CURRICULUM VITAE

Dr. Rashid Saif
Postdoc (Uni. of Bern-Switzerland)
PhD   (UVAS-Pakistan, MU-USA)
E.mail   rashid.saif37@gmail.com
Cell: +923217107501
Skype: rashid.saif4
Home Address: House # 264-Q, Johar Town, Lahore, Pakistan

Current Jobs:	**Director-Research/Diagnostics**
	Decode Genomics (https://www.decodegenomics.com.pk/)
	Visiting Faculty: NUR International University, Lahore, Pakistan
	Kinnaird College for Women, Lahore, Pakistan
Previous Jobs:	**Associate Professor-Biotechnology** (Aug, 2017 - Mar, 2021)
	Gulab Devi Educational Complex, Ferozepur Rd., Lahore, Pakistan
	Assistant Professor-Biotechnology (Mar, 2015 - Aug, 2017)
	Virtual University of Pakistan, Raiwind Rd., Lahore, Pakistan

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HEC-Pakistan Approved PhD Supervisor (2015-2018)

Foreign Courses/Trainings/Modules:

- Swiss Institute of Bioinformatics (SIB) & University of Bern, Switzerland
  (Sept 01, 2018 to Aug 31, 2019)
  Training Courses:
  - Long Read Sequencing & Data Analysis using Nanopore: MinION
  - High Performance Computing (HPC) in Life Sciences: Vital-IT Infrastructure Training
  - DNA Sequencing & Genetic Variant Analysis: Basics of Sanger & NGS
  - NGS bioinformatics Quality Control & Variant Annotation for Cancer Diagnosis
  - Cancer Genomics
  - First step with UNIX in life sciences
  - Introduction to R Programming and Analyses
  https://www.sib.swiss/training/upcoming-training-events
- Lyons Comparative Genomics Lab Fellowship
  College of Veterinary Medicine, University of Missouri-Columbia, USA
  (Sep 11, 2013 -to- Mar 09, 2014)
  Hands-on Practice/Courses:
  - Genome-wide Association Studies (Plink)
  - Lab Biosafety
  http://felinegenetics.missouri.edu/lab-personnel/952-2
- Summer Institute for Statistical Genetics
  Department of Biostatistics, University of Washington- Seattle, USA
  (July 10-28, 2017)
  Training Modules:
  - Quantitative Genetics
  - Integrative Genomics
  - Pathway/Network Analysis for Omics Data
  https://www.biostat.washington.edu/suminst/sisg

Commercial Genetic Tests Optimization/Service to Community

- Birds gender/sex identification test
- Horse speed/muscle development test
- Animal meat identification test
- Pigeon flying performance/stamina test

Hands-on Wet Lab Skills:

Basic familiarization to NGS/3rdGS Illumina & ONT multiomics data generation, Sanger Sequencing: Hands-on experience with 3730 DNA analyzer, In-vitro gene expression study [ABI: Real-Time Quantitative PCR 7500 system, Cepheid: SmartCycler PCR system], Fragment Analyzer (Capillary gel electrophoresis), Cloning (Recombinant DNA Technology), High Resolution Melting (HRM) analysis, cDNA Synthesis Reverse-Transcription PCR, DNA Extraction (manual & Kit methods), NeoSense and Promega-Maxwell RSC automatic DNA extraction robotic system, ARMS-PCR, Long-range PCR (Thermal Cycler BioRad, PeqLab, AB GeneAmp 9700), Gel Electrophoresis, Total RNA Extraction (Trizole/Kit method), Gel Documentation System, NanoDrop 2000 Micro-Volume UV-Vis Spectrophotometer, Qubit 2.0 Fluorometer [For Quantification of DNA/RNA], Roche; Cobas-AmpliPrep automatic robotics nucleic acid extraction and Cobas-TaqMan48 RT-qPCR system.

Hands-on Dry Lab / Bioinformatics Skills:

- NGS/3GS data analysis generated by "Illumina (short-read) & ONT (long-read) Technologies"

o Using Galaxy Platform: (A fully integrated tools for smaller genomes)
  Familiar to GATK4 variant calling pipelines e.g. Coronavirus
o Using Linux OS on HPC/PC: (PuTTY, WinSCP sync, Bash scripting for Slurm scheduler)
  Single Whole-Genome Variant Calling:
      (MultiQC, Trimmomatic, BWA, UnifiedGenotyper, Mutect2, Samtools, VCFtools, Picard, SnpEff, SnpSift)
  Pool-Seq Analysis: Hp, TD & F$_{ST}$ genomic selection signature methodologies
      (FastQC, FastP, BWA-MEM, Samtools, Picard, popoolation1/2, HaplotypeCaller, SnpEff/SnpSift)
  RNA-Seq Differential Expression Analysis:
      (FastQC, FastP, Samtool, Hisat2, Subread-featureCount, HTSeq, DESeq2, EdgeR)
  Whole Exom Sequence data Analysis: Trio Sample
  DNA-Seq de-novo Assembly & Annotations:
      (FastQC, FastP, Samtool, Hisat2, Stringtie, Kallisto, IntersectBed, MinKNOW, Albacore, Poreshop, Canu, Spades, Unicycler, Denovosmart)
o Working with Ubuntu on PC: Installation of VM/dual mode-Ubuntu
o Working with Anaconda Navigator: Jupyter Notebook
o Usage of Python, Ruby & Perl scripts in multiomics data science

- Molecular Drug Development:
  o Molecular docking analysis using MOE/PyRx
  o Molecular dynamic simulation using Gromacs/NAMD @ Linux

- Quantitative & Statistical Genetics Softwares/Tools/Packages:

- o Genome-Wide Association Studies (GWAS) using PLINK data analysis toolset (GUI & Command Prompt), Haploview synchronization
  - o Usage of R libraries in GWAS (Manhattan, Q-Q plots, MDS, PCA, qqman)

- Bioinformatics Visualization & Computational Softwares/Tools:
  - o Integrative Genome Viewer (IGV)
  - o Usage of R libraries (DESeq2, tidyR, qqPlot2, dplyr, gplots, RColorBrewer, heatmap, kinship2, qqMan)
  - o Genome Data Viewer
  - o MinKNOW, pycoQC, Basecalling: Albacore, Guppy & EPI2ME
  - o Sequencher, STRand, BioEdit, Chromas Lite, CodonCode Aligner
  - o Molecular Evolutionary Genetic Analysis (MEGA)
  - o Primer Express, Primer3 Plus, Primer3, NetPrimer
  - o GenePop, Mathematica, Powerstat
  - o DnaSP, Coding Potential Calculator, QuickCalcs, Pedigree-Draw, OncoBench
  - o Human Splicing Finder, Mutation Taster
  - o Variant Effect Predictor-Ensemble

- Bioinformatics Infrastructure, Databases & Repositories Usage:
  - o Vital-IT, Bioconductor/CRAN, NCBI, ENA, UCSC, Ensemble, OMIA, GitHub, ExPasy, PIR, PDB, UniProtKB, OncoKB, My Cancer Genome, GEPIA, COSMIC-CGC,

- Basic Computer & Word Processor Knowhow:
  - o Adobe Illustrator, MS word, Excel, Power point, Notepad++, EndNote, ICT-based LMS skills.

