



ICAR-IASRI



NEWS

Volume 25

No. 2

July-September, 2020

- Research Activities
- Awards and Recognition
- Human Resource Development
- Panorama of Activities
- Publications
- Lectures Delivered
- Participation
- Consultancy/Advisory Services
- Personnel

From Director's desk.....

This Newsletter brings you the awards and recognitions received, training programmes conducted, workshops and conferences organized/ attended and significant publications done, software developed by our Institute during the period under report.

It is a matter of proud and privilege to note that one of our Scientists has brought accolades to our institute by receiving ICAR sponsored Lal Bahadur Shastri Outstanding Young Scientist Award 2019 in Social Science. A new project entitled “Explicating genomic insights of Indigenous equines breed population through Computational Genomics and Artificial Intelligence based approaches”

has been initiated in collaboration with ICAR-National Research Centre on Equines, Hisar.

Four training programmes were conducted on a wide range of topics viz., Stress Management, Data Analysis and Interpretation and Data Entry Software, data collection by adopting CHAMAN methodology. Our institute organized quite a sizable number of workshops by utilizing the opportunity of conducting the same via online mode during this post-COVID pandemic period.

You will also be delighted to note that a good number of publications have come out during this period. Our Scientists have also attended many workshops and conferences, besides delivering their work in the form of presentations in them. Advisory services on statistical analyses are being regularly provided to personnel of the National Agricultural Research System (NARS) and the list provided in this newsletter will be serving as a testimony to such endeavours.

Taking advantage of the online platform owing to pandemic imposed restrictions, our institute organized Annual Day of the Institute on July 02, 2020 in which we had the opportunity of our own alumni Dr. DVV Ramana, Professor, Preventive Medicine, Health and Biomedical Informatics Division, Feinberg School of Medicine, Northwestern University, USA delivering the Nehru Memorial Lecture virtually.

Another important milestone of our institute is that Honourable Union Minister of Agriculture & Farmers Welfare and Minister of Rural Development & Panchayati Raj, Shri Narendra Singh Tomarji inaugurated the “Krishi Megh” (NARES-Cloud Infrastructure and Services) virtually on





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August 11, 2020. Hon'ble Ministers of State, Agriculture and Farmers Welfare, Shri Parshottam Rupalaji, and Shri Kailash Choudharyji, Dr. Trilochan Mohapatra, Secretary, DARE and Director General, ICAR, Dr. R.C. Agrawal, DDG (Education), ICAR along with other senior officers of ICAR Head Quarters, University Vice-Chancellors, Directors of the ICAR Institutes, World Bank officials and senior officers from other Ministries were also present during the inauguration. Krishi Megh is expected to meet the services and infrastructure needs of the Digital Agriculture of National Agricultural Research and Education System (NARES).

Teachers' Day was celebrated on September 05, 2020 in which Dr. R. C. Agrawal, DDG (Education) delivered a lecture on the topic of New National Education Policy.

It was also a proud occasion for our institute as we organized the Birth Centenary Symposium on Contributions of Prof. C.R. Rao in Statistics on September 15, 2020 in an online mode. Prof. R.B. Singh, Former Chancellor, CAU, Imphal and Former Chairman, ASRB had chaired the session and Dr. R.C. Agrawal, DDG (Education) and National Director (NAHEP) was the Guest of Honour. As Speakers in this symposium, we had the good fortune of having four eminent statisticians Prof. Bimal K Roy, Chairman, National Statistical Commission and Former Director, Indian Statistical Institute, Kolkata; Prof. Bikas K Sinha, Former Professor, Indian Statistical Institute, Kolkata and Former Member, National Statistical Commission; Prof. Padam Singh, Former Additional Director General, Indian Council of Medical Research and Former Member, National Statistical Commission and Prof. V.K. Gupta, Former ICAR National Professor.

I strongly affirm that the contents of this Newsletter would be interesting to you all. Constructive suggestions for the betterment of this publication are always welcome.

(Tauqueer Ahmad)

Research achievements

- An R-package “PredCRG” has been developed for prediction of circadian proteins encoded by circadian genes. The package is available at <https://cran.r-project.org/web/packages/PredCRG/index.html>.
- Developed a web server “miRNALoc” for predicting localization of miRNAs. The server is freely accessible at <http://cabgrid.res.in:8080/mirnaloc/>.
- Developed a database “FMDISC”, which is an information system on Foot and Mouth disease of cattle. The database is freely available at <http://bioinformatics.iasri.res.in/fmdisc/team.php>.
- Developed Water Buffalo Mastitis Database (WBMSTDb): This web resource catalogues the information of mastitis associated genes, their annotation, functions, pathways, SNPs and INDELS in buffalo and is available at <http://webtom.cabgrid.res.in/wbmstdb/>

HONOURS/ AWARDS:

- Mir Asif Iquebal, Senior Scientist: Received ICAR sponsored Lal Bahadur Shastri Outstanding Young Scientist Award 2019 in Social Science. This award consists of a cash prize of Rupees One lakh and a challenge project for three years with budgetary provision of Rupees Ten lakhs per year plus Rupees Five lakhs for foreign training (upto three months) besides Certificate and Citation.



RECOGNITIONS:

Anil Rai

- Officiating as ADG (ICT) in ICAR, New Delhi.
- Professor of Bioinformatics in P.G. School, IARI, New Delhi.

- Member of the Committee for organization of Governing Body meeting of ICAR, New Delhi.
- Member of the Committee for organization of Regional Committee-I meeting of ICAR, New Delhi.
- Member of ICAR Web-site Committee under the Chairmanship of DDG (Ag. Edn.).
- Member of the Committee for conducting online interviews by ASRB, New Delhi.
- Expert member of a National level Committee on Mission Mode in the domain of Precision Agriculture constituted by CSIR under the Chairmanship of Ex-Secretary (DARE) and DG, ICAR.

Sarika

- Selected as Member, National Academy of Sciences (India), Allahabad in Biological Sciences for the year 2020.

Hukum Chandra

- Co-Chairman, Institute Annual Report Editorial Committee, 2019.
- Member, Sectional Committee on "Statistical Methods for Quality and Reliability" (MSD 3), Bureau of Indian Standards, New Delhi, 2020.
- Expert Member, Panel Sample Survey of Households in the State of Tamil Nadu (collaboration with Govt of Tamil Nadu), Madras Institute of Development Studies, Chennai, India.
- Course Director of the two training programmes on "Data Analysis and Interpretation" for the Indian Statistical Service (ISS) Probationers (41st Batch and 42nd Batch) of Ministry of Statistics & Programme Implementation, Govt. of India, funded by National Statistical Systems Training Academy (NSSTA), Ministry of Statistics & Programme Implementation, Govt. of India at ICAR-IASRI, New Delhi during August 17-28, 2020 and September 14-25, 2020 (online).

K.K. Chaturvedi

- Member, Central Examination Committee (Bioinformatics) of PG School, IARI for 2019-20.
- Program Committee (PC) Member, International Conference on Machine Intelligence and Data Science Applications (MIDAS-2020) held at University of Petroleum and Energy Studies, Dehradun during September 4-5, 2020.

Rajender Parsad

- Expert in Virtual Brainstorming Workshop on Identification of New Dimensions for Preparing National/Global Level Database on Women in Agriculture organized at ICAR-Central Institute for Women in Agriculture, Bhubaneswar on August 28, 2020.

NEW PROJECTS/ SCHEMES/ PROGRAMME/ CENSUS/ SAMPLE SURVEYS/ EVALUATION STUDIES/ SOFTWARE DEVELOPED/ INITIATED/ COMPLETED

- Explicating genomic insights of Indigenous equines breed population through Computational Genomics and Artificial Intelligence based approaches in collaboration with ICAR-National Research Centre on Equines, Hisar. (ICAR-NRCE: Anuradha Bhardwaj and Yash Pal; ICAR-IASRI: Sarika, Mir Asif Iquebal and Dinesh Kumar)
- Evaluation study entitled "Evaluation of Comprehensive Scheme for Studying Cost of Cultivation

of Principal Crops” funded by DES, Department of Agriculture Cooperation & Farmers Welfare (DACFW), Ministry of Agriculture & Farmers Welfare (MoAFW), Govt. of India was initiated on 17.09.2020 (PI: Tauqueer Ahmad)

Human Resource Development:

Training programs organized:

