

# NIANP NEWS & Views



## Director's Desk

# 2018

## Happy New Year

Dear Readers,

With the dawn of New Year 2018, I wish to extend warm greetings to all of you for a Very Happy, Healthy and Productive year throughout.

We have completed a long journey of 22 years and tried serving the Nation with significant contributions in the field of Animal Nutrition and Physiology. Currently we are an ISO 9001:2015 certified Institute.

We, in association with the Indian Poultry Science Association (IPSA) organized the XXXIV Annual Poultry Science Conference (IPSACON 2017) during November, 2017. The theme of the conference was "Innovations for safe and sustainable poultry production". More than 400 delegates participated in the event and presented their endeavours and views in various forms. Dr Trilochan Mohapatra, Secretary, DARE and Director General (ICAR), the Chief Guest of the Valedictory function, called on the Industry to actively participate in the Research and Development activities involving poultry. He also emphasized that industry should prepare the road-map for reaching the targeted egg and meat production.

A state of the art Small Animal House is under construction and likely to be completed in a few months. Further, we are also developing facilities with climate chambers for simulating different ambient conditions to identify the climate resilient characters in livestock.

I personally believe that ICAR has revolutionized the Indian Agricultural Systems since independence. Nevertheless, we never have thought to quantify the contributions of our organization until recent days. One critical factor is that contributions of ICAR institutes were mainly directed towards large number of small and marginal farming units, where quantification of specific economic benefits is not easy. Further, ICAR has mainly contributed towards food and social security to these millions of farmers. However, at today's context, it is imperative for us to quantify and document our contributions in economic terms that will help the policy makers to assess the impact of ICAR towards the socio-economic developments of this Nation and the resources required for ICAR for its effective implementation.

I am extremely happy to mention that the ICAR-NIANP has a cohesive group of scientists and capability to meet the expectations. With this positive note, I once again wish a productive year ahead and seek your cooperation and suggestions in our endeavour. I complement the editorial team for bringing out this issue of the NIANP News Letter.

**Raghavendra Bhatta**  
Director

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## Research News

### Rumen bacterial diversity in small ruminants

A study was undertaken to survey the sheep and goat rumen microbiome members by culture independent technique, 16s rRNA gene amplicon sequencing. Adult sheep (N=3) and goat (N=3) fed on roughage based complete feed block comprising of ragi straw and concentrate (60:40) diet were used for collecting the rumen liquor at two hour post-feeding. The metagenomic DNA was isolated using RBBC method and used for generation of V3-V4 amplicon sequencing libraries using Nextera XT Index Kit (Illumina inc.). The libraries were sequenced using 2x300bp illumina chemistry and sequencing data was analyzed using illumina basespace. Shannon species diversity was estimated to be 2.1 and 1.7 in the sheep and goat, respectively.

At phylum level, the Firmicutes were abundant in sheep and Proteobacteria were abundant in goat samples. However, more than 75% of the microbiome were mapped to Firmicutes, Bacteroidetes and Proteobacterial members. The phylum level diversity indicated characteristic distribution of the ruminant microbiome (Fig. 1). At genus level, the sheep rumen was dominated by Prevotella, Pedobacter, Ruminococcus, Dysgonomonas, Caloramator, Clostridium and Oscillospira and the goat rumen was dominated by Ruminobacter, Prevotella, Treponema, Butyrivibrio, Ruminococcus, Fibrobacter and Pedobacter. Approximately 9-19% of the members

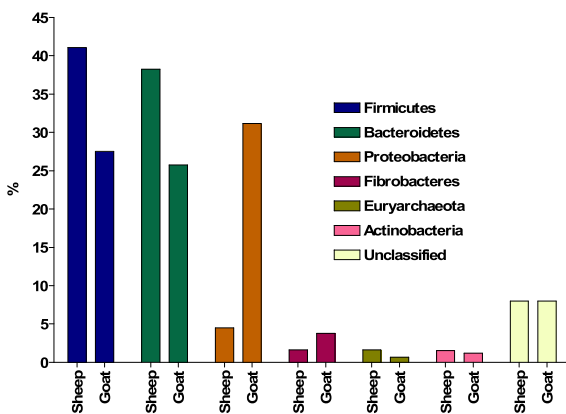


Fig. 1. Phylum level distribution of rumen metagenome members in sheep and goat

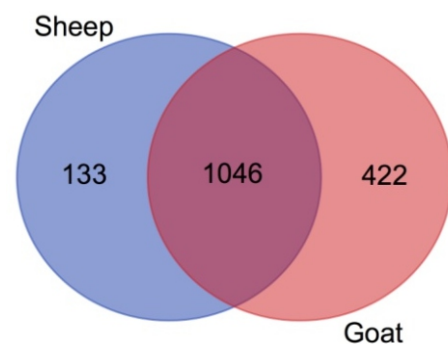


Fig. 2. Comparative microbial species distribution of the sheep and goat metagenome

