

AREAS OF INTEREST / SPECIALIZATION

Molecular defects in Polycystic Ovary Syndrome (PCOS): Susceptibility Genes, Life Style and Environment. The major contribution is in deciphering the metabolic defects in the ovarian granulosa cells of women with polycystic ovary syndrome (PCOS), a major reproductive health issue in young women in India as well as in other countries. For the first time, we reported the defective gene profile highlighting the metabolic alterations in granulosa cells of PCOS women with and without insulin resistance. Genomic profiles of granulosa cells from PCOS women with and without insulin resistance point out important susceptibility genes for insulin resistance and Diabetes type II in PCOS women. The data bank was created at NCBI and the work was published in the Journal of Clinical endocrinology and Metabolism (JCEM). Several laboratories analyzed these data confirming the importance of our study. Further, we have also identified a novel signaling pathway of which establishes its cross-talk with insulin signaling pathways. FSH increases the expression of Insulin receptor substrates (IRS1 and IRS2), however the FSH-stimulated IRS2 expression is defective in PCOS granulosa cells. Consequently, we established that the partial FSH sensitivity in PCOS women leads to the metabolic disorder and associated susceptibility to develop insulin resistance later in life. Understanding the importance of our study, we organized a number of meetings with young girls to spread awareness about the management of hormonal imbalance to maintain the healthy metabolic profile.

Cross-talk between Signaling pathways of Insulin/IGF-1 and FSH in Granulosa cells, and role of Insulin receptor substrates (IRS-1 and IRS-2) and Src family tyrosine kinases in follicle development.

Proteomics based Diagnostic tools: Analysis of human Plasma of Breast, Ovary and Lung cancer Patients for the diagnostic Biomarkers.

NO. OF PUBLICATIONS (IF: 0.73 to 5.45): > 50

DATA BANKS CREATED

1. HUMAN PCOS GENOME DATA BANK:

<http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE34526>

(MICROARRAY DATA FOR NORMAL, INSULIN RESISTANT AND NON-RESISTANT PCOS WOMEN) AT GENE EXPRESSION DATA BANK (GEO:)

2. BIOINFORMATIC DATA BANK:

HUMAN IRS-2 PROMOTER AND TRANSCRIPTION FACTOR BINDING SITES

<http://dx.doi.org/10.1016/j.dib.2015.12.001>

RESEARCH GUIDANCE

Supervision of awarded Doctoral Thesis	10
Supervision of Doctoral Thesis, under progress	4
Supervision of awarded MPhil dissertations	6 1
Supervision of MPhil dissertations, under progress	2
Ph. D Adviser	19
M.Sc. Summer projects	21 (Completed)
M.Sc. and M.Tech 4th Semester projects	8 (Completed)
B.Sc. Biomed./ B. Tech. (Engineering) Summer project	9 (Completed)
B. Tech. (Engineering) IV SEM Project	6 (Completed)

RESEARCH PROJECTS (MAJOR GRANTS/RESEARCH COLLABORATION)

RESEARCH PROJECTS: 17 (Major- 9 and Minor- 8, Total 17 as PI-Single institutional Grants)

Projects	International	National	Funding Agencies
No.	1 (INDO-US)	16	DBT, DBT-INDO-US, CSIR, UGC, R&D-DU-UGC, DST-DU-PURSE
Collaborations	Medical School, VCU, USA CNRS, France	AIIMS, Fortis Hospital and Research Centre, Gouri Hospitals, ICGEB, NIHFWS, NCCS Pune, Rajiv Gandhi Cancer Institute.	

AWARDS AND DISTINCTIONS

Prof. L. S. Ramaswami Memorial Oration Award and Gold medal, in recognition of outstanding research in the area of Reproductive health/PCOS, title of oration: 'Gonadotropin imbalance and Metabolic defects in Polycystic ovary syndrome' received during Global Conference on Reproductive Health with focus on Occupational, Environmental and Lifestyle (ISSR-2019), at JNU Convention Center, Jawaharlal Nehru University, New Delhi 110022, 2019

Visiting Professor, INRA Centre Val de Loire, 37380 Ndluzi Tours, France, Real Time Receptor and messenger interaction From June 1st to August 17, 2018.

Chairperson and Panelist, Selected topics in cancer awareness in India, World Cancer Congress 2018, Jaipur, 2018

Academic Visitor, 5th Annual Graduate Scientific congress, Decoding Science: Translating Medicine, AGSC2015, Yong Loo Lin School of Medicine, National University of Singapore (NUS), Jan 27-30, 2015.

