

CURRICULUM VITAE

Name : **DR. VINOD KUMAR MISHRA**
Present Position : Sr. Professor, Deptt. of Genetics and
Plant Breeding, Institute of Agl. Sciences,
B.H.U., Varanasi
E-mail : vk mishra.gpb@bhu.ac.in
Telephone No. : ☎0542 – 2368811 (Off.), 📞-09415254476
Date of Birth : 25-Nov-1964

Educational qualifications

- i) **Ph.D. in Agricultural Botany** (1991) from CSJM University Kanpur (U.P.).
- ii) **M.Sc. (Ag.) in Genetics and Plant Breeding** (1984) from C.S. Azad University of Ag. & Tech. Kanpur (U.P.) with an OGPA
- iii) **B.Sc. Ag.** (1982) from Gorakhpur University with 75%

Research accomplishments

Varieties:

- **HUW838 (2021):** Biofortified with high grain zinc & iron (Hon'ble Prime Minister dedicated to the nation the biofortified wheat variety HUW 838 in year 2022)
- **HUW 711 (2021):** Biofortified, high yield
- **HUW 669 (2018):** Drought-tolerant, high yield
- Two varieties (BHU31 and BHU25) have covered 20,000 ha farmer's land in Bihar
(https://bcr.harvestplus.org/varieties_released_list?crop=Zinc_Wheat)

Research profile

- **ORCID ID:** 0000-0002-3068-1199
- **Human resource development:** 17 Ph.D.; 50 M.Sc.;
- **Research publications:** 114 (55 in last 10 years)
- **H index:** 30
(<https://scholar.google.com/citations?user=W rFar9oAAAAJ&hl=en&oi=ao>)
- **Citations:** 3130 (6th Nov 2025)
- **Impact factor up to 14.5**

Foreign Visits

1. CIMMYT (Toluca, **Mexico**) from Aug 03 to Oct 02, 2009. "Wheat Improvement and Durable Resistance for rust Diseases".
2. CSISA Roving Seminar (Objective 4) Wheat Breeding, March 20-26, 2010, **Nepal**.
3. "2nd Annual Review Meeting on CSISA Wheat Breeding (Objective 4)," Sept 14 – 18, 2010, Kathmandu, **Nepal**.

4. "3rd Annual Review Meeting on CSISA Wheat Breeding (Objective 4)," Sept 6 – 10, 2011, Dhulikhel, **Nepal**.
5. "5th Annual Review Meeting on CSISA Wheat Breeding (Objective 4)," Oct 4 – 9, 2013, Dhaka, **Bangladesh**.
6. "2014 BGRI Technical workshop and the Borlaug Summit on Wheat for Food Security" March 22 to 28, 2014, Ciudad Obregón, **Mexico**,
7. "6th Annual Review Meeting on CSISA Wheat Breeding (Objective 4)," Sept 9-14, 2014, Kathmandu, **Nepal**.
8. "Annual Borlaug Global Rust Initiative (BGRI) 2015 Technical Workshop" Sept 17-22, 2015 at **Sydney Australia**.
9. Guest Lectures in a Training program of Agricultural Scientists on Molecular Tools in Kathmandu **Nepal** Jan 19-22 2016.
10. CIMMYT's Global Wheat Programme's Ug99 stem rust screening facility at Kalro, Njoro, **Kenya** from Oct 7-14 2016.
11. "Borlaug Global Rust Initiative (BGRI) 2018 Technical Workshop" April 14-17, 2018 at Marrakech, **Morocco**.
12. 1st International Wheat Congress to be held in Saskatoon, Saskatchewan, **Canada** from July 21 -26, 2019.
13. Under LeAP attended 8 days leadership training programme at Ohio State University, Ohio, Columbus, **USA** from 8th to 15th Sept 2019.
14. Attended a meeting at Swansea University, Prifysgol Abertawe, UK, related to UKRI/EPSRC projects SUNRISE and Network to Net Zero from 12 to 15 July 2022 and Scotland Rural University College, Dumfries **UK** from 17 July to 20 July 2022.

Awards and honors

- Best Teacher (2013-14) by Institute of Agricultural Sciences, B. H. U., Varanasi
- Zonal councilor of Society of Advancement of Wheat Research (2016-17)
- Reviewer Excellence Award 2017 by Indian Journal of Agricultural Research and Legume Research Journals.

Administrative Experiences

- Professor Incharge, Rajiv Gandhi South Campus from 18th Aug 2021 to contd.
- Coordinator of Diploma in Seed Technology and Marketing from 01st November 2018 to 2021
- NCC Officer from 22nd July 1996 to 04th October 1999.

Professional associations

- Life member of Indian Society of Genetics and Plant Breeding, Indian Institute of Agricultural Research, New Delhi

- Life member of society for Advancement of Wheat Research, IIW&BR, Karnal, Haryana

Lectures delivered:

1. Lecture delivered on Marker assisted selection in winter school organized in IIVR, Varanasi, on Dec 19, 2009.
2. Lecture delivered entitled “Molecular Assisted Selection in Plant breeding” in 8th Refressor course, Academic Staff College, B. H. U., Varanasi on Jan 13, 2010.
3. Guest Lecture delivered in National seminar on *Open and Distance Learning in agriculture Education* UPRT Open University, Allahabad, U. P. during June 18 - 19, 2011
4. Guest Lecture delivered in National seminar on “Food security and sustainability in agriculture” at UPRT Open University, Allahabad, U. P. on Feb 9-10, 2012.
5. Lecture delivered in 11th Refressor course on “Changing pattern of selection in Plant Breeding” in Academic Staff College, B. H. U., Varanasi on Feb 13, 2013.
6. Lecture delivered in 12th Refressor course on “Bifortification” in Academic Staff College, B. H. U., Varanasi on Feb 13, 2014.
7. Lecture delivered in National Seed Research and Training Center Varanasi on 12th Aug 2015 on “Production of Certified Seeds Through Farmers Participatory Seed Production System”
8. Lecture delivered on “Molecular Marker system and its application in crop improvement” in Winter School organized by IIVR, Varanasi on 10th Nov 2015.
9. Guest Lectures in a Training program on Molecular Tools in Kathmandu Nepal Jan 19-22 2016.
10. Lecture delivered in Orientation course on “Malnutrition and its remedial measures” in Academic Staff College, B. H. U., Varanasi on Sept 23rd 2016.
11. Lecture delivered in ICAR sponsored Short Course on “Advances in Genetic Enhancement of Underutilized Vegetable Crops” on 26th Oct 2016 at IIVR, Varanasi, U. P.
12. Lecture delivered in ICAR sponsored Refressor Course on “Biofortification in food crops” 19 Oct 2019 at Sardar Kusinagar Dantewada Agriculture University, Palanpur, Gujrat

