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THE SYNAPSES

ISVS NEWSLETTER

Editor: Ashok Kumar Associate Editor: Deepak Kumar Tiwari

In this Issue

From the Escritoire of Advisor

Dear Members,

I am happy that the July edition of the newsletter has highlighted the entire activities of ISVS and the surgery discipline during the past six months. I call on all the members to contribute vigorously to the newsletter so that the members are benefited. During the past six months, we had a number of meetings to discuss various issues to strenghthen the society. It s a matter of great pleasure that the 47th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on *"Advances in Domestic and Wild Animal Surgery with special reference to Elephants"* will be organized by Department of Surgery & Radiology, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam during December 18-20, 2024. I not only hope but sure that everyone will have an amazing time during the convention. I'm pleased to know that the members are taking keen interest in isvs website and has crossed 4,00,000 hits in a short span. I extend my sincere thanks for your continued support and participation in the society activities.

Dr. Ambka Prasad Singh

From the Desk of President

Dear Members and Colleagues,

I am delighted to meet you all through our newsletter, designed to keep you updated on the latest developments, advancements, and insights in the field of veterinary surgery. Through this newsletter, we aim to foster knowledge sharing, professional growth, and collaboration among our esteemed members. For the past six months, we have strived hard to improve the quality of the publication of our esteemed Indian Journal of Veterinary Surgery by way of conducting a series of meeting with the members of the editorial team and executive committee. I happy to inform you all very good suggestions have come from the team members for improving the NAAS rating and timely publication of the journal. We will be implementing these suggestions in future for the betterment of the journal. I would like to inform you all valuable suggestions have been taken up during our last executive committee meeting for the improvement of conducting a productive Annual Congress of ISVS from the next symposium. Effective guidelines were approved by the executive committee and communicated to the Organising Secretary of 47th Annual Congress of ISVS and will be implemented from the next annual congress at Guwahati. I thank the members who have given suggestions to improve the quality of our journal and conducting an effective National Symposium and Annual congress of ISVS

On behalf of the organising committee, I would like to invite all the members of ISVS to come and participate in 47th Annual Congress of ISVS and National Symposium on *"Advances in Captive and Wild Animal Surgery with Special Reference to Elephants"* to be held at Guwahati (Assam) from December. 18-20, 2024 and make it a grand success

In this issue, you will find informative articles, research highlights, upcoming events, and member achievements that showcase the dedication and expertise within our society. We encourage you to actively engage with the content and contribute your valuable insights for the benefit of our community.

Thank you for your continued support and participation. Together, we strive to advance the practice of veterinary surgery and enhance animal care across India.

Best regards,

Dr. B. Rameshkumar

From Executive Secretary Pen

Dear Members,

Greetings from Indian Society for Veterinary Surgery (ISVS) !

The vibrancy of the website and newsletter – 'The Synapses' is palpable as there are more than 4,00,000 hits. Suggestions to improve further are welcome. I am confident that HoDs are working on ISVS Canine Mammary Neoplasm Registry at departmental level. The format is already circulated.

The first announcement of 47th ISVS Symposium at Guwahati and a beautiful digital flyer is already circulated. Book your travel plan for December 18-20, 2024, in advance. To enhance output of ISVS, concerted efforts of one and all are essential. ISVS is introducing travel grants for students and is energizing EPIGNOSIS 2024.

We usher new ideas to strengthen Veterinary Surgical Landscape of our country.

Eager to meet all at Guwahati.

Dr. Deepak B. Patil

EMERGING TRENDS IN VETERINARY ORTHOPAEDICS

Orthopaedics is an ever advancing field of medicine with development of newer technologies, devices and treatment protocols for management of musculoskeletal diseases both in human and animal patients. In recent years, several innovations and technological advances have taken place particularly in the areas of molecular biology, implant material, and computer application in implant manufacturing and treatment. Most of the implants and techniques used in veterinary orthopaedics are adopted from human applications. Hence any advancements and trends in human orthopaedics ar eclosely followed in veterinary orthopaedics.

Orthopaedic Superspeciality

Superspeciality in training and education: A veterinary surgeon is a 'general surgeon' who used/supposed to perform all the surgeries including soft tissue and hard tissue procedures, with minimal specialization in a specific field. This is largely true even today, but the trend is gradually changing, with veterinary surgeons getting trained to become specialists in a particular field. Orthopaedics is not an exception to this, and many practicing veterinarians are opting to get trained to become specialists in specific orthopaedic procedures. The days are not distant when Veterinary Universities/Colleges will start offering masters and doctoral degrees in veterinary orthopaedics.

Superspeciality centres: By and large veterinary hospitals and clinics across the country offer treatment to all medical and surgical affections in a variety of pet and domestic animals. Nevertheless, some superspeciality centres are cropping up in different cities across the country. As more and more veterinary surgeons are trained in orthopaedic procedures, superspeciality orthopaedic centres will emerge, especially for pet animals, similar to human orthopaedics.

Minimally Invasive Biological Osteosynthesis

Closed reduction and fixation of fractures, especially comminuted fractures, often cause improper reduction and fixation leading to shortening of bone, malunion and joint stiffness due to prolonged immobilization. Whereas open reduction and internal fixation though can provide stable bone fixation, can also cause complications like infection, delayed union, implant failure and non-union. These complications are believed to be due to soft tissue damage and vascular disruption at the fracture site. Hence, emphasis is shifting towards preserving the soft tissue and vascular supply at the fracture site by minimal exposure and indirect reduction. Therefore, the concept of fracture management is changing from providing rigid fixation to relative/ optimal fixation of biological osteosynthesis by preserving the vascularity to the soft tissue and bone. The principle of minimally invasive and biological osteosynthesis techniques include indirect closed reduction and minimal/ extraperiosteal dissection at fracture site and relative stability by use of plate, nail or ESF techniques, which allow limited controlled motion at the fracture site leading to secondary bone healing with external callus formation. Similarly, minimally invasive arthroscopic techniques are becoming popular to treat joint affections in veterinary practice, similar to human medicine. As it involves small incisions and the use of a camera to diagnose and treat joint conditions, it reduces pain and hastens recovery.

