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SCO – 1st YOUNG SCIENTISTS CONCLAVE
Shaping SCO-STI Partnership: Young Scientists Perspectives

NOMINEE'S DETAILS/INFORMATION

Country Name : Pakistan.

Last Name: Zeshan	First Name: Muhammad.
Date of Birth : (DD/MM/YYYY)	15/01/1990

Address: Tissue Culture Lab, National Institute for Genomics & Advanced Biotechnology, NARC, Park Road, Islamabad.

Telephone: 0301-5556695	Email: muhammadzeeshan95@gmail.com.
Title: Scientific Officer	Gender: Male.

Institution/Affiliation: NIGAB, NARC, PARC.

Field of Science and Technology: Biotechnology & Bio Engineering.

ACADEMIC QUALIFICATION: degree and discipline (please indicate where appropriate)

Degree:	Bachelors		Masters	✓	PhD		Other	
Discipline:			Agriculture Plant Breeding & Genetics.					

Nomination Statement (up to 300 words): Please describe area of expertise in which the nominee has demonstrated innovation excellence. *Please provide the information in English.*

→ MSc (Hons) in Agriculture Plant Breeding & Genetics with focus on anther culture for double haploid production.

→ I have expertiese on micropropagation of vegetatively propagated plants i.e. Banana, Potato, Ginger & Date palm for Disease free planting material production.

Innovative Project Statement (up to 300 words): Please provide brief information on the nominee's innovative idea. *Please provide the information in English.*

→ ~~Micro~~ Project entitled micropropagation of elite ginger gesmplasm.

→ Also working on " Commercialization of Potato tissue Culture Technology in Pakistan".

Participation in Innovation Competitions/Awards/Achievements: Please list previous participation in innovation competitions and awards/achievements, if any. *Please provide the information in English.*

DECLARATION BY THE CANDIDATE:

I hereby declare that all the information given above is true to the best of my knowledge. I accept to participate in the virtual conference of1st SCO -Young ScientistsConclave in India, and will attend the entire programme of five days.

Place: Islamabad

Date: 09-10-2020

Signature of the nominee: ----------

Name of the nominating authority:
(Contact details, i.e. telephone, email and designation)

Place: Islamabad

Date: 09-10-2020

Signature: ----------

Member
Plant Sciences Division
Pakistan Agricultural Research Council
Islamabad

NB: Please remember to include the followingalong with Nomination Form:

- **Nominee's Curriculum Vitae/Biography at the end of nomination form.**

Muhammad ZESHAN

Scientific Officer
National Institute for Genomics and Advanced Biotechnology (NIGAB),
National Agricultural Research Centre (NARC), Park Road, Islamabad.
Cell: (+92) 301 555 66 95 Office: (+92) 51 9073 3822
Email: muhammadzeeshan95@gmail.com

Education:

- **M.Sc. (Hons.) Agric. Plant Breeding & Genetics-2011-2013**
  PMAS-Arid Agriculture University, Rawalpindi, Pakistan
  CGPA: 3.88/4.00 (79.14 %)
  Thesis Title: Studies on *in vitro* regeneration ability of anther culture derived callus lines of maize.

- **B.Sc. (Hons.) Agriculture- 2007-2011**
  Major Subject: Plant Breeding and Genetics
  University of Agriculture, Faisalabad, Pakistan
  CGPA: 3.68/4.00 (76.47%)

Work Experience:

Scientific Officer Dec. 2017 to Date
National Institute for Genomics and Advanced Biotechnology (NIGAB),
PARC-National Agricultural Research Center (NARC),
Islamabad-Pakistan

Our group is working on banana and potato micro propagation for virus free plants and minitubers production. Research on varietal identification of banana and potato through DNA fingerprinting is also in process. We have established core facility of providing disease free planting material of vegetatively propagating crops (e.g. banana, potato, ginger and date palm) to the farmers nationwide.

Scientific Officer Dec 2015 to Nov 2017
PARC-Arid Zone Research Institute,
Pakistan Agricultural Research Council
Bahawalpur-Pakistan

At PARC-AZRI Bahawalpur institute, I have worked on chickpea and maize for drought stress with a team of agronomists and soil scientists. I also used drought mitigation agents to reduce the harmful effects of water shortage. I also worked on nutrient use efficiency in brassica and castor and wheat.

