

AHMAD HUSSAIN, Ph.D

S/O – MOHD JALIL

DOB – 21st March, 1988

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VISION & OBJECTIVES

- To acquire zenith in the field of science and apply this knowledge in the welfare of human race and environment.

SEMINARS/CONFERENCES

- Poster presentation in International conference on Nanomaterials & Nanotechnology at Vinoba Bhave Research Institute, Saidabad (Allahabad) on 1-3 March, 2017.
- Abstract accepted in International conference on “New tools and approaches for nanomaterial safety assessment” in Malaga (Spain), 7-9 February, 2017.
- Participated in National seminar on “Innovative Researches in Life Science” organised by Department of Zoology, Maharishi Dayanand University, Rohtak on February 21, 2015.
- Participated in the XII Agricultural Science Congress Seminar on Sustainable Livelihood Security for Smallholder Farmers held at ICAR-NDRI, Karnal on 3-6 February, 2015.
- Presented poster at the XII Agricultural Science Congress Seminar on Sustainable Livelihood Security for Smallholder Farmers held at ICAR-NDRI, Karnal.
- Participated in one day workshop on “Emerging Trends in Nano Science and Biotechnology” organised by Department of Bio and Nanotechnology, Guru Jambheshwar University of science and technology, Hisar and sponsored by UGC under SAP-DRS-I on August 19, 2014.
- Participated in the National Symposium on “Frontiers in Biotechnology” held at Department of Biotechnology, Panjab University, Chandigarh on February 17, 2011.

M. Sc. DISSERTATION

- Completed one year research work during M.Sc. (August, 2012- July 2013) on the topic **“Evaluation of ameliorating effects of *Lactobacillus* fermented milk on antibiotic induced deviations of neutrophil functions”**.
 - **Objectives of Research-**
 1. To compare the effect of antibiotic treatment on neutrophil functions *in vitro*.
 2. To analyze the effect of feeding *Lactobacillus* fermented milk along-with antibiotic treatment on neutrophil functions *in vivo*.

Ph.D RESEARCH

- Completed Ph.D research work on the topic **“Nanosafety of nanofertilizer and nanocarrier in rats mediated through breast milk”**.
 - **Objectives of Research-**
 1. To assess the cytotoxicity and oxidative stress induced by zinc oxide nanofertilizer and mesoporous silica nanocarrier on immune cell and germ cell.

2. To study the partico-kinetics of milk mediated transfer of zinc oxide nanofertilizer and mesoporous silica nanocarrier.
3. To determine the effect of milk mediated zinc oxide nanofertilizer and mesoporous silica nanocarrier transfer on immune cell function.

EXPERIMENTAL SKILLS

- **Basic-** Good handling of small laboratory animals (breeding, oral gavaging, i.p injection etc). Milking from experimental rats, collection of peritoneal fluid as well as peripheral blood by cardiac puncture. Isolation of blood cells, mammalian cell culture, cytotoxicity assays, anti-oxidative enzyme assay using spectrophotometer, characterization of nanoparticles, Exposure to basic microbiology culturing, ICP-MS sample preparation and ELISA.
- **Molecular Biology skills:** Isolation of total RNA, isolation of DNA, Electrophoresis, primer designing, gradient and real time PCR.

IN SITU TRAINING

- Three month *in situ* training at Livestock Research Centre (LRC), ICAR-NDRI, Karnal (Haryana).
- Exposure to various LRC sections including Cattle yard, Goat section, Calf section & milking section.
- Proper handling of small and large animals.
- Exposure to assisted reproductive techniques like Artificial insemination, Ovum pickup etc.
- Exposure to machine milking and other techniques.

LIST OF PUBLICATIONS

- Authored a research article namely ‘Post natal distribution of ZnO nanoparticles to the breast milk through oral route and their risk assessment for breastfed rat offsprings’ in ‘**Human & Experimental Toxicology**’ of SAGE publishing group, doi.org/10.1177/0960327120921441.
- Co-authored a research article namely ‘Comparative toxicity assessment of nano- and bulk-phase titanium dioxide particles on the human mammary gland in vitro’ in ‘**Human & Experimental Toxicology**’ of SAGE publishing group, doi.org/10.1177/0960327120927448.
- Co-authored a research article namely ‘Exploration of immunomodulatory and protective effect of Withania somnifera on trace metal oxide (zinc oxide nanoparticles) induced toxicity in Balb/c mice’ in ‘**Molecular Biology Reports**’ of Springer publication, [doi.10.1007/s11033-019-04705-x](https://doi.org/10.1007/s11033-019-04705-x).
- Co-authored a solicited book chapter namely “Biosafety of nanomaterials used in nanoceramics and nanocomposites” in the **Handbook of nanoceramic and nanocomposite coating and materials** of Elsevier publication (Honorarium 250 USD).
- Co-authored a solicited book chapter namely “Natural anti-oxidative agents from medicinal plants” in the “**Handbook of Research on Pharmacological Uses of Medicinal Plants and Natural Compounds**” of IGI Global Publisher Inc., USA.
- Co-authored a review article namely “Global DNA methylation: role, status and genome-wide approaches to study epigenetic mark in cloned embryos” in ‘**The Applied Biology & Chemistry Journal**’.