New Generation Orthopaedic Casts and Implants

Plaster of Paris cast has already been replaced by fibreglass cast in recent years. In the coming years new orthopaedic casts such as Cast21 may become an alternative to these standard casts. Cast21 has unique open lattice structure made of lightweight material, which includes a sleeve for placing over the injured area, when filled with a fast-curing material it hardens in a quick time to become very strong. It has many advantages over traditional casts, such as lightweight, comfortable to wear and easy to remove. Similarly, as on today, stainless steel and titanium alloys are most commonly being used to manufacture orthopaedic implants. Nevertheless, search continues for the development of newer materials such as alloys, composites and polymers by altering their composition and method of manufacturing. There is a growing trend with development of PEEK implants. More recently, scientists at Massachusetts Institute of Technology have reported to have developed a new polymer, which is twice as strong as stainless steel and as light as plastic. Such materials may have huge applications in orthopaedic devices in days to come. Semi-rigid and flexible implants produced from new metal alloys, which are small enough to fit the intramedullary canal in young patients but can maintain their shape and strength after contouring, are becoming popular in human and veterinary orthopaedic fixations. As compared with external fixation, flexible nailing allows earlier weight bearing and functional return of limb, with fewer complications. They may prove effective in unstable fractures of long bones in young growing patients, providing ease of application and removal and better cosmesis.

Regenerative Medicine, Gene Therapy and Engineered Stem Cells for Bone Regeneration

Regenerative treatment has been a hot topic in almost every field of medicine in recent years. Stem cell therapy and platelet rich plasma treatment are trendingoptions in regenerative orthopaedics, both in human and animal patients. Regular use of grafts and tissue engineered scaffolds may soon become a reality in reconstructive orthopaedic procedures. Bone healing is determined by local factors such as mechanical stability and blood supply at the fracture site, besides systemic factors such as nutritional status and chemicals (growth factors and hormones). Advances in 'orthopaedic molecular biology' have helped to better understand the complex chemical mediators involved in bone remodeling and their manipulation to accelerate bone healing. Growth factors, like bone morphogenic proteins, transforming growth factor, insulin like growth factor-II and platelet derived growth factor, have been shown to accelerate bone healing when implanted at the fracture site in both experimental and clinical studies. However, these proteins have very short biological half-lives, hence effective therapeutic concentration not maintained for sufficiently longer period at the site, for their properaction. Gene therapy is an exciting new area of research, which utilizes the body's own natural healing process to repair the injured tissue. It allows the gene encoding for a specific growth factor to be isolated and transferred to a recipient cell using a vector. The recipient cell can then produce the growth factor in desired concentration which can be sustained at the fracture site for a long duration (upto 6 weeks) to accelerate fracture healing. By using similar technique in tissue engineering, it could be possible to mould a soft tissue such as muscle (with a vascular pedicle) to the shape of a specific boneand treat with

growth factors to transform into woven bone, which can become a compact bone under proper biomechanical environment. Gene therapy is still in its infancy, but recent developments have shown the potential to revolutionise fracture treatment.

3D Printing, Mixed Reality, Bioprinting in Orthopaedics

3D printing technology has revolutionized the field of orthopaedics in recent times. It uses a digital file to create a physical object by fusing material together. It has changed the industry approach for orthopaedic implant design. Unlike traditional manufacturing methods, where a mold or a block of material is used to create an implant design (which takes a long time to make even a small change), 3D printing hastens the production by enabling rapid prototyping. It also helps to develop patient-specific implants, which can be more affordable and accessible with better treatment outcome. Mixed reality (MR) systems using both virtual reality and augmented reality can create realistic 3D holographic models of patients for preoperative planning. It allows the surgeon to visualise the patient's anatomy in an immersive 3D environment, and plan for the procedure accurately. Additionally, this technology can also be used in the operating room to help guide the surgeon and ensure precision. This is particularly beneficial in complex procedures like total joint replacements and fracture fixations. It also minimizes the dependency on X-ray and CT images while selecting a specific implant. Bioprinting (printing of living tissues) is the most promising area of 3D printing. Bioprinted bones and joints have several advantages over traditional implants. It allows for the creation of highly customized implants that perfectly match the patient's anatomy. This greatly reduces the risk of implant failure or rejection. Secondly as the bioprinted implants are made from live cells, they can integrate with the surrounding tissue and promote healing. Additionally, the bioprinted implants are much less expensive than traditional implants, making them accessible to a wider range of patients. As 3D printing technology continues to advance, it is likely that bioprinted bones and joints will become an essential part of orthopaedic medical advancements. Recent advances in surgical procedures and prosthesis design technology looks promising in developing devices that closely restore normal function of the limb. Evolution of osseointegration (bone-anchored) prostheses presents great promise in human and animal applications.

Artificial Intelligence and Machine Learning

Artificial intelligence (AI) can rapidly process huge amounts of data in real time and make accurate decisions. Along with machine learning (computers use data to constantly learn, adapt and improve) AI can supercharge the data infrastructure and help deliver better patient care by accurately predicting the outcome of orthopaedic procedures. AI-enabled data can also help develop remote patient monitoring AI-enabled remote therapeutic monitoring (RTM) tool like a mobile app that uses artificial intelligence and a smartphone camera, can be used to precisely measure patient performance data, like range of motion. This can help monitor the patients and quickly determine if their recovery is as per the expectation and intervene if needed. This AI based patient systems are being used in human patients, it is likely that it can also have a huge impact in veterinary patients in days to come.

