Duncan Cree
Saskatoon, Saskatchewan, Canada S7T 0S4
·email: duncan.cree@usask.ca

CURRICULUM VITAE

PRESENT POSITION

Associate Professor (Tenured) — July 2021-Present
Department of Mechanical Engineering,
University of Saskatchewan; Saskatoon, Saskatchewan

PREVIOUS ACADEMIC POSITIONS

Assistant Professor (Tenure Track) — 2014 (Nov.) - 2021
Department of Mechanical Engineering,
University of Saskatchewan; Saskatoon, Saskatchewan

Assistant Professor (Non-Tenure Track) — 2011 - 2014
Department of Civil Engineering,
Queen's University; Kingston, Ontario

NSERC Postdoctoral Fellowship — 2009 - 2011
Department of Civil Engineering,
Queen's University; Kingston, Ontario
Supervisor: Dr. Mark F. Green

EDUCATION

PhD, Mechanical Engineering, Concordia University; Montreal, Quebec. — 2003 - 2009
Thesis title: Production and Characterization of 3-D, Cellular, Metal-Filled Ceramics
Supervisor: Dr. Martin Pugh

MEng, Mechanical Engineering, Concordia University; Montreal, Quebec. — 2001 - 2003

BSc, Mechanical Engineering, Concordia University; Montreal, Quebec. — 1994 - 1999
Specialization: Aerospace & Vehicle Systems

LANGUAGE SKILLS

Bilingual in English and French

INDUSTRY EXPERIENCE

LLI Analyst for CF-18 Fleet (Junior Engineer) — May to Aug. 2002
Bombardier Aerospace (Defense Services); Mirabel, Quebec — (1 summer)

Airworthiness Engineer (Junior Engineer) — July 1999 - July 2001
National Research Council Canada; Ottawa, Ontario

Junior Engineer — May to Aug. 1997 - 1998
Pratt & Whitney Canada Inc.; Longueuil, Quebec — (2 summers)

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PROFESSIONAL LICENSES

- Member; Professional Engineers of Ontario (PEO), P. Eng. 2006 - present
- Member; Association of Professional Engineers and Geoscientists of Saskatchewan (APEGS), P. Eng. 2014 - present

TEACHNING EXPERIENCE

UNDERGRADUATE

GE 124 - Engineering Mechanics I (University of Saskatchewan).
ME 214 - Introduction to Materials & Manufacturing (University of Saskatchewan).
CIVL 215 - Materials for Civil Engineers (Queen's University).

GRADUATE

ME 810 - Introduction to Composite Materials (University of Saskatchewan).
ME 811 - Mechanical Deformation of Metals and Plastics (University of Saskatchewan).

SLECTED ACADEMIC PUBLICATIONS

1) Pliya P, Hajiloo H, Romagnosi S, **Cree D**, Sarhat S, Green MF. (2021). The Compressive Behaviour of Natural and Recycled Aggregate Concrete during and After Exposure to Elevated Temperatures. Journal of Building Engineering. 38: 1-10.