Visiting Professor (1 Year), Breast cancer stem Cells: Wnt 1 transgenic model of breast cancer, Department of Cancer Research, Perelman School of Medicine, University of Pennsylvania, USA, Aug, 2012-July 2013.

CREST Award, Department of Biotechnology (DBT), 2012.

Visitor, 6th Annual Retreat of Department of Breast Cancer, Perelman School of Medicine, University of Pennsylvania Philadelphia, held at Mohonk Mountain House in New Paltz, New York, USA, May 21 to June 2, 2013.

Member, Expert Panel, "Hazardous Metals and Minerals Pollution in India: sources, toxicity, and management" Indian National Science Academy (INSA), New Delhi 2010.

Member, UNESCO South Asia and South East Asia Science and Technology Policy Forum, 2010.

Visiting A/Professor, Medical School, Virginia Commonwealth University, USA, INDO-USCRHR, June-July 2007.

Visitor, Frontiers in Reproduction, 10th Annual Symposium Woods Hole Oceanographic Institution Clark Laboratory Quissett Campus, Woods Hole, Massachusetts, USA, June 14-16, 2007.

Member, Faculty Promotion committee, Medical School, Virginia Commonwealth University, USA, 2008.

Member, 9th Indo-US Contraception and Reproductive Health Research Meeting, Delhi, Sept. 19-21, 2007.

Provost, North eastern hostel for women, Delhi University, 2018-2020.

Governing Body Member, Keshav Mahavidyalaya, Delhi University, 2017-2019.

Chair/Convener, Division of Molecular Endocrinology & Reproduction, Department of Zoology, Delhi University, 2009 onwards.

Member, Examination Disciplinary Committee (EDC), Delhi University (North and South Campus) from 2013.

Principal investigator of 8 major projects (4 crore of funds) from DBT, CSIR, UGC from 2003-2019

Vice Chancellor Nominee, Departmental research Committee, Department of Biochemistry, Delhi University (South Campus)

Convener, Animal house and Member, Animal ethics Committee, Purchase committee and Several committees Department of Zoology, Delhi University 2014 onwards.

Member, Faculty of Science, Delhi University.

Scientist selection/Promotion board member, Ministry of Environment and HRD, New Delhi.

Adviser, Reproductive Biomedicine, Amity University, Noida, Haryana, 2017

Task-Force member, Indian Council of Medical research (ICMR), 2016

Member, Departmental Research Committee, Department of Zoology.

Member Secretary, Human Ethics Committee, Department of Zoology, Delhi University, Delhi.

Member, Ethics Committee, Sunder Lal Jain Hospital, Ashok Vihar, Delhi.

Member, Curriculum development committee/Syllabi restructure Committee for **Neuroendocrinology, Molecular Cell Biology and Computational Biology**, Member, Committee of **Uses in Zoology**.

Mentor, Star College Project on **Reproductive Health and Incidence of PCOS in college girls**, Department of Biochemistry Daulat Ram College Delhi University, 2016-2019

Outstanding Research award from DBT Monitoring committee, 2008.

Council of Scientific and Industrial Research (CSIR) Pool-Scientist award, 1999.

DST young Scientist Award, 1997.

Scientist Member, 9th Indian Antarctic Expedition 1989-1990.

Fellowship of CSIR, 1985; University Grant Commission Fellowship Award, 1985.

Science Merit awards 1982-83; Science Merit award 1983-84.

REPRODUCTIVE HEALTH OUTREACH PROGRAMS FOR YOUNG ADULTS: PCOD/PCOS AND ENVIRONMENT

Gynaecologist-Student interaction workshop on PCOS/PCOD management at young age, Auditorium, Department of Zoology, Delhi University, Aug 12, 2016.

Reproductive Health Awareness for Senior School students of Birla Balika/Idyapeeth, Pilani, September 4-11, 2016.

Reproductive Health Awareness for University students in Four girl hostels in University Campus by Master students specializing in Molecular Endocrinology and Reproduction March 2016

Reproductive Health Awareness for Senior School students of G. D. Goenka Public School, Agra, Nov. 28, 2015.

International awareness program for "Environmental Threats to Fertility" during International congress on Embryo Implantation and Pregnancy: Intricacies and strategies for its success, National Institute of Immunology March 9-11, 2015.

