

## Md Mahmudul Hasan Sohel, Ph.D.

Department of Life Sciences,  
School of Environment and Life Sciences  
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[Google-Scholar](#)



### OBJECTIVE

Highly motivated cellular and molecular geneticist/biologist with more than 6 years of academic teaching and research experiences in the field of reproduction, biotechnology, molecular genetics, and cell biology seeking a position where I can utilize my experiences and skills.

### EDUCATION

<b>Philosophy of Doctorate</b> <i>University of Bonn</i>	2013
<ul style="list-style-type: none"><li>▪ <b>Thesis Title:</b> Exosomal and non-exosomal circulatory miRNAs in bovine follicular fluid: potential role of exosomal miRNAs in oocyte development</li><li>▪ <b>Functional area:</b> Molecular genetics, Cell biology, and Reproduction</li><li>▪ <b>Advisor:</b> Prof. Dr. Karl Schellander</li></ul>	
<b>Master of Science</b> <i>Bangladesh Agricultural University</i>	2008
<ul style="list-style-type: none"><li>▪ <b>Functional area:</b> Nutrition, Reproductive biology, Milk production, and Breeding and Genetics</li></ul>	
<b>Bachelor of Science</b> <i>Bangladesh Agricultural University</i>	2006

### RELATED WORK EXPERIENCES

<b>Associate Professor</b> <i>Department of Life Sciences, School of Environment and Life Sciences, Independent University, Bangladesh</i>	09/2021 - Present
<b>Assistant Professor (50% teaching + 50% research)</b> <i>Department of Genetics, Faculty of Veterinary Medicine, Erciyes University, Turkey</i>	03/2019 – 05/2021
<b>Researcher (100% research)</b> <i>Genome and Stem Cell Centre, Erciyes University, Turkey</i>	03/2015 – 05/2021
<b>Assistant Professor (50% teaching + 50% research)</b> <i>Unit of Molecular Genetics, Department of Animal Science, Erciyes University</i>	09/2014 - 12/2018
<b>Research Associate (80% research + 20% teaching)</b> <i>Institute of Animal Science, University of Bonn, Germany</i>	02/2014 - 07/2014
<b>Ph.D. Candidate</b> <i>Institute of Animal Science, University of Bonn, Germany</i>	04/2010 - 11/2013

## TEACHING AND SUPERVISION

### **Teaching** (9 - 12 h, weekly)

*Biology and Society*

*Discoveries in Biology*

*Bioethics and Biosafety in Biotechnology*

*Pharmaceutical Biotechnology*

*Pharmaceutical Microbiology*

*Industrial Microbiology*

*Introduction to Molecular Genetics*

*Introduction to Cell Biology*

*Analysis of Gene Expression*

*Animal Breeding*

*Reproductive Biology*

*Applied Animal Genomics*

*Growth and Metabolism: Molecular view*

### **Supervision**

#### **Master Students**

2019: Saif Adil Abbood Al-Janab

2018: Saif Adil Abbood Al-Janab, Khan Yildis

2017: Khalil Ibrahim, Saif Adil Abbood Al-Janab, Khan Yildis, Mustafa Salman

2016: Mustafa Salman, Enfal Gomlekci, Khalil Ibrahim

2014: Luis Otoy

#### **Doctoral Students**

Enfal Comlekci (2017- 2021)

Ahmed Naji (2016-2019)

Mahmut Kalibar (2015-2016)

## ADMINISTRATIVE SERVICES

1. **Deputy coordinator** of Foreign Relation committee for bilateral education exchange program, Faculty of Veterinary Medicine, Erciyes University.
2. **Foreign language editor** of 25<sup>th</sup>-yearbook preparation (Faculty of Veterinary Medicine, Erciyes University)
3. **Deputy coordinator** of the accreditation committee for European Association of Establishments for Veterinary Education (EAEVE) (Faculty of Veterinary Medicine, Erciyes University)
4. **Member of the Social Committee** (2017-2018, Faculty of Agriculture, Erciyes University)