S.N.	TITLE	VENUE	PERIOD
1.	<p>Training programme on “Data Analysis and Interpretation” for the Indian Statistical Service (ISS) Probationers (41st Batch) of Ministry of Statistics & Programme Implementation, Govt. of India, funded by National Statistical Systems Training Academy (NSSTA), Ministry of Statistics & Programme Implementation, Govt. of India.</p> <p>Course Coordinators Hukum Chandra Pradip Basak Vandita Kumari</p>	ICAR-IASRI, New Delhi (Online)	17.08.2020 To 28.08.2020
2.	<p>Online training programme on Data Entry Software, data collection by adopting CHAMAN methodology</p> <p>Course Coordinators Tauqueer Ahmad Prachi Misra Sahoo Ankur Biswas</p>	ICAR-IASRI, New Delhi (Online)	20.08.2020
3.	<p>Training programme on “Data Analysis and Interpretation” for the Indian Statistical Service (ISS) Probationers (42nd Batch) of Ministry of Statistics & Programme Implementation, Govt. of India, funded by National Statistical Systems Training Academy (NSSTA), Ministry of Statistics & Programme Implementation, Govt. of India.</p> <p>Course Coordinators Hukum Chandra Pradip Basak Vandita Kumari</p>	ICAR-IASRI, New Delhi (Online)	14.09.2020 To 25.09.2020

Conferences/Workshops/Seminars/Symposia/Meetings/Events organized:

• Annual Day

Organized Annual Day of the Institute on July 02, 2020 in which Dr. DVV Ramana, Professor, Preventive Medicine, Health and Biomedical Informatics Division, Feinberg School of Medicine, Northwestern University, USA delivered the Nehru Memorial Lecture entitled "Statistical Pattern Recognition and Machine Learning Applications in Life Science Research". Dr. R.C. Agrawal, DDG (Education), ICAR presided over the function. Dr. Trilochan Mohapatra, Secretary, DARE & DG, ICAR was the Chief Guest. Moreover, the following awards and medals were conferred on post graduate students of our institute in the Annual Day:

- Mr. Krishna Pada Sarkar
 - Received Nehru Memorial Gold Medal 2020 of IASRI for being Best M.Sc. (Agricultural Statistics) Student during the Annual Day of the Institute.
- Mr. Abhishek MP
 - Received Nehru Memorial Gold Medal 2020 of IASRI for being Best M.Sc. (Computer Application) Student during the Annual Day of the Institute.
- Ms. Tanwy Dasmandal
 - Received Nehru Memorial Gold Medal 2020 of IASRI for being Best M.Sc. (Bioinformatics) Student during the Annual Day of the Institute.
- Mr. Amit Saha
 - Received M.K. Bose award for best Ph.D.(Agricultural Statistics) student for the session 2016-19 during the Annual Day of the Institute.

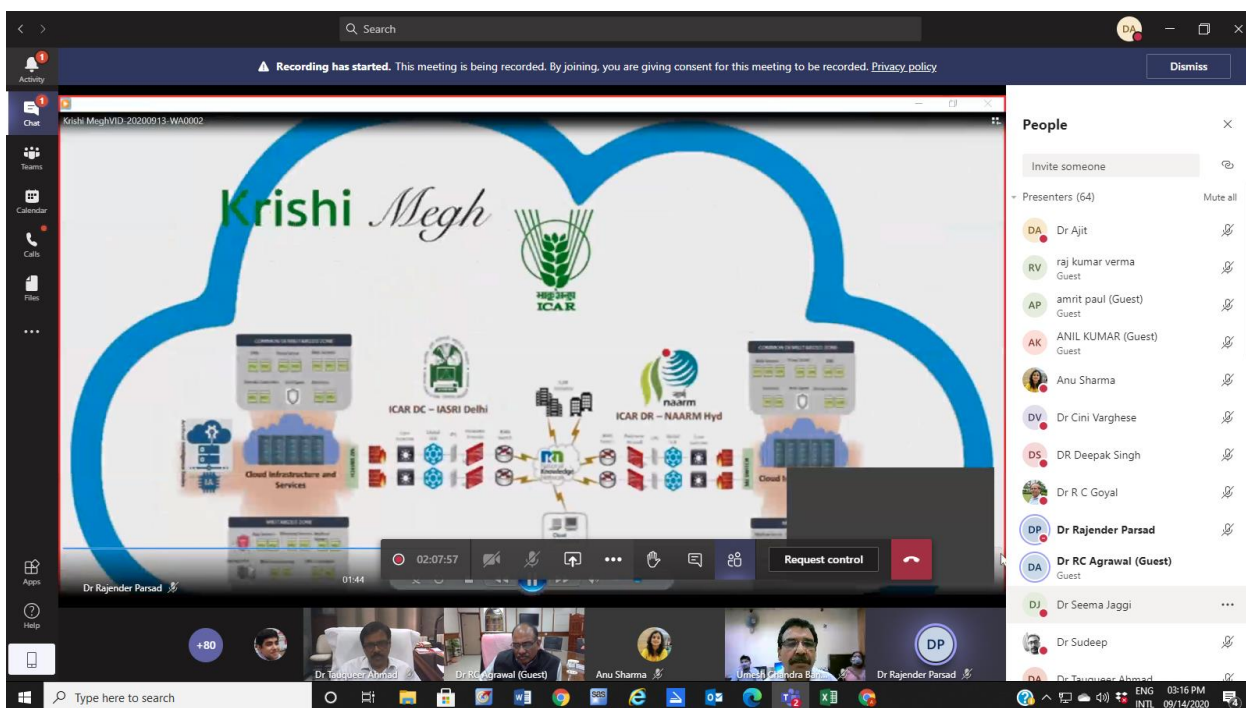
The following publications were released: i) Annual Report 2019 ii) IASRI at a Glance iii) Data Book-2020 iv) Sankhyiki Vimarsh 2019-20.

• Krishi Megh

Honourable Union Minister of Agriculture & Farmers Welfare and Minister of Rural Development & Panchayati Raj, Shri Narendra Singh Tomarji inaugurated the "Krishi Megh" (NARES-Cloud Infrastructure and Services) virtually on August 11, 2020. Hon'ble Ministers of State, Agriculture and Farmers Welfare, Shri Parshottam Rupalaji, and Shri Kailash Choudharyji, Dr. Trilochan Mohapatra, Secretary, DARE and Director General, ICAR, Dr. R.C. Agrawal, DDG (Education), ICAR along with other senior officers of ICAR Head Quarters, University Vice-Chancellors, Directors of the ICAR Institutes, World Bank officials and senior officers from other Ministries were also present during the inauguration.

Krishi Megh is expected to meet the services and infrastructure needs of the Digital Agriculture of National Agricultural Research and Education System (NARES). The existing Data Centre (ICAR-DC), which was built during 2012, has been enhanced with cloud

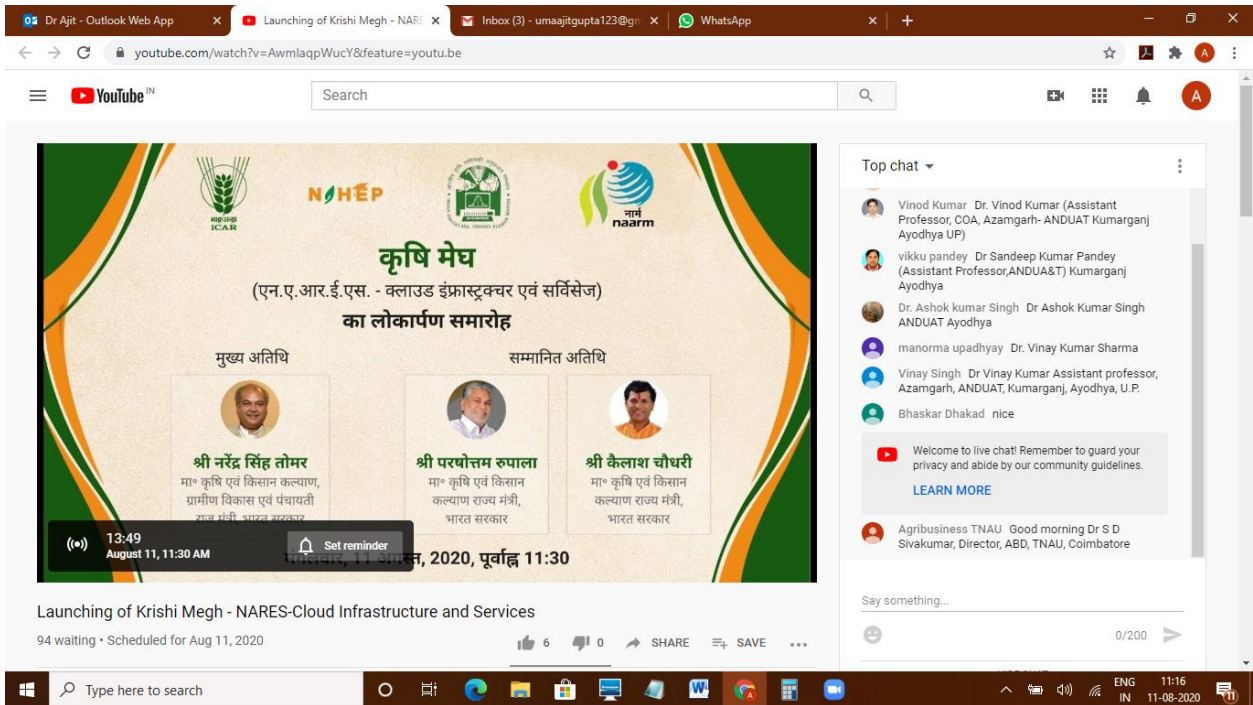
computing infrastructure. Thus, NARES-Cloud Infrastructure and Services along with ICAR-DC and ICAR-Krishi Megh will provide a robust and dynamic platform to meet the growing IT needs of the NARES system with the deployment of mission-critical applications such as e-Office, ICAR-ERP, ICAR institute websites, KVK Portal, and Education Portal. It also provides Alumni Portal, mobile apps, Academic Management System, e-Courses of UG and PG level, etc. Under the National Agricultural Higher Education Project (NAHEP), the out-reach of existing ICAR Data Center is broadened to cover the Agricultural Universities enabling them to host their websites and IT solutions. ICAR-Krishi Megh at ICAR-NAARM, Hyderabad is synchronized with ICAR-Data Center at ICAR-IASRI, New Delhi to mitigate the risk, availability, and accessibility of e-governance, research, enhance the quality, extension and education in the field of agriculture in India. This new Centre has the latest Artificial Intelligence, Deep learning software, and tools kits for building and deploying deep learning-based applications such as disease and pest identification using image analysis, detection of maturity, and ripening of fruits through image analysis, disease identification in livestock, etc. It should be noted that amid the COVID-19 situation, 24x7 availability of IT applications has made it possible to work from home and to collaborate with fellow scientists through video conferencing.



