



# IASRI

## NEWS



Volume 16

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January-March, 2012

- Research Achievements
- Human Resource Development
- Panorama of Activities
- Awards and Recognition
- Publications
- Lectures Delivered
- Participation
- Consultancy/Advisory Services
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### From Director's Desk . . .

This newsletter highlights some of the salient research and training achievements made and other significant activities performed during the period under report.

For providing service oriented computing, Indian NARS Statistical Computing portal has been strengthened by adding the link of augmented block designs. For Half-Yearly Progress Monitoring (HYPM) of the Scientists in ICAR, a web based software for online submission of half yearly progress report of the scientists has been designed and developed. Geographically weighted empirical best

linear unbiased predictor for small area means has been developed under area level model. Portal for submission of genomic data and four different genomic databases have been developed and opened for beta testing.

One international training programme on Application of Remote Sensing and GIS in Agricultural Surveys, sponsored by AARDO was organised.

Three national training programmes were conducted which include two under NAIP on Data Mining using SAS at IASRI and Data Analysis Using SAS at NDUAT, Fiazabad and one under CAFT on Online Content Creation and Management in an eLearning Environment. 64 participants attended these training programmes.

Scientists of the Institute received various Awards and Recognition few of them were Dr. Prajneshu elected as Fellow of NAAS, Dr. UC Sud was nominated by the Ministry of Statistics and Programme Implementation as Non-official Member for Constitution of working Group for formulating methodology, Dr. Eldho Varghese received IARI merit medal (Agricultural Statistics) in the Golden Jubilee Convocation of IARI, New Delhi and Dr Hukum Chandra elected as Member of International Statistical Institute, Netherland.

Five new projects were initiated. Scientists of the Institute published 23 research papers, 3 book chapters, 2 popular articles and participated in number of meetings/ conferences/ symposia/ workshops, etc.

It is hoped that the contents of this document would be informative and useful for scientists in NARS. Any suggestions for improving the contents of the newsletter further would be highly appreciated.

(VK Bhatia)

## RESEARCH ACHIEVEMENTS

- **Strengthened Indian NARS Statistical Computing Portal (<http://stat.iasri.res.in:8080/sscnarsportal>)**  
For providing service oriented computing, Indian NARS Statistical Computing portal was established under NAIP Consortium on Strengthening Statistical Computing Portal for the users of NARS. Analysis of data generated from any block design (complete or incomplete), split plot design and combined analysis of block designs is available on this portal. During the quarter, the portal has been strengthened by adding analysis of data generated from augmented block designs. The service oriented computing module for block designs has been updated to accommodate the designs in which treatments are appearing more than once in a block. There are 4587 hits from NARS outside Indian Agricultural Statistics Research Institute, out of which 810 for during this quarter.
- **Half-Yearly Progress Monitoring (HYPM)**  
To implement Dr. PL Gautam's Committee recommendations on DG Half-Yearly Progress Monitoring (HYPM) of the Scientists in ICAR, a web based software for online submission of half yearly progress report of the scientists has been designed and developed at IASRI, New Delhi. This software will be implemented from April 01, 2012. Four zone-wise Sensitization cum Training workshop for the Officer-in-charge of PME Cells (Nodal Officers) of all ICAR institutes have been organized. A total number of 116 participants from 84 Institutes /Bureaus/ Directorates / NRCs participated in the workshops. In all the workshops, detailed presentation including introduction of HYPM, the objectives of the workshop and the role and responsibilities of Nodal Officers to maintain the HYPM website from their respective institutes were given by HYPM team. In particular the prerequisite activities that need to be executed by the PME Cell In charge - Nodal Officer at their respective institute before implementation of HYPM system were discussed in detail.
- **Linear Trend Free Block Designs Balanced for Spatial Indirect Effect from Neighbouring Experimental Unit**  
Indirect effects are effects which occur in an experiment due to the units which are adjacent (spatially or temporally) to the unit being observed. Considering more than one relationship between observations on units over space, the methodology for estimating the direct and spatial (neighbour) indirect effect has been developed under a block design setup with neighbour effect and incorporating trend component. Two series of linear trend free block (one complete and one incomplete) designs have been obtained that are totally balanced for estimating direct and spatial (neighbour) indirect effect of treatments.
- **Spatial Nonstationarity in Small Area Estimation under Area Level Model**  
For the study geographically weighted empirical best linear unbiased predictor for small area means has been developed under area level model. The developed estimator of small area mean is based on geographical weighted regression approach to incorporate the spatial nonstationarity present in the data. In particular, the developed method captures the local variation or relationship between the variable of interest and available auxiliary information via location specific models in small area estimation.
- **National Agricultural Bioinformatics Grid**  
Portal for submission of genomic data and four different genomic databases has been developed and opened for beta testing. Process of development of machine learning tools of detection of antimicrobial peptides has been initiated. Gene expression of salt tolerant halophilic bacteria has been studied and genes were identified for further cross validation.

