

## CURRICULUM VITAE

Ali Husnain, DVM, PhD



### Lecturer

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*Website: <https://uvas.edu.pk/academics/faculties/FVS/theriogenology/Faculty/ali-hussain.htm>*

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### Education

- 2019 - 21**    **Candidate for Diplomate American College of Theriogenologists**  
Mentor: Dr. Klibs Galvão, University of Florida, Gainesville, USA
- 2017 - 22**    **PhD Animal Molecular and Cellular Biology** CGPA: 3.88/4.00  
Mentor: Dr. José Eduardo P. Santos, University of Florida, Gainesville, USA
- 2011 - 13**    **MPhil Theriogenology** CGPA: 3.95/4.00  
Mentor: Dr. Nasim Ahmad, University of Veterinary & Animal Sciences, Lahore
- 2006 - 11**    **Doctor of Veterinary Medicine** CGPA: 3.96/4.00  
College of Veterinary & Animal Sciences, Jhang

### Academic/Professional Experience

- 2014 -**        **Lecturer**, (June 2014 to present)  
Department of Theriogenology,  
University of Veterinary and Animal Sciences, Ravi Campus, Pattoki.
- 2015 - 17**    **Veterinary Officer**, (December 2015 to July 2017)  
Training and Research Demonstration Farm Program  
University of Veterinary and Animal Sciences, Ravi Campus, Pattoki.
- 2013 - 14**    **Teaching Assistant**, (December 2015 to July 2017)  
Department of Theriogenology  
University of Veterinary and Animal Sciences, Ravi Campus, Pattoki.
- 2011 - 17**    **Reproduction Consultant** (October 2011 to February 2017)  
Living Dairy Farm,  
Chunian.
- 2011 - 13**    **Research Assistant**, (October 2011 to August 2013)

Pak-US HEC Project ‘New approaches of Estrus Synchronization to improve reproductive performance in dairy animals’  
University of Veterinary and Animal Sciences, Lahore.

**2012 - 12**    **Farm Consultant**, (June 2012 to November 2012)  
Kamal Nasir Khan (KNK) Dairy,  
Raiwand, Lahore.

**2011 - 11**    **Research Trainee**, (February 2011 to June 2011)  
Al-Haiwan Sires,  
Sahiwal.

**2008 - 08**    **Research Trainee**, (August 2008 to October 2008)  
Pakistan Dairy Development Company (PDDC),  
Jhang.

### **Teaching Experience**

**2015 - 17**    **UVAS Graduate:** Diagnostic ultrasonography in animal reproduction, embryo transfer in farm animals. Department of Theriogenology, University of Veterinary & Animal Sciences, Lahore.

**2013 – 17**    **UVAS Undergrad:** Animal reproduction and AI, veterinary obstetrics and genital diseases, reproduction clinic I, and II. Department of Theriogenology, University of Veterinary & Animal

### **Specialty/Technical Training**

- Light, epifluorescence, and confocal microscopy
- Immunofluorescence assay
- Flow cytometry
- RNA extraction and real-time PCR
- *In-vitro* fertilization and cell culture
- Embryo and conceptus collection
- Ovum pick up
- Large animal surgery
- Evaluation of uterine health in bovine
- Reproductive ultrasonography
- Semen collection, cryopreservation, and analysis

### **Awards and Honors**

**2022**        **Nominated** to attend the 1<sup>st</sup> international conferment on ‘Precision Agriculture Pakistan Conference - PAPC 2022’. Organized by the Center for Precision Agriculture at Pir Lehr Ali Shah-Arid Agriculture University Rawalpindi and held

on September 22-24, 2022. Covered traveling and daily expenses by main budget of UVAS, Lahore

- 2022** *Travel award* to attend the 55<sup>th</sup> annual meeting of the Society for Study of Reproduction (SSR) at Spokane, WA on July 26 - 29, 2022. Awarded \$350 from the Graduate Student Council of the University of Florida. **Did not avail**
- 2022** *Travel grant* to attend the 55<sup>th</sup> annual meeting of the Society for Study of Reproduction (SSR) at Spokane, WA, on July 26 - 29, 2022. Awarded \$1000 from Fulbright Commission of United States. **Did not avail**
- 2021** *Travel awards* as a graduate scholar to attend the Dairy Cattle Reproduction Council (DCRC) annual meeting, held on November 9-11, 2021. at the Loews Kansas City Hotel. Awarded \$1500 from the DCRC program for the graduate scholar.
- 2021** *Awarded* the complimentary registration to attend the Society for Theriogenology (SFT) Conference virtual meeting, held on July 21-24, 2021. Awarded \$250 from the residency program of Veterinary College of the University of Florida.
- 2018** *Travel sponsorship* to participate in Fulbright Enrichment Seminar, May 10-13, 2018, Nashville, Tennessee. Organized by the Fulbright Commission of the United States, where over 100 Fulbright scholars gather from different counties.
- 2018** *Travel award* the support to participate in AABP Edwin Robertson Beginning Embryo Transfer Seminar, held on August 12-16, 2018, at Virginia Tech, VA. Awarded \$2000 registration fee along with the travel and lodging for five days by United States Livestock and Genetic Export (USLGE), Madison, USA.
- 2017** *Travel sponsorship* to participate in the **Fulbright Pakistan Orientation Seminar**, November 2-5, 2017, University of Wisconsin, Madison. Organized and sponsored by the Fulbright Commission of the United States. Organized by the Fulbright Commission of the United States, where over 100 Pakistani Fulbright scholars gather.
- 2017** *Travel award* to attend the American Embryo Transfer Association (AETA) and Canadian Embryo Transfer Association (CETA/ACTE) joint convention, held on October 26–28, 2017, in Orlando, Florida. Awards for complimentary registration, travel, and lodging for three days by AETA.
- 2017** *Travel award* to attend the World Dairy Expo 2017, held on October 2-7, 2017, at Madison, Wisconsin. Awarded travel support and lodging for six days by United States Livestock and Genetic Export (USLGE), Madison, USA.
- 2017** *Travel award* to participate in International Dairy Short Course held on October 2-4, 2017, at Madison, Wisconsin. Awarded travel support and lodging for three days by United States Livestock and Genetic Export (USLGE), Madison, USA.