## PUBLICATIONS

### *Published Articles*

1. **Sohel MMH**, Hoelker M, Schellander K, Tesfaye D (2022) The extent of the abundance of exosomal and nonexosomal extracellular miRNAs in the bovine follicular fluid. *Reproduction in Domestic Animals* [Link](#)
2. Naji AQ, **Sohel MMH**, Al-Janabi SAA, Sajid GA, Çınar MU (2022) Investigation on the Expression Profile of Immune-Related Genes in Response to Lipopolysaccharide and Lipoteichoic Acid in Alveolar Macrophages of Akkaraman and Romanov Lambs. *Hayvan Bilimi ve Ürünleri Dergisi* 5 (1), 7-23 [Link](#)
3. Ma X, Duan A, Lu X, Liang S, Sun P, **Sohel MMH** et al (2022) Novel Insight into the Potential Role of Acylglycerophosphate Acyltransferases Family Members on Triacylglycerols Synthesis in Buffalo. *International Journal of Molecular Sciences* 23 (12), 6561 [Link](#)
4. Aksel EG, Akçay A, Arslan K, **Sohel MMH**, Güngör G, Akyüz B (2021) The effects of *MBL1* gene polymorphism on Subclinical Mastitis in Holstein cows. *Kafkas Univ Vet Fak Derg*, 27 (3): 389-395. DOI: 10.9775/kvfd.2021.25714
5. Ma X, Duan A, Lu X, **Sohel MMH**, Abdel-Shafy H, Amin A, Liang S, Deng T. (2021) Novel Insight into the potential role of AGPAT gene family in triacylglycerols synthesis in buffalo. Preprint from Research Square. DOI: 10.21203/rs.3.rs-382481/v1
6. Daldaban F, Arslan K, Akçay A, **Sohel MMH** et al., (2021) Association of BRCA1 (G22231T, T25025A, C28300A) polymorphisms with subclinical mastitis and milk yields in Holstein Cattle. *Harran Üniversitesi Veteriner Fakültesi Dergisi*, <https://doi.org/10.31196/huvfd.806050>
7. **Sohel MMH**, Konca Y, ....., and Cinar MU, (2020) Differential protein input in the maternal diet alters the skeletal muscle transcriptome in fetal sheep. *Mammalian Genome*, <https://doi.org/10.1007/s00335-020-09851-3>. [Link](#)
8. **Sohel MMH**, Salman MA, and Aywas A (2020) Cellular and transcriptional adaptation of bovine granulosa cells under ethanol-induced stress. *Alcohol and Alcoholism*, doi: 10.1093/alcalc/agaa110. [Link](#)
9. **Sohel MMH** (2020) Macronutrient modulation of mRNA and miRNA function in animals: A review. *Animal Nutrition* 6(3): 258-268. doi: 10.1016/j.aninu.2020.06.002. [Link](#)
10. **Sohel MMH** (2020) Circulating microRNAs as biomarkers in cancer diagnosis. *Life Sciences* 248:117473. doi: 10.1016/j.lfs.2020.117473) [Link](#)
11. **Sohel MMH**, Akyuz B, Konca Y, et al (2019) Oxidative stress modulates the expression of apoptosis-associated microRNAs in bovine granulosa cells in vitro. *Cell and Tissue Research* 1–14. doi: 10.1007/s00441-019-02990-3. [Link](#)
12. **Sohel MMH** (2019) A reliable and easy method to isolate a pure population of bovine granulosa cells from slaughterhouse ovaries for in vitro studies. *Journal of Advanced Biotechnology and Experimental Therapeutics* 2:17–22. doi: 10.5455/jabet.2018.d20. [Link](#)

