

Curriculum Vitae (Dr. Rajib Deb, Scientist)

Dr. Rajib Deb, BVSc&AH, MVSc, PhD, Post-Doctoral Fellows (TWAS, ICAR)

Scientist (Animal Biotechnology)

ICAR-National Research Center on Pig, Rani, Guwahati-781 131, Assam

http://www.nrmp.in/profile/12_Dr._Rajib_Deb.pdf

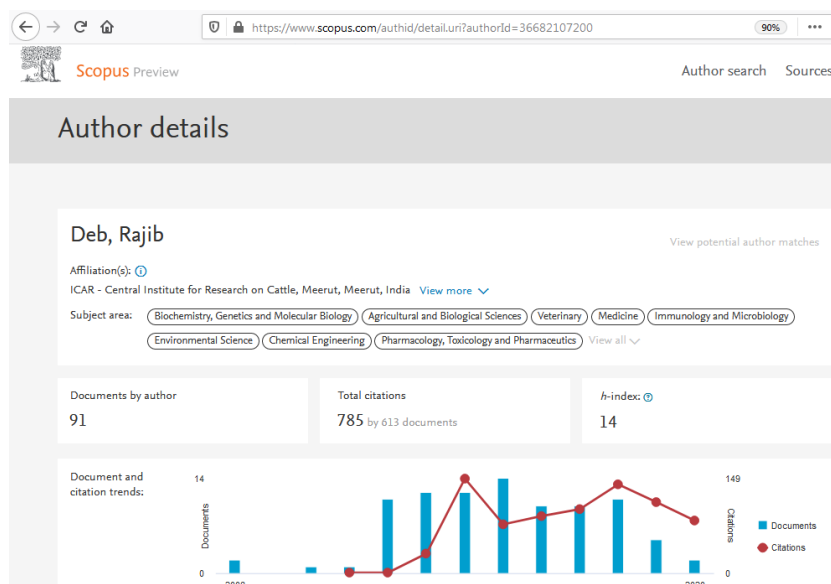
<https://www.scopus.com/authid/detail.uri?authorId=3668210720>

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<https://scholar.google.com/citations?user=-JOBSj8AAAAJ&hl=en>

<https://www.researchgate.net/profile/Rajib-Deb-3>

<https://pubmed.ncbi.nlm.nih.gov/?term=rajib+deb>



Educational qualifications

Sl. No.	Degree	Institution	Year
1	BVSc & AH	College of Veterinary Sciences and Animal Husbandry (CAU), Aizawl, Mizoram, India	2005
2	MVSc(Animal Biotechnology)	ICAR-Indian Veterinary Research Institute, Izatnagar, UP, India	2008
3	PhD(Animal Biotechnology)	ICAR-Indian Veterinary Research Institute, Izatnagar, UP, India	2014
4	Post-Doctoral Fellow (TWAS Fellowship)	University of Federal de Goias, Goiania, Brazil	2018
5	ICAR-Post Doctoral Fellow (ICAR-PDF)	ICAR-National Dairy Research Institute, Karnal, Haryana, India	2021

Employment record

Designation	Pay Scale	Place of work	Period (from-to)
Scientist (Biotechnology-Animal Science)	₹15600-39100+6000 RGP	ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad*	15/09/2011 to 13/12/2011
Scientist (Biotechnology-Animal Science)	₹15600-39100+6000 RGP	ICAR-Central Institute for Research on Cattle, Meerut, Uttar Pradesh	26/12/2011 to 14/09/2015
Scientist (Biotechnology-Animal Science)	₹15600-39100+7000 RGP	ICAR-Central Institute for Research on Cattle, Meerut, Uttar Pradesh	15/09/2015 to 15/12/2019
Scientist (Biotechnology-Animal Science)	₹15600-39100+7000 RGP	ICAR-National Research Center on Pig, Guwahati, Assam	16/12/2019 to Till Date

* Foundation Course for Agricultural Research Service (FOCARS)

Awards and distinctions

ACADEMIC

Sl. No	Name of the Award/Distinction	Given By	Year
1	Merit Scholarship, North Eastern Council, India	Govt. of Tripura	2000-2005
2	ICAR Junior Research Fellowship	ICAR-IVRI, Izatnagar	2006-2008
3	ICAR-Senior Research Fellowship	ICAR, New Delhi	2009-2014
4	National Eligibility Tests	Agricultural Scientist Recruitment Board (ASRB), New Delhi Council of Scientific and Industrial Research (CSIR)	2009, 2010, 2011
5	DBT Junior Research Fellowship	DBT, GOI	2009

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PROFESSIONAL

SL. No	Name of the Award/ Distinction	Year	National/ International	Academy/Institutional/ Professional Society
1	International Travel Grant Award for attending Cell Symposia: Regulatory RNAs at Berlin, Germany from 12-14 th May, 2019	2019	National	Science and Engineering Research Board, Department of Science and Technology, GOI
2	Research Advisor –NASS, Singapore	2018	International	NAN YANG ACADEMY OF SCIENCES, Singapore NASS (SINGAPORE)
3	Start-up Young Scientist Scheme (YSS) Research Grant	2015	National	Department of Science and Technology, Government of India
4	The World Academy of Science (TWAS) Fellowship 2017 for Research and Advanced Training, Triesty, Italy	2017	International	The World Academy of Science (TWAS), Italy
5	Awarded Associateship 2019 from the National Academy of Agricultural Science, India	2019	National	National Academy of Agricultural Science, India- NAAS (INDIA)
6	Awarded Membership (Biological Sciences) 2019 from National Academy of Sciences (India)	2019	National	National Academy of Sciences (India)- NASI
7	Awarded Associate Fellowship 2018 from National Academy of Biological Sciences (India)	2018	National	National Academy of Biological Sciences (India)- NABS (INDIA)
8	Associate Member of National Academy of Veterinary Sciences (India)	2019	National	National Academy of Veterinary Sciences (India)- NAVS (INDIA)
9	Gold Medal Award 2018 conferred	2018	National	Academy of Sciences for Animal Welfare (Incorporated u/s section XXI of 1860 for the welfare of animals). Recognized by the Animal Welfare Board of India under the Ministry of Environment, Forest and Climate Change, Govt. of India
10	Publon's Academy Global Peer Review Award (NCBI) 2018 for honouring the sentinels of Science and Research	2018	International	Awarded by Web of Science Group jointly with Publon's Academy
11	Travel Grant Award 2016	2016	National	Science and Engineering Research Board, DST, Govt. of India

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12	Young Achiever Award	2012	National	Society for advancement of human and Nature (SADHNA), Dr YS Parmar University of Horticulture and Forestry, Nauni, Solan-173230, Himachal Pradesh, India (Registered under society's Act XXI of 1860)
13	Young Scientist Award	2013	National	13 th Indian Veterinary congress and XX Annual convention of Indian Association for the Advancement of Veterinary research and International conference, sponsored by Indian Association for Advancement of Veterinary Research (IAAVR) (Registered under Society Act 21,1860)
14	Late Dr. M.N. Kulkarni Memorial Award	2013	National	XXVII Annual Convention and National symposium sponsored by Indian Association of Veterinary Microbiologists, Immunologists and Infectious Diseases (IAVMI), India
15	InSc Young Achiever Award	2019	National	National Award conferred by Institute of Scholars (InSc), Bangalore, India (accredited by UASL)
16	Young Professional Award (Brazil)	2018	International	5 th Cytogenetics Meeting from Central Brazil and XII workshop of Genetics from PUCGoias, from 17-19 th October, 2018.
17	Elsevier Outstanding Reviewer Award	2018	International	Elsevier Journal of "Small Ruminant Research" & "Theriogenology"
18	National Excellence Award 2020	2020	National	Pashudhan Praharee Magazine. ISSN-2319-6971
19	Award of INSA Visiting Scientist Fellowship	2020	National	Indian National Science Academy (INSA)
20	Elsevier recognition certificate for inclusion in Mendeley advisor community 15-07-2020	2020	International	Elsevier
21	Awarded Registered Technology Transfer Professionals (RTTP) Continuing Education (CE) credit points	2019	National	Society for Technology Management (STEM), National Biopharma Mission, Department of Biotechnology, GOI – September,
22	Publon's Academy top Peer Reviewer Award 2019 for placing the top 1% of reviewers in plant and Animal Science on Publons global reviewer database.	2019	International	Awarded by Web of Science Group jointly with Publons
23	Academy of Sciences for Animal Welfare Fellowship Award 2017	2018	National	Academy of Sciences for Animal Welfare (Incorporated u/s section XXI of 1860 for the welfare of animals; Recognized by the Animal Board of India under the Ministry Of Environment, Forest and Climate Change, Govt. of India)

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24	Best Paper Award-First prize for poster presentation	2013	National	National seminar on “Integrated development of vast biodiversity of indigenous livestock for long time rural livelihood security” (Feb 7-8, 2013), G.B.Pantuniv. of Agri and tech, Pantnagar
25	Best Paper Award-First prize for poster presentation	2013	National	National Seminar on “Technological and Policy Interventions for Sustainable Cattle Breeding in India” organized by Project Directorate on Cattle (ICAR), Meerut in collaboration with the Society for Conservation of Domestic Animal Biodiversity, Karnal (14 th March, 2013)
26	Best Review Paper Award	2013	International	Journal of Experimental Biology and Agricultural Sciences (www.jebas.org) in volume 1,1-12,2013. NAAS Score (2020):5.07
27	Best Paper Award	2015	International	Advances in Animal and Veterinary Sciences Sci.1(1):5-13. NAAS Score (2020)- 4.04
28	Second best poster presentation award during	2016	National	National Symposium on Policy Planning for Livestock security through domestic animal biodiversity and XII annual convention of Society for conservation of Domestic animals biodiversity, Feb 11-12,2016 at Sher-e-kashmir university of Agricultural Sciences and technology of Jammu, Jammu (J&K)-181 102,India
29	Second prize in oral presentation during	2016	National	International Conference on Advancing Frontiers in Biotechnology for sustainable Agriculture and Health, at Sam Higginbottom Institute of agriculture, technology & Sciences, Allahabad, India 25-26 th Feb, 2016.
30	First prize in poster presentation during	2016	National	International conference on Global initiatives in applied sciences and green technologies from 09-11 Sep, 2016 at SRM University, Delhi-NCR campus, Modinagar, Ghaziabad (U.P.), India.
31	Best Poster Presentation award	2017	National	XIII National Conference of Indian Society of Animal Genetics and Breeding on Challenges in quantitative genetics for improvement of Indigenous Animal Genetic Resources,19-20 January, 2017, at ICAR-Indian Veterinary Research Institute,Izatnagar-243122 (UP),India
32	First prize for oral presentation	2013	National	National Symposium & XXVII annual convention of IAVMI, Department of Animal Husbandary, Lucknow,UP. 13 th -15 th Dec,2013
33	Second prize for poster presentation	2013	National	National Symposium & XXVII annual convention of IAVMI, Department of Animal Husbandary, Lucknow,UP. 13 th -15 th Dec,2013

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34	Best poster presentation award	2017	National	World congress on Biotechnology at New Delhi, 09-11 Nov, 2017.
35	Second Poster Award for the paper	2019	National	National symposium entitled “Innovative Progress in Animal Health and Production for safe and secured food under one health perspective, 19 th Indian Veterinary Congress and XXVI Annual Conference of Indian association for the Advancement of Veterinary Research (IAAVR), organized by West Bengal University of Animal Fishery Sciences, 37 K.B Sarani, Kplkata-700 037, held on February 1-2, 2019
36	First Prize in oral presentation	2019	National	National conference on “Livelihood improvement through sustainable livestock production organized at ICAR-CIRC, Meerut from Nov 3-4, 2019
37	First Prize in poster presentation	2019	National	National conference on “Livelihood improvement through sustainable livestock production organized at ICAR-CIRC, Meerut from Nov 3-4, 2019
38	Certificate of Honour	2020	National	DBT Star College Scheme, Mulana Azad Collge, Kolkata for well performance in examination series in a National level e-workshop on “Molecular Visualization and Modeling using Phyton Programming” (10-12 th Aug, 2020)
39	Young Scientist Award	2020	National	National Academy of Environmental Sciences, India
40	ICAR- Post Doctoral Fellowship (ICAR-PDF) Award at ICAR-NDRI, Karnal	2020	National	Indian Council of Agricultural Research (ICAR), New Delhi
41	Selected as Member of Indain Indian National Young Academy of Sciences (INIAS) 2021-2025	2021	Natiional	Indian National Science Academy (INSA)

Peer Recognition

Sl. No.	Position	Name of Scientific Societies/ Academies	Period held
i.	Office Bearers (Executive Member)	Indian Society of Veterinary Immunology and Biotechnology (Regd. Society No. 409/1990, Chennai Central, Tamilnadu, India	2016-till now
ii.	Editorial Board Member	Journal of Veterinary Sciences and Technology (ISSN: 2157-7579) (Open Access Omics group International journal)	2012- Till today