Education:

Postdoc (2018-2019): Molecular Genetics & Bioinformatics
Institute of Genetics, University of Bern, Switzerland
Supervisor: Prof. Dr. Tosso Leeb

Project Title: Genomic Selection Signatures Mapping of Pakistani and Swiss Goat Breeds
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PhD (2015): Molecular Biology & Biotechnology
Institute of Biochemistry & Biotechnology, University of Veterinary and Animal Sciences (UVAS), Lahore, Pakistan

Thesis Title: Differential Expression and Mutation Analysis of Heat Shock Proteins (*Hsps*) and Tumor Suppressor Gene (*p53*) in Different Cancer Types of Pakistani Dogs and Cats
Supervisor: Assot. Prof. Dr. Muhammad Wasim, Prof. Dr. Leslie Lyons

Course work: Biotechnology, Molecular drug development, Fermentation technology, Cell & tissue culture, Advance biochemical techniques, Cell chemistry, Experimental design
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M.Phil (2010): Molecular Biology & Biotechnology
Institute of Biochemistry & Biotechnology, University of Veterinary and Animal Sciences (UVAS), Lahore, Pakistan

Thesis Title: DNA Fingerprinting of Pakistani Buffalo Breeds (Nili-Ravi, Kundi) Using Microsatellite and Cytochrome *b* Gene Markers

Course work: Molecular biology, Gene manipulations & genetic engineering, Bioinformatics, Essentials of molecular genetics, Adv. molecular biology research techniques, Enzyme biotechnology, Principle of biochemistry, Experimental statistics

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B.Sc Hons (2001): Animal Husbandry
University of Agriculture Faisalabad, Pakistan.

Course work: Animal Breeding & Genetics, Animal Nutrition, Poultry Husbandry, Livestock Management

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HSSE (1996): Pre-Medical
Government Islamia College Civil Lines, Lahore, Pakistan
Course work: Physics, Chemistry, Biology

SSE (1994): Science
Government High School, Jandiala Sher Khan, Sheikhupura, Pakistan
Course work: Biology, Chemistry, Physics, Mathematics

Published / Accepted Articles:
Google Scholar Profile: for latest research including Preprints
https://scholar.google.com/citations?user=4W1-7DEAAAAJ&hl=en
2021

- **Detection of Whole Genome Selection Signatures of Pakistani Teddy Goat**
  Rashid Saif, Jan Henkel, Tania Mahmood, Aniqa Ejaz, Fraz Ahmad, Saeeda Zia
  "Molecular Biology Reports" (IF: 2.316) https://doi.org/10.1007/s11033-021-06726-x

- **Whole Genome Selective Sweeps Analysis in Pakistani Kamori Goat**
  Rashid Saif, Jan Henkel, Tania Mahmood, Aniqa Ejaz, Saeeda Zia
  "Gene Reports" (IF 0.72), https://doi.org/10.1016/j.genrep.2021.101429

- **Whole Genome Comparison of Pakistani Corona Virus with Chinese and US Strains along with its Predictive Severity of COVID-19**
  Rashid Saif, Tania Mahmood, Aniqa Ejaz, Saeeda Zia, Abdul Rasheed Qureshi
  "Gene Reports" IF 0.72: 23, June 2021, 101139
  https://doi.org/10.1016/j.genrep.2021.101139

- **Computational Prediction of *Olea europaea* Compounds as Inhibitors of Main-Peptidase of SARS-CoV2**
  Rashid Saif, Ghafran Ali, Kanza Ashafq, Saeeda Zia, Abdul Rasheed Qureshi
  "Advancement in Life Sciences" 8(2)
  http://submission.als-journal.com/index.php/ALS/article/view/1040/519

2020

- **The *LCORL* Locus is Under Selection in Large-Sized Pakistani Goat Breeds**
  Rashid Saif, Jan Henkel, Vidhya Jagannathan, Cord Droegmueller, Christine Flury, Tosso Leeb
  "Genes" doi: 10.3390/genes11020168, 11 (2) 168 (IF:3.759)

- **Introduction to Galaxy Platform for NGS Variant Calling Pipeline**
  R Saif, A Ejaz, T Mehmood, F Asif, SM Alghanem, TS Ahmad
  "Advancements in Life Sciences" 7 (3), 129-134

- **Dog Coat Color Genetics: A Review**
  Rashid Saif, Ali Iftekhar, Fatima Asif, Mohammad Suliman Alghanem
  "Advancements in Life Sciences" 7 (4), 215-224

2019

- **Selection Signatures in Goats Reveal Copy Number Variants Underlying Breed-Defining Coat Color Phenotypes**
  Jan Henkel, **Rashid Saif**, Vidhya Jagannathan, Cord Droegmueller, Christine Flury, Tosso Leeb
  "PLOS Genetics" doi: 10.1371/journal.pgen.1008536, 15 (12), e1008536 (IF: 5.109)

- **First Step with R for Life Sciences: Learning Basics of this Supporting Tool for NGS Data Analysis**
  Rashid Saif, Kinza Qazi, Saeeda Zia, Tania Mahmood, Aniqa Ejaz, Talha Tamseel, Suliman Mohammad Alghanem, Adnan Khaliq
  "Advancement in Life Sciences" 2019: 6(4), 187-194

- **Molecular Expression of Cyclin Dependent Kinase Inhibitor (*P21*) in Canine Tumors**
  Saba Manzoor, **Rashid Saif**, Haleema Sadia, Sehrish Firyal, Muhammad Tayyab, Muhammad Mansha, Asim Khalid Mehmood, Abu Saeed Hashmi, Muhammad Wasim
  "Journal of Animal and Plant Sciences" (IF 0.529) 29 (4) 2019: 1127-1134

- **A Novel SNP (c.258+43C>T) in LPL Gene and Association with Milk Production in Buffaloes**
  Akhtar Ali, Zukhruf Baig, Masroor Ellahi Babar, Asif Nadeem, Tanveer Hussain, **Rashid Saif**, Maryam Javed
  Journal of "Buffalo Bulletin" (IF 0.096) 38(2) 2019: 327-333

- **Use of *CO1* Gene Sequences for Computing Genetic Diversity Between *Cirrhinus mrigala* from Two Different Habitats (Farm and River)**
  Asma Karim, **Rashid Saif**, Faisal Salamat Ali, Zohaib Gil, Wajid Ali
  "Journal of Fishries and Life Sciecnes" 3(2) 2019: 54-57

- **An Overview of Genome-Wide Association Studies for Genetics Novices: A Review**
  Hafsa Tahir, Aniqa Ejaz, Tania Mehmood, Sidra Riaz, **Rashid Saif**
  "Advancements in Life Sciences" 6(3) 2019: 88-96

2018

- **Applications and Efficiencies of the First Cat 63K DNA Array**
  Barbara Gandolfi, Hasan Alhaddad, Mona Abdi, Leslie H. Bach, Erica K. Creighton, Brian W. Davis, Jared E. Decker, Nicholas H. Dodman, Jennifer C. Grahn, Robert A. Grahn, Bianca Waud, Jens Haggstrom, Michael J. Hamilton, Christopher R. Helps, Jennifer D. Kurushima, Hannes Lohi, Maria Longeri, Richard Malik, Kathryn M. Meurs, Michael J. Montague, James C. Mullikin, William J. Murphy, Sara M. Nilson, Niels C. Pedersen, Carlyn B. Peterson, Clare Rusbridge, **Rashid Saif**, Diane G. Shelton, Wesley C. Warren, Muhammad Wasim, Leslie A. Lyons
  "Scientific Reports" DOI:10.1038/s41598-018-25438-0 (IF: 3.998)

- **Molecular Characterization of *EGLN1* Gene in Fast and Slow-Moving Animals of Diversified Terrain**
  Rashid Saif, Naila Naz, Beenish Tariq, Ali Iftekhar
  "Advancements in Life Sciences" 5(4) 2018: 171-178

- *CO1* **gene based identification and phylogenetic analysis of two fresh water fish species** *Labeo gonius* **and** *Cirrhinus mrigala* **(family:Cyprinidae) from river Ravi, Punjab, Pakistan**
  Asma Karim, **Rashid Saif**, Zohaib Gill, Faisal Salamat, Akhtar Ali and Asem Razzaq
  "MRJ of Agricultural Science and Soil Sciences" 6 (3) 2018: 24-31 (IF: 0.613)

