

## 3rd International Conference on Clinical Orthopedics & Spine Biomechanics

**April 26-28, 2019, ISIC, New Delhi, India**

Day 1. Clinical Orthopedic Biomechanics	
Time	Topic
0900-1050	<b>Session I- Hip &amp; Knee biomechanics</b> Session Chair: Dr. Sudhir Kapoor, Dr. C.S. Yadav & Dr. Pradeep Sharma
0900-0910	<b>Bearing surfaces in THA - Have we reached a conclusion?</b> Dr. Chandeeep Singh
0910-0920	<b>THA in elderly – cemented vs uncemented</b> Dr. C.S. Yadav
0920-0930	<b>Influence of uncemented hip implant designs on bone remodelling and in growth</b> Dr. Sanjay Gupta
0930-0940	<b>Navigation assistance – Is it really better than conventional TKR</b> Dr. Vivek Mahajan
0940-0950	<b>Modularity in THA – present status</b> Dr. Sudhir Kapoor
0950-1000	<b>Exploring virtual reality for rehabilitation</b> Dr. Srinivasan Venkataraman
1000-1010	<b>Discussion</b>
1010-1050	<b>Panel discussion: Failures in total knee and hip arthroplasty</b> Moderator: Dr. Ashish Taneja Panelist: Dr. Sudhir Kapoor, Dr. C.S. Yadav, Dr. Vivek Mahajan, Dr. Sanjay Gupta, Dr. Chandeeep Singh, Dr. Pradeep Sharma, Dr. PS Gill
1050-1110	<b>TEA</b>
1110-1200	<b>Session II – Sports biomechanics</b> Session Chair: Dr. Vijay Goel, Dr. Sameer Mehta & Dr. Vinod Kumar
1110-1120	<b>How rotator cuff injury alters shoulder biomechanics</b> Dr. Harpreet
1120-1130	<b>Ankle fractures – injury biomechanics &amp; restoration</b> Dr. D. Vijay Kumar
1130-1140	<b>Biomechanics of flat foot &amp; how it affects gait</b> Dr. Maninder Singh Shah
1140-1150	<b>Graft choices in ACL reconstruction &amp; its biomechanical implications</b> Dr. Reetadyuti Mukhopadhyay
1150-1200	<b>Biomechanics of single vs double bundle ACL reconstruction &amp; my indications for each</b> Dr. Vinod Kumar
1200-1240	<b>Panel Discussion: Failures in ACL reconstruction</b> Moderator: Dr. Sumit Khurana

	Panelist: Dr. Vinod Kumar, Dr. D. Vijay Kumar, Dr. Dhananjay Sabat, Dr. Vivek Mahajan, Dr. Reetadyuti Mukhopadhyay, Dr. Sameer Mehta
<b>1240-1330</b>	<b>Inauguration Ceremony</b>
<b>1330-1415</b>	<b>Lunch</b>
<b>1415-1555</b>	<b>Session III – Trauma</b> Session Chair: Dr. Amit Roychowdhury & Dr. Ritabh Mittal
<b>1415-1425</b>	<b>Bone quality: Indicator of pathological conditions</b> Dr. Navin Kumar
<b>1425-1435</b>	<b>Changes in classification, planning and treatment of fractures with 3D printed models</b> Dr. Ritabh Mittal, ISIC, Delhi
<b>1435-1445</b>	<b>Evaluation of loading in hip-thigh-knee complex under frontal impact for a car occupant</b> Dr. Amit Roy Chowdhury
<b>1445-1455</b>	<b>Biomechanics in Aerospace (Skype)</b> Dr. S.N. Omkar
<b>1455-1505</b>	<b>Challenges in fixation of comminuted proximal humeral fractures</b> Dr. Shashank Misra
<b>1505-1515</b>	<b>Failure analysis of orthopedic implants- An engineer's perspective</b> Dr. Anoop Chawla
<b>1515-1525</b>	<b>Discussion</b>
<b>1525-1555</b>	<b>Panel discussion: Why does fracture fixation fail?- Failure mechanisms of nails &amp; plates</b> Moderator: Dr. Ritabh Kumar Panelist: Dr. Anoop Chawla, Dr. Amit Roy Chowdhury, Dr. Deepak Raina, Dr. Dinesh Kalyanasundaram, Dr. Navin Kumar, Dr. Arnab Sinha, Dr. Harmesh Kapoor
<b>1555-1620</b>	<b>TEA</b>
<b>1620-1720</b>	<b>Free paper session</b> Session Chair: Dr. Sanjay Gupta & Dr. Sudhir Kapoor
<b>1620-1627</b>	<b>Radiological alignment results of posterior stabilized knee in severe pre-op varus deformity</b> Dr. Amit
<b>1627-1634</b>	<b>Efficacy of Russian current on pain, strength of quadriceps and function in subjects with primary knee osteoarthritis: a randomized clinical trial</b> Ms Pratibha Prabha
<b>1634-1641</b>	<b>Multipurpose Adaptable Cane</b> Mr. Aniket Kumar
<b>1641-1648</b>	<b>Lateral approach to the lumbar spine of sprague dawley rat; development of a novel animal model for spine surgery</b> Dr. Shakti A Goel
<b>1648-1655</b>	<b>Posture correction device for prevention of spine ailments</b> Mr. Aditya Saini

