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## Education

2007-12      PhD in Engineering, University of Cambridge (UK).  
2005-07      MEng in Mechanical Engineering, McGill University (Canada).  
2001-05      Double BEng in Mechanical Engineering, Universite de Sherbrooke (Canada) & EPF - Ecole d'Ingenieurs (France).  
  
2016-now     Assistant professor, Aalto University, Dept of Mechanical Engineering.  
2015-16      Post Doctoral Research Associate, Imperial College London, Dept of Aeronautics. Principal Investigator: Prof S.T. Pinho.  
2012-14      Post Doctoral Research Associate, University of Cambridge, Dept of Engineering. Principal Investigator: Prof V.S. Deshpande.

## Publications

### **The fracture toughness of demi-regular lattices**

Omidi, M. & St-Pierre, L., Dec 2023, In: Scripta Materialia. 237, 5 p., 115686.

### **Fracture toughness of semi-regular lattices**

Omidi, M. & St-Pierre, L., 15 May 2023, In: International Journal of Solids and Structures. 270, 9 p., 112233.

### **A concurrent fibre orientation and topology optimisation framework for 3D-printed fibre-reinforced composites**

Almeida Jr, H., Christoff, B. G., Tita, V. & St-Pierre, L., 8 Feb 2023, In: Composites Science and Technology. 232, 15 p., 109872.

### **A sequential finite element model updating routine to identify creep parameters for filament wound composite cylinders in aggressive environments**

Almeida, H., Lisbôa, T., Spickenheuer, A. & St-Pierre, L., Feb 2023, In: Computers & Structures. 276, 14 p., 106939.

### **Fracture of Honeycombs Produced by Additive Manufacturing**

Ling, C., Nogueiro, J., Manno, R., St-Pierre, L., Barbe, F. & Benedetti, I., 1 Jun 2022, In: Journal of Multiscale Modelling. 13, 2, 8 p., 2144006.

### **A novel parameter to tailor the properties of prismatic lattice materials**

Markou, A. & St-Pierre, L., 1 Apr 2022, In: International Journal of Mechanical Sciences. 219, 16 p., 107079.

### **Mechanical Properties of Semi-Regular Lattices**

Omidi, M. & St-Pierre, L., Jan 2022, In: Materials and Design. 213, 21 p., 110324.

### **Design, modeling, optimization, manufacturing and testing of variable-angle filament-wound cylinders**

Almeida, H., St-Pierre, L., Wang, Z., Ribeiro, M. L., Tita, V., Amico, S. C. & Castro, S. G. P., 15 Nov 2021, In: Composites Part B: Engineering. 225, 17 p., 109224.

### **Measuring geometric imperfections of variable-angle filament-wound cylinders with a simple digital image correlation setup**

Castro, S. G. P., Almeida, H., St-Pierre, L. & Wang, Z., 15 Nov 2021, In: Composite Structures. 276, 13 p., 114497.

### **An Abaqus plug-in to simulate fatigue crack growth**

Malekan, M., Khosravi, A. & St-Pierre, L., 18 Feb 2021, In: Engineering with Computers. 15 p.

### **Reliability-based buckling optimization with an accelerated Kriging metamodel for filament-wound variable angle tow composite cylinders**

Wang, Z., Almeida, H., St-Pierre, L., Wang, Z. & Castro, S. G. P., 15 Dec 2020, In: Composite Structures. 254, p. 1-14 14 p., 112821.

### **High fracture toughness micro-architected materials**

Liu, Y., St-Pierre, L., Fleck, N. A., Deshpande, V. S. & Srivastava, A., Oct 2020, In: JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS. 143, 18 p., 104060.

### **3D printing of dense and porous TiO<sub>2</sub> structures**

Aleni, A. H., Kretzschmar, N., Jansson, A., Ituarte, I. F. & St-Pierre, L., Jul 2020, In: Ceramics International. 46, 10, p. 16725-16732 8 p.

### **Comparing stiffness of solid and scaffold nano-TiO<sub>2</sub> structures produced by material extrusion method**

Aleni, A. H., Ituarte, I. F., Mohite, A., St-Pierre, L. & Partanen, J., 2018, In: Ceramics International. 44, 2, p. 2231-2239 9 p.

### **Stress redistribution around clusters of broken fibres in a composite**

St-Pierre, L., Martorell, N. J. & Pinho, S. T., 15 May 2017, In: Composite Structures. 168, p. 226-233 8 p.

### **The fracture toughness of octet-truss lattices**

O'Masta, M. R., Dong, L., St-Pierre, L., Wadley, H. N. G. & Deshpande, V. S., 1 Jan 2017, In: JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS. 98, p. 271-289 19 p.

### **Stiffness and strength of a semi-regular lattice**

Their, T. & St-Pierre, L., 2017, In: Rakenteiden mekaniikka. 50, 3, p. 137-140

### **The dynamic indentation response of sandwich panels with a corrugated or Y-frame core**

St-Pierre, L., Fleck, N. A. & Deshpande, V. S., 2015, In: International Journal of Mechanical Sciences. 92, p. 279-289 11 p.

### **The low velocity impact response of sandwich beams with a corrugated core or a Y-frame core**

St-Pierre, L., Deshpande, V. S. & Fleck, N. A., 2015, In: International Journal of Mechanical Sciences. 91, p. 71-80 10 p.

### **The predicted compressive strength of a pyramidal lattice made from case hardened steel tubes**

St-Pierre, L., Fleck, N. A. & Deshpande, V. S., 1 Jan 2014, In: International Journal of Solids and Structures. 51, 1, p. 41-52 12 p.

### **Sandwich Beams with Corrugated and Y-frame cores: Does the back face contribute to the bending response?**

St-Pierre, L., Fleck, N. A. & Deshpande, V. S., 2012, In: JOURNAL OF APPLIED MECHANICS: TRANSACTIONS OF THE ASME. 79, 1, 011002.

### **Development of a dynamic model for a cone bolt**

St-Pierre, L., Hassani, F. P., Radziszewski, P. H. & Ouellet, J., Jan 2009, In: International Journal of Rock Mechanics and Mining Sciences. 46, 1, p. 107-114 8 p.

### **3D simulations of microstructure and comparison with experimental microstructure coming from O.I.M analysis**

St-Pierre, L., Hériprié, E., Dexet, M., Crépin, J., Bertolino, G. & Bilger, N., Sept 2008, In: INTERNATIONAL JOURNAL OF PLASTICITY. 24, 9, p. 1516-1532 17 p.