Curriculum vitae

Prof. Dr. Rachel A.J.
Advisor Research, Osmania University, Telangana, India
Emeritus Scientist, IUCGGT, Kerala University, India.
Email: rachellike@gmail.com; mobile 9440407163.

ACADEMIC RECORD

Title of Ph.D. Thesis: **A Study of Sister Chromatid Exchanges in Mammalian Chromosomes** under the guidance of **Prof. Tikaram Sharma**.

Professional Record

Serial No	University	Year	Major Subjects	Degree	Class
1	University of Cambridge (British Overseas Examination) (From Rishi Valley School, Madanapalle, A.P.	1974	Biology, Physics, Chemistry, English, Hindi, Alternative Mathematics	I.S.C.	First
2.	University of Kerala, India	1978	Zoology, Botany, Chemistry, English, Hindi (Minor)	B.Sc.	First
3.	University of Kerala, India	1980	Zoology	M.Sc.	First
4.	Banaras Hindu University, India.	1989	Cytogenetics	Ph.D.	-

1. Scientist at Centre for Cellular and Molecular Biology, Hyderabad from 1986 to 2017. Retired as Senior Principal Scientist.
2. Professor AcSIR from 2014.
3. Honorary Advisor (Research), Osmania University, Hyderabad. Telangana.
4. Emeritus Scientist, Kerala State Council for Science, Technology and Environment – 2019.

Awards & Honors

1. Residential School Scholarship 1969-1973 (Studied in Rishi Valley School, Madanapalle, Chittoor Dist., AP.)

2. National Science Talent Search Scholarship 1975-1980.

3. Council of Scientific and Industrial Research Fellowship 1981-1986.

4. Children's Hospital Los Angeles Research Fellowship Award 1993-1994.

5. Faculty to Summer Internship program of Medical and Premedical students at the Cleveland Clinic, Cleveland, Ohio, USA (June – July 2011).

Academic Visits Abroad;

1. 1992-1993: Post-Doctoral Fellow, Children's Hospital Los Angeles, LA, CA, USA
2. 1994: (Jan.- April): Post-Doctoral Fellow, University of California at Los Angeles, LA, CA, USA
3. 1998 (April 20-23): Theoretical Course on RNA Structure and Function, ICGEB, Trieste, Italy.
4. 1998-1999: Visiting Assistant Research Fellow, University of California Los Angeles, USA.
5. June – July 2011: Faculty to Summer Internship program of Medical and Premedical students at the Cleveland Clinic, Cleveland, Ohio, USA
6. December 2-3 2016: Workshop on Nanopore sequencing, New York, USA.

Professional Recognition

1. The Genome Research paper was appreciated widely; Press coverage – 13 newspapers & a number of TV channels. This came up for discussion in both the houses of the Parliament, as a starred question in Lok Sabha & as an unstarred question in Rajyasabha.
2. India Biosciences interviewed me regarding a recent paper entitled Mice with Partial Deletion of Y-Heterochromatin Exhibits Stress Vulnerability for featuring our work.

Membership of Professional Societies/ Institutions:

1. Indian Society of Cell Biology [Life Member]
2. Indian Society of Human Genetics [Life Member]
3. Association for the Promotion of DNA Fingerprinting and other DNA Technologies [Life Member]

Positions held in Indian Society of Cell Biology

1. Executive Council Member,	1991–1993.
2. Executive Council member	2001-2003
3. Treasurer	2003-2005
4. Joint Secretary	2013-2015
5. EC Member	2015-2017
6. Vice President	2017-2019

Ph. D. Thesis evaluations, Manuscript reviews for Journals, Project reviews for DBT, DST, ICMR.