- **Single Nucleotide Somatic Variants of** *Tp53* **Gene in Widespread Neoplasms of** *Canis Familiaris*
  Rashid Saif, Ali Raza Awan, Leslie Lyon, Barbara Gandolfi, Muhammad Wasim
  "Journal of Animal and Plant Sciences" 28 (5) 2018: 1329-1338 (IF:0.490)

- **Computational Proteomic Data Mining of Heat Shock Protein β1 using Mathematica Software**
  Rashid Saif, Saeeda Zia, Kinza Qazi, Fatima Asif, Aniqa Ejaz, Tania Mehmood, Talha Tamseel
  Merit Res. J. Microbiol. Biol. Sci. 6(4) 2018: 043-053

- **Sequence Diversity of** *MAOA* **Gene within Wild and Docile Animal Species**
  Rashid Saif, Beenish Tariq, Naila Naz
  "Advancements in Life Sciences" 5 (3) 2018: 135-142

- **Targeted Pinpoint Gene Editing Tool, CRISPR/Cas9: A Review**
  Hafsa Tahir, **Rashid Saif**, Talha Tamseel, Fraz Ahmad
  "International Journal of Biosciences" http://dx.doi.org/10.12692/ijb/12.5.101-117

2017

- **Expression Profiling of** *Hspb1* **and** *Tp53* **Genes through RT-qPCR in Different Cancer Types of** *Canis familiaris*
  Rashid Saif, Ali Raza Awan, Muhammad Tayyab, Masroor Ellahi Babar, Saeeda Zia, Muhammad Wasim
  "Iranian Journal of Biotechnology" doi: 10.15171/IJB.1505 (IF 0.973)

- **Genome-Wide Association Study of Cat Mammary Tumor using 63,000 SNP Chip through PLINK Data Analysis Tool Set**
  Rashid Saif, Leslie Lyons, Barbara Gandolfi, Hafiza Maleeha Ahmad, Ramlah Ejaz, Muhammad Wasim.
  "International Journal of Biosciences" doi: http://dx.doi.org/10.12692/ijb/11.1.75-82

- **Genomic Data Mining through Python Language**
  Rashid Saif, Kinza Qazi, Talha Tamseel, Saeeda Zia
  "International Journal of Biosciences" (IF 0.553) doi: http://dx.doi.org/10.12692/ijb/11.3.116-125

- **Glyphosate: Cancerous or Not; Perspectives from Both Ends of the Debate**
  Syeda Aamna Hassan, Farwa Akhlaq, Muhammad Tayyab, Ali Raza Awan, Sehrish Firyal, Waqas Ahmad Khan, **Rashid Saif**, Muhammad Wasim
  "Advancements in Life Science" HEC recognized "Y" Category, 4(4); 108-112

- **Genetic Contribution of** *BDNF* **Gene in Obsessive Compulsive Disorder in Pakistani Punjabi Population**
  Javeria, Masroor Ellahi Babar, Tanveer Hussain, **Rashid Saif**, Sadaf Rashid, Hanan Sarfraz , Abbas Ali Shah , Muhammad Wasim1 and Muhammad Abdullah
  Pakistan Journal of Zoology (IF 0.491), doi: http://dx.doi.org/10.17582/journal.pjz/2017.49.4.sc7

- **Exploration of Novel Somatic *Hspb1* mutations in Widespread Neoplasms of *Canis Familiaris***
  Rashid Saif, Ali Raza Awan , Leslie A. Lyons , Barbara Gandolfi , Muhammad Wasim
  "International Journal of Biosciences" (IF 0.553) doi: http://dx.doi.org/10.12692/ijb/10.5.265-272

2016

- **Mammary Tumor Associated *Hspb1* Mutation and Screening of Eight Cat Populations of the World**
  Rashid Saif, Leslie Lyons, Barbara Gandolfi, Ali Raza Awan, Muhammad Tayyab, Masroor Ellahi Babar, Muhammad Wasim
  "Iranian Journal of Veterinary Research"(IF 0.172),17(4);231-236,doi: 10.22099/IJVR.2016.3907

- ***Hspb1* and *Tp53* Mutation and Expression Analysis in Cat Mammary Tumors**
  Rashid Saif, Ali Raza Awan, Leslie Lyons, Barbara Gandolfi, Muhammad Tayyab, Masroor Ellahi Babar, Asim Khalid Mehmood, Zia Ullah, Muhammad Wasim
  "Iranian Journal of Biotechnology" (IF 0.309), doi/10.15171/ijb.1480

- **Insight of *Tp53* Mutants and its effect on Protein in Different *Feline* and *Canine* Neoplasms**
  Rashid Saif, Ezza Khan, Arooj Azhar Shahnaz Choudhry, Tanveer Husaain, Masroor Ellahi Babar, Ali Raza Awan, Muhammad Tayyab, Saeeda Zia, Muhammad Wasim
  "Advancements in Life Science" HEC recognized "Y" Category, 3(2); 42-50

- **In silico Characterization of *Hspb1* Mutant Protein in *Canine* and *Feline* Cancers**
  Rashid Saif, Arooj Azhar, Ezza Khan, Shahnaz Choudhry, Tanveer Husaain, Masroor Ellahi Babar, Ali Raza Awan, Muhammad Tayyab, Muhammad Wasim
  "Pak J.of Bioch. Mol. Bio. 49 (1) 2016:18-28

- **Exposure and Vulnerability: Health related symptoms, attitude and practices towards handling agricultural pesticides among vendors of central Punjab, Pakistan**
  Muhammad Shahzad, Atif Yaqub, Muhammad Sheeraz, **Rashid Saif**
  BIOLOGIA (Pakistan), June, 2016, 62 (1), 57-67

2015

- **Mutational and Evolutionary Analysis of Interleukin-2 Gene in Four Pakistani Goat Breeds**
  Tanveer Hussain, Misbah Hussain, Masroor Ellahi Babar, Muhammad Tariq Pervez, Fiaz Hussain, Sana Zahoor, **Rashid Saif**
  International Journal of Animal and Veterinary Sciences 9(5), 2015
  urn:dai:10.1999/1307-6892/26888

- **Mitochondrial ATP6 And ATP8 Genes Based Molecular Diversity and Phylogenetic Analysis in Punjab Urial (*Ovis vignei punjabiensis*)**
  Tanveer Hussain, M. E. Babar, M. M. Musthafa, **Rashid Saif**, Fiaz Hussain, M. Aqeel, N. Naveed, M. T. Pervez, W. A. Khan, Ziaullah, S. Shahzad and A. Yaqub
  Journal of Animal and Plant Sciences, 25(3Supp. 2) 2015 Special Issue Page:311-317 (IF: 0.422)

- **Polymorphic status of PRKAA2 gene in Pakistani buffaloes**
  Waqas Ahmad Khan, Tanveer Hussain, Masroor Ellahi Babar, Asif Nadeem, Ali Raza Awan, Ambrin Fatima, **Rashid Saif**
  "International Journal of Agriculture and Biology", doi: 10.17957/IJAB/15.0149

2013

- **Genomic Exploration of Pakistani Buffalo - Our Black Gold**
  Tanveer Hussain, Masroor Ellahi Babar, Asif Nadeem, **Rashid Saif**, Wajid Ali

"Buffalo Bulletin", 32 (SP. ISSUE 2): 658-661. (IF: 0.067)

2012

- **DNA Fingerprinting of Pakistani Buffalo Breeds (Nili-Ravi, Kundi) Using Microsatellite and Cytochrome b Gene Markers**
  <u>Rashid Saif</u>**,** Masroor Ellahi Babar, Ali Raza Awan, Asif Nadeem, Abu Saeed Hashmi, Tanveer Hussain
  "Molecular Biology Reports" doi 10.1007/s11033/011-0808-0 (IF 1.828)

