

Dr. Natwar Singh
Assistant Professor
Dr. B. R. Ambedkar Govt. College Sriganaganagar
RAJASTHAN, INDIA
E- mail: nsnagar@gmail.com
Phone: +91-9983935037 (M)



OBJECTIVE

Achieve professional excellence in my career and contribute significantly in the advancement of our knowledge in basic as well as applied Biology, and translate that knowledge into a viable technology. I enjoy in utilizing my skills in the best possible manner to make significant contributions to the growth and development of the organization.

Education

1. 10 th	60.54 %	1993	Tagore Vidhya Bhawan, Jaipur
2. 12 th	66.92 %	1996	SH AGRAWAL VM School, Bharatpur
3. B. Sc.	65.62 %	2003	University Maharaja's College, Jaipur
4. M. Sc. (Biotech)	70.66 %	2005	Dept. Of Botany, University of Rajasthan, Jaipur
5. M. Sc. (Zoology)	70.1 %	2015	Vardhman Mahaveer Open University, Kota
6. Ph.D.	NA	2010	Central Salt & Marine Chemicals Research Institute (CSMCRI-CSIR), Bhavnagar, Gujarat,
7. NET (CSIR)	Qualified	2004 2005 2016	CSIR
8. B.Ed.	71.17 %	2013	JNU, Jaipur

Research and Job Experience

- 1. Assistant Professor:** Dr. B. R. Ambedkar Govt. College Sriganaganagar (**Dec. 2018..... Continue**)
- 2. Sr. Teacher :** Govt. Sr. Sec. School, Chitokari, Bharatpur (**Dec. 2014 to Dec. 2018**)
- 3. Research Associate (RA) :** Directorate of Rapeseed-Mustard Research (DRMR), Bharatpur, Rajasthan (**June 2013 to March 2014**)
- 4. Animal Biotechnology Centre, National Dairy Research Institute (NDRI), Karnal Research Associate (13th Oct 2009 – 19th Mar 2012)**
Research was focused on “Characterisation and Differentiation of Embryonic Stem Cell in Buffaloes” and “Cloning and characterization of buffalo ortholog of POU5F1 (encoding transcription factor Oct-4 and NANOG) gene” and miRNA based gene regulation in ES cells.
- 5. Central Salt & Marine Chemicals Research Institute (CSIR), Bhavnagar Ph.D. Candidate, Junior Research Fellow (9th August 2005 – 5th October 2009)**
- 6. Reviewer:** Scientific & Academic Publishing, USA (**2013 - Continue**)

Course/ Training attended :

S.No.	Course Name	Duration	Name of Conducting Institute
1.	Induction/Orientation Programme for Faculty of Higher Education	11 th Jan- 09 th Feb., 2021	Teaching Learning Centre, Ramanujan College, University of Delhi
2.	Faculty Development Programme (Workshop cum Training)	19 th - 20 th August, 2020	SPC Government College, Ajmer
3.	Teachers Efficiency Development Workshop	6 th -7 th Dec., 2019	Ch. B R Godara Govt. Girls College, Sriganganagar
4.	Trainers Training Programme (TOTS)) on IPR , DST, Rajasthan	29-31 July, 2019	Department of Science, Government of Rajasthan

Seminars /Conferences in last five years (2015-20) :

S.No	Title of Seminar/Conference/workshop	Title of paper presented	Date and year	Institution and Place	International/ National/ State/Local level	Attended/ Paper presented/ Resource person
1.	ICT Tools for Teaching in Higher Educational Institutions	-	29 th Aug., 2020	L.B.S. Govt. College Kotputli, Jaipur, Rajasthan	National Webinar	Participated
2.	Issues and Challenges in Responding to the Epidemic (COVID-19)	-	10 th -11 th August, 2020	HCM RIPA, Jaipur	State	Attended
3.	Environmental Ethics, Resource Management and Regional Development: Issues, Challenges and Prospects	Biodiversity Under Stress in Western Rajasthan	29 th -30 th Nov., 2019	Dr. B. R. Ambedkar Govt. PG College, Sriganganagar	International	Paper presented
4.	Vaishvik Paryavaran Sankat Aur Samajik-Sahitik Chintaan	Impact of Pollution on Biodiversity	15 th Nov., 2019	Dr. B. R. Ambedkar Govt. PG College, Sriganganagar	National	Paper presented
5.	Samkaalin Vimarsh Aur Behtaar Samaaj ke Sapne: Yatharth Aur Sambhavnaye	Current Status & Expected Future Direction of scientific Research in India	11 th -12 th Oct., 2019	Bhagwati Girls College, Lalgah Jattan, Ganganagar	International	Paper presented
6.	Emerging Challenges, Their Solution and Present Advances in Science	<i>In-Silico</i> Characterization of POU5F1 (Oct 4) Pseudogenes in Buffalo Genome		Government Science College, Sikar, Rajasthan	International	Paper presented
7.	Transforming Society Through Literature and Social	The Ecocentric	6 th -7 th Sept., 2019	S.S. Jain Subhodh P.G.	National	Paper presented

	Movement	Approach toward Sustainable Development in India: Past, Present and Future		College, Jaipur		
--	----------	--	--	-----------------	--	--