Basic research done in the lab has changed some classical concepts in biology

i) Our work shows that the Y chromosome is genetically isolated at the level of DNA but not at level of RNA.

ii) The two antiparallel DNA strands are functionally different. This could translate into differential gene expression between homologous chromosomes as exemplified by the A and B alleles in AB blood group individuals.

iii) Our work also has identified novel noncoding RNAs from Y-chromosomal heterochromatin and a pervasive regulation of genes expressed in testis by Y-derived ncRNAs.

iv) The students, project assistants, postdoctoral fellows who worked in the lab have learned to think "out-of-the-box" and hence are trained for explaining unconventional observations.

v) Such results although are difficult to gain acceptance, will stand the test of time and will be etched in the history of biology.

Current research interests:

We in our lab study the repeats present in human and mouse genomes. We have reported novel functions for transcripts from human Y heterochromatin and have also discovered novel functions for mouse Y heterochromatin. We through the study of circular DNAs would like to investigate the organization of the genome in different tissues.

Projects handled

Sl. No.	Title of Project/Role	Funding Agency	Date of sanction/ Duration
1.	"Characterization of a Sex - and Species - Specific Heterochromatic DNA Transcript(s) Expressed During Spermatogenesis in Man" (as PI)	DBT (28,45,000.00)	2001-2004
2.	Study of a spatially and temporally sequestered sex and species-specific transcript from the spermatogenesis pathway of mouse. (as PI)	DST (15,00,000.00)	2002-2005
3.	Molecular Genetic Analysis of Y-heterochromatin Transcripts – Functional & Evolutionary Conservation (as PI)	DBT (21,68,000.00)	2008-2011
4.	MicroRNAs inter-chromosomal	DBT (55,28,000.00)	2008-2011

	networking and crosstalk (as PI)		
5.	New Approaches towards Understanding of Disease Dynamics and to Accelerate Drug Discovery (as PI)	CSIR 12th FYP Network Project (BSC0103); (1,37,00,000.00)	April 2012-March 2017, 5 years
7.	"Molecules In Neurodegeneration (MIND)" My component: Y-chromosome derived piRNAs in brain: contribution to male-female differences. (as PI)	CSIR 12th FYP Network Project. BSC0115 As PI; (20,20,000.00)	Oct., 2012-March, 2017, 5 years
8.	Transcription profiling of mouse Y ampliconic transcripts from somatic tissues and investigation into trans-splicing involving Y noncoding RNA by deep-sequencing (as PI)	DBT (75,55,600.00)	2015-2018
9.	Screening for male infertility markers in the human Yq12 heterochromatic block (Project between CCMB, CDFD and Mysore University – with me as the Project coordinator)	DBT (64,51,000.00)	2016-2019
10	Functional analysis of extra chromosomal circular DNA from man and mouse	Kerala State Council for Science Technology and Education; (20,82,000.00)	2019-2022

List of Publications

1. **Rachel, A.J.,** Sharma, T., Menon, V.V. (1991) Harlequin banding and localization of sister chromatid exchanges. Mutation Research 264: 71-80. (Mutation Research 1964-present impact factor 3.198). **DOI: 10.1016/0165-7992(91)90048-9;** PMID: 1717844. Feb 1992. **Accepted 3 June 1991, Available online 5 February 2003**

2. **Rachel, A.J.,** Sharma, T., Menon, V.V. (1992) Differences in sister chromatid exchange frequency between homologous chromosomes in *Muntiacus muntjak*. Mutation Research 283: 193-198. **Nov.1992. Accepted 23 July 1992, Available online 5 February 2003.** PMID: 1383788; DOI: 10.1016/0165-7992(92)90107-s

3. **Jesudasan, R.,** Slovak, M.L., Sen, S., and Srivatsan, E.S. (1994) Rearrangement of chromosome band 11q13 in HeLa cells. Anticancer Research 14: 1727-1734. PMID: 7847806. Sept-Oct 1994.

4. **Jesudasan, R.,** Rahman, R., Chandrashekharappa, S., Evans, G., Srivatsan, E.S. (1995). Deletion and translocation of chromosome 11q13 sequences in cervical carcinoma cell lines. American J. of Human Genetics. 56: 705-715. PMID: 7887426; PMCID: PMC1801173; 1995 March

5 **Rachel, A.J.** Fluorescence in situ hybridization: a journey back to chromosomes (1995). Proceedings of the Sixth All India Conference on Cytology and Genetics.