- **Molecular Phylogeny of Pakistani Riverine Buffalo Based on Genetic Variability of Mitochondrial Cytochrome *b* Gene.**
  <u>Rashid Saif</u>**,** Muhammad Wasim, Masroor Ellahi Babar
  "Molecular Biology Reports" doi: 10.1007/s11033-012-1835-1 (IF 1.828)

- **Role of Cancer Awareness in Prevention of its Outbreak: Current Scenario in Pakistan**
  <u>Rashid Saif</u>**,** Muhammad Zubair Yousaf
  "Pak J. of Bioch & Mol. Bio., 2011;44(4):164-169"

In-review /Preprints articles:

- **Whole-Exome Analysis Reveals X-linked Recessive Mutations underlying Premature Ovarian Failure Using Galaxy Platform**
  Rashid Saif, Tania Mahmood, Aniqa Ejaz, Saeeda Zia, Saqer Alotaibi
  https://www.preprints.org/manuscript/202105.0519/v1

- **Whole-Exome Data Analysis: Detection of Candidate Gene Mutations for Mitochondrial Encephalohepatopathy**
  Rashid Saif, Tania Mahmood, Aniqa Ejaz, Saeeda Zia, Saqer Alotaibi
  Preprint: https://www.preprints.org/manuscript/202105.0068/v1

- **Why Pashmina Goat Produces Long Hair-fiber and Barbari doesn't: A Differential Gene Expression Study**
  Rashid Saif, Tania Mahmood, Aniqa Ejaz, Saeeda Zia
  Preprint: https://www.preprints.org/manuscript/202103.0187/v1
  Submitted: Iranian Journal of Applied Animal Research

- **Differential Gene Expression Pipeline for Whole Transcriptome RNA-Seq Data using Personal Computer**
  https://www.biorxiv.org/content/10.1101/2021.01.26.428352v1
  Submitted: Iranian Journal of Applied Animal Research

- **Computer-aided Drug Designing of *Ocimum Basilicum* Compounds as Therapeutic Agents Against RdRp of SARS-CoV2**
  Shafiq M, **Saif R**, Ali L, Ahmad T, Sohail A
  DOI: 10.26434/chemrxiv.14069480.v1

- **Genomic Variations in *ORF3a* and *ORF1ab* Genes of SARS-nCoV2 Strain from Southern Pakistan**
  R Saif, A Ejaz, T Mahmood, S Zia, AR Qureshi
  https://search.proquest.com/openview/6b5218e8f1bc85e01c842fa6e8830d17/1?pq-origsite=gscholar&cbl=4361587

Submitted "American Journal of Biotechnology & Bioinformatics" AJOBB-2020-06-1905

- **Calf Diarrhea: A review on infectious agents, Diagnosis and Management**
  Ahmad Ali, Nauman Khalid, Saira Abbas, **Rashid Saif**, Imran Riaz, Iftekhar Ahmad
  Submitted "Pakistan Veterinary Journal" PVJ-20-368

- **Molecular Classification and Evolutionary Study of Pakistani Small Wild Ruminant Species of Family Bovidae and Cervidae Through DNA Barcoding**
  Muneer Ahmad, Muhammad Wasim, Abu Saeed Hashmi, Lala Rukh, Sehrish Firyal**, Rashid Saif,** Muhammad Tayyab, Muhammad Nouman Aftab, Ali Raza Awan
  Submitted "Journal of Genetics" ID: JGEN-18-00638

- **Application of DNA Barcoding Technique for Identification of a Fresh Water Fish Species *Mystus cavasius* from Punjab, Pakistan**
  Asma Karim, **Rashid Saif,** Zohail Gill, Faisal Salamat Ali, Akhtar Ali
  Submitted "Iranian Journal of Fishries Sciences" ID: A-10-2945-1

- **Genetic Contribution of *myc* Gene in Different Tumors of *Canis familiaris***
  Anum Kamal, **Rashid Saif**, Sehrish Firyal, Muhammad Mansha, Muhammad Tayyab, Asim Khalid Mahmood, Ali Raza Awan, Masood Rabbani, Muhammad Wasim
  Submitted "International Journal of Biosciences" IJB-3406

- **Insight of Biotechnology Approaches for Animal Production**
  Rashid Saif, Muhammad Wasim
  Submitted "Pakistan Journal of Biochemistry and Molecular Biology"

- **Molecular Docking and Dynamic Simulations of *Olea Europaea* and *Curcuma Longa* Compounds as Potential Drug Agents for Targeting Main-Protease of SARS-nCoV2**
  Rashid Saif, Muhammad Hassan Raza, Talha Rehman, Muhammad Osama Zafar
  Submitted: "VirusDisease" INJV-D-20-00734
  shorturl.at/BFGKT

- **Computational Prediction of *Carica papaya* Compounds as Potential Drug Agents against Spikes Protein of SARS-nCoV2**
  Rashid Saif, Muhammad Osama Zafar, Hassan Raza, Talha Rehman
  Submitted: "Int. J. of Computational Biology & Drug Design" IJCBDD_307226
  https://assets.researchsquare.com/files/rs-105301/v1_stamped.pdf

- **Drug Potential Prediction of *Cassia angustifolia* Compounds against COVID-19 Infection**
  Rashid Saif, Kanza Ashafq, Ghafran Ali
  Submitted: "Advancement in Life Sciences" ALS ID 1056

- **Investigation of Drug Potential of *Elettaria cardamomum, Syzygium aromaticum, Allium sativum* Compounds as a Promising Inhibitors of SARS-nCoV2 Infection**
  Rashid Saif, Talha Rehman, Muhammad Osama Zafar, Hassan Raza
  Write-up in progress, Proposed Submission: Int. J. of Computational Biology & Drug Design

- **Mathematical Understandings of Sequence Alignment and Phylogenetics Algorithms: A Review**
  Rashid Saif, Sadia Nadeem, Ali Iftekhar, Alishba Khaliq, Saeeda Zia

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Student Supervised / Co-supervised and Mentoring:

- Thirteen MS (Biotechnology, Biochemistry, Genetics & Bioinformatics) students supervised/Co-supervised.
- Fifteen BS (Biotechnology/Microbiology/MLT) students co-supervised from GCU/KCFW/UVAS/GDEC-Pakistan)
- Two MSc (Zoology) students co-supervised, GC of Science, Wahdat Rd., Lahore
- Eight (M.Phil Biotechnology/Zoology) students co-supervised from GCU/UoS
- Three PhD students (Molecular biology and biotechnology/Zoology) mentored as internees from GCU/UVAS/UAF-Pakistan
- A number of postgraduate students were facilitated for bioinformatics/statistical tool applications on qualitative/quantitative genetic data for their thesis and manuscripts.

Thesis Supervised/Co-supervised/Mentorship:

- Mehroz Farhan: In-silico prediction of *Azadirachta Indica* phytocompounds as potential drug against lysyl oxidase in canine mammary tumor
- Tuba Ahmed: Computational prediction of *Cymbopogon citratus* compounds as promising inhibitor of main-protease of SARS-nCOV2
- Mehwish Shafiq: Computer-aided drug simulation of *Ocimum basilicum* compounds as drug agent against RNA-dependent RNA-Polymerase (*RdRp*) of SARS-nCoV2
- Sadia Nadeem: Mathematical understandings of Sequence Alignment and Phylogenetics
- Aqsa Yahya: In-silico Prediction of Therapeutic Potential of Glycyrrhiza Glabra Compounds against Papain-like Protease of SARS-CoV2
- Zainab Khurshed: Optimization of whole exome variant calling pipeline at Galaxy
- M. Hassan: Molecular Docking of Olea Europaea and Curcuma Longa Compounds as Potential Drug Agents for Targeting Main-Protease of SARS-nCoV2
- M. Osama Zafar: Computational Prediction of *Carica papaya* Compounds as Potential Drug agents against Spikes Protein of SARS-nCoV2
- Laraib Ali: Molecular docking of *Nigella sativa* compounds as potential drug agents for targeting Spike protein of SARS-nCoV2
- Tania Mahmood: Development of NGS data analysis pipelines using Linux Operating System
- Aniqa Ejaz: Multi-omics NGS data analysis pipeline development using Galaxy platform
- Sabyia Azam: Genetics of Spinal Muscular Atrophy: A Brief Review
- Fatima Asif: Emerging need to learn bioinformatics tools, softwares, operating systems and databases for genomic data science
- Kinza Qazi: Genomic Data Mining through Python Language
- Ghafran Ali: Computational Prediction of Olea europaea Compounds as Inhibitor of Main-Peptidase of SARS-CoV2
- Kanza Ashfaq: Prediction of *Cassia angustifolia* as Potential remedy against Coronavirus
- Sidra Tul Muntaha: Sequence diversity analysis of *LEP* gene in Pakistani high and low milk producing *Capra hircus* breeds
- Naila Naz: Molecular characterization of *EGLN1* gene in fast and slow moving animals of Pakistan
- Beenish Tariq: Genetic diversity of *MAOA* gene to study the behavioral attributes within wild and docile animal species

