



**National Institute for Biotechnology & Genetic Engineering
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Dated: 08-02-2017

Dr. Bhag Mal,
Interim Executive Secretary,
APAARI, Bangkok, Thailand
Email: b.mal@apaari.org

**Subject: Application for the post of Coordinator at Asia-Pacific Consortium on
Agricultural Biotechnology (APCoAB), APAARI, Bangkok, Thailand**

With reference to the job advertisement for the post of Coordinator APCoAB, I submit my CV and documents for this position.

I have 25 years' experience of Agricultural Biotechnology Research and Development. I developed tissue culture and transformations procedures for different crops including cotton, wheat, potato, tomato, maize, *Medicago* etc. Recently transgenic drought and salinity tolerant wheat was developed and tested in field.

I also have experience of working in the Asia-pacific region. I did PhD (2001-2005) and Post-Doctorate (2016) from Australia. I visited Japan (2013) and Philippines (2014) where I presented my work, chaired the workshops sessions and reviewed Progress of Biotechnology research.

Biosafety studies of GM wheat were done. These cases have been approved by National Biosafety Commission. During my biotechnology research career, I organized many workshops and training courses on Agricultural Biotechnology at national and international level. I am working on senior position at NIBGE (PEAC). The detail of my experience is given in my CV. The competent authority at PAEC has approved my nomination for submission of my application.

I fulfill the requirements and submit my application for the post of Coordinator at APCoAB.

Yours sincerely

Nasir Ahmad

Dr. Nasir A. Saeed
Deputy Chief Scientist
Wheat Biotechnology Lab,
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Curriculum Vitae

DR. NASIR AHMAD SAEED

<p>Deputy Chief Scientist Group Leader Wheat Biotechnology Lab, Agricultural Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), P.O. Box 577, Jhang Road, Faisalabad, Pakistan</p>	<p>Tel Office: +92-41-2651475-79 Tel Office (Direct): +92-41-2550830 Tel Home: +92-41-2578615 Mob: +92-3007280615 Email: nasaeedpk@yahoo.com Email : nasaeedpk@gmail.com Date of birth: January 27,1967 Nationality: Pakistan CNIC: 33303-0834648-1 Passport No. AF5976485 Marital status: Married Website:www.nibge.org</p>	
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Education			
Year	Degree	Division /Grade	Institution
2015	Post- Doctorate	Endeavour Executive Fellowship	Plant Breeding Institute, Sydney University, Australia (March 08-August 14,2015) Ministry of Education, Government of Australia
2001 to 2005	Ph. D – Plant Sciences (4 years course) International Scholarship, Ministry of Education, Government of Australia	First division IPRS-UNRS	Plant Science Group, Department of Biological Sciences, School of Environmental and Life Sciences, University of Newcastle, NSW, Australia Thesis: Stress genes in relation to wounding, tissue culture and salinity in <i>Medicago truncatula</i> Supervisor: Prof. Ray J Rose
1996 to 1997	M. Phil Courses in Biotechnology- (1 year course)	First/A grade CGPA 4.0/4.0	Department of Biotechnology, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad, Pakistan
1991 to 1992	M. Sc (Hons) Agriculture-Plant Breeding and Genetics (2 years course)	First/CGPA 3.79/4.00	Department of Plant Breeding and Genetics, University of Agriculture, Faisalabad, Pakistan
1985 to 1989	B. Sc (Hons) Agriculture (4 years course)	First/CGPA 3.43/4.00	Department of Plant Breeding and Genetics, University of Agriculture, Faisalabad, Pakistan