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• Teachers' Day

Teachers' Day was celebrated on September 05, 2020 in which Dr. R.C. Agrawal, DDG (Education) delivered a lecture on the topic of New National Education Policy.

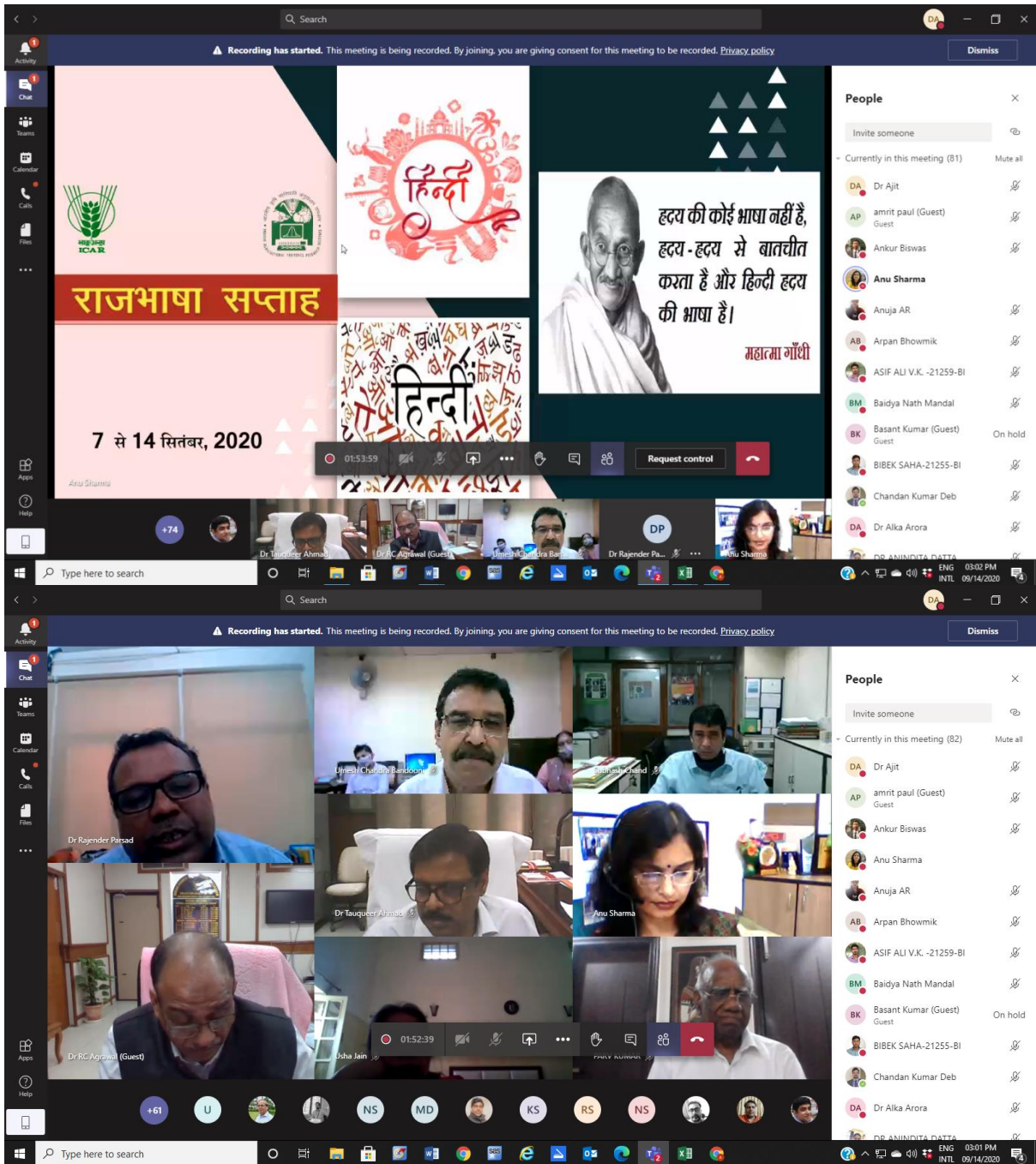


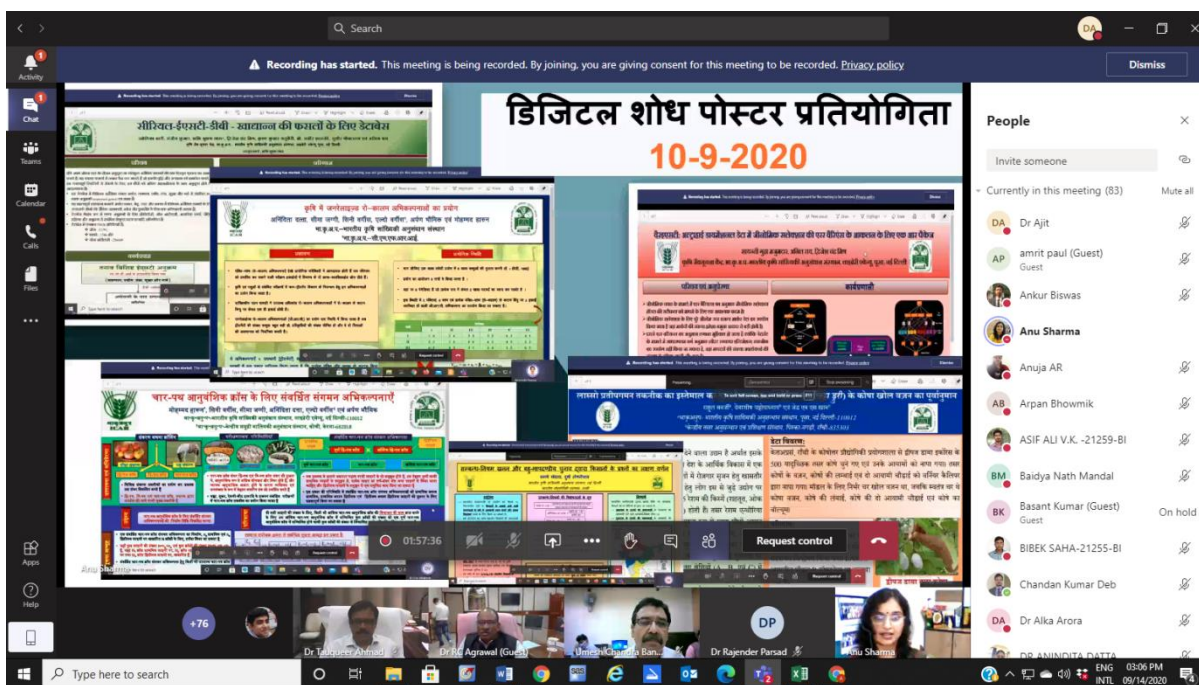
- सितंबर 07-14, 2020 हिन्दी सप्ताह मनाया गया । इस दौरान विभिन्न कार्यक्रम एवं प्रतियोगिताएं आयोजित की गयी ।
- डॉ. दरोगा सिंह स्मृति व्याख्यान एवं हिन्दी सप्ताह का समापन/पुरस्कार वितरण समारोह दिनांक 14 सितंबर 2020 को आयोजित किया गया। इस अवसर पर भारतीय कृषि अनुसंधान परिषद के उपमहानिदेशक (शिक्षा), डा. आर. सी. अग्रवाल द्वारा डा. दरोगा सिंह स्मृति व्याख्यान दिया गया। डा. पदम सिंह, भूतपूर्व अपर महानिदेशक, आईसी.एम.आर एवं. सदस्य, राष्ट्रीय सांख्यिकीय आयोग समारोह के मुख्य अतिथि थे।