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- Sonia Shafiq: Genetic diversity and phylogenetic analysis of *interferon gamma* gene in Kajli sheep breed of Pakistan
- Hadia Seemi: Genetic diversity of *leptin* gene in different buffalo breeds of Pakistan
- Asim Razzaq: Role of *CO1* gene in identification of fresh water fishes from head Balloki
- Akhtar Ali: Importance of short sequence of *CO1* gene in mitochondrial DNA for fish identification
- Muhammad Anyat: Genetic diversity and phylogenetic analysis of interferon alpha gene in Kajli sheep breed of Pakistan
- Sidra Rafiq: Genetic Diversity and Phylogenetic Analysis Based on D-Loop Region in *Pavo cristatus*
- Umair Zubair: Transcriptional profiling and mutational analysis of *IL-6* in different chicken

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Oral/Poster Presentations/Participation in Conferences/Seminars/Workshops/Symposiums

- **Conference Chair/Invited Keynote Speaker: Types of Omics Data and Bridging Approaches in Genetics and Informatics**
  International Conference of Natural Science, Engineering and Technology (ICNSET 2019), Sapporo, Japan (https://icnset.org/) (Jan 19-21, 2019)

- **Oral Presentation: Gene Expression Analysis for Canine Cancer through RT-qPCR**
  Faculty Development Workshop, "Knowing cancer in small animals to improve their quality of life". UVAS, Lahore, Pakistan (July 08-10, 2021)

- **Oral Presentation: Whole-Genome Variant Calling at Linux-An Introduction**
  "1st International Conference on Genomics of Beneficial Microbes", NIGAB-NARC, Islamabad, Pakistan (Dec 23, 2021)

- **Oral Presentation: The *LCORL* Locus is under Selection in Large-Sized Pakistani Goat Breeds**
  National Conference on Entrepreneurship Avenues in Biological Sciences, Lahore Garrison University, Lahore, Pakistan (Jan 8-9, 2020)

- **Oral Presentation: Livestock Biodiversity of Pakistan**
  Institute of Genetics, University of Bern-Switzerland (Sep 24, 2018)

- **Oral Presentation: Selection Signature Correlating with Body Size in Pakistani Goats and Genomic Architecture Specific to Kamori & Nachi Breeds**
  Institute of Genetics, University of Bern-Switzerland (May 06, 2019)

- **Oral Presentation: Expression Profiling of *Hspb1* and *Tp53* Genes through RT-qPCR in Different Cancer Types of *Canis familiaris***
  International Forum; Agriculture, Biology and Life Sciences, Kyoto, Japan (June 27-29, 2017)

- **Oral Presentation: Proteomic Data Mining through *k*-Mean Clustering Method using Mathematica Software**
  CASPAM International Conference on Mathematics and Applications, BZU, Multan, Pakistan (Nov 6-7, 2017)

- **Oral Presentation: Genome-Wide Association Study of Cat Mammary Tumor using 63,000 SNP Chip through PLINK Data Analysis Tool Set.**
  37th congress of zoology at GCU-Faisalabad, Pakistan (Feb 28 –Mar 02, 2017)

- **Oral Presentation: Mammary Tumor Associated *Hspb1* Mutations and Screening of Eight Cat Populations of the World**
  Recent advances & challenges in molecular biology, biochemistry & biotechnology, Organized by COMSATS University Islamabad, Abbottabad Campus-Pakistan (August 25-28, 2016)

- **Oral Presentation: Genetic Testing for Cancer**
  Symposium on "Potential Impact of genetic testing and counseling" Held on August 4th, 2016, organized by the department of molecular biology, Virtual University of Pakistan, Lahore, Pakistan

- **Oral Presentation: Gene Expression Profiling through RT-*q*PCR using Comparative Ct Method**
  Conference on "Insight of molecular biology research tools used in applied biological research" Held on August 6th, 2015, organized by the department of molecular biology, Virtual University of Pakistan, Lahore, Pakistan

- **Oral Presentation: Constructing data matrix and statistical testing of sequence and gene expression data using "R"**
  Bioinformatics workshop; Hands-on training on analysis of biological data using R" Held on January 5th, 2016, organized by the department of bioinformatics and computational biology, Virtual University of Pakistan, Lahore, Pakistan

- **Oral Presentation: Differential Expression and Data Analysis Methods**
  "Hands-on training on Real-Time PCR" Held on Sep 17th – 18th, 2014, organized by Quality operations Laboratory (QOL), UVAS, Lahore, Pakistan

- **Oral Presentation:** "Short training on basic molecular biology techniques" Held on July 8th – 10th, 2014, organized by institute of biochemistry and biotechnology, UVAS, Lahore, Pakistan

- **Oral Presentation: Gene Expression Profiling & Mutation Analysis in *P53* & *HSPB1* Genes as Cancer Diagnostic Markers**
  College of Veterinary Sciences, University of Missouri-Columbia, MO, USA

- **Poster Presentation: Selection Signature Correlating with Body Size in Pakistani Goats**
  Swiss Association for Animal Sciences, AgroVet Strickhof – Lindau, Switzerland, April 16, 2019

- **Poster Presentation: Heterogeneity in curly coated dogs: a second *KRT71* allele**
  10th International Conference on Canine and Feline Genetics and Genomics (ICCFGG), May 26-29, 2019, Bern, Switzerland

- **Poster Presentation:** "International Conference on Emerging trends in Life Sciences", Held on July 04, 2014, FCCU, Lahore, Pakistan

- **Poster Presentation: Genetic Analysis of Coat Color Phenotypes in Genetically Diverse Goat Breeds**

Graduate School for Cellular and Biomedical Sciences (GCB) Symposium, Jan 31, 2019. Bern, Switzerland.