Robotics in Orthopedic Surgery

Robotics is playing a pivotal role in human orthopaedic surgery and this trend is likely to get momentum in veterinary orthopaedics in future. It offers a number of advantages over traditional surgery, including greater precision, less invasiveness and shorter recovery times, and hence particularly suited for complex orthopaedic procedures. The surgeon needs to make only small, delicate incisions, and robotic technologies can provide greater control, and minimize the surgical risk and complications. Robots in the operating room can help perform various tasks like cutting and freshening the bone accurately, positioning of implants, guiding surgeons in positioning instruments, and in 3D modelling. A robotic arm is much more precise than the human eye, enabling more accurate positioning, which can decrease soft tissue damage and deliver better stability and range of motion for the patient. By using robotic technology instead of traditional X-rays, radiation exposure for patients and the operating room team can be reduced considerably (>90%).

Orthopaedic Smart Implants

Orthopaedic smart implants, which provide diagnostic capabilities along with therapeutic benefits, are a new advancement in the medical field. These devices were first developed in the early 2000s, but today's smart implants are much more sophisticated and can provide wide range of functions. Smart implants have embedded sensors, microprocessors and other electronic components that provide real-time information to surgeons for implant positioning during the surgical procedure as well as monitor the health and function of the implant thereby enable better postoperative care and patient monitoring. They can help detect the loosening of implants and implant failure etc., and allow the patients to manage their own recovery by progress monitoring. Smart implants can reduce infection, speed up the recovery and reduce the cost of treatment with more personalized medical care. The data from smart implants can help in refinements in implant design, surgical technique and strategies for postoperative care and rehabilitation. Today, smart orthopaedic implants are applied in various fields of orthopaedics like, knee and hip arthroplasty, spinal fusion, fracture fixation, bone ingrowth and healing, early detection of osteolysis, bone infection and dislocation etc. Some of the companies working on smart implants are Orthosensor, Intellirod spine, Spine Guard, Zimmer, Smith & Nephew Inc. and Stryker. Some of the leading Universities and research institutes are also engaged in developing prototypes of smart implants and conducting trials. The smart implant technology in orthopedics is rapidly growing, and it is likely continue to develop and become more sophisticated and effective, and revolutionize modern medicine in days to come. However, there are a number of technical, safety, regulatory and cost and privacy challenges that have to be addressed for these devices to be widely adopted and become part of mainstream health care system.

Field of orthopaedics is always exciting. In recent years, there were many new innovations and some incredible breakthroughs in the field of orthopaedics that could greatly improve the treatment outcomes and quality of patients' life.

Dr Hari Prasad Aithal
Principal Scientist & Station In-charge
Training and Education Centre
ICAR-Indian Veterinary Research Institute
College of Agriculture Campus, Shivajinagar, Pune - 411 005
(Maharashtra)

AWARDS / HONOURS / RECOGNITIONS

Dr. Naveen Kumar, Professor and Head, Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur, was bestowed upon **Life Time Achievement Award** during the Second Annual Convention of Association of Animal Scientists (ASSCON-2024) held at Apollo College of Veterinary Medicine, Jaipur from 17-19 February 2024 in recognition of his pioneer work in biomaterials and bioengineering research associated with the development of acellular matrices and bioactive bio scaffolds of animal origin for extended soft tissue repair.

Dr. Naveen Kumar, Professor and Head, Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur, conferred as ***Eminent Veterinarian*** by SAARC Regional Veterinary Association (SRVA) on the occasion of World Veterinary Day-2024 (27th April, 2024).

Dr. S.K. Jhirwal, Senior Assistant Professor, Department of Veterinary Surgery and Radiology, CVAS, Rajasthan University of Veterinary and Animal Sciences, Bikaner was awarded with a **Letter of Appreciation** by Municipal Council, Bikaner, Rajasthan, on the occasion of Republic Day, 2024, for rendering Excellent Veterinary Services to the society.

Dr. S.K. Jhirwal, Senior Assistant Professor, Department of Veterinary Surgery and Radiology, CVAS, Rajasthan University of Veterinary and Animal Sciences, Bikaner also received **Best Clinician Award** during 2nd Veterinary and Animal Science Congress & 2nd Annual Convention of Association of Animal Scientists and National Symposium on ***"Technological Intervention for Improving Animal Health & Productivity"*** organised by Apollo College of Veterinary Medicine, Jaipur (Rajasthan) from 17-19 February 2024.

Dr. Md. Moin Ansari, University Professor and Head, Department of Veterinary Surgery and Radiology, Bihar Veterinary College, Bihar Animal Sciences University, Patna, was awarded **Dr. B.R. Ambedkar Vet for Nation Award-2024** for his erudite and informative essay in the National level essay writing competition held on the occasion of *"World Veterinary Day"* on 27th April, 2024.

Dr. B. Rameshkumar, Former Dean, RIVER, Puducherry and President, ISVS received Service Par Excellence Award for the outstanding services in Rotary. The award was presented by Rotary District Governor at Chennai on 07th June, 2024.

Dr. Sharun Khan (Ex-PhD student, Division of Surgery, ICAR-Indian Veterinary Research Institute) received the 2024 **TERMIS Career Development Award**. This award is granted to students or young investigators working in TERMIS emerging countries who have demonstrated outstanding scientific achievements. He received a certificate and $800 USD travel stipend during the 7th Tissue Engineering and Regenerative Medicine International Society World Congress 2024, held in Seattle, Washington, USA, from June 25-28, 2024.

Dr. Sharun Khan received the **TERMIS AP Young Investigator Award 2024**. The Young Investigator Award has been established to recognize a young researcher in the Asia-Pacific region who has made significant and consistent achievements in the TERM field, showing clear evidence of his/her potential to excel. He received the award from Prof. Shengmin Zhang, Director, Advanced Biomaterials & Tissue Engineering Center, Huazhong University of Science and Technology, China, during the 7th Tissue Engineering and Regenerative Medicine International Society World Congress 2024, which was held in Seattle, Washington, USA from June 25-28, 2024.

Dr. S. Amitha Banu, PhD Scholar at the Division of Surgery, ICAR-Indian Veterinary Research Institute, received **International Travel Grant** from the Indian Council of Medical Research (ICMR) for participation in the 7th Tissue Engineering and Regenerative Medicine International Society World Congress 2024, which was held in Seattle, Washington, USA from June 25-28, 2024. She presented a poster titled Adipose-derived Cell and Cell-free Therapies For Contraction-suppressed Full-thickness Skin Wound Healing.