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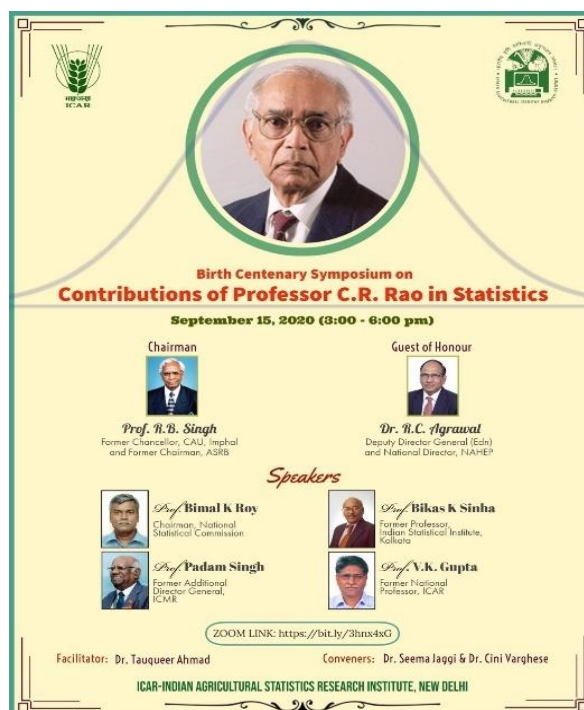
July-September, 2020

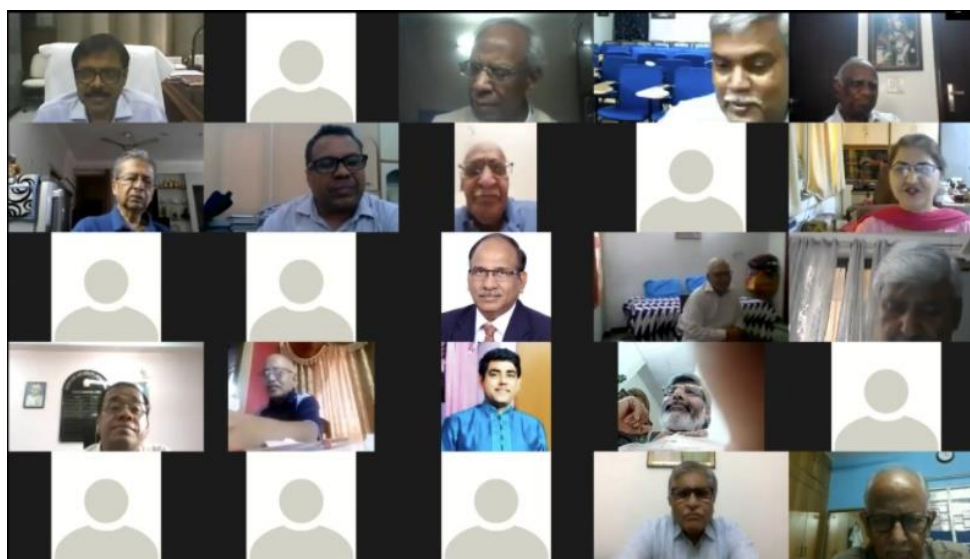
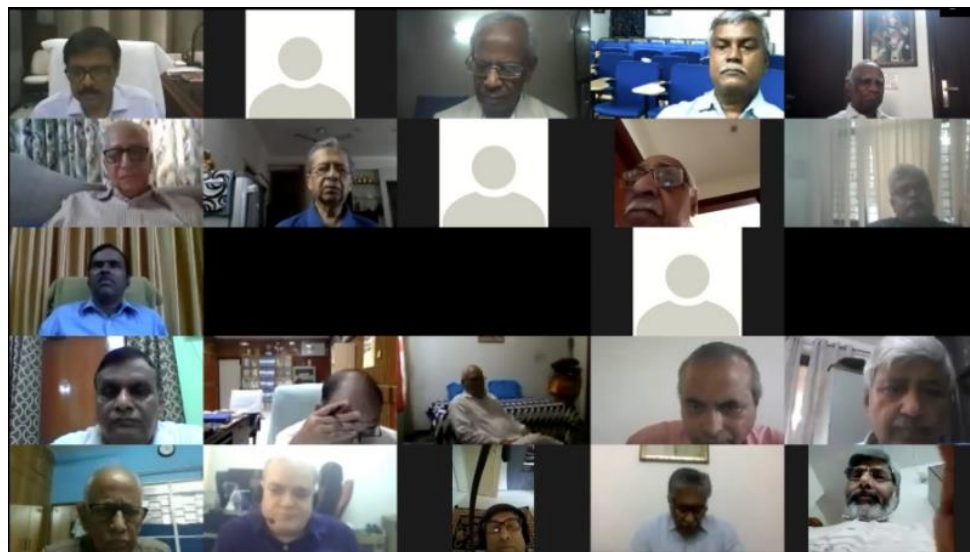




- **Birth Centenary Symposium on Contributions of Prof. C.R. Rao in Statistics**

Our institute organized (online) Birth Centenary Symposium on Contributions of Prof. C.R. Rao in Statistics, at ICAR-IASRI, New Delhi on September 15, 2020.





Prof. R.B. Singh chaired the session. Dr. R.C. Agrawal, DDG (Education) and National Director (NAHEP) was the Guest of Honour. Four Eminent Statisticians were the speakers:

- Prof. Bimal K Roy, Chairman, National Statistical Commission and Former Director, Indian Statistical Institute, Kolkata
- Prof. Bikas K Sinha, Former Professor, Indian Statistical Institute, Kolkata and Former Member, National Statistical Commission
- Prof. Padam Singh, Former Additional Director General, Indian Council of Medical Research and Former Member, National Statistical Commission
- Prof. V.K. Gupta, Former ICAR National Professor

Besides this, a presentation on contributions of Prof. C.R. Rao was made by our students.

- Week-long celebrations culminating in 150th Birth Anniversary of the Father of the Nation Mahatma Gandhiji**

Various events were also organized as part of week-long celebrations (September 25 – October 02, 2020) at our institute culminating in 150th Birth Anniversary of the Father of the Nation Mahatma Gandhiji on October 02, 2020. Ramasubramanian V., Principal Scientist was the Convenor of the programme under the Chairmanship of Dr. Tauqueer Ahmad, Director. The details about the various events are given below:

S. No.	Event	Date	Event Coordinator(s)
1.	Quiz on Swachhta Hi Sewa – Online First Prize: Sarika Sahu Second Prize: Ankita Negi Third Prize: Rajeev Ranjan Kumar Consolation Prize: Baibhav Kumar Consolation Prize: Gitanjali Tandon	25.09.2020	Monendra Grover, Susheel Kumar Sarkar
2.	Debate on “Is Gandhian Philosophy of Non-violence or Ahimsa relevant today?”- Online First Prize: Susheel Kumar Sarkar Second Prize: Rahul Banerjee Third Prize: Bhavesh Consolation Prize: Ankita Negi Consolation Prize: Lal Dhari Patel	26.09.2020	Anuja A.R., Shivaswamy G.P.
3.	Painting competition on “Truth and Non-violence” – Both Offline and Online First Prize: Ms. Parinita Das Second Prize: Mr. Asif Ali V. K. Third Prize: Ms. Sayanti Guha Majumdar Consolation Prize: Mr. Anil Yadav Consolation Prize: Mr. AshutoshDalal	28.09.2020	Anu Sharma, D.C.Mishra, Rakhi, Neelam Chandra, Manjeet Kaur
4.	Yoga celebration on “Sahaja Yoga Meditation for Stress Management” – Online	30.09.2020	Prachi Misra Sahoo, Ankur Biswas

5.	<p>Special Lectures Session on Gandhian Philosophy - Online</p> <p>(i) Gandhian Management by Dr. D. Rama Rao, Former Director, ICAR-NAARM, Hyderabad & Presently Emeritus Scientist, PJTSAU, Hyderabad</p> <p>(ii) Agricultural Sustainability and Gandhian Philosophy by Dr. N. K. Krishna Kumar, Former DDG (Horticulture), ICAR, New Delhi & Presently South and Central Asia Regional Representative Biodiversity International</p> <p>(iii) Gandhian Economic Thought by Dr. M. Krishnan, Former Head, ESM Division, ICAR- NAARM, Hyderabad & Presently Adviser, Committee for Marine Resources, Andhra Pradesh</p>	01.10.2020	Ramasubramanian V.
6.	Concluding programme (Online)	02.10.2020	Chief Guest: Dr. Anjani Kumar Choubey, Former Director, ICAR-IASRI, New Delhi