- **Participant:** International symposium on "Molecular Forensics: Emerging Trends" Held on May 29th ,2014, Department of Forensic Sciences, University of Health Sciences, Lahore, Pakistan

- **Participant:** National Biotechnology Exhibition and Seminars: Held on Oct 20-21, (2010). Organized by IBBt, UVAS, Lahore, Pakistan

- **Participant:** Student Orientation Program (PhD): Held on SEP 28th - 08th OCT (2010). Organized by Institute of Continuing Education and Extension, UVAS, Lahore, Pakistan

- **Participant:** National Workshop "animal forensics: DNA fingerprinting" held on Sep 21-22, 2010. Organized by IBBt, UVAS, Lahore, Pakistan
- **Participant:** Sixth Asian Buffalo Congress Held on Oct 27th - 30th (2009), Lahore, Pakistan

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Published Abstracts
- Twenty nine (29) abstracts has been published in different national and international scientific proceedings and book of abstracts **(Annexure I)** attached

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Project Completed:
As Team Member
- **Genomic Selection Signatures in Pakistani/Swiss Goat Breeds**
  "In collaboration with University of Bern, Switzerland"
- **Applications and Efficiencies of the First Cat 63K DNA Array**
  "In collaboration with University of Missouri-Columbia-USA"

On-going Projects:
As PI / Team Member
- **Identification of Genomic Selection Signatures for Valued Traits in Pakistani Goats**
  In collaboration with University of Bern-Switzerland
- **Screening of Innate Immunity Associated Variants and Susceptibility of Tuberculosis in Pakistani Population**.
  Research initiative: Institute of Biotechnology GDEC and OPD, GDCH, Lahore, Pakistan
- **Splenic Expression Profiling of Immunity Related IL-6, 10, 1β Genes in Different Chicken Lines**
  "Funded by VU indigenous research funds"

Submitted Projects:
As PI:
- **Pan-genome Assembly of Indigenous Goats in Pakistan**
  Submitted to Fulbright Foundation in collaboration with Washington State University and ARS-USDA, USA

Submitted Projects (Declined):
As PI:
- **Identification of Milk Production Genomic Selection Signatures in Pakistani Goats**
  Submitted to Fulbright-USA & IsDB
  In collaboration with WSU-USA & McGill University, Canada

- **Genetic and Epigenetic Insight: Hi-C Genome Scanning and Selection Signature in Cats**
  Submitted to National Institute of Genetics (NIG)-DDBJ, Japan
- **Transcriptome and Sequence Diversity Analysis of Xenobiotic-Metabolizing and Disease Resistance Set of Genes in Desi and Broiler Chicken Lines**
  NRPU-HEC, Pakistan
- **Immunity Related Selective Sweeps Analysis in Pakistani Indigenous Chicken**
  University of Maryland, College Park, Maryland, USA
- **Allele-Specific Expression Profiling for Predicting the Predisposition of Colorectal Cancer**
  Georgia Institute of Technology (Georgia Tech), Atlanta, Georgia, USA
- **Sex and Immunity Specific Whole Transcriptome Alternative Polyadenylation Site Sequencing in Chicken**
  Washington State University, Washington, Pullman, USA
- **Identification of Milk Production Genomic Selection Signatures in Pakistani Goats**
  In collaboration with Washington State University, Washington, USA
  Submitted to USA-based funding agency- In review process

Submitted Projects (Declined):
As Co-PI:
- **Effect of Probiotics Fortified Diet and Expression Profiling of Growth and Immunity Related Genes for Control of Diseases in *Labeo rohita***
  Potential Funding Agency: Pakistan Science Foundation (PSF)-National Natural Science Foundation China
- **Gene Expression Profiling and Genetic Variability of *Hsps* and Immunity Related Cytokine and Chemokine Genes in Different Camel Breeds under Heat stress Conditions**
  Potential Funding Agency: Agricultural Innovation Program (AIP), Plant Sciences Division, Pakistan Agriculture Research Council
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Hand Books/Monographs

- **Foodomics: Multi-Omics Applications in Food Science**
  Rashid Saif, Ali Iftekhar
- **Evolutionary Dynamics and Biodiversity in Pakistani Livestock Species**
  Published- Pakistan Research Repository-HEC (as major contributor)
  shorturl.at/ajzQ0
- **Insight to Integrative Genomics**
  Rashid Saif, PhD-Dissertation monograph Published "Lambert Academic Publishing"
  ISBN: 978-613-9-85813-2. shorturl.at/bdyzO
- **DNA Polymorphism: A Tool for Molecular Characterization**
  Rashid Saif, M.Phil Thesis monograph Published by VDM Verlag Dr. Müller GmbH & Co. Germany, ISBN: 978-3-639-32567-6. shorturl.at/pzFX0
- **Mathematical Biology**
  Rashid Saif, Saeeda Zia
  (In process-initial draft submitted to TMW scheme, HEC-Pakistan
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Genomic Data Science Specialization and Consultancy Services:
- Following courses has been taken from "Coursera"
  https://www.coursera.org/specializations/genomic-data-science
  - Genomic data science with Galaxy
  - Bioconductor for genomic data science
  - Python for genomic data science

- o Statistics for genomic data science
  - o Whole Genome Sequencing of Bacterial Genome – Tools and Applications
- Birds sexing, horse speed/stamina, animal meat identification, pigeon flying tests development/ optimization consultancy.
- Technical consultant to develop molecular diagnostic startups.
- Volunteer to create public awareness under the slogan of
  "Become an Entrepreneur, Learn to Earn Series"
  "Harness Inherited Diseases *through* Molecular Diagnosis and Genetic Counseling"
- Sequence data analysis using "Sequencher".
- GWAS data analysis using "PLINK" and "Haploview".
- Gene expression data generation through RT-qPCR and its analysis using Livak Method.
- Phylogenetics tree construction using "MEGA" and "Mathematica" software.
- Introduction to R and Mathematica softwares.
- Application of bioinformatics tools and softwares to analyze omics data.
- Primer and probe designing. (Primer3, NetPrimer, OligoCal, Primer Premier, Primer Express)
- Application of statistics and statistical inference on clinical and genetic studies.
- Volunteer to flare the cross-disciplinary research, specially working as facilitator for the promotion and introduction of the subject of "Mathematical Biology" for biology and mathematics students and professionals.
- Team member of interdisciplinary research group of "Mathematics of Genome Analysis"

Taught Courses:
Youtube video channel link
https://www.youtube.com/user/rashidsaif37/videos

- Advances in Bioinformatics   (Kinnaird College, Lahore)
- Genomics & Proteomics   (Kinnaird College, Lahore)
- Bioinformatics   (Kinnaird College, Lahore)
- Essentials of Biological Data Analysis   (GDEC, Lahore)
- Molecular Genetics   (GDEC, Lahore)
- Molecular Pathology   (GDEC, Lahore)
- Molecular Biology & Biotechnology   (GDEC, Lahore)
- Molecular Evolution   (GDEC, Lahore)
- Sequence Analysis, Alignment & Phylogenetics   (GDEC, Lahore)
- Literature Survey & Research Project Management   (GDEC, Lahore)
- Introduction to Biological Data Retrieval   (GDEC, Lahore)
- Genomics   (GDEC, Lahore)
- Recent Trends in Biotechnology & Bioinformatics   (GDEC, Lahore)
- Ethical and Legal Issues in Bioinformatics   (Virtual University of Pakistan)
- Cell Biology   (Virtual University of Pakistan)
- Biometrical Techniques in Genetics   (Virtual University of Pakistan)

Online Recorded Courses @ Udemy & Youtube
https://www.udemy.com/course/whole-genome-variant-calling-of-sars-ncov2-linux/

- Whole Genome Variant Calling @ Linux
- Whole Genome Variant Calling @ Galaxy
- Molecular Docking with MOE Software
- Detection of Genomic Selection Signature @ Linux

- Whole Transcriptome Analysis: RNA-Seq @ Linux

Academic Administrative and Managerial Responsibilities /Experiences:

- Incharge: Biological sciences degree programs
  (BS-Biotechnology, Microbiology, Biochemistry, Bioinformatics, Human Nutrition & Dietetics) at GDEC, Lahore, Pakistan (2017-18)
- HoD-Biotechnology-GDEC, Lahore, Pakistan (2017-18)
- Quality assurance person, course development for Virtual University TV network.
- Member of "Committee on Unfair Means"-VUP
- Member "quality assurance cell" for BS/MS Bioinformatics degree program at VUP
- Focal person "Biotechnology" for degree accreditation from National Technology Council-HEC
- Student career counselor and motivational speaker.
- Facilitate student to hunt indigenous and foreign scholarships and funding oppurtunities.
- External Examiner Kinnaird College for Women and Govt. College of Science, Wahdat Road, Lahore.