Employment History-Total experience in Agricultural Biotechnology:25 years	
Dec 01, 2016 to date	Deputy Chief Scientist and Group Leader, Wheat Biotechnology Lab, Agricultural Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad. Currently, I am supervising a group of 12 people including 1 Principal Scientist, 2 Research Associates, 4 PhD students, 1 M. Phil student, 2 technicians and 2 DPLs plus other with administrative duties. I am convener of several administrative committees at NIBGE. I work on Wheat Biotechnology and Crop Improvement programs and PI of several projects.
2005 to Nov. 30, 2016	Principal Scientist and Group Leader, Wheat Biotechnology Lab, Agricultural Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad. Currently, I am supervising a group of 12 people including 1 Senior Scientist, 2 Research Associates, 4 PhD students, 1 M. Phil student, 2 technicians and 2 DPLs. I worked on wheat and Cotton Biotechnology.
1997- 2005	Senior Scientist, Plant Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad. I worked on cotton biotechnology and <i>Medicago truncatula</i> model legume.
1994- 1997	Scientific Officer, Plant Biotechnology Division, National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad. I worked on cotton crop biotechnology.
1992-1994	Assistant Research Officer, Cotton Research Institute, Vegetable Research Institute, Agricultural Biotechnology Research Institute at Ayub Agricultural Research Institute, Agriculture Research, Agriculture Department, Government of Punjab, Pakistan. I worked on cotton and vegetable crops (potato and sweet potato).

Research Interests: Agricultural Biotechnology

Development of abiotic stress tolerant crops (wheat for salinity, drought and heat tolerance through biotechnology):

This work includes gene isolations, genome sequencing, genome editing, construction of cDNA libraries, wheat tissue culture and transformations, breeding techniques and testing especially for biotic and abiotic stresses (drought, salinity, heat, nitrogen and phosphorus use efficiency, insect and herbicide resistance, disease (Rusts) resistance, crop physiology, biosafety studies, grain yield improvement, teaching of PhD/M. Phil Biotechnology students.

Achievements in Agricultural Biotechnology

1. Established wheat, cotton, potato biotechnology programs at NIBGE
2. This plant material has completed field trials and biosafety studies

Work Experience from 2005 to 2017-Agricultural Biotechnology

I have twenty five years' experience of Agricultural biotechnology research:

All techniques in plant tissue culture, transformation of crops using *Agrobacterium* and Biolistic gun, microbiology, DNA/RNA isolations, PCR, cDNA libraries, gene cloning, bioinformatics, Southern/Northern blots, proteomics, microarrays, analysis of transgenic plants, molecular breeding of crops (MAS), production of wheat doubled haploids, Genome editing by CRISPR-cas9 etc.

Year	Year-wise (2005 to 2017) research activities/Achievements of Agricultural Biotechnology
2016-17	Transformation of 10 KAUST clones in latest wheat varieties is in process. There are 7 more clones (to be transformed into wheat). Three field trials are in process. CRISPR-Cas9 for genome editing of grain weight and size genes in wheat is in process. Production of wheat doubled haploids. Process optimized.
2015-16	Field trials of drought and salinity tolerant wheat were completed. These trails were conducted at 8 locations in Pakistan. Transformation of 17 KAUST clones was done in wheat varieties and tested. New program of wheat doubled haploid was started at NIBGE. Genome editing of grain size/weight genes was started.
2014-15	We planted 502 entries of GM wheat at 2 acres of land. Transformation of 10 KAUST clones was done in two wheat varieties.
2013-15	AVP1 transgenic wheat (in Seher 2006 variety -5 events) is in T7 generation in the field and we have been testing it for the last 5 years under drought conditions. It is giving 25-35% higher grain yield. The second set of AVP1 (Punjan-2011, 72 entries) are in T6 generation. The performance of AVP1-D clone is even better than AVP1. This material is in T7 generation (72 entries).
2013-16	Alanine aminotransferase (<i>AlaAt</i>) gene (for Nitrogen use efficiency), synthetic constructs cloned under 2x35S and root specific promoter after codon optimization) was transformed into tobacco and wheat. T ₁ and T ₂ plants of 7 events were produced. Nitrogen level (%) of four of these transgenes is higher than control. In March-April 2012, we also transformed this clone into wheat (Punjab-2011 variety) and now this material is in field trials.
2013-15	<i>AtNHX1</i> transgenic plants are also in T7 generation (132 lines). These transgenic lines were tested at 200 mM salt stress. Now from this year, we have started regular trails at saline land. The second set is at T5 generation. Six of these lines are performing better than control. T6 generation of <i>Rd29-DREB1A</i> in Seher-2006 and Punjab-2011 is also in field testing. T5 generation of <i>WXP1</i> and <i>AtNCED3</i> are also in testing.
2013-16	In 2013-2016, four more drought/salinity genes were cloned (<i>LfNHX1</i> , <i>HvNHX1</i> , <i>LfVP1</i> and <i>HKT1</i> - total 40 clones under 3 promoters in gateway vectors) were cloned from cDNA libraties of kallar grass (<i>Leptochloa fusca</i>). Barley clones were obtained from NIAS, Japan through MTA. AVP1 was obtained from Roberto Gaxiola. Four other clones (<i>DREB1A</i> , <i>WXP1</i> ,