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iii.	Associate Editor Associate Guest Editor (Special Issue)	Advances in Animal and Veterinary Sciences (ISSN:2309-3331)-NAAS Score:4.04 Advances in Animal and Veterinary Sciences (ISSN:2307-8316)-Special Issue on 'Veterinarians' approaches for safeguarding animal health and production' NAAS ID:A047,NAAS Score:4.04	2013-2014
iv.	Animal Science Advisory Board Member	Cambridge Scholars publishing	2018
v.	Editorial Board Member	Journal of Agricultural Science, ISSN:1916-9752. (NAAS listed)	2012-till now
vi.	Honorary Board Member	Society for advancement of human and Nature (SADHNA), Dr. YS Parmar University of Horticulture and Forestry, Nauni, Solan-173230,Himachal Pradesh, India (Registered under society's Act XXI of 1860)	2012- till today
vii.	Member	Asian Council of Science Editor	2012-15
viii.	Scientific Advisory Board Member	International Journal of Livestock Research (eISSN 2277-1964) (NAAS Score 5.36)	2017-till now
ix.	Academic Editor	NAAS listed journal "Biotechnology Journal International (earlier British Biotechnology Journal)" ISSN 2456-7051.NAAS Score (2017):4.65 (JrnID:B149)	2018-2022
x.	Certified Trainer as animal Health worker (ARG/Q4804)-v1.0 conforming to National Skill qualification framework level-3 under Skill India,	National Skill Development Corporation, GOI (Date of issued 15/02/2020)	Since 15-02-2020
xi.	Nodal officer Skill India training program	ICAR-NRC on Pig, Rani, Guwahati, Assam	Since, March 2020
xii.	In charge of Institute Technology Management Unit (ITMU)	ICAR-CIRC, Meerut, UP	May-Dec, 2019
xiii.	Appointed for the honorary post of academic editor	Uttar Pradesh Journal of Zoology(Print ISSN: 0256-971X)- NAAS ID U005 (Score 3.81) effective from Thu, 09-Jul-2020	Since from 09-Jul-2020
xiv.	Invited Guest Editor: Special Issue (Genetic basis of thermoregulation in livestock)	Frontiers in Veterinary Sciences . Impact Factor 2.245, NAAS Score: 8.03	2020
xv.	Associate Editor	BMC Biotechnology Impact factor: 2.290; NAAS Score: 8.30	2020
xvi.	SERB,DST Nominated referee	SERB National Post-Doctoral Fellowship (N-PDF), DST, GOI dated 29.05-2020	2020
xvii.	Acted as DBT,GOI nominated member for Institutional Biosafety Committee (IBC), ICAR-CIRC, Meerut	DBT, GOI letter no. BT/BS/17/703/2017-PID, Dated 03.02.2017.	Feb, 2017 to Nov, 2019 (3 Years)

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xviii.	Certified Publon's Academy Mentor, Web of Science	Verified mentor for 6students of the Publon's Academy for Practical peer review training course	1 st August 2019 for two students 26 th September 2019 for four students
xix	Annual Reports Edited	ICAR-CIRC, Meerut Annual Report-2017-18 ICAR-CIRC, Meerut Annual Report-2018-19 ICAR-NRC on Pig, Guwahati Annual Report 2019	2017-18 2018-19 2019
xx	Invited International organizing committee Member	International Conference on Nutritional Health And Food Science & Technology, Munich, Germany	Will be held on June28-30, 2021
xxi	Expert for evaluation of National /International external funded projects, GOI	<p>National Projects:</p> <ul style="list-style-type: none"> • Eight Extramural funded projects submitted in Science and Engineering Research Board, DST,GOI, India were evaluated by me. • One project under BIG (Biotechnology Ignition Grant Scheme) programmes of BIRAC, Department of Biotechnology, Govt. of India was evaluated <p>International Projects</p> <ul style="list-style-type: none"> • Expert reviewer for evaluating an International project on “Mechanisms of stress responses in cancer cells” (19-03796S) submitted to Czech Science Foundation, Ministry of Health of the Czech Republic, and received remuneration fees of 2500 CZK/125 USD 	2015, 2016, 2017, 2020

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xxii.	External examiners	<p>External examiner for conducting external board examination (Theory Paper evaluation and conducting practical examination of total 48 students of BVSc & AH program, 2013-14 course AGB-111 and AGB-121) at DGCN college of Veterinary & animal Sciences , CSKHPKV, Palampur-176062,Himachal Pradesh, India.</p> <p>External examiner for Annual Board examination 2015-16 for the course no. VPB-321 of B.V.Sc.& A.H. to conduct practical examination and evaluation of answer books at Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut-250 110,UP,India (Dated 05.07.2016).</p> <p>External examiner for Annual Board examination 2015-16 for the course no. VPB-111 and VPB -121 of B.V.Sc.& A.H. to conduct practical examination and evaluation of answer books at Sardar Vallabhbhai Patel University of Agriculture & Technology, Meerut-250 110,UP,India (Dated 06.08.2016).</p>	<p>2014</p> <p>2016</p> <p>2016</p>
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Resource Person of Training programs/workshop/seminar etc.

Sl. No.	Position	Name of the Seminar/Symposia/ Conference/Resource person of Training program	Duration
i.	Course Coordinator	DBT,GOI Sponsored training on “Molecular tools and bioinformatics approaches for livestock genome analysis”, organized by ICAR-Central institute for Research on Cattle, Meerut, UP, India	21 Days (10-30 th Sep, 2014)
ii.	Course Coordinator	ICAR Winter School on “Concepts and advances in statistical and molecular approaches in genetic evaluation of breeding bulls for sustainable milk production” , organized by ICAR-Central institute for Research on Cattle, Meerut ,UP, India	21 Days (4-24 th Nov, 2016)
iii.	Course Co-Director	DBT,GOI Sponsored training on “ Post genomic to Phenomic approaches and methodologies for upgrading livestock production”, organized by ICAR-Central institute for Research on Cattle, Meerut ,UP, India	21 Days (6-26 th Sep, 2016)
iv.	Course Coordinator	DBT,GOI sponsored short term training courses for college teachers involved in undergraduate teaching in life sciences & biotechnology on “ Functional Genomic analysis for livestock improvement “at ICAR-Central Institute for Research on Cattle (formerly Project Directorate on Cattle), Meerut-250 001, UP, India	14 Days (22 nd Jan-4 th Feb, 2013)

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v	International Resource Person	International Resource Person on a Short course on “Sexing of Domestic Animals” during the Jornada da Cidadania at Pontifical University of Goias, Goiania, Brazil at 25 th May, 2018	25 th May, 2018
vi	Joint Organizing Secretary	1 st National Conference on “Identification, Convergence, Implementation & Extension of Science-Tech-Research for Sustainable Development (ICIESSD-2019)” organized by SVPUA&T and New Age Mobilization Society, New Delhi at SVPUA&T, Meerut	20-21 April, 2019
vii	Nodal officer & Coordinator	Agriculture Skill development training program on “Scientific Pig Farming” under the RKVY Scheme, Ministry of Skill Development & Entrepreneurship, Government of India from at ICAR-NRC on Pig, Rani, Guwahati, Assam (36 days)	25 th Feb-31 st March, 2020
viii	Core faculty and organizing committee member	DBT sponsored short term training courses for college teachers involved in undergraduate teaching in life sciences & biotechnology on “Molecular approaches for augmenting reproductive efficiency” at ICAR-Central Institute for Research on Cattle, Meerut	8 th -21 st Dec, 2015
ix	Core faculty	ICAR Winter School on “Omics technologies and modern breeding approaches for conservation and productive enhancement of indigenous cattle resources” at ICAR-Central Institute for Research on Cattle, Meerut	1-21, Nov, 2017
x	External guest faculty	ICAR sponsored training on Expression of immunogenic genes in heterologous systems and its usage in animal diseases diagnosis and vaccines at Indian Veterinary Research Institute, Izatnagar, U.P., India	7 th - 27 th Nov, 2013
xi	Core faculty	MANAGE sponsored certified livestock advisor programme (Module II), Scientific cattle management for profitable and sustainable dairying venture organized at ICAR-Central Institute for Research on Cattle, Meerut	14-28 th Feb, 2018
xii	Core faculty	MANAGE sponsored certified livestock Advisor program on Sustainable Dairy Production to improve farm economy at ICAR-Central Institute for Research on Cattle, Meerut	11 th - 25 th September, 2018
xiii	Organizing Secretary	National Workshop on “Awareness on Intellectual Property Rights (IPRs) and their management” at ICAR-CIRC, Meerut	23 rd July, 2019
xiv	Organizing Secretary	Workshop cum hands on training on “Prior art searching and Intellectual Property Rights (IPRs)” at ICAR-Central Institute for Research on Cattle, Meerut	19 th October, 2019
xv	Co-Coordinator	Organizing TSP programme on “Awareness cum vaccination cum health camp for pigs” at Pirpara & Gosaihat, Kamrup, Assam under TSP (Tribal sub plan) program of ICAR-NRC on Pig, Rani, Guwahati, Assam vide office order F.No. 11/NRCP/2017-18/Part file./3319 (xvi),	24.02.2020

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xvi	Faculty	Organizing online training program on “Scientific pig production in intensive system for sustainable livelihood” at ICAR-NRC on Pig, Assam	6-10 July, 2020
xvii	Faculty	Organizing online training programme on “AI in Pig for farmers” at ICAR-NRC on Pig, Guwahati, Assam	29 th June to 7 th July, 2020
xviii	Rapporteur	Technical session-4-biotechnological approaches for productivity enhancement in the National Conference on “Livelihood improvement through sustainable livestock production & IV annual convention of Pshu Poshan Kalyan Samittee, November 3-4, 2019 at ICAR-CIRC, Meerut	November 3-4, 2019
xix	Organizing committee member)	2 nd International Conference on Animal & Dairy Sciences (Theme: Addressing new challenges and emerging issues in animal and dairy research). Hyderabad International Convention center (HICC), Hyderabad, India.	September 15-17, 2014
xx	External Resource faculty	ITEC course on “Applications of Biotechnology and it’s regulation” at TERI, New Delhi on for participants from developing countries	23 rd Dec,2015
xxi	Coordinator	DBT (Grant ID:DBT/CTEP/04/2017/00682) sponsored popular lecture in biotechnology at ICAR-CIRC, Meerut, 2018.	2018
xxii	Faculty	Workshop on sensitization of Institute technologies for economic pig production and it commercialization at ICAR-NR C on Pig, Guwahati, Assam	7 th March, 2020
xxiii	Invited Live Webcast Talk	Live webcast in Agrivision Meerut for the talk on “Summer Stress management in dairy cattle” .	7 th July, 2020
xxiv	Invited Young Science Leader (YSL)Mentorship	IASc Bengaluru	2020
xxv	Resource Faculty	Online training on “Recent advances in Genome Editing technologies: Principles and its applications” Date: 02-08 th Dec 2020 at Department of Veterinary Biochemistry, College of Veterinary & Animal Sciences, MAFSU,Parbhani- 431 402, Maharashtra	2020

Students Guided

- Mr Ashish, (Roll No: 9676002) of CCS University, Meerut completed his research work entitled “Simplex PCR based diagnosis of Microbial status in mastitis milk samples of Frieswal (HFx Sahiwal) cows” under my co-supervision during **March 2013 to June 2013** for partial fulfillment of the requirement for degree of **Master of Science** in Biochemistry (**co-guide**)
- Dr. Rani Singh, PhD (PI) under **Women Scientist Scheme-A (WOSA), Department of Science and Technology, Ministry of Science and Technology, GOI, New Delhi (SR/WOS-A/LS-437/2012)** undergoing her project work entitled “Molecular characterization and analysis of genetic polymorphism in Integrin alpha beta 6 receptor gene associated with Foot and Mouth disease virus (FMDV) cell tropism in cattle” under my guidance from **2013-2015 (Mentor/guide)**
- Dr. Rani Singh, PhD (PI) under **Young Scientist Scheme, Science and Engineering Research Board, GOI, New Delhi (YSS/2015/001482)** undergoing her project work entitled “Dynamics of

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circulatory microRNA profile among motile and impaired bull spermatozoa: A novel approach to discover biomarkers” under my guidance from **2016-2018 (Mentor/guide)**

- Dr. Bharat Singh Rathod (Roll No: 04-VETPH-01206-2013) of SDAU, Gujrat, - **PhD research** on ” Study of sexual behavior, seminar characteristics and major HSP genes in relation to fertility in Kankrej bulls” (**Co-Guide**)
- Dr. Gyanendra Singh Sengar (Roll No/;15PHBT106) of SHUATS, Allahabad –**PhD research** on “ Elucidation of functional intervention of heat shock protein 70 on expression profile of selected pathogen associated molecular pattern during thermal stress in cattle”. (**Co-Guide**)-Thesis submitted on 02-12-2019.