Summer trainings organized

- Summer Training on “Techniques and Tools of Plant Biotechnology”- 2013 in NAE Laboratory organized from June 8 to 28, 2013
- Summer Training on “Techniques and Tools of Plant Biotechnology”- 2014 in NAE Laboratory organized from June 6 to 26, 2014
- Summer Training on “Techniques and Tools of Plant Biotechnology”- 2015 in NAE Laboratory organized from June 2 to 22, 2015

Full bright scholars worked under my supervision

Hays, Dirk B. Associate Professor and Chair, Department of Soil and Crop Sciences, College of Agriculture and Life Sciences, Texas A&M Research Foundation, College Station, TX during Jan to July, 2012

Research grants (As PI)

No	Name of the project	Funds	Funding agency	Duration	PI/Co-PI/RMP
1.	Accelerating Genetic Gains in Maize and Wheat for Improved Livelihoods (AGG)	USD 40000	Bill & Melinda Gates Foundation (BMGF) and the United Kingdom's Department for International Development (DFID).	2021-25	PI: V K Mishra Co-PI: Sandeep Sharma
2	Accelerating the Mainstreaming of Elevated Zinc in Global Wheat Breeding: A "Fluoride in the water" Approach to Nutrition	USD 80000	CIMMYT, Mexico	2021-25	PI: V K Mishra Co-PI: Sandeep Sharma
3	Germplasm Characterization and Trait Discovery in Wheat using Genomics Approaches and its Integration for Improving Climate Resilience, Productivity and Nutritional quality" under mission programme of "Characterisation of Genetic Resources"	Rs 35.87 Lac	DBT, New Delhi	2020 - 2025	PI
4	Bio-fortified Wheat for Improved Human Nutrition	USD 55,000 per year	IFPRI (USA) & CIMMYT,	Since 2014	PI

			Mexico	cont d	
5	ACRIP-NSP Crops		ICAR, New Delhi	Sinc e Jan 2015	In-charge
6	Pyramiding of Rust Resistance Genes into High Grain Quality Wheat Lines Developed Through Marker- assisted Selection	36.48 Lac	DBT, N. Delhi	3 years (201 8- 2022)	PI
7	Wheat quality Improvement Using Integrated Classical and Marker-Assisted Breeding	72.34 Lac	DBT, N. Delhi	5 years (200 9- 2016)	PI
8	Cereal Systems in South Asia Project- Wheat Breeding CSISA Project- Wheat Breeding	USD 55000	CIMMYT, Mexico	3 years (201 2- 2016)	PI
9	Genetic dissection of heat tolerance in wheat using Multiple Bi- Parental RIL mapping populations	32.43 Lac	DBT	3yea rs (May 2015 to April 2018)	PI
10	Spot blotch of wheat: Delivering resistant WHEAT lines and diagnostic and molecular markers for resistance	USD 362600	CIMMYT	3 Year s	Co-PI
11	Deciphering phytohorm one signaling in modulation of resistance to spot blotch disease for identification of novel resistance components	USD 45000	CIMMYT	3 Year s	Co-PI

	for wheat improvement				
12	Enrichment of farmers of Varanasi and Mirzapur regions through procurement and distribution of certified seeds of important Rabi and Kharif crop varieties under seed village programme	138. 65 Lac	Ministry of Agriculture, Govt. of India	2011 - 2013 Completed	PI
13	Niche Area of Excellence Project ("Molecular Breeding For Improvement of Major Crops of Eastern Indo-Gangetic Plains")	293.00 Lac	ICAR, New Delhi	2009 -14 (Completed)	PI

PUBLICATIONS Since 2012

SN	Research Paper	Impact Factor
1	Tiwari Chhavi, Hugh Wallwork, Ram Dhari, B. Arun, V.K. Mishra and Arun K. Joshi (2012) . Exploring the possibility of obtaining terminal heat tolerance in a doubled haploid population of spring wheat (<i>Triticumaestivum</i> L.) in the eastern Gangetic plains of India. Field Crop Research, 135: 1-9.	6.145
2	Prasad R., L. C. Prasad, S. K. Jaiswal, V. K. Mishra, R. Chand , and A. K. Joshi 2012 . Genetic diversity and aggressiveness of different groups of <i>Bipolaris sorokiniana</i> isolates causing spot blotch diseases in barley (<i>Hordeum vulgare</i> L.). Indian J. Genet., 72 (1) 7-14	1.339
3	Baranwal D. K., V. K. , Mishra, M. K. Vishwakarma, P. S. Yadav and B. Arun (2012) . Studies on genetic variability, correlation and path analysis for yield and yield contributing traits in wheat (<i>T. aestivum</i> L. emthell.). Plant Archives 12(1): 99-104.	
4	Mondala S., R.P. Singh, J. Crossa, J. Huerta-Espino, I. Sharma, R. Chatrath, G.P. Singh, V.S. Sohu, G.S. Mavi, V.S.P. Sukaru, I.K. Kalappanavar, V.K. Mishra , M. Hussain, N.R. Gautam, J. Uddin, N.C.D. Barma, A. Hakim, A.K. Joshi 2013 . Earliness in wheat: A key to adaptation under terminal and continual high temperature stress in South Asia. Field Crops Research 151:19-26	6.145
5	Tiwari Chhavi, Hugh Wallwork, Uttam Kumar, Ram Dhari, B. Arun, V.K. Mishra, M. Reynolds and Arun K Joshi (2013) . Molecular mapping of high temperature tolerance in bread wheat adapted to the Eastern Gangetic Plain region of India Field Crop Research 154: 201-210	6.145
6	Baranwal, D. K., V. K. Mishra, and Tejveer Singh (2013) . Genetic Diversity Based on Cluster and Principal Component Analyses for Yield and its Contributing Characters in Wheat (<i>Triticumaestivum</i> L.). Madras Agric. J., 100 (4-6): 320-323	
7	Pask Alistair, Matthew Reynolds, I. Sharma, R. Chatrath, G.P. Singh, V.S. Sohu, G.S. Mavi, V.S.P. Sukaru, I.K. Kalappanavar, V. K. Mishra , A. Balasubramaniam, Y. Mujahid, M. Hussain, N.R. Guatam, N.C.D. Barma, A. Hakim, A.K. Joshi (2013) . The CSISA wheat phenotyping network. Proceedings of the 3 rd International workshop of the	