	<i>ATNCED3</i> and <i>HVA1</i> were cloned <i>rd29</i> and <i>FMV</i> promoters in our lab. This work was done in collaboration with Dr. Daniel P. Schachtman, Donald Danforth Plant Science Center, USA in Pak-US project. These genes were initially tested in tobacco. Two of my PhD students spent 9 months in Gerald Berkowitz lab in USA. One student went to IPK, Germany and transformed wheat, barley and tobacco. <i>DERBIA</i> cloned under <i>SalT</i> promoter is performing better than <i>rd29</i> promoter.
2012-14	T6 generation of <i>rd29-HVA1</i> (Sehar, G-98-4, Ufaq and Bobwhite) was planted in pots, plastic tunnels and field under drought stress. This material is also performing well.
2007-09	Fifteen drought (<i>AVP1</i> , <i>WXP1</i> , <i>AtNCED3</i> , <i>HVA1</i> , <i>DREB1A</i>) and salt (<i>AtNHX1</i>) tolerance enhancing genes/clones were transformed into five local wheat varieties. These transgenic plants are now at different stages of field trials. Drought and salinity tolerant wheat is ready for commercial release.
2005-06	I developed tissue culture and transformation (<i>Agrobacterium</i>) and biolistic gun procedures for local wheat varieties. Now this facility is fully functional and we are producing transgenic wheat in routine.

Work Experience from 1985 to 2017-All crops and model systems

Year	Work Experience
2015-17	Wheat Biotechnology: <ol style="list-style-type: none"> 1. Transformation and testing of 17 salinity/heat gene constructs in wheat. 2. Production of wheat double haploids by wheat x maize crossing 3. Testing of GM wheat in field trials for drought and salinity tolerance. 4. Setting up experiments for genome editing through CRISPR-Cas9.
2005-14	Wheat Biotechnology: <ol style="list-style-type: none"> 1. Tissue culture, Transformation, isolation of drought, salinity, heat, NUE, BYDV and many other gens from diverse sources and cloning into general and plant expression vector, their analysis in model systems and wheat. 2. Testing of genetically modified wheat in pots, green houses, rain shelters, saline land for several years. 3. Biosafety studies of GM wheat completed.
2001-05	Plant Molecular Biology (in model plant <i>Medicago truncatula</i>): <ol style="list-style-type: none"> 1. Gene isolations, cloning of stress related genes of <i>MtRBOH</i> family, PCR, Southern/Northern blots, construction and screening of cDNA libraries. 2. Proteomics, Microarrays, Bio-Informatics, DNA Sequencing, MADI-TOF.
1994-97	Cotton Biotechnology: <ol style="list-style-type: none"> 1. Cotton Tissue culture, transformation procedures. 2. Development of insect/virus resistance cotton through breeding and biotechnology.
1992-94	Cotton and vegetable crops <ol style="list-style-type: none"> 1. Breeding and micro-propagation of potato/sweet potato germplasm 2. Breeding of cotton and agronomy
1985-92	<ol style="list-style-type: none"> 1. Agriculture-Plant Breeding and Genetics 2. Anther culture in wheat for haploid production

Workshops, training courses and meetings organized

From 2005 to 2015, I organised 10 workshops/training courses on Wheat Biotechnology and trained 300 scientists, researchers and students from across Pakistan.