Daulat Ram College, Environmental causes of PCOS/PCOD: Management of Reproductive Health in young women, 7 Oct, 2015.

Miranda House: Endocrine Disruptors, Obesity and Infertility, Feb. 10, 2015.

Khalsa College: Cancer Stem Cells and Breast Cancer, Feb. 25, 2015.

Daulat Ram College, PCOS: Life Style, Obesity and Infertility, April 11, 2015.

Hazards of Plastics and Reproductive health, Delhi University Annual Festival, Anandhvani, 2014, 2015,

Free Camp on PCOS and hereditary Diabetes type II at Gouri Hospital, Malka Ganj 2009.

MEMBERSHIP OF PROFESSIONAL/ACADEMIC BODIES, SOCIETIES

1. American Association for Cancer Research, USA.
2. American Society for Biochemistry and Molecular Biology (ASBMB), USA.
3. Federation for American Societies for Experimental Biology (FASEB), USA.
4. Indian Society for the Study of Reproduction and Fertility (ISSRF).
5. Society for Cell Biology, India.
6. Society for Biochemists of India.
7. Fertility Society of India.
8. Society for Reproductive Biology and Comparative Endocrinology

CONFERENCE PRESENTATIONS/SPEECHES

INTERNATIONAL CONFERENCES

Prof. L. S. Ramaswami Memorial Oration, 'Gonadotropin imbalance and Metabolic defects in Polycystic ovary syndrome' Global Conference on Reproductive Health with focus on Occupational, Environmental and Lifestyle Factors (ISSRF) JNU Convention Center, Jawaharlal Nehru University, New Delhi Feb. 22, 2019

Invited Speaker, Polycystic Ovary Syndrome (PCOS): Gonadotropin imbalance and Metabolic disorder, Biology and Bioinformatics of Signaling Systems, Physiologie de la Reproduction, Centre Val de Loire, 37380 Nouzilly, Tours, France, July 4, 2018

Invited Speaker, Novel FSH signaling mechanisms in PCOS, International Conference on Gonadotropins and Receptors International Symposium on GnRH, The hypothalamic-pituitary-gonadal axis in cancer and reproduction, ICCR, Modena, Italy Sept 2023, 2017.

Invited Speaker, Environment, Lifestyle and Reproductive Health Challenges in Young Women, International Conference on

"Reproductive Health with Emphasis on strategies for infertility, assisted reproduction and Family Planning held at AIIMS, New Delhi Jan 23-25 2017.

Paper Presentation on Role of FSH in Metabolic Disturbances in Polycystic Ovary Syndrome: a partial defect in FSHR (GPCR) activation in PCOS granulosa cells, 41st European Symposium on Hormones and Cell Regulation: GPCR dynamics for fine tuning of physiological processes, Monte Ste Odile, Alsace, Oct 5-8, 2016

Invited Speaker, Role of FSH in Metabolic Disturbances in Polycystic Ovary Syndrome, International congress on Reproductive Biomedicine, Royan institute, Tehran, Iran, Aug 3-5 Sept. 2, 2016

Invited Speaker, Molecular Defects in Polycystic Ovary Syndrome (PCOS) and Prediction of Infertility in PCOS Patients, International congress on Reproductive Biomedicine, Royan institute, Tehran, Iran, Aug 3-5 Sept.2, 2016

Invited Speaker, Defects in the cross-talk between FSH and IGF-1/insulin signaling pathways and infertility in PCOS patients, International Conference on "Reproductive Health with Emphasis on Occupational, Environmental and Lifestyle Factors held at Ahmadabad, 18- 20 Feb. 2016

Invited Speaker, "Metabolic Disturbance in Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment Department of Anatomy Yong Loo Lin School of Medicine (NUH), National University of Singapore (NUS), Jan 28, 2015.

Invited speaker, "Proteomic profiling of Lung Cancer Specific Plasma Proteins: Novel diagnostic strategy for environmentally exposed Male Lung Cancer Patients" 6th International conference on Environmental mutagens in Human Populations, Doha, Qatar, Mar. 26-29, 2012.

Attended Symposium on Obesity, diabetes and cardiovascular Disease: concept and challenges at Translational Research Center, University of Pennsylvania, Philadelphia, USA, 2012.

Invited speaker, "PI3K/AKT dependent and independent pathways in the Regulation of Glycogenesis by Follicle Stimulating Hormone in Granulosa Cells" International Conference on Reproductive Health with Emphasis on Strategies for Family Planning ICMR, New Delhi, Feb 19-21, 2012.