RELEVANT SCIENTIFIC TECHNIQUES AND SKILLS

Molecular Biology

- Chromatin Immunoprecipitation (ChIP) assay
- microRNA isolation and cloning
- Northern, Southern and western blotting
- Genomic and Plasmid DNA isolation
- EMSA
- RNA isolation
- Gene isolation and cloning
- Primer design
- cDNA synthesis
- PCR techniques
 - Reverse transcription PCR
 - Real time PCR (RT-PCR)
 - Rapid amplification of cDNA ends (5'-RACE and 3'-RACE)
- Animal Cell culture
 - *In-vitro* Maturation (IVM)
 - *In-vitro* Fertilization (IVF)
 - *In-vitro* Culture (IVC)
 - ES Cells Culture
- Plant genetic engineering
 - Plant genetic transformation by *Agrobacterium*-mediated and regeneration
 - Plant transformation by Biolistic
 - Transgenic plant analysis
 - Gene transferring to Bacteria, and Plants
 - Study of transgene integration and expression using PCR, Southern and Northern Hybridizations
- Plant tissue culture
 - Tissue culture (Peanut, Tobacco, Cumin)
 - Plant Micropropagation
 - Pot culture establishment and maintenance of transgenic plants in growth chamber

Research Publications

1. Characterization of POU5F1 (OCT4) gene and its promoter in buffalo ESC-like cells identifies multiple transcription start sites and expression of four pseudogenes: **Gene 491 (2), 165-172**
2. Cloning and characterization of buffalo NANOG gene: alternative transcription start sites, splicing, and polyadenylation in embryonic stem cell-like cells: **DNA and cell biology 31 (5), 721-731**
3. Ovary-specific novel peroxisome proliferator activated receptors-gamma transcripts in buffalo: **Gene 504 (2), 245-252**
4. Microprojectile bombardment mediated genetic transformation of embryo axes and plant regeneration in cumin (*Cuminum cyminum L.*): **Plant cell, tissue and organ culture 103 (1), 1-6**
5. Ectopic over-expression of peroxisomal ascorbate peroxidase (SbpAPX) gene confers salt stress tolerance in transgenic peanut (*Arachis hypogaea*): **Gene 547 (1), 119-125**

6. Over-expression of the peroxisomal ascorbate peroxidase (SbpAPX) gene cloned from halophyte *Salicornia brachiata* confers salt and drought stress tolerance in transgenic tobacco: **Marine biotechnology** **16 (3), 321-332**

Conference papers

1. **Singh N**, George A, Sharma R, Chauhan MS, Singh D. (2012). Transcriptional Complexity in the Buffalo ES Cells: Alternative Transcriptional Start, Splicing and Polyadenylation of *Nanog* and *Oct4*. **National Symposium on Recent Advances in Reproductive Biotechnology: Retrospective and Prospective Vision January 30-31, 2012.**
2. **Singh N**, George A, Sharma R, Chauhan MS, Singh D. (2012). Identification of direct OCT4 target genes in buffalo embryonic stem cells like cells. **National Symposium on Recent Advances in Reproductive Biotechnology: Retrospective and Prospective Vision January 30-31, 2012.**
3. Sharma I, Monga R, **Singh N**, Singh D. (2012). Transcriptional control of peroxisome proliferator activated receptor- γ by novel tissue specific promoters. **National Symposium on Recent Advances in Reproductive Biotechnology: Retrospective and Prospective Vision January 30-31, 2012.**
4. **Singh N**, George A, Sharma R, Chauhan MS, Singh D. (2011). Characterization of *POU5F1* (*OCT-4*) gene and its promoter in buffalo ESC-like cells identifies multiple transcription start sites and expression of four pseudogenes.(Paper presented in **International Conference on Frontiers in Reproductive Biotechnology & 21st Annual Meeting of ISSRF February 9-11, 2011.**
5. Sharma I, Monga R, **Singh N**, Singh D. (2011). Identification and differential expression of novel tissue specific peroxisome proliferator activated receptor- γ transcripts in buffalo ovary (2011) **International Conference on Frontiers in Reproductive Biotechnology & 21st Annual Meeting of ISSRF February 9-11, 2011.**
6. **Singh N**, Jha B. (2008). Poster Pr sentation entitled "Isolation and Characterization of a peroxisomal ascorbate peroxidase (*SbpAPX*) gene from *Salicornia brachiata*" at **XXII Gujarat Science Congress, 2008, Bhavnagar University, Bhavnagar, March 9, 2008.**

GENBANK DIRECT SUBMISSIONS:

NCBI gene accession Total: 55; EU746400, EU879059, EU746399, HM585138.1, HM585139.1, HM585140.1, GU997625.1, HM585141.1, HM585142.1, HM585143.1, HM585144.1, HM585145.1, HM585146.1, HM585147.1, HM585148.1, HQ221857.1, HQ270143.1, HQ221853.1, HQ221854.1, HQ221855.1, HQ221856.1, HQ221857.1, JN231312.1, JN231313.1, JN231314.1, JN231315.1, JN231316.1, JN231317.1, JN231318.1, JN231319.1, JN231320.1, JN231321.1, JN231322.1, JN231323.1, JN231324.1, JN231325.1, JN231326.1.etc.

Other Publications

National and International Conference papers = 12
NCBI Gene Submissions: 55 (Genes)
EMBL Submissions= 185 (micro RNAs)