Research Projects handled/ongoing

Sl. No.	Title	Funding Agency	Period
ICAR-Central Institute for Research on Cattle, Meerut, UP			
1.	Molecular characterization of autosomal and Y specific microsatellite markers in Frieswal cattle” (Project Investigator)	Institutional (ICAR-CIRC, Meerut)	1 st June 2012-1 st May 2015
2.	Cataloguing of microRNA transcripts during thermal stress and their crosstalk with heat shock protein 70 mRNA in cattle (Project Investigator)	SERB,DST	July 2015-June 2017
2.	Study of genetic polymorphism of heat shock protein genes among indigenous and crossbred cattle (Co-Project Investigator)*	Inter Institutional (ICAR-CIRC, Meerut with ICAR-NIASM, Baramati)	1 st Jul,2012-1 st Jun, 2015
3.	Genetic basis of inferior sperm quality and fertility of crossbred bulls (Associate)	National Agricultural Innovation Project (NAIP) world bank funded project	June 2012 to March 2014
4.	Molecular characterization and analysis of genetic polymorphism in Integrin alpha beta 6 receptor gene associated with Foot and Mouth disease virus (FMDV) cell tropism in cattle (Co-Project Investigator)	DST	1 st May 2013-1 st June 2016
5.	All India Co-ordinated project on cattle-Frieswal project (Co-Project Investigator)	AICRP,ICAR	2013-2019
6.	Functional analysis of IRES elements at bovine heat shock protein genes: an approach to modulate thermo regulatory response in cattle (Project Investigator)	Inter Institutional(ICAR-CIRC, Meerut with ICAR-NIASM, Baramati)	Oct 2015-Sep 2017
7.	Use of assisted reproductive technologies for genetic improvement and propagation of elite cattle (Co-Project Investigator)	Institutional (ICAR-CIRC, Meerut)	Oct 2015-September 2018
8.	Dynamics of circulatory microRNA profile among motile and impaired bull spermatozoa: A novel approach to discover biomarkers (Co-Project Investigator)	SERB,DST	July 2016 to July 2019
9.	Screening for genetic diseases in Frieswal bulls (Associate from June 2013– June 2018 and Project Investigator from July 2018-Nov 2019)	Institutional Service Project (ICAR-CIRC, Meerut)	June 2013 – Nov,2019

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10.	Combating Carbapenem Resistant Enterobacteriace (CRE) in animal farm: Using combinatorial approach of conventional therapeutics and theranostic nanomedicine (Co-Project Investigator)	SPARC,MHRD,GOI	Feb, 2019- ongoing
11.	Purification and localization of bovine heat shock protein 70 chaperon among native and crossbred cattle (Project Investigator)	Interinstitutional (ICAR-CIRC, Meerut with IIT-Roorkee, Roorkee)	October, 2017 to Nov, 2020
12.	Elucidating the genetic variation of Bovine Kisspeptin and neuropeptide Y genes among indigenous cattle breeds and its impact on certain reproductive parameters (Co-Project Investigator)	Interinstitutional (ICAR-CIRC, Meerut with Junagarh Agricultural University, Gujrat)	October, 2017 to Nov, 2020
13.	Institute Technology Management Unit under National Agricultural Innovative Fund (NAIF) Scheme (Project Investigator)	National Agricultural Innovative Fund (NAIF) Scheme,ICAR	March-December,2019
ICAR-National Research Center on Pig, Guwahati, Assam			
14.	Institute Village linking Programme under Tribal-Sub Plan (Team Member/Co-Project Investigator)	TSP Fund, ICAR	Dec ,2019 to ongoing
15.	Expression and evaluation of diagnostic potential of immunogenic proteins of porcine reproductive and respiratory syndrome virus (Co-Project Investigator)	Institute funded (ICAR-NRC on Pig, Guwahati)	Feb, 2020 –ongoing
16.	Development of CD163 host receptor based sero-diagnostic for early detection of porcine respiratory and reproductive syndrome virus (Project Investigator)	Institute funded (ICAR-NRC on Pig, Guwahati)	May, 2020-ongoing
17	Development of Virus like Particle based vaccine against Indian isolate of porcine circovirus (Project Investigator)	DBT, GOI	March,2020-Ongoing

Research articles

List of Publications with NAAS Score > 6 with Citations

S. No	Details of Publications in the format given above	Journal Name	NAAS Score (2020)	Impact factor	No. of Citations (Google Scholar)
Publication as a First (including equally contributed#) and corresponding author*					
1	Deb R* , Sajjanar B, Singh U, Kumar S, Brahmane MP, Singh R, Sengar G, Sharma A. (2013) Promoter variants at AP2 box region of Hsp70.1 affect thermal stress response and milk production traits in Frieswal cross bred cattle. <i>Gene</i> . 15; 532(2):230-5.	Gene	8.64	2.984	46

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2	Deb R* , Kumar S, Singh U, Tyagi S, Mandal DK, Sengar G, Singh R, Kumar M, Sharma A. (2013) Evaluation of three bovine Y specific microsatellite loci as an alternative biomarkers for semen quality traits in crossbred bull. <i>Animal Reproduction Science</i> . 30; 142 (3-4):121-5.	Animal Reproduction Science	7.82	1.660	9
3	Deb R* , Singh U., Kumar S, Kumar A, Sharma A, Mann S, Singh R (2013) TIR domain of bovine TLR4 gene in Frieswal crossbred cattle: An early marker for mastitis resistance. <i>Indian Journal of Animal Sciences</i> , 83(6):633-5.	Indian Journal of Animal Sciences	6.23	0.21	8
4	Deb R* , Sajjanar B, Devi K, Reddy K M, Prasad R, Kumar S, Sharma A (2013) Feeding animals with GM crops: boon or bane? <i>Indian Journal of Biotechnology</i> . 12: 311-322.	Indian Journal of Biotechnology	6.34	0.343	12
5	Deb R* , Sajjanar B, Singh U, Kumar S, Singh R, Sengar G, Sharma A. (2014) Effect of heat stress on the expression profile of Hsp90 among Sahiwal (<i>Bos indicus</i>) and Frieswal (<i>Bos indicus</i> X <i>Bos taurus</i>) breed of cattle: A comparative study. <i>Gene</i> . 25; 536 (2):435-40.	Gene	8.64	2.984	78
6	Singh R, Deb R*# , Singh U, Alex R, Kumar S, Chakraborti S, Sharma S, Sengar S, Singh R (2014) Development of a tetra-primer ARMS PCR-based assay for detection of a novel single-nucleotide polymorphism in the 5' untranslated region of the bovine ITGB6 receptor gene associated with foot-and-mouth disease susceptibility in cattle. <i>Archives of Virology</i> , 159(12): 3385-3389.	Archives of Virology	8.26	2.243	13
7	Deb R* , Singh U, Kumar S, Mann S, Singh R, Sengar G, Kumar A, Sharma A. (2014) Genotypic to Expression Profiling of Bovine Calcium Channel, Voltage-Dependent, Alpha-2/Delta Subunit 1 Gene, and Their Association with Bovine Mastitis Among Frieswal (HF X Sahiwal) Crossbred Cattle of Indian Origin, <i>Animal Biotechnology</i> , 25 (2):128-138.	Animal Biotechnology	7.66	1.487	10
8	Deb R* , Singh U, Kumar S, Singh R, Sengar G, Sharma A (2014) Genetic polymorphism and association of kappa-casein gene with milk production traits among Frieswal (HF X Sahiwal) crossbreed of Indian origin. <i>Iranian Journal of Veterinary Research</i> . 15 (4): 406-408.	Iranian Journal of Veterinary Research	6.86	0.978	26

Curriculum Vitae (Dr. Rajib Deb, Scientist)

9	Kumar S, Deb R* , Singh U, Ganguly I, Mandal D K, Singh R, Sharma S, Sengar G, Singh R, Kumar M, Sharma A (2014) SNPs at exonic region of Aquaporin- 7 (AQP-7) gene may effects semen quality parameters among crossbred bulls. <i>Journal of Genetics</i> , 94 (1):e108-e112.	Journal of Genetics	6.83	1.108	11
10	Deb R* , Singh U, Kumar S, Singh R, Sengar G, Kumar A, Sharma A. (2014) Profiling of bovine breast cancer 1, early onset (BRCA1) gene among Frieswal (HF x Sahiwal) cows and their association with mastitis. <i>National Academy Science Letters-India</i> . 37(6):579-583.	National Academy Science Letters-India	6.37	0.416	3
11	Deb R* , Sajjanar B, Singh U, Alex R, Raja TV, Alyethodi RR, Kumar S, Sengar G, Sharma S, Singh, R, Prakash B.(2015) Understanding the mechanisms of ATPase beta family genes for cellular thermotolerance in crossbred bulls, <i>International Journal of Biometrology</i> ,59:1783-1789.	International Journal of Biometrology	8.38	2.680	10
12	Deb R* , Singh U, Raja TV, Kumar S, Tyagi S, Alyethodi RR, Alex R, Sengar G, Sharma S, (2015) Designing of an Artificial Neural Network model to evaluate the association of three combined Y specific microsatellite loci on the actual and predicted post thaw motility in crossbred bull semen, <i>Theriogenology</i> , 83 (9): 1445–1450.	Theriogenology	8.30	2.094	3
13	Kumar S, Deb R* , Singh U, Ganguly I, Mandal D K, Singh R, Sharma, Sengar G (2015) Bovine Circadian Locomotor Output Cyclic Kaput (CLOCK) and Clusterin (CLU) mRNA quantitation in ejaculated crossbred bull spermatozoa, <i>Reproduction in Domestic Animals</i> . 50(3):505-509.	Reproduction in Domestic Animals	7.64	1.641	7
14	Sajjanar B, Deb R* , Singh U, Kumar S, Brahmane M, Nirmale A, Bal S K, Minhas P S (2015) Identification of SNP in HSP90AB1 and its association with the relative thermotolerance and milk production traits in Indian dairy cattle. <i>Animal Biotechnology</i> . 26 (1): 45-50.	Animal Biotechnology	7.66	1.487	16
15	Kumar S, Singh U, Deb R* , Tyagi S, Mandal D K, Kumar M, Sengar G, Sharma S, Singh R, Singh R. (2015) A SNP (g.358A>T) at intronic region of CD9 molecule of crossbred bulls may associate with spermatozoal motility, <i>Meta Gene</i> , doi.org/10.1016/j.mgene.2015.07.004.	Meta Gene	6.755	0.755	15

16	Singh R, Deb R* , Singh U, Raja T V, Alex R, Kumar S, Chakraborti S, Sengar G, Sharma S (2015) Single tube tetraplex PCR based screening of a SNP at exon 14 region of bovine ITGB6 among different Zebu breeds. <i>Meta Gene</i> . 3: 26-30.	Meta Gene	6.755	0.755	2
17	Mondal K, Chakravarti S, Ghosh AK, Kumar S, Nayak B, Nandi ., Sarkar U, Deb R* , De A, Biswas J (2016) Identification of Factor XI deficiency in Indian Sahiwal (<i>Bos indicus</i>) cattle. <i>Molecular Biology Reports</i> , 43(4): 213-219.	Molecular Biology Reports	8.11	2.1	10
18	Deb R* , Sengar G S, Singh U, Kumar S, Alyethodi RR, Alex R, Raja T V, Das AK, Prakash B (2016) Application of a loop-mediated isothermal amplification assay for rapid detection of cow components adulterated in buffalo milk/meat. <i>Molecular Biotechnology</i> .58:850-860.	Molecular Biotechnology	7.71	2.022	23
19	Bhanuprakash V, Singh U, Sengar G S, Raja T V, Sajjanar B, Alex R, Kumar S, Alyethodi R R, Kumar A, Kumar S, Bhusan B, Deb R* (2016) Comparative expression profile of NOD1/2 and certain acute inflammatory cytokines in thermal stressed cell culture model of native and crossbred cattle. <i>International Journal of Biometrology</i> , 61 (5): 931-941.	International Journal of Biometrology	8.38	2.680	-
20	Bhanuprakash V, Singh U, Sengar G, Sajjanar B, Bhusan B, Raja T V, Alex R, Kumar S, Singh R, Ashish, Alyethodi R R, Kumar S, Deb R* (2016) Differential effect of thermal stress on HSP70 expression, nitric oxide production and cell proliferation among native and crossbred dairy cattle. <i>Journal of Thermal Biology</i> , 59:18-25.	Journal of Thermal Biology	7.99	2.361	19
21	Deb R* , Sajjanar B, Singh U, Kumar S, Sengar G, Alex R, Das A K, Tyagi S, Raja TV, Alyethodi R R, Singh R, Bhanuprakash V, Prakash B (2016) Cytosine deletion at AP2 box region of <i>HSP70</i> promoter and its influence on semen quality traits in crossbred bulls. <i>Journal of Genetics</i> . 95 (4): 1035-1038.	Journal of Genetics	6.83	1.108	2
22	Deb R* , Sengar G S, Sajjanar B, Singh U, Singh U, Alex R, Raja T V, Kumar S, Alyethodi RR, Bhanuprakash V (2016) Identification of SNP variations and different microRNA binding sites at 3'UTR region of bovine HSP90AA1 gene among different Indian breeds of cattle. <i>Indian</i>	Indian Journal of Animal Sciences	6.23	0.231	-