## HUMAN RESOURCE DEVELOPMENT

### Post Graduate Teaching

Seven M.Sc. (Agricultural Statistics), 03 Ph.D. (Agricultural Statistics) and 06 M.Sc. (Computer Application) students received their Degrees in 50th Convocation of PG School, IARI held on 20 February 2012. One student received IARI merit medal (Agricultural Statistics) for outstanding research work as a part of Ph.D programme.

### Training Programmes Organised

S.No.	Title	Course Director & Co-Director(s)/ Coordinator(s)	Date	Sponsored by	No. of Participants
<b>International</b>					
1.	Application of Remote Sensing and GIS in Agricultural Surveys	Dr. Prachi Misra Sahoo, Dr. KN Singh & Dr. Tauqeer Ahmed	18 January to 07 February 2012	Afro Asian Rural Development Organisation (AARDO)	07
<b>National</b>					
2.	Online Content Creation and Management in an eLearning Environment	Smt. Shashi Dahiya	03 -23 January 2012	Centre of Advanced Faculty Training, ICAR	16
3.	Data Mining Using SAS	Dr. Rajender Parsad, Md. Samir Farooqi & Smt. Anshu Bhardwaj	06-11 February 2012	NAIP Consortium Strengthening Statistical Computing for NARS	18
4.	Data Analysis Using SAS *	Dr. Rajender Parsad, Dr. Seema Jaggi & Dr. Sunil Kumar (NDUA&T, Faizabad)	19-24 March	NAIP Consortium Strengthening Statistical Computing for NARS	23
* Organised at Narendra Deva University of Agriculture & Technology, Faizabad					

## PANORAMA OF ACTIVITIES

### QRT Meetings

- Three meetings of QRT were organised on 21 January 2012 for Computer Application and Sample Survey Divisions presided by Prof. Karmeshu and Dr. S.K.Das respectively, second meeting was organised on 24 January 2012 for Forecasting and Econometric Techniques and Biometrics and Statistical Modeling Divisions presided by Dr. Padam Singh and Dr. RPS Malik respectively. All the Scientists of the respective Divisions participated in the meeting and third meeting was organised on 28 February 2012 to assess the work of the scientists for Centre for Agricultural Bio-informatics presided by Dr. Padam Singh, Prof. Karmeshu and Dr. T.R. Sharma. All the Scientists of the Centre participated in the meeting.

## Seminars Delivered

Seminars in different areas of Agricultural Statistics and Computer Application were delivered. These seminars include presentation of salient findings of the completed research projects by the scientists, thesis/ORW/course seminars of students of M.Sc. and Ph.D. (Agricultural Statistics) and M.Sc. (Computer Application) and Guest seminars.

Two Guest seminars during the period were delivered by Prof. Vincent Ducrocq, Senior Scientist, National Institute of Agricultural Research (INRA), Paris, France on Advances in Genetic Evaluations of Cattle Population and by Dr. B. Jayaram, Professor, IIT, New Delhi on Bhageerat - Targeting the Near Impossible Pushing the Frontiers of Atomic Models for Protein Tertiary Structure Prediction.

The Details of Seminars Delivered

Category	Type of seminar	Number
Student	Course	16
	ORW	15
Scientist	Project Proposal	05
	Project Completion	03
Guest		02
<b>Total</b>		<b>41</b>

## New Projects / Schemes / Programmes

The following new projects were initiated:

- Implementation of Management Information System (MIS) including Financial Management System (FMS) in ICAR w.e.f. 19.01.2012
- A study of stochastic volatility models through particle filtering w.e.f. 02.02.2012
- Mating-environmental designs under two-way blocking set up w.e.f. 15.03.2012
- Web based software for codon usage analysis for gene expression identification w.e.f. 16.03.2012
- Main effects linear trend-free multi level factorial experiments w.e.f. 27.03.2012

## AWARDS AND RECOGNITION

- Dr. Prajneshu elected as Fellow of National Academy of Agricultural Sciences with effect from January, 2012
- Dr. UC Sud was nominated by the Ministry of Statistics and Programme Implementation as Non-official Member for Constitution of working Group for formulating methodology for the 70th Round of NSS.
- Dr. Eldho Varghese received IARI merit medal (Agricultural Statistics) in the Golden Jubilee Convocation of Indian Agricultural Research Institute which was held on February 20, 2012 for outstanding research work as a part of Ph.D. programme
- Dr. MA Iquebal has been appointed as Editor for Journal of Food Legumes.
- Dr. Ramasubramanian V. elected as Joint Secretary of the Society of Statistics, Computer and Applications from 2012-13 onwards.
- Dr Hukum Chandra elected as Member of International Statistical Institute, Netherlands.