- 2017** Fully funded Ph.D. Scholarship from *the Fulbright Commission of the United States* under the Animal Molecular and Cellular Biology (AMCB) program in the Department of Animal Sciences at the University of Florida. Awards of **\$260,392** cover tuition fees, living allowance, and health insurance from 2017 - 2022.
- 2016** *Travel grant* to attend International Congress on Animal Reproduction (**ICAR**) on June 26 - 30 2016, in Tours France. Awarded €1000 from the organizing committee of ICAR.
- 2015** *Second Position* in a *Poster Competition* on ‘replacement for the commercial dairy farm: an intensive breeding program for pre-pubertal buffalo heifers’ in International Symposium on Dairy Animal Reproduction (**ISDAR**) held on March 30 – 31, 2015, at UVAS, Lahore. Awarded Cash prize and certificate
- 2011-13** Nominated for *Merit Scholarship* throughout MPhil program at UVAS Lahore.
- 2011** Recipient of *Bronze Medal*, holding the third position in DVM 2006-11 batch at UVAS Lahore.
- 2011** *First Position* in the final semester of *DVM Internship Program* 2011. Awarded with a cash prize and a letter of appreciation.
- 2008** Selected for *Research Trainee* on merit-based in Pakistan Dairy Development Company (**PDDC**) from August to October 2008.
- 2006 - 11** Awarded for *Merit Scholarship* throughout DVM program at CVAS Jhang.

#### University and Department Administration/Committee

- 2022 - Date** Coordinator of DVM 7<sup>th</sup> and 9<sup>th</sup> semester at Ravi campus Pattoki. August 18, 2022, to date
- 2014 – 15** In-charge bovine experimental facility for Theriogenology Teaching at Ravi campus, Pattoki. Monitoring Health and Reproduction of cattle and buffalo.
- 2014** Served as *Student Advisor* DVM 4<sup>th</sup> year of batch 2010-15.

#### University and Department Services

- 2014** Nominated as an *External Examiner* for comprehensive examination of livestock assistant diploma class in Para-Veterinary Institute, Karor Lal-Eason Layyah and College of Veterinary and Animal Sciences, Jhang in December 2014.
- 2014** Nominated to perform the *Penile Deviation Surgery* in buffalo bulls at Livestock Experimental Station, Khushab, on 26 June 2014.

#### Community and Professional Services

- 2018** Participated in Fulbright Enrichment Seminar, May 10-13, 2018, Nashville, Tennessee. Organized and sponsored by the Fulbright Commission of the United States.
- 2017** Participated in **Fulbright Pakistan Orientation Seminar**, November 2-5, 2017, University of Wisconsin, Madison. Organized and sponsored by the Fulbright Commission of the United States.
- 2015** **Reviewer** of the abstracts submitted in International Symposium on Dairy Animal Reproduction held on 30-31 March 2015 at UVAS, Lahore. These were published in the Journal of Veterinary and Animal Sciences.
- 2015** **Moderator** in a plenary session of student competition in ISDAR2015, held on 30-31 March 2015 at UVAS, Lahore.
- 2013** **Life member**, Alumni Association of UVAS.
- 2013** **Member**, Nutritionist Association of Pakistan.
- 2012-17** **Member**, Pakistan Veterinary and Medical Council
- 2011** **Life member**, Society of Animal Reproduction in Pakistan.

**Extension and Training Services**

**2022**

1. Attendant the 1<sup>st</sup> International conference on precision agriculture Pakistan conference 2022. Held on September 22-24, 2022, at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi.
2. Attended American dairy science association (ADSA), annual meeting June 19-23, 2022, at Kansas City, MO.
3. Attended 20<sup>th</sup> Animal Molecular and Cellular Biology (AMCB), symposium, held on May 13-14, 2022, at Fernandina Beach, Amelia Island Florida, Florida.
4. Attended 33<sup>rd</sup> Florida ruminant nutrition symposium, held on April 9-11, 2022, at Gainesville, Florida.

**2021**

5. Attended Dairy Cattle Reproduction Council (DCRC) annual meeting, held on November 9-11, 2021. at the Loews Kansas City Hotel, MO
6. Attended Society for Theriogenology (SFT) Conference virtual meeting, held on July 21-24, 2021.
7. Attended American dairy science association (ADSA) virtual meeting, held on July 11-14, 2021
8. Attended 32<sup>nd</sup> Florida ruminant nutrition symposium, held on May 12-14, 2021, at Gainesville, Florida.