<b>1655-1702</b>	<b>Effects of reaction time training on dynamic balance in diabetic adults</b> Ms Arpita Mishra	
<b>1702-1709</b>	<b>Efficacy of kinesio-taping over levator scapulae trigger point on pain, pressure pain threshold and function in chronic mechanical neck pain: a randomized clinical trial</b> Ms. Swarn Lata	
<b>1709-1716</b>	<b>Effectiveness of pilates exercise program on pain, function and stabilometric parameters in subjects with chronic nonspecific low back pain: a randomized clinical trial</b> Mr. Anil Kumar	
<b>1720-1900</b>	<b>Workshops (parallel session)</b>	
	<b>Workshop I (Biomechanics Lab)</b>	<b>Workshop II (Conference Room)</b>
	<b>Demonstration of saw bone experiments - pull out strength study</b> Mr. M Marieswaran, Dr. Shakti A Goel	<b>Demonstration of kinematic data acquisition using electromagnetic system</b> Dr. VandanaPhadke
<b>1900 onwards</b>	<b>Faculty Dinner</b>	

## Day 2. Clinical Spine Biomechanics

Time	Topic
0900-1100	<b>Session I- Spinal Trauma (Prevention and Management)</b> Session Chair - Dr. Patrick Kluger, Dr. Rajendra Prasad & Dr. Vijay Goel
0900-0915	<b>Biomechanical perspective of thoraco-lumbar spine</b> Dr. Rajagopalan
0915-0930	<b>Thoraco-lumbar spinal fractures and fixation modalities</b> Dr. Patrick Kluger
0930-0945	<b>Acute disc-prolapse of Lumbar Spine: patho-biomechanics and management options.</b> Dr. Manoj Sharma
0945-1000	<b>Body composition assessment in chronic spinal cord injury using bio-impedance: How it affects the biomechanics of spine</b> Dr. Shabana Urooj
1000-1015	<b>Is there a role of dynamic images in management of spine trauma?</b> Dr. RaghavenDr.a S
1015-1030	<b>Do we have an ideal classification system for Thoraco-Lumbar and Subaxial Cervical Spinal injuries?</b> Dr. HS Chhabra
1030-1045	<b>Biomechanics and fixation modalities in Cervical Spine Trauma</b> Dr. P Sarat Chandra
1045-1100	<b>Trans-Ilio sacral plating: Anatomical and Biomedical feasibility.</b> Dr. Pravin Padalkar
1100-1115	<b>Tea</b>
1115-1200	<b>Panel discussion: The problem of whiplash and possible prevention and management strategies</b> Moderator: Dr. P Sarat Chandra Panelists: Dr. Rajendra Prasad, Dr. H S Bhatoe, Dr. Pravin Padalkar, Dr. Sanjay Wadhwa, Dr. Roop Singh, Dr. Mrinal Joshi, Dr. Harihara Prakash, Dr. Tankeswar Boruah
1200-1300	<b>Session II: Degenerative Spine</b> Session Chair: Dr. Roop Singh, Dr. Dilip Sinha & Dr. S K Srivastava
1200-1215	<b>Degeneration and its effect on spinal biomechanics</b> Dr. S K Srivastava
1215-1230	<b>Spine Osteoporosis: Biomechanics and Fixation modalities</b> Dr. K Das
1230-1245	<b>Changes in segmental kinematics and load distribution on components of lumbo sacral fixation after addition of Iliac Screw</b> Dr. Vijay Goel
1245-1300	<b>Regulatory perspective for implant design and testing</b> Dr. V. G. Somani, Joint Drugs Controller (India), Ministry of Health & Family Welfare, Government of India, Central Drugs Standard Control Organisation, Directorate General of Health Services