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	<i>Journal of Animal Sciences</i> .26 (1), 45-50.				
23	Singh R, Deb R* , Singh U, Alex R, Kumar S, Tyagi S, Raja T V, Sengar G, Bhanuprakash V, Sharma S, Saxena A (2016) Constitutive expression pattern of ITGB6 receptor gene in the air pathways of buffalo. <i>Indian Journal of Animal Sciences</i> .82(12):1427-1430	Indian Journal of Animal Sciences	6.23	0.231	-
24	Deb R* , Sengar GS, Singh U, Kumar S, Raja TV, Alex R, Alyethodi RR, Prakash B.(2017) LAMP assay for rapid diagnosis of cow DNA in goat milk and meat samples. <i>Iranian Journal of Veterinary Research</i> .18(2):134.	Iranian Journal of Veterinary Research	6.86	0.978	9
25	Sengar G S, Deb R*# , Singh U, Raja T V, Kant R, Sajjanar B, Alex R, Alyethodi R R, Kumar A, Kumar S, Singh R, Jakhesara S J, Joshi C G (2017) Differential expression of microRNAs associated with thermal stress in Frieswal (Bos taurus x Bos indicus) crossbred dairy cattle. <i>Cell Stress and Chaperones</i> . 23(1): 155–170.	Cell Stress and Chaperones.	8.11	2.1	23
26	Sengar GS, Deb R* , Raja TV, Singh U, Kant R, Bhanuprakash V, Alyethodi RR, Kumar S, Verma P, Chakraborty S, Alex R, Singh R (2017) RT-LAMP assay: an alternative approach for profiling of bovine heat shock protein 70 gene in PBMC cultured model. <i>Molecular Biology Reports</i> . 44(3): 281–287.	Molecular Biology Reports	7.729	1.729	4
27	Sajjanar B, Deb R* , Raina SK, Pawar S, Brahmane M P, Nirmale AV, Kurade N P, Reddy G B M, Bal SK, Singh NP (2017) Untranslated regions (UTRs) orchestrate translation reprogramming in cellular stress response. <i>Journal of Thermal Biology</i> . 65:69-75.	Journal of Thermal Biology	7.99	2.361	15
28	Singh R, Alex R, Singh U, Kumar S, Sengar G S, Raja T V, Alyethodi R R, Kumar A, and Deb R* (2017).A Synonymous Mutation at Bovine Alpha Vitronectin Domain of Integrin Host Receptor (ITGAV) Gene Effect the Susceptibility of Foot-and-Mouth Disease in Crossbred Cattle. <i>Advances in Experimental Medicine and Biology</i> . DOI 10.1007/5584_2017_47.	Advances in Experimental Medicine and Biology	8.13	1.937	1
29	Singh R, Sengar G S, Singh U, Deb R* , Jungare V, Hazra S, Kumar S, Tyagi S, Das AK, Raja T V, Kumar A (2018) Functional proteomic analysis of crossbred (Holstein Friesian X Sahiwal) bull spermatozoa. <i>Reproduction in Domestic Animals</i> .	Reproduction in Domestic Animals	7.64	1.641	1

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	Doi:10.1111/rda.13146.				
30	Sengar G S, Deb R* , Singh U, Junghare V, Hazra S, Raja T V, Alex R, Kumar A, Alyethodi R R, Kant R, Jakshara S, Joshi CG (2018) Identification of differentially expressed microRNAs in Sahiwal (Bos indicus) breed of cattle during thermal stress. <i>Cell Stress and Chaperones</i> . 23(5):1019-1032.	Cell Stress and Chaperones	8.11	2.1	14
31	Sengar GS, Kant R, Deb R* and Verma P (2018) Small interfering RNA based knock down of acute heat shock and or GGA inducible bovine heat shock protein 70 may interfere invitro expression pattern of TLR2/4 and NOD1/2. <i>Journal of Thermal Biology</i> . 77:75-85.	Journal of Thermal Biology	7.99	2.361	1
32	Singh I, Deb R# , Kumar S, Singh R, Andonissamy J, Smita S, Sengar GS, Kumar R, Ojha K K, Sahoo NR and Chandran R (2019) Deciphering Foot-and-Mouth Disease (FMD) virus-host Tropism. <i>Journal of Biomolecular Structure and Dynamics</i> . 18:1-13.	Journal of Biomolecular Structure and Dynamics	9.31	3.107	1
33	Singh R, Junghare V, Hazra S, Singh U, Sengar G S, Raja T V, Kumar S, Tyagi S, Das A K, Kumar A, Koringa P, Jakhesara S, Joshi C J, Deb R* (2019) Database on spermatozoa transcriptogram of catagorised Frieswal crossbred (Holstein Friesian X Sahiwal) bulls. <i>Theriogenology</i> .129:130-145.	Theriogenology	8.30	2.094	6
34	Deb R* , Sengar G S, JunghareV, Hazra S, Umesh Singh, Alex R, Kumar A (2020) Characterization of a putative ribosome binding site at the 5' untranslated region of bovine heat shock protein 90. <i>Molecular Biology Reports</i> .doi.10.1007/s11033-020-05768-x	Molecular Biology Reports	8.11	2.1	-
35	Deb R* , Sengar GS (2020) Expression pattern of bta-mir-2898 miRNA and their correlation with heat shock proteins during summer heat stress among native vs crossbred cattle. <i>Journal of Thermal Biology</i> . 94:102771. doi: 10.1016/j.jtherbio.2020.102771.	Journal of Thermal Biology.	7.99	2.361	1
36	Deb R* , Sengar GS (2020) Comparative miRNA signatures among Sahiwal and Frieswal cattle breeds during summer stress. <i>3-Biotech</i> . doi. 10.1007/s13205-020-02608-4 (Accepted)	3-Biotech	7.79	1.798	-
As Co-Authors					

Curriculum Vitae (Dr. Rajib Deb, Scientist)

37	Deneke, Y, Yadav P S, Deb R , Nanda T (2013) Comparative studies of the effect of BSA vs FCS as a supplement in TCM-199 on the in vitro maturation rate of buffalo oocytes collected from slaughterhouse ovaries. <i>Buffalo Bulletin</i> , 32(1).	Buffalo Bulletin	6.10	0.11	1
38	Singh U, Deb R* , Alyethodi R R , Alex R, Kumar S, Kumar Chakraborty S, Dhama K and Sharma A (2014) Molecular markers and their applications in cattle genetic research: A review. <i>Biomarkers and Genomic Medicine</i> , 6(2014): 49-58.	Biomarkers and Genomic Medicine	>6.0		80
39	Gupta SK, Bajwa P, Deb R. , Chellappa M M and Dey S (2014) Flagellin a toll-like receptor 5 agonist as an adjuvant in chicken vaccines. <i>Clinical and Vaccine Immunology</i> , 21(3):261-270.	Clinical and Vaccine Immunology	9.23	3.010	51
40	Gupta, SK, Deb R , Dey S and Chellappa, M M (2014) Toll-like receptor-based adjuvants: enhancing the immune response to vaccines against infectious diseases of chicken. <i>Expert Review of Vaccines</i> , 13(7):909-925.	Expert Review of Vaccines	10.53	4.362	44
41	Ranjan S, Bhushan B, Panigrahi M, Deb R and Sharma D (2015) Association and expression analysis of single nucleotide polymorphisms of partial tumor necrosis factor alpha gene with mastitis in crossbred cattle. <i>Animal Biotechnology</i> , 26 (2): 98-104.	Animal Biotechnology	7.66	1.487	14
42	Kumar S, Ganguly I, Deb R , Singh U, Mandal D K, Mann S, Singh R, Kumar M and Sharma A (2015) Elucidating the role of bovine GnRHR on semen quality traits among crossbred bull. <i>Indian Journal of Animal Sciences</i> . 85 (12): 31–34.	Indian Journal of Animal Sciences	6.23	0.21	3
43	Alyethodi R R, Deb R , Alex R, Kumar S, Singh U, Tyagi S, Mandal D K, Raja T V, Das A K, Sharma S, Sengar G S, Singh R, Prakash B (2016) Molecular markers, BM1500 and UMN2008, are associated with post-thaw motility of bull sperm. <i>Animal Reproduction Science</i> . 174:143-149.	Animal Reproduction Science	7.82	1.660	1
44	Alyethodi RR, Singh U, Kumar S, Deb R , Alex R, Sharma S, Sengar G, Prakash B (2016) Development of a fast and economical genotyping protocol for Bovine Leukocyte Adhesion Deficiency (BLAD) in	Springer Plus	7.13**	1.78	4

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	cattle. <i>Springer Plus</i> . 30;5(1):1442.				
45	Alex R, Kumar S, Singh U, Deb R , Alyethodi RR, Prakash B, Singh G (2016) Evaluation of non-genetic factors affecting lactation traits of Frieswal Cows in Northern Zone of India. <i>Indian Journal of Animal Sciences</i> . 87 (4): 520–522.	Indian Journal of Animal Sciences	6.23	0.21	2
46	Alyethodi RR , Alex R, Deb R , Kumar S, Singh U, Sharma S, Sengar G, Tyagi S, Prakash B (2016) Prevalence of genetic diseases in Holstein crossbred (Frieswal) bulls in India. <i>Indian Journal of Animal Sciences</i> . 86: 1088-1091	Indian Journal of Animal Sciences	6.23	0.21	1
47	Alex R, Ramesha K P, Singh U, Kumar S, Alyethodi R R, Deb R , Sharma S, Sengar G S, Kumar A, Prakash B (2017) Promoter variants of OAS1 gene are associated with reproductive performance and incidence of normal calving in cattle. <i>Theriogenology</i> . 11; 108: 255-261.	Theriogenology	8.30	2.094	1
48	Alex R, Ramesha K P, Singh U, Kumar S, Alyethodi R R, Deb R , Rai S, Sharma S, Sengar G S, Kumar A, Prakash B (2017) Association analysis of novel polymorphisms in 2',5'-oligoadenylate synthetase gene with reproductive traits in indigenous and crossbred cattle of Indian origin. <i>Reproduction in Domestic Animals</i> . Doi: 10.1111/rda.13129.	Reproduction in Domestic Animals	7.64	1.641	3
49	Alex R, Ramesha K P, Singh U, Kumar S, Alyethodi R R, Deb R , Sharma S, Sengar G S, Kumar A, Prakash B (2017) Genomic variations in the 2'-5',oligoadenylate synthetase 1 (OAS1) gene in zebu cattle and its crossbreds of Indian origin. <i>Indian Journal of Animal Sciences</i> . 87 (11):1367-1374.	Indian Journal of Animal Sciences	6.23	0.21	3
50	Kumar S, Alex R, Singh U, Raja TV, Deb R , Alyethodi R R and Prakash B (2017) Estimation of factors for standardizing lactation yield to mature equivalent basis and factors affecting 305 day mature equivalent milk yield in Frieswal cattle. <i>Indian Journal of Animal Sciences</i> . 87(8):1038-1041.	Indian Journal of Animal Sciences	6.23	0.21	3
51	Malik A A Sharma R, Alwahas S, Deb R , Negi M S, Tripathi SB (2018) Analysis of genetic relatedness among Indian cattle (<i>Bos</i>	Animal Genetics	8.24	2.841	6

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	<i>indicus</i>) using genotyping by sequencing (GBS) markers. <i>Animal Genetics</i> . 49(3):242-245.				
52	Alyethodi R R, Singh U, Kumar S, Alex R, Deb R , Sengar G S, Raja TV, Prakash B (2018) T-ARMS PCR genotyping of SNP rs-445709131 using thermostable strand displacement polymerase. <i>BMC Research Notes</i> . 11.32. doi:10.1186/s 13104-018-3236-6.	BMC Research Notes	6.861	0.861	5
53	Kumar S, Alex R, Gaur G K, Mukherjee S S, Mandal D K, Singh U, Tyagi, S, Kumar A, Das A K, Deb R , Kumar M, Sirohi A S, Chand N, Prasad R, Bhasin V, Prakash B, Kashyap S (2018) Evolution of Frieswal cattle: A crossbred dairy animal of India. <i>Indian Journal of Animal Sciences</i> 88(3):265-275.	Indian Journal of Animal Sciences	6.23	0.21	1
54	Alyethodi R R, Kumar S, Deb R , Alex R, Singh U, Sharma s, Ashish, Chaudhari J, Sengar G S, Singh R, Tyagi S, Prakash B (2018) Using PCR-PIRA based genotyping for identifying Complex Vertebral Malformation (CVM) allele in Frieswal young. <i>Iranian Journal of Veterinary Research</i> . 19(1):44-47.	Iranian Journal of Veterinary Research	6.86	0.978	-
55	Ramos L, Pinto I, Deb R , Ribeiro C, Cruz D, Minasi L, Silva A, da Cruz A (2019) Genomic gain at Xq28 region in a child with global developmental delay was associated with a variant form of Hoyeraal-Hreidarsson Syndrome. <i>Molecular Syndromology</i> .10:214–218.	Molecular Syndromology	7.81	1.81	-
56	Verma N, Alyethodi RR, Kathuria A, Alex R, Hussain S, Singh U, Tyagi S, Sirohi A S, Kumar S, Deb R , Sengar GS, Raja T V, Prakash B (2019) Effect of heat stress on superoxide anion production in native and crossbred cattle under in vitro whole blood culture model. <i>Journal of Thermal Biology</i> .87 (2020): 102457.	Journal of Thermal Biology	7.99	2.361	1
57	Singh U, Alex R, Deb R , Raja T V, Singhal S, Sengar G S, Rathod B S, Murty K S, Patil N V (2020) Association of bovine KISS1 Single Nucleotide Polymorphisms with reproductive traits in Indian Cattle. <i>Reproduction in Domestic Animals</i> . Doi:10.1111/rda.13704.	Reproduction in Domestic Animals	7.64	1.641	-