	wheat yield consortium CENEB, CIMMYT, Cd. Obregon, Sonora, Mexico 5-7 th March 2013, pp 70-72	
8	Meena N, V K Mishra, D K Barnawal, A K Singh, V P Rai, R Prasad, B Arun, R. Chand. (2014) . Genetic evaluation of spring wheat (<i>Triticumaestivum</i> L.) Recombinant Inbred Lines for spot blotch (<i>Biopolarissorokiniana</i>) Resistance and Yield components under natural conditions for South Asia. J. Agr. Sci. Tech. 16:1429-1440	1.279
9	SrinivasaJayasudha, BalasubramaniamArun, Vinod Kumar Mishra, Ramesh Chand, Deepak Sharma, Subhash Chandra Bhardwaj and Arun Kumar Joshi*. (2014) .Accessing the spelt gene pool to develop well-adapted bread wheat lines with increased grain zinc and iron. Crop Sci 54: 1-11	2.763
10	Singh Tejveer, Vinod K Mishra, Lal C. Prasad, Ramesh Chand. 2014 . "Variation for infection response to Bipolarissorokiniana and identification of trait specific sources in barley (<i>Hordeum vulgare</i> L.) germplasm", Australian Journal of Crop Science 8(6): 909-915	0.261
11	Reynolds M. P., A Pask, A. Torres, P. Chavez, G. Molero, P. Figueroa, E. Solis, N. Barma, O.I. Joarder, I.K.,Kalappanavar, S.V.P. Sukaru, R. Dhari, G.P. Singh, V.S. Sohu, G.N. Raj, M.Y. Mujahi, R. Ward, M.R.,Jalal-Kamali, Z. He, M.G. Mossad, I. Sharma, R. Chatrath, G.S. Mavi, V.K. Mishra , B. Arun, M., Hussain, N.R. Guatam, N.C.D. Barma, A. Firoz Ahmad, M. Rahman, Dr. G. Ahmad, A.K. Joshi. (2014) . Pre-Breeding for Yield Potential: Results of the 1st and 2nd WCYT. Proceeding of 4 th International Workshop of the Wheat Yield consortium, CENEB CIMMYT Cd. Obregon, Sonora Mexico, pp: 44-52	
12	SrinivasaJayasudha, BalasubramaniamArun, Vinod Kumar Mishra, Ramesh Chand, G P Singh, Velu Raman Babu and Arun Kumar Joshi*. 2014 . Zinc and iron concentration QTL mapped in a <i>Triticumspelta</i> × <i>T. aestivum</i> cross, Theor Appl Genet 127: 1643-1651 .	5.4
13	Pask Alistair, A.K. Joshi, Y. Manes, I. Sharma, R. Chatrath, G.P. Singh, V.S. Sohu, G.S. Mavi, V.S.P. Sukaru, I.K. Kalappanavar, V.K.Mishra ,B. Arun, Y. Mujahid, M. Hussain, N.R. Guatam, N.C.D. Barma, A. Hakim, W. Hoppitt.R. Trethowan,M. Reynolds. 2014 . A wheat phenotyping network to incorporate physiological traits for climate change in south Asia. Field crops research 168: 156-167	6.145
14	Singh Tejveer, V. K. Mishra, L. C. Prasad, Ankit and R. Chand R. 2014 . Genetic evaluation of Barley (<i>Hardeum vulgare</i> L.) germplasm for resistance components of spot blotch disease. Electronic J Plant Breeding 5(2): 158-164.	
15	Pandey, AK, B. Thapa V. K. Mishra , R. K. Singh and Ramesh Chand. (2014) Correlation and path analysis of selected traits under spot blotch infected conditions in CIMMYT germplasms of wheat (<i>Triticumaestivum</i> L.). Eco. Env. and cons. 20: S87-S90	
16	Vishwakarma Manish K., V.K. Mishra , P.K. Gupta, P.S. Yadav, H. Kumar, and Arun K. Joshi (2014) Introgression of the high grain protein gene <i>Gpc-B1</i> in an elite wheat variety of Indo-Gangetic Plains through marker assisted backcross breeding. Current Plant Biology 1 , 60-67. www.sciencedirect.com/science/article/pii/S2214662814000115	0.649
17	VasisthaNeeraj Kumar, B. Arun, V. K. Mishra , R. R. Saxesena, A. K. Pandey, R. N. Ahirwar, R. Kumar, M. K. Singh And P. K. Sharma (2015).Identification and validation of leaf rust resistance genes in spring wheat (<i>Triticumaestivum</i> L. Em. Thell) genotypes using molecular markers. The Bioscan 9(2): 1695-1700.	
18	Vishwakarma Manish Kumar, Vinod Kumar Mishra ,Punam Singh Yadav, Ravi RanjanSaxesena and BalasubramanianArun (2015). Molecular Validation of Quality Trait Linked Markers for Exploring the Wheat Germplasm of Eastern Gangetic Plains of India. Current Trends in Biotechnology and Pharmacy Vol. 9 (1) 68-74.	0.135
19	Chand R and V. K. Mishra , (2015). Madan Mohan Malaviya vision on agriculture education and research, Current Science , 108 (6) 1029-1030.	1.169