<b>1300-1330</b>	<b>Panel discussion: Does spine bio-mechanical alterations due to lumbar fixations translate to adjacent segment disease?</b> Moderator: Dr. H S Chhabra Panelist: Dr. Patrick Kluger, Dr. Vijay Goel, Dr. Sunil Katoch, Dr. Arun Sharma, Dr. VikasTandon, Dr. ML Bansal, Dr. V. Srikumar, Dr. Mrinal Joshi
<b>1330-1415</b>	<b>Lunch</b>
<b>1415-1545</b>	<b>Session III: Deformity</b> Session Chair: Dr. Arvind Jayaswal, Dr. Sunil Katoch & Dr. Bhavuk Garg
<b>1415-1430</b>	<b>Influence of cervical spine curvature on range of motion under physiological loading</b> Dr. G Saravana Kumar
<b>1430-1445</b>	<b>Biomechanics of proximal junctional kyphosis</b> Dr. Vijay Goel
<b>1445-1500</b>	<b>Role of EOS in surgical planning for spinal deformity</b> Ms. Chloe Hoarou & Mr. Timon Dr.essler
<b>1500-1545</b>	<b>Panel discussion: Cobolt Chromium rods v/s titanium rods in correction of spinal deformities in adolescents</b> Moderator- Dr. Bhavuk Garg, Panel: Dr. Vijay Goel, Dr. Amit Roy Chowdhury, Dr. G Saravana Kumar, Dr. Vishal Nigam, Dr. Raghavendra S, Dr. Gururaj Sangodimath, Dr. Rajat Mahajan, Dr. Nitesh Gehlot
<b>1545-1600</b>	<b>Tea</b>
<b>1600 - 1730</b>	<b>Session IV: Infection</b> Session Chair: Dr. Ajoy Shetty, Dr. Rajagopalan & Dr. Ramesh Kumar
<b>1600-1615</b>	<b>How infections affect the biomechanics of spine</b> Dr. S.K. Srivastava
<b>1615-1630</b>	<b>Instrumentation in Tuberculosis of Spine</b> Dr. Ramesh Kumar
<b>1630-1645</b>	<b>Biomechanical responses due to discitis infection of a juvenile thoracolumbar spine</b> Dr. Ajoy Shetty
<b>1645-1730</b>	<b>Panel Discussion: Biomechanics of Instrumentation in infected spine</b> Moderator: Dr. Ajoy Shetty Panelist: Dr. Rajagopalan, Dr. Arvind Jayaswal, Dr. Aditya Ingalhalikar, Dr. Dilip Sinha, Dr. Agnivesh Tikoo, Dr. Roop Singh, Dr. Ankur Nanda, Dr. Neeraj Gupta
<b>1730-1830</b>	<b>Session V: Free Paper Session</b> Session chair: Dr. G. Saravana Kumar, Dr. Patrick Kluger & Dr. Manoj Sharma
<b>1730-1737</b>	<b>A novel method to augment pedicle screw pull out strength in osteoporotic spine</b> Dr. Rafiq Bhat
<b>1737-1744</b>	<b>A randomized controlled trial comparing outcome of conservative versus operative treatment in traumatic thoracolumbar fractures without neurological deficit in adults</b>

	Dr. Jeevan Kumar Sharma	
<b>1744-1751</b>	<b>Nucleus polposus embolism causing anterior spinal artery syndrome: a case report</b> Dr. Mayank Gupta	
<b>1751-1758</b>	<b>Load transfer across a lumbar functional spinal unit during physiological movements</b> Mr. Rahul Gautam Talukdar	
<b>1758-1805</b>	<b>An unusual cause of buttock pain after posterior thoracolumbar fixation: Rod migration into the pelvis</b> Dr. Sulaiman Sath	
<b>1805-1812</b>	<b>Flip laminoplasty - a novel technique for decompression in dorsolumbar spine injuries</b> Dr. Sapan Kumar	
<b>1812-1819</b>	<b>Functional and radiological outcome of early mobilization in unstable AO type A thoracolumbar fracture without neurological deficit</b> Dr. Sanjeev Kumar	
<b>1819-1826</b>	<b>Role of rod contouring in thoracic myelopathy</b> Dr. Kalyan Kumar Varma Kalidindi	
<b>1830-1900</b>	<b>Session VI Best poster presentation award session (3+2X6)</b> Judges - Dr. Patrick Kluger, Dr. Rajagopalan, Dr. S. K. Srivastava, Dr. P Sarat Chandra, Dr. Ajoy Shetty	
<b>1900-1945</b>	<b>Workshops I (Biomechanics Lab)</b>	<b>Workshops II (Conference Room)</b>
	<b>1) Demonstration of saw bone experiments - pull out strength study</b> Mr. M Marieswaran, Dr. Shakti A Goel	<b>2) Demonstration of virtual reality in Orthopedic and Spine ailments</b> Ms. NishuTyagi
<b>1945 onwards</b>	<b>Banquet Dinner</b>	