Invited speaker, "The susceptibility gene expression profiles in Granulosa cells of Women with Polycystic Ovary Syndrome" 15th All India Congress of Cytology and Genetics and Forgarty International workshop, Magadh University, Bodhgaya, India Nov. 21 -23, 2011.

Invited speaker, Microarray gene expression profile of granulosa cells from PCOS women: Identification of Polycystic Ovary Syndrome Susceptibility Gene Sets through Network Analysis. International Conference on Frontiers in Reproductive Technology, NDRI, Karnal, Feb 9-11, 2011.

Invited Speaker, "Reproductive Health Concerns: The impact of Environmental Toxicants on Reproductive health of women/men". World conclave of Scientists on Regional Cooperation in Science and Technology. Organized by UNESCO South Asia and South East Asia Science and Technology Policy Forum at INSA Auditorium, New Delhi, Nov 26-29, 2010.

Invited Speaker, "Molecular Mechanisms to Molecular Medicine, Identification of Polycystic Ovary Syndrome Susceptibility Gene Sets through Network Analysis". International symposium on Endocrinology and Reproduction: SRBC, JNU, New Delhi, Feb 4-6 2010.

NATIONAL CONFERENCES (INVITED SPEAKER):

Environmental threats to Reproductive Health: Increasing PCOS/PCOD in young women in India. International Conference on Changing Environment Understanding the Emerging Challenges and their Management Strategies With Pre-conference Workshop "The Foldscope" Venue: Conference Centre, University of Delhi, April 11-12, 2019.

Environmental Toxins and Environmental toxins and Health "How Plastics cause hormonal imbalance in Children; & Chairperson, National Seminar on Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth Campus, Pilani, Rajasthan, Sep 15- 16, 2018.

Human ethics committee considerations for research on human subjects, Acharya Narendra Dev College, University of Delhi, Govind Puri, Kalkaji, New Delhi, Delhi 110019, February 21, 2018.

Plenary Lecture, Molecular defects in Human PCOS Ovary 2nd JK Medical Science Congress 2017 1st Annual Conference of PCOS Society Society, Srinagar, J&K, May, 2017.

Metabolic defects in Granulosa cells of PCOS Women, 2nd JK Medical Science Congress 2017 1st Annual Conference of PCOS Society Srinagar, J&K, May 10-13, 2017.

Environmental Pollutants and Health Hazards, Speaker and Organizer National Symposium & Awareness Program "Lifestyle and Reproductive Health Challenges, Daulat Ram College, Delhi University, Delhi, March 29, 2017.

Polycystic ovary syndrome (PCOS): Is it a genetic or environmental disorder? National Symposium of communicable and non-communicable disorders, Punjab University, Chandigarh Feb 21, 2017.

Invited member, "Global Biotechnology Summit" on 5th & 6th February 2016 organized by Department of Biotechnology Ministry of Science and Technology, at Vigyan Bhawan, New Delhi.

Endocrine Disruptors, PCOS and Reproductive Health: "Hazards of Plastics" & Chairperson, National Seminar on Reproductive Health Awareness for Senior School students of Birla Balika Vidyapeeth, BITS Pilani, Rajasthan, Sept. 10 – 11, 2016.

Endocrine Disruptors & Reproductive Health, 2nd National Seminar on Reproductive Health Awareness for Senior School students of G. D. Goenka Public School, Agra. 28 Nov, 2015

Environmental causes of PCOS/PCOD: Management of Reproductive Health and Fertility in young women Conference on Reproductive Health Challenges: Issues & Remedies (DBT-2015), Jaipur, Sept. 11-13, 2015.

"Metabolic Defects in Polycystic Ovary Syndrome: Susceptibility Genes and Interactions" Sixth Symposium on "Frontiers in Molecular Medicine", Organized by Special Centre for Molecular Medicine, Jawaharlal Nehru University (JNU) Delhi, Feb. 13-14, 2015.

"Molecular defects in Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment" National Symposium on changing environment and lifestyle: Impact on Reproductive Health (DBT), All India Institute of Medical Sciences (AIIMS), New Delhi, Nov 19-21, 2013.

"Expression of Diabetes susceptibility genes in Granulosa Cells of Polycystic Ovary Syndrome (PCOS) Women with and without Insulin Resistance", 7th Annual National Conference of Indian Fertility Society: Infertility and Assisted Reproductive Technologies, India Habitat Centre, New Delhi, Dec 8, 2011.