Details of Abstracts published in Compendium of Conferences

1. **Abstract no- DOI: 10.5185/icnano2017.** Immune cell and male germ cell as a model to assess nanosafety of ZnO nanofertilizer and mesoporous silica nanocarrier. **Ahmad Hussain & Gautam Kaul.**

2. **Abstract no #1550-** *In vitro* exposures of ZnO nanoparticles and Mesoporous Silica nanoparticles on immune and male germ cells. **Ahmad Hussain** & Gautam Kaul.
3. **Abstract no-ASC2015ABS1418641101** - Evaluation of ameliorating effects of lactobacillus fermented milk on antibiotic induced deviations of neutrophil functions. **Ahmad Hussain** & Rajeev Kapila.
4. **Abstract no- ASC2015ABS1418658870** - Determination of IC50 of different Nanomaterials using male germ cell as a model system. Sandhya Sanand, Nidhi Rawat, Nisha Bara, **Ahmad Hussain**, Sandeep Mehra, Meenakshi Bamnia & Gautam Kaul.
5. **Abstract no-ASC2015ABS1418659087-** “Responsible use of nanotechnology in food and agriculture” Sandhya, Nidhi Rawat, Nisha Bara, **Ahmad Hussain**, Sandeep Kumar, Meenakshi Bamnia & Gautam Kaul.
6. **Abstract no- 2015ABS1418663469** - “Evaluation of cytotoxic effect of Zinc oxide (ZnO) nanoparticle in mice testicular leydig cell line” Nisha Bara, Sandhya, **Ahmad Hussain**, Sandeep Mehra & Gautam Kaul.

WORK EXPERIENCE

- Worked as a teaching assistant to conduct biochemistry practical at undergraduate and postgraduate level from 01-08-2014 to 01-08-2015.

AWARD & ACHIEVEMENT

- Qualified all India P.G. Entrance Examination 2011 conducted by I.C.A.R. and recipient of junior Research fellowship during M.Sc.
- Qualified all India Ph. D Entrance Examination 2013 conducted by I.C.A.R. and recipient of Institutional fellowship.
- Qualified GATE 2015.
- Qualified National Eligibility Test (NET), 2016 Indian Council of Agricultural Research (ICAR), Govt. of India
- Qualified State Eligibility test (SET), 2016
- Awarded RGNF National Fellowship (JRF) 2016 for Pursuing Ph.D, UGC, Govt. of India.
- Qualified ICMR Junior Research fellowship Examination, 2016
- Qualified CSIR- Junior Research fellowship Examination, June 2017
- Qualified UGC- Junior Research fellowship Examination, December 2017
- Completed a certificate course on ‘Nanotechnology in Agriculture’ organised by NPTEL, 2018.
- Shortlisted for **National Overseas Scholarship** by MoTA, Govt of India to pursue **post doctoral** research from any foreign University, 2020.

COMPUTER & STATISTICAL SKILLS

- Expertise in Windows, Microsoft Office (Word, Excel, Power Point).
- Ability to operate the software’s required for conducting different Biochemical and other Laboratory techniques.
- Studied statistics courses at post graduate level i.e. “**Software packages for statistical computing**” which gave a foundation in designing experiments and using statistical tools to analyze research data.

LANGUAGES KNOWN

- English and Hindi.

ACHIEVEMENTS & EXTRA CURRICULAR ACTIVITIES

- Worked as Supervisor/Student Co-ordinator in All India youth festival, Reverie-2018 held at ICAR-NDRI, Karnal.
- Worked as Accommodation Secretary in All India Agricultural youth festival, 2015 held at ICAR-NDRI, Karnal.
- Worked as a volunteer in XII Agricultural Science Congress, 2015 held at ICAR-NDRI, Karnal.
- Secured first position in Western dance in 19th All India inter-university youth festival, 24th - 26th, April 2014 held at ICAR-NDRI, Karnal.
- Participated in various Intra-university sports and declared runner up in cricket.
- Member of Society of Biological Chemists of India.
- Member of International Association of Advance Materials (IAAM).
- Participated in blood donation camp at NDRI on 5th December 2014 organised by HDFC bank Ltd & NDRI.
- Took distinguished part in the annual and Farewell function at Department of Biotechnology, Panjab University, Chandigarh.
- Secured 3rd position in inter school quiz competition at state level.

HOBBIES/PERSONAL ATTRIBUTES

- Good team worker and gregarious.
- Playing cricket, football, volleyball and table tennis.
- Listening to music.

Declaration: I hereby declare that all the above given information are true to the best of my knowledge and belief.