6. **Rachel, A.J.,** Rahman, R., Evans, G., Srivatsan, E.S. (1996). Reply to Popescu and Zimonjic (letters to the Editor) American J. of Human Genetics 58: 424-425. PMCID: **PMC1914530;** PMID: 8571970 **1996 Feb** .

7. **Rachel, A.J.** (1997). Fluorescence in situ hybridization (FISH) in chromosome aberration analysis in Environmental pollution and Genetic Risk (Eds.) M.H. Prasad and P.P. Reddy, pp 103-110. Inst. Genetics. Osmania University, Hyderabad, India.

8 **Rachel, A.J.** Genome mapping (1997). Indian Journal of Endocrinology and Metabolism 1 (1): 27-31.

9. Vanaja, D.K., Sivakumar, B., **Rachel, A.J.,** Ayesha, Q., Singh, L., JanardanSharma, M.K., Habibullah, C.M., (1998). In vivo identification, survival, and functional efficacy of transplanted hepatocytes in acute liver failure mice model by FISH using Y-chromosome probe. Cell Transplantation, 7(3): 267-273. PMID: 9647436; DOI: 10.1016/s0963-6897(98)00004-9; **2 September 1998.**

10. Lalji Singh, N.H. Pathak, **A.J. Rachel** and K. Thangaraj (1999) Snake's Eyeview of Adam and Eve Reproductive Immunology (Ed. S.K. Gupta), Narosa Publishing House, New Delhi, India. pp. 132-148.

11. Srivatsan, E.S., Chakrabarti, R., Zainabaldi, K., Pack, S.D., Benyamani, P., Mendonza, M.S., Yang, P.K., Karg, K., Motamedi, D., Sawicki, M.P., Zhuang, Z., **Jesudasan, R.A.,** Bergtsson, U., Sun, C., Roe, B.A., Stanbridge, E., Wilczynsky, S.P., Redpath, J.L. (2002) Localization of deletion of a 300kb interval of chromosome 11q13 in cervical cancers.,Oncogene, 21: 5631-5642. Published: 15 August 2002; PMID: 12165862; DOI: 10.1038/sj.onc.1205698

12. Zeenath Jehan, Vallinayagam, S, Shrish Tiwari, Suman Pradhan, Lalji Singh, Amritha Suresh, Hemakumar M Reddy, Ahuja Y.R, **Rachel A Jesudasan** (2007) Novel non-coding RNA from human Y distal heterochromatic block (Yq12) generates testis-specific chimeric Cdc2L2. Genome Research 17, 433-440. Epub 2006 Nov 9**;** PMID: 17095710; PMCID: PMC1832090; DOI: 10.1101/gr.5155706

13. Vasavi, M., Shivani, P., Hemakumar M Reddy, Radha Sistla, **Rachel A Jesudasan,** Yog Raj Ahuja and Qurratulain Hasan (2007) Chromosome 11 aneusomy in esophageal cancer and precancerous lesions – an early event in neoplastic transformation: an interphase FISH study from South India World Journal of Gastroenterology 13 (4) 503-508. PMID: 17278214; PMCID: PMC4065970; DOI: 10.3748/wjg.v13.i4.503. 2007 Jan 28

14. Anjali Bajpai, Sridhar Settu, Hemakumar M Reddy, **Rachel A Jesudasan**. (2007) BRM-Parser: A tool for comprehensive analysis of BLAST and RepeatMasker results. In silico Biology 7, 27. PMID: 18391232 **22 April 2007**.

15. Rachel A Jesudasan and Vidya Jonnalagadda (2009) Heterochromatin on Human Y-chromosome reveals new paradigms in regulation of gene expression in eukaryotes. In Chromosomes to Genome, pg. 199-212 (Ed.) Rakesh Mishra, I.K. International Publishing House Pvt. Ltd., New Delhi.