13. **Sohel MMH**, Amin A, Prastowo S, et al (2018) Sulforaphane protects granulosa cells against oxidative stress via activation of NRF2-ARE pathway. *Cell and Tissue Research* 1–13. doi: 10.1007/s00441-018-2877-z. [Link](#)
14. **Sohel MMH** (2018) Choice of samples in extracellular microRNA research: Which fraction is better- exosomal or nonexosomal? *Journal of Advanced Biotechnology and Experimental Therapeutics* 1:11–16. doi: 10.5455/jabet.d3. [Link](#)
15. **Sohel MMH**, Konca Y, Cinar MU (2018) Impacts of Macronutrients on Gene Expression: Recent Evidence to Understand Productive and Reproductive Performance of Livestock. *Turkish Journal of Agricultural Sciences and Technology* 6:203–212. doi: <https://doi.org/10.24925/turjaf.v6i2.203-212.1573>. [Link](#).
16. Konca Y, Beyzi SB, ... and **Sohel MMH** (2018) Effects of easy soluble carbohydrate and bacterial inoculant supplementations on silage quality of frosted maize. *Acta Sci Anim Sci* 40:39513. doi: 10.4025/actascianimsci.v40i1.39513. [Link](#)
17. **Sohel MMH**, Konca Y, Akyuz B, et al (2017) Concentration dependent antioxidative and apoptotic effects of sulforaphane on bovine granulosa cells *in vitro*. *Theriogenology* 97:17–26. doi: 10.1016/j.theriogenology.2017.04.015. [Link](#).
18. Tesfaye D, Salilew-Wondim D, Gebremedhn S, **Sohel MMH**, et al., (2017) Potential role of microRNAs in mammalian female fertility. *Reproduction Fertility and Development* 29:8–23. doi: 10.1071/RD16266. [Link](#).
19. **Sohel MMH** (2016) Extracellular/Circulating MicroRNAs: Release Mechanisms, Functions and Challenges. *Achievements in Life Sciences* 10:175–186. doi: 10.1016/j.als.2016.11.007. [Link](#)
20. **Sohel MMH**, Cinar MU (2015) Advancement in Molecular Genetics to understand the molecular reproduction of Livestock – follicular development. *Research in Agriculture Livestock and Fisheries* 1:47–60. doi: 10.3329/ralf.v1i1.22355. [Link](#)
21. Noferesti SS<sup>©</sup>, **Sohel MMH**<sup>©</sup>, Hoelker M, et al (2015) Controlled ovarian hyperstimulation induced changes in the expression of circulatory miRNA in bovine follicular fluid and blood plasma. *Journal of Ovarian Research* 8:81. doi: 10.1186/s13048-015-0208-5. (© Contributed equally) [Link](#)
22. **Sohel MMH**, Amin MR (2015) Identification of types of buffaloes available in Kanihari buffalo pocket of Mymensingh District. *Research in Agriculture Livestock and Fisheries* 2:109–115. doi: 10.3329/ralf.v2i1.23042. [Link](#)
23. **Sohel MMH**, Hoelker M, Noferesti SS, et al (2013) Exosomal and non-exosomal transport of extra-cellular microRNAs in follicular fluid: Implications for bovine oocyte developmental competence. *PLoS One* 8. doi: 10.1371/journal.pone.0078505. [Link](#)
24. Hossain MM, **Sohel MMH**, Schellander K, Tesfaye D (2012) Characterization and importance of microRNAs in mammalian gonadal functions. *Cell and Tissue Research* 349:679–690. doi: 10.1007/s00441-012-1469-6. [Link](#)

### Selected Peer-reviewed Conference Papers

1. **Sohel MMH** (2019) Intracellular drug delivery by exosomes: Present condition and future perspectives. 1.International 6. Veterinary Pharmacology and Toxicology Congress. Turkey, 04-07 September 2019.