20	Yadav Punam S., V.K. Mishra , B. Arun, R. Chand, M.K. Vishwakarma, N.K. Vasistha, A.N. Mishra, I.K. Kalappanavar, Arun K. Joshi 2015. Enhanced resistance in wheat against stem rust achieved by marker assisted backcrossing involving three independent Sr genes. <i>Current Plant Biology</i> 2 (2015) 25–33	0.649
21	Singh, Pawan K., Yong Zhang, Xinyao He, Ravi P. Singh, Ramesh Chand, Vinod K. Mishra , Paritosh K. Malaker, Mostofa A. Reza, Mokhlesur M. Rahman, Rabiul Islam, Apurba K. Chowdhury, Prateek M. Bhattacharya, Ishwar K. Kalappanavar, José Crossa, and Arun K. Joshi, (2015). Development and characterization of the 4th CSISA-spot blotch nursery of bread wheat" Eur J Plant Pathol . DOI 10.1007/s10658-015-0712-x	2.022
22	Mishra Vinod Kumar , Pushpendra Kumar Gupta, Balasubramaniam Arun, Ramesh Chand, Neeraj Kumar Vashistha, Manish Kumar Vishwakarma, Punam Singh Yadav and Arun Kumar Joshi (2015). Introgression of a gene for high grain protein content (<i>Gpc-B1</i>) into two leading cultivars of wheat in Eastern Gangetic Plains of India through marker assisted backcross breeding. <i>JOURNAL OF PLANT BREEDING AND CROP SCIENCE</i> 7(8): 292-300.	
23	Govindan Velu, Ravi Singh, Arun Balasubramaniam, Vinod Kumar Mishra , Ramesh Chand, Chhavi Tiwari, Arun Joshi, Parminder Virk, Binu Cherian and Wolfgang Pfeiffer (2015). Reaching out to farmers with high zinc wheat varieties through public-private partnerships an experience from Eastern Gangetic plains of India. <i>Adv Food Technol Nutr Sci Open J</i> . 2015; 1(3): 73-75.	
24	Yadav P. S., V. K. Mishra , B. Arun, R. Chand, A. K. Joshi. 2015. Validation of molecular markers for stem rust resistance and identification of suitable wheat germplasm targeting Eastern Gangetic Plains of India. <i>Indian J. Genet.</i> 75(4): 518-521.	1.339
25	Saroj Sandeep K., Mahendra. N. Singh, Tejveer Singh, Vinod K. Mishra . (2015). Identification of stable restorers and genetics of fertility restoration in late maturing pigeonpea [<i>Cajanus cajan</i> (L.) Millspaugh]., <i>Plant Breed.</i> 09/2015; DOI:10.1111/pbr.12309	2.536
26	Tiwari Chhavi, Hugh Wallwork, Balasubramaniam Arun, Vinod Kumar Mishra , Govindan Velu, James Stangoulis, Uttam Kumar, Arun Kumar Joshi (2015). Molecular mapping of quantitative trait loci for zinc, iron and protein content in the grains of hexaploid wheat". <i>Euphytica</i> DOI 10.1007/s10681-015-1544-7.	2.185
27	Jasudasa G. S., R. Chand, A.K. Singh, V.K. Mishra , and A.K. Joshi. 2015. Efficiency of two spore counting methods and validation of SSR markers associated with spot blotch resistance. <i>Asian Jr. of Microbiol. Biotech. Env. Sc.</i> 17(1): 227-234	
28	Vasistha Neeraj K., Arun Balasubramaniam, Vinod K. Mishra , Ramesh Chand, Jayasudha Srinivasa, Punam S. Yadav, Arun K. Joshi. 2015. Enhancing spot blotch resistance in wheat by marker-aided backcross breeding. <i>Euphytica</i> DOI 10.1007/s10681-015-1548-3	2.185
29	Vishwakarma Manish K., B. Arun, V. K. Mishra , P. S. Yadav, H. Kumar and Arun K. Joshi 2015. Marker-assisted improvement for grain protein content and grain weight in Indian bread wheat. <i>Euphytica</i> DOI 10.1007/s10681-015-1598-6.	2.185
30	Yadav Punam S., Vinod K. Mishra and Ramesh Chand. 2015. TILLING (Targeting Induced Local Lesions IN Genomes): A New Technique of Mutagenesis to Enhance Crop Improvement, <i>Popular Kheti</i> 3(4): 152-159	
31	Sahu, Ranabir; Murali Sharaff; Maitree Pradhan; Avinash Sethi; Tirthankar Bandopadhyay; Vinod Mishra ; Ramesh Chand; Apurba Chowdhury; Arun Joshi; Shree Pandey (2016). Elucidation of defense-related signaling responses to spot blotch infection in bread wheat (<i>Triticum aestivum</i> L.). <i>The Plant Journal</i> . 86(1):35-49	7.091
32	S. Sukumaran · M.P. Reynolds · A.J.D Pask · G Molero · A. Torres · Y.N. Quiche · T. Payne · R. Ernesto Solis-Moya · Miguel A. Camacho-Casas · Pedro Figueroa-López, V.K. Mishra · N.C.D. Barma · A. Hakim · Assad Ahmed Hamada · M. Dastfal · A.R. Nikzad · S. M. Tabib- Ghaffary · M. Khodarahmi · H. Akbari Moghaddam · M.R. Jalal-Kamali · A.K. Joshi. 2016. International performance of physiological trait (PT) based lines of the 4th Stress Adaptive Trait Yield Nursery (4th SATYN). <i>Proceedings of the 2nd TRIGO Workshop</i> , Cd. Obregon, Sonora, Mexico; 03/2016	