remained unclassified at Genus level. The comparison at Class level revealed Flavobacteriales, Pelagibacterales, Sphingobacteriales, Caldilineales, Turcibacterales, Chroococcales and Desulfotribionales were more than three folds in sheep metagenome. However, Fibrobacteriales, Desulfuromonadales, Enterobacteriales, Spirochaetales, Elusimicrobiales, Sphaerochaetales and Aeromonadales were present in goat rumen more than three folds as compared to sheep. At species level, the microbes detected in both the species are compared in the Fig. 2. Both the ruminant species share 1046 microbial members and 133 and 422 members were found uniquely associated with the sheep and goat, respectively. The differences in the metagenome diversity on the same diet can help in explaining the species-specific feed requirements and tolerance to anti-nutritional factors. Detailed studies in future might help in achieving transfer of species-specific characters via metagenome supplemented nutritional augmentation in these species.



Events

**XXXIV Annual Conference of the Indian Poultry Science Association (IPSACON 2017)**

The Institute in association with the Indian Poultry Science Association (IPSA) organized the XXXIV Annual Poultry Science Conference (IPSACON 2017) from 28-30 November, 2017 at NIMHANS Convention Centre, Bengaluru. During the event, five technical and three poster sessions were organized covering all the areas of poultry science including a panel discussion on marketing strategies in poultry sector and scientist-industry interface involving eminent poultry professionals. The conference was attended by more than 400 delegates.



**Winter School on Livestock and Climate Change: Contributory Key Factors and Practical Strategies for Amelioration**

A 21-day Winter School on “Livestock and Climate Change: Contributory Key Factors and Practical Strategies for



Amelioration” was organized from 1-21 September, 2017. During the training programme, 43 lectures and 13 practical demonstrations were organized for the participants in the related areas. Dr P Biswas, VC, WBUAFS, Kolkata and Dr AK Misra, Former VC, MAFSU, Nagpur were the Chief Guests for the inaugural and valedictory functions of the training programme respectively. Twenty four participants from nine states participated in the winter school.

**One Day Technical Seminar for Veterinary Officers on Feed and Fertility Management in Dairy Animals**

One day technical seminar on 'Feed and Fertility Management in Dairy Animals' was organized at the Institute on 5 August, 2017. Dr SS Honnappagol, Animal Husbandry Commissioner, Govt of India was the Chief Guest and Dr BS Prakash, ADG



(AN&P), ICAR, New Delhi was the Guest of Honour of the programme. More than 150 Veterinary Officers from the Department of Animal Husbandry and Veterinary Services, Govt. of Karnataka, Karnataka Milk Federation and Krishi Vigyana Kendras from Karnataka attended the seminar.

**National Consultation on Farmer Organizations: Status and Prospects**

The Institute organized a national consultation on “Farmer Organizations: Status and Prospects” in collaboration with the NABARD, ICAR-ATARI, ICAR-NDRI and ISEE (KC) during 25-26, July, 2017. Over 150 professionals, including experts and farmers participated in the event, with lead talks and panel and group discussions, encompassing all forms of farmer organizations.





## Celebration of Hindi Pakhwada

Hindi Pakhwada was celebrated from 14-28 September, 2017. During the Pakhwada, various competitions such as letter writing, antakshari, translation, paper presentation, slogan writing, quiz, extempore and poem reading were organized. Prizes were distributed to the winners during the valedictory function held on 28 September, 2017. A Hindi solo song



competition for the Central Govt employees working in Bengaluru was also organized by the Institute on 16 November, 2017. The competition was as a part of the joint Hindi Day celebration under the aegis of the "Town Official Language Implementation Committee".

## Celebration of Foundation Day

The Institute celebrated its 23<sup>rd</sup> Foundation Day on 24 November, 2017. Padma Bhushan Dr M Mahadevappa, former VC, UAS, Dharwad and former Chairman, ASRB was the Chief Guest of the event. Dr H Rahman, Regional Representative for South Asia, ILRI and Former DDG (AS), ICAR was the Guest of Honour. Latest version of the booklet "NIANP at a Glance" and DVD of the short documentary film "A Glimpse of ICAR-NIANP"



were released on this occasion. Retired employees were felicitated and cultural extravaganza was performed by the staff during the celebration.

## Visit of Quinquennial Review Team

The members of the 4th Quinquennial Review Team (QRT) under the Chairmanship of Dr MP Yadav, former Director ICAR-IVRI, Izatnagar and former VC, SVPUAT, Meerut visited the Institute to review its progress for the period from April 2012 to March 2017. The team conducted the first interactive meeting with the scientists and administrative, financial, technical and supporting staff and visited various laboratories, units and facilities during 12-13 October, 2017 to review the progress.