RESOURCE PERSON, TEACHER TRAINING LECTURES IN OTHER UNIVERSITIES

Academic Staff College, University of Kashmir, J&K 2015, Lecture 1. "Environmental Endocrine Disruption: Management of Reproductive Health and Infertility", Refresher course for University and College teachers, May 14, 2015; Lecture 2 "Molecular aspects of Polycystic Ovary Syndrome: Causes, Diagnosis and Prevention", Refresher course for University and College teachers, May 15, 2015.

Botany Department, University of Delhi, "Current Trends in Environmental Neuroendocrine Disruptors, Obesity and Infertility", Refresher Course for University teachers, Dec 11, 2014.

Ambedkar Centre for Biomedical Research (ACBR) Microarray: High Throughput analysis of Gene Expression, 3rd workshop on "Bioinformatics and Molecular Modeling in Drug Design", at Bioinformatics Facility (DBT), 2012.

Punjab University, Chandigarh 2011, Proteomics in cancer Biomarker Discovery, Lecture 2. Microarray and bioinformatics approaches to find Susceptibility Gene Sets through Network Analysis, Refresher course in Life Sciences, May 15, 2011

Kumaun University, Nainital, UP 2011, Bioinformatics resources in Genomics and Proteomics, "Bioinformatics and its applications in Drug Designing" training Program, at Bioinformatics Infrastructure Facility, Department of Biotechnology March 22-23, 2011.

CPDHE/UGC-ASC refresher course in Life Sciences, Delhi University, "Reproductive health Concerns: The Impact of Environmental Toxicants/ Endocrine disruptors on Reproductive Health, at "Current Trends in Life Sciences: The India Scenario", Feb 23, 2011.

EXPERT SERVICES

Mentor: Research Training (2 months) to several B.Sc./B.Sc.Biomed/B.Sc.Biochem/B.Sc.(Eng) Students.

Moderator: Vimersh, Delhi University.

Reviewer, ILLL- Delhi University 2007-2011.

Various competitions at the College level 2007-2011.

University Science Quest, CSEC, Delhi University, 2007.

Nodal Officer, Antardhvani, 2015

Member of Board of Paper Setters, Rector Prize, Delhi University

SAC invited member, Talwar Foundation.

Adviser, Molecular Mechanisms to Molecular Medicine, SRBHU. Adviser International symposium on Endocrinology and Reproduction, Member adviser, International conference at AIIMS.

Reviewer: Indian Journal of Clinical Biochemistry, Journal of Reproductive Immunology, Elsevier Publication, Indian Journal of Experimental Biology, Biology of Reproduction, Journal of cell and Animal Biology (International), Projects: DBT/ICMR.

SELECTED PUBLICATIONS (>40)