**2020**

9. Attended the 31<sup>st</sup> Florida Ruminant Nutrition Symposium, held on Feb 3-5, 2020, at Gainesville, Florida.

## **2019**

10. Attended the 5<sup>th</sup> Animal Sciences Symposium, held on October 04-05, 2019, at St. Augustine, Florida
11. Attended the 554<sup>th</sup> Florida Dairy Production Conference, held on September 18, 2019, at Gainesville, Florida.
12. Attended the American Dairy Science Association (ADSA) meeting, held on June 23-26, 2019, at Cincinnati, Ohio.
13. Attended the 17<sup>th</sup> Animal Molecular and Cell Biology Symposium held on April 12-13, 2019, at International Palm Beach, Cocoa, FL.
14. Attended the 30<sup>th</sup> Florida Ruminant Nutrition Symposium, held on Feb 4-6, 2019, at Gainesville, Florida.

## **2018**

15. Attended the 4<sup>th</sup> Animal Sciences symposium, held on November 01-02, 2018, at St. Augustine, Florida
16. Attended the 54<sup>th</sup> Florida Dairy Production Conference, held on September 26, 2018, at Gainesville, Florida.
17. Participated in AABP Edwin Robertson Beginning Embryo Transfer Seminar, held on August 12-16, 2018 at Virginia Tech, VA
18. Attended the American Dairy Science Association (ADSA) meeting, held on June 23-27, 2018, at Knoxville, Tennessee.
19. Participated in Farmer Day, held on April 25, 2018, at Okeechobee, Florida
20. Attended 16<sup>th</sup> Animal Molecular and Cell Biology Symposium (AMCB) held on April 6-7, 2018, at Crystal River, Florida.
21. Attended the 29<sup>th</sup> Florida Ruminant Nutrition Symposium, held on Feb 5-7, 2018, at Gainesville, Florida.

## **2017**

22. Attended the American Embryo Transfer Association (AETA) and Canadian Embryo Transfer Association (CETA/ACTE) joint convention, held on October 26–28, 2017, at Orlando, Florida.
23. Attended 3<sup>rd</sup> Animal Sciences symposium held on October 13-14, 2017, at St. Augustine, Florida
24. Attended the World Dairy Expo 2017, held on October 2-7, 2017, at Madison, Wisconsin.
25. Participated in International Dairy Short Course held on October 2-4, 2017, at Madison, Wisconsin

## **2015**

26. Organized two days training workshop on reproductive ultrasonography in small and large ruminants on 05-06 August 2015 at UVAS, Lahore.

27. Organized two-day international symposium on dairy animal reproduction on 30-31 March 2015 at UVAS, Lahore
28. Organized the one-day pre-symposium bovine ultrasound training workshop on 29 March at UVAS Lahore.
29. Organized the one-day breeding calendar exhibition on 16 February 2015 at Ravi campus, UVAS, Pattoki.

## **2014**

30. Organized farmer Mellaa on 25 November 2014 at Ravi campus, UVAS-Pattoki.
31. Participated in the civic engagement project of UVAS, from August to December 2014, in the village Jaguwalla and Mundiki near Ravi Campus, UVAS-Pattoki.
32. Participated in two days training workshop on operational calf raising center in Buffalo Research Institute Pattoki on 17-18 November 2014.
33. Participated in 'pre-service competency enhancement training for teachers from 05-09 August 2014 at UVAS, Lahore
34. Participated in a hands-on workshop on "interventional radiology/ultrasound" 21<sup>st</sup> June 2014 at Al-Razi Surgimed Hospital, Lahore
35. Organized one-day farmer awareness seminar on 'reproductive management in dairy animals' and a free ultrasound camp in the field on 17 June 2014 at Gojra.
36. Organized one-day consultative stakeholders meeting on the 'Punjab livestock breeding act 2014 in syndicate room at UVAS, Lahore.
37. Organized the two-day international workshop on 'recent advances in canine reproduction' on 11-12 June 2014 at UVAS, Lahore.
38. Organized five days training workshop on 'diagnostic ultrasonography in domestic animals' in two batches (7-11 April 2014 and 14-18 April 2014) at UVAS Lahore.
39. Participated in two days of training on 'commercial dairy farm management' on 14-15 February 2014 in syndicate room UVAS, Lahore.

## **2013**

40. Participated in an "international livestock nutrition conference" under the nutritionist association of Pakistan at UVAS-Lahore on 23-24 October 2013.
41. Assisted in organizing an international training workshop on 'innovations in reproductive management in collaboration with Michigan State University USA on 13<sup>th</sup> April 2013 at UVAS, Lahore.

## **2012**

42. Participated in two days of practical training on 'use of endnote software in article and thesis writing' on September 28-29, 2012, at UVAS, Lahore.
43. Participated in the one-day workshop on 'new approaches to estrous synchronization to improve reproductive performance in dairy animals' with the collaboration of Michigan State University USA on 11<sup>th</sup> April 2012 at UVAS, Lahore.
44. Participated in student forum organized by ASLP dairy project at UVAS-Lahore, February 20-21, 2012.

45. Participated in two days ‘international conference of toxicology’ on 26-27 January 2012 at UVAS, Lahore.

## 2011

46. Participated in the one-day national workshop on ‘strategies on improvement in livestock reproduction’ organized by the society of animal reproduction of Pakistan on 19<sup>th</sup> November 2011 at UVAS, Lahore.

## 2010

47. Participation in a workshop organized by the British council entitled “Development of sustainable and collaborative research networks” UVAS, Lahore. (November 25-26, 2010).