- ICAR Leadership in Agricultural Higher Education" on July 31, 2020. (Shashi Dahiya and Sudeep)
- Organized one day Online NAHEP Workshop on Krishi Vishwavidyalaya Chhatr Alumni Network (KVC ALUNET) for the Nodal Officers of Agricultural Universities on July31, 2020. (Soumen Pal)
- Seema Jaggi
 - Coordinated and organized the Annual Day Function of the institute in online mode using Zoom on 02 July, 2020.
 - Organized virtual Sensitization Workshop on "ICAR Research Data Repository for Knowledge Management" for ICAR-DMAPR, Anand on July 10, 2020. (Arpan Bhowmik and Rajender Parsad).
 - Organized Webinar on "Sensitization on Data Upload and New Functionalities on KRISHI Portal" on July 15, 2020. (Anshu Bharadwaj and Rajender Parsad).
 - Conducted the meeting of Standing Committee on Faculty and Disciplines of PG School, IARI as Chairperson on 18 July, 2020.
 - Conducted the meetings of Board of Studies of Agricultural Statistics as Chairperson on 06 July, 2020 and 22 July, 2020.
 - Organized Webinar on "ICAR Research Data Repository for Knowledge Management" for ICAR-IIVR, Varanasi on August 06, 2020 (Rajender Parsad)
- Organized virtual Interactive Workshop on "ICAR Research Data Repository for Knowledge Management" for NRC on Pig, Guwahati on August 21, 2020.(N.H. Mohan and Rajender Parsad)
- Organized virtual Brainstorming Workshop on Identification of New Dimensions for Preparing National/Global Level Database on Women in Agriculture on 28 August, 2020. (Shashi Dahiya)
- Organized Webinar on "ICAR Research Data Repository for Knowledge Management" for ICAR-CSWRI, Avikanagar on September 09, 2020. (Rajender Parsad and Susheel Kumar Sarkar)
- Organized Steering Committee meeting of Project on "ICAR Research Data Repository for Knowledge Management" in virtual mode on September 24, 2020. (Rajender Parsad)

Publications

Research Papers Published in Referred Research Journals:

1. Anjoy, P and Chandra, H (2020). Disaggregate-level disparity in the incidence of poverty in Chhattisgarh. *Agricultural Economics Research Review*, **33 (1)**: 23-33.
2. Basak, P, Aditya, K, Chandra, H and Ajit (2020). *Two step calibration for estimation of finite population total under two-stage sampling design*. Project Report, ICAR-Indian Agricultural Statistics Research Institute, New Delhi. Project report number: I.A.S.R.I./P.R.-04/2020.
3. Bishnoi, DK, Malik, DP, Kumar, N, Bhatia, JK and Singh, D (2020). Climate Change Effect on Productivity of Major Crops in Western Haryana. *Indian Journal of Economics and Development*, **16**: 512-515.
4. Bohra, A, Jha, R, Lamichaney, A, Singh, D, Jha, UC, Naik, SJS, Datta, D, Maurya, AK, Tiwari, A, Yadav, V, Singh, F, Singh, IP, and Singh, NP (2020). Mapping QTL for important seed traits in an interspecific F2 population of pigeonpea. *3 Biotech*, **10**, Article number: 434. <https://doi.org/10.1007/s13205-020-02423-x>
5. Borgohain, A, Konwar, K, Buragohain, D, Varghese, S, Dutta, AK, Paul, RK, Khare, P and Karak, T (2020). Temperature effect on biochar produced from tea (*Camellia sinensis* L.) pruning litters: A comprehensive treatise on physico-chemical and statistical approaches. *Bioresource Technology*, **318**, 124023.
6. Chouhan, SKK, Kumar, V, Singh, M, Singh, D and Singh S (2019). Impact of Self-Help Groups on Generation of Income and Employment. *Agro Economist - An International Journal*, **6(2)**: 71-74.
7. Debnath, S, Attari, BL, Kumar, A, Kishor, A, Narayan, R, Sinha, K, Bhowmik, A, Sharma, A and Singh, DB (2020) Elucidating the influence of Peach (*Prunuspersica*Batsch) phenological stage on the short-term change in oxidizable and labile pools of soil organic C and C-cycle enzymes activity in the north western Himalayas, *Pedosphere*,**30(5)**: 638–650, doi:10.1016/S1002-0160(20)60026-1.
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9. Farooqi, MS and Kumar, D (2020), "Moments Properties of Exponentiated Exponential-Geometric Distribution Based On Generalized Order Statistics", *Journal of Applied Probability and Statistics*, **15(2)**:01-18.
10. Gupta, SK, Rao, DUM, Burman, RR, Gills, R, Sharma, DK and Bhowmik, A (2019). Assessing the level of knowledge of agro-ecological bases of contemporary water management innovations (CWMI) in dryland agro ecosystem and analysis of their correlates. *Journal of Community Mobilization and Sustainable Development*, **14 (2)**: 219-223.
11. Krishnan, V, Mondal, D, Bollinedi, H, Srivastava, S, Ramesh SV, Madhavan, L, Singh, A, Singh, AK and Praveen, S (2020). Cooking fat types alter the inherent glycaemic response of niche rice varieties through resistant starch (RS) formation, *International Journal of Biological Macromolecules*, **162**: 1668-1681. <https://doi.org/10.1016/j.ijbiomac.2020.07.265>.
12. Kumar, RR, Jha, GK, Choudhary, K and Mishra, DC (2020). Spatial integration and price transmission among major potato markets in India. *Indian Journal of Agricultural Sciences*.

- 90(3):** 581-584.
- 13.** Lama, A, Singh, KN, Shekhawat, RS and Gurung, B (2020). Price dynamics of major high valued seed spices in India: An econometric insight. *Journal of Crop and Weed*, **16(1)**: 110-119. <https://doi.org/10.22271/09746315.2020.v16.i1.1280>.
 - 14.** Mandal, BN, Parsad, R and Dash, S (2020). Construction of A-optimal Balanced Treatment Incomplete Block Designs: An Algorithmic Approach. *Communications in Statistics- Simulation and Computation*, **49(6)**:1653-1664. <http://krishi.icar.gov.in/jspui/handle/123456789/38041>.
 - 15.** Meher, PK, Satpathy, S and Rao, AR, (2020). miRNALoc: predicting miRNA subcellular localizations Based on principal component scores of physico-chemical properties and pseudo compositions of di-nucleotides. *Scientific Reports*, **10(1)**: pp.1-12
 - 16.** Mishra, DC, Arora, D, Kumar, RR, Goswami, S, Varshney, S, Budhlakoti, N, Kumar, S, Chaturvedi, KK, Sharma, A, Chinnusamy, V and Rai, A (2020). Weighted gene co-expression analysis for identification of key genes regulating heat stress in wheat. *Cereal Research Communications*, 1-9. <https://doi.org/10.1007/s42976-020-00072-7>.
 - 17.** Mishra, DC, Sikka, P, Yadav, S, Bhati, J, Paul, SS, Jerome, A, Singh, I, Nath, A, Budhlakoti, N, Rao, AR, Rai, A, Chaturvedi, KK (2020). Identification and characterization of trait-specific SNPs using ddRAD sequencing in water buffalo. *Genomics*. **112(5)**:3571-3578. doi: <https://doi.org/10.1016/j.ygeno.2020.04.012>.
 - 18.** Sahoo, Tanushree, Verma, MK, Dubey, AK, Thakre, M, Iquebal, MA, Bharadwaj, C and Saha, S (2020). Preharvest application of methyl jasmonate for improvement of berry quality and antioxidant capacity in 'PusaNavrang' grape (*Vitisvinifera*). *Indian Journal of Agricultural Sciences*, **90(4)**:813-817.
 - 19.** Sahu, S, Sahu, TK, Ghosal, S, Gaikwad, K and Rao, AR (2020). Computational analysis of SNPs and INDELs in cluster bean cultivars involved in multiple trait expression, *Indian Journal of Genetics*, **80(2)**:179-185.
 - 20.** Satyapriya, Singh, P, Bishnoi, S, Singh, S, Singh, KN, Ray, M and Dahiya, S (2019). Nutritional Health Multidimensional Locus of Control (HMLC) Instrument for Farming Community: Confirmatory factor analysis. *Indian Research Journal of Extension Education*, **55(3)**:25-29.
 - 21.** Sharma, A, Mishra, DC, Budhlakoti, N, Rai, A, Lal, SB and Kumar, S (2020). Algorithmic and computational comparison of metagenome assemblers. *Indian Journal of Agricultural Sciences*. **90 (5)**: 847-854.
 - 22.** Sikka, P, Nath, A, Paul, SS, Andonissamy, J, Mishra, DC, Rao AR, Balhara, AK, Chaturvedi, KK, Yadav, KK and Balhara, S (2020). Inferring Relationship of Blood Metabolic Changes and Average Daily Gain with Feed Conversion Efficiency in Murrah Heifers: Machine Learning Approach. *Frontiers in Veterinary Science*. <https://doi.org/10.3389/fvets.2020.00518>.
 - 23.** Thakur, AK, Singh, KH, Parmar, N, Sharma, D, Mishra, DC, Singh, L, Nanjundan, J, Yadav, S (2020). Population structure and genetic diversity as revealed by SSR markers in Ethiopian mustard (*Brassica carinata* A. Braun): a potential edible and industrially important oilseed crop. *Genetic Resources and Crop Evolution*. <https://doi.org/10.1007/s10722-020-00988-3>.

