

**Canadian Orthopaedic Research Society (CORS)
Annual Meeting
Friday, June 16
Westin Hotel Ottawa**

7:50-9:20 CORS Paper Session: Arthroplasty • Governor General 1, Westin
Moderators: Alberto Carli, ON; Rizhi Wang, BC

20 – 07:50

Evolution of Corrosion Particles at the Head-neck Interface in Hip Implants - How Metals are Released *in vivo*?

Qiong Wang, BC; Rizhi Wang, BC

21 – 07:56

Subject and Implant Factors Affecting Tibial Component Migration in Total Knee Arthroplasty

Elise Laende, NS; Joanna Flemming, NS; Janie Astephen Wilson, NS; Glen Richardson, NS; Michael Dunbar, NS

22 – 08:02

Kinematic Analysis of Dual-mobility vs Single-bearing Hip Prosthesis During Squatting Task Using Statistical Parametric Mapping

Mario Lamontagne, ON; Danilo S Catelli, ON; Erik Kowalski, ON; Paul E Beaulé, ON

Discussion 08:08

23 – 08:20

Humeral Lateralization Optimizes Tendon Transfer Strength After Reverse Shoulder Arthroplasty

G Daniel G Langohr, ON; Kevin Chan, ON; Matthew Mahaffy, ON; James A Johnson, ON; George S Athwal, ON

24 – 08:26

The Effect of Arm Loading and Plane of Elevation on Acromial Stress After Reverse Shoulder Arthroplasty

Jason S Lockhart, ON; Murray T Wong, ON; G Daniel G Langohr, ON; George S Athwal, ON; James A Johnson, ON

25 – 08:32

Differentially Represented Proteins in the Synovial Fluid of Hip Arthroplasty Patients with a Pseudotumor vs. Periprosthetic Osteolysis

Isabelle Catelas, ON; Eric Lehoux, ON; Zhibin Ning, ON; Daniel Figeys, ON; Stephen J Baskey, ON; Paul E Beaulé, ON

Discussion 08:38

26 – 08:50

Contact Kinematics Correlate to Tibial Component Migration Following Single Radius Posterior Stabilized Knee Replacement

Matthew Teeter, ON; Kevin I Perry, US; Xunhua Yuan, ON; James Howard, ON; Brent A Lanting, ON

27 – 08:56

The Effects of Humeral Lateralisation on Rotator Cuff Strength After Reverse Shoulder Arthroplasty

Kevin Chan, ON; G Daniel G Langohr, ON; Matthew Mahaffy, ON; James A Johnson, ON; George S Athwal, ON

28 – 09:02

Inferior Glenosphere Tilt Improves Reverse Shoulder Arthroplasty Contact Mechanics

Michael Griffiths, ON; G Daniel G Langohr, ON; George S Athwal, ON; James A Johnson, ON

Discussion 09:08

7:50-9:20 COA/CORS Paper Session: Spine • NS/NFLD, Westin

Moderators: Fackson Mwale, QC; Albert Yee, ON

29 – 07:50

A Simplified Clinical Prediction Rule for Prognosticating Independent Walking After Spinal Cord Injury: A Prospective Study from a Canadian Multicentre Spinal Cord Injury Registry

Katie Emily Hicks, ON; Yichen Zhao, BC; Nader Fallah, BC; Carly Rivers, BC; Vanessa Noonan, BC; Tova Plashkes, BC; Eugene Wai, ON; Darren Roffey, BC; Eve Tsai, ON; Jerome Paquet, QC; Najmedden Attabib, NB; Travis Marion, BC; Henry Ahn, ON; Philippe Phan, ON

30 – 07:56

Predictors of Blood Transfusion in Posterior Lumbar Spinal Fusion: A Canadian Spine Outcome and Research Network (CSORN) Study

Mina Morcos, QC; Fan Jiang, QC; Greg McIntosh, ON; Michael Weber, QC

31 – 08:02

Predictors of Discharge to Home After Posterior Lumbar Spinal Fusion. An Analysis of Canadian Spine Outcomes and Research Network Database