## PUBLICATIONS

### Research Papers

1. Abeynayake, NR, Jaggi, Seema and Varghese, Cini (2012). Neighbour balanced block designs for test treatments-control comparisons. *Int. J. Maths. Statist.* . **12(2)**, 81-96.
2. Babbar, A, Prakash, V, Tiwari, P and Iquebal, MA (2012). Genetic variability for chickpea (*Cicer arietinum* L.) under late sown season. *Legume Res.*, **35 (1)**, 1-7.
3. Bharadwaj, Anshu, Dahiya, Shashi and Jain, Rajni (2012). Discretization based SVM model for classification of agricultural datasets. *Int. J. Computer Appl.*, **40(1)**, 8-12.

4. Chandra, H and Sud, UC (2012). Small area estimation for zero-inflated data. *Comm. Statist. - Simulation and Computation*. **41 (5)**, 632–643.
5. Chattopadhyay, C, Bhattacharya, BK, Kumar, Vinod, Kumar, Amrender and Meena, PD (2011). Impact of climate change on pests and diseases of oilseeds brassica – the scenario unfolding in India. *J. Oilseed Brassica*, **2(2)**, 48-55.
6. Chilana, Poonam, Sharma, Anu and Rai, Anil (2012). Insect genomic resources: status, availability and future. *Current Sci.*, **102 (4)**, 571-580.
7. Dash, J, Sarangi, A, Singh, AK, Sahoo, RN, Bhar, LM and Dutta, SP (2011). Dynamics and budgeting of Nitrate in crop root zone for assessment of groundwater pollution in the IARI farm. *Pusa AgriScience*, **34**, 79-86.
8. Dash, Sukanta, Wahi, SD and Rao, AR (2012). Classification of maize genotypes by artificial neural network-based method: self organizing feature map. *Ind. J. Agril. Sci.*, **82(2)**, 161-163.
9. Ghosh, H, Das, A, Bhattacharya, BK, Kumar, V, Kumar, A, Meena, PD, and Chattopadhyay, C (2012). Impact of climate change on pests and diseases - The scenario unfolding in Indian agriculture. *SATSA Mukhapatra-Anal. Tech.*, **16**, 15-29.
10. Islam, Shahnawazul, Kundu, Sushila, Shoran, Jag, Sabir, Naved, Sharma, Kirti, Farooqi, Samir, Singh, Randhir, Agarwal, Hari Om, Chaturvedi, KK, Sharma RK, and Sharma, AK (2012). Selection of wheat (*Triticum aestivum*) variety from expert system on wheat. *Ind. J. Agril. Sci.*, **82(1)**, 39-43.
11. Jha, GK, Sivaramane, N, Padaria, RN, Singh, NP and Kumar, Ranjit (2011). Identifying the determinants of poverty in rural and urban India. *Ind. J. Extn. Edu.*, **47(1&2)**, 75-79
12. Johnson, B, Vijayaragavan, K, Singh, Premlata, Mathur, VC, Jaggi, Seema and Sharma, DK (2011). Innovations and local adaptations in adoption of system of rice intensification. *Pusa AgriScience*, **34**, 87-95.
13. Krishan Lal, Parsad, Rajender and Gupta, VK (2012). Robustness of block designs on the basis of pairwise treatment comparisons against missing data. *Model Assisted Statist. Appl.*, **7**, 75–80.
14. Kumar, Anil, Panwar, Sanjeev and Choudhary, VK (2011). Fitting linear/nonlinear models using long-term fertility experiments. *Int. J. Agril. Statistical Sci.*, **7 (2)**, 645-650.1.
15. Kumar, J, Jaiswal, V, Kumar, A, Kumar, N, Mir, RR, Kumar, S, Dhariwal, R, Tyagi, S, Khandelwal, M, Prabhu, KV, Parsad, Rajender, Balyan, HS and Gupta, PK (2011). Introgression of a major gene for high grain protein content in some Indian bread wheat cultivars. *Field Crops Research*, **123(3)**, 187-280.
16. Kumar, Shiv Kant, Lal IB and Lal, SB (2012). Fixed – charge bi-criterion transportation problem, *Int. J. Computer Appl.*, **2(1)**, ISSN:2250-1797.
17. Lal, SB and Sharma, Anu (2012). SSDA -A Windows Based Software for Survey Data Analysis. *Int. J. Phy. Soc. Sci. (IJPSS)*, **2(4)**, 381-389 ISSN: 2249-5894. URL: [http://www.ijmra.us/project%20doc/IJPSS\\_APRIL2012/IJMRA-PSS941.pdf](http://www.ijmra.us/project%20doc/IJPSS_APRIL2012/IJMRA-PSS941.pdf)
18. Narayanan, G, Singh, Premlata, Vijayaragavan, K, Rao, DUM, Mathur, VC and Jaggi, Seema (2011). Profile of self-help group micro-entrepreneurs under swarnajayanti gram swarozgaryojana in Tamil Nadu. *Pusa AgriScience*, **34**, 100-107.
19. Saxena, Hem, Duraimurugan, Ponnusamy and Iquebal, MA (2012). Seasonal parasitism and biological characteristics of *Habrobracon hebetor* (Hymenoptera: Braconidae) – a potential larval ectoparasitoid of *Helicoverpa armigera* (Lepidoptera: Noctuidae) in chickpea ecosystem. *Biocontrol Sci. Tech.*, **22 (3)**, 305-318.