1. V Minhas, A Shrestha, N Wadhwa, **Rita Singh**, SK Gupta. "Immunogenicity and contraceptive efficacy of recombinant fusion protein encompassing Sp17 spermatozoa specific protein and GnRH: relevance of adjuvants and particle based delivery to minimize number of injections". *American Journal of Reproductive Immunology* accepted, 2019.
2. V Minhas, A Shrestha, N Wadhwa, **Rita Singh**, SK Gupta. Novel Sperm and Gonadotropin Releasing Hormone based Recombinant Fusion Protein: Achievement of 100% Contraceptive Efficacy in Cryoconservation of Male and Female Mice. *Mol. Reprod. Dev.* 83, 10481059, 2016.
3. **Rita Singh**, Priya Bhardwaj and Shikha Sagar. *Polycystic ovary syndrome: Is it a consequence of endocrine disruption by BPA?* Newsletter of Indian Society for the Study of Reproduction and Fertility (ISSRF) Environmental Impacts on Reproductive Health, Review *ISSRF News Letter (ISSN 2395-2806)*, 85-88, 2016.
4. S. Kaur, G. Anjali, P. Bhardwaj, J. Tamajid, **Rita Singh**, Data in support of FSH induction of IRS-2 in human granulosa cells: Mapping the transcription factor binding sites in human IRS-2 promoter, *Data in Brief*, 6 162-167, 2015.
5. **Rita Singh** "Polycystic Ovary Syndrome: Susceptibility Genes, Life Style and Environment" Newsletter of Indian Society for the Study of Reproduction and Fertility (ISSRF) Challenges of Reproductive Health due to Influence of Changing Environment & Lifestyle, Review *ISSRF News Letter (ISSN 2395-2806)*, 27-29, 2014.
6. Anjali G., S. Kaur, R. Lakra, **Rita Singh**, G.S. Kalsey, A. Nagendra, T.G. Shrivastav, M. Gouri Devi, N. Malhotra, A. and **Rita Singh**, FSH stimulates IRS-2 expression in human granulosa cells through cAMP/SP1, an inoperative FSH action in PCOS patients, *Cellular Signalling*, 27, 2452-2466, 2015.
7. S. Kaur, K.J. Archer, M. Gouri Devi, A. Kriplani, J.F. Strauss, **Rita Singh**, Differential Gene Expression in Granulosa Cells from Polycystic Ovary Syndrome Patients with and without Insulin Resistance: Identification of Susceptibility Gene Sets through Network Analysis *J Clin Endocrinol Metab. (JCEM)* 97, E201621, 2012.
8. T.G. Shrivastav, K.P. Kariya, **Rita Singh**, et al., Influence of different length linker containing DHEA-7-CMO-enzyme conjugates on sensitivity and specificity of DHEA-3-HS-antibody. *J Immuno-assay and Immunochem.* 33: 117, 2012.
9. **Rita Singh** and M. Gouri Devi, The Susceptibility gene expression profiles in granulosa cells of women with Polycystic Ovary syndrome, *Perspectives in Cytology and Genetics*, XV 2011, 211-214, 2011.
10. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, K. **Rita Singh**, Development of an antigen heterologous enzyme linked immunosorbent assay for Measurement of corticosterone in rat serum. *J Immunoassay and Immunochem.* 31: 4, 244-257, 2011.
11. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, P. **Rita Singh**, and D. Kumar, Influence of Different homologous and heterologous combinations of antibodies and Enzyme conjugates of Dehydroepiandrosterone on the Sensitivity and Specificity of DHEA ELISA. *J Immuno-assay and Immunochem.* 32: 114-127, 2011.
12. T.G. Shrivastav, S.K. Chaube, K.P. **Rita Singh**, et al., Influence of different length linker containing DHEA-7-CMO-enzyme conjugates on sensitivity and specificity of DHEA-17-CMO-antibody. *J Immunoassay and Immunochem.* 32: 2, 269-283, 2011.
13. T.G. Shrivastav, S.K. Chaube, K.P. Kariya, D. Kumar, **Rita Singh**, Antigen Heterologous Enzyme Linked Immunosorbent Assay for Measurement of DHEA in Serum. *J Immuno-assay and Immunochem.* 32: 2, 326-341, 2011.
14. M.J. Hossain, R. Korde, P.K. Singh, S. Kanodia, R. Ranjan, G. Ram, **Rita Singh**, and P. Malhotra, Plasmodium falciparum Tudor staphylococcal Nuclease interacting proteins suggest its role in nuclear as well as splicing processes. *Gene* 468, 4857, 2010.
15. **Rita Singh**, "Reproductive Health Concerns: The impact of Environmental Toxicants on Reproductive health of women/men". Proceedings of World conclave of Scientists: on Regional Cooperation in Science and Technology: Opportunities and Challenges in the context of Globalization, *UNESCO South Asia and South East Asia Science and Technology Policy Forum at INSA, New Delhi*, Book edited by Mohsin U Khan (website: www. Zaheerfoundation.com), published by Central National Institute of Science communication and Information Resources, New Delhi, 2010.
16. T.G. Shrivastav, S.K. Chaube, Charu, K. Rangari, K.P. **Rita Singh**, Enzyme linked immunosorbent assay for milk