UPCOMING EVENTS

47th Annual Congress of Indian Society for Veterinary Surgery and National Symposium on *"Advances in Domestic and Wild Animal Surgery with special reference to Elephants"* will be held at Department of Veterinary Surgery and Radiology, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam from 18 to 20 December 2024. A post symposium special session on elephant healthcare and live demonstration at Pobitora wildlife Sanctuary on 21st December 2024 will also be organized for the interestered delegates. For detailed information, please visit the website (www.isvs.in).

WORKSHOPS/TRAININGS/CONFERENCE/ SYMPOSIA / CONVENTIONS /SEMINARS

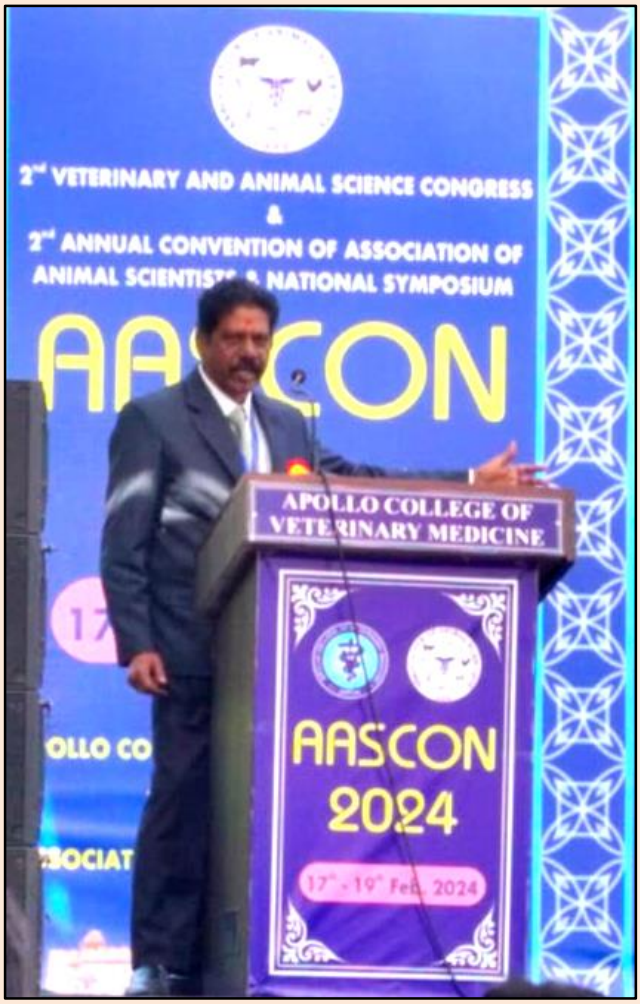
Dr TK Gahlot delivered lectures on Equine and Camel Surgery

Dr. T.K. Gahlot was invited at Bihar University of Animal Science, Patna to deliver lectures on Camel and Equine Surgery on 20th June 2024. Dr. Gahlot delivered lectures ***"Advances in Equine Surgery"*** and ***"An Overview of Camel Surgery"*** to the faculty and postgraduate students at Bihar Veterinary College, Patna. This was followed by the visit of Dr Gahlot to the Veterinary Clinical Complex and Veterinary diagnostic laboratory.

The Department of Veterinary Surgery and Radiology, LUVAS, Hisar organized Training on ***"Advanced Diagnostic and Therapeutic in Veterinary Ophthalmology"*** from 01-07 May, 2024 for field veterinarians of the Department of Animal Husbandry and Dairying, Haryana. Dr Priyanka, coordinator of training, informed that the training was designed to enhance the knowledge and skills of the field veterinarians in providing comprehensive eye care to pets and livestock. The training covered the key topics: structure and functions of different parts of eye, diagnostic approach in routine clinical cases, surgical management of different ophthalmic conditions, hands-on training on tonometry, slit lamp microscopy, ocular sonography, catheterization of nasolacrimal duct, conjuctivoplasty, corneal grafting, phacoemulsification on cadaver's eye and clinical cases were conducted.

Dr R N Chaudhary, Professor and Head, Department of Veterinary Surgery and Radiology, COVS, LUVAS, Hisar informed that the Department of Animal Husbandry and Dairying, Govt. of Haryana is going to start a new Ophthalmology unit in the Pet Animal Medical Centre (PAMC) Sector-2, Panchkula to cater the ophthalmological needs of Chandigarh Tricity in which the Department of Veterinary Surgery and Radiology, LUVAS, Hisar is working as guide center.

Dr Naveen Kumar, Professor and Head, Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur, delivered a Key Note lecture on ***"Development of Bio-Scaffolds for Veterinary Patients: From Lab To Clinical Applications"*** in the Second Annual Convention of Association of Animal Scientists (ASSCON-2024) held at Apollo College of Veterinary Medicine, Jaipur from 17-19 February 2024. He also acted as Chairman of Wild Life Poster Session during the conference.



Dr Naveen Kumar delivering his key note lecture

ORGANISATION OF TRAINING PROGRAMMES BY TRAINING AND EDUCATION CENTRE (TEC), ICAR-IVRI, PUNE (MAHARASHTRA)

1. **Advances in Internal and External skeletal fixation (ESF) Techniques of Fracture Fixation in Animals, 16-22 January 2024**

The Training and Education Centre, ICAR-IVRI, Pune, in collaboration with the District Veterinary Polyclinic, Department of Animal Husbandry, Aundh, Pune (Maharashtra), organised a 7-day hands-on training programme on ***"Advances in Internal and ESF Techniques of Fracture Fixation in Animals"*** from 16-22 January 2024. Seventeen veterinary graduates, officers and practitioners from 10 different states *viz.*, Telangana, Andhra Pradesh, Tamil Nadu, Karnataka, Maharashtra, Gujarat, Rajasthan, Punjab, Himachal Pradesh and West Bengal participated in the training.