## Visit of Delegates from French Embassy in India

Delegates from the French Embassy in India Dr J Bove, Scientific and Academic Attache, Dr S Kaveri, CNRS Office, Service for Science and Technology and Mr C Atreya, Scientific Coordinator visited the Institute on 16 November, 2017 and interacted with the scientists. During the meeting, the team appraised about the possible scientific collaborations with the academicians of France and various funds and opportunities available for researchers and students.





### Interactive Meeting of Director General, ICAR with Heads of ICAR Institutes

Dr Trilochan Mohapatra, Secretary, DARE and Director General, ICAR, visited the Institute on 1 November, 2017 to take part in an interactive meeting with Heads of the ICAR Institutes located in Bengaluru. He reviewed the progress and addressed critical issues of the Institutes during the meeting.



### Review meeting of the Vigilance Officers

A review meeting of more than 80 vigilance officers, administrative officers and finance and accounts officers of 24 ICAR Institutes located in Karnataka, Andhra Pradesh, Telangana, Kerala and Puducherry was held at the Institute on 24 August 2017 under the chairmanship of Honourable Additional Secretary, DARE and Secretary ICAR, Shri Chhbilendra Roul.



### Award



Dr Raghavendra Bhatta, Director, ICAR-NIANP, received "Karuna Award" by the "Karuna Trust" for outstanding contribution to National Progress.

### Visits Abroad



Dr Raghavendra Bhatta, Director visited the University of Kassel, Witzenhausen, Germany during 3-9 October, 2017 under the Indo-German collaborative research project.



Dr PSP Gupta, Principal Scientist and Dr S Nandi, Principal Scientist visited the University of Veterinary Medicine, Budapest, Hungary during 20-30 September, 2017 under the Indo-Hungary collaborative research project.

## Patent Granted

- An animal concentrate feed mix with curcuma aromatics for reduction of methane (Indian Patent No 289668, Date of grant 16.11.2017; Authors: M Chandrasekharaiah, A Thulasi, M Bagath, Lyju Jose V).
- Shredded areca sheath in mixed ration as a dry fodder for livestock (Indian Patent No 282946, Date of grant 28.04.2017; Authors: NKS Gowda, DT Pal, P Krishnamoorthy, KT Sampath, CS Prasad, S Anandan).

## Participation in ICAR Sports Meet



Institute participated in the ICAR South Zone Sports Meet at ICAR-SBI, Coimbatore during 9-13 October, 2017. Eight contingents from the institute participated in badminton, table tennis, shot put, discus throw and carom.

## Swachhata Hi Seva

As a part of implementation of the Swachh Bharath Abhiyan and as per the guidelines of ICAR, The Institute observed the "Swachhata Hi Seva" during the period from 15 September to 2 October, 2017. The Seva Diwas was celebrated on 17 September and thorough cleaning of the Institute premises was performed. The "Samagra Seva Diwas" was celebrated on 24 September and all the staff participated in cleaning, plantation of tree sapling and disposal of organic wastes at the NIANP campus. The Institute celebrated "Sarwatra Swachhta" on 25 September and all the permanent and contractual staff participated in swachhata of the office building surroundings. Foundation was also laid for developing proper toilet facility for differently able persons. Swachhata abhiyan was conducted by the Institute staff at neighbourhood, Lakshmi Devi Park, Koramangala on 1 October and cleaning of the premises was performed





## Staff Welfare Activities

### Farewell

Smt Ningamma superannuated in July 2017 and Staff Welfare Club organized a farewell party for her on 31st July 2017. The NIANP employees recollected the sweet memories with her and Smt Ningamma was felicitated with silver plaque as a token of appreciation for her contribution.



### Ganesh Chaturthi

Ganesh Chaturthi was celebrated on 18th August 2017. A special pooja was organized by the Staff Welfare Club on the occasion and sweets were distributed.



### Independence Day Celebration

Institute celebrated the 71st Independence Day on 15 August, 2017. Staff Welfare Club organized a sports meet for the employees and children on the occasion. The Director hoisted the flag and delivered the Independence Day speech and distributed prizes to the winners of sports events.



### Ayudha Pooja

Staff Welfare Club celebrated Ayudha Pooja on 28 September, 2017. A special pooja was organized and sweets were distributed to mark the occasion.



### Kannada Rajyothsava

Staff Welfare Club celebrated the Kannada Rajyothsava on 1 November, 2017. Prof. KN Ganeshiah, Department of Forestry and Environmental Sciences, UAS, GKVK, Bengaluru was chief guest for the function. Various cultural performances were conducted by the staff during the celebration.



### New Year 2018 Celebrations

Staff Welfare Club celebrated the New Year 2018. A dinner party was organized for the employees and their families and fun games were conducted on the eve of 31 December, 2017.







*A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people.*

- Franklin D Roosevelt



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