2. S.A.A. Al-Janabi, A.Q. Naji and **M.M.H. Sohel** (2019) The Expression of IL-1 $\beta$  gene response to *Mannheimia haemolytica* bacteria in sheep alveolar macrophages in vitro. *XI International Animal Science Conference*, 20-22 October, Nevsehir, Turkey
3. A.Q. Naji, **Md M. Hasan Sohel**, M. Ulas Cinar (2019) Investigating the mRNA expression of IL-8 in response to Lipopolysaccharide (LPS) and Lipoteichoic Acid (LTA) stimulation in sheep alveolar macrophages. *XI International Animal Science Conference*, 20-22 October, Nevsehir, Turkey.
4. Sohel MMH, Akyuz B, Konca Y et al., (2018) Maternal High Protein Diet Changes the Expression of Growth and Development Related miRNAs in Fetal Skeletal Muscle. I. International Agricultural Science Congress, 09-12 May, Van, Turkey
5. Prastowo S, Widyas N, Ratriyanto A, and **Sohel MMH** (2018) *In-silico* identification of microRNAs potentially targeting the PGC1 $\alpha$  gene that regulates bovine mitochondrial biogenesis. *2<sup>nd</sup> International Conference on Tropical Agriculture*, Indonesia. [Link](#)
6. Cinar MU, Akyuz B, ... and **Sohel MMH** (2018) High and low protein input in maternal diet alters the expression of genes in fetal skeletal muscle in sheep, *Journal of Biotechnology*. [Link](#)
7. Prastowo S, Amin A, and **Sohel MMH** (2017) Identifying candidate microRNAs in miRNA-AMPK gene interaction regulating lipid accumulation in bovine granulosa cell luteinization: an in-silico study. *1<sup>st</sup> International Conference on Tropical Agriculture*, Indonesia. [Link](#)
8. **Sohel MMH**, Slaman MA, Ayvaz A (2017) Ethanol induced changes in the expression of selected genes downstream to NRF2 pathway in granulosa cells in vitro. *ICABB 2017*, Sarajevo, Bosnia and Herzegovina, 25-29 October.
9. **Sohel MMH**, Konca Y, Cinar MU (2017) Time and dose-dependent effects of oxidative stress induced by hydrogen peroxide in ovarian granulosa cells. *ICABB 2017*, Sarajevo, Bosnia and Herzegovina, 25-29 October.
10. **Sohel MMH**, Konca Y, Arslan A et al., (2016) Activation of Nrf2-antioxidant pathway in response to different concentration of sulforaphane in granulosa cells. International Conference on Biological Sciences, October 2016, Konya, Turkey
11. **Sohel MMH**, Cinar MU, Kalibar M et al., (2016) Appropriate concentration of hydrogen peroxide and sulforaphane for granulosa cells to study oxidative stress in vitro. *European Biotechnology Congress*, Riga, Latvia
12. **Sohel MMH**, Cinar MU, and Konca Y (2015) Extracellular miRNA: A new era of miRNA research. *9<sup>th</sup> National Animal Science Congress*, Turkey, 09/2015. [Link](#)
13. **Sohel MMH**, Noferesti SS, Salilew-Wondim D, et al., (2014) Relative abundance of extracellular miRNAs in bovine follicular fluid: Implication for cell-cell communication during oocyte growth. *Animal Reproduction Science*. [Link](#)
14. **Sohel MMH**, Salilew-Wondim D, Hölker M, et al., (2013) Circulatory microRNA signatures in follicular fluid in relation to the growth status of bovine oocytes. *Reproduction, Fertility and Development*. [Link](#)
15. SS Noferesti, M Hoelker, **MMH Sohel** et al., (2012) Effect of ovarian hyperstimulation on circulatory microRNA profile in bovine follicular fluid and blood plasma. *Reproduction, Fertility and Development*. [Link](#)

16. **Sohel MMH**, Salilew-Wondim D, Hoelker M, Rings F et al., (2012) Exosomal and Ago2 protein complex mediated circulatory microRNAs in follicular fluid: Implication for bovine oocyte developmental competence. *Deutsche Gesellschaft für Züchtungskunde eV (DGfZ)*. [Link](#)