20. Sewak, Shiv, Iquebal, MA, Singh, NP, Solanki, RK and Sarika (2012). Genetic diversity studies in chickpea (*Cicer arietinum*) germplasm. *J. Food Legumes*, **25**, 31-36.
21. Sharma, Anu and Lal, SB (2012). SSDA analysis - A class library for analysis of sample survey data. *Int. J. Modern Engi. Res.*, **2 (1)**, 2012, 242-246.
22. Singh, Nripendra V, Singh, Sanjay K, Singh, Anand K, Meshram, Deodas T, Surosh, Sachin S and Mishra, DC (2012). Arbuscular Mycorrhizal Fungi (AMF) induced hardening of micropropagated pomegranate (*Punica granatum L.*) plantlets. *Scientia Horticulturae*, **136**, 122-127.
23. Sivaramane N and Mathur, VC (2011). Structural changes in the export of coffee and tea from India. *Pusa Agriscience*, **34**, 108-112
24. Sonawane, MN, Varghese, Cini and Jaggi, Seema (2011). Repeated measurements designs for comparing two disjoint sets of formulations in bioequivalence trials. *J. Appl. Statist. Sci.*, **19(1)**, 89-98.

### Book Chapters

1. Chattopadhyay, C, Bhattacharya, BK, Kumar, Vinod, Kumar, Amrender and Meena, PD (2011). Epidemiology and forecasting of diseases for value-added agro-advisory. *Plant Pathology in India: Vision 2030*: Indian Phytopathological Society, 132-140.
2. Singh, Murari, Gupta, Sudhir and Parsad, Rajender (2012). Genetic crosses experiments. *Design and Analysis of Experiments: Special Designs and Applications*, First Edition, Edited by Klaus Hinkelmann. John Wiley and Sons, Inc., 1-71
3. Singh, DR, Kumar, Suresh and Sivaramane, N (2012). Micro-Irrigation: Economics and Outreach in Rajasthan, in "*Micro-Irrigation-Economics and Outreach*", eds. K. Palanisami, S.Raman and Kadiri Mohan, International Water Management Institute, Hyderabad and Agricultural Economics Research Review, New Delhi publication, *Macmillan Publishers India Ltd*, 185-211.

### Popular Articles

1. Singh, DR, Srivastava, Sivendra Kumar, Kumar, Anil and Sivaramane N. Bharat ke nichale-gangeeya maidanon main bhujal ke vikash main bhujal bajaron ka yogdhyan. *Krishi Jal*, 1, 2011 (Directorate of Water Resources, Bhubaneswar).
2. Singh, DR, Sivendra Kumar, Srivastava, Kumar, Suresh, Kumar, Anil and Sivaramane N. Bharat main fawwara sinchai praudyogiki ka failav ewam krishi arthvyawastha par prabhav. *Krishi Jal*, **2**, 2011 (Directorate of Water Resources, Bhubaneswar).

### INVITED LECTURES DELIVERED

- Second workshop-cum-installation training for Nodal Officers held at CIFE Mumbai on January 06, 2012
  - Rajender Parsad- (i) Design Resources Server and (ii) Indian NARS Statistical Computing Portal
- Training programme on Data Analysis using SAS organized by UAS Bengaluru at CPCRI, Kasargod during January 16-21, 2012.
  - Rajender Parsad- (i) Design Resources Server, (ii) Indian NARS Statistical Computing Portal and (iii) Strengthening Statistical Computing for NARS (Keynote address)
  - Sivaramane N- (i) Time series Analysis and (ii) Demand Analysis.
- Training programme on Data Analysis using SAS organized by DWM Bhubaneshwar at OUA&T, Bhubaneshwar during January 16-21, 2012.
  - Rajender Parsad- (i) Design Resources Server, (ii) Indian NARS Statistical Computing Portal (iii) Multivariate Analytical Techniques and (iv) Hands on Non-parametric tests.
  - AR Rao- Data analysis using SAS