Industrial Oriented Hands–on Local Training Experiences:

- Training on: Roche: Cobas-AmpliPrep automatic robotics nucleic acid extraction and TaqMan 48 real time PCR System, NeoSense automatic nucleic acid extraction system, Cepheid: SmartCycler Real-time PCR for Quantitative, Qualitative and Genotyping tests.
- Assistant Hatchery Manager, Sadiq Brother's Poultry, Rawalpindi, Pakistan.
- Orientation and teachers training workshop, Virtual University of Pakistan. (Dec-30th to Jan 08th, 2016)
- Fermenter studies and end-product analysis by HPLC, organized by Institute of Industrial Biotechnology, (June 29-30, 2015) at GCU Lahore, Pakistan.
- Indigenous On-Campus Training, Virtual University of Pakistan. (27-30th Sep, 2015)
- Student Orientation Program (M.Phil): Held on Sep 15th-27th (2008), Organized by Institute of Continuing Education and Extension, UVAS, Lahore

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Professional Association Affiliations:

- The Society for Research in Medicine (https://srmed.org/) Member Advisory Board-
- Swiss Association for Animal Sciences (SVT)
- WWF-Pakistan
- MidSouth Computational Biology & Bioinformatics Society
- International Milk Genomics Consortium
- UVAS Alumni Association

Travel & Supplementary Grant:

- Swiss Government Excellent Scholarship, Switzerland
- Hans Sigrist Foundation, University of Bern, Switzerland
- International Conference of Natural Science, Engineering and Technology [ICNSET 2019], Sapporo (Jan 19-21, 2019), Japan
- International Forum; Agriculture, Biology and Life Sciences [IFABL] (June 27-29, 2017), Kyoto, Japan

- 22nd Summer Institute for Statistical Genetics (July 10-28, 2017), Department of Biostatistics, University of Washington- Seattle, USA
- Sharjah International Applied Mathematics Spring School, (March 25-27, 2018), Sharjah-UAE
- International Agricultural & Biotechnology Conference [IABC] (Nov 2015), Bizerte-Tunisia
- Recent advances & challenges in molecular biology, biochemistry & biotechnology (August 25-28, 2016), COMSATS University Islamabad, Abbottabad Campus-Pakistan
- CASPAM International Conference on Mathematics and Applications (Nov 6-7, 2017)
- BZU, Multan, Pakistan
- 37th Congress of Zoology at GCUF (Feb 28 –Mar 02, 2017), Faisalabad, Pakistan

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National /International Liaison/Collaborations:

- Washington State University, Pullman, Washington, USA
- Animal Genomics and Improvement Laboratory, ARS-USDA, USA
- McGill University, Montreal, Canada
- University of Bern, Switzerland
- University of Missouri Columbia, Missouri, USA
- National Institute of Genetics, Mishima, Japan
- University of Guelph, Ontario, Canada
- Simmons University, Boston, Massachusetts, USA
- The University of Queensland, Brisbane, Australia
- Tabuk University, Tabuk, Kingdom of Saudi Arabia
- Taif University, Taif, Kingdom of Saudi Arabia
- Kinnaird College for Women, Lahore, Pakistan
- University of Veterinary and Animal Sciences, Lahore, Pakistan
- Government College University, Faisalabad, Pakistan
- Forman Christian College University, Lahore, Pakistan

National/International Electronic/Print Media Projections:

- Koh-e-Noor Channel: COVID-19/SARS-CoV2 research projection
  https://www.youtube.com/watch?v=xx-iy3JnXdM&t=1s
- Real Face Media: COVID-19/SARS-CoV2 research projection
  https://www.youtube.com/watch?v=ZTFwGmcaZH0&t=776s
- Awaz Radio FM 107: COVID-19/SARS-CoV2 research projection
  https://www.youtube.com/watch?v=5TccuYsBEEo&t=191s
- Activity Report-2018 Hans Sigrist Foundation
  https://www.sigrist.unibe.ch/e190362/e190370/e255692/files806716/Hans_Sigrist_Stiftung_Annual_Report_2018_eng.pdf
- ICNSET-2019
  https://icnset.org/2019/
- Feline Genetics and Comparative Genomics Lab, University of Missouri-Columbia, USA
  http://felinegenetics.missouri.edu/lab-personnel/952-2

Referees:

Dr. Muhammad Wasim (PhD Supervisor)
Associate Professor,
Institute of Biochemistry and Biotechnology,
University of Veterinary and Animal Sciences, Lahore, Pakistan
muhammad.wasim@uvas.edu.pk
Cell: 0092-300-7316331

Prof. Dr. Tosso Leeb (Postdoc Mentor)
Director
Institute of Genetics
University of Bern
Bremgartenstra 109a,
3012 Bern, Switzerland
tosso.leeb@vetsuisse.unibe.ch
Office: +41 31 631-2326

Prof. Dr. Leslie A. Lyons (PhD-IRSIP Mentor)
Gilbreath-McLorn Endowed Professor of Comparative Medicine
Department of Veterinary Medicine & Surgery, College of Veterinary Medicine,
E109 Vet Med Building, 1600 E. Rollins St.
University of Missouri – Columbia, Columbia, MO 6521, USA
lyonsla@missouri.edu
Cell: +1-530-277-4794
Lab: +1-573-884-2287

Dr. Ali Raza Awan (PhD Supervisory Committee Member)
Associate Professor,
Institute of Biochemistry and Biotechnology,
University of Veterinary & Animal Sciences, Lahore, Pakistan
arawan77@uvas.edu.pk
Cell: +92-321-8442090

Dr. Barbara Gandolfi (Collaborator)
Manager of Laboratories
Department of Clinical Pathology,
IDEXX Laboratories, Westbrook, 04092 Maine -USA
barbara-gandolfi@idexx.com
Cell: +1 415 717-2733

Annexure I

Abstracts Published in Scientific Proceedings / Book of Abstracts

- **Identification of selection signatures in 20 diverse goat breeds**
  Henkel J, **Saif R**, Jagannathan V, Drögemüller C, Flury C, Leeb T (2020) Oral presentation and poster at the Plant & Animal Genomes XXVIII Meeting held on 11–15.01.2020 in San Diego, CA, USA

- **Selection signatures in goat breeds reveal the molecular basis for six different coat color phenotypes**
  Henkel J, **Saif R**, Jagannathan V, Drögemüller C, Flury C, Leeb T (2019) Oral presentation and poster at the 37 International Society for Animal Genetics Conference held on 7–12.07.2019 in Lleida, Spain

- **Selection signatures and new ones findings on coat color in Swiss goat breeds**
  Henkel J, **Saif R**, Jagannathan V, Schmocker C, Zeindler F, Bangerter E, Herren U, Posantzis D, Bulut Z, Ammann P, Drögemüller C, Flury C, Leeb T (2019) Poster at the Swiss Association for Animal Sciences held on 16.04.2019 in Lindau, Switzerland

- **The *LCORL* Locus is under Selection in Large-Sized Pakistani Goat Breeds**
  National Conference on Entrepreneurship Avenues in Biological Sciences, Lahore Garrison University, Lahore, Pakistan (Jan 8-9, 2020)

- **Types of Omics Data and Bridging Approaches in Genetics and Informatics**
  International Conference of Natural Science, Engineering and Technology (ICNSET 2019), Sapporo, Japan https://icnset.org/

- **Heterogeneity in Curly Coated Dogs: A Second *KRT71* Allele**
  Anina Bauer, **Rashid Saif**, Sheida Hadji Rasouliha, Magdalena A.T. Brunner, Vidhya Jagannathan, Inga Bucher , Jeanette Bannoehr, Katarina Varjonen, Ross Bond, Kerstin Bergvall, Monika M. Welle, Petra Roosje, Tosso Leeb
  10th International Conference on Canine and Feline Genetics and Genomics, May 26-29, 2019