### Research Grants, Contracts, and Gifts

Awarded (Total PKR 2.23 M, US \$00, as PI and Co-PI)

**2015** PKR 1.51 M, Malaysian Palm Oil Council. Effect of Palm Kernel Cake (PKC) feeding on production efficiency of dairy cows. **Approved** as Co-PI

**2015** PKR 19.00 M, Punjab Agriculture Research Board. Novel approaches for enhancing artificial insemination outcomes in buffaloes. **Denied** as Team Scientist

**2015** PKR 33.80 M, Punjab Agriculture Research Board. Advance biomarkers to identify infertility and modern strategies for improving reproductive efficiency in food-producing animals. **Denied** as Team Scientist

**2015** US \$ 157310, Pak-US Technology Cooperation Phase VI. Virtual vet: Smart livestock monitoring and management System. **Denied** as Co-PI

**2015** PKR 0.36 M, University of Veterinary and Animal Sciences, Lahore. Request for approval and provision of items (medicines and instruments) for Theriogenology clinics (A & C block) at Ravi campus, Pattoki. **Approved** as PI

**2014** PKR 0.36 M, University of Veterinary and Animal Sciences, Lahore. Development and modification in the animal house for undergraduate teaching (DVM 7<sup>th</sup> and 9<sup>th</sup> semester) at Ravi campus, Pattoki **Approved** as PI

### Graduate Students

*Master of Philosophy/Science*

*Major Supervisor*

**Atif Siddiq**, MPhil Theriogenology. Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, graduated in 2020. Thesis title, palm kernel cake feeding: production and reproductive performance of crossbred lactating dairy cows. (Current position, Veterinary Officer, Livestock and Dairy Development Department, Punjab)

*Major/Minor Member*

**Umair Ashfaq**, MPhil Theriogenology. Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, graduated in 2016. Thesis title, Effect of day of estrous cycle on superovulatory response and embryo quality by using FSH in BALB/c mice. (Current position, Veterinary Officer, Livestock and Dairy Development Department, Punjab)

*Doctor of Philosophy/Science*

*Major Supervisor*

*Major/Minor Member*

*Visiting Scholars and Undergraduate Students*

### **Research Experience**

#### ***Ph.D. Dissertation***

Title: Cellular and molecular mechanisms of endometritis-induced compromised fertility in dairy cows. Major advisor: Dr. José Eduardo Portela Santos

#### ***M.Phil. Thesis***

Title: Effect of Control Internal Drug Release and human Chorionic Gonadotropin administration on day 7 after fixed-time artificial insemination on luteal tissue and pregnancy rate in synchronized Nili-Ravi buffalo. Major advisor: Dr. Nasim Ahmad

#### ***Publication of Articles in Peer-Reviewed Scientific Journals (N = 17; 4 under review)***

Impact factor: 38.299, h-index: 7, i10-index: 7, and total citations: 148

<https://scholar.google.com/citations?user=hdZ3C28AAAAJ&hl=en>

1. Husnain, A., U. Arshad, M. C. Perdomo, A. M. Gonella-Diaza, P. J. Hansen, J. P. Driver, J. J. Bromfield, and J. E. P. Santos. 2022. Effect of induced endometrial inflammation on the population and phenotype of immune cells in the peripheral blood and endometrium of dairy. Biol Reprod. Draft
2. Husnain, A., E. Schmitt, U. Arshad, M. C. Perdomo, N. Ashrafi, S. F. Graham, J. V. Bishop, T. R. Hansen, A. M. Gonella-Diaza, J. J. Bromfield, and J. E. P. Santos. 2022. Induced Endometrial Inflammation Alters Endometrial Transcripts and Histotroph Metabolome in Dairy Cows. PlosOne. Draft
3. Husnain, A., U. Arshad, R. Zimpel, E. Schmitt, M. J. Dickson, M. C. Perdomo, M. N. Marinho, N. Ashrafi, S. F. Graham, J. V. Bishop, T. R. Hansen, K. C. Jeong, A. M. Gonella-Diaza, R.