The inaugural function of the training was held on 16th January 2024. Dr. Milind D. Meshram, Associate Dean, KNP College of Veterinary Sciences, Shirwal, Satara, was the Chief Guest, and Dr. Anil Deshpande, Deputy Commissioner of Animal Husbandry, IVBP, Pune was the Guest of Honour. Dr. H.P. Aithal, Station In-charge TEC Pune and the Course Coordinator welcomed the guests and participants of the training programme, and briefed about different need based training programmes being organized by the Centre for continued education, and skill and knowledge development of practicing veterinarians. Dr. Milind Meshram appreciated the

participants for having come from different states and urged them to make full use of the training in learning latest skills in treating fractures and other bone diseases. Dr. Anil Deshpande informed the participants about the impact of training programmes organized by TEC Pune at the field level, and spoke on the importance of the hands-on training and how to make its full use in the field by narrating his experiences. Dr. Sanghratna V. Bahire, Scientist (course co-coordinator), proposed vote of thanks. Dr. Amol Bhalerao, Scientist (course co-coordinator), compered the event.

The training included different lectures, demonstrations and hands-on training on different techniques IM pinning such as normograde and retrograde techniques, cross pinning, stack pinning, interlocking nailing, bone plating (DCP and LCP), and external skeletal fixation (liner, circular, hybrid and epoxy-pin fixation) techniques in small and large animals. Lectures also included basic considerations in fracture fixation, including structure and development of bone, bone growth regulation, fracture types, fracture healing and factors affecting healing, selection and timing of fracture fixation, bone graft and bone tissue engineering, arthritis and joint luxations, diagnostic imaging, management of pain and anaesthesia in orthopaedeic patients, and orthotics and prosthetics in small animal orthopaedics. The expert faculty included Dr. H.P. Aithal, Principal Scientist from TEC Pune and Dr. Satyawan Agivale, Assistant Professor from College of Veterinary Sciences, Shirwal, Satara. Online lectures were also given by Dr. Rohit Kumar, Scientist, Dr. Aswathy Gopinathan (Senior Scientist), Dr Kiranjeet Singh (Principal Scientist), Dr. Rekha Pathak (Principal Scientist), Division of Surgery, IVRI, Izatnagar; Dr. Jitender Mohindroo, Professor, Department of Veterinary Surgery and Radiology, GADVASU, Ludhiana and Dr. Surbhi K. Tyagi, Assistant Professor from COVAS, SVPUAT-Meerut and Dr. Dayamon D. Mathew, Assistant Professor, Banaras Hindu University. All the participants were very enthusiastic, took keen interest and actively participated in the hands-on training.

The valedictory function of the training was held on 22nd January 2024. Dr. D.D. Parkale, Former Additional Commissioner of Animal Husbandry, Pune, was the Chief Guest. Dr. Aithal welcomed the guests and briefed about the training and hoped that the trainees would have gained confidence from the learning experience during the training. The Chief Guest distributed certificates to the participants and shared his experiences on treating the fracture cases in the field. He stressed on the need for getting regular trainings in advanced techniques to keep abreast with the advancements taking place in the fracture treatment options, and hoped that the trainees would make full use of the skill and knowledge gained in treating in the day to day fracture cases in the field. The participants profusely thanked TEC IVRI Pune and Department of Animal Husbandry Maharashtra State for providing an opportunity to learn advanced fracture fixation techniques and expressed their confidence to treat fractures using different internal and ESF techniques. Dr. S.K. Das, Principal Scientist, proposed vote of thanks and Dr. Amol Bhalerao compered the proceedings.

Welcome of Chief Guest during the inaugural function

Chief Guest addressing the participants

Group photograph of guests, faculty and participants

A view of trainees attending a lecture

Online expert lectures during the training

Demonstration of fracture fixation techniques

Distribution of certificate to participants by the Chief Guest

Group photograph after the valedictory function

2. Laparoscopic Surgery in Small Animal Practice, 29-31 January 2024

The Training and Education Centre, IVRI, Pune, in collaboration with Department of Veterinary Surgery and Radiology, Mumbai Veterinary College, Mumbai, organised a three-day Training Programme on ***"Laparoscopic Surgery in Small Animal Practice"*** from 29-31 January 2024, under the aegis of All India Network Programme on Diagnostic Imaging and Management of Surgical Conditions in Animals (DIMSCA). A total of 16 participants from different states such as Uttar Pradesh, Maharashtra, Tamil Nadu, West Bengal, Punjab, Haryana and Karnataka attended the training programme.

The Chief Guest of the inaugural function of the training programme was Dr. (Mrs.) Sarita U. Gulavane, Associate Dean, Mumbai Veterinary College. Dr. G.S. Khandekar, Professor and Head, Department of Veterinary Surgery and Radiology and Organising Secretary, welcomed the guests and the participants and briefed about the genesis of laparoscopy unit, different trainings organised by the department and objectives of the training programme. Dr. Amarpal, I/c Veterinary Clinical Complex, IVRI, Izatnagar and PI AINP-DIMSCA spoke on aims and objectives of the project under which different training programmes are being organised for the veterinary graduates and officers from across the country. Dr. H.P. Aithal, Station In-charge, TEC Pune and the Course Coordinator briefed the participants about the mandate and activities of IVRI Pune Centre, and thanked Associate Dean, Mumbai Veterinary College, Mumbai, and MAFSU, for extending support and cooperation in conduction of the course. Dr. (Mrs.) Sarita U. Gulavane, the Chief Guest spoke on the need for specialised training programmes for the practicing veterinarians to refresh their knowledge and skill. She also stressed on the importance of minimally invasive techniques such as laparoscopy and endoscopy in veterinary clinical practice. Dr. S.D. Tripathi, Assistant Professor and Course Director, thanked TEC Pune and PI AINP-DIMSCA for coming forward to organise the need based training programme on laparoscopy and endoscopy at Mumbai Veterinary College. He also thanked all the participants who came from different parts of the country for showing interest to learn laparoscopic techniques.