**NAAS Score 2018

List of Publications with NAAS Score < 6 with Citations

S. No	Details of Publications in the format given above	Journal Name	NAAS Score (2020)	Google Scholar citations
1	Kumar A, Singh U, Kumar S, Sengar G, Singh R, Sharma A and Deb R* (2013) Phylogenetic analysis of isolated from mastitis milk samples. <i>Advances in Animal and Veterinary Sciences</i> . 1(1S): 9 – 10.	Advances in Animal and Veterinary Sciences.	4.04	1
2	Singh U, Kumar S, Deb R , Mann S, Sharma A (2013) Genotypic profiling of coding region of leptin gene and their association studies on reproductive and milk production traits in Sahiwal and Frieswal cattle of Indian origin. <i>African Journal of Biotechnology</i> , 12(42): 6140-46.	African Journal of Biotechnology	Not Available	9
3	Deb R* , Singh U, Kumar S, Tyagi S, Sharma A, Kumar A, Sengar G, Singh R (2013). Characterization and Evaluation of BL41 Microsatellite Marker associated with milk Fat and Protein Percentage among Frieswal (HF x Sahiwal) Cattle of Indian Origin. <i>Advances in Animal and Veterinary Sciences</i> . 1 (3): 77 –79.	Advances in Animal and Veterinary Sciences.	4.04	-
4	Alex R, Singh U, Alyethodi R R and Deb R (2013). A review on draught animal research in India: constraints and future thrust areas. <i>Advances in Animal and Veterinary Sciences</i> . 1 (6):178–182.	Advances in Animal and Veterinary Sciences	4.04	9
5	Deb R , Kumar A, Chakraborty S, Verma AK, Tiwari R, Dhama K, Singh U, Kumar S.(2013) Trends in diagnosis and control of bovine mastitis: a review. <i>Pakistan Journal of Biological Sciences</i> 1; 16(23):1653-61.	Pakistan Journal of Biological Sciences	Not available	102
6	Singh U, Deb R , Kumar S, Tomar A and Sharma A. 2013. Historical background of Cattle crossbreeding programme in India- A review. <i>Asian Agri-history</i> . 17 (3): 263-270.	Asian Agri-history	3.1	-
7	Singh, S.V., Singh, A.V., Kumar, A., Singh, P.K., Deb R. , Verma, A.K., Kumar, A., Tiwari, R., Chakraborty, S. and Dhama, K.(2013) Survival mechanism of <i>Mycobacterium avium subspecies paratuberculosis</i> within host species and its environment-a review. <i>Natural Science</i> . 5 (6); 710.	Natural Science	3.28	25
8	Deb R* , Chakraborti S, Sengar G, Bhanuprakash V (2016) Pros and cons of recombinant DNA technology in animal disease diagnosis, prevention and control. <i>Journal of Pure and Applied Microbiology</i> , 10(1)	Journal of Pure and Applied Microbiology	4.0**	-

Curriculum Vitae (Dr. Rajib Deb, Scientist)

9	Kumar, S, Ganguly I, Singh U, Deb R , Mann S, Sharma A (2014) Protamin 3 expression in crossbred bull spermatozoa may not be a prognostic marker for differentiating good and poor quality semen. <i>African Journal of Biotechnology</i> , 13(20): 1999 -2003. DOI: 10.5897/AJB2013.13535.	African Journal of Biotechnology	Not available	4
10	Singh R, Deb R* , Singh U, Raja T V, Alex R, Kumar S, Alethodi RR, Sahu J (2014) Structural insight of <i>Bos indicus</i> ITGB6 receptor gene for FMDV host tropism. <i>Advances in Animal and Veterinary Sciences</i> , 2 (10), 549-556.	Advances in Animal and Veterinary Sciences	4.04	1
11	Deb R , Chakraborty S, Mahima, Verma AK, Tiwari R, Dhama K. (2014) Nutrigenomics and its role in male puberty of cattle: a mini review. <i>Pakistan Journal of Biological Sciences</i> .1;17 (3):329-34.	Pakistan Journal of Biological Sciences.	Not available	7
12	Rawat KD, Chaudhary S, Kumar N, Gupta S, Chaubey KK, Singh SV, Dhama K, Deb R (2014).Economic losses in a commercial dairy farm due to the outbreak of Johne's disease in India. <i>Research Journal for Veterinary Practitioners</i> . 2(5): 73-77.	Research Journal for Veterinary Practitioners	3.8	18
13	Kumar, S., Singh, U., Ganguly I, Deb R. , Singh, R,Mann S, Sengar, G., Mandal, D. K, Kumar, M, Sharma A.(2015) Transcriptome abundance of CATSPER 1 gene inspermatozoa of good and poor quality semen producing Frieswal crossbred bull. <i>Biotech Today: International Journal of Biological Sciences</i> . Doi: 10.5958/2322-0996.2015.00023.X.	Biotech Today: International Journal of Biological Sciences	3.94	1
14	Singh, R., Deb R* , Singh, U., Raja, T.V., Alex,R., Kumar,S., Aleothyodi, R.R., Chakraborti,S., Sharma, S., Sengar,G., Singh,R. (2015) Heterozygosity at the SNP (rs 136500299) of ITGB6 receptor gene possibly influences the susceptibility among crossbred bull to Foot and Mouth Disease infection. <i>Virus Disease</i> . 26 (1-2):48-54.	Virus Disease	5.9	2
15	Mondal K, Chakravarti S, Gosh A K, Kumar S, Senapati P K, Sarkar U, Deb R , De A (2017) Incidence of bovine leukocyte adhesion deficiency carrier in breeding sires of West Bengal. <i>Research in Environment and Life Sciences</i> . 10 (1): 68-70.	Research in Environment and Life Sciences	3.74	-
16	Sengar G S, Deb R , Raja TV et al., (2018) Correlation between the expression of bovine HSP70 annd different biochemical parameters during thermal stress in cattle. <i>Biotech Today: International Journal of Biological Sciences</i> . DOI:10.5958/2322-0996.2018.00008.X.	Biotech Today: International Journal of Biological Sciences	3.94	-
17	Khadatkar A, Deb R , Sah R P,Basak S, Sandeep GM, Kumar S, Singh A, Jumrani J (2020) Different agricultural problems in Bar-ka-Nagla village of	Indian Journal of Extension Education	5.32	-

	Mathura, Uttar Pradesh based on PRA approach. <i>Indian Journal of Extension Education (Accepted)</i>			
18	Kumar S, Bharati J, Yadav A K, Pegu S R, Doley J, Paul S, Das B C, Mohan N H and Deb R* (2020) Pattern of Antibiotics use In pigs of North Eastern India. <i>Indian Journal of Animal Health</i> DOI:https://doi.org/10.36062/ijah.59.1.2020.50-54 (*corresponding author)	<i>Indian Journal of Animal Health</i>	4.08	

**NAAS Score 2018

(*Corresponding author)

Books with ISBN

1. **Deb R**, Chakraborti S, Singh U, Kumar S, Sharma A. (2012) Infectious diseases of cattle, Satish serial publishing, New Delhi, India, ISBN: 9381226253, Total Page nos-209. (Authored Book)
2. Singh U, **Deb R**, Kumar S, Sharma A. (2012) Livestock Update, Satish Serial publishing, New Delhi, India, ISBN: 9789381226308, Total Page nos-201. (Edited Book)
3. Singh U, Kumar S, Kumar A, **Deb R**, Sharma A (2013) Advances in Cattle research, Satish serial publishing, New Delhi, India, ISBN: 978 9381 226421, Pages-276. (Edited Book)
4. **Deb R**, Singh U, Kumar S, Sharma A (2013) Analysis of cattle genome: a tool manual, Satish serial publishing, New Delhi, India, ISBN: 9381226377, . Total Page nos-143. (Authored Book)
5. Singh U, Kumar S, Mukhopadhyay C.S., **Deb R**, Alyethodi, R R, Alex R, Dhama K, Ganguly I (Eds.).(2015) Bioinformatic approaches for livestock genome analysis, Satish Serial Publishing, New Delhi, India, ISBN: 978 9384 053017, Total Page nos-312. (Edited Book)
6. Sengar G, **Deb R**, Singh U (2016). Polymerase Chain Reaction (PCR): Principle to practices. Published by Today and Tomorrow's Printers and Publishers, New Delhi, India ISBN : 81-7019, Total Page nos-218 (Authored Book)
7. Raja T V, Gandhi R S, Alex R, Alyethodi RR, **Deb R**, Singh U (2016) Textbook on Principles of Animal Genetics and Population Genetics. Published by Directorate of Knowledge Management in Agricultural Research, Krishi Anusandhan Bhavan I, Pusa, New Delhi 110 012. ISBN:9788171641734. Total Page nos-250 (Authored Book)
8. Raja T V, Singh U, **Deb R** (2016) Concepts and advances in statistical and molecular approaches in genetic evaluation of breeding bulls for sustainable milk production. An E-Book designed and developed by Division of Computer application, Indian Agricultural Statistics Research Institute, New Delhi- 110012 (INDIA) (Edited Book)
9. Cruz A S, **Deb R**, Pires AA, Campos De C BM, Cruz Da A D (2018) Genetic Engineering and Cytogenetics tools: hand guided student practical manual on basic genetic engineering, molecular and cytogenetics tools. Goiania/Editora Academico, Brazil. 2018. ISBN:978-85-5440-132-0. Total Page nos-148 (Edited Book)
10. Khadatkar A, Sah R P, **Deb R**, Kumar S, Basak S, Yadav S, Jumrani J, Singh A (2018) Participatory Rural Appraisal: A case study, Approach and Implementation. Satish serial publishing, New Delhi, India, ISBN: 978 9386 200877, Total Page nos. 97. (Authored Book)
11. **Deb R**, Patil NV, Sengar GS (2020) HSP70s Discovery, structure and functions. Published by Nova Science Publishers, Inc., New York. ISBN:978-1-53618-179-1. Total Page nos.175. (Edited Book)
12. Raja T V, Alex R, Patil N V, Saha S K, Tyagi S, Sirohi A S, Kumar A, **Deb R**, Soni Y K and Verma S K (2020) Strategies for sustainable livestock production focusing livelihood improvement. Satish serial publishing, New Delhi, India, ISBN: 978-93-90425-40-2 Total Page nos. 150 (Edited Book)

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1. Singh U, Kumar S, **Deb R (2012)** Monograph on bovine DGAT1 gene, ISBN: 978-3659337543, LAP Lambert Academic Publishing, OmniScriptum GmbH &Co. KG, Bahnhofstraße, 28 ,D-66111, Saarbrücken, Germany. Total Page nos-160.
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3. Singh R, Sengar G, **Deb R (2016)** Monograph on Genetic basis of host receptor on Foot and Mouth Disease, ISBN: 9783659922794, LAP Lambert Academic Publishing, OmniScriptum GmbH &Co. KG, Bahnhofstraße, 28 ,D-66111, Saarbrücken, Germany. 71 pages.
4. Bhanuprakash V, Sengar G, **Deb R (2016)** Immune-Thermal Crosstalk in Cattle, ISBN: 9783659923562, LAP Lambert Academic Publishing, Omni Scriptum GmbH &Co. KG, Bahnhofstraße, 28 ,D-66111, Saarbrücken, Germany. Total Page nos-75.
5. Sengar G S, Kant R, **Deb R (2019)** Bovine Heat shock protein 70 and Pattern Recognition Receptors, ISBN: 978-620-0-48547-2, LAP Lambert Academic Publishing, OmniScriptum GmbH &Co. KG, Bahnhofstraße, 28 ,D-66111, Saarbrücken, Germany. Total Page nos-200.

Book Chapters with ISBN

1. **Deb R**, Singh U, Kumar S, Sharma A (2012): Molecular marker assisted selection for disease resistance breeds of cattle, Agriculture Research Update vol : 4, *Nova academy publishing*, 19 pages ISBN: 978-1-62257-379-0.
2. **Deb R**, Chakraborty S, Singh U, Kumar S, Panwar P K, Dhama K (2013): Genomic Organization and Comparative Analysis of the Genome of Domesticated Animals and Poultry. Agricultural Research Updates. Volume 6, *Nova academy publishing*.
3. **Deb R**, Raja T V, Chakraborty S, Gupta S K, Singh U (2015) Chapter- 25 (Page no. 291-294), SECTION – IV: Genetically Modified Crops: An Alternative Source of Livestock Feeding in “Genetically Modified Organisms in Food: Production, Safety, Regulation and public Health” edited by Watson R R and Preedy V R <http://dx.doi.org/10.1016/B978-0-12-802259-7.00025-7>, WATSON-9780128022597, Published by *Academic Press, Elsevier*, ISBN: 9780128022597.
4. **Deb R**, Raja T V, Chakraborty S, Gupta S K, Singh U . (2015) Genetically Modified Crops: An Alternative Source of Livestock Feeding in Genetically Modified Organisms in Food: Production, Safety, Regulation and public Health edited by Watson R R and Preedy V R <http://dx.doi.org/10.1016/B978-0-12-802259-7.00025-7>. *Elsevier and Academic Press* ISBN: 9780128022597.
5. Sengar G S, **Deb R**, Chakraborty S, Mandal K, Bhanuprakash V, Singh, U. (2016) Overview of Pain in livestock: Mechanism to nutritional control in Nutritional Modulators of Pain in the Aging Population Edited by Ronald Ross Watson and Sherma Zibadi. *Elsevier and Academy Press* ISBN: 9780128051863.
6. **Deb R**, Sengar G, Chakraborty S, Singh U, Alex R, Kumar S, Raja T V, Alyethodi RR, Singh R, Ashish, and Bhanuprakash V (2016) Detection of Adulterants (Including Species-Specific) in Milk in *Advances in Medicine and Biology*. Vol 106 Edited By: Leon V. Berhardt. *Nova Science Publishers Inc.* 400 Oser Avenue, Suite 1600 Hauppauge, NY 11788 USA. ISBN: 978-1-63485-960-8.
7. Mukhopadhyay C S, Kumar A, **Deb R (2019)** Cattle genomics: genome projects, current status and future applications. In *Genomics and Biotechnological advances in veterinary, poultry and Fisheries* edited by Malik YS, Barh D, Azevedo V and Khurana S M Paul . *Academic Press and Elsevier*. ISBN 978-0-12-816352-8 . Page no. 3-28.
8. **Deb R**, Mukhopadhyay C S, Sengar GS, Cruz A S da, Silva D C, Pinto I P, Minasi L, Alves Costa E O, Cruz A D. da (2019) Genetic markers for improving farm animals . In *Genomics and Biotechnological advances in veterinary, poultry and Fisheries* edited by Malik YS, Barh