### Day 3. Problem Statement – Ideation & Applied Biomechanics

Time	Topic
0900-0920	<b>Design thinking &amp; its role in innovation for spinal cord injury management</b> Dr. Prashant Jha (Skype) Moderator: Dr. H S Chhabra
0920-1100	<b>Problem statement – Ideation &amp; implementation for spine surgeons</b> Panelists–Dr. Vijay Goel, Dr. Patrick Kluger, Dr. K Das, Dr. H S Bhatoe, Dr. Harihara Prakash, Dr. Shabana Urooj, Dr. Amit Roy Chowdhury, Dr. Aditya Ingalhalikar, Dr. Nitesh Gahlot
<b>4 problem statements by each moderator (5 minutes introducing the problem + 20 minutes for ideation and plan of implementation)</b>	
0920-0945	<b>Tuberculosis of Cervical Spine</b> Dr. Manish Chadha
0945-1010	<b>Degenerative scoliosis</b> Dr. Vishal Nigam
1010-1035	<b>Proximal junctional failure after surgery</b> Dr. Agnivesh Tikoo
1035-1100	<b>Implant failure in degenerative listhesis in osteoporotic spine</b> Dr. B Mohapatra
1100-1120	<b>Tea</b>
1120 - 1335	<b>Recent Advances</b> Session Chair: Dr. S L Yadav & Dr. Gita Handa
1120-1135	<b>Macro mechanics of biological tissues &amp; musculoskeletal modeling</b> Dr. Dinesh Kalyanasundaram, IIT Delhi
1135-1150	<b>Optimization of sitting posture in Drivers for delayed fatigue of hand muscles</b> Dr. Venkatesh Balasubramanian, IIT Madras
1150-1205	<b>Polycentric knee joint – An affordable lower limb prosthesis development</b> Dr. Kanagraj, IIT Guwahati
1205-1220	<b>Development of intelligent prosthesis</b> Dr. Deepak Joshi, IIT Delhi
1220-1235	<b>Design thinking for development of prosthesis</b> Dr. PVM Rao, IIT Delhi
1235-1250	<b>Combination of Spine &amp; chest trauma: a grave situation</b> Dr. H S Bhatoe
1250-1305	<b>The Current and Future of Spine Robotics</b> Mr. Oren Maya
1305-1320	<b>Deep learning and its application in signal and image processing</b> Dr. A P Prathosh
1320-1350	<b>Panel Discussion: Effect of prosthesis on gait parameters</b> Moderator: Dr. Gita Handa Panelist: Dr. Deepak Joshi, Dr. Venkatesh Balasubramanian, Dr. Sanjay Wadhwa, Dr. S L Yadav, Dr. Mrinal Joshi, Dr. V Srikumar, Dr. Shipra Choudhary, Dr. Anil Kumar Jain

<b>1350-1430</b>	<b>Lunch</b>
<b>1430-1500</b>	<b>Open House</b> <b>Does robotics help in accurate placement of implant and improve outcome of spine surgery</b> Moderators: Mr. Oren Maya, Mr. Himanshu Makhija & Mr. Srikanth Sangili
<b>1500-1615</b>	<b>Problem statement – Ideation &amp; Implementation for ortho surgeons</b> Panelist – Dr. Lalit Maini, Dr. PVM Rao, Dr. Venkatesh Balasubramaniam, Dr. Sudhir Kapoor, Dr. Maninder Shah Singh, Dr. Kanagraj
<b>3 problem statements by each moderator (5 minutes introducing the problem + 20 minutes for ideation and plan of implementation)</b>	
<b>1500-1525</b>	<b>Failure of implants-trauma cases</b> Dr. D Vijay Kumar
<b>1525-1550</b>	<b>Hip implants – Modification in neck &amp; head design</b> Dr. Deepak Raina
<b>1550-1615</b>	<b>Instrumentation to enhance the surgical experience</b> Dr. Ritabh Mittal
<b>1615-1630</b>	<b>TEA</b>
<b>1630-1700</b>	<b>Code of medical ethics</b> Speaker from DMC
<b>1700-1730</b>	<b>Industry session</b>
<b>1730</b>	<b>Valedictory session</b>