Dr. Teena Koshy, M.Sc, Ph.D (Human Genetics)

Assistant Professor, Department of Human Genetics

Faculty of Biomedical Science, Technology and Research

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Academic Qualifications:

Degree	Year of Qualification	University
Ph. D (Human Genetics)	2016	Sri Ramachandra University
M. Sc (Human Genetics)	2002	Sri Ramachandra University
B. Sc (Biochemistry)	2000	University of Madras

Experience:

- Academician in the Department of Human Genetics for 15 years
- Assistant: Molecular Diagnostics (Genetics Clinical Lab) Sri Ramachandra Medical Center (2014- till date)
- In Charge: Cytogenetics and FISH Genetic Diagnostics (Genetics Clinical Lab) Sri Ramachandra Medical Center (2004-2014)
- Cytogeneticist: Department of Medical Genetics Manipal Hospital, Bangalore
- Consultant (Cytogenetics) – CIMAR, Kochi (2010- till date); Cancer Institute, Chennai (2015- till date); Lifecell Pvt Ltd (2019)

Publications

1. **Koshy T**, Arya R, Lopez-Alvarenga JC, Venkatesan V, Ravichandran U, Sharma S, Lodha S, Ponnala AR, Sharma KK, Shaik Mv, Resendez RG. 1639-P: Effect of Educational Status on Fasting Glucose and HbA1c Concentrations Independent of Income and Population Differences in Indian Populations. Diabetes 2019 Jun; 68(Supplement 1)
2. Venkatesan V, Lopez-Alvarenga JC, Arya R, **Koshy T**, Ravichandran U, Sharma S, Lodha S, Ponnala Ar, Sharma Kk, Shaik Mv, Resendez RG. 1717-P: Burden of Type 2 Diabetes and Its Genetic Determinants in Indian Populations: Findings from the INDIGENIUS Consortium. Diabetes 2019 Jun; 68(Supplement 1)

3. Arunachalam RK, **Koshy T**, Venkatesan V, Dawson GP, Franklin Durairaj Paul S, George P. Mutation Analysis Using Multiplex Ligation-Dependent Probe Amplification in Consanguineous Families in South India with a Child with Profound Hearing Impairment. Laboratory Medicine. 2019 May 31.
4. Reddy P, Shankar R, **Koshy T**, Radhakrishnan V, Ganesan P, Jayachandran PK, Dhanushkodi M, Mehra N, Krupashankar S, Manasa P, Nagare RP. Evaluation of Cytogenetic Abnormalities in Patients with Acute Lymphoblastic Leukemia. Indian Journal of Hematology and Blood Transfusion. 2019:1-9.
5. Jemimah Devanandan H, Venkatesan V, Scott JX, Magatha LS, Paul D, Franklin S, **Koshy T**. MicroRNA 146a Polymorphisms and Expression in Indian Children with Acute Lymphoblastic Leukemia. Laboratory Medicine. 2018 Dec 21
6. Ganesh V, Venkatesan V, **Koshy T**, Reddy SN, Muthumuthiah S, Paul SF. Association of estrogen, progesterone and follicle stimulating hormone receptor polymorphisms with in vitro fertilization outcomes. Systems biology in reproductive medicine. 2018 Jun 17:1-6.
7. Mogaiden SM, Poulose JP, Francis A, Das SS, **Koshy T**, Parasuram MB, Karunakaran GK. A de novo double translocation involving four chromosomes in a case of bad obstetric history. European Journal of Obstetrics and Gynecology and Reproductive Biology. 2018 Jun 1;225:267-8.
8. Andrew C, **Koshy T**, Gopal S, Paul SF. A retrospective exploratory study of fetal genetic invasive procedures at a University Hospital. Journal of Obstetrics and Gynaecology. 2018 Mar 19:1-5.
9. Venugopal P, **Koshy T**, Lavu V, Ranga Rao S, Ramasamy S, Hariharan S, Venkatesan V. Differential expression of microRNAs let- 7a, miR- 125b, miR- 100, and miR- 21 and interaction with NF- kB pathway genes in periodontitis pathogenesis. Journal of cellular physiology. 2018 Aug;233(8):5877-84..
10. **Koshy T**. Basic Genetics for Cardiologists: Cytogenetic Approach. Adv Cardiol Cardiovasc Disorders. (2017) 1(1): 00001.