33	VeluGovindan, Jose Crossa, Ravi P. Singh, YuanfengHao, Susanne Dreisigacker, Paulino Perez-Rodriguez, Ravish Chatrath, Virinder Singh Sohu, Gurvinder Singh Mavi, ArunBalasubramaniam, Chhavi Tiwari, Vinod K. Mishra and ArunK.Joshi. 2016. Genomic prediction for grain zinc and iron concentrations in spring wheat. TAG TheorAppl GenetDOI 10.1007/s00122-016-2726-y	5.4
34	Yusuf Comfort S.; Ramesh Chand; Vinod K. Mishra and Arun K. Joshi 2016.The association between leaf malondialdehyde and lignin content and resistance to spot blotch in wheat. Journal of Phytopathology (DOI: 10.1111-jph.12509).	1.5
35	Singh, Tejveer, Vinod Kumar Mishra , Ramesh Chand2016. Inheritance of Spot Blotch Disease Components: Latent Period, Lesion Number and Spore Production in <i>Bipolarissorokiniana</i> -Barley Interaction. J. Crop Improvement. DOI: 10.1080/15427528.2016.1193782.	0.385
36	Pandey Anju, Md. ShamshulQumor Ansari, SudhirNavathe, Ramesh Chand, Vinod Kumar Mishra and Arun Kumar Joshi2016. Association of lesion mimic trait with spot blotch resistance in wheat. Tropical Plant Pathology, Volume 41(6) pp 406–414 (10.1007/s40858-016-0115-3).	2.404
37	Saroj, S. K., M. K. Vishwakarma and V. K. Mishra . 2016. Morphological and molecular characterization of <i>Cajanus scarabaeoides</i> and <i>Cajanus cajanifolius</i> related cms lines in pigeonpea. Plant Archives Vol. 16 No. 2, 2016 pp. 580.-587	
38	Pant, Anil Kumar; G.C. Mishra, Ramesh Chand, V.K. Mishra . 2016. Weather based Statistical Modelling for Forecasting of Yearly Spot Blotch Severity in different Growth Stages of Wheat. International Journal of Agriculture, Environment and Biotechnology, DOI: 10.5958/2230-732X.2016.00141.8	
39	Shahu Ranabir; Pritha Kundu, Murali Sharaff; Maitree Pradhan, Avinash Sethi, Vinod Kumar Mishra , Ramesh Chand, Arun Kumar Joshi, Aundy Kumar and Shree Pandey (2016). Understanding the defence-related mechanism during the wheat's interaction with fungal pathogens. Indian Phytopath. 69(3): 260-265.	
40	Saxesena, Ravi Ranjan; Vinod Kumar Mishra , Ramesh Chand, Apurba Kumar Chowdhury, Prateek Madhab Bhattacharya, Arun Kumar Joshi 2017. Pooling together spot blotch resistance, high yield with earliness in wheat for eastern Gangetic Plains of South Asia. Field Crop Res. 214: 291-300	6.145
41	Reynold. M.P., Pask, A.J.D., Hoppitt, W.J.E., ... Mishra, V. K. et al (2017) . Correction To: Strategic crossing of biomass and harvest index—source and sink—achieves genetic gains in wheat. Euphytica. 213: doi.org/10.1007/s10681-017-2040-z	2.185
42	Vasistha Neeraj Kumar, Arun Balasubramaniam, Vinod Kumar Mishra , Jayasudha Srinivasa, Ramesh Chand, Arun Kumar Joshi. 2017. Molecular introgression of leaf rust resistance gene <i>Lr34</i> validates enhanced effect on resistance to spot blotch in spring wheat. Euphytica. DOI: 10.1007/s10681-017-2051-9.	2.185
43	Gupta P. K., R. Chand, N. K. Vasistha, S. P. Pandey, U. Kumar, V. K. Mishra and A. K. Joshi 2018. Spot blotch disease of wheat: the current status of research, breeding and disease management. Plant Pathology. Doi: 10.1111/ppa.12781.	2.772
44	Sharma Sandeep, Ranabir Sahu, Sudhir Navathe, Vinod Kumar Mishra , Ramesh Chand, Pawan K Singh, Arun Kumar Joshi, Shree Prakash Pandey 2018. Natural variation in elicitation of defense-signaling associates to field resistance against the spot blotch disease in bread wheat (<i>Triticum aestivum</i> L.). Front. Plant Sci., https://doi.org/10.3389/fpls.2018.00636 .	4.8
45	Kumari Supriya, Vandana Jaiswal, Vinod Kumar Mishra , Rajneesh Paliwal, Harindra Singh Balyan, Pushpendra Kumar Gupta. 2018. QTL mapping for some grain traits in bread wheat (<i>Triticum aestivum</i> L.). Physiol Mol Biol Plants 24(5): 909-920. https://doi.org/10.1007/s12298-018-0552-1 .	3.5
46	Velu Govindan, Ravi Singh, Crespo Hererra Leonardo, Philomin Juliana, Susanne Dreisigacker, Ravi Valluru, James Stangoulis, Gurvinder Mavi, Virinder Sohu, Vinod Mishra , Arun Balasubramaniam, Ravish Chatrath, Vikas Gupta, Gyanendra Singh, and Arun Joshi 2018.Genetic dissection of grain zinc concentration in spring wheat for mainstreaming biofortification in CIMMYT wheat breeding. scientificreports@nature.com (2018) 8:13526 DOI:10.1038/s41598-018-31951-z	4.6