- C. Chebel, I. M. Sheldon, J. J. Bromfield, and J. E. P. Santos. 2022. Induced endometrial inflammation compromises conceptus development in dairy cattle. *Biol Reprod*. Draft
4. Husnain, A., U. Arshad, M. B. Poindexter R. Zimpel, M. N. Marinho, M. C. Perdomo, P. Fan, K. C. Jeong, C. D. Nelson, I. M. Sheldon, J. J. Bromfield, and J. E. P. Santos. 2022. Induced endometritis in early lactation compromises production and reproduction in dairy cows. *J. Dairy Sci.* 105: Draft
  5. Poindexter, M. B., R. Zimpel, A. Vieira-Neto, A. **Husnain**, A.C.M. Silva, A. Faccenda, A. Sanches de Avila, P. Celi, C. Cortinhas, J.E.P. Santos, and C.D. Nelson. 2022. Effect of prepartum source and amount of vitamin D supplementation on lactation and reproductive performance of dairy cows. *J. Dairy Sci.* 105: **Accepted IF = 4.022**
  6. Poindexter, M. B., R. Zimpel, A. Vieira-Neto, A. **Husnain**, A.C.M. Silva, A. Faccenda, A. Sanches de Avila, P. Celi, C. Cortinhas, J.E.P. Santos, and C.D. Nelson. 2022. Effect of source and amount of vitamin D on serum mineral concentrations and mineral 13 retention in dairy cows. *J. Dairy Sci.* 105: **Accepted IF = 4.022**
  7. Zimpel, R. K. V. Almeida, M. Nehme Marinho, A. Revilla Ruiz, M. C. Perdomo, M. B. Poindexter, **A. Husnain**, A. Vieira-Neto, A. C. M. Silva, U. Arshad, C. D. Nelson, and J. E. P. Santos. 2021. Prepartum level of dietary cation-anion difference fed to nulliparous cows: lactation and reproductive responses. *J. Dairy Sci.* 104:12580-12599. **IF = 4.022** <https://doi.org/10.3168/jds.2021-20486>
  8. Zimpel, M. Nehme Marinho, R. K. V. Almeida, A. Revilla Ruiz, M. C. Perdomo, M. B. Poindexter, A. Vieira-Neto, **A. Husnain**, U. Arshad, C. D. Nelson, and J. E. P. Santos. 2021. Prepartum level of dietary cation-anion difference fed to nulliparous cows: acid-base balance, mineral metabolism, and health responses. *J. Dairy Sci.* 104:11699-11714. **IF = 4.022** <https://doi.org/10.3168/jds.2021-20485>
  9. Vieira-Neto, A. M. B. Poindexter, M. Nehme Marinho, R. Zimpel, **A. Husnain**, A. C. M. Silva, J. G. Prim, C. D. Nelson, and J. E. P. Santos. 2021. Effect of source and amount of vitamin D on function and mRNA expression in immune cells in dairy cows. *J. Dairy Sci.* 104:10796-10811. **IF = 3.082** [doi.org/10.3168/jds.2021-20284](https://doi.org/10.3168/jds.2021-20284)
  10. Sarwar Z., M. Saad, M. Saleem, **A. Husnain**, A. Riaz, N. Ahmad. 2020. Effect of follicle size on oocytes recovery rate, quality, and in-vitro developmental competence in *Bos indicus* cows. *Anim Reprod.* 17(3):e20200011. **IF = 1.807** [doi.org/10.1590/1984-3143-AR2020-0011](https://doi.org/10.1590/1984-3143-AR2020-0011)
  11. Sarwar Z., M. Sagheer, F. Sosa, M. Saad, M. Hassan, **A. Husnain**, U. Arshad. 2020. Meta-analysis to determine the effects of superstimulation with FSH in progestin-primed environment on in-vitro embryo production using ovum pick-up in *Bos taurus* cows. *Anim. Reprod. Sci.* 221:106590. **IF = 1.660** [doi: 10.1016/j.anireprosci.2020.106590](https://doi.org/10.1016/j.anireprosci.2020.106590).
  12. **Husnain, A.,** and J. E. P. Santos. 2019. Meta-analysis of the effect of prepartum protein on performance in dairy cows. *J. Dairy Sci.* 102:9791–9813. **IF = 3.082** <https://doi.org/10.3168/jds.2018-16043>
  13. Saad, M., Z. Sarwar, M. Saleem, U. Arshad, M. Shahzad, M. H. Mushtaq, **A. Husnain**, A. Riaz, and N. Ahmad. 2019. Effect of plasma progesterone on oocyte recovery, oocyte quality,

and early in-vitro developmental competence of embryos in *Bos indicus* dairy cows. *Anim. Reprod. Sci.* 202:80–86. **IF = 1.817** <https://doi.org/10.1016/j.anireprosci.2019.02.001>

14. Shahzad, A.H., A. Sattar, **A. Husnain**, I. Ahmad, N. Ahmad, D. Nak and Y. Nak. 2019. Synchronization and resynchronization as a novel approach for improving the reproductive performance of postpartum dairy cows. *Pakistan J. Zool.* 51(2):511-520. **IF = 0.933** <http://dx.doi.org/10.17582/journal.pjz/2019.51.2.511.520>
15. Khan, A. S., M. S. Haider, M. Hassan, **A. Husnain**, M. R. Yousuf, and N. Ahmad. 2018. Equine chorionic gonadotropin (eCG) enhances reproductive responses in CIDR-EB treated lactating anovular Nili-Ravi buffalo during the breeding season. *Anim. Reprod. Sci.* 196:28–34. **IF = 1.817** <https://doi.org/10.1016/j.anireprosci.2018.06.012>
16. Riaz, U., M. Hassan, **A. Husnain**, M. I. Naveed, J. Singh, and N. Ahmad. 2018. Effect of timing of insemination in relation to onset of standing estrus on pregnancy per AI in Nili-Ravi buffalo. *Anim. Reprod.* 15:231-1235. **IF=1.807** <http://dx.doi.org/10.21451/1984-3143-AR2017-0015>
17. Arshad, U., A. Qayyum, M. Hassan, **A. Husnain**, A. Sattar, and N. Ahmad. 2017. Effect of resynchronization with GnRH or progesterone (P4) releasing device (CIDR) on cumulative pregnancy and embryonic losses in CIDR-GnRH synchronized Nili-Ravi buffaloes. *Theriogenology* 103:104-109. **IF = 2.136** <https://doi.org/10.1016/j.theriogenology.2017.07.054>
18. Hassan, M., **A. Husnain**, M. I. Naveed, U. Riaz, and N. Ahmad. 2017. Effect of Ovsynch vs. Prostaglandin F2 $\alpha$  protocol on oestrus response, ovulation rate, timing of ovulation, and pregnancy per AI in Sahiwal cows. *Anim Sci J.* 88(3):445-450. **IF = 1.04** <https://doi.org/10.1111/asj.12661>
19. Haider, M.S., M. Hassan, A. S. Khan, **A. Husnain**, M. Bilal, J. R. Pursley, and N. Ahmad. 2015. Effect of timing of insemination after CIDR removal with or without GnRH on pregnancy rates in Nili-Ravi buffalo. 2015. *Anim. Reprod. Sci.* 163:24-29. **IF: 1.51** <https://doi.org/10.1016/j.anireprosci.2015.09.010>
20. Yousuf, M. R., J. P. N. Martins, **A. Husnain**, U. Riaz, H. Riaz, A. Sattar, K. Javed, and N. Ahmad. 2015. Effect of oestradiol benzoate on oestrus intensity and pregnancy rate in CIDR treated anoestrus nulliparous and multiparous buffalo. *Anim. Reprod. Sci.* 159:104-108. **IF: 1.51** <https://doi.org/10.1016/j.anireprosci.2015.06.003>
21. Ahmad, N., E. Ahmad, Z. Naseer, U. Riaz, and A. Husnain. 2013. Effect of improving reproductive management on dairy farm economics. *Buffalo Bulletin* 32(Special 2): 464-467. **IF: 0.01**