16. Anurag Chaturvedi, Shrish Tiwari, **Rachel A Jesudasan** (**2011**) RiDs db: Repeats in Diseases database. Bioinformation 7(2) 96-97. (This database has been linked to Flybase). **PMCID: PMC3174043; PMID: 21938212. Published online 2011 Sep 6.**

17. Rima Dada, Manoj Kumar, **Rachel Jesudasan**, Jose Luis Fernández, Jaime Gosálvez, Ashok Agarwal **(2012)** Epigenetics and its role in male infertility. Journal of Assisted Reproduction and Genetics. (Review) **29 (3)** 213-223. DOI 10.1007/s10815-012-9715-0. PMID: 22290605; PMCID: PMC3288140; Published: 31 January 2012

18. Nissankararao Mary Praveena and Rachel A Jesudasan (**2013**) Y-chromosome genetics and fertility. In Medical and Surgical Management of Male Infertility Chapter 34, pages 284-294. Prof. Dr. Botros RMB Rizk, Nabil Aziz, Ashok Agarwal, Edmund Sabanegh Jr. (eds) Jaypee Brothers Medical Publishers (P) Ltd. New Delhi/London/Philadelphia/Panama.

19. Rakesh Sharma, Ashok Agarwal, Gayatri Mohanty, Rachel Jesudasan, Banu Gopalan, Belinda Willard, Satya P Yadav and Edmund Sabanegh (**2013**) Functional proteomic analysis of seminal plasma proteins in men with various semen parameters. BMC Reproductive Biology and Endocrinology **11**:38 doi:10.1186/1477-7827-11-38. PMID: 23663294; PMCID: PMC3671977. 11 .May 2013

20. Rupa Bhattacharya, Manju Devi S, Vishnu Dhople, **Rachel A Jesudasan**. A mouse protein that localizes to acrosome and sperm tail is regulated by Y-chromosome (**2013**) BMC Cell Biology **14**: 50-60. 20 November 2013. PMID: 24256100; PMCID: PMC4225516; DOI: 10.1186/1471-2121-14-50

21. Iype T, Thomas J, Mohan S, Johnson KK, George LE, Ambattu LA, Bhati A, Ailsworth K, Menon B, Rayabandla SM, Jesudasan RA, Santhosh S, Ramchand CN**.** A novel method for immobilization of proteins via entrapment of magnetic nanoparticles through epoxy cross-linking. Anal Biochem. 2017 Feb 15;519:42-50. doi: 10.1016/j.ab.2016.12.007. **Epub 2016 Dec 11**. (IF – 2.219). PMID: 27965063

22. Dey SK, Kamle A, Dereddi RR, Thomas SM, Thummala SR, Kumar A, Chakravarty S, **Jesudasan RA** (2018). Mice with Partial Deletion of Y-

Heterochromatin Exhibits Stress Vulnerability. ***Front Behav Neurosci.*** 12:215. PMID: 30297990; PMCID: PMC6160548; DOI: 10.3389/fnbeh.2018.00215

23. Rachel A Jesudasan, Kankadeb Mishra, Pranatharthi Annapurna, Anurag Chaturvedi, Nissankararao M Praveena, Jomini L Alex, Sivarajan Karunanidhi & Hemakumar Reddy (2018). Transcripts from multicopy gene families localizing to mouse Y long arm encode piRNAs and proteins. bioRxiv 407197; doi: https://doi.org/10.1101/407197.

24. Dutta, Usha; Suttur, Malini; S, Vineeth; P, Laxmi; G, Sravani; Talwar, Sangamesh; S, Sahana; Billapati, Susmitha; Jesudasan, Rachel. (2020) Cytogenetic and Molecular study of 370 Infertile men in South India highlighting the importance of copy number variations by Multiplex Ligation dependent probe amplification. Andrologia 2020;52:e13761. https://doi.org/10.1111/and.13761. PMID: 32790203. 13 August 2020.