Mina Morcos, QC; Fan Jiang, QC; Alex Munteau, QC; Greg McIntosh, ON; Michael Weber, QC

Discussion 08:08

32 – 08:17

Differences and Similarities of Spinopelvic Balance Parameters and Acetabular Morphology in Skeletally Mature Patients Diagnosed with Femoroacetabular Impingement and Hip Dysplasia

Graeme P Whyte, US; Aaron Buckland, US; Douglas Mintz, US; Struan Coleman, US; Ernest Sink, US; Robert Buly, US

33 – 08:23

Assessment of Vertebral Rotational Orientation Using EOS Imaging Technology in Instrumented Spines of Patients with Adolescent Idiopathic Scoliosis

Fan Jiang, QC; Leoardo Simoes, Brazil; Jean Ouellet, QC; Neil Saran, QC

34 – 08:29

Treatment of Thoracolumbar Burst Fractures: Extended Follow-up of a Randomized Clinical Trial Comparing Orthosis vs. no Orthosis

Christopher Bailey, ON; Jennifer Urquhart, ON; Osama Alrehaili, ON; Charles Fisher, BC; Alyssa Fleming, ON; Parham Rasoulinejad, ON; Kevin Gurr, ON; Stewart Bailey, ON; Fawaz Siddiqi, ON

Discussion 08:35

35 – 08:44

Repeat Discectomy vs Discectomy and Fusion for Recurrent Lumbar Disc Herniations: A CSORN Study

Christopher Bailey, ON; Jennifer Urquhart, ON; Parham Rasoulinejad, ON; Alyssa Fleming, ON

36 – 08:50

Metastatic Involvement in Vertebral Bone Modifies Features of the Bone Tissue Matrix Impacting its Material Characteristics and Behaviour

Mikhail Viktor Burke, ON; Ayelet Atkins, ON; Ahmad Golaraei, ON; Virginijus Barzda, ON; Maragrete Akens, ON; Cari Whyne, ON

37 – 08:56

Short Link N Stimulates Intervertebral Disc Repair in a Novel Long-term Organ Culture Model that Includes the Bony Vertebrae

Michael P Grant, QC; Nizar AlGarni, QC; Laura M Epure, QC; Omar Salem, QC; John Antoniou, QC; Fackson Mwale, QC

38 – 09:02

The Effect of Tungsten in the IVD

Michael P Grant, QC; Elias Elahie, QC; Alicia Bolt, QC; Laura M Epure, QC; Alexa Papanastasiou, QC; John Antoniou, QC; Koren K Mann, QC; Fackson Mwale, QC

Discussion 09:08

9:30-11:00 CORS Paper Session: Joints and Arthritis • NS/NFLD, Westin

Moderators: Janie Wilson, NS; Margarete Akens, ON

52 – 09:30

Delayed Endothelial Progenitor Cell Therapy Promotes Bone Defect Repair in a Pre-clinical Rat Model

Brent D Bates, ON; Charles Godbout, ON; David J Ramnarain, ON; Emil H Schemitsch, ON; Aaron Nauth, ON

53 – 09:36

Biomechanical and Radiographic Evaluation of Supraspinatus Anchor Repair and the Effect of Pre-repair Channeling: A Prospective Randomized Controlled Animal Study

Hakim Louati, ON; Kathryn Culliton, ON; Hans K Uthoff, ON; Greg O Cron, ON; Gerd Melkus, ON; Adnan Sheikh, ON; Odette Laneuville, ON; Peter Lapner, ON; Guy Trudel, ON

54 – 9:42

The Effect of Distal Radius Dorsal Angulation on Capitulum Contact Mechanics

Clare E Padmore, ON; Helen L Stoesser, ON; G Daniel G Langohr, ON; Emily A Lalone, ON; James A Johnson, ON; Graham JW King, ON

Discussion 09:48

55 – 10:00

Articular Cartilage Repair with Mesenchymal Stromal Stem Cells Following Chondrogenic Priming in Normoxic and Hypoxic Conditions: A Preclinical Pilot Study

Troy D Bornes, AB; Adetola B Adesida, AB; Nadr M Jomha, AB

56 – 10:06

Hip Mechanics and Muscle Activation Levels During Gait in CAM-Induced Femoroacetabular Impingement Compared to Asymptomatic Individuals: A Role for Gait Analysis?