The 3-day training programme included lectures on principles and application of laparoscopy and endoscopy, handling of laparoscopy and endoscopy instruments, and hands on practice in dry lab as well as cadaver on different laparoscopic / endoscopic procedures. The core faculty included Dr. G.S. Khandekar Professor and Head, and Dr. S.D. Tripathi, Dr. S.V. Gaikwad, and Dr. R.R. Rohi (Assistant Professors) from the Department of Veterinary Surgery and Radiology, Mumbai Veterinary College. Dr. Amarpal, Principal Scientist from IVRI Izatnagar and Dr. S.V. Bahire, Scientist from TEC, Pune also gave expert lectures. Dr. Gaurav Khandekar gave demonstration on endoscopy. All the participants were very enthusiastic and actively participated in the training programme. Honourable Vice-Chancellor of MAFSU, Dr. N.V. Patil visited the training lab and interacted with the participants.

During the valedictory function held on 31st January 2024, Dr. G.S. Khandekar welcomed the Chief Guest, Dr. (Mrs.) Sarita U. Gulavane, Associate Dean, Mumbai Veterinary College, and briefed about the conduction of the training and expressed satisfaction for the keen interest shown by the participants in learning the minimally invasive surgical techniques. Dr. Amarpal appreciated the laparoscopy facility and the work being carried out in the college, and hoped that the trainees will use the knowledge and skill acquired during the training in day to day clinical practice. Dr. H.P. Aithal thanked the faculty and PG students of the college for organising the wonderful training programme and hoped similar cooperation in the future. Many participants expressed their views and were very much satisfied with the training. The Chief Guest, Dr. Sarita U. Gulavane distributed certificates to the trainees. In her address, she hoped that the trainees were benefited from the training and gained confidence in performing laparoscopic and endoscopic procedures. She also thanked TEC Pune and PI AINP-DIMSCA for choosing Mumbai Veterinary College for organising the training programme and expressed her full support for all future endeavours with Indian Veterinary Research Institute. Dr. S.D. Tripathi, proposed formal vote of thanks.

Welcoming of Chief Guest during the inaugural function

Welcoming of a participant during the inaugural function

Chief Guest Dr (Mrs) Sarita U Gulavane, addressing the participants during the inaugural function

Group photograph of guests and participants after the inaugural function

Dr GS Khandekar delivering lecture

Dr SD Tripathi delivering lecture

Participants working in dry lab

Participants working in dry lab

Demonstration of endoscopy

Demonstration of laparoscopy

Participating on hands-on training

Participating on hands-on training

Dr. S.K. Jhirwal, Senior Assistant Professor, RAJUVAS, Bikaner presented a Lead Paper on *"Prospects of ocular health management in farm and companion animals: An overview"* during 24th Indian Veterinary Congress and 31st Annual Conference of IAAVR & National Symposium on ***"Livestock Health and Poultry: A Paradigm Change to Maximize Productivity for Sustainable Farmers' Livelihood"*** organised by COVS, LUVAS, Hisar (Haryana) from 7-8 February, 2024.

Dr. S.K. Jhirwal, Senior Assistant Professor, RAJUVAS, Bikaner delivered a Lead Paper on ***"Cataract in dogs: An overview"*** during Annual Congress of Association of Animal Scientists organised by Apollo College of Veterinary Medicine, Jaipur from 17-19 February, 2024.

Dr. S.K. Jhirwal, Senior Assistant Professor, RAJUVAS, Bikaner was also invited to deliver a lecture and demonstrated ***Veterinary Ophthalmology Techniques*** for laboratory animals at a premier research institute of Govt. of India, CSIR-IGIB at Delhi on 16th March 2024.

Dr. S.K. Jhirwal also delivered a lecture on *"Ease of Ophthalmological diagnosis in Pet Animals"* during a CVE on Ophthalmology at Hotel Ramada, Jaipur on 12.05.2024 organised by SAVA-Rajasthan.

Dr. Bhupen Sarma, Professor & Head-*cum*-Director of Clinics, College of Veterinary Science, AAU, Guwahati was invited by the Sylhet Agricultural University, Bangladesh as Special guest in the DVM orientation programme held on 9th May 2024. Dr. Sarma attended the programme in Sylhet and delivered a speech to the gathering. It is worth mentioning that internee students of Sylhet Agricultural University were trained on Clinical Practice in the Veterinary Clinical Complex of CVSc, Khanapara, Guwahati for last three years. Besides that, internees of Shere-e-Bangla Agricultural University, Dhaka were also trained for clinical practice. Now request has made for conducting training to internees of Raj Shahi Veterinary College of Bangladesh and students of Rampur Veterinary College, Chitwan, Nepal.

Dr. Sarma on the dias with the Vice-Chancellor, Sylhet Agricultural University

Capt (Dr.) Ravi Raidurg, Professor and Head, Department of Veteinary Surgery and Radiology, Veterinary College Shivamogga delivered a guest lecture to CAFT participants on the topic *"Preoperative planning in veterinary orthopaedics"* and *"Decision making in canine humeral fracture repair during plate osteosynthesis"* during Advanced Refresher Training Course on ***"Advances in Anaesthesia, Surgery and Imaging in Farm and Companion Animals"*** organized by the Department of Veterinary Surgery and Radiology, COVS, GADVASU, Ludhiana (Punjab) under the aegis of CAFT from 23.01.2024 to 12.02.2024.

Capt (Dr.) Ravi Raidurg delivered a guest lecture to veterinary practitioners on the topic ***"Preoperative planning in Veterinary Orthopaedics"*** during 2nd Veterinary Practitioner's Conference at Madras Veterinary College, Vepery, Chennai (TANUVAS).

Capt (Dr.) Ravi Raidurg also delivered a guest lecture on ***"Management guidelines for improving productivity in equines involved in anti sera production"*** to BVSc & AH final year students of VCRI, Namakkal, Tamil Nadu.