- Training Programme under the NAIP Project on Strengthening Statistical Computing for NARS during January 16-21, 2012 at MPUAT, Udaipur.
  - Krishan Lal- (i) Design Resources Server, (ii) Descriptive Statistics, (iii) Design of Experiments (CRD, RCBD, LSD and Incomplete Block Designs), (iv) Combined Analysis of Data, (v) Principal Component Analysis and (vi) Cluster Analysis using SAS.
- CAFT training program on Innovative Communication Interventions for Sustainable Agricultural Development organized by Division of Agriculture Extension, IARI from January 18 - February 07, 2012.
  - Anu Sharma- Multimedia content creation using Flash
- Training Programme on Harnessing Leadership among Women for Women Scientists and Technologists organized by Indian Institute of Public Administration, New Delhi during February 20-24, 2012. During the training programme Dr. Sushila Kaul prepared and delivered following two syndicate presentations along with other trainees.
  - Kaul, Sushila, Raina, Asha, Bose, Roopa, Manghat, Bindu, Saraswati, G and Wasan, Monica- Dealing with diversity.
  - Kaul, Sushila, Raina, Asha, Manghat, Bindu and Bose, Roopa. - Nuclear energy .
- Training programme Genomic data analysis using SAS on February 14, 2012 at UAS, Bangalore and on February 29, 2012 at CIFE, Mumbai.
  - Dr. Amrit Kumar Paul - Stability analysis and Path analysis using SAS.
- Training programme on Data Analysis Using SAS under NAIP project at ICAR Research Complex for NEH Region, Imphal, Manipur during February 20-25, 2012.
  - Dr. Ranjit Kumar Paul delivered five lectures on the topics Regression Analysis, Cluster Analysis, Principal Component Analysis, Time Series Analysis and Nonlinear Models along with their application to the practical dataset by using SAS.
- Training programme on Advanced Statistical Tools for Analysis of Animal Breeding Data during March 10-30, 2012 at Division Dairy Cattle Breeding, NDRI, Karnal
  - Gupta, VK - Fundamental of design of experiments and Design Resources Server.
  - Parsad, Rajender - Strengthening Statistical Computing for NARS and Indian NARS Statistical Computing Portal (Invited lecture) (lecture was delivered on March 12, 2012).
- National Training Programme on Precision Dairy Farming at NDRI, Karnal on March 20, 2012.
  - Kumar, Anil - 02 lectures on (i) Integrated farming system approach for enhancing livelihood security and (ii) Integrated farming system models – An evaluation of feasible alternatives for small land holders.
- NAIP Training Programme on 'Developing Agricultural Commodity Outlook Models for Policy Analysis' held during March 15–24, 2012 at National Centre for Agricultural Economics and Policy Research, New Delhi .
  - Sahoo, Prachi Misra - 2 lectures on Introduction to GIS and its applications and Introduction to Remote Sensing and its applications.
  - Ramasubramanian, V - ARCH and GARCH models.
  - Paul, Ranjit Kumar - Practical on ARCH and GARCH models.
- Training programme on Quantitative Techniques for Agriculture and Policy Analysis during 19-30 March 2012 at NCAP, New Delhi.
  - Rajender Parsad- 2 lectures on Multivariate Techniques.
  - Paul, Ranjit Kumar - 02 lectures on ARCH and GARCH models and its application by using EViews (on 25 march 2012).

- Training programme on Disease Informatics for the PI / Co-PI of AICRP Animal Disease Monitoring & Surveillance was organized during 28 February to 05 March 2012 at Project Directorate on Animal Disease Monitoring & Surveillance, Bangalore.
  - Rao, AR - A lecture *Disease informatics – Risk factors, modelling and analysis* (on 02 March 2012).
- Training programme on Tree Breeding organized by UHF, Nauni, Solan during 27 February to 04 March, 2012.
  - Rao, AR - Two lectures on *Mating Designs* and *G × E Interaction*.
- CAFT training on Innovative Communication Interventions for Sustainable Agricultural Development during 18 January- 07 February 2012 at Division of Agriculture Extension, IARI, New Delhi.
  - Sudeep - 4 lectures in on Designing Expert System and Content Creation at IASRI
  - Pal Singh - 2 lectures on Content Creation through HTML and Frontpage at IASRI
  - Anu Sharma - 2 lectures Multimedia Content Creation through Flash at IASRI