Year	Workshops/Courses
2015	A two days' workshop on "Applications of Biotechnology for Wheat Improvement" was organised on February 17-18, 2015 in which 30 participants were trained in wheat biotechnology.
2014	A three days' workshop on "Applications of Biotechnology for Wheat Improvement on March 11-12, 2014 & Farmer Day on March 13, 2014 in which 30 persons from different institutions across the country were trained in wheat biotechnology
	Applications of Biotechnology for cotton and other crops Oct. 13-17, 2014, NIBGE, Faisalabad, Pakistan
2013	A two days' workshop on "Applications of Biotechnology for Wheat Improvement" was organized on April 08-09, 2013 in which 35 persons from different institutions across the country were trained in wheat biotechnology.
	Biotechnology: Prospects & Challenges in Agriculture, Industry, Health & Environment, April 22-23, 2013, NIBGE, Faisalabad, Pakistan
	Advanced Technologies in Gene Expression Analysis, September 23-27, 2013, NIBGE, Faisalabad, Pakistan
2012	A two days' workshop on "Applications of Biotechnology for Wheat Improvement" was organized on Feb. 28-29, 2012 in which 96 persons from 27 institutions across the country were trained in wheat biotechnology, NIBGE, Faisalabad, Pakistan
2011	A two days' workshop on "Applications of Biotechnology for Wheat Improvement" was organized on May 09-10, 2011 in which 24 persons were trained, NIBGE, Faisalabad, Pakistan
	"Transgenic wheat and its potential towards food security". Lecture delivered at Conference "GM Crops: A gateway to successful agriculture" at CABB, University of Agriculture, Faisalabad, October 15, 2011. I received a shield.
	A meeting of wheat breeders was organised at NIBGE in which wheat scientists from all four PAEC Agri. centres participated and presented their work on March 16, 2011.

Trainings received, conferences/workshops and presentations

Year	Activity/Trainings/Workshops
2016	Attended Brain storming session/workshop on Vigilance of Wheat blast: An emerging threat to National Food Security at Wheat Research Institute, AARI, Faisalabad, Pakistan on August 30, 2016.
	Attended Annual Research Planning meeting of Wheat Research Institute, AARI for Rabi crop 2016-17 on August. 08, 2011.
	Teaching PhD course "Cell Signalling" from Sep.19-31 December 2016-March 2017
2015	I received training in Wheat Double Haploid production from Plant Breeding Institute (PBI), The University of Sydney, March 08 - August 16, 2015.
	I attended 2015 Research Symposium "Soil to save our planet" organized by Faculty of Agriculture and Environment, The University of Sydney, Australia
2005-2016	I worked as faculty member in several courses on Plant Biotechnology organised by NIBGE (Pakistan) and ICGEB (Italy), COMSATS and delivered lectures on <i>Agrobacterium</i> and Biolistic gun transformations. NIBGE is an ICGEB affiliated centre doing world class research in Biotechnology and equipped with highly trained manpower and research facilities. NIBGE is also affiliated with Quaid-e-Azam University Islamabad and Pakistan Institute of Engineering and Applied Sciences (PIEAS) for award of M. Phil and PhD degrees in Biotechnology. Currently NIBGE produced 104 PhDs and 250 M. Phil students. Currently 140 PhD and 100 M. Phil students are enrolled in Biotechnology. I am working as PhD and M. Phil supervisor and currently supervising 5 PhD students.
2013	I attended workshop on " Biosafety Research in Pakistan-Grants Program Workshop " December 13, 2013 at COMSATS Institute of Information Technology, Islamabad, Pakistan
2011	Development of drought and salt tolerant wheat through biotechnology. Presented at International Seminar on wheat productivity enhancement to sustain self-sufficiency. Organised by Wheat Research Institute, AARI, Faisalabad, March 17, 2011.
	Attended Annual Research Planning meeting of Wheat Research Institute, AARI for Rabi 2010-11 on August. 08, 2011
	Annual Research Planning meeting of Institute of Soil Chemistry and Environmental Sciences, AARI for Rabi on October 10, 2011.
	I attended International Seminar on Wheat productivity enhancement to sustain self-sufficiency at Wheat Research Institute, AARI, Faisalabad on March 17, 2011 and presented a paper on Wheat Biotechnology.
2009	I attended "Regional food security symposium on stem rust management" held at NARC, Islamabad on August 12-13, 2009 and presented my work.
2006	I attended annual training course on "Safety measures in the use of radiation in agriculture and biology" organized by Nuclear Institute for Agriculture and Biology (NIAB), Faisalabad on Feb. 27 to March 03.
2003	In 2003, I attended Inaugural Retreat for the ARC Centre of Excellence for Integrative Legume Research Conference at Moreton Bay Research Station, North Stradbroke Island, University of Queensland, Australia from Feb. 27 to

