

# PROGRAM

Registration and Breakfast	8:00 – 8:30
Opening Remarks	8:30 – 9:00
Session 1 – Pipeline	9:00 – 9:50
Session 2 – Open	9:50 – 10:30
Break	10:30 – 10:45
Session 3 – Timber	10:45 – 11:50
Poster Session and Lunch	11:50 – 13:30
Session 4 – Concrete + Masonry	13:30 – 15:00
Keynote: Amir Jamshidi	15:00 – 15:30
Break	15:30 – 15:45
Session 5 – Steel	15:45 – 16:50
Dinner and Awards	16:50 – 19:00

## ORAL PRESENTATIONS

### SESSION 1 – PIPELINE

Chair: Dimple Ji

- 9:00 – 9:10 **Janine Woo** – Integrity assessment of dents in pipelines using finite element analysis and artificial neural networks
- 9:10 – 9:20 **Sylvester Agbo** – Tensile strain capacity of X42 vintage pipelines with varying girth weld flaw sizes subjected to bending
- 9:20 – 9:30 **Allan Okodi** – An investigation of the effectiveness of extended finite element method for burst pressure prediction in steel pipeline
- 9:30 – 9:40 **Meng Lin** – Investigation of crack initiation criteria used in XFEM

### SESSION 2 – OPEN

Chair: Dimple Ji

- 9:50 – 10:00 **Qipei Mei** – A big data based methodology using smartphones for bridge health monitoring
- 10:00 – 10:10 **Azam Abdollahi** – Modified subset simulation method for reliability analysis
- 10:10 – 10:20 **Jiacheng Yao** – Key design parameters for double skin façade: a review

### SESSION 3 – TIMBER

Chair: Akram Zain

- 10:45 – 10:55 **Behzad Vafaeian** – Effect of the concrete layer on structure-borne sound transmission of a CLT-concrete composite floor
- 10:55 – 11:05 **Tom Joyce** – Development of pre-load in self-tapping screws during installation
- 11:05 – 11:15 **Marko Spasojevic** – Structural performance of light wood-frame walls with insulated sheathing
- 11:15 – 11:25 **Sigong Zhang** – Fastener row factors for wood I-joists diaphragms in mid-rise wood construction
- 11:25 – 11:35 **Md Abdul Hamid Mirdad** – Mass timber panel-concrete connections with inclined self-tapping screws and insulation: testing

### SESSION 4 – CONCRETE + MASONRY

Chair: Isaac Derakhshan

- 13:30 – 13:40 **Mohammad J. Tolou Kian** – New generations of reinforced concrete shear walls with improved damage-resistance properties
- 13:40 – 13:50 **Liyang Huang** – Finite element modeling of shear-critical beams
- 13:50 – 14:00 **Ian Chin** – Standardization of embedded plates for steel-to-reinforced concrete connections
- 14:00 – 14:10 **Shaghayegh Abtahi** – Enhanced fiber beam-column element considering bond-slip

### SESSION 4 – CONCRETE + MASONRY (CONT.)

- 14:10 – 14:20 **Abdullah Aljaaidi** – Repair of glass fibre reinforced polymer (GFRP) reinforced concrete bridge barriers
- 14:20 – 14:30 **Jesus Salazar** – Performance of simplified biaxial concrete materials based on damage formulations
- 14:30 – 14:40 **Amr Ba Rahim** – Finite element analysis of partially grouted masonry shear walls

### SESSION 5 – STEEL

Chair: Md Abdul Hamid Mirdad

- 15:45 – 15:55 **Michael Manarin** – Lateral-torsional buckling of singly symmetric I-shaped beams subject to a concentrated point load
- 15:55 – 16:05 **Dimple Ji** – Large-scale lateral-torsional buckling tests of welded girders
- 16:05 – 16:15 **Pablo Cano** – Evaluation of multi-tiered concentrically braced frames: dynamic analysis of braces
- 16:15 – 16:25 **Abolfazl Ashrafi** – Seismic response of steel multi-tiered eccentrically braced frames
- 16:25 – 16:35 **Ahmed Mowafy** – The seismic response of a hybrid structure consisting of a steel LLRS and a timber GLRS

## POSTER PRESENTATIONS

**Chaofan Yi** – Probabilistic analysis on deterioration of concrete structures when subjected to adverse chloride attack

**Daniel Unsworth** – The effect of residual stresses on girder buckling behavior: inelastic lateral-torsional buckling in welded shapes

**Helmi Alguhi** – Modelling of steel fibre reinforced concrete ground slabs

**Lei Zhang** – Numerical study of structural performance timber of notched joint in timber-concrete composite flooring system

**Md Riasat Azim** – Vibration based damage detection for railway truss bridges

**Ruihan (Cynthia) Zhao** – Reliability analysis of load-carrying capacity for connection consisting of inclined self-tapping screws

**Sergio Arevalo** – Experimental investigation of thermal bowing for concrete sandwich wall panels

**Shakara Khawaja** – Comparison of air tightness of prefabricated and site-built Canadian homes

**Wanyan Liu** – General usage of analyzing post-tensioned beam with Vector 2

**Zhaohan Wu** – Finite element modeling of prestressed concrete bridge girder

## PLANNING COMMITTEE

**Michael Manarin** – Conference chair

**Douglas Tomlinson** – Faculty advisor

**Md Abdul Hamid Mirdad** – Treasurer, technical committee

**Abolfazl Ashrafi** – Technical committee

**Isaac Derakhshan** – Technical committee

**Akram Zain** – Technical committee

**Allan Okodi** – Technical committee

**Amr Ba Rahim** – Marketing committee

**Dimple Ji** – Marketing committee



# UNIVERSITY OF ALBERTA 4<sup>TH</sup> ANNUAL STRUCTURES GRADUATE STUDENTS CONFERENCE

September 7, 2018  
The Royal Glenora Club

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