## PAPER PRESENTED

- 99<sup>th</sup> Indian Science Congress 2012 held at KIIT University, Bhubaneswar, Odisha during 03-07 January 2012.
  - Chandra, H and Chambers, R. Semi parametric Block Bootstrap Approach for Multilevel Data. (Invited paper)
  - Gharde, Y, Rai, A and Chandra, H. Small area estimation for spatial population-Hierarchical bayes approach.
  - Paul, AK, Das, Samendra and Wahi, SD. Comparative performance of oblique axes, k-th nearest neighbour, linear and quadratic discriminant procedures under multivariate skew-normal situations.
- International Symposium on 100 Years of Rice Science and Looking Beyond held at TNAU, Coimbatore during 09-12 January 2012.
  - Singh, DR, Sivaramane, N and Arya, Prawin. Farm level efficiencies in rice cultivation in different agro-climatic regions of indo-gangetic plains of India
  - Sivaramane, N, Mathur, VC, Singh, DR and Jha, Girish. A poster on “Competitiveness and dynamics of india’s rice exports” (Poster presentation)
- The 2012 Federal Committee on Statistical Methodology Research Conference, 10-12 January, 2012, Washington, DC, USA.
  - Berg, E and Chandra, H. Small area prediction for a unit level lognormal model. (Invited paper)
- International Conference on Space Communication for Scientific Temper held at NASC Complex during 10-12 January 2012.
  - Kaul, Sushila, Saxena, Jagdeep and Sharma, Anil K. ShoWindow of Indian Agriculture: Past, Present & Future
- International Conference on Recent Perspectives in Macromolecular Structures and Their Functions at Central Agricultural Research Institute, Port Blair, Andaman & Nicobar Islands during 27-28 January 2012
  - Rao, AR, Sahu, TK, Wahi, SD, Singh, UP and Marwaha, Sudeep. A proteomics analysis for salinity stress tolerance across species.
  - Lal, SB, Sharma, Anu, Rai, Anil, Chakraborty, Ohika and Farooqi, Samir. Pipelines for integrating bioinformatics tools – A review.
  - Farooqi, Samir, Sanjukta, RK, Mishra, DC, Chaturvedi, KK, Rai, Anil, Singh, DP and Sharma, Naveen. Statistical and computational methods for detection of synonymous codon Usage patterns in prokaryotes and eukaryotes.



- 14<sup>th</sup> International Conference and Exhibition on Geospatial Information Technology and Applications organised by India Geospatial Forum 2012 at Epicentre, Gurgaon during 07-09 February 2012.
  - Ahmad, Tauqueer and Sahoo, Prachi Misra - Estimation of area under agroforestry in Ludhiana district of Punjab state using remote sensing and GIS techniques.
  - Sahoo, Prachi Misra; Ahmad, Tauqueer; Rai, Anil, Singh, KN and Handique, BK- Geospatial technology for crop acreage estimation in North eastern Hilly regions.
- National Conference on Advances and Applications in Statistics organised by the Department of Statistics, Panjab University, Chandigarh during 20-21 February 2012.
  - Ahmad, Tauqueer and Sahoo, Prachi Misra - Estimation of area under agroforestry in Vaishali district of Bihar state using geospatial techniques.
  - Sahoo, Prachi Misra; Ahmad, Tauqueer; Rai, Anil and Singh, KN - Geostatistical techniques for extraction of information under cloud cover from satellite images.
- Review and Planning workshop on Farmers participatory field trials on Conservation Agriculture: data needs, protocols, management, analytical tools and techniques at NASC Complex, Pusa New Delhi at 21-22 February 2012.
  - Parsad, Rajender (2012). Statistical analysis of data from farmers participatory trials using PCA, mixed models in SAS.
- International Conference on Plant Biotechnology for Food Security: New Frontiers held during 21-24 February 2012 at National Agricultural Science Centre, Pusa, New Delhi.
  - Dash, M, Sahu, TK, Singh, A, Sahoo, BC and Rao, AR (2012). Identification of key residues for salt stress tolerance in detoxifying gene family.
  - Farooqi, Mohammad Samir, Sanjukta, RK, Mishra, DC, Chaturvedi, KK, Rai, Anil, Singh, DP and Sharma, Naveen (2012). An in silico approach for understanding salt stress response in *Salinibacter ruber*.
  - Iquebal, MA, Sarika and Rai, Anil. (2012). In silico identification of antimicrobial peptides in legumes
  - Lal, SB, Pandey, Pankaj K, Rai, Punit K, Rai, Anil and Sharma, Anu (2012). Sequence submission portal for genomic sequences in Indian agriculture.
  - Lal, SB, Rai, Punit K, Pandey, Pankaj K, Rai, Anil, Sharma, Anu and Chaturvedi, KK (2012). Integrated genomic database for Indian agriculture.
  - Chaduvula, PK, Bhati, J, Rai, A, Sanjeev, K and Marla, S(2012). Functional prediction of salt stress responsive proteins through modeling physicochemical parameters of cereal crops.
  - Bhati, Jyotika, Chaduvula, PK, Kumar, Sanjeev, Marla, SS and Rai, Anil (2012). Genome-wide analysis for identification of salt-responsive genes in *oryza sativa*.
  - Sahu TK, Rao AR, Dora, S and Rai, A (2012). In silico identification of late blight susceptible genes in potato.
  - Singh, A, Sahu, TK, Dash, M, Sahoo, BC and Rao, AR (2012). An automated in silico analysis of salinity responsive gene families across species.
  - Singh, N, Sahu, TK, Rao, AR, Mohapatra, T (2012). shRNAPred (version 1.0): An open source and standalone tool for short hairpin RNA (shRNA) prediction.
- Workshop on Result- Framework Document (RFD) organized by Ag. Engg. SMD of the Council under the Chairmanship of ADG (Ag. Engg.), ICAR on 24 February 2012.
  - Sud, UC - Result- Framework Document (RFD) 2012-13 of the Institute.