Researcher April 2014 to Dec 2015
National Institute for Biotechnology and Genetic Engineering (NIBGE),
Faisalabad-Pakistan

I worked on drought and salt stress tolerant transgenic development in tobacco and brassica through agrobacterium mediated transformation. I developed seven expression vectors having different combinations of genes conferring resistance to drought and salt stress and transformed the brassica plants through agrobacterium mediated transformation. I also worked on chloroplast transformation of tobacco for abiotic stress resistance.

M. Phil. Research 2011 to 2013
PMAS-Arid Agriculture University, Rawalpindi

I did my Master's in Agriculture majoring in the subject of Plant Breeding and Genetics from Arid Agriculture University, Rawalpindi. I did research on optimization of embryoid development from anther culture in maize. I used different genotypes of maize on different media to find the androgenic response of anthers.

Academic Achievements:

- ✓ US-AID merit and need based scholarship for Master of Science in Agriculture at PMAS-Arid Agriculture University, Rawalpindi Pakistan (2011-13)

Projects Worked:

- ✓ Regeneration ability of anther derived androgenic Maize lines
- ✓ Micro propagation of Banana for Banana Bunchy Top and Panama disease free plant production and dissemination.
- ✓ Micro propagation of Potato for Potato Leaf Roll Virus free mini tubers production
- ✓ Micro propagation of Date palm and Ginger.
- ✓ *Agrobacterium* mediated transformation and regeneration of Brassica and Tobacco
- ✓ Chickpea drought stress studies and identification of drought mitigation agents

PUBLICATIONS:

Research Articles:

Yousaf, MM, **Zeshan M**, Hussain M, Raza MM, Shah MJ, Ahmed B and Shah SH. 2018. Effect of Source and Placement Timings of Nitrogen Fertilizers on Growth and Yield of Raya (*Brassica juncea* L.). *Pak. J. Agric. Res.*, 31(3): 285-290. DOI | http://dx.doi.org/10.17582/journal.pjar/2018/31.3.285.290

Yousaf, MM, Hussain M, Shah MJ, Ahmed B, **Zeshan M**, Raza MM and Ali K. 2018. Yield response of castor (*Ricinus communis* L.) to NPK fertilizers under arid climatic conditions.

Pak. J. Agric. Res., 31(2): 180-185. DOI|http://dx.doi.org/10.17582/journal.pjar/2018/31.2.180.185

Anjum, SA, Ullah S, Raza MM, Raza M, Abbas M, Ahmad I, Yousaf MM, **Zeshan M**, Abbas A, Noor MA, Nawaz M. 2019. Exogenous supply of Boron at various growth stages improved wheat yield. *Pak. J. Agric. Res.*, 32(3): 422-427. DOI | http://dx.doi.org/10.17582/journal.pjar/2019/32.3.422.427

Yousaf, MM, Raza MM, Hussain M, Shah MJ, Ahmad B, Muhammad RW, Ullah S, Abbas A, Ahmed I and **Zeshan M**. 2020. Effect of balance use of fertilizers on performance of wheat under arid climatic condition. *Pak. J. Agric. Res.*, 33(4): 778-782. DOI | http://dx.doi.org/10.17582/journal.pjar/2020/33.4.778.782

Noor, S, Muhammad A, Shahzad A, Ali K, **Zeshan M**, Hussain I, Khattak SH, Begum S, Ali S, Erum A, Ali G. 2020.Assessment of genetic diversity in Banana cultivars from Pakistan based on ISSR markers. *Acta Horticulture*. (Accepted)

Muhammad A, Hussain I, Ali K, **Zeshan M**, Ali S, Soomro NA, Moheyuddin G, Faqir N, Hyder MZ, Sarwar S, Ali GM. 2018. Agronomic and Proximate Evaluation of four Banana cultivars Grown in Pakistan. *Pak. J. Agric. Sci*. (In progress)

Book Chapters:

Ahmad, N, **Zeshan M**, Gill SS, Mehmood MA, Rahman M. 2015. Functional genomic studies of chloroplast genome in *Arabidopsis* In: Sofo A. (Ed.), "*Arabidopsis thaliana*: Cultivation, Life Cycle and Functional Genomics", Nova Science Publishers, New York pp: 51-76.