- progesterone*. **J Immunoassay and Immunochem.** 31: 4, 304313, 2010.
17. T. G. Shrivastav, S. K. Chaube, K. P. Kariya, S. Bhaia Singh. *Development of heterologous Enzyme linked immunosorbent assay for Dehydroepiandrosterone in serum*. **J Immunoassay and Immunochem.** 31: 4, 266278, 2010.
 18. Rita Singh and M. Gouri Dey *Role of LH in the etiology of PCOS: Intra-ovarian defect in human polycystic Ovary Syndrome patients without peripheral Insulin resistance*. **Chapter 31**, pg. 355365, in **Book entitled Gonadal and Nongonadal Actions of Gonadotropins**, Nervosa publishing house Pvt Ltd. (ISBN-978319983-7), no. 355365, 2009.
 19. R. Korde, A. Bhardwaj, Rita Singh, A. Srivastava, V.S. Chauhan, R.K. Bhatnagar and P. Malhotra, *A pro-domain Peptide of Plasmodium falciparum cysteine protease (falcipain-2) inhibits malaria parasite development*. **Journal Medicinal Chemistry** 51, 31163123, 2008.
 20. J. Taneja, and Rita Singh, *Regulation of Insulin receptor and its substrates by Follicle Stimulating Hormone in Granulosa cells*. **Reproduction, Fertility and Development** 20 (Supplement) 886, 2008.
 21. R. Korde, A. Bhardwaj, Rita Singh, A. Srivastava, V.S. Chauhan, R.K. Bhatnagar and P. Malhotra *bug starved to death*. **Nature India**, 2008.
 22. R. Korde, A. Bhardwaj, Rita Singh, A. Srivastava, V.S. Chauhan, R.K. Bhatnagar and P. Malhotra, *Male malarial parasite show anti-malarial action*. **A-IBMN Highlights NPSC Nature Asia Pacific**, 2008.
 23. Rita Singh, *Biotechnology Chakravayuha: Biotechnology education in India*. **Current Science** 93 (7) 889, 2007.
 24. Rita Singh, *Interaction of Guanylyl Cyclase C with the SH3 domain of Src tyrosine kinase, Yet another mechanism for desensitization*. **J. Biol. Chem.** 278, 2434224349, 2003.
 25. Rita Singh, *Trophoblast Differentiation: Towards understanding the regulatory mechanisms*. Department of Biochemistry AIIMS, New Delhi. Review **Proceedings of Indian National Academy of Sciences (PINS)** B68 No 6 pp 54358, 2002.
 26. Shivakrupa Rita Singh, G. Swarup, *Identification of a Novel Splice Variant of C3G which shows Tissue Specific Expression*. **DNA and Cell Biology** 18: 701-708, 1999.
 27. Rita Singh, *Antifertility potential of 2-[piperidinoethoxy phenyl]-3-[4-methoxy phenyl]-2H benzo pyran : a potent antioestrogenic compound in rats*. **J Reproduction & Fertility** 106:4953, 1996.
 28. Rita Singh, *The impact of Antarctic environment on the reproductive physiology and immune system*. **IX Antarctic Expedition: Technical Publication** No. 6, 269273, DOD, 1994.
 29. N. Chadha, Rita Kohli/Singh, G.L. Kurari and K. Muralidhar, *Physico-chemical characterisation of buffalo prolactin*. **Mol. Cell Biochem.** 105:61-71, 1991.
 30. Rita Kohli/Singh and K. Muralidhar, *Effect of Gn-RH on sulfation on lutropin: A potential bioassay for Gn-RH*. **Endocrinol. Jap.** (ISSN: 0013-7219) 37 (1):3141, 1990.
 31. Rita Kohli/Singh, N. Chadha and K. Muralidhar, *Presence of tyrosine-o-sulfate in sheep pituitary prolactin*. **FEBS Lett.**, 242:139143, 1988.
 32. K. Muralidhar, N. Chadha and Rita Kohli/Singh, *Purification and characterization of prolactin from sheep and buffalo pituitaries*. **J. Bioscience**, 13:201214, 1988. IF: 1.419
 33. Rita Kohli/Singh, N. Chadha and K. Muralidhar, *Are sheep and buffalo prolactins sulfated?* **Biochem Biophys Res Commun (BBRC)**. 149:515522, 1987.
 34. Rita Kohli/Singh, N. Chadha and K. Muralidhar, *Does sulfate incorporation into pituitary proteins have any physiological significance?* In: *Neuroendocrine Regulation in Fertility Control* (Eds. Vinod Singh and K. Muralidhar). **Biotechnology Series Vol. 1**, NEHU Publication, Shillong, 1989.
 35. N. Chadha, Rita Kohli/Singh and K. Muralidhar, *Use of the discarded "acid pellet" for the purification of prolactin from sheep and buffalo pituitaries*. **IRCH Medical Science Research (Biochemistry)**. 15:71171, 1987.
 36. N. Chadha, Rita Kohli/Singh, K. Muralidhar, *The effect of hypothyroid status on rat ovarian response to PMSG*. **J. Reprod. Biol. Comp. Endo.** 5:19-24, 1985.

Prof. Rita Singh