- The 14<sup>th</sup> Annual Conference of Society of Statistics, Computer and Applications organised at the Department of Statistics, Saurashtra University, Rajkot during 24-26 February 2012.
  - Bhar, Lal Mohan, Ojha, Sankalp. Outliers in multi-response experiments. (Invited Talk).
  - Chandra, H and Chambers, R (2012). A random effect block bootstrap for clustered data.
  - Jaggi, Seema. Neighbour balanced bipartite block designs. (Invited Talk).
  - Kumar, Amrender, Prasad, YG, Vennila, S, Vasantabhanu, K, Prabhakar, M, Padmakumari, APK and Katti, G. A comparative analysis of classification and regression tree (CART) and neural network (NN) models in prediction of rice yellow stem borer.
  - Mandal, BN, Neenu, S and Srivastava, S. Assessment of spatial variability of soil properties using inverse distance weighted method
  - Nitiprasad, Jambhulkar, N, Krishan Lal, Parsad, Rajender and Gupta, VK. Multi-level minimum aberration fractional factorial plans. (Invited Talk).
  - Ramasubramanian, V, Kumar, Amrender, Bhatia, VK and Jeeva, J Charles. Technology forecasting in Indian fisheries and prioritizing decision alternatives using Analytic Hierarchy Process.
- Review meeting of FASAL at BHU, Varanasi, during 01-02 March 2012.
  - Dr. Ranjana Agrawal - Statistical models for crop yield forecast (invited talk).
- XI Biennial Conference of the International Biometric Society (Indian Region) on Computational Statistics and Bio-sciences held at Department of Statistics, Pondicherry University, Puducherry during 08-09 March 2012.
  - Bhar, Lalmohan - Optimal block designs for multiple bio-assays (Invited talk).
  - Parsad, Rajender - Experiments with Mixtures for Agricultural Research (Invited talk) .
  - Ahmad, Tauqueer, Bathla, HVL, Rai, Anil and Sahoo, Prachi Misra - Estimation of area and production of fruits and vegetables in Maharashtra and Himachal Pradesh.
  - Bowmik, Arpan, Jaggi, Seema, Varghese, Cini and Varghese, Eldho - Trend free block design balanced for interference effects.
  - Chandra, H, Sud, UC and Gharde, Y. Small area crop yield estimation using spatial dependence in area level random effect model.
  - Sahoo, Prachi Misra; Rai, Anil and Ahmad, Tauqueer - Statistical analysis of livelihood security in rural India.
  - Varghese, Eldho, Jaggi, Seema and Varghese, Cini - Neighbour balanced block design with proportional neighbour effects.
- Global Conference on Women in Agriculture held at NASC Complex , New Delhi during 13-15 March 2012 (Poster Presentation).
  - Bharadwaj, Anshu, Dahiya, Shashi and Jain, Rajni - Machine Learning Approach to identify ICT empowered Indian Women Farmers.
  - Dahiya, Shashi, Dagar, Sneha, Bharadwaj, Anshu and Jaggi, Seema - An eLearning resource for teaching and training Agricultural Women.
  - Kaul, Sushila - Women in dairy providing household food security—a case study.