- **Expression Profiling of *Hspb1* and *Tp53* Genes through RT-qPCR in Different Cancer Types of *Canis familiaris***
  Rashid Saif, Muhammad Wasim
  International Forum; Agriculture, Biology and Life Sciences [IFABL], Kyoto, Japan (June 27-29, 2017) ISSN: 2412-3455

- **Proteomic Data Mining through *k*-Mean Clustering Method using Mathematica Software**
  Rashid Saif, Kinza Qazi, Talha Tamseel, Saeeda Zia
  CASPAM International Conference on Mathematics and Applications, BZU, Multan, Pakistan (Nov 6-7, 2017)

- **Mammary Tumor Associated *Hspb1* Mutations and Screening of Eight Cat Populations of the World**
  Rashid Saif, Leslie Lyons, Barbara Gandolfi, Ali Raza Awan, Muhammad Tayyab, Tanveer Hussain, Masroor Ellahi Babar and Muhammad Wasim

Recent advances & challenges in molecular biology, biochemistry & biotechnology, COMSATS Institute of Information Technology-Abbottabad

- **Prion Diseases- Animal Health and Zoonotic concern: Research Status in Pakistan**
  ME Babar, T Hussain **, R Saif**, A Ali, MT Pervaiz
  2nd International Conference on Zoonosis- Oct 20-21, 2016,
  Organized by Faculty of Veterinary Sciences, Bahauddin Zakaryia University, Multan, Pakistan

- **Genetic Testing for Cancer**
  Rashid Saif
  Symposium on "Potential Impact of genetic testing and counseling" Held on August 4th, 2016, organized by the department of molecular biology, Virtual University of Pakistan, Lahore, Pakistan

- **Constructing data matrix and statistical testing of sequence and gene expression data using "R"**
  Rashid Saif
  Bioinformatics workshop; Hand-on training on biological data analysis using R, Held on Jan 05, 2016 (Conference proceedings)

- **Gene Expression Profiling through RT-qPCR using Comparative Ct Method**
  Rashid Saif
  "Insight of molecular biology techniques used in applied biological research", Held on Aug 06, 2015 (Conference proceedings)

- **Assistance of Genomic Techniques for Identification of Superior Buffalo Bulls in Pakistan**
  Babar M.E., T. Hussain, A. Ali, A. Nadeem, **R. Saif** and F. Rafiq
  11th World Buffalo Congress, Colombia. November 23-25, 2016

- **Modern Biotechnology Techniques to enhance Animal Production**
  Babar, M.E., **R. Saif**, T. Hussain.
  4th International Conference on Biotechnology and Bioengineering. Singapore. Dec. 11-13, 2015

- **Analysis of Molecular Genetic Diversity of Endangered Punjab Urial (*Ovis vignei punjabiensis*) based on Interleukin 2 gene sequences**
  Hussain, T., M.M. Musthafa, M. E. Babar, **R. Saif**, F. Hussain, M.T. Pervez, S. Zahoor, W.A. Khan, Z.Ullah, M. Aqeel and A. Yaqub
  4th International Molecular Biology and Biotechnology Congress and Conference on Life Sciences Research-2015. Sept. 4-6, 2015

- **Tharparkar Blue Peafowl (*Pavo cristatus*) genetic architecture; explored by Mitochondrial DNA D-Loop marker.**
  Babar, M.E., T. Hussain, **R. Saif**, F. Hussain, M. Aftab, F. Sadiq, W.A. Khan, J.A. Mahar, M. Aqeel, A. Aftab, S. Zahoor, M.T. Pervez and Z. Rehman
  4th international Molecular Biology and Biotechnology Congress and Conference on Life Sciences Research-2015. Sept. 4-6, 2015

- **Molecular Characterization of Keratin Associated Protein (*KAP13-3*) Gene in Lohi Sheep of Pakistan.**
  Hussain, T., M. Hussain, **R. Saif**, A. Nadeem, M.T. Pervez and M.E. Babar

2nd International Conference on Agriculture, Food and Animal Sciences. Sindh Agriculture University, Tandojam, Pakistan. Feb. 25-26, 2015.

- **Prospects of Molecular Biology Techniques to investigate Genomics of Pakistani Dromedary Camel.**
  Babar, M.E., T. Hussain, **R. Saif**, S. Zahoor and M.T. Pervez.
  35th Pakistan Congress of Zoology (International). University of Karachi. March 1-4, 2015

- **Biotechnological Potential of a Thermophilic Bacterium Isolated From Tatta Pani Hot Spring, Azad Kashmir (Pakistan)**
  Zahoor, S., M.M. Javed, M.E. Babar, T. Hussain, **R. Saif**, M.T. Pervez and I.U Haq.
  35th Pakistan Congress of Zoology (International). University of Karachi. March 1-4, 2015

- **Potential of Modern Genomic Techniques to Reveal Buffaloes Genetic Worth.**
  Hussain, T., M.E. Babar and **R. Saif**
  8th Asian Buffalo Congress. Istanbul Turkey. April 21-25, 2015

- **Genomic Exploration of Pakistani Buffalo- our Black Gold.**
  Babar, M. E., T. Hussain, W. A. Khan, A. Fatima, **R. Saif**, M. M. Manzoor, A. Nadeem, A. Ali, S. A. Shah and A. Wajid.
  The 10th World Buffalo Congress / 7th Asian Buffalo Congress. Phuket, Thailand. May 6-8, 2013

- **Genetic variation study in Pakistani buffalo breeds using microsatellite markers.**
  T. Hussain, M. E. Babar, M. Imran, A. Nadeem, A. Ali, **R. Saif**, A. Wajid, M. De Donato, S. O. Peters, and I. G. Imumorin. ADSA-AMPA-ASAS-CSASWSASAS Joint Annual Meeting. Phoenix, Arizona, USA. July 15-19, 2012. Journal of Animal Science 90 (Suppl. 3): 687

- **Selection of Heat Tolerant Animals: A need of future under global climate change scenario**
  Hussain, T., M.E. Babar, M.S. Mughal, A. Nadeem, **R. Saif**, M.T. Pervez and S. Zahoor
  3rd International Workshop on Dairy Science Park
  The University of Agriculture, Peshawar. Nov. 16-18, 2015

- **Mutational and Evolutionary Analysis of Interleukin-2 Gene in Four Pakistani Goat Breeds**
  Hussain,T., M. Hussain, M.E. Babar, M.T. Pervez, F. Hussain, S. Zahoor and **R. Saif**.
  The 66th Annual Meeting of the European Federation of Animal Science (EAAP). Warsaw, Poland. Aug 31-Sep. 4, 2015. (Abstract Submitted)

- **Genetic Diversity of Barela and Mareecha Camel Breeds of Pakistan using Microsatellite Markers**
  Hussain, F., T. Hussain, A. Nadeem, M.U. Khan, M.E. Babar and **R. Saif**
  3rd International Conference on Emerging trends in Bioinformatics and Biosciences.
  Mohammad Ali Jinnah University, Islamabad. Oct. 3, 2015

- **Potential of Modern Genomic Techniques to Reveal Buffaloes Genetic Worth**
  Hussain, T**.,** M.E. Babar and **R. Saif**
  8th Asian Buffalo Congress. Istanbul Turkey. April 21-25, 2015

- **Prospects of Molecular Biology Techniques to Investigate Genomics of Pakistani Dromedary Camel**
  Masroor Ellahi Babar, Tanveer Hussain, **R. Saif**, Sana Zahoor, Muhammad Tariq Pervez.

"Pakistan Congress of Zoology"

- **Interferon Omega-1 Gene as a Highly Polymorphic Immune Gene in Pakistani Buffalo Breeds**
Tanveer Hussain, Masroor Ellahi Babar, Abdul Wajid. Akhtar Ali, Asif Nadeem, **Rashid Saif**, Kamran Abbass, Fahad Rafiq
"11th Asian Buffalo congress"