11. Ramu D, Venkatesan V, Paul SF, **Koshy T**. Genetic variation in matrix metalloproteinase MMP2 and MMP9 as a risk factor for idiopathic recurrent spontaneous abortions in an Indian population. Journal of Assisted Reproduction and Genetics. 2017 May 12:1-5.
12. Mohan S, **Koshy T**, Vekatachalam P, Nampoothiri S, Yesodharan D, Gowrishankar K, Kumar J, Ravichandran L, Joseph S, Chandrasekaran A, Paul SF. Subtelomeric rearrangements in Indian children with idiopathic intellectual disability/developmental delay: Frequency estimation & clinical correlation using fluorescence in situ hybridization (FISH). Indian Journal of Medical Research. 2016 Aug 1;144(2):206.
13. Narasimhan U, Krishna V, Mohan S, Paul SF, **Koshy T**. Transmission of Cri-du-Chat Syndrome from a Normal Paternal Chromosome Translocation Carrier. International Journal Of Human Genetics. 2016 Sep 1;16(3-4):116-9.
14. Swaminathan M, Ganesh V, **Koshy T**, Venugopal P, Paul S, Venkatesan V. A Study on the Role of Estrogen Receptor Gene Polymorphisms in Female Infertility. Genetic Testing and Molecular Biomarkers. 2016 Nov 1;20(11):692-5.
15. Mohan S, Venkatesan V, Paul SF, **Koshy T**, Perumal V. Genomic imbalance in subjects with idiopathic intellectual disability detected by multiplex ligation-dependent probe amplification. Journal of genetics. 2016 Jun 1;95(2):469-74.
16. Mohan S, Nampoothiri S, Yesodharan D, Venkatesan V, **Koshy T**, Paul SF, Perumal V. Reciprocal Microduplication of the Williams-Beuren Syndrome Chromosome Region in a 9-Year-Old Omani Boy. Laboratory medicine. 2016 May 1;47(2):171-5.
17. **Koshy T,** Venkatesan V, Gowrishankar K, Perumal V, Mohan S, Paul SF. Mutation Analysis of *TBX1*. The Indian Journal of Pediatrics. 2016 Aug 1;83(8):879-.
18. Francis A, Meleyil SM, Pullely JP, **Koshy T**, Batra MP, Kottukkal BB, Kannoly GK. Prenatal Detection and Postnatal Follow-Up of Segmental Aneusomies of Chromosome 13 in 4

Consecutive Pregnancies in an Ethnic South Indian Family with a Maternally Inherited Balanced Translocation. Laboratory medicine. 2015 Nov 1;46(4):343-6.