25. Hemakumar M. Reddy, Rupa Bhattacharya, Shrish Tiwari, Kankadeb Mishra, Pranatharthi Annapurna, Zeenath Jehan, Nissankararao Mary Praveena, Jomini Liza Alex, Vishnu M. Dhople, Lalji Singh, Mahadevan Sivaramakrishnan, Anurag Chaturvedi, Nandini Rangaraj, Thomas Michael Shiju, Badanapuram Sreedevi, Sachin Kumar, Ram Reddy Dereddi, Sunayana M. Rayabandla and Rachel A. Jesudasan (2021) Y chromosomal noncoding RNA regulates autosomal gene expression via piRNAs in mouse testis. BMC Biology 19: 198-219. https://doi.org/10.1186/s12915-021-01125-x. PMID: 34503492; PMCID: PMC8428117. 9 September 2021.

26. Anjali Bajpai, Badanapuram Sridevi, Vidya Jonnalagadda, Pathma Muthukotti Rachel A Jesudasan (2022) Single cell variations in expression of codominant alleles A and B on RBC of AB blood group individuals. Journal of Genetics 101:36. https://doi.org/10.1007/s12041-022-01376-9 PMID 35975820.

Selected Conferences & Invited talks

1. Extensive alternative splicing of a novel non-coding RNA from mouse Yq heterochromatin. Hemakumar M Reddy and Rachel, A Jesudasan. XXXI All India Cell Biology Conference & Symposium on “Stem Cells: Application and Prospects”. **December 2007**, Banaras Hindu University, Varanasi.
2. Mouse Autosomal genes involved in spermatogenesis are regulated by Yq heterochromatin. Rupa Bhattacharya, Dhople, M. and Rachel A Jesudasan. Current Trends in Proteomics, CCMB, **February 2008**.
3. Autosomal Genes are deregulated in sperms of Y-deleted mice. Rupa Bhattacharya, Dhople, M. and Rachel A Jesudasan. ISSRF: Symposium on Recent trends in Reproductive Health and Research.

February 2008. (G. P. Talwar Gold medal awarded to the student for best presentation).

4. HUGO symposium held at Hyderabad, India. Novel noncoding RNA from human Yq12 heterochromatic block provides a testis-specific 5'UTR to CCD2L2 mRNA by trans-splicing. Vallinayagam, S., Zeenath Jehan, Suman Pradhan, Shrish Tiwari, Hemakumar M. Reddy, Amritha Suresh, Rachel A Jesudasan October 2008. ***(Judged the posters in the symposium)***

5. International Symposium on Nuclear Architecture and Chromatin Dynamics, CCMB, Hyderabad, Nov 26-29, 2008

6. Indian Society of Cell Biology, Agharkar Research Centre, Pune. December 2008. ***(Judged the posters in the conference)***

7. ***As a judge*** in the Inter College Techno-cultural Fest held at Bhavan's Vivekananda College, Secunderabad. August 2008

8. Genome Analysis: Analysis of non-coding Regions. Rachel, A. Jesudasan, Perspectives and Current Trends in Bioinformatics, CCMB, Hyderabad. 9-15 February 2009. ***(Faculty on the workshop)***

9. International conference on Genetic and Molecular Diagnosis in Modern Medicine, Kamineni Hospitals, Hyderabad. 13-15 February 2009. ***(Chaired a session)***

10. Attended the XXXIII All India Cell Biology Conference. December 10-13, 2010, University of Hyderabad, Hyderabad, India.

11. A Chaturvedi, S Tiwari, R Jesudasan RiDs db: Repeats in disease database in Internatl conf. on Genomics, Genetic diseases and Diagnostics **2011**, Manipal

12. Annapurna, P, Mishra, K., Reddy, MHK, Jesudasan, R "Silent" Y repeats, a hub for tiny regulators of genome Internatl conf. on Genomics, Genetic diseases and Diagnostics **2011** Manipal University

13. The XXXVII All India Society for Cell Biology and Symposium on Cell Dynamics and Cell fate, Bangalore **2013**

14. Sunayana MR, Shashi Rekha T, Rupa B, Rachel A.J. (2015) Understanding the role of SPINK2 variants in male fertility of mouse. The XXXIX All India Cell Biology Conference on Cellular organization and dynamics 6-8 December Trivandrum Kerala.
15. Shashi Rekha Thummala, Mohammed Idris M, Sumana Chakravarti, Rachel A Jesudasan (2015) Identification of novel proteins from different region of mouse brain. The XXXIX All India Cell Biology Conference on Cellular organization and dynamics 6-8 December Trivandrum Kerala.
16. A two-day Symposium on Next Gen Sequencing (Bioserve) CCMB, Hyderabad. 5-6 May 2016.

17. NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference. 3-5 October 2016 (Cochin, Kerala, India).
18. Sunayana MR and Rachel A.J. (2016) XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenomics. November 17-19. Jiwaji University, Gwalior.
19. Md. Idris, Shiju TM, Ram Reddy, Rahul Sharma, Sumana Chakravarty, Shashi Rekha, Shivarajan K, Rachel Jesudasan (2016) Genes putatively regulated by Y chromosome show difference in expression between male and female in mouse brain. XL All India Cell Biology Conference and International Symposium on Functional Genomics and Epigenomics. November 17-19. Jiwaji University, Gwalior.
20. Nanopore Community Workshop and Conference held at New York, USA 30 November – 2 December (2016).
21. National Conference on Recent Trends in Neurological and Psychiatric Research. 30th Annual Meeting of Society for Neurochemistry India (SNCI) CCMB, Hyderabad. 9-11 December 2016.
22. International Conference on Genetic and Molecular Diagnosis in Modern Medicine. 17-18 December (2016). Chaired a session.

23. Cytogenetic and Molecular cytogenetic investigations in 63 infertile males. Vineeth VS, Rachel Jesudasan, Malini SS, Ashwin B Dalal, Usha R Dutta. National conference on, "New frontiers in Diagnostics & Management of Genetic Diseases" 29– 30 January, 2016. Institute of Genetics and Hospital for Genetic Diseases, Osmania University, Hyderabad.

24. Cytogenetic and molecular cytogenetic study in 220 infertile men. Sravani G, Laxmi Priyanka P, Vineeth VS, Rachel A J, Malini SS, Ashwin Dalal, Usha R Dutta. ISHG 2018, CCMB, March 2018.

London Calling – Nanopore conference 18-19 June 2020.

25. Board of Genetic Counseling India, 5th Annual International Conference Genomics to Mankind-Integrating Genetic Education, Counseling and Public Health. July 2nd – 4th 2020.

26. Attended Webinar on IP Generation, Protection and Commercialization in Research conducted by KSCSTE- Malabar Botanical Garden and institute for Plant Sciences. 29-30 September, 2020.

27. Functional analysis of extra chromosomal circular DNA From man and mouse. Jhansi, G and Rachel Jesudasan. International Webinar on Advances in Genomics and Gene Technology, Inter University Center for Genomics and Gene Technology, University of Kerala, Karyavattom campus, Thiruvananthapuram. March 24-26, 2021.
28. Board of Genetic Counseling India, 6th Annual International Conference "Genomics and Genetic Counseling: Value in Health Care". 2nd to 4th July 2021. Chaired the session on "Tools for a Contemporary Genetic Counselor".

29. **Conducted Online Symposium** on Molecular Diagnostics and Genetic Counselling June 2-6, 2022, Inter University Centre for Genomics and GeneTechnology, Department of Biotechnology, University of Kerala.
30. 44th All India Cell Biology Conference & International Symposium on Molecular & Cellular Insights of Human Diseases. Department of Biochemistry, University of Kashmir, Srinagar. September 2-3, 2022.
31. Sunayana Mandala Raybandla, Rupa Battacharya, Rachel A Jesudasan. SDF2L1 is an acrosomal protein indicated in male fertility in mouse. 45th All India Cell Biology Conference & International Symposium on Biology of Development and Disease. Banaras Hindu University, Varanasi – India. 20-22 January 2023. (Chaired a session).