Reference-Manual /Manual/E-manual/Pamphlet:

- Hukum Chandra, Pradip Basak and Vandita Kumari (2020). Data Analysis and Interpretation. Reference Manual of training program for the Indian Statistical Service (ISS) probationers (41st batch), funded by the Ministry of Statistics & Programme Implementation, Govt. of India organized during August 17-28, 2020, ICAR-IASRI, New Delhi Publication. Total pages 336.
- Hukum Chandra, Pradip Basak and Vandita Kumari (2020). Data Analysis and Interpretation. Reference Manual of training program for the Indian Statistical Service (ISS) probationers (42nd batch), funded by the Ministry of Statistics & Programme Implementation, Govt. of India organized during September 14-25, 2020, ICAR-IASRI, New Delhi Publication.

Popular Article Published:

- Prabha, R, Singh, DP and Rai A(2020).“सूक्ष्म जीवों की कृषि गत उपयोगिता” Bhartiya Krishi Anusandhan Patrika,**35**, 94-97.
- कृष्ण कुमार चतुर्वेदी, अनिल राय, शशि भूषण लाल, यू.बी.अंगडि, मो.समीर फारूकी, अनु शर्मा एवं जय भगवान (2019–20).कृषि जैव सूचना के लिए अशोका सूपरकंप्यूटिंग का विकास।सांख्यिकी विमर्श,**15**: 106–110.
- अनु शर्मा, आरती सिंह, शशि भूषण लाल, कृष्ण कुमार चतुर्वेदी, मो.समीर फारूकी, डी. सी. मिश्रा, संजीव कुमार एवं नीरज बुधलाकोटी (2019–20).सिमेटिक और सॉफ्टवेयर एजेंट्स पर आधारित वेबपर्सनलाइज्ड सूचना बहाली।सांख्यिकी विमर्श,**15**: 93–97.

Book Chapter published:

- Akshay Dheeraj, Sapna Nigam, Shabana Begam, Sanchita Naha, Salam Jayachitra Devi, Himanshu Shekhar Chaurasia, Dilip Kumar, Ritika, S.K. Soam, N. Srinivasa Rao, Alka Arora, P.D. Sreekanth and V.V. Sumanth Kumar. (2020). Role of Artificial Intelligence (AI) and Internet of Things (IoT) in Mitigating Climate Change. In: Srinivasarao, Ch., Srinivas, T., Rao, R.V.S., Srinivasarao, N., Vinayagam, S.S., Krishnan, P. (Eds). Climate Change and Indian Agriculture: Challenges and Adaptation Strategies, ICAR-National Academy of Agricultural Research Management, Hyderabad, Telangana, India. 465-472.
- Alka Arora, Sudeep, Soumen Pal, SN Islam, Ajit, Ranjit Kumar Paul and P. Adhiguru (2020). KVK Knowledge Management System for Agriculture Extension Services in Indian National Agricultural Research and Extension Systems (NARES). In: A.K. Singh, Randhir Singh, P Adhiguru, R N Padaria, R Roy Burman and Alka Arora (Eds).Agricultural Extension: Socio Economic imperatives, Agricultural Extension Division, Indian Council of Agricultural Research, New Delhi, Pp-57-62.
- Prabha R, Sahu S, Charles S, Supriya P, Yuvaraj I, Balakrishnan M, Soam SK, Mangrauthia SK, Pandey MK and Srinivasa Rao Ch (2020). Role of genomics in agriculture in age of climate change. In: Srinivasarao, Ch., Srinivas, T., Rao, R.V.S., Srinivasarao, N., Vinayagam, S.S., Krishnan, P. (Eds). *Climate Change and Indian Agriculture: Challenges and Adaptation Strategies*, ICAR-National Academy of Agricultural Research Management, Hyderabad, Telangana, India. 539-560.

- Prabha R, Sahu S, Charles S, Supriya P, Yuvaraj I, Balakrishnan M, Soam SK, Mangrauthia SK, Pandey MK and Srinivasa Rao Ch. (2020). Application of Bioinformatics in Climate Smart Agriculture. In: Srinivasarao, Ch., Srinivas, T., Rao, R.V.S., Srinivasarao, N., Vinayagam, S.S., Krishnan, P. (Eds). *Climate Change and Indian Agriculture: Challenges and Adaptation Strategies*, ICAR-National Academy of Agricultural Research Management, Hyderabad, Telangana, India. 561-568.
- Saha, A., Singh, K.N., Ramasubramanian, V., Ray, M., Sinha, K., Rathod, S., Yadav, D.K., Patil, S.G. and Devi, M. (2020). Time series modelling and forecasting in agriculture: Basic to advanced, In *Advanced Agriculture*, Maitra, S. and Pramanick, B. (Eds.), New Delhi Publishers, New Delhi, 234-268.
- Sumanth Kumar VV Chandan Deb, A Subeesh, Samarth Godara, Asit Kumar Pradhan, Neetish Kumar, MD Ashraful Haque, Madhu, Soam SK, Srinivasa Rao N, Ravisankar H and Sreekanth PD (2020). Recent Advancements in Artificial Intelligence (AI) and Internet of Things (IoT) for Efficient Water Management in Agriculture. In: Srinivasarao, Ch., Srinivas, T., Rao, R.V.S., Srinivasarao, N., Vinayagam, S.S., Krishnan, P. (Eds). *Climate Change and Indian Agriculture: Challenges and Adaptation Strategies*, ICAR-National Academy of Agricultural Research Management, Hyderabad, Telangana, India. 473-484.

Book authored:

- A.K. Singh, Randhir Singh, P Adhiguru, R.N. Padaria, R. Roy Burman and Alka Arora (2020), *Agricultural Extension: Socio Economic imperatives*, Agricultural Extension Division, Indian Council of Agricultural Research, New Delhi pp 246.

Brochure/ Pamphlet developed:

- R.C. Agrawal, Prabhat Kumar, Tauqueer Ahmad, Sudeep, Anshu Bharadwaj, Soumen Pal (2020). *Krishi Vishwavidyalaya Chhatra Alumni Network (Brochure)*. ICAR-IASRI, New Delhi <http://krishi.icar.gov.in/jspui/handle/123456789/39462>
- R.C. Agrawal, Prabhat Kumar, K.P. Tripathi, G. Venkateshwarlu, Tauqueer Ahmad, Sudeep, Alka Arora, Anshu Bharadwaj, Soumen Pal (2020). *Portal for Accreditation of HAEIs: Information Brochure*. ICAR-IASRI, New Delhi. pp1-4. <http://krishi.icar.gov.in/jspui/handle/123456789/39463>
- R.C. Agrawal, Prabhat Kumar, Tauqueer Ahmad, Sudeep, Alka Arora, V. Ramasubramanian, Anshu Bharadwaj, Mukesh Kumar, Shashi Dahiya, Pal Singh, S.N. Islam, Soumen Pal, Mrinmoy Ray, Achal Lama, Sunil Bhatia, Virender Kumar, Ch. Srinivasa Rao, S.K. Soam, D. Thammi Raju, N. Srinivas Rao, V.V. Sumanth Kumar, Subhash Chand, A.K. Choubey, Nilesh Shukla, Himanshu, K.P. Singh, A.K. Mishra (2020). *Krishi-Megh NARES Cloud Infrastructure and Services*. ICAR-IASRI, New Delhi. pp1-4. <http://krishi.icar.gov.in/jspui/handle/123456789/39464>
- P.S. Pandey, Nidhi Verma, Soumen Pal, Sudeep, Alka Arora, Sourabh Tyagi and Anubhav Rai (2020). *Direct Benefit Transfer (DBT) MIS for DARE-ICAR: Information Brochure*. ICAR-IASRI, New Delhi. pp1-4.: <http://krishi.icar.gov.in/jspui/handle/123456789/39592>

Other Publication:

- Ahmad, T., Sahoo, P.M., Biswas, A., Singh, D., Kumar, R. and Basak, P. (2020). Agricultural Research Data Book 2020. ICAR-IASRI Publication.