47	Gupta Saurabh, V. K. Mishra , Imlimaong Aier, Sunita Mahla, Ramesh Chand, Pritish Kumar Varadwaj 2018. Deciphering of Genome-wide WRKY gene family of <i>Triticum aestivum</i> L. and their functional role in response to Abiotic stress. <i>Gene & Genomics</i> . 41 (1): 79-94. https://doi.org/10.1007/s13258-018-0742-9	2.1
48	Ahirwar Ram Narayan, Vinod Kumar Mishra , Ramesh Chand, Neeraj Budhlakoti, Dwijesh Chandra Mishra, Sundeep Kumar, Shweta Singh, Arun Kumar Joshi. 2018. Genome-wide Association Mapping of Spot blotch Resistance in Wheat Association Mapping Initiative (WAMI) Panel of Spring Wheat (<i>Triticum aestivum</i> L.). <i>Plos One</i> . https://doi.org/10.1371/journal.pone.0208196	3.24
49	Blümmel IM, S.R.Updhyay, N.Gautam, N.C.DBarma, M.Abdul Hakim, Makhdoom, Hussain, Muhammad, Yaqub Mujahid, V.K.Mishra , I.K.Kalappanavar, Rudra Naik, Suma Biradar, S.V.S.Prasad, Ravi P.Singh and A.K.Joshi, 2019. Comparative assessment of food-fodder traits in a wide range of wheat germplasm for diverse biophysical target domains in South Asia. <i>Field Crop Res.</i> 236, 68-74, https://doi.org/10.1016/j.fcr.2019.03.001 . (URL: https://www.sciencedirect.com/science/article/pii/S0378429018315946?via%3Dihub)	6.145
50	Poudel Ajit, Sudhir Navathe, Ramesh Chand, Vinod K. Mishra , Pawan K. Singh ³ , Arun K. Joshi 2019. "Hydrogen peroxide prompted lignification affects pathogenicity of hemi-biotrophic pathogen <i>Bipolaris sorokiniana</i> to wheat (<i>Triticum aestivum</i> L.)" <i>Plant Pathology Journal</i> , https://doi.org/10.5423/PPJ.OA.09.2018.0180 . URL: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6706009/	1.80
51	Mishra Vinod Kumar , Saurabh Gupta, Ramesh Chand Ramesh, Punam Singh Yadav, Satish Kumar Singh, Arun Joshi, Pritish Varadwaj. 2019. Comparative transcriptomic profiling of High- and Low- grain Zinc and Iron containing Indian wheat genotypes. <i>Current Plant Biology</i> 18 (2019) 100105 (https://doi.org/10.1016/j.cpb.2019.100105). URL: https://www.sciencedirect.com/science/article/pii/S2214662819300490	0.649
52	Navathe Sudhir, Ramesh Chand, Vinod Kumar Mishra , Shree Prakash Pandey, Uttam Kumar and Arun Kumar Joshi 2019. Management of spot blotch and heat stress in spring wheat through Azoxystrobin mediated redox balance. <i>Agricultural Research. Agric Res</i> , https://link.springer.com/article/10.1007%2Fs40003-019-00417-7	-
53	Navathe Sudhir; Sakshi Singh; Vinay Kumar Singh; Vinod Kumar Mishra ; Ramesh Chand; Arun Kumar Joshi. 2019. Genome wide mining of respiratory burst homologs and its expression in response to biotic and abiotic stress in <i>Triticum aestivum</i> . <i>Genes & Genomic</i> (2019) 41(9): 1027-1043. https://doi.org/10.1007/s13258-019-00821	2.164
54	Navathe Sudhir, Punam Singh Yadav, Ramesh Chand, Vinod Kumar Mishra , Neeraj Kumar Vasistha, Prabina Kumar Meher, Arun Kumar Joshi and Pushpendra Kumar Gupta. 2019. ToxA-Tsn1 Interaction for Spot Blotch Susceptibility in Indian Wheat: An Example of Inverse Gene-for-Gene Relationship. <i>Plant Diseases</i> . https://doi.org/10.1094/PDIS-05-19-1066-RE .	4.614
55	Kumar, Uttam; Suneel Kumar; Ravindra Prasad; Marion S Roder; Sundeep Kumar; Ramesh Chand; Vinod Kumar Mishra ; Arun Kumar Joshi. 2019. Genetic gain on resistance to spot blotch of wheat by developing lines with near immunity. <i>Crop Breeding, Genetics and Genomics</i> . https://doi.org/10.20900/cbgg20190017 . URL: https://cbgg.hapres.com/htmls/CBGG_1096_Detail.html	-
56	Joshi, A.K.; Kumar, U.; Mishra, V.K. ; Chand, R.; Chatrath, R.; Naik, R.; Biradar, S.; Singh, R.P.; Budhlakoti, N. and Blummel, M. 2019. Variation in straw fodder quality and grain straw relationship in mapping population of 294 diverse spring wheat lines. <i>Field Crop Res</i> 243(107627):1-7. DOI: 10.1016/j.fcr.2019.107627. URL: https://www.sciencedirect.com/science/article/pii/S0378429019310251	6.145
57	Singh C.K., R. Chand, V.K. Mishra , G. Sonkar and R.K. Mall. 2019. Impact of climate on Spot Blotch (<i>Bipolaris sorokiniana</i>) severity on wheat (<i>Triticum aestivum</i>) crop over Eastern Gangetic Plains (EGP) of India. <i>Journal of Agrometeorology</i> 21 (4) : 444-451	0.27
58	Shweta Singh, Vinod Kumar Mishra , Ravindra Nath Kharwar, Neeraj Budhlakoti, Ram Narayan Ahirwar, Dwijesh Chandra Mishra, Sundeep Kumar, Ramesh Chand, Uttam Kumar, Suneel Kumar, Arun Kumar Joshi 2020. Genetic characterization for lesion mimic and other traits in relation to spot blotch resistance in spring wheat. <i>PLoS ONE</i>	3.24

	15(10): e0240029. https://doi.org/10.1371/journal.pone.0240029	
59	Sandeep Sharma*, Babita Choudhary, Sonam Yadav, Avinash Mishra, Vinod K. Mishra , Ramesh Chand, Chen Chen, Shree P. Pandey (2020): Metabolite profiling identified pipelicolic acid as an important component of peanut seed resistance against <i>Aspergillus flavus</i> infection. <i>Journal of Hazardous Materials</i> 404 124155	14.224
60	Krishna, S., Upadhyay, P., Mishra, V.K. , Kujur, S.N., Kumar, M., Yadav, P.S., Mahto, P.K., Singh, P., Ashutosh, Sandeep Sharma, Ramesh Chand (2020): Evaluation of terminal heat tolerance in bread wheat (<i>Triticum aestivum</i> L.). <i>Indian J. Genet.</i> , 80(4) 468-470	1.339
61	Chaubey Ranjan Kumar, Dawa Dolma Bhutia, Sudhir Navathe, Vinod Kumar Mishra , Anil Kumar Singh & Ramesh Chand. 2021. <i>Interrelationships among different grain characteristics of wheat grown under optimum and late sowing date conditions in the Eastern Indo-Gangetic plains of India</i> . <i>Cereal Research Communications</i> . https://doi.org/10.1007/s42976-020-00123-z	1.24
62	Roy Chandan, Navin C Gahtyari, Xinyao He, Vinod Kumar Mishra , Ramesh Chand, Arun Kumar Joshi, Pawan Kumar Singh, 2021. Dissecting Quantitative Trait Loci for Spot Blotch Resistance in South Asia using Two Wheat Recombinant Inbred Line Populations. <i>Front. Plant Sci.</i> , https://doi.org/10.3389/fpls.2021.641324	4.8
63	Gupt Shiwarttan Kumar, Ramesh Chand, Vinod Kumar Mishra , Ram Narayan Ahirwar, Madhav Bhatta, Arun Kumar Joshi. 2021. Spot blotch disease of wheat as influenced by foliar trichome and stomata density, <i>Journal of Agriculture and Food Research</i> 6 (2021) 100227.	-
64	Ajeet Kumar Pandey, Vinod Kumar Mishra* , Ramesh Chand, Sudhir Navathe, Neeraj Budhlakoti, Jayasudha Srinivasa, Sandeep Sharma, Arun Kumar Joshi (2021): Crosses with spelt improve tolerance of South Asian spring wheat to spot blotch, terminal heat stress, and their combination. <i>Scientific Reports</i> , 6017	4.6
65	Kumar Jitendra, Ashish Kumar, Ankita Mishra, Vinod Kumar Mishra and Joy Roy. 2022. Genetic variation, heritability, genetic advance, micronutrients, and grain morphology trait associations in EMS induced mutant lines of wheat (<i>Triticum aestivum</i> L.). <i>Genet Resour Crop Evol</i> doi.org/10.1007/s10722-022-01363-0	1.876
66	Saxesena Ravi Ranjan, Vinod Kumar Mishra* , Ramesh Chand, Uttam Kumar, Apurba Kumar Chowdhury, Jyotika Bhati, Neeraj Budhlakoti and Arun Kumar Joshi. 2022. SNP Discovery Using BSR-Seq Approach for Spot Blotch Resistance in Wheat (<i>Triticum aestivum</i> L.), an Essential Crop for Food Security. <i>Frontiers in Genetics</i> . Vol 13, Article 859676. doi: 10.3389/fgene.2022.859676	4.772
67	Gupta Pushpendra K.; Harindra S. Balyan; Parveen Chhuneja; Jai P. Jaiswal; Shubhada Tamhankar; Vinod K. Mishra ; Navtej S. Bains; Ramesh Chand; Arun K. Joshi; Satinder Kaur; Harinderjeet Kaur; Gurminder S. Mavi; Manoj Oak; Achla Sharma; Puja Srivastava; Virinder S. Sohu; Pramod Prasad; Priyanka Agarwal; Moin Akhtar; Saurabh Badoni; Reeku Chaudhary; Vijay Gahlaut; Rishi Pal Gangwar; Tinku Gautam; Vandana Jaiswal; Ravi Shekhar Kumar; Sachin Kumar; M. Shamshad; Anupama Singh; Sandhya Taygi; Neeraj Kumar Vasistha; Manish Kumar Vishwakarma. 2022. Pyramiding of genes for grain protein content, grain quality, and rust resistance in eleven Indian bread wheat cultivars: a multi-institutional effort. <i>Mol Breeding</i> 42:21 https://doi.org/10.1007/s11032-022-01277-w	3.297
68	Singh G. M., S. Goldberg, D. Schaefer, F. Zhang, S. Sharma, V.K. Mishra , and J. Xu (2022): Biochemical, gas exchange, and chlorophyll fluorescence analysis of maize genotypes under drought stress reveals important insights into their interaction and homeostasis. <i>Photosynthetica</i> 60 (3): 376-388, 2022	2.482
69	Thapa, Dhruba Bahadur, Mahesh Subedi, Rajendra Prasad Yadav, Bishnu Prasad Joshi, Bhim Nath Adhikari, Keshav Prasad Shrestha, Prem Bahadur Magar, Khem Raj Pant, Suk Bahadur Gurung, Sapana Ghimire, Nutan Raj Gautam, Nav Raj Acharya, Manoj Sapkota, Vinod Kumar Mishra , Arun Kumar Joshi, Ravi P. Singh, Velu Govindan. 2022. Variation in Grain Zinc and Iron Concentrations, Grain Yield and Associated Traits of Biofortified Wheat Genotypes in Nepal. <i>Frontiers in Plant Science</i> . ID: 881965 13:881965, doi: 10.3389/fpls.2022.881965	4.8
70	Navathe Sudhir, Ajeet Kumar Pandey, Sandeep Sharma, Ramesh Chand, Vinod Kumar	4.76