Ivan Wong, NS; Janice Moreside, NS; Derek Rutherford, NS

57 – 10:12

Biological Repair of Osteoarthritic Cartilage Using Short Link N

Michael Grant, QC; Muhammad Albeshar, QC; Laura M Epure, QC; John Antoniou, QC; Fackson Mwale, QC

Discussion 10:18

58 – 10:30

Effect of Link N On the Synthesis and Degradation of Matrix Proteins in Human Articular Osteoarthritic Cartilage

Motaz AlAqeel, QC; Michael Grant, QC; Laura Epure, QC; Omar Salem, QC; Olga Huk, QC; John Antoniou, QC; Fackson Mwale, QC

59 – 10:36

Aprepitant Inhibits Myofibroblast-mediated Collagen Gel Contraction

Kevin Hildebrand, AB; Mei Zhang, AB; Prism S Schneider, AB; Paul T Salo, AB; A Dean Befus, AB; Morley D Hollenberg, AB; David A Hart, AB

60 – 10:42

Cytokine Profiles as Potential Biomarkers for "Pre-osteoarthritis"

Guomin Ren, AB; Jackie Whittaker, AB; Pam Railton, AB; James N Powell, AB; Carolyn A Emery, AB; Roman J Krawetz, AB

Discussion 10:48

10:45-11:30 Coffee Break in Exhibits

11:30-11:45 Founders Update • Governor General 2/3, Westin

Biocompatibility of Bone Allograft Toughened with a Novel Irradiation-driven Sterilization Method for Large Segmental Defects: An in vivo Rabbit Study - Sam Park, ON

11:45-12:30 COA Business Meeting • Governor General 2/3, Westin

12:30-14:00 Lunch in Exhibits

**13:00-14:00 Canadian Orthopaedic Research Society (CORS) Business Meeting
• Nova Scotia/ NFLD, Westin**

14:00-14:45 CORS Symposium: 3D Printing • Governor General 2/3, Westin

Moderator: Fackson Mwale, QC

Summary: Additive manufacturing, also known as 3D printing, has emerged over the past three decades as a technology for rapid prototyping and manufacturing. The constantly improving quality of 3D-printing applications has contributed to their increased use on patients. This symposium will highlight developments in 3D printing technology that has occurred in recent years and its potential role in the treatment of osteoarthritis. We will summarize for the clinician, the enormous benefits of 3D printing in the medical care of patients.

Objectives:

1. What is 3D printing and how are 3D printed models or implants generated?
2. To understand the present state of 3D printing in orthopaedic applications.
3. What are the advantages and limitations of 3D printing?
4. Future directions and challenges for clinical translation.

Speaker:

Principles and Applications of Medical 3D Printing - Frank Rybicki, ON

14:45-15:30 CORS Macnab Lecture: Musculoskeletal Tissue Engineering

• Governor General 2/3, Westin

Moderator: Fackson Mwale, QC

Objectives:

1. Understanding tissue engineering of load-bearing connective tissues.
2. Clinical problems and translational solutions.
3. Models of musculoskeletal injury.

Speaker:

From Allografts to Scaffolds: Applications of 3D printing in Bone Tissue Engineering - Hani Awad, US

16:30-17:30 CORS Executive Meeting • PEI, Westin

17:30-19:00 Poster Pub • Exhibit Hall

Network with colleagues and industry partners over a drink and peruse this year's posters in the Exhibit Hall

Cash Bar (cash, Visa and MasterCard accepted).