19. Ketharnathan S, Koshy T, Sethuratnam R, Paul S, Venkatesan V. Investigation of *NKX2. 5* gene mutations in congenital heart defects in an Indian population. Genetic testing and molecular biomarkers. 2015 Oct 1;19(10):579-83.
20. Kumar MJ, Kumar RA, Subhashree V, Jayasudha T, Hemagowri V, **Koshy T**, Gowrishankar K. Class II analphoid chromosome in a child with aberrant chromosome 7: a rare cytogenetic association. Cytogenetic and genome research. 2015 Jul 24;146(2):120-3.
21. Rajendran R, Sai Shalini CN, Suman FR, Krishnarathnam Kannan K, **Koshy T**, Suresh S. Profile of myelodysplastic syndrome: A study done at tertiary care centre from south India. Recent Trends in Science and Technology. 2015; 15(3): 606-609
22. **Koshy T,** Venkatesan V, Perumal V, Hegde S, Paul SF. The A1298C methylenetetrahydrofolate reductase gene variant as a susceptibility gene for non-syndromic conotruncal heart defects in an Indian population. Pediatric cardiology. 2015 Oct 1;36(7):1470-5.
23. Kalachaveedu M, Papacchan S, Sanyal S, **Koshy T**, Telapolu S. Isolation and evaluation of cytogenetic effect of Brahmi saponins on cultured human lymphocytes exposed in vitro. Natural product research. 2015 Jun 18;29(12):1118-21.
24. Yesodharan D, Thampi MV, **Koshy T**, Nampoothiri S. Recurrence of Angelman syndrome in siblings: challenges in genetic counseling. The Indian Journal of Pediatrics. 2014 Mar 1;81(3):292-5.
25. Ponnudurai R, Srinivasan B, Sumitha R, **Koshy T**, Paul SS. Klinefelter's syndrome (mosaic) with chromosome 9 inv and schizophrenia. Indian journal of psychiatry. 2012 Jan;54(1):88.
26. Beevi RK, Mathew P, **Koshy T**, Paul SFD, Perumal V, Venkatesan V**.** Sex reversal-sibling case reports. Sri Ramachandra Journal of Medicine 2012; 25-27

27. Sujikumari M, Beevi RK, Balu N, **Koshy T**, Venkatesan V**,** Perumal V. A mosaic karyotype and Y chromosome microdeletion in an infertile male a case report. Sri Ramachandra Journal of Medicine 2012; 18-20
28. Vijayalakshmi J, **Koshy T**, Kaur H, Mary FA, Selvi R, Parvathi VD, Bhavani R, Jayanth RV, Venkatchalam P, Paul SF. Cytogenetic analysis of patients with primary amenorrhea. Int J Hum Genet. 2010 Mar 1;10(1-3):71-6.
29. Solomon F.D. Paul, Vijayalakshmi J., **Koshy T**., Kaur H., Venketswaran N and Venkatachalam P. FromIdeogram to spectrogram – Part I. Advance Biotech 6(10): 30-33 (2008).
30. Cyrus C, Kaur H, **Koshy T**, Thankanadar J, Nallathambi C. A de novo reciprocal t (2; 18) translocation with regular trisomy 21. Genetic testing. 2007 Dec 1;11(4):459-62.
31. Cyrus C, **Teena K**, Paul SF, Chandra N, Meena J, Anuradha D, Ramesh A, Gopinath PM, Marimuthu KM. Familial Robertsonian translocation 13; 21 in a Down syndrome patient with XYY/XY mosaicism. International Journal of Human Genetics. 2006;6(4):291.
32. Kaur H, **Koshy T**, Venkateswaran N, Venkatachalam P, Paul SF. Chromosome Painting and Its Versatility in Modern Diagnostics. Sri Ramachandra Journal of Medicine:20.

Research Projects

1. Co- Investigator: SRU GATE Funded "A Study on the Association of Endothelial Nitric Oxide Synthase Gene Polymorphisms and the Risk of Chronic Kidney Disease in Indian Patients with Type 2 Diabetes" (2018)

2. Co- Investigator: ICMR-NIH Funded Collaborative study "Genetics of type 2 diabetes inIndia: A multicentric population specific family genetics study" (2016-2018)

3. Co-Investigator: DBT Funded "Study on the genetic variants of thiopurine and folatemetabolic pathway and 6-Mercaptopurine -mediated hematological toxicity in childhood acute lymphoblastic leukemia" (2015-2018)

Co Investigator: SRU GATE Funded "The Prognostic Significance of Three Fusion Oncogenes in Childhood Acute Lymphoblastic Leukemia" (2014)

Principal Investigator: SRU GATE Funded "Application of Quantitative Fluorescent PCR with

short tandem repeat markers to the study of aneuploidies in spontaneous miscarriage" (2010)