## GRANTS

### *Active*

1. **Co-principal Investigator** (40%) “The role of exosome-like vesicles during *Toxoplasma gondii* infection in BeWo trophoblastic cells” Erciyes University Scientific Grant Commission
2. **Co-Investigator** (20%) “Investigation of quantitative trait locus affecting growth characteristics in Akkaraman sheep by Whole Genome Relationship Analysis”. Erciyes University Scientific Grant Commission, Project no- TOA-2018-8282.
3. **Co-Investigator** (10%) “Investigation of growth-related transcription factors in indigenous sheep breeds of Turkey” Erciyes University Scientific Grant Commission, Project no- TCD-2015- 5653.
4. **Co-Principal Investigator** (40%) “Effects of maternal nutrition on genetics and epigenetics of prenatal and postnatal sheep embryos.” Erciyes University Scientific Grant Commission, Project no- FOA-2015-5611.
5. **Co-Principal Investigator** (25%) “Investigation of the genetic basis of innate immunity in the sheep.” Erciyes University Scientific Grant Commission, Project no- FYL-2017-7522.

### *Completed*

6. **Principal Investigator** (50%) “Diabetes and abortion: Role of microRNAs”, Erciyes University Scientific Grant Commission, Project no- FYL-2017-6914.
7. **Principal Investigator** (50%) “Altered miRNA and gene expression is associated with the survival of granulosa cells under oxidative stress.” Project no: FOA-2015-5655 (2015-2017)
8. **Principal Investigator** (50%) “Effects of ethanol induced oxidative stress on granulosa and endometrial stromal fibroblast cells.” Erciyes University Scientific Grant Commission, Project no- FYL-2016-6734 (2016-2017)
9. **Co-investigator** (50%) “Sulforaphane and oxidative stress in bovine granulosa cells” Master thesis project, University of Bonn
10. **Researcher** (60%) “Role of exosomal and nonexosomal microRNAs in bovine follicular fluid”- Ph.D. thesis project, University of Bonn
11. **Researcher** (30%) “Controlled ovarian hyperstimulation and expression of circulating microRNAs”, Ph.D. thesis project

### *Project applications in progress*

12. **Principal Investigator** “Identification and characterization of molecular targets in (naturally occurring) intrauterine growth restriction in pig to enhance lean meat production”. A collaborative project with the Royal Veterinary College, University of London (Prof. Dr. Ali Fauladi-Nashta) and Faculty of Veterinary Medicine, Erciyes University (Assist. Prof. Dr. Md Mahmudul Hasan Sohel)

## PRESENTATIONS

### *Scientific Meetings*

1. **1.International 6. Veterinary Pharmacology and Toxicology Congress**, Kayseri, Turkey, 4-7 September 2019.
2. International Agricultural Science Congress (**IASC**), Van, Turkey, 9-12 May 2018
3. **ICABB 2017**, Sarajevo, Bosnia and Herzegovina, 25-29 October 2017 (**first prize** in the oral presentation category).
4. **Life Sciences Congress**, KAYSERİ, TURKEY, 23-25 February 2017
5. **European Biotechnology Congress**. Riga, Latvia, 2016 (**second** best in oral presentation category)
6. **The International Conference- Agriculture for Life, Life for Agriculture**. Bucharest, Romania, 2016
7. **International Conferences on Biological Sciences**. Konya, Turkey, 2016
8. **4<sup>th</sup> Mammalian Embryo Genomics Meeting**. Quebec City, Canada, 2013
9. **39<sup>th</sup> Annual Conference of the IETS**. Hannover, Germany, 2013
10. **Deutsche Gesellschaft für Züchtungskunde eV (DGfZ)**, Halle, Germany, 2012
11. **3<sup>rd</sup> Mammalian Embryo Genomics Meeting**. Bonn, Germany, 2011