***Publication of Abstract in Proceedings (N = 23)***

1. Husnain, A., U. Arshad, M.B. Poindexter, R. Zimpel, E. Schmitt, M.C. Perdomo, M.N. Marinho, K.C. Jeong, J.J. Bromfield, and J.E.P. Santos. 2022. Induced endometrial

- inflammation compromises conceptus development and growth. *J. Dairy Sci.* 105 (Suppl. 1); *Oral*
2. Husnain, A., U. Arshad, M.B. Poindexter, R. Zimpel, M.N. Marinho, M.C. Perdomo, P. Fan, K.C. Jeong, C. D. Nelson, J.J. Bromfield, and J.E.P. Santos. 2022. Induced endometrial inflammation impacts production and reproduction in dairy cows. *J. Dairy Sci.* 105 (Suppl. 1); *Poster*
  3. Nehme, M. M., M. C. Perdomo, B. S. Simões, A. Husnain, U. Arshad, C.C. Figueiredo, P.M. Peixoto and J. E. P. Santos. 2022. Lactation performance in dairy cows supplemented with microbial additives. *J. Dairy Sci.* 105 (Suppl. 1); *Poster*
  4. Arshad, U., A. Husnain, M.B. Poindexter, R. Zimpel, M.C. Perdomo, and J.E.P. Santos. 2022. Rumen-protected choline (RPC) influences hepatic metabolism during induction of fatty liver. *J. Dairy Sci.* 105 (Suppl. 1); *Poster*
  5. Arshad, U., A. Husnain, M.B. Poindexter, R. Zimpel, and J.E.P. Santos. 2022. Rumen-protected choline (RPC) reduces hepatic triacylglycerol content by increasing hepatic triglyceride-rich lipoprotein secretion. *J. Dairy Sci.* 105 (Suppl. 1); *Oral*
  6. Husnain A., M. Sagheer, U. Arshad, K.N. Galvão and J.E.P. Santos. 2020. Meta-analysis of the effect of antibiotics and prostaglandin F<sub>2</sub> $\alpha$  for the treatment of endometritis in dairy cows. *J. Dairy Sci.* 104 (Suppl. 1); *Oral*
  7. Husnain A., and J. E. P. Santos. 2019. Meta-analysis of the effects of prepartum dietary metabolizable protein (MP) on performance of dairy cows. *J. Dairy Sci.* 102 (Suppl. 1); *Poster*
  8. Poindexter M. B., A. Vieira-Neto, A. Husnain, R. Zimpel, A. Faccenda, A. Sanches de Avila, A. Silva, P. Celi, C. Cortinhas, J. E. P. Santos and C. D. Nelson. 2019. Effects of dose and source of vitamin D on mineral homeostasis and performance in transition dairy cows. *J. Dairy Sci.* 102 (Suppl. 1); *Oral*
  9. Zimpel R., M. B. Poindexter, A. Vieira-Neto, A. Husnain, S. Buoniconti, P. Celi, C. Cortinhas, C. D. Nelson, and J. E. P. Santos. 2019. Effects of dietary vitamin D<sub>3</sub> or 25-hydroxyvitamin D<sub>3</sub> on mineral metabolism in growing calves. *J. Dairy Sci.* 102 (Suppl. 1); *Poster*
  10. Ahmed, M., A. Husnain, A. A. Channa, M. Z. Tahir, H. Rahman, and N. Ahmad. 2018. Automated system is better than visual observation for detecting of estrus in Holstein Friesian cows. *J. Dairy Sci.* Vol. 101, Suppl. 2; 348-349. ADSA Meeting, June 23-27, 2018 Knoxville, Tennessee. Abstract # 333 *Oral*
  11. Ahmad, N., U. Arshad, A. Qayyum, M. Hassan, A. Husnain, and A. S. Khan. Resynchronization with Ovsynch improves pregnancy per AI and reduces embryonic losses in CIDR-GnRH synchronized Nili-Ravi buffalo. Proceeding of 11<sup>th</sup> World Buffalo Congress, held in Colombia 2016. *Oral*