	Mishra , Dinesh Kumar, Sarika Jaiswal, Mir Asif Iquebal, Velu Govindan, Arun Kumar Joshi and Pawan Kumar Singh. 2022. New Genomic Regions Identified for Resistance to Spot Blotch and Terminal Heat Stress in an Interspecific Population of <i>Triticum aestivum</i> and <i>T. spelta</i> . Plants 2022, 11, 2987. https://doi.org/10.3390/plants11212987	
71	Singh, Mahendra, Srinath Reddy, Gaurav Sharma, Suman Bakshi, Uttam Kumar, Pradeep Bhati, Sanjay J. Jambukar, Ramesh Chand, Arun K Joshi, Vinod K Mishra , Sandeep Sharma* (2022): Expression analysis of hormonal pathways and defense associated genes in gamma-rays mutagenized wheat genotypes against combined stresses of spot blotch and terminal heat. Current Plant Biology, 29, 100234	0.649
72	Kumar Suneel, Anjan Kumar Pradhan, Uttam Kumar, Guriqbal Singh Dhillon, Satinder Kaur, Neeraj Budhlakoti, Dwijesh Chandra Mishra, Amit Kumar Singh, Rakesh Singh, Jyoti Kumari, Vikas V. Kumaran, Vinod Kumar Mishra , Pradeep Kumar Bhati, Saikat Das, Ramesh Chand, Kuldeep Singh and Sundeep Kumar. 2022. Validation of Novel spot blotch disease resistance alleles identified in unexplored wheat (<i>Triticum aestivum</i> L.) germplasm lines through KASP markers. BMC Plant Biology22:618 https://doi.org/10.1186/s12870-022-04013-w	5.26
73	Monu Kumar, V K Mishra* , Ramesh Chand, Sandeep Sharma*, Uttam Kumar, Jai Prakash Jaiswal, Mukesh Choudhary, Anima Mahato, Ashutosh, Prashant Singh and A K Joshi: NDVI and grain fill duration are important to be considered while breeding for terminal heat stress tolerance in wheat. Journal of Agronomy and Crop Science 2023	3.5
74	Reddy SS, Saini DK, Singh GM, Sharma S, Mishra VK* and Joshi AK (2023) Genomewide association mapping of genomic regions associated with drought stress tolerance at seedling and reproductive stages in bread wheat. Front. Plant Sci. 14:1166439. doi: 10.3389/fpls.2023.1166439	4.8
75	Kaur, R.; Vasistha, N.K.; Ravat, V.K.; Mishra, V.K.; Sharma, S.; Joshi, A.K.; Dhariwal, R. Genome-Wide Association Study Reveals Novel Powdery Mildew Resistance Loci in Bread Wheat. Plants 2023, 12, 3864. https://doi.org/10.3390/plants12223864	4.678
76	Reddy, S. Srinatha, G Mahendra Singh, Uttam Kumar, Pradeep Bhati, Manish Vishwakarma, Sudhir Navathe, Yashavanthakumar K. J. , Vinod K. Mishra*, Sandeep Sharma* and Arun K. Joshi. 2024. Spatio-temporal evaluation of drought adaptation in wheat revealed NDVI and MTSI as powerful tools for selecting tolerant genotypes. Field Crop Research Volume 311 , 1 May 2024, 109367. https://doi.org/10.1016/j.fcr.2024.109367	6.145
77	Pandey, Shree P., Shivam Singh, Deepesh Khandwal, Avinash Mishra, Bhagya Shree Acharya, Suman Bakshi, Sundeep Kumar, Vinod Mishra, Sandeep Sharma. 2024. A Klebsiella rhizobacterium deregulates the metabolism of phytopathogenic Aspergillus flavus during in-vitro assays and confers protective functions, The Microbe, 2024, 100181, ISSN 2950-1946, https://doi.org/10.1016/j.microb.2024.100181 .	
78	Vasistha, Neeraj Kumar, Archita Tandon, Sunita Pal, Sandeep Sharma, Vinod Kumar Mishra, Pushpendra Kumar Gupta.2024. Transcriptome analysis for the identification of spot blotch responsive genes and miRNAs in wheat, Physiological and Molecular Plant Pathology,102485, ISSN 0885-5765, https://doi.org/10.1016/j.pmpp.2024.102485 .	2.8
79	Ashutosh, Vinod Kumar Mishra, Kartikey Srivastava, Monu Kumar, Prashant Singh. 2025. Marker-assisted foreground pyramiding of genes/QTL's for grain quality and rust resistance genes in most popular wheat cv., HUW234 of Eastern Gangetic plains of India. Journal of Plant Biochemistry and Biotechnology https://doi.org/10.1007/s13562-025-00957-w .	1.7
80	Vasistha, Neeraj Kumar; Sandeep Sharma, Vinod Kumar Mishra, Tinku Gautam, Gautam Sripalli, Sunita Pal, Pushpendra Kumar Gupta. MicroRNAs associated with spot blotch in bread wheat (<i>Triticum aestivum</i>). 2025. Physiological and Molecular Plant Pathology. 102840, ISSN 0885-5765, https://doi.org/10.1016/j.pmpp.2025.102840 .	3.3

