

**APPLICATION FORM FOR PARTICIPATION IN
SUMMER SCHOOL**

“Improving Reproduction Rate through Assisted Reproductive and Stem cell Technologies for enhancing production in Small Ruminants”

July 6-26, 2017

1. Full Name (in block letter) :
2. Designation:
3. Present employer and address:
4. Address to which reply should be sent (in block letter): (Give email ID, phone/mobile, FAX No.) :
5. Permanent address:
6. Date of birth:
7. Sex (male/female):
8. Teaching/Research/Professional Experience (mention post held during last 5 year and no. of publication:
9. Mention if you have participated in any training course during the previous year under ICAR/ other organization:
10. Academic record

S.No.	Examination passed	Subject main/subsidiary	Year of passing	Class/rank disc.	University/Institution	Other information
1	Bachelor					
2	Master					
3	Doctoral					
4	Others					

Date: Signature of Applicant

Place:

11. Recommendation of forwarding Institute:

Signature:

Designation:

Address:

Date:

ys9456684421@gmail.com

Course Faculty:

Dr. S. K. Jindal, Principal Scientist & Head, AP&R Division, ICAR-CIRG, Mathura

Dr. A. K. Goel, Principal Scientist AP&R Division, ICAR-CIRG, Mathura

Dr. Ashok Kumar, Principal Scientist Animal Health Division, ICAR-CIRG, Mathura

Dr. S. D. Kharche, Principal Scientist AP&R Division, ICAR-CIRG, Mathura

Dr. Ravi Ranjan, Scientist AP&R Division, ICAR-CIRG, Mathura

Dr. M. S. Dige, Scientist AG&B Division, ICAR-CIRG, Mathura

Dr. M. K. Singh, Principal Scientist AG&B Division, ICAR-CIRG, Mathura

Dr. M. S. Chauhan, Director ICAR-CIRG, Makhdoom, Mathura



Course Director

Dr. S. D. Kharche, Principal Scientist

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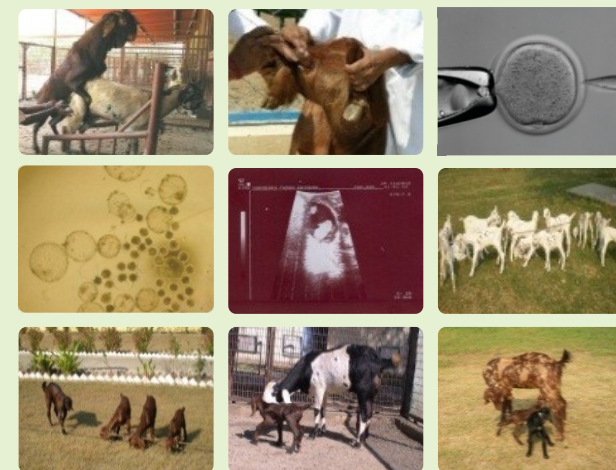
For update & on line application, please log on to:
cbp.icar.gov.in; www.cirg.res.in

SUMMER SCHOOL

On

“Improving Reproduction Rate through Assisted Reproductive and Stem cell Technologies for enhancing production in Small Ruminants”

July 6-26, 2017



Sponsored by:

**Indian Council of Agricultural Research
New Delhi**



Organized by:

**Animal Physiology & Reproduction Division
ICAR-Central Institute for Research on Goat**,
(An ISO 9001:2008 Certified Organization)
Makhdoom , Farah, Mathura, U.P.- 281122

About Institute and Animal Physiology and Reproduction Division

Central Institute for Research on Goats (CIRG) is a premier research Institute of Indian Council of Agricultural Research (ICAR), an autonomous organization under Department of Agricultural Research and Education, Ministry of Agriculture, Government of India. The Institute was established on 12th July, 1979 with the vision to develop the poor men's cow - the goat as a source of livelihood security, poverty alleviation and employment generation for the small holders. Our Mission is to enhance and sustain goat productivity in respect of meat, milk and fibre through Research, Extension and HRD support. The Mandate of the Institute is to undertake basic and applied research in all disciplines of goat production and product utilization, to impart trainings, to transfer technologies and provide consultancy services for improving quantity and quality of meat, milk and fibre production from goat and to develop goat products processing technologies. According to livestock census 2012, there are 135.2 million goats in the country. About 5 million household in the country are engaged in the rearing of small ruminant and other allied activities. The Division of Animal Physiology and Reproduction in its present form was established in the year 1998 consequent upon merging of two sections.