Training

1. CLXXXV Internal Auditor and Quality Management Systems Certificate Course (16^{th}-19^{th} August 2017)
2. Hands on training program "Next Generation Sequencing" Workshop organized by VclinBio (21^{st} – 22^{nd} April 2016)
3. Sensitizing SRU faculty about the role of Faculty in student counselling (16^{th} march 2016)
4. Grants Writing Workshop for GATE projects (3^{rd} July 2014)

Conferences presented (Speaker/Resource person/Guest lectures)

1. Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER) Workshop on "*Hands on training on basic karyotyping technique"* (08^{th}July 2019, Chennai)
2. National Undergraduate Medical Conference "*SRMC Optimus 2019 National*" (04^{th}July- 6^{th} July 2019, Chennai)
3. Workshop on "Demystifying developmental scales and tests "(20^{th} December, 2018), Chennai
4. National Undergraduate Medical Conference "*SRMC Optimus 2018 National*" (30^{th}July- 1^{st} August 2018, Chennai)
5. Guest Lecture "*An Approach to Genetic Testing and Counseling*" (21^{st} July, 2018, Center for Medical Genetics- Chennai)
6. XVII National IAOMP Postgraduate Convention 2018 "*DNA isolation and Real-time PCR hands on workshop*" (7^{th} July 2018, Chennai)
7. Symposium on "*Genetics and Genomics in Cardiovascular Diseases*" (8^{th}-9^{th} September 2017, Madras Medical Mission- Chennai)
8. 5^{th} National Rapid Review Programme "SCOPE" (29^{th} -31^{st} January 2017, Chennai)
9. YUVA ISAR 2016 "Taking Charge of Change" (12^{th} -13^{th} November 2016, Kochi)
10. INSPIRE Internship for School Children (26^{th} -30^{th} September 2016, Chennai)
11. Workshop on "Research Methodology- An Update" (20^{th} -21^{st} August 2016, Chennai)
12. Workshop om "Demystifying developmental scales and tests "(30^{th} -31^{st} 2016, Chennai)

13. CME on "Gene- A double helical road to Medicine" (22nd September 2015, Coimbatore)
14. CME on "Genomics in Health and Disease" (25th April 2015, Mandya)
15. National Conference of the Society of Fetal Medicine "Protocols and Frontiers in Fetal Healthcare" (1-3rd August 2014, Kochi)
16. CME on "Recent Trends in Molecular Diagnostics" (7th February, Mysore)

Conferences/Workshops attended

1. Poster presentation 43rd Annual Meeting of the Indian Society of Human Genetics "*Investigation of Microdeletions in Syndromic Intellectual Disability by Multiplex Ligation-dependent Probe Amplification"* (12th -14th March 2018, Hyderabad)

2. CME on Molecular Oncology "*Diagnostic and Therapeutic significance of osteopontin and associated gene in breast and other cancer"* (23rd August 2017, Chennai)

3. CME on Oncology going Molecular (28th July 2017, Chennai)

4. Poster presentation 42nd Annual Meeting of the Indian Society of Human Genetics "*Mutation analysis of GJB2 in consanguineous families having a child with non-syndromic bilateral profound sensorineural hearing loss"* (2nd-4th March 2017, Bangalore)

5. Participant for 41st Annual Meeting of the Indian Society of Human Genetics*"* (3rd- 5th March 2016, Chennai)

6. Participant for Workshop on "Teaching, Personal and Leadership Excellence" (19th -20th October 2015, Chennai)

7. Participant for CME on "Inborn Errors of Metabolism" (9th May 2015, Chennai)

8. Poster presentation Indian Genetics Congress "*Investigation of Nkx2.5 somatic mutations in congenital heart defects"* (4th -6th March 2015, Chennai)

9. CME by the American Chemical Society (February 11,2015) Participant for Grants Writing Workshop (July 3rd, 2014)