Invited talks

1. Hands-on DBT sponsored Advanced Training Programme in Genetic Diagnosis and Counseling. Institute of Genetics, Hyderabad, January **2008**. (Faculty).

2. Novel roles for Y heterochromatin the distal Yq12 block on the human Y. National Conference on Recent Trends, University of Pune March **2008**.

3. Functional Genomics of Heterochromatin: a Proteomics Approach. Workshops on Genomics and Proteomics, University of Kerala, March **2008.**

4. International Symposium on Epigenetic Modifications of the Genome: Mechanisms and Implications. CCMB, Hyderabad. 23-24 February 2009.

5. Genome Analysis: Analysis of non-coding Regions. Rachel, A. Jesudasan, Perspectives and Current Trends in Bioinformatics, CCMB, Hyderabad. 9-15 February **2009**. ***(Faculty on the workshop)***

6. Interactions between Y- chromosomes and autosomes: Department of Zoology, Banaras Hindu University, Varanasi. – December **2009**

7. Interactions between Y-chromosomes and autosomes: International Conference on Emerging Trends in Biotechnology Dec 4-6, **2009** Banaras Hindu University, Varanasi.

8. Genome Analysis: analysis of non-coding regions and discussions with under graduate and postgraduate students: December 7-8 (**2009**) Purvanchal University, Jaunpur, UP.

9. Present day Biology – the “omics and “ics”: National Seminar on “Oxidative stress in Health and Diseases – a genomic approach”

30-31 March, **2010**, Dept of Biochemistry, University of Kerala, Kariavattom, Trivandrum.

10. Y heterochromatin controls autosomal genes via noncoding RNAs International conf. on functional Genomics Challenges and prospects BHU, Varanasi Oct **2010**

11. Analysis of non-coding regions in the genome: Juggling between bench and bioinformatics Dr. MGR University, Chennai, **2011**

12. RiDs db: Repeats in diseases database national seminar on" Current Trends in Genomics and Proteomics" Pondicherry University September **2011**.

13. RiDs db - a database for studying disease genes with respect to repeats in human genome. University of Kerala, Karyavattom, Trivandrum **2011**

14. A slice of pi on mouse Y in Human Genetics Conference at Banaras Hindu University, Varanasi December **2012**

15. RiDs db: Repeats in diseases database symposium on "Symposium on Polpulation genetics and Chromatin dynamics" at Banaras Hindu University, Varanasi October **2012**.

16. RiDs db: Repeats in diseases database in International Seminar on Recent Biochemical Approaches in Therapeutics, University of Kerala **2013**

17. Alternative splicing unparalleled at IISCER TVM **2013**

18. Y chromosome and male infertility (**2015**) Mysore Medical College, Mysore.
19. Foundation day lecture at Inter University Centre for Genomics and Gene Technology, University of Kerala, Karyavattom, Trivandrum, Kerala. February **2017**.

20. Single cell variations in expression of codominant alleles A and B on RBC of AB blood group individuals. International Seminar on Recent Biochemical Approaches in Therapeutics at Karyavattom campus, Kerala University, Trivandrum. **Plenary lecture** 9-11 February, 2021.
21. Mouse Y chromosome regulates autosomal genes expressed in testis via piRNAs at The International conference-RBAT (Recent Biochemical Approaches in Therapeutics), in connection with the Golden Jubilee of Department of Biochemistry, University of Kerala from January 18-21, 2022. Rachel A Jesudasan.
22. Rachel A Jesudasan. Mouse Y- derived non-coding RNA function revealed by comparative sperm proteomics. 8th international Caparica Conference on Analytical Proteomics. 18th–21th July 2022. Caparica, Portugal.
23. Invited by the University of Kent, England to spend 5 days in the lab of Dr. Peter Ellis. Could not get the VISA on time. Gave the talks

online 1. Clinical Relevance of proteins differentially expressed in 2/3-Ydel mouse sperm. 2. Y-chromosome with respect to work in my lab. 4th, 5th August 2022.

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