81	Thakur Ankita, Raman Dhariwal, Arun Kumar Joshi, Vinod Kumar Mishra, Sandeep Sharma, Mukesh Kumar Singh, Sundeep Kumar and Neeraj Kumar Vasistha. 2025. Genome-wide association study for agronomic and yield-related traits in spring wheat (<i>Triticum aestivum</i> L.) germplasm. BMC Plant Biology (2025) 25:1499. https://doi.org/10.1186/s12870-025-07263-6	
----	--	--

Book Chapters

1. Joshi, Arun Kumar, Mishra Vinod Kumar & Sahu Simanchal (2017) Variety selection in wheat cultivation In: Achieving sustainable cultivation of wheat Volume 2: Cultivation techniques (Ed. Professor Peter Langridge) Burleigh Dodds Science Publishing, Cambridge, UK (ISBN: 978 1 78676 020 3; www.bdspublishing.com). (Invited Article) pp. 01-24.
2. Mohammed Shamsul Q. Ansari, Pandey, Anju, Mishra, V. K., Joshi, A. K. and Chand R. (2017). Black Point of Wheat Caused by *Bipolaris sorokiniana* and Its Management, In: Management of wheat and Barley Diseases (Ed. Devendra Pal Singh), Apple Academic Press Inc., Canada, 978 1 77188 546 1 & 978 1 315 20753 7 (Invited Article) pp. 239-256.
3. Singh, Prashant, Ashutosh, Monu Kumar, Vinod Kumar Mishra* and Neelam Atri. (2022). Biofortification: A Strategy to Remove Malnutrition and Achieve Sustainable Development Goals In Strategies to Achieve Sustainable Development Goals (SDGs) (Ed. Dr Rajani Srivastava) Nova Science Publishers, Inc. Identifiers: LCCN 2022024283 (print) | LCCN 2022024284 (ebook) | ISBN 9781685078362 (hardcover) | ISBN 9798886970272 (adobe pdf) DOI: <https://doi.org/10.52305/YNDL2610> (Invited Article pp. 311-329.

Germplasm registration

- DBT Quality Project Line, NBPGR for Registration. IC Number allotted (IC-0616900).
- AKJ-1 (Line # 94), Early maturity, Spot Blotch resistant, High Yield, Pedigree: YS24/YS58, **IC-0624570**
- HUW669 (**IC-624600**) dated 29 Jan 2018
- HUW838

International Meeting/Workshops Attended

	Meeting/Workshops	Place	Date	Session
1	CSISA Roving Seminar (Objective 4) Wheat Breeding,.	Bhairahawan-Kathmandu Nepal	20-26 March, 2010	2010-11

2	“2 nd Annual Review Meeting on CSISA Wheat Breeding (Objective 4),	Kathmandu, Nepal.	14-18, Sept 2010	2010-11
3	3 rd IGM on Wheat Productivity enhancement under climate change”	UAS, Dharwad, Karnataka, India	9-12 Feb 2011	2010-11
4	“3 rd Annual Review Meeting on CSISA Wheat Breeding (Objective 4),	, Dhulikhel, Nepal	6-10 Sept 2011	2011-12
5	BGRI & HarvestPlus meeting	Taj Palace New Delhi	19-24 Aug 2013	2013-14
6	5 th Annual Review Meeting on CSISA Wheat Breeding (Objective 4),”	Dhaka, Bangladesh	4-9 Oct 2013	2013-14
7	A meeting for “Maintaining cereal productivity under climate change through international collaboration” by ICAR, USAID and CIMMYT.	NAAS Complex, New Delhi	18-20 Nov 2013	2013-14
8	“2014 BGRI Technical workshop and the Borlaug Summit on Wheat for Food Security”,	Ciudad Obregón, Mexico,	22-18 March, 2014	2013-14
9	“6 th Annual Review Meeting on CSISA Wheat Breeding (Objective 4),” Sept 9-14, 2014	Kathmandu, Nepal	9-14 Sept 2014	2014-15
10	“7 th Annual Review Meeting on CSISA Wheat Breeding (Objective 4),” Sept 9-14, 2014	Karnal, Haryana India	1-4 Sept 2015	2015-16
11	Harvest Plus Meeting	ICRISAT, Hyderabad, India	10-11, Sept 2015	2015-16
12	Annual Borlaug Global Rust Initiative (BGRI) 2015 Technical Workshop	Sydney Australia.	17-22 Sept 2015	2015-16
13	CIMMYT’s Global Wheat Programme’s Ug99 stem rust screening facility at from	Kalro, Njoro, Kenya	Oct 7-14 2016.	2016-17
14	Borlaug Global Rust Initiative (BGRI) 2018 Technical Workshop”	Marrakech, Morocco.	April 14-17, 2018 at	2018-19