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9. Verma H and **Deb R (2020)**An Indian Scenario of Bovine Mastitis and Diagnosis In: Advances in Health and Disease ISBN: 978-1-53617-619-3 Editor: Lowell T. Duncan Volume 19.Lowell T. Duncan (Editor).*Nova Science Publishing*. Page no. 71-98 ISBN: 978-1-53617-619-3.
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1. Singh U, **Deb R**, Kumar S, Kumar A (2013) Training Manual on Functional Genomic analysis for livestock improvement, published by Project Directorate on Cattle (PDC), Meerut-250 001, Uttar Pradesh, India (Pages 166)
2. Singh U, Kumar S, Das A K, Kumar R, Raja T V, Rathee S K, **Deb R**, Alyethodi R R, Rani A (2014) Training Manual on Molecular tools and bioinformatics approaches for livestock genome analysis , published by Central institute for Research on Cattle, Meerut (Pages 234)
3. Das A.K., Singh U, Kumar S, Kumar R, Raja T V, Rathee SK, **Deb R**, Alyethodi RR,Alex R, Kumar P,Singh R, Sengar G S (2016). Training Manual on Post genomic to Phenomic approaches and methodologies for upgrading livestock production, published by ICAR-Central Institute for Research on Cattle, Meerut. (Pages 263)
4. Singh U, Alyethodi, R R., Alex R, Raja T V, Kumar S, Das A K, Kumar R, Rathee S K, **Deb R** (2017) Training manual of ICAR Winter School on Omics technologies and modern breeding approaches for conservation and productive enhancement of indigenous cattle resources, published by ICAR-Central Institute for Research on Cattle, Meerut. (Pages 351)
5. Kumar S, Singh U, Kumar A, Mandal D K, **Deb R** (2012) Military Farm officers conference proceeding on on “Strategies for technological interventions in development of Frieswal breed” (Aug 7-9, 2012) conducted for Military Farm officers, published by Project Directorate on Cattle, Meerut
6. Tyagi S, Singh U, Kumar A, **Deb R**, Kumar P (2013) proceeding of National Seminar on “Technological and Policy interventions for sustainable cattle breeding in India”, March 14,2013 ,published by Project Directorate on Cattle, Meerut
7. **Deb R**, Sengar GS, Ashish (2019) Compiled and Edited Proceedings cum lecture notes during a National Workshop on “Awareness on Intellectual Property Rights and its management held at ICAR-CIRC, Meerut on 23rd July, 2019.
8. Raja T V, Alex R, Patil N V, Saha S, Tyagi S,Sirohi A S, Kumar A, **Deb R**, Soni Y K, Verma S K (2019) Compendium of invited lectures of National conference :Livelihood improvement through sustainable livestock production (3-4 November 2019) published by Director, ICAR-CIRC, Meerut.
9. Alex R, Raja T V, Patil N V, Saha S, Tyagi S,Sirohi A S, Kumar A, **Deb R**, Soni Y K, Verma S K (2019) Compendium of abstracts of National conference :Livelihood improvement through sustainable livestock production (3-4 November 2019) published by Director, ICAR-CIRC, Meerut.
10. **Deb R**, Sengar G S, Kumar A, (2019) Compiled and Edited Proceedings cum lecture notes for the workshop cum hands on training on “ Prior art searching and Intellectual Property Rights (IPRs)” held on 19th October, 2019 at ICAR-Central Institute for Research on Cattle, Meerut

Technologies developed

S. No.	Item	Details in quantifiable terms. (Indicate whether applicant is a Developer, Co-developer or Associate)
1	<p><i>Breed Evolved/Variety released</i> Development of “Frieswal” –a crossbred strain of cattle</p>	<p>Co-developer Frieswal – (Holstein-Sahiwal), yielding 4,000 kg of milk with 4% butter fat in a mature lactation of 300 days. It is the only project in the country where such a huge population of animals (more than 20,000) is available with accurate production and pedigree records of each and every animal over generations, with well-established progeny testing network in 37 military farms to cover all the agro-climatic zones of the country.</p> <p>Supporting Publications:</p> <ol style="list-style-type: none"> 1. A pamphlet/Success story developed on “Frieswal: A genetically superior milch cattle breed” evolved by ICAR-Central Institute for Research on Cattle, Meerut & Military Farms, ministry of Defence, GOI (as Co-PI of Frieswal project under AICRP on Cattle). 2. Review Paper- Sushil Kumar, Rani Alex, G K Gaur, S S Mukherjee, D K Mandal, Umesh Singh, S Tyagi, Arun Kumar, A K Das, Rajib Deb, Mahesh Kumar, A S Sirohi, Naimi Chand, Rajendra Prasad, V Bhasin, B Prakash, S Kashyap (2018) Evolution of Frieswal cattle: A crossbred dairy animal of India. <i>The Indian Journal of Animal Sciences</i> 88(3):265-275. 3. Success story: Kumar, S., Alex, R., Gaur, G.K., Mukherjee, S.S., Mandal, D.K., Singh, U., Tyagi, S., Kumar, A., Das, A.K., Deb, R., Raja, T.V., Kumar, M., Sirohi, A.S., Chand, N., Prasad, R., Bhasin, V. and Kashyap, S. 2020. Success Story on Frieswal – A National Milch Crossbred Cattle. <i>Biotica Research Today.</i> 2, 5 Spl. (May 2020), 208-209.
2	<p><i>Process & Patent Filed/ KIT developed</i> Development of a rapid user friendly single tube PCR based tool for detection of bovine leukocyte adhesion deficiency (BLAD) carrier in cattle</p> <p>CIRC-Cattle BLAD Diagnostic Kit</p>	<p>Co-developer A single tube tetra ARMS PCR based diagnostic strategy developed for detection of BLAD carrier in cattle. An Indian Patent has been filed with application number 1073/DEL/2015. Patent Published: The Patent Office Journal 34/2017, Page No: 27763. The assay has been tested over DNA of 200 bulls and results have been verified using PCR-RFLP and sequencing.</p> <p>Supporting Publications:</p> <ol style="list-style-type: none"> 1. The Patent Office Journal 34/2017, Page No: 27763. 2. Alyethodi RR, Singh U, Kumar S, Deb R, Alex R, Sharma S, Sengar G, Prakash B (2016) Development of a fast and economical genotyping protocol for Bovine Leukocyte Adhesion Deficiency (BLAD) in cattle. <i>Springer Plus</i> . 30;5(1):1442. Doi: 10.1186/s40064-016-3148-7. 3. Technology Inventory on Development of a diagnostic test for early detection of bovine leukocyte adhesion deficiency (BLAD) carriers in cattle (2016) published by Director, ICAR-Central Institute for Research on cattle, Meerut 27ant-250 001. Inventors: Alyethodi RR, Singh U, Kumar S, Deb R, Alex R., Sharma S, Prakash B 4. Published as Technology Ready for Commercialization DEVELOPMENT OF A RAPID USER FRIENDLY SINGLE TUBE PCR BASED TOOL FOR DETECTION OF BOVINE LEUKOCYTE ADHESION DEFICIENCY (BLAD) CARRIER IN CATTLE by R.R.Alyethodi, Umesh Singh, Sushil Kumar, Rajib

		<p>Deb, Rani Alex, Sheetal Sharma, B.Prakash. Technology Ready for Commercialization published by Zonal agro-technology Management center, ICAR-National dairy Research Institute, Karnal-132001, Haryana: Page no:62-63.</p> <p>5. Technology available at Agriinnovate India Ltd.</p> <p>6. Success story Alyethodi, R.R., Deb, R., Singh, U., Kumar, S., Alex, R., Sharma, S., Sengar, G.S. and Prakash, B. 2020. Success Story on CIRC-Cattle BLAD Diagnostic Kit. <i>Biotica Research Today</i>. 2, 4 (Apr. 2020), 75-76.</p>
3	<p><i>Process & Patent Filed</i> A color based assay for differentiating cow vs goat milk/meat</p>	<p>Developer A post PCR color based differentiation of cow vs goat milk and meat samples has been developed. An Indian Patent has been filed with application number 1901/DEL/2015 A. Patent Published: The Patent Office Journal 45/2017, Page No:39817</p> <p>Supporting Publications:</p> <ol style="list-style-type: none"> 1. The Patent Office Journal 45/2017, Page No:39817-ICAR TECHNOLOGY 2. A technology Inventory developed on A color based test for differentiation of cattle and goat milk and meat (2016) published by Director, ICAR-Central Institute for Research on cattle, Meerut 28ant-250 001. Inventors: Deb R, Alex R, Kumar S, Singh U, Raja T V, Alyethodi RR, Sengar G, Prakash B 3. Published as Technology Ready for Commercialization A VISIBLE TEST FOR DIFFERENTIATING COW AND GOAT MILK/MEAT by Rajib Deb, Rani Alex, Sushil Kumar, Umesh Singh, T.V.Raja, R.R.Alyethodi, Gyanendra Sengar, B.Prakash. (Technology Ready for Commercialization published by Zonal agro-technology Management center, ICAR-National Dairy Research Institute, Karnal-132001, Haryana: Page no:63-65)
4	<p><i>Process & Patent Filed</i> Development of an in-house built LAMP assay for rapid detection of cow components adulterated in buffalo milk/meat</p>	<p>Developer The developed LAMP assay can be used for the rapid detection of cow milk/meat DNA in buffalo samples and can be easily adapted in laboratories. An Indian Patent has been filed with application number 3870/DEL/2015. Patent Published: The Patent Office Journal 31/03/2017, Page No:8096</p> <p>Supporting Publications:</p> <ol style="list-style-type: none"> 1. The Patent Office Journal 31/03/2017, Page No:8096-ICAR TECHNOLOGY 2. A Technology Inventory developed on Lamp assay based rapid detection of cow components in buffalo milk/meat (2016) published by Director, ICAR-Central Institute for Research on cattle, Meerut 28ant-250 001. Inventors: Deb R, Singh U, Kumar S, Das A K, Raja T V, Alyethodi R R, Alex R, Sengar G, Prakash B 3. Deb R, Sengar G S, Singh U, Kumar S, Alyethodi RR, Alex R, Raja T V, Das AK, Prakash B (2016) Application of a loop-mediated isothermal amplification assay for rapid detection of cow components adulterated in buffalo milk/meat. <i>Molecular Biotechnology</i>.doi:10.1007/s12033-016-9984-4
5	<p><i>Process & Patent Filed</i> Development of a single tube PCR assay for rapid detection of</p>	<p>Co-Developer A single tube tetra tetra primer displacement PCR assay based diagnostic strategy developed for detection of Complex Vertebral</p>

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	bovine complex vertebral malformation (CVM)	Malformation (CVM) carrier in cattle. An Indian Patent has been filed with application number 201611034916 . Supporting Publication: 1. The Patent Office Journal 13/04/2018 2. A Technology inventory developed- Alyethodi,R.R., Singh, Kumar S,Alex R, Deb R , Sengar G S,Prakash B (2018) Development of a single tube PCR assay for rapid detection of Bovine Complex Vertebral Malformation (CVM) carrier. Published by Director, ICAR-Central Institute for Research on Cattle, Meerut
6	<i>Process & Patent Filed</i> Development of a bovine heat shock protein 90 Internal Ribosomal entry site (IRES) based expression vector p _{bhsp90IRES}	Developer We identified a novel IRES site at bovine heat shock protein gene, which is a novel identification. This technology can be used for generating artificial bicistronic vector. An Indian patent has been filed with application number 201711042562 dated 28/11/2017. Supporting Publication: 1. The Patent Office Journal 11/01/2019 2. A Technology Inventory developed: Deb R , Sengar GS, Raja T.V., Singh U,Kumar S (2018).Technology inventory on “Development of a bovine heat shock protein 90 Internal ribosomal Entry Site (IRES) based expression vector-Pbhsp90IRES .Published by Director, ICAR-Central Institute for Research on Cattle, Meerut
7	<i>Concept/Methodology/Statistical model developed</i> Artificial neural network model was developed for early prediction of post thaw motility in bull semen	Developer Based on artificial neural network (ANN) methodology, a concept has been developed for early prediction of post thaw motility (PTM) of bull semen before freezing. Supporting Publication: Technology has been published in ICAR Newsletter (April-June 2015; Vol 21, No.2) – Technology Repository KRISHI Title : An artificial neural network model was developed for early prediction of post thaw motility in bull semen
8	<i>Concept/Methodology</i> Single tube tetra ARMS PCR-based assay developed for genotyping FMD virus receptor in cattle	Co-Developer A single tube tetra ARMS PCR-based assay for rapid genotyping of the 5' UTR region of bovine Integrin beta 6 receptor gene, linked with Foot-and Mouth Disease Virus (FMDV) host tropism, has been developed. Supporting Publication: Relevant/supporting Documents Technology has been published in ICAR Newsletter (January-March 2015; Vol 21, No.1) Title: Single tube tetra ARMS PCR-based assay for genotyping FMD virus receptor in cattle
9	<i>Copyrighted IT Tools</i> Scientific Mobile app on “Coowler”	Co-Developer International (collaboration with Brazil) mobile app on “ Coowler ” developed which deals with information related to summer stress management in cattle Supporting online Mobile-appk file link : http://play.google.com/store/apps/details?id=appinventor.ai-guilhermedcunha.Coowler
10	<i>Process & Patent Filed/ KIT developed</i> Kit for differentiating cow and	Developer A provisional patent has been filed with application number 201911031389, dated 02-08-2019

