetics, MDU Rohtak
9. **Treasurer** in National Conference on **“Therapeutic Potential of Natural Products: Current Innovations & Future Trends”** held on March 19, 2015 at DDE Hall MDU Rohtak
10. **Joint Secretary** in National seminar on **“Novel Antimicrobials: An alternative to Clinical Antibiotics”** held on Sept. 14, 2013 at DDE Hall MDU Rohtak
11. **Organizing Secretary** in One day National Seminar on **“Molecular Pathology of Human Genetic Diseases”** held on August 23rd, 2014 at Radhakrishnan Auditorium, MDU Rohtak

Workshops/Conferences/Meetings attended:

- Attended one day Conference & Workshop on **“Emerging Infectious Diseases”** at Centre for Biotechnology, Maharshi Dayanand University Rohtak held on November 29th 2017.
- Attended two days National Conference on **“Emerging Trends in Biochemistry”** held at DDE Hall MDU Rohtak on September 15th -16th, 2017
- Participated in **National Workshop on Genomics and Proteomics** at Deptt. of Biochemistry during 3rd -5th March, 2014
- Attended **Authors Workshop** in MDU Rohtak.
- Attended the 4th DBT sponsored Workshop on **“Prenatal & Postnatal Diagnosis of Genetic Disorders using Molecular Techniques”** held in All India Institute of Medical Sciences from Jan

17th -31st, 2005

- Attended the 2009 **ASIA-ARVO Meeting** from January 15-18, 2009 held at HICC, Hyderabad, Andhra Pradesh, India.
- Attended the **1st Annual Meet of Indian Society of Ocular Pathology** on March 25th 2006 held at All India Institute of Medical Sciences, New Delhi, India.
- Attended the **16th Annual Meeting of the Indian Eye Research Group** on July 28th-29th, 2007 held at LVPEI, Hyderabad, Andhra Pradesh, India..
- Attended the **17th Annual Meeting of the Indian Eye Research Group** on July 26th-27th, 2008 held at Aravind-Madurai, Tamil Nadu, India.
- Attended the **17th DBT Annual Meeting of the Indian Society for the study of Reproduction and Fertility (ISSRF)** from Feb 19th -21st, 2007

Fellowships and Awards:

- UGC/CSIR-NET in Life Sciences (December, 2003)
- UGC/CSIR-NET-Junior Research Fellowship in Life Sciences (June, 2004)
- UGC/CSIR-NET-Junior Research Fellowship in Life Sciences (December, 2004)

Strengths:

- **Molecular Biology:** Association Studies by Linkage Analysis and GWAS, DNA isolation, PCR amplification, DNA sequencing, Mutation screening, Y-chromosome micro-deletion analysis etc
- **Cytogenetics:** Human Lymphocyte Culture and harvesting, slide preparation & GTG banding, Karyotyping and analysis of chromosomal abnormalities by manual method and Cytovision software
- **Organizational ability:** Conducting workshops, teaching WHO fellows, writing proposals for grants and fellowships, lab quality control & equipment validation, guiding students for thesis, preparing protocols, organizing seminars
- **Drosophila Culture** and performed basic experiments of Mendelian Genetics

PositiveQualities:

- Straight forward
- Quick learner
- Hard working
- Goodinteam work

ProficientLanguages:English, Hindi

Nucleotide Registrations at NCBI

Sevennucleotidevariationsin**HomosapiencytochromeP4501B1(CYP1B1)**genewith GenBank accession numbers **FJ815437, FJ815438, FJ815439, GQ925803, GQ925804, GQ925805,**and**GQ925806**;onenucleotidevariationin**Homosapiensspermprotamine P2(PRM2)**genewithGenBankaccessionnumber**GU190363**;onenucleotidevariationin **Homo sapiens spermatid nuclear transition protein 1 (TNP1)** gene with GenBank accessionnumber**GU190364**;thirtysix**Homosapiens**mitochondrialnucleotidevariations withGenBankaccessionnumbers**GU186068-GU186097**andFive nucleotidevariationsin**HomosapiensMyocilingeneGU197842-GU197847;** **MT126741-MT126745**have been registered in myname at NCBI database.

(Mukesh Tanwar)