12. Ahmad, N., A. S. Khan, M. S. Haider, M. Hassan, A. Husnain, and A. Sattar. 2016. Equine chorionic gonadotropin enhances reproductive responses in CIDR-EB-treated lactating Nili-Ravi buffalo. Abstract Book p: 480-481. Proceeding of 18<sup>th</sup> International Congress on Animal Reproduction (*ICAR-2016*), held at LE Vinci Tours, France. *Oral*
13. Sattar, A., A. H. Shahzad, A. Husnain, I. Ahmad, and N. Ahmad. 2016. Effect of resynchronization on already synchronized postpartum dairy cows. Abstract Book p: 553. Proceeding of 29<sup>th</sup> World Buiatrics Congress, held at Dublin Ireland, on 3-8 July 2016. *Oral*
14. Husnain, A., A. Rehman, M. Ahmad, U. Arshad, A. Sattar, and N. Ahmad. 2016. Model for AI decision: Pre-insemination single-time ultrasound scanning improves fertility in bovines. Abstract Book p: 550. Proceeding of 18<sup>th</sup> International Congress on Animal Reproduction (*ICAR-2016*), held at LE Vinci Tours, France. *Oral*
15. Husnain, A., U. Riaz, M. I. Naveed, M. Hassan, M. Abdul Sattar, and N. Ahmad. 2015. Post insemination interventions: effect of human chorionic gonadotropin, gonadotropin-releasing hormone, and progesterone on ovulation and conception rates in Nili-Ravi buffaloes. *J. Anim. Sci.* Vol. 93, Suppl. s3/*J. Dairy Sci.* Vol. 98, Suppl. 2. Proceeding of Joint Annual Meeting of ADSA and ASAS, held at Orlando Florida USA, on July 12-16, 2015. *Oral*
16. Hassan, M., A. Razzaq, A. Husnain, A. A. Channa, and N. Ahmad. 2015. Estrus synchronization does not improve fertility in chronically repeat breeding Sahiwal cows. *J. Vet. Anim. Sci.* 5(Suppl. 1). Proceeding of International Symposium on Dairy Animal Reproduction at UVAS, Lahore. *Poster*
17. Husnain, A., and N. Ahmad. Replacement for the commercial dairy farm: Intensive breeding program for pre-pubertal buffalo heifers. *J. Vet. Anim. Sci.* 5(Suppl. 1). Proceeding of International Symposium on Dairy Animal Reproduction at UVAS, Lahore. *Poster*
18. Husnain, A., A. Rehman, and M. A. Sattar. 2015. A Case Report; Fetal mummification accompanied with viable kids at full term in Teddy x Beetal Doe. *J. Vet. Anim. Sci.* 5(Suppl. 1). Proceeding of International Symposium on Dairy Animal Reproduction at UVAS, Lahore. *Poster*
19. Riaz, U., A. Husnain, M. I. Naveed, U. Farooq, and A. Riaz. 2015. The way to preserve the genome of the valuable animal: epididymis gamete retrieval in slaughtered ram and its post-thaw evaluation. *J. Vet. Anim. Sci.* 5(Suppl. 1). Proceeding of International Symposium on Dairy Animal Reproduction at UVAS, Lahore. *Poster*
20. Abbas, S. A. Husnain, M. Hassan, and N. Ahmad. 2015. Effect of timing of AI on pregnancy in estrus synchronized Nili-Ravi Buffaloes: A Preliminary Study. *J. Vet. Anim. Sci.* 5(Suppl. 1). Proceeding of International Symposium on Dairy Animal Reproduction at UVAS, Lahore. *Oral*
21. Naveed, M. I., A. Husnain, U. Riaz, M. Hassan, A. Sattar, and N. Ahmad. 2014. Equine chorionic gonadotropin improves follicular dynamics, estrus expression, ovulation, and pregnancy rate in CIDR-based estrus synchronization protocol in Nili-Ravi buffalo. *J. Anim.*

Sci 92(E-Suppl. 2)/J. Dairy Sci. 97(E-Suppl. 1): 262-262. Proceeding of the joint annual meeting of ASAS/ADSA held at Kansas City Missouri, USA. *Oral*

22. Ahmad, N., U. Riaz, A. Husnain, M. Hassan, M. I. Naveed, and A. Sattar. 2014. Effect of timing of artificial insemination and ovulation in relation to onset of standing heat on pregnancy rate in dairy buffaloes. *Advances in Animal Bio Sciences* 5(2):261. Proceedings of International Cow Fertility Conference, held at Westport Ireland on 18-21 May 2014. *Oral*
23. Ahmad, N., E. Ahmad, Z. Naseer, U. Riaz, and A. Husnain. 2014. Effect of improving reproductive management on dairy farm economics. *Buffalo Bulletin* 32(2):464-467. Proceedings of 10<sup>th</sup> World Buffalo Congress held at Phuket, Thailand. *Oral*

***Paper and/or Oral Talks in Technical and Scientific Meetings (N = 27)***

1. Husnain, A. 2022. Cellular and molecular mechanisms of endometritis induced-compromised fertility in dairy cows. Held on September 28, 2022, at the University of Veterinary and Animal Sciences, Lahore.
2. Husnain, A. 2022. Induced endometrial inflammation compromises conceptus development and growth. ADSA Annual Meeting Kansas City Hotel, MO on June 19-22, 2022.
3. Husnain, A. 2022. Induced endometrial inflammation impacts production and reproduction in dairy cows. ADSA Annual Meeting Kansas City Hotel, MO on June 19-22, 2022.
4. Husnain, A. 2022. Exploring Molecular and Cellular Processes of Compromised Fertility Caused by Uterine Inflammation in Dairy Cows. AMCB Symposium at Fernandina Beach, Amelia Island Florida, Florida May 13-14, 2022.
5. Husnain, A. 2022. Exploring Molecular and Cellular Processes of Compromised Fertility Caused by Uterine Inflammation in Dairy Cows. Reproductive and Perinatal Biology Seminar-Trainee Program at UF on April 6<sup>th</sup>, 2022.
6. Husnain, A. 2022. Exploring Molecular and Cellular Processes of Compromised Fertility Caused by Uterine Inflammation in Dairy Cows. AMCB seminar at UF on March 29<sup>th</sup>, 2022.
7. Husnain, A. 2021. Induced uterine inflammation changes the phenotype and distribution of immune cells in the endometrium of dairy heifers. Dairy Cattle Reproduction Council Annual Meeting, November 9-11 at the Loews Kansas City Hotel, MO,
8. Husnain, A. 2021. Defining, diagnosis, and treatment of uterine diseases and its effect on reproduction in dairy cows. Lecture to DVM class at UVAS via ZOOM link on July 15, 2021.
9. Husnain, A. 2021. Meta-analysis of the effect of antibiotics and prostaglandin F<sub>2α</sub> for the treatment of endometritis in dairy cows. ADSA virtual Meeting, July 14, 2021.
10. Husnain, A. 2020. Exploring molecular and cellular processes of compromised fertility caused by uterine inflammation in dairy cows. AMCB seminar at UF November 2020.
11. Husnain, A. 2019. Impact of induce endometritis on the uterine environment and follicular fluid composition in dairy cows. Held on October 04, 2019, at the 5<sup>th</sup> Animal Sciences Symposium, St. Augustine, FL.