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	camel milk CIRC-COWCAM ASSAY KIT	Technology available at Agriinovate India Ltd.
11	<i>Copyrighted Database</i> Database of stressed cattle miRNA	Co-Developer An Inter-Institutional collaborative Database developed with IIT-Roorkee on “ Database of stressed cattle miRNA ”: It deals with different miRNAs differentially expressed in cattle during stressed, which can be an important database for management of bovine miRNAs repository particularly stressed animals. This database can be accessed from the web link as http://hazralab.iitr.ac.in/dmircattle/index.php .- Acted as Project Investigator/Team leader
12	<i>Trademark</i>	Co-Developer A Trademark on Frieswal was filed with application number 4361504, dated 28.11.2019. Publication: Trade Marks Journal No: 1935, 06/01/2020 Class 31. Page no 3428.
13	<i>e-learning lessons developed/ Farmers Advisory prepared</i>	Co-Developer You tube channel (Advisories): African Swine Fever (Bengali-English version with Bengali audio) prepared by Mohan NH, De Kalyan, Paul S, Das B C, Yadav A K, Pathak P, Doley J, Deb R , Banik S, Rajkhowa S (Published on June, 17, 2020) and translated by De Kalyan, Paul S, Deb R
14	<i>Mobile apps cum Farmers advisory</i>	Co-Developer Mobile app developed: African Swine Fever app (In Hindi version) Team members: ICAR-NRC on Pig: Yadav A K, Pegu S R, Deb R , Kumar S, Rajkhowa S, Das PJ, Banik S & K.G.I.C, Kalyani: Mandal S N, Dutta A
15	<i>Process Developed</i>	Co-Developer A single step nucleic acid based diagnostic for simultaneous detection of Nucleocapsid (N), Matrix (M) and Glycoprotein5 (Orf5) genes of Porcine Reproductive And Respiratory Syndrome (PRRS) virus infection in pigs An Indian patent filed (provisional) with application number 202011004699 , dated February 3, 2020. Inventors: Ajay Kumar Yadav, Swaraj Rajkhowa, Seema Rani Pegu, Rajib Deb , Souvik Paul, Juwar Doley, Santanu Banik, Pranab Jyoti Das, Manjisha Choudhury
16	<i>Mobile app</i>	Co-developer SWINE SUMMER STRESS CHECKER (Released on 1st Dec, 2020) Team Members Jaya, Kumar S, Deb R , Pegu SR, Yadav AK, Doley J, Mohan NH, Das B C, Das PJ, Banik S, Rajkhowa, S
17	<i>Process developed</i>	Co-developer Novel method of production of Bioethanol from Pig excreta Inventors Ramesh D, Deb R , Shivkumar MC Technology under submission to Agriinovate India Limited

Diagnostic Kits Developed and Released



Release of **CIRC-Cattle BLAD Diagnostic Kit** and **COWCAM Kit** by Hon'ble Secretary (DARE) & DG (ICAR) on 33rd foundation day of ICAR-CIRC, Meerut on 3rd Nov, 2019

Available Technologies

Technology Data Repository
KRISHI: Technology Collections Developed by ICAR Institutes

General Part-1

Technology Code:- : 20152122482811

Organization Details...

- Subject Matter Division : Animal Science
- Organization Name : ICAR-Central Institute for Research on Cattle ,Meerut
- Principal Inventor : Rajib Deb
- Principal Inventor Designation: : Scientist
- Principal Inventor Email : Rajib.Deb@icar.gov.in
- Principal Inventor Address : ICAR-Central Institute for Research on Cattle,Meerut
- Co-Inventor Name : Sushil Kumar, Umesh Singh, Shrikant Tyagi, D.K. Mandal and A.K. Mathur

Technology Name : Y-specific microsatellite loci-based screening for quality bull-semen

Technology Details...

- Major resource : Informatics
- Minor Subject Classification : Animal production
- Minor Subject Sub Classification : Animal physiology/Reproduction
- Technology Group : Animal Production System

Artificial Neural Network...

Organization Details

Organization Name:
ICAR-Central Institute for Research on Cattle,Meerut

Subject Matter Division:
Animal Science

Regional Station Name:

Details of Inventor

Principal Inventor Name:
Rajib Deb

Principal Inventor Designation:
Scientist

Principal Inventor Address:
ICAR-Central Institute for Research on Cattle, Meerut, Uttar Pradesh,India

Technology Details

Technology Name:
Artificial Neural Network based statistical methodologies developed for early prediction of post thaw motility in bull semen

Major Resource:
Statistical Methods

Technology Data Repository
KRISHI: Technology Collections Developed by ICAR Institutes

General Part-1

Technology Code:- : 20152122482811

Organization Details...

- Subject Matter Division : Animal Science
- Organization Name : ICAR-Central Institute for Research on Cattle ,Meerut
- Principal Inventor : Rajib Deb
- Principal Inventor Designation: : Scientist
- Principal Inventor Email : Rajib.Deb@icar.gov.in
- Principal Inventor Address : ICAR-Central Institute for Research on Cattle,Meerut
- Co-Inventor Name : Sushil Kumar, Umesh Singh, Shrikant Tyagi, D.K. Mandal and A.K. Mathur

Technology Name : Y-specific microsatellite loci-based screening for quality bull-semen

Technology Details...

- Major resource : Informatics
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- Minor Subject Sub Classification : Animal physiology/Reproduction
- Technology Group : Animal Production System

Home

TECHNOLOGY REPOSITORY
Central Institute for Research on Cattle

SEARCH

- Commodity
- Major Resource
- Technology Group
- Technology Related to

Technology Repository consists of technologies generated by ICAR Institutions in the areas of Crop Improvement, Natural Resources Management, Fisheries, Veterinary, Dairy, Animal Sciences, Horticulture, Engineering and Social Sciences.

Brief Description of Technology Including Salient features

Y specific microsatellite loci may be alternative biomarkers for selecting bulls with better semen quality parameters.

Benefits/Utility:
Early prediction of semen quality traits

Advantage Over Existing Process/Product:

Technology Impact:

Principal Inventor Name:
Rajib Deb

Principal Inventor Designation:
Scientist

Principal Inventor Address:
ICAR-Central Institute for Research on Cattle,Meerut

Technology Precautions:

FULL DETAIL

Curriculum Vitae (Dr. Rajib Deb, Scientist)



The screenshot shows the Agrinnovate India website. The header includes the Government of India logo, the Ministry of Agriculture and Farmers Welfare, and the Department of Agricultural Research and Education. The main navigation bar contains links for Home, About Us, Institutes, Available Technology, Latest News, Events, and Contact Us. The current page is titled "CIRC-Cattle BLAD Diagnostic Assay" and features a "Print" button. The background text describes Bovine leukocyte adhesion deficiency (BLAD) as an autosomal recessive congenital disease. It mentions that affected cattle die at an early age due to infectious complications. The guidelines of the Central Monitoring Unit (CMU) stipulate that bulls used for breeding should be tested for four genetic disorders including BLAD to avoid its transmission to its progeny. The technology details state that the CIRC-Cattle BLAD Diagnostic assay kit is used for early detection of BLAD carrier animals. The test is rapid (2-3 hours), user-friendly, economical, and specific. The kit is useful for selecting BLAD-free animals, especially young bulls at their early stage of life. It is useful for semen collection/germplasm centres, research institutions, State Animal Husbandry Departments, and NGOs involved in semen collection and processing of cattle and buffaloes. A green button labeled "Express your interest" is visible at the bottom of the text area.

Technology Link:

[http://www.agrinnovateindia.co.in/subTechnologyDescription?id=318&Subtitle=CIRC-Cattle%20BLAD%20Diagnostic%20Assay&Techtitle=ICAR-%20Central%20Institute%20for%20Research%20on%20Cattle%20\(CIRC\)](http://www.agrinnovateindia.co.in/subTechnologyDescription?id=318&Subtitle=CIRC-Cattle%20BLAD%20Diagnostic%20Assay&Techtitle=ICAR-%20Central%20Institute%20for%20Research%20on%20Cattle%20(CIRC))

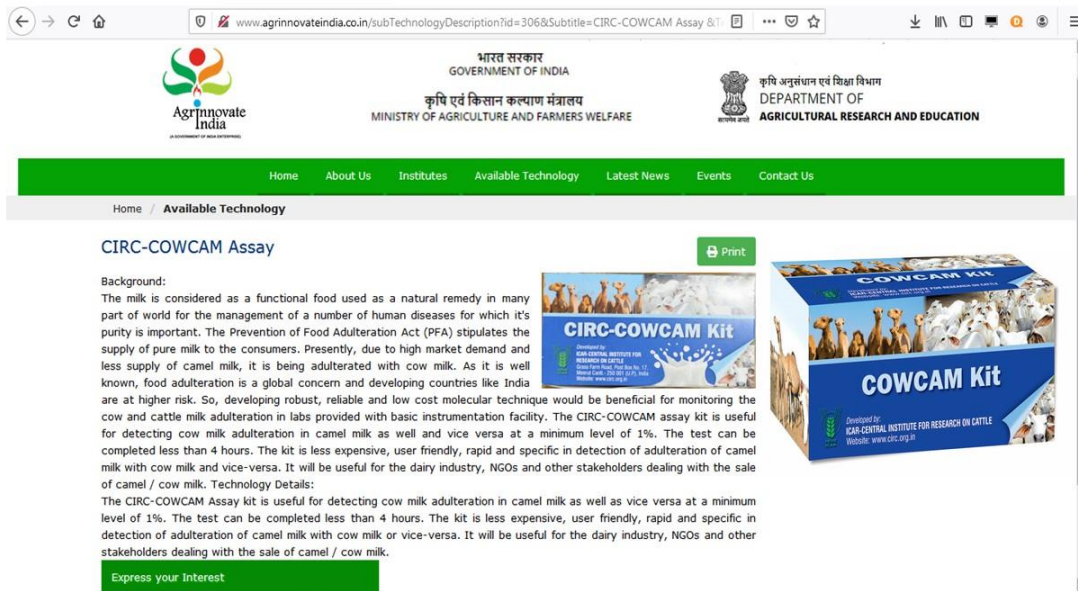
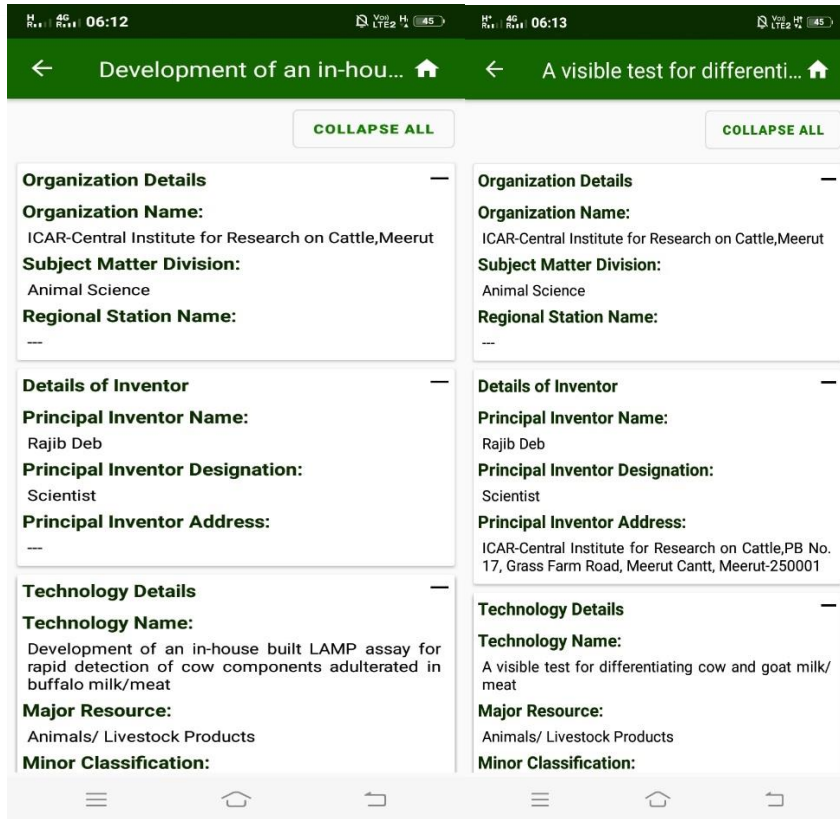


The screenshot shows the Agrinnovate India website. The header includes the Government of India logo, the Ministry of Agriculture and Farmers Welfare, and the Department of Agricultural Research and Education. The main navigation bar contains links for Home, About Us, Institutes, Available Technology, Latest News, Events, and Contact Us. The current page is titled "CIRC-Cattle CVM assay" and features a "Print" button. The background text describes Complex vertebral malformation (CVM) as a genetic lethal syndrome in Holstein calves. It is characterized by shortened cervical and thoracic regions of the vertebral column, bilateral symmetric contraction of the metatarsophalangeal joints, symmetric arthrogryposis, and sometimes multiple hemivertebrae, scoliosis, and synostosis of the vertebral column. Affected calves are often stillborn, typically 1-2 weeks prior to the expected calving date; however, many fetuses are also aborted even earlier in the gestation period causing huge economic loss to the farmers. From a dairy cattle breeding and industry perspective, due to the widespread practice of Artificial Insemination, carrier animals spread the mutated allele and hence the defect to new generations while recessive homozygous animals do not survive up to breeding. Hence the spread of CVM is largely through the use of semen of carrier animals used in the AI. With the aim of eliminating this genetic defect from the herd, it has been made mandatory to screen all the breeding bulls for this genetic defect. The technology details state that the CIRC-Cattle CVM assay is used for early detection of CVM carrier animals. The test is rapid (2-3 hours), user-friendly, economical, and specific.