LECTURES DELIVERED:

Outside

1. Rajender Parsad
 - Delivered two lectures entitled “Web Resources on Design of Experiments” and “Statistical Computing and Indian NARS Statistical Computing Portal” on July 17, 2020 and July 21, 2020 respectively to the participants of online refresher course on “Statistical tools and techniques for analysis of agricultural data for teachers and scientists of SAUs” organized by Academy of Agricultural Research and Education Management, CCS HAU, Hisar during July 08-28, 2020.
 - Delivered lectures in Webinar on “ICAR Research Data Repository for Knowledge Management” for ICAR-IIVR, Varanasi on August 06, 2020.
 - Delivered lectures in webinar on “ICAR Research Data Repository for Knowledge Management” for Scientists of NRC on Pig, Guwahati on August 21, 2020.
 - Delivered two lectures on (i) Multivariate Analysis Techniques and (ii) Data and Online Learning Web Resources in the training programme on Data Analysis and Interpretation organized for the ISS Probationers sponsored by NSSTA, Ministry of Statistics and Programme Implementation during August 17-28, 2020. The lectures were delivered via MS Team (lectures were delivered on August 20 and 27, 2020).
2. Seema Jaggi delivered lectures online through Google Meet on Testing of Hypothesis (July 14, 2020 and Analysis of Experimental Data using SPSS (July 23, 2020) in the Refresher Course on Statistical Tools and Techniques for Analysis of Agricultural Data for the teachers and scientists of SAUs during July 8-28, 2020 organized by the Academy of Agricultural Research and Education Management Directorate of Human Resource Management (invited by CCS Haryana Agricultural University, Hisar).
3. Ranjit Kumar Paul delivered lecture entitled “Basics of Statistics and SPSS application’ in an International Workshop on “Application of Statistics in Science and Technology using SPSS” organized by World Food Preservation Center, USA during August 8-10, 2020.
4. Ramasubramanian V. delivered a lecture entitled “Linear, Non-linear and logistic regression in fisheries data analysis” on August 25, 2020 in the online training programme on “Data analytics in fisheries” conducted by Tamil Nadu Dr. J. Jayalalithaa Fisheries University (TNJFU), Nagapattinam during August 10, 2020 to September 03, 2020.
5. Ramasubramanian V. delivered a lecture entitled “Linear and Nonlinear Regression models in Agriculture” in the Webinar on "Application of Statistical Models in Agricultural Sciences-An Overview" on August 12, 2020 organized by AC&RI, TNAU Madurai Campus, Tamil Nadu.

PAPERS PRESENTED

Invited Talks:

- Rajender Parsad delivered an invited talk on Research Data Management and Scientific Communication to the participants of Virtual Soft Skill Development Programme on Scientific Writing in Social Sciences organized by University of Agricultural Sciences, Dharwad under NAHEP-Institutional Development Plan on July 06, 2020 through Zoom.
- Rajender Parsad delivered an invited talk on Web Resources and Statistical Computing to the participants of Webinar on Experimental Research in Social Science organized by Bihar Agricultural University, Sabour, Bhagalpur (Dr Kalam College, Kisanganj) on July 13, 2020 through Zoom.
- Cini Varghese delivered an invited webinar talk on “Incomplete block designs for agricultural experimentation” in Technical Session No. 13 on July 1, 2020, which was chaired by Prof. Subrata Chakraborty, Dibrugarh University in the fourth national seminar on recent trends in statistical theory and applications-2020 [NSSTA-2020] organized during June 29- July 01, 2020.
- Anuja A R delivered an invited talk on the topic “Crop Diversification towards high value crops for enhancing farm income during the COVID-19 Pandemic” in the national webinar on “COVID-19 Pandemic: Innovative Agri-Solutions in Vegetable Sector” organized by ICAR-Indian Institute of Vegetable Research, Varanasi on July 03, 2020.

PARTICIPATION

Participation in Conference/ Workshop/ Seminar/ Symposia/Training/Foundation Course/ Annual Day/ Lectures etc.

1. Anshu Bharadwaj attended a webinar on ARCGIS Enterprise-Introduction organized by ESRI India on June 05, 2020.
2. Seema Jaggi participated in the online meeting on End-to-End user testing of DBT scheme AGEdn-IASRI Scholarship on July 6, 2020 and also the Demo of Service Plus Software for digitization on July 24, 2020.
3. Rajender Parsad attended virtual launch of IFPRI South Asia Discussion of the 2020 Global Food Policy Report organized by IFPRI in collaboration with the Indian Council of Agricultural Research (ICAR) and the Trust for Advancement of Agricultural Sciences (TAAS), on July 6, 2020 to present the highlights of the report in South Asian context.
4. Alka Arora and Anshu Bharadwaj attended online training program on “Stress Management” organized by NAARM, Hyderabad during July 7-9, 2020.
5. Rajender Parsad attended virtual Conference of ESRI User Conference India Live during July 14-16, 2020.
6. Cini Varghese and Mohd Harun attended IISA 2020 Student Paper Competition virtual presentations organized on eventbrite by International Indian Statistical Association on July 18, 2020.
7. Cini Varghese attended fourth national seminar on recent trends in statistical theory and

- applications-2020 [NSSTA-2020] organized during 29 June- 01 July 2020. It was organized by University of Kerala in connection with "National Statistics Day Celebrations 2020" and as a part of the "Platinum Jubilee Celebrations" of Department of Statistics, University of Kerala, Trivandrum, in association with Indian Society for Probability and Statistics (ISPS) and Kerala Statistical Association.
8. Attended the inaugural session of 28th Annual Review Workshop of AINP on Pesticide Residues on July 23, 2020 where the website of AINP on Pesticide Residues was released by Honourable DDG (CS), ICAR. (Rajender Parsad and Dr. Arpan Bhowmik)
 9. Attended AICRP-IFS (ON FARM) briefing meeting on July 23, 2020 related to the presentation made by Secretary, DARE and DG, ICAR in front of PMO. (Cini Varghese, Sukanta Dash, Arpan Bhowmik, Devendra Kumar and Rachit)
 10. Arpan Bhowmik attended a one day online NAHEP Workshop for the Nodal Officers of Agricultural Universities on July 31, 2020.
 11. Kanchan Sinha has participated in a national level web based seminar on "Recent Trends in Statistical Theory and Application" organized by department of Statistics, University of Kerala during June 29 to July 01, 2020.
 12. Hukum Chandra attended Webinar on "Pandemics and Food Security-Has India's food system become resilient to shocks?" organized by Indian Association for the Study of Population (IASP), New Delhi on July 24, 2020.
 13. Hukum Chandra attended Webinar on COVID-19 Town Hall sponsored by the ASA, ISI and NISS on July 17, 2020.
 14. Prachi Misra Sahoo attended ESRI UC India Live Conference during July 14-16, 2020 regarding new GIS technology and applications.
 15. Shashi Dahiya, Achal Lama, Mrinmoy Ray and Ramasubramanian V. participated in Two Weeks Online Faculty Development Program on "Artificial Intelligence and Machine Learning Using Python" organized by Finland Labs in association with National Social Summit, IIT Roorkee during July 13-24, 2020.
 16. K.K. Chaturvedi participated in 6th International Summer School (online) on AI and Big Data organized by German Center for Scalable Data Analytics and Artificial Intelligence, University of Leipzig, Germany during July 7-8, 2020.
 17. K.K. Chaturvedi participated in the Webinar on Hyperspectral imaging: Introduction & challenges in Field, Airborne application organized by Sinsil Intl. Pvt Ltd on July 15, 2020.
 18. Mohammad Samir Farooqi attended International Webinar on "COVID-19 Pandemic: Crisis and Aftermath" organized by Department of Biochemistry and Biochemical Engineering, SHUATS, Prayagraj during 20-21 July, 2020.
 19. Sarika and M.A. Iquebal attended Kosambi International Webinar Series on Plant Genomics organized by Savitribai Phule Pune University (SPPU), Pune during July 31-August 02, 2020.
 20. Ranjit Kumar Paul participated in one day International webinar on "Statistics and its Application" conducted on August 08, 2020 by West Bengal State University, Kolkata.
 21. Ranjit Kumar Paul participated in one week online faculty development program on "Recent Advances in Mathematics and Statistics" in connection with birth centenary of Prof. C. R. Rao jointly organized by Department of Mathematics, Institute of Science and Center for Learning and Sustainability, GITAM (Deemed to be university), Visakhapatnam, Andhra Pradesh, India during August 03-08, 2020.