## **PARTICIPATION**

### **Conferences / Workshops / Seminars / Symposia etc**

- Workshop on Research Methodology, Sampling Design and Survey Questionnaire at Institute of Economic Growth, Delhi on 18 January 2012.
- All India Training of Trainers on Revised Methodology & Schedules of data collection for Integrated Sample Survey Scheme organized by the Department of Animal Husbandry, Dairying and Fisheries, Govt of India, held at IASRI, New Delhi, on 31 January 2012.
- 15<sup>th</sup> National Conference on e-Governance held at Bhubaneswar from 09-10 February 2012
- Two Days International Conference on Resurgence India- Myths and Realities” on 17-18 March 2012 organized by Teerthanker Mahaveer University, Moradabad, Uttar Pradesh. Dr. Anil Kumar Acted as Key Note Speaker and Co-convenor in 1st technical session “Upcoming Technologies” on 17 March 2012
- Question Bank Workshop in Statistics of Staff Selection Commission at SCOPE Complex, New Delhi on 24 March 2012.
- National seminar on Indian Agriculture: Preparedness for Climate Change organized by Indian Society of Agricultural Sciences at NASC Complex, New Delhi, during 24-25 March 2012
- Cotton Mechanization Conclave organized by New Holland group with the PC/Research Engineers of AICRP on FIM and other officials, organized at the Institute on 26 March 2012.
- Meeting for e-course evaluation for the IT in Dairy Industry” as external evaluator at NDRI, Karnal from 12-13 March 2012.
- Meeting with FICCI representative in which the sampling design, sample size and methodology for construction of Farmers’ Confidence Index were suggested on 15 March 2012 held at IASRI, New Delhi.
- Meeting with Expert Group on “Evaluation of Agricultural Census Scheme (EACS)” at Indian Agricultural Statistics Research Institute, New Delhi on 20 March 2012.

### **Meetings**

- Meeting in which contract document was signed between ICAR and IBM for Implementation of Management Information System (MIS) including Financial Management System (FMS) in ICAR on 19 January 2012
- Meeting on evaluation of bids for ASRB data center on 23 and 27 January 2012.
- One-day meeting was organized for discussing various issues including recommendations for the study on “Evaluation of the Agricultural Census Scheme” at the Institute on 20 March 2012.
- Partner’s meet on 16 March 2012 at National Bureau of Plant Genetic Resources, New Delhi to discuss status of planned experiments, road map, funding and other issues under NAIP subproject “Establishment of National Agricultural Bioinformatics Grid (NABG) in ICAR.
- Partners meet related to fish genomics in 20 March 2012 at NBFGR, Lucknow.

## **COMPUTING FACILITIES**

### **Wide Area Network**

Internet services have been provided to the users and the website of IASRI is being updated regularly. This site has been visited 209722 times since 01 April 2008 and 1043849 times since 05 September 2003.

## PERSONNEL

### Congratulations on your Promotion

Name	Promoted to	Effective Date
Sh. Som Dutt	T-7-8	01.07.2010
Sh. OP Singh	T-7-8	01.07.2010
Sh. AR keshava	T-9	01.01.2011
Sh. VK Mishra	T-9	01.01.2011
Sh. SV Bhagwat	T-7-8	01.01.2011
Smt. Neelam Chandra	T-7-8	27.03.2011
Sh. SPS Hans	T-7-8	01.01.2011
Sh. RA Joshi	T-7-8	05.05.2011

### Wish you happy Retired Life

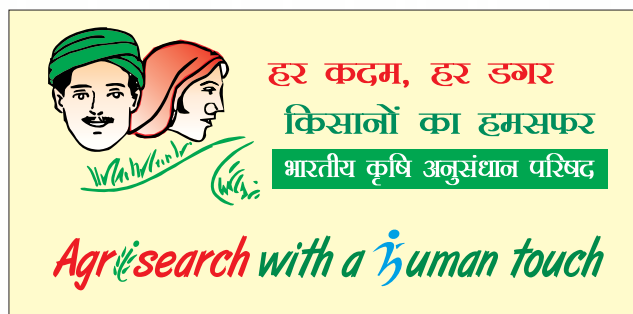
Name	Designation	Date
Sh. Narendra Singh	Assistant	31.01.2012
Sh. Vijay Kumar	Assistant	31.01.2012
Sh. SP Jain	T-7-8	31.01.2012
Sh. Harnam Singh Sikarwar	Scientist	01.02.2012
Sh. Hari Om Agrawal	Scientist	29.02.2012
Sh. Vinod Kumar Gupta	Assistant	29.02.2012
Sh. Daulat Ram	Jr. Clerk	29.02.2012
Sh. Lokesh Kumar	Assistant	31.03.2012
Sh. Madhusudan Rai	S.S.S.	31.03.2012

### Transfer

Name	To	Effective Date
Dr. Sivaramane N., Scientist	NAARM, Hyderabad on being appointed as Sr. Scientist	27.03.2012
Smt. Yogita Gharde, Scientist	Directorate of Weed Sciences, Jabalpur	31.03.2012

## Saleable Technologies

- Statistical Package for Factorial Experiments (SPFE 1.0)
- Statistical Package for Agricultural Research (SPAR 2.0)
- Statistical Package for Augmented Designs (SPAD)
- Statistical Package for Block Designs (SPBD 1.0)
- Statistical Package for Animal Breeding (SPAB 2.0)
- Software for Survey Data Analysis (SSDA 1.0)



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