Technology Link:

<http://www.agrinnovateindia.co.in/subTechnologyDescription?id=317&Subtitle=CIRCCattle%20VM%20assay&Techtitle=ICAR-%20Central%20Institute%20for%20Research%20on%20Cattle>

[%20\(CIRC\)](#)



Technology Link:

[http://www.agrinovateindia.co.in/subTechnologyDescription?id=306&Subtitle=CIRC-COWCAM%20Assay%20&Techtitle=ICAR%20Central%20Institute%20for%20Research%20on%20Cattle%20\(CIRC\)](http://www.agrinovateindia.co.in/subTechnologyDescription?id=306&Subtitle=CIRC-COWCAM%20Assay%20&Techtitle=ICAR%20Central%20Institute%20for%20Research%20on%20Cattle%20(CIRC))

Patents/IPs

Sl. No.	Title	Inventors	Year of filing	Application number	Publication	Current Status
Patents						
1	Development of a rapid user friendly single tube PCR based tool for detection of bovine leukocyte adhesion deficiency (BLAD) carrier in cattle	Alyethodi R R, Singh U, Kumar S, Deb R, Alex R, Sharma S, Prakash B	2015	1073/DEL/2015	<i>The Patent Office Journal 34/2017, Page No: 27763</i>	First examination report submitted (26/07/2020) (Reply Filed. Application in amended examination stage)
2	A Color based assay for differentiating cow vs goat milk/meat	Deb R, Alex R, Kumar S, Singh S, Raja T V, Alyethodi R R, Sengar G, Prakash B	2015	1901/DEL/2015 A	<i>The Patent Office Journal 45/2017, Page No: 39817</i>	Examination stage
3	Development of an in-house built LAMP assay for rapid detection of cow components adulterated in buffalo milk/meat	Deb R, Singh U, Kumar S, Das A K, Raja T V, Alyethodi R R, Alex R, Sengar G, Prakash B	2015	3870/DEL/2015	<i>The Patent Office Journal 31/03/2017, Page No: 8096</i>	Examination stage
4	Development of tetra primer displacement PCR assay for detection of complex vertebral malformation in cattle	Alyethodi R R, Singh U, Kumar S, Alex R, Deb R, Sengar G S, Prakash B	2016	201611034916	<i>The Patent Office Journal no. 15/2018, dated 13/04/2018, Page No: 13461</i>	Examination stage
5	Identification of functional Internal Ribosomal Entry	Deb R, Singh U, Sengar G S, Sajjanar B, Kumar S,	2017	201711042562	<i>The Patent Office Journal no. 02/2019, dated 11/01/2019, Page No: 1129</i>	Examination stage

Curriculum Vitae (Dr. Rajib Deb, Scientist)

	Sites (IRES) at bovine heat shock protein 90	Hazra S, Alex R, Raja T V, Alyethodi R R, Kumar A, Das AK, Prakash B				
6	Kit for differentiating cow and camel milk	Deb R , Kumar A, Sengar G S, Raja T V, Singh U, Kumar S, Patil N V	2019	201911031389	Requested	Complete Specification filed
7	A Single step Nucleic Acid based diagnostic for simultaneous detection of Nucleocapsid (N), Matrix (M) and Glycoprotein5 (Orf5) genes of Porcine Reproductive and Respiratory Syndrome (PRRS) Virus infection In Pigs	Yadav A K, Rajkhowa S, Pegu, S R Deb R , Paul S, Doley J, Banik S, Das P J, Choudhury M	2020	202011004699	-	Provisional application filed
8	Antimicrobial activity of piggery waste medicinal maggots	Deb R , Rajkhowa S, Pegu S R, Yadav A K, Paul S, Ramesh D, Choudhary M	2020	202011052348	-	Provisional application filed
9	Novel method of production of Bioethanol from Pig excreta	Ramesh D, Shivakumar M.C, Deb R et al.,	2021	202141000942	-	Provision application filed
Trade Mark						
1.	Frieswal	Kumar S, Alex R, Gaur G K, Mukherjee S S, Mandal D K, Singh U, Tyagi S, Kumar A, Das A K, Deb R , Raja T V, Kumar M, Sirohi A S, Chand N,	2019	4361504	<i>Trade Marks Journal No: 1935, 06/01/2020 Class 31. Page no 3428)</i>	Granted (Registration number 2472332, date 02.09.2020)

		Prasad R, Bhasin V and Kashyap S				
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Technology Inventories

1. **Deb R**, Alex R, Kumar S, Singh U, Raja T V, Alyethodi RR, Sengar G, Prakash B (2016) A color based test for differentiation of cattle and goat milk and meat. Published by Director, ICAR-Central Institute for Research on cattle, Meerut 37ant-250 001.
2. Alyethodi RR, Singh U, Kumar S, **Deb R**, Alex R, , Sharma S, Prakash B (2016) Development of a diagnostic test for early detection of bovine leukocyte adhesion deficiency (BLAD) carriers in cattle. Published by Director, ICAR-Central Institute for Research on cattle, Meerut 37ant-250 001. Inventors:
3. **Deb R**, Singh U, Kumar S, Das A K, Raja T V, Alyethodi R R, Alex R, Sengar G, Prakash B (2016) Lamp assay based rapid detection of cow components in buffalo milk/meat. Published by Director, ICAR-Central Institute for Research on cattle, Meerut 37ant-250 001.
4. **Deb R**, Sengar GS, Raja T.V., Singh U, Kumar S (2018). Technology inventory on “Development of a bovine heat shock protein 90 Internal ribosomal Entry Site (IRES) based expression vector-p_{hsp90}IRES. Published by Director, ICAR-Central Institute for Research on Cattle, Meerut
5. Alyethodi, R.R., Singh, Kumar S, Alex R, **Deb R**, Sengar G S, Prakash B (2018) Development of a single tube PCR assay for rapid detection of Bovine Complex Vertebral Malformation (CVM) carrier. Published by Director, ICAR-Central Institute for Research on Cattle, Meerut
6. Ganguly I, Singh U, Gaur G K, Kumar S, Alex R, **Deb R**, Kumar S, Mann S (2019) CIRC-assay for detecting A1A2 milk in cattle and buffalo. Published by Director, ICAR-Central Institute for research on Cattle, Meerut, UP.
7. Alyethodi R R, **Deb R**, Singh U, Kumar S, Alex R, Sharma S, Sengar G S, Prakash B (2019) CIRC-CATTLE BLAD diagnostic assay kit. Published by Director, ICAR-Central Institute for research on Cattle, Meerut, UP.
8. **Deb R**, Kumar A, Sengar G S, Raja T V, Singh U, Kumar S, Patil N V (2019) CIRC-COWCAM assay kit. Published by Director, ICAR-Central Institute for research on Cattle, Meerut, UP.
9. Alyethodi R R, **Deb R**, Singh U, Kumar S, Alex R, Sharma, Sengar G S, Prakash B (2019) CIRC-Cattle CVM assay. Published by Director, ICAR-Central Institute for research on Cattle, Meerut, UP.

Leaflets/Technical bulletins

1. **Deb R**, Singh U, Kumar S, Sharma A (2012): Molecular tools and its application in genetic Research, Institutional publication (Technical bulletin), Project Directorate on Cattle, ICAR, Meerut, UP, India
2. Kumar S, Singh, U, **Deb R**, Alyethodi R R, Alex R, Singh R, Prakash B (2016) :Candidate Gene Markers: Status and Significance for Phenomic Selection in Frieswal Cattle. Technical Bulletin. ICAR-Central Institute for Research on Cattle, Meerut, UP, India. 75 pp.
3. **Deb R**, Raja T V, Alex R, Amod Kumar, Singh U, Kumar S, Sengar GS, Singh R, Ashish, Patil, N V (2019) Summer stress management in dairy cattle (CIRC/2019/02) published by Director, ICAR-CIRC, Meerut

Success Stories

1. **Deb R**, Kumar A, Sengar G S, Raja T V, Singh U, Kumar S, Patil N V 2020. *Success Story on CIRC-COWCAM ASSAY: A Kit for Detecting Cow Milk Admixed with Camel Milk or Vice Versa*. Biotica Research Today 2(3): 36-37.
2. Alyethodi R R, **Deb R**, Singh U, Kumar S, Alex R, Sharma S, Sengar G S 2020. *Success Story on CIRC-Cattle BLAD Diagnostic Kit*. Biotica Research Today 2(4):75-76.
3. Kumar S., Alex R., Gaur G.K., Mukherjee S.S., Mandal D.K., Singh U., Tyagi S., Kumar A., Das A.K., **Deb R.**, Raja T.V., Kumar M., Sirohi A.S., Chand N., Prasad R., Bhasin V. and Kashyap S. 2020. *Success Story on Frieswal – A National Milch Crossbred Cattle*. Biotica Research Today. 2, 5 Spl. (May 2020), 208-209.

Gene bank Accession numbers obtained

Few identified SNPs/novel genes associated with productivity/economical traits of dairy cattle has been deposited at Gene bank, NCBI. A total **52 Accession Numbers** were obtained viz. JX265975, JX265976, JX524782, JX524783, KF926413, KF926414, KF926415, KF926416, KF992799, KJ363161, KF765574, KF765575, KF765576, KF765577, KF765573, KF774292, KF774293, KF774294, KF774295, KF774296, KF278640, KF377805, KF886535, KJ847280, KJ847281, KJ847282, KM235189, KM 235190, KM272399, KM27400, KM27401, KM27402, KM27403, KM27404, KP768402, KP768403, KP776744, KR779877, KU951575, KU951576, KU951577, MF400854, MF590206, MF663323, MK170189, MK170190, MK170191, MK170192, MK170193, MK170194, MK170195

Trainings attended

Title	Duration	Institution	Year
Foundation Course for Agricultural Research Service (FOCARS)	3 months	ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad	2011
Orientation Training at ICAR-Central Institute for Research on Cattle	1 months	ICAR-Central Institute for Research on Cattle, Meerut, UP	2011-12
Professional attachment Training	3 months	ICAR-Indian Veterinary Research Institute, Izatnagar, UP	2012
Genomics and Phenomics tools in livestock genome research	10 days	ICAR summer school conducted by ICAR-National Bureau of Animal Genetic Research, Karnal	2012
Molecular Genetic data generation, analysis and utilization in animal breeding	21 days	ICAR-CAFT training Program conducted by ICAR-National Dairy Research Institute, Karnal	2013
Productivity improvement through livestock management	1 day	Brain Storming Session on organized by U.P. Council of Agricultural Research, Lucknow, UP	2014
Advances in Omics data analysis: learning by examples	21 days	ICAR-CAFT training organized by ICAR-Indian Agricultural Statistical Research Institute, New Delhi	2014

Curriculum Vitae (Dr. Rajib Deb, Scientist)

Short term Post-Doctoral Advanced Research and Training under TWAS Fellowship, Italy	5 months	University of Federal de Goias, Goiania, Brazil	2018
Fundamentals for a Technology Transfer Professional training	5 days	Society for Technology Management (STEM), National Biopharma Mission, Department of Biotechnology, GOI	2019
Development of Roadmap on Genomic Selection in cattle and buffaloes and Modalities for National Genetic Evaluation System (NGES)	2 days	Jointly organized by ICAR-Indian Veterinary Research Institute, Izatnagar & Indian Council of Agricultural Research, New Delhi at NASC complex, New Delhi.	2019
Sensitizing workshop on Technology Commercialization/Licensing	1 day	ICAR-National Research Center on Pig, Guwahati, Assam	2019
Training of Trainers (TOT) Programme for KVK/SAUs/ICAR Institutes	3 days	Agriculture Skill council of India (ASCI), ICAR-ATARI, Kanpur	2020
Indian Science Academies' Science Leadership Workshop (Virtual)	7 days	Central University of Punjab, Bathinda, India from June 22-June 28, 2020	2020
e-office training programe	1 day	ICAR-National Research Center on Pig, Guwahati, Assam	2020
Workshop on sensitization of Institute technologies for economic pig production and it commercialization	1 day	ICAR-National Research Center on Pig, Guwahati, Assam	2020
National level e-Workshop on Molecular Visualization and Modeling using Python Programming	3 days	DBT STAR COLLEGE Sponsored at Maulana Azad College, Kolkata	2020
Webinar on Abiotic stress in Agriculture: Geospatial characterization and management options	1 day	ICAR-National Abiotic Stress Management, Baramati	2020
Virtual workshop-cum-training on Intellectual Property Rights in Agricultural Research & Education in India	14 days	Indian Council of Agricultural Research Krishi Anusandhan Bhawan, Pusa, New Delh	2020

Memberships Obtained

Sl. No.	Society/Academy
1	National Environmental Science Academy, India (Life Membership No. 2136)
2	International Society of Biometrology, USA
3	National Academy of Biological Sciences, India (LM- 016-18)
4	Society for Technology Management (STEM), Hyderabad, India
5	Indian Society of Veterinary Immunology and Biotechnology (Regd. Society No.409/1990), Tamilnadu, India (2012)
6	Indian Association of Veterinary Public Health Specialists (Regd.no.33965/98)

Curriculum Vitae (Dr. Rajib Deb, Scientist)

7	Asian Chemical Society, Rajasthan, India (ACS/2018/LM617)
8	Society for Conservation of Domestic Animals (SOCDAB), ICAR-NBAGR, Karnal, India (SOCDAB-877,2015)
9	International Society for Noni Science (LM-085-15)

Date: 28-03-2021



(Rajib Deb)