	March 2, 2003 and gave a presentation. I attended 15 days training in Plant Proteomics at Research School of Biological Sciences, Australian National University, Canberra, Australia Oct-Nov. 2003.
2002	I attended ComBio 2002 conference at Sydney Convention Centre, Australia from Sep. 29 to Oct. 3, 2003 and presented a poster on “Expression of <i>MtRBOH</i> and <i>MtSK1</i> genes in <i>M. truncatula</i> ”. I attended Australian Genomic Information Service (ANGIS) Course “Introduction to BioInformatics” at University of Sydney, Australia on Nov. 12, 2002.
1998	I attended World Cotton Research Conference-2 at Athens, Greece, Oct. 6-12, 1998 and participated in sessions and working group meeting on Cotton Biotechnology.
1997	I received training in Cotton Tissue Culture and Transformation from South Plains Biotechnologies, Inc. (BIOTEX – Dr. Norma Trolinder), Texas Tech University, Lubbock, Texas, USA August 1996- February 1997 (6 months Course). I attended 1997 Beltwide Cotton Conference at New Orleans, Louisiana, USA and presented a paper “Development of variety independent transformation methods (Biolistic Gun) for cotton and a poster “Attack of leaf curl virus on cotton crop in Pakistan. Genetic engineering approaches to develop transgenic cotton resistant to leaf curl virus”.
1996	I attended 14 th session of Textile Technology Course held at International Textile Center, Texas Tech University, Lubbock, Texas, USA including lectures on cotton fibre improvement through genetic engineering approaches. Oct. 7-18, 1996.
1992	I attended training course on “Expression of bacterial genes in plants” at Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan (Oct. 10-24, 1992).
1990 to date	In addition to the above mentioned events, I attended 30 conferences and symposia on Plant/Agricultural Biotechnology in Pakistan and presented papers/posters.

Invited Lectures in Asia-Pacific Region

Year	Lecture delivered
2015	Lecture delivered on “Wheat Biotechnology” at Plant Breeding Institute on July 08, 2015, Australia
2014	I was invited by Ministry of Agriculture, Government of Philippines as resource speaker for a key note presentation on “ Biotechnology, agricultural productivity and food security ” at 10 th Biotechnology Week, November 24-28, 2014, CHED Auditorium, Diliman, Quezon City, Manila, Philippines . I chaired session on Promoting Piony Agricultural Biotechnology and reviewed the posters on Basic Biotechnology.