12. Husnain A., and J. E. P. Santos. 2019. Meta-analysis of the effects of prepartum dietary metabolizable protein (MP) on performance of dairy cows. Held on June 23-26, 2019, at Cincinnati, Ohio
13. Husnain, A. 2018. An automated system is better than visual observation for detecting estrus in Holstein Friesian cows. ADSA meeting, June 23-27, 2018, Knoxville, Tennessee. Abstract # 333 *Oral*
14. Husnain, A. 2016. Ultrasound Basics. In five days, a training workshop on 'Application Ultrasonography in Domestic Animals' at UVAS Lahore, on 11-15 April 2016. (30 participants, including field practitioners, farm managers, faculty, and graduate students)
15. Husnain, A. 2015. Ultrasound Basics. In five days, a training workshop on 'Protocol and Technique of Inseminating Sexed Semen in Cattle' to KPK professionals at UVAS Lahore, on 14-18 December 2015.
16. Husnain, A. 2015. Application of Ultrasonography in Dairy Animals. In one-day training workshop on 'Improving Reproduction in Dairy Animals' at Centre of Excellence and Bovine Genetics, Okara, on 10<sup>th</sup> August 2015. (30 participants, including field practitioners, farm managers, and graduate students)
17. Husnain, A., and N. Ahmad. 2015. Replacement for Commercial Dairy Farm: Intensive Breeding Program for Pre-pubertal Buffalo Heifers. In an International Symposium on Dairy Animal Reproduction at UVAS, Lahore, on 30-31 March 2015. (150 participants including farmers, allied industry, field practitioners, farm managers, faculty, and graduate students)
18. Husnain, A. 2015. The Ultrasound Basics. In the one-day pre-symposium workshop on 'Bovine Reproductive Ultrasonography' at UVAS-Lahore, on 29<sup>th</sup> March 2015. (30 participants, including field practitioners, farm managers, faculty, and graduate students)
19. Husnain, A. 2015. The Technique of Bovine Reproductive Ultrasonography. In the one-day pre-symposium workshop on 'Bovine Reproductive Ultrasonography' at UVAS-Lahore, on 29<sup>th</sup> March 2015. (30 participants, including field practitioners, farm managers, faculty, and graduate students)
20. Husnain, A. 2015. Application of Ovsynch Protocol in Dairy Animals. In one-day training workshop on 'Innovations in Reproductive Management of Dairy Animals' at UVAS-Lahore, 22<sup>nd</sup> January 2015. (60 participants, including field practitioners, farm managers, faculty, and graduate students)
21. Husnain, A. 2015. AI Intervention: Improving Embryonic Survival through Enhancing Progesterone in Buffalo. In one-day training workshop on 'Innovations in Reproductive Management of Dairy Animals' at UVAS-Lahore, 22<sup>nd</sup> January 2015. (60 participants, including field practitioners, farm managers, faculty, and graduate students)
22. Husnain, A. 2014. Bovine ultrasound Applications. In one-day training workshop on 'Application of Diagnostic Ultrasound in Animal Reproduction' in the Department of Theriogenology at the University of Agriculture Faisalabad on 12<sup>th</sup> November 2014. (50 participants, including field practitioners, farm managers, faculty, and graduate students)
23. Husnain, A. 2014. Reproductive Management of Dairy Animals. In one-day farmer awareness seminar on 'Reproductive Management in Dairy Animals' at Gojra, on 17 June 2014. (Over 60 farmers attended)

24. Husnain, A. 2014. Basics of ultrasound and demonstration of ultrasound in bovine. In five days, a training workshop on 'Diagnostic Ultrasonography in Domestic Animals' in two batches at UVAS Lahore, April 7-11 and 14-18, 2014. (60 participants, including field practitioners, farm managers, faculty, and graduate students)
25. Husnain, A. 2014. Vaginal cytology and ultrasonography in the bitches. In two days, an international workshop on 'Recent Advances in Canine Reproduction' at UVAS, Lahore, on 11-12 June 2014. (30 participants, including field practitioners, farm managers, faculty, and graduate students)
26. Husnain, A. 2013. CIDR Application Procedure in Bovine. In the training workshop 'Innovation in the Reproductive Management of Dairy Animals' at UVAS, Lahore, on 13<sup>th</sup> April 2013. (30 participants, including field practitioners, farm managers, faculty, and graduate students)
27. Husnain, A. 2012. Estrus Synchronization in Dairy Animals. In the workshop held at Al-Haiwan Sire, Sahiwal, on 16<sup>th</sup> October 2012. (70 livestock farmers and allied industry)