Capt (Dr.) Ravi Raidurg delivered a lecture on ***"Preoperative Planning in Veterinary Orthopaedics"*** to BVSc & AH final year students of VCRI, Orthanadu.

Capt (Dr.) Ravi Raidurg also delivered a lecture to ***"Canine Hip Dysplasia: Navigating surgical options and timings"*** to Vets at Lucknow in the SAVAVET CVE Programme.

Capt (Dr.) Ravi Raidurg attended AOVET Course – Principles of Small Animal Fracture Management at Leeds, UK from 16 - 18 June 2024.

Prof Ravi Raidurg with Dr Kevin Parsons, AOVET Chairperson, AOVET Course – Principles of Small Animal Fracture Management at Leeds, UK

Dr. Sharun Khan (Ex-PhD student, Division of Surgery, ICAR-Indian Veterinary Research Institute) was invited to Co-chair the scientific session titled ***"Next Generation Biomaterials for Stem Cell Culture, Differentiation and Therapy"*** along with the chairs Prof. Akon Higuchi, National Central University, Taiwan and Prof. Guoping Chen, National Institute for Materials Science, Japan during the 7th Tissue Engineering and Regenerative Medicine International Society World Congress 2024 which was held in Seattle, Washington, USA from June 25-28, 2024.

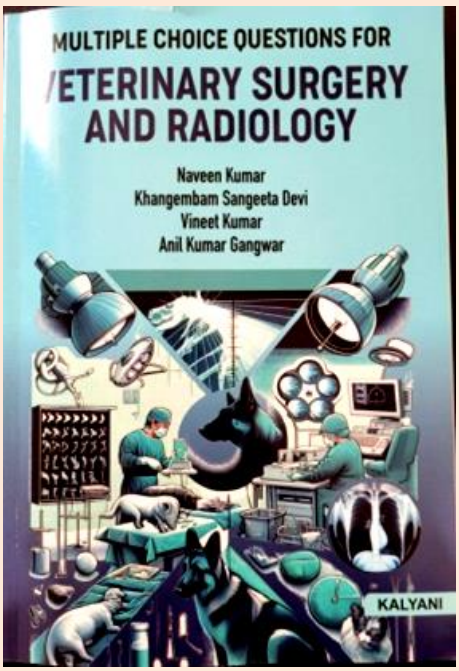
A Free Veterinary camp sponsored by Rotary club of Madras Mount on 08.03.2024 in the suburbs of Chennai. Around 50 farm animals were examined and given free medication. **Dr. B. Rameshkumar** participated as a member of the club.

On this occasion, Prof. S.A. Asokan, Director of Distance Education (Retd) of TANUVAS was honoured for his technical help.

PUBLICATIONS

A book entitled ***"Multiple Choice Questions for Veterinary Surgery and Radiology"*** authored by Naveen Kumar, Khangembam Sangeeta Devi, Vineet Kumar and Anil Kumar Gangwar was released during the Second Annual Convention of Association of Animal Scientists (AASCON-2024) held at Apollo College of Veterinary Medicine, Jaipur from 17 - 19 February 2024. This book is having purely multiple-choice questions (MCQs) and written keeping in the mind to the requirements of job aspirants and for the students interested in UG, PG, PhD, ICAR, JRF, SRF, NET, State PSC and other allied examinations.

Releasing of Book during the ASSCON-2024 Conference



Dr. Md. Moin Ansari, University Professor and Head, Department of Veterinary Surgery and Radiology, Bihar Veterinary College, Bihar Animal Sciences University, Patna, edited a ***Compendium on Dog and Cat-Healthcare and Management*** on the occasion of state level Trade Fair, Dog and Cat show jointly organised by Bihar Veterinary College, Bihar Animal Sciences University, Patna and Dog Lovers Club, Patna from 17-18, February, 2024. The compendium encompasses the multifaceted aspect of healthcare, understanding the intricacies of caring, focus on responsible stewardship and compassionate handling etc. Prof. Ansari, also acted as Organizing Secretary of the show.

APPOINTMENTS/ASSIGNMENTS/PROMOTIONS

Dr (Prof.) Naresh Kumar Singh joined as Dean of Faculty of Veterinary and Animal Sciences, Banaras Hindu University on 15th May, 2024. Dr. Singh graduated from Bangalore Veterinary College, Hebbal, University of Agricultural Sciences, Gandhi Krishi Vigyana Kendra, Bangalore, Karnataka. He did his Masters and PhD in veterinary surgery from I.V.R.I, Izatnagar, Bareilly U.P. Dr. Singh also got Post Doctoral fellowship (PDF) from National Livestock Research Institute, Suwon, South Korea. He has served as foreign professor at Kangwon National University, Chuncheon, South Korea. He has a teaching experience of 23 years.

Dr. Sharun Khan (Ex-PhD student, Division of Surgery, ICAR-Indian Veterinary Research Institute) was appointed as the Honorary Scholar (Visiting Fellow) at the Graduate Institute of Medicine, Yuan Ze University, Taiwan, from 2024 onwards for three years. He was appointed based on his significant contributions and publications in tissue engineering and regenerative medicine (TERM).

Dr. Sharun Khan was also appointed as the Academic Editor of Stem Cells International (Wiley, https://onlinelibrary.wiley.com/journal/4162) and PLOS One (https://journals.plos.org/plosone/) journals. He was also appointed as the Advisory Board Member of Heliyon (https://www.cell.com/heliyon/home) journal and the Guest Associate Editor of the Frontiers in Veterinary Science (https://www.frontiersin.org/journals/veterinary-science) journal.

RESEARCH ASSOCIATE POSITION – UC SAN DIEGO

Position Description

We will be recruiting a Research Associate to join a newly approved project. This proposal aims to understand and evaluate pathophysiological changes associated withspinal cord injury (SCI) and peripheral neuromuscular injuries in rat and rabbit animal models. A clear understanding of the molecular mechanisms underlying SCI & nerve injury -related fibrosis and atrophy could lead to the identification of novel targets for the development of innovative preventative andtherapeutic strategies.