	I got experience of reviewing progress of Agricultural Biotechnology in Philippines.
2013	I was invited by FC College University, Lahore and I delivered a lecture on Wheat Biotechnology on May 07, 2013. Pakistan
	I was invited by Government of Japan and chaired Session 3: Promising GM Technologies on Environment and Human Health at “International Workshop on Benefits and Risks of Genetically Modified Food Crops in Asia” held at Tsukuba, Japan . Oct 07-11, 2013. Participants from 20 Asia-Pacific countries participated and developed relationships for collaborative research work in Agricultural Biotechnology.
2011	Training of Agricultural Officers of Agriculture Department, Government of Punjab. A lecture was delivered to 24 in-service agriculture officers on “ What is Hybrid cotton and BT cotton New Varieties, Identification and Efficient Management ” on October 21, 2011.
	“ Transgenic wheat and its potential towards food security ”. Lecture delivered at Conference “GM Crops: A gateway to successful agriculture” at CABB, University of Agriculture, Faisalabad, Pakistan October 15, 2011. I received a shield.
	Training course “ Advances in Genetic Engineering of Plants ” organised by PAEC/COMSTECH/IAEA on December 20-22, 2011. Two lectures were delivered on “ Advances in Understanding and Management of Abiotic Stress ” (Part 1).
	Training course “ Advances in Genetic Engineering of Plants ” organised by PAEC/COMSTECH on December 20-22, 2011. Two lectures were delivered on “ Advances in Understanding and Management of Abiotic Stress ” (Part 2).

Teaching skills:

- I am HEC approved PhD supervisor (by Higher Education Commission of Pakistan) since 2006 and teaching faculty member at NIBGE/PIEAS University.
 1. PhD Students awarded degree: 5
 2. PhD Student in process : 4
 3. M. Phil students completed : 4
 4. M. Phil student in process : 1
- Appointment as adjunct faculty Professor at PIEAS and Quaid-e-Azam Universities for award of PhD degree.

- I delivered lectures at other universities and acted as a member of selection board for appointment of lecturers and faculty members.
- I taught Honour microbiology class at University of Newcastle, Australia in 2004.
- I worked as Research Assistant for six months at ARC (CILR), University of Newcastle, Australia in 2004

Other Skills

- I am serving as Convenor of procurement/stores evaluation and Farm committee and member of recruitment, transport and other committees at NIBGE.
- I worked as organizer/co-organizer/member of 25 conferences, symposia and training workshops/courses at NIBGE.

International travel and countries visited

Year	Title of visit	From – To (dates)	Name of Institution/ Country (s) visited	Source of funding
2015	Endeavour Executive Fellowship-Wheat Biotechnology	April 08-August 16, 2015	PBI, The Sydney University, Australia	Govt. of Australia
2014	Workshop on Agricultural Biotechnology-participation and chairing session	Nov.24-28, 2014	Manila, Philippines	Govt. of Philippines
2013	Workshop on Agricultural Biotechnology - participation and chairing session	Oct. 07-11. 2013	Tsaukuba, Japan	Govt. of Japan
2001-2005	PhD studies-Plant Biotechnology	March 2001 to April 2005	The Uni. of Newcastle, Australia	Govt. of Australia
1998	Conference participation	Oct 6-12, 1998	Athens, Greece	ICAC/CFC, Holland
1997	Private visit	Jan-Feb 1997 (two months)	Manchester, London, United Kingdom	Private
1996	Training in cotton biotechnology	July 1996- to Dec 1996	Texas Tech Uni, (BioTex) Lubbock, TX, USA	MinFAL, Govt. of Pakistan

Summary of Research Grants and Projects

S. No	Year	No. of projects	Activity
1	2016-2017	1	NIBGE-KAUST international project with King Abdullah University on wheat transformation-in process
2	2009 -2016	2	Two PARB projects on wheat have been awarded and completed.
3	2007-2011	1	One Pak-USA Science and technology collaborative international project with Donald Danforth Plant Science Centre, St. Louis, MO, USA is completed.
4	2005-2009	6	I completed six research projects on wheat biotechnology and molecular biology including two international projects.
5	1994-2001	4	I completed four research projects including two international projects.

Details of research projects in operation/completed (From April 28, 2005 to date).