22. Sudeep, Alka Arora, Mukesh Kumar, Anshu Bharadwaj, Shashi Dahiya, Soumen Pal, SN Islam and Pal Singh who were instrumental in development of “Krishi Megh” (“NARES-Cloud Infrastructure and Services”) attended the online Inaugural function of the launch of “Krishi Megh” by Hon’ble Union Minister of Agriculture & Farmers Welfare and Minister of Rural Development & Panchayati Raj, Shri Narendra Singh Tomarji virtually on August 11, 2020.
23. S.B. Lal attended a National Webinar on ‘Abiotic Stress in Agriculture: Geospatial Characterization and Management Options’ held on August 27, 2020 organized by ICAR-NIASM, Baramati.
24. D.C. Mishra attended Qualifying Viva Voce Examination of Ph.D. Student (Bioinformatics), Bulbul Ahmad on 14th August, 2020.
25. Seema Jaggi participated as a Panelist in a Webinar on New Education Policy in Agriculture Sector on August 14, 2020 organized by IARI for Faculty and students.
26. Rajender Parsad participated in virtual Brainstorming Workshop on Identification of New Dimensions for Preparing National/Global Level Database on Women in Agriculture organized at ICAR-Central Institute for Women in Agriculture, Bhubaneswar on August 28, 2020.
27. B.N. Mandal participated in two-days virtual workshop on "Long-Term Fertilizer Experiments: Achievements and Future Strategies" during August 11-12, 2020.
28. B.N. Mandal and Arpan Bhowmik attended webinar on "New Education Policy in Agriculture" on August 14, 2020 organized by Post Graduate School, IARI.
29. Arpan Bhowmik attended webinar on "ICAR Research Data Repository for Knowledge Management for ICAR-IIVR, Varanasi on August 06, 2020.
30. Arpan Bhowmik attended virtual Interactive workshop on "ICAR Research Data Repository for Knowledge Management for NRC on Pig, Guwahati" on August 21, 2020.
31. Anindita Datta attended an online Training Programme on “Analysis of Experimental Data using R” during August 05-11, 2020 organized by ICAR-NAARM, Hyderabad.
32. Vandita Kumari participated in five days International Webinar on "Cryptography and its applications" organized during August 26-30, 2020 by Department of Statistics, West Bengal State University, IAI, TCG CREST and Indian Statistical Institute, Kolkata.

CONSULTANCY/ADVISORY SERVICES PROVIDED:

- Arpan Bhowmik gave advisory service to Dr. Nazia Manzar, Scientist, ICAR-NBAIM, Mau on the use of analysis of variance including power of the test for studying biocontrol potential of native *Trichoderma* spp. against anthracnose of great millet (*Sorghum bicolor* L.) from Tarai and hill regions in India. Besides that, advisory service was also provided on principal component analysis and hierarchical cluster analysis.
- Arpan Bhowmik gave advisory service to Dr. Hillo Chakdar, Scientist, ICAR-NBAIM, Mau on the use of Fuzzy C-Means (FCM) clustering performed for the data generated from morphometry. Separate clustering was carried out for heterocystous and non-heterocystous cyanobacteria. There were total 97 cyanobacteria involved in the study.
- Mohd. Harun advised Dr. Archana Sanyal, Scientist, ICAR-CAZRI, Jodhpur regarding data analysis. The factorial experiment under RCBD set up was carried out to study the effect of

priming five treatments (Control, hydro-primed, Solid-Matrix-Primed, Halo-primed and Osmo-primed) on two seed lots (PusaVrishti and Pusa Red). There were nine parameters, for each of which analysis was performed. Transformation of data was used for two of the parameters which were percentage derived from count data. ANOVA along with multiple comparisons (Tukey HSD) was performed.

- Anuja A R provided advisory service on estimation of technical efficiency of fisheries farmers to Abhilash Thapa, M.Sc. Fisheries Economics, ICAR-CIFE, Mumbai.
 - Achal Lama analyzed data on different plant parameters using PCA for Neeraj Biswakarma, Ph.D. (Agronomy) student, ICAR-IARI, New Delhi.
 - Kanchan Sinha provided advisory service on applicability of different linear and non-linear statistical and machine learning model for modelling and forecasting of onion and tomato price forecast for different major markets in Haryana to Dr. Monika Chaudhary, Assistant Professor, CCS HAU, Hisar.
 - M.A. Iquebal advised Dr Swarna Laxmi, Principal Scientist, ICAR-IARI, New Delhi regarding the metagenomics data analysis.
 - Sarika advised Dr. Partha Saha, Scientist, ICAR-IARI, New Delhi regarding molecular marker data analysis.
 - D.C. Mishra advised Dr. Gyan Mishra, Senior Scientist, ICAR-IARI, New Delhi regarding transcriptome data analysis.
 - D.C. Mishra advised Dr. Navin Chandra Gupta, Scientist, NIPB, regarding secretome data analysis.
 - Mohd. Harun advised a Ph.D. student, Mr. Anil Patidar from Division of Plant Genetic Resources of PG School IARI, New Delhi on the analysis of data collected via an experiment involving wheat crop. The experiment involved the two basic types of wheat i.e. Normal Sowing and Late Sowing Cultivars. The data was collected on more than 30 parameters (Grain yield, Biomass, Harvest index, Seed length, Seed width, Total grain weight, Flag leaf length, Physiological maturity, etc.) for the years 2018-19 and 2019-20. Correlation matrix was obtained for the data set. Factor analysis was performed and using the PCA method of extraction, 8 components (explaining 80% of total variability) were extracted. The cluster analysis was also performed and the Dendograms were also prepared.
 - Achal Lama advised Neeraj Biswakarma, Ph.D. (Agronomy) student, ICAR-IARI, New Delhi-110012 in Analyzing data on different plant parameters using PCA.
- Harish Kumar H.V. advised Chandrashekar S Kallimani, Scientist (Sericulture), KVK, Chamrajanagar, UAS, GKVK, Bangalore in carrying out Discriminant function analysis for the sericulture data.

SOFTWARE DEVELOPED

***Statistical and Geographic Information System/ Data bases/mobile apps developed
Technology Assessed /Transferred***

- Prepared maps for Data Book 2020 in five sections: Natural Resources, Animal Husbandry, Dairying and Fisheries, Horticulture, Production and Productivity, Agricultural Engineering and Management (Data Book 2020 Editorial team).

Technology Assessed /Transferred

1. Implementation of MIS/FMS in all ICAR institutes
2. HYPM
3. KRISHI
4. FFP
5. KVK Portal
6. Education Portal
7. Animal Reproduction App (in collaboration with ICAR-IVRI, Bareilly)
8. Pig Farming App (in collaboration with ICAR-IVRI, Bareilly).

Personnel - Transferred/ Promoted/ Superannuated/ Expired etc.

Wish you a Happy Retired Life

Name	Designation	Effective Date
Smt. Usha Jain	ACTO, OIC-Hindi Cell	30.06.2020
Sh. Chedi Prasad	SSS	30.06.2020
Smt. Kanta Behl	Assistant	31.07.2020
Sh. K.B. Sharma	AAO	31.07.2020
Smt. Anita Malik	Assistant	30.09.2020

Congratulations on your Promotion/New Assignment/New Joining

Name	From/To	Effective Date
Smt. Meenu Kohli	From Personal Assistant to Personal Secretary, IASRI	16.07.2020
Sh. Chander Vallabh	From AAO to Administrative Officer, ICAR-NCAP	21.07.2020
Sh. K.K. Hans	From Assistant to AAO, IASRI	02.09.2020
Sh. S.K. Gupta	Senior Finance and Account Officer	15.09.2020

Transfer/ Resignation

Name	Designation	Effective date
Sh. Neerav Harit	L.D.C.	Technical Resignation, relieved on 17.08.2020

Other News

- Sh. Vijay Kumar, who was working with Hindi Cell, passed away on July 01, 2020.
- Sh. Upendra Kumar Pradhan, Scientist re-joined on July 13, 2020 at ICAR-IASRI after completing his study leave.

- The deputation period of Dr. Bishal Gurang, Scientist has been extended for additional one year adhoc period till July 19, 2021.
- Smt. Chandrakala Bakolia, Assistant, Smt.Laxmi Devi, Personal Assistant and Sh. Nanak Chand, Personal Assistant got implementation of the third MACP on 10.08. 2020, 25.08.2020 and 03.09.2020 respectively.



एक कदम स्वच्छता की ओर



हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch

Compiled and Edited by

Tauqueer Ahmad

Ajit

Ramasubramanian V.

Technical Assistance:

Anil Kumar Kochlay

V.P. Singh

Naresh Kumar

Neha Narang

Published by

Director

ICAR-Indian Agricultural Statistics Research Institute

Library Avenue, Pusa, New Delhi - 110 012 (INDIA)

E-mail: director.iasri@icar.gov.in;

pme.iasri@icar.gov.in

Website: <https://iasri.icar.gov.in>

Phone: +91 11 25841479

Fax: +91 11 25841564