Oral presentations/Conference:

Muhammad, A, **Zeshan M**, Hussain I, Ali S, Ali K, Moheyuddin G, Soomro NA, Ali GM. 2019. Introduction, Physico-Chemical and Sensorial Evaluation of Banana Cultivars (*Musa sapientum*), in Pakistan. In proceedings of 7th International Conference on Biological and Computational Sciences. CUST-Islamabad.

Muhammad, A, Hussain I, Ali K, **Zeshan M,** Ahmad N, Soomro A, Ali GM. 2019. Banana bunchy top virus (BBTV) control in Pakistan through tissue culture technology. In proceedings of 1st International Conference on Recent Updates in Biotechnology. Islamabad.

Abstracts/Conferences:

Zaman, MS, Rehman F, Hussain I, Shakirullah, Khalid M, Ahmad I, Muhammad A, Ali K, **Zeshan M**, Ali S, Ali GM. 2019. Adaptability trial of exotic potato varieties under the climatic conditions of Naltar Valley. In proceedings of 7th International Conference on Biological and Computational Sciences. CUST-Islamabad.

Hussain, Iqbal, Muhammad A, Ali K, **Zeshan M**, Ali GM. 2019. Disease elimination and virus free seed potato production through tissue culture. In proceedings of 1st International Conference on Recent Updates in Biotechnology. Islamabad.

Noor, Saima, Muhammad A Hussain I, Ali K, **Zeshan M**, Shahzad A, Khattak SH, Begum S, Ali GM. 2019. Assessment of genetic diversity among banana cultivars grown in Pakistan based on ISSR markers. In proceedings of 1st International Conference on Recent Updates in Biotechnology. Islamabad.

Research Skills:

Laying out designs for field experiments, DNA/RNA/Protein purification, gel electrophoresis, PCR, Electroporation, Gene gun, Expression cassette development, tissue culture, statistical software's.

Trainings/Workshops:

- ✓ Attended two days' workshop on "Molecular Genomic Assisted Breeding of Wheat" on 19th and 20th of February, 2020 at NIBGE, Jhang Road, Faisalabad.
- ✓ Two days Training course on Plant Genetic Resources Use in Pre Breeding and Varietal Development Practices Organized by FAO at University of Sargodha on 12-13 November 2019.
- ✓ Five days' workshop entitled "Advanced Biological Risk Mitigation Training of Trainers Workshop" organized by Pakistan Biological Safety Association in collaboration with Fogarty International Center, NIH, USA at COMSTECH, Islamabad, on 10-14 Sep, 2018.
- ✓ Two days' training entitled "Biosafety Cabinet Workshop" organized by Pakistan Biological Safety Association in collaboration with Fogarty International Center, NIH, USA at National Institute for Genomics and Advanced Biotechnology, National Agricultural Research Center, Islamabad on 06-07 September 2018.
- ✓ Five days national training course entitled "16th National Training Course on Modern Techniques in Biotechnology" at National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad on 16-20 April 2018.
- ✓ Five days national training course on "Modern Techniques in Research on Abiotic Stress Tolerance in Plants" at Nuclear Institute for Agriculture and Biology (NIAB) Faisalabad on 06-10 March 2017.
- ✓ One week training workshop on "Application of Genomics in Plant Breeding" held at University of Agriculture, Faisalabad, Pakistan.
- ✓ Participation in two days training workshop on "The Development and Testing of Transgenics for Cotton Leaf Curl Virus (CLCuV) Disease Resistance" held at Center of Excellence in Molecular Biology (CEMB) University of the Punjab Lahore, Pakistan.

Languages Skills:

English, Urdu, Punjabi,

Computer Skills:

Windows 2010, Microsoft Office 365, Endnote, Statistix 8.1