S. No.	Title of the project	Amount	Funding Agency	Current status
1	Wheat transformation to increase salinity and heat tolerance of commercial wheat	US # 20,000	King Abdulla Uni. Saudi Arabia	Started from January 2015
2	Improvement of salt tolerance in wheat through biotechnology PI: Dr. Nasir A. Saeed Duration: 2010- 2015 www.parb.punjab.gov.pk	Pak Rs. 16.505 Million Project No. 337	Punjab Agri. Research Board, Lahore, Pakistan	Completed Salinity tolerant wheat was developed
3	Wheat crop improvement for drought tolerance through biotechnology and its commercialization PI: Dr. Nasir A Saeed www.parb.punjab.gov.pk	Pak Rupees 12.808 M Project No. 103	Punjab Agri. Res. Board, Lahore	Completed Drought tolerant wheat was developed
4	Identification and cloning of drought related genes in wheat (T. aestivum) PI: Dr. Nasir A Saeed, NIBGE PI: Dr. Daniel P. Schactman, Donald Danforth Plant Science Center, St.Louis, USA Duration: 2007- 2010	US \$ 210,000.00	Pakistan US Science and technology collaboration	Completed Six drought genes (DREB1A, AtNCED3, WXP1, HVA1, AVP1, AVP1-D) were cloned

				under rd29 and FMV promoters, transformed and tested into wheat.
5	Molecular genetic study of NBS-LRR super-family of resistance (R) genes for developing leaf rust resistance in wheat (<i>T. aestivum</i>) PI. Dr. Nasir A Saeed Duration: 2007-2010	Pak Rs. 2.0 million Website link given below	University Higher Education Commission (HEC), Pakistan	Completed 26 Rust related genes were identified in wheat
6	Development of salinity tolerant crop plants through biotechnology (potato, tomato, rice and wheat) PI: Zahid Mukhtar and PI: Dr. Nasir A Saeed	Pak Rupees 28.5 Million (US\$ 0.48million)	Ministry of Food, Agriculture and Livestock Government of Pakistan	Completed <i>AtNHXI</i> gene was cloned from <i>Arabidopsis</i> and transformed into potato, tomato and wheat.
7	Development of pollen mediated transformation system for cotton (<i>G.hirsutum</i>) PI: Dr. Nasir A Saeed	US\$ 12,000.00	International Fund for Science (IFS), Sweden	Completed

Projects completed (from 1991 to 2005):

S. No.	Title of the project	Duration	Amount	Funding Agency	Achievements
1	Pak-Swiss potato development project	1991-1994	-	Swiss and Pakistan Government	Potato production technology was transferred to the farmers. Potato and sweet potato late blight resistant material was micro-propagated and screened.
2	Development of virus resistant cotton varieties by biotechnology and genetic engineering	1996-2000	Rupees 5.0 million (US \$ 848,000)	Government of Punjab, Pakistan	Cotton tissue culture, transformation procedures and virus resistant cotton varieties were developed.
3	Genome Characterization of whitefly transmitted geminiviruses of cotton	1997-2001	US \$ 1549,770	Common Fund for Commodities (CFC),	Cotton Leaf Curl Virus (CLCV) was characterized and different molecular

	and development of virus resistant plants through genetic engineering and conventional breeding			Holland	strategies were used to develop virus resistant cotton for commercial cultivation.
4	Stress genes in relation to wounding, tissue culture and salinity in <i>Medicago truncatula</i>	2001 - 2005	AUS \$ 120,000	Ministry of Education, Government of Australia	PhD studies completed

Scholarship and Awards received:

1. I was awarded “**Endeavour Executive Fellowship-2015**’ at Plant Breeding Institute, The University of Sydney, Australia.
2. **On May 28, 2013 (Ume-Takbir day), I received Gold Medal and certificate for good performance in research work.**
3. I won IPRS/UNRS PhD scholarship from Ministry of Education, Australia (2001-2005).