Division has three major laboratories viz. Environmental Physiology, Male Reproduction Laboratory & Female Reproduction and Embryo Transfer Laboratory besides an Experimental Animal Shed complex.

The Division is primarily engaged in carrying out research in the field of **Reproductive Biotechnology**, Male and Female Reproduction including Synchronization, superovulation, Embryo transfer, IVM, IVF, ICSI, Parthenogenesis, Stem cell culture and Cryopreservation of goat semen, embryo, fibroblast and Stem cells. etc.

Use of antioxidants and combination of cryoprotectant in the dilutor on freezability of goat semen was studied. A modified freezing protocol has been developed for *ex-situ* conservation of buck semen. Optimum number of live spermatozoa required per inseminating dose has been worked out.

Post-thaw motility was found better in straws having lower sperm concentration of 50-100 m spermatozoa as compared to higher concentration of 150-200 m spermatozoa. Fertility

rate with frozen semen using deep cervical technique ranged from 25-48%. Good quality embryos were successfully collected through non -surgical technique. Technologies have been perfected for collection and transfer of embryos for quick multiplication of superior goat germplasm. The conception rate in recipient does through surgical transfer varied from 20 to 40%. Several kids were born out of AI, multiple ovulation and embryo transfer technique. Laparoscopic technique could be applied for oocyte recovery & AI and application of hyaluronidase enzyme proved to be beneficial in oocyte recovery.

Caprine embryos, fibroblast cell and stem cells could be successfully frozen at -196°C by vitrification technique. Embryo transfer of eight to 16 cell & morula stage in-vitro fertilized (IVF) embryos in to a local surrogate goat resulted in birth of a healthy kid "Krishna" and twins kids "Ajat and Ajati" at this Institute.

Course contents (Theory and on bench practical)

1. Semen collection & evaluation in Goat
2. Semen freezing in Goat
3. Post thaw evaluation & Bacterial load in semen
4. Artificial Insemination in Goat
5. Estrous synchronization
6. Superovulation
7. Embryo collection & Embryo Transfer
8. Media preparation
9. Collection of oocytes from slaughterhouse & live goats
10. In vitro maturation & fertilization of Goat oocytes
11. In vitro culture of fertilized oocytes
12. Assessment of cleavage, and embryonic development.
13. Stem cell culture
14. Intra cytoplasmic Sperm Injection (ICSI)
15. Cloning
16. Laparoscopy
17. Ultrasonography
18. Bone marrow aspiration from live goat
19. Isolation and culture of MSC's
20. Purification, enrichment & cryopreservation of MSC's
21. Therapeutic applications of MSC's in treatment of various diseases

Eligibility:

Applications are invited from researchers and teachers of Animal Biotechnology and allied subjects not below the rank of scientist of ICAR/Assistant Professor of SAU's and CAU and other university. Trainee should have at least five years of service left before superannuation.

How to apply:

Interest candidates may log on to cbp.icar.gov.in or under link capacity Building program at <http://icar.org.in>. After filling the online application take print out of the application and get it approved by the competent authority of your organization. Upload the scanned copy of application through CBP portal and also send duly forward application by post to Course Director on or before **16 June, 2017**. The advance copy of application may also sent through email to the Course Director Dr S. D. Kharche (kharche62@gmail.com).

Registration Fee:

As per ICAR guidelines a registration fee of Rs 50 /- per participant has to be paid by the participants (non-refundable). The fee may be paid through DD/Indian postal order in favour of the ICAR-Unit CIRG, Makhdoom, Farah, Mathura

Certificate:

A certification will be awarded to the participants' on the successful completion of the course.

Financial Assistance:

The participants will be paid T.A. for to and fro journey by rail/bus/public transport by the shortest route as per entitlement, but restricted to A.C. II normal train fare only (on producing documentary evidence). They should produce a certificate from the parent organization to the effect that they are not being paid T.A. and D.A, for this course.

Boarding and Lodging:

Accommodation will be arrange free of cost in the Institute Guest house for the period of stay during the course. wholesome food will be provided free of cost to all the outside and local participants with minimum hospitality as per ICAR rules.