### *Invited Seminar Talks*

12. **8<sup>th</sup> Agricultural Student Congress, Keynote speaker**, “Molecular aspects of genomic selection” Nigde, Turkey, 2018
13. **Department of Gynecology and Obstetrics, Erciyes University**, “Potential of the therapeutic use of Exosomal miRNAs in oocyte maturation and early embryonic development during IVF. Turkey, 2017
14. **Genome and Stem Cell Centre**, “Oxidative stress in female reproduction” Turkey, 2017
15. **Department of Hematology and Oncology, Erciyes University**, “Role of miRNAs and circulating miRNAs in reproductive disease and cancer”, Turkey, 2015
16. **9<sup>th</sup> National Animal Science Congress, Keynote Speaker**, “Extracellular microRNA: A new era of miRNA research: Konya, Turkey, 2015
17. **Genome and Stem Cell Centre**, “Role of microRNAs in female reproduction” Turkey, 2015
18. **Genome and Stem Cell Centre, Expert Lecture Series**, “Extracellular miRNAs in follicular fluid” Turkey, 2014

## ACADEMIC AWARDS, FELLOWSHIPS, and TRAVEL GRANTS

1. Erciyes University Academic Travel Grant, worth 2750 TL, 2018
2. Erciyes University Academic Travel Grant, worth 2250 TL, 2017
3. ICABB Awards for Oral Presentation, First position, Sarajevo, Bosnia and Herzegovina, 25-29 October 2017
4. Erciyes University Academic Travel Grant, worth 1900 TL, 2016
5. Erciyes University Research Coordination Unit Travel Award, worth 4,120 TL, 2016

6. Prof. Mariapia Viola Magni EBTNA Awards of Oral Presentations- Second position, Riga, Latvia 05-07 May 2016
7. Erciyes University Academic Travel Grant, worth 1450 TL, 2015
8. TUBITAK Travel Grant, worth 1500 €, 2014
9. The University of Bonn Scholarship for Doctoral Study, worth 1,000 €/month for 3 years and 8 months
10. University of Bonn Young Scientist Training Award, worth 90 €/day for 7 days, 2012
11. Bangladesh Government Science and Technology Award for Master Thesis, worth 25,000 BDT, 2008

## **PROFESSIONAL SERVICES**

### ***Editorial***

- **Associate Editor-** *Journal of Advanced Biotechnology and Experimental Therapeutics*

### ***Journal Reviewer***

- *PLoS ONE* (6)
- *Journal of Ovarian Research* (2)
- *Non-coding RNA* (2)
- *Animal Genetics* (1)
- *Cell and Tissue Research* (1)
- *Life Sciences* (5)
- *Research in Agriculture, Livestock, and Fisheries* (2)
- *Journal of Advanced Biotechnology and Experimental Therapeutics* (3)
- *Steroids* (1)
- *Annals of Agricultural and Environmental Medicine* (1)
- *Turkish Journal of Veterinary and Animal Sciences* (1)

### ***Member of the Scientific Board of***

- Journal of Erciyes Agriculture and Animal Science (2018 – 2019)
- 1.International 6. Veterinary Pharmacology and Toxicology Congress (09/2019)

## **MEMBERSHIPS**

- Bangladesh Society for Molecular Immunology and Advanced Biotechnology (BSMIAB)
- European Biotechnology Thematic Network Association (EBTNA)
- International Embryo Technology Society (IETS)



## **TRAINING**

- Training on “Online education strategies”- 6<sup>th</sup> October 2020, arranged by Erciyes University over Zoom.
- Next-generation sequencing data analysis- 20<sup>th</sup> June 2019, GENKOK, Erciyes University
- Training on academic and research ethics- 18<sup>th</sup> February 2019, Faculty of Education, Erciyes University
- Training on experimental animal handling- 15<sup>th</sup> May 2017, DEKAM, Erciyes University
- Basics of flowcytometry- arranged by eBioscience on 13<sup>th</sup> June 2012, University of Bonn
- Bioinformatics for animal and plant scientists- from 18<sup>th</sup> to 22<sup>nd</sup> October 2012, Humboldt-Universitat Zu Berlin