Technologies Developed:

1. 2005 to 2010: I developed transformation technologies for wheat and transformed 10 genes (drought, salt stress, insect resistance) in wheat and tobacco. This wheat is performing well under drought and salt stress conditions. This is a very valuable resource for drought and salt affected land of Pakistan. Based on this work, PARB awarded two research grants (2010-2015).
2. 1994 to 2000. I developed transformation technology for cotton and developed first Bt cotton in Pakistan. One non-Bt line (through cross breeding) was also developed.
3. 1992-1994: I developed virus free potato seed production technology.
4. 1994 to 2015: I developed general plant biotechnology laboratory techniques.

Biosafety Studies: Approved cases for Biosafety – risk assessment proposals for cultivation of crops (GM wheat) in Pakistan

Scale of activity	Title	Regulatory Agency	Status
Lab and glasshouse manipulation	Cloning and expression of four drought related genes in wheat (<i>Triticum aestivum</i>) PI; Nasir A Saeed	Pak-EPA, Ministry of Environment, Government of Pakistan	Approved Work completed
Lab and glasshouse manipulation	Agrobacterium and Biolistic transformation of	Pak-EPA, Ministry of Environment, Government of	Approved Work completed

	AtNHX1 and AVP1 genes into wheat (<i>Triticum aestivum</i>) for developing salt and drought tolerant crop. PI: Nasir A Saeed	Pakistan	
Limited field trials	Limited and controlled release of GM drought tolerant wheat in the field IBC No. NIBG-32-0908 PI: Nasir A Saeed	Pak-EPA, Ministry of Environment, Government of Pakistan	Approved Field trails in process In year 2011-12, we planted 1.5 acres of GM wheat in the field
Lab manipulation	Two more cases have approved by IBC and sent to TAC in 2015		

References

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List of Publications

Name & Designation	Publications up to 24-09-2016				
	International		National		Impact Factor
	Journals	Proceedings	Journal	Proceedings	
	16	27	2	15	42.151

List of publications (as per above record) is given below:

	List of Publication showing Title and name of journals	Impact Factor	Names of Authors
International			
Journals			
	Title of publication and name of Journal	42.151	Authors
1	A transgenic approach to control hemipteran insects by expressing insecticidal genes under phloem-specific promoters. <i>Sci. Rep.</i> 6, 34706; doi: 10.1038/srep34706. 2016. Nature Publishing Group	IF: 5.578	Javaid, S; Amin, I; Jander, G; Mukhtar, Z: Saeed, N. A and Mansoor, S.
2	Isolation and in silico analysis of a novel H ⁺ -pyrophosphatase gene orthologue from the halophytic grass <i>Leptochloa fusca</i> . Journal of Molecular Structure Ref: MOLSTRUC-S-16-00019R2 2016. Elsevier	IF: 1.78	Rauf, M; Saeed, N. A ; Imran Habib, I; Ahmed, M; Shahzad, K; Shahid Mansoor, M and Ali, R.
3	Functional characterization of an intron retaining K ⁺ transporter of barley reveals intron mediated alternate splicing. <i>Plant Biology</i> 17(4):840-851 (2014).	2.405	Shahzad K; Rauf, M; Ahmed, M, Malik, Z. A; Habib, I, Zaheer Ahmed Z; , Kashif Mahmood K, Ali R, Masmoudi K; Lemtiri-Chlieh F, Gehring, C, Gerald A. Berkowitz, G. A and Saeed, N. A.
4	Establishment and optimization of callus-to-plant regeneration system using mature and immature embryos of maize (<i>Zea mays</i>). <i>Int. J. Agric. Biol.</i> , 16: 111–117 (2014).	0.902	Ali, F., M. Ahsan, N.A. Saeed , M. Ahmed, Q. Ali, N. Kanwal, M.M. Tehseen, U. Ijaz, I. Bibi and N.K. Niazi,
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15	From 2011 to 2015, five workshops manuals were	Saeed. N. A

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