Qualifications

Basic qualifications (Required at Time of Application)

Requirements for this position include a Master's degree in Veterinary Surgery, A successful applicant will demonstrate creativity, productivity, and interest in science through their experience.

Preferred Qualifications

Previous experience working with small animal models such as rabbits, rats, and mice. Experience inbasic aseptic surgical techniques, post-operative care, immunological (such as immunehistochemistry, Western blot) and molecular techniques (quantitative PCR) is a plus.

Application Requirements

Document requirements

- Curriculum Vitae - Your most recently updated C.V.
- Cover Letter
- Statement of Research

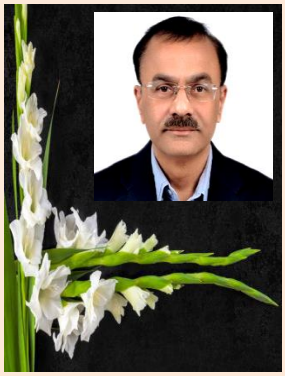
Please send directly to:

M. Raj Rajasekaran, Ph.D.
Professor of Urology, UC San Diego
Email: mrajasekaran@health.ucsd.edu

REMEMBRANCE

Dr. Harpal Singh was born on July 15, 1942 in Muzaffarnagar, Uttar Pradesh. He got his B.Sc. in 1960 from Agra University, Agra, Uttar Pradesh; B.V.Sc. & A.H. in 1964 from Uttar Pradesh Agricultural University, Pantnagar; M.V.Sc. in 1966 from Uttar Pradesh Agricultural University, Pantnagar and Ph.D. in 1971 from University of Illinois, USA. He started his career in the year 1966 as Assistant Professor, Department of Surgery and Radiology, Pantnagar and in almost four decades of his scientific career, he has accumulated an impeccable and impressive track record of assisting in stitutions in managing all areas of academics, recruitment and assessment and he had multitalented skills at planning, organizing, delegating, administering, recruitment and assessment. He held various positions during his tenure at Pantnagar like, Professor & Head, Department of Surgery and Radiology, Dean College of Post Graduate Studies, Dean Student Welfare, Director Administration & Monitoring, Dean College of Veterinary Sciences, He also acted as founder Dean College of Fishery Sciences. He was recipient of various coveted awards such as Ram Lal Agrawal National award (1992 and 1995), Jawahar Lal Nehru award by ICAR on Ph.D. thesis guided in the area of Animal Health (1994), Fellow of – National Academy of Agricultural Sciences, National Academy of Veterinary Sciences, Indian Society for Veterinary Surgery etc. He was member of various committees in ASRB, UPSC, VCI. He held the responsibility of Member, Research Advisory Committee of Central Arid Zone Research Institute (CAZRI) Jodhpur, Member, QRT of ICAR on Directorate of Cropping Systems Research, Modipuram. He was Life member of various scientific societies like–Indian Society of Veterinary Surgery, Indian Science Congress Association, Association for the Advancement of Veterinary Research. He held the position of President, Indian Society for Veterinary Surgery (1992-94). More than two hundred publications have been contributed by him including 111 Research papers and 11 Books/Lab. Manuals/Compendium. He guided several research scholars for Masters (11) and Ph.D. (7) degrees. Prof. Harpal Singh organized couple of Summer Institutes (ICAR). He was the convenor of Second Annual Conference and national seminar of Indian Society for Veterinary Surgery (1979). He was a very active sportsman and champion wrestler. Dr Harpal Singh passed away on 17th June, 2024 at his hometown in Muzaffarnagar, Uttar Pradesh. He has left his wife, one son and one daughter and three grand children.

Indian Society for Veterinary Surgery extends heartfelt condolences to the bereaved family and pray to Almighty that the departed soul rest in peace.



Dr. Mohan Ramachandra Wani (1965 – 14 April 2024) was a veterinary surgeon and well-known Indian cell biologist, immunologist and Director of the National Centre for Cell Science. He was Known for his studies in the fields of bone and cartilage cell biology, osteoimmunology, and regenerative medicine. Dr. Mohan Wani, Born in 1965, graduated in veterinary science from Nagpur Veterinary College and earned his master's degree from Dr. Panjabrao Deshmukh Krishi Vidyapeeth (PDKV). His doctoral studies were at the University of London on a Commonwealth Fellowship and after securing a PhD, he returned to India to join the National Centre for Cell Science (NCCS). At NCCS, he was a part of the research groups on Cell Organization and Function, Pathogenesis and Cellular Response as well as Stem Cells and Regeneration. Dr. Wani's research focus was in the fields of bone and cartilage cell biology, osteoimmunology, arthritis, stem cell science and regenerative medicine. He was known to have worked extensively on recombinant mouse IL-3 and developed mouse models of rheumatoid arthritis in humans. His studies have been documented by way of several articles. He was a member of the Task Force on Stem Cell Research and Regenerative Medicine of the Department of Biotechnology of the Government of India.

Wani received the B. M. Birla Science Prize of the B. M. Birla Science Centre in 2004 and the Prof B. K. Bachhawat International Travel Grant for Young Scientists of the Christian Medical College in 2006. The Department of Biotechnology (DBT) of the Government of India awarded him the National Bioscience Award for Career Development, one of the highest Indian science awards in 2009. He became an elected fellow of the National Academy of Sciences, India in 2011. He was also an elected member of the Guha Research Conference. He was also recipient of Dr. P.E. Kulkarni Oral Award bestowed by Indian Society for Veterinary Surgery. Dr. Wani was a great asset to the country and his untimely demise is a great loss to the profession and the country.

Indian Society for Veterinary Surgery extends heartfelt condolences to the bereaved family and pray to Almighty that the departed soul rest in peace.

Please visit the Web site, Facebook page and YouTube Channel of the society for updates

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