Dr. MANISH JAIN

Designation: Scientist -1

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Qualification: MSc. (Life Sciences), PhD (Reproductive Biology, AIIMS)

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Research Area & Interest: Reproductive Genetics including developmental genetics & preimplantation genetics, Male Infertility, Semen Banking, Female Infertility & Molecular Cytogenetics techniques like FISH, PRINS, QF PCR, SNP Microarray.

Ongoing Research:

- High resolution Genomic Screening using SNP Microarray to find out Genomic Causes in Idiopathic Sertoli Cell Only Syndrome (SCOS) cases
- An investigation to find out rapid, inexpensive, sensitive and reliable molecular technique to detect microdeletion and microduplication syndrome by QF PCR using highly polymorphic STR/microsatellite markers
- An investigation to find out genetic factors in idiopathic familial ovarian failure

Total Research Experience:

- Working as a **Scientist-1** from November 2012 to cont. in Department of Reproductive Biology, AIIMS, New Delhi..
- Worked as a **Research Associate** in a project entitled "Rapid detection of Chromosome 21 & 13 Aneuploidy by Primed In Situ Labelling" from May 2011 to November 2012 in Department of Reproductive Biology, AIIMS, New Delhi.
- PhD on the topic "**Genetic and Endocrine study on Primary Testicular Failure**" from July 2006-April 2012 in Department of Reproductive Biology, AIIMS, New Delhi.
- Worked as a **Senior Research Fellow** in a project entitled "Sertoli Cell Maturation Status, Role of Heavy Metals & Role of Vitamin A in Spermiation Defects in Human"from September 2009 – April 2011 in Department of Reproductive Biology, AIIMS, New Delhi**.**
- Worked as a **Junior Research Fellow** in a project entitled "Prevalence of 22q11.2 micro deletion syndrome in children with structural cardiac malformation: a tertiary care referral hospital-based study in Delh" from 2006 –2009 in Department of Reproductive Biology, AIIMS, New Delhi.
- Got training in **Array CGH, MLPA, QF-PCR** techniques in a workshop conducted by Department of Genetics, AIIMS in February, 2011.
- Got training in **Array CGH** in "The Centre for Genomic Application" (TCGA).
- Mouse embryo production, handling and FISH.

Service Offering:

Microdeletion FISH on blood (Interphase/ Metaphase cell), buccal cell, urine cell, solid tissue

- Digeorge syndrome (22q11.2)
- William syndrome (7q11.23)
- Prader willi syndrome (15q11.13)
- Retenoblastoma (13q)

- Langer Giedions syndrome (8q24.11)
- 1p36.13
- Wolff Hirschhorn (4p16.3)

Prenatal FISH (Amniotic fluid cells/chorionic tissue)

- Trisomy 21 (Down syndrome)
- Trisomy 18 (Edward Syndrome)
- Triomy 13 (Patau Syndrome)
- Any autosomal aneuploidies (on request)

Karyotyping (only research use)

Sex Chromosome FISH (X, Y, SRY: only research & infertility)

Yq Microdeletion PCR (Cover app. 20 primer**)**

PRINS (Chromosome13, 18, 21, X, Y)

QF-PCR (DG, WS, PWS, RB, MD, Langer-Giedions, Trisomy 13, 18, 21, etc.)

DNA Microarray

- WGA of Microdeletion Syndrome cases
- Primary Testicular Failure / POF/PCOS cases

Short term Training on Molecular Cytogenetics Techniques/Workshop on FISH, Cloning, Microarray

Services Going to Offer: Preimplantation Genetic Screening (PGS) through Microarray & Semen Banking.

Publication:

- Kalsi AK, Halder A, **Jain M**, Chaturvedi PK, Mathew M, Sharma JB. Association of raised levels of IL-4 and anti-TPO with hyperprolactinemia. **Am J Reprod Immunol.** 2019 Jan 4:e13085. doi: 10.1111/aji.13085
- Kalsi AK, Halder A, **Jain M**, Chaturvedi PK, Sharma JB. Prevalence and Reproductive Manifestations of Macroprolactinemia. **Endocrine.** 2018 Sep 29. doi: 10.1007/s12020-018-1770-6
- Kumar P, **Jain M**, Kalsi AK, Halder A. Molecular characterization of a case of dicentric Y presented as nonobstructive azoospermia with testicular early maturation arrest. **Andrologia**. 2018 Mar;50(2). doi: 10.1111/and.12886
- Halder A, Kumar P, **Jain M**, Iyer VK. Copy number variations in testicular maturation arrest. **Andrology 2017**; Feb 19:1-13.
- Halder A, Kumar P, **Jain M**, Kalsi AK Genomics: Tool to predict and prevent male infertility. **Frontiers In Bioscience, Scholar 2017;** 9:448-508.
- Halder A, Kumar P, **Jain M**. Primary testicular failure: A search for ideal biomarkers. **Indian J Endocr Metab. 2017**; 21.
- Halder A, **Jain M,** Kalsi AK. SNP Microarray in FISH Negative Clinically Suspected 22q11.2 Microdeletion Syndrome. Scientifica (Cairo). 2016; 2016:5826431.

- **Jain M**, Kalsi AK, Srivastava A, Gupta YK, Halder A. High Serum Estradiol and Heavy Metals Responsible for Human Spermiation Defect-A Pilot Study. **J Clin Diagn Res. 2016** Dec; 10(12):RC09-RC13.
- Halder A, **Jain M** and Kumar P. Primary Testicular Failure: An Overview **J Clin Diagn Res 2015**; 3:1
- Halder A, **Jain M** and Chaudhary I. Suspected microdeletion syndromes and molecular cytogenetic techniques: an experience with 330 cases. **Molecular Cytogenetics 2014;** 7(Suppl 1):O7.
- Chaudhary I, **Jain M,** Halder A. Sperm Sex Ratio (X: Y Ratio) and its Variations. **Austin J Reprod Med Infertil 2014; 1:1**.
- **Jain M**, Mohan V, Chaudhary I, Halder A. Sertoli cell only syndrome and glaucoma in a SRY positive XX infertile male. **JCDR; 2013:** 7 (7): 1457-1459
- A. Halder and **Jain M** Cytogenetics to Cytogenomics: Transition from Chromosome to DNA Sequence. **Global Journal of Human Genetics & Gene Therapy. 2013;** 1: 90-104
- Halder A, **Jain M**, Chaudhary I, Kumar G, T. Das & Y. K. Gupta "Dark-coloured semen in nonobstructive azoospermia: a report of four cases." **Andrologia 2013**; Feb 28. doi: 10.1111 / and. 12078.
- Halder A, **Jain M**, Chaudhary I "Rapid Detection of Chromosome X, Y, 13, 18 & 21 Aneuploidies by Primed In Situ Labeling/Synthesis (PRINS) Technique." **Indian Journal of Human Genetics 2013**; 19 (1): 14-17.
- Halder A, **Jain M**, Chaudhary I, Gupta N and Kabra M. Fluorescence *in-situ* hybridization (FISH) using non-commercial probes in the diagnosis of clinically suspected microdeletion syndromes: an experience with 301 cases. **IJMR 2013**; 138: 135-142.
- **Jain M**, Halder A. Sertoli cell only syndrome: Status of sertoli cell maturation and function. **Indian J Endocr Metab 2012**; 16: S514-515.
- Halder A, **Jain M**, Chaudhary I, Varma B Chromosome 22q11.2 microdeletion in monozygotic twins with discordant phenotype and deletion size. **Molecular Cytogenetics 2012;**5:13.
- Halder A & **Jain M**. Molecular Cytogenetics Manual. **2012.**
- Halder A, **Jain M**, Chaudhary I, Kabra M. Prevalence of 22q11.2 microdeletion in 146 patients with cardiac malformation in a referral hospital of North India. **BMC Medical Genetics 2010**; 11: 101.
- Yadav N, Kanjirakkuzhiyil S, Kumar S, **Jain M**, Halder A, Saxena R, Mukhopadhyay A. The therapeutic effect of bone marrow-derived liver cells in the phenotypic correction of murine haemophilia A. **Blood 2009** Nov 12; 114(20): 4552-61.
- Halder A, **Jain M**, Kabra M, Gupta N. Mosaic 22q11.2 micro deletion syndrome: diagnosis and clinical manifestations of two cases. Halder **Molecular Cytogenetics 2008;** 1:18 doi: 10.1186/1755-8166-1-18.

Published Book Chapters

S.No.	Title	Author' s Name	Publisher	Year of Publication
1.	Primary testicular failure	**Jain M**, Halder A.	Springer, New Delhi Edn.; in press	2017 (August)
2.	Y Chromosome	**Jain M**, Halder A.	Springer, New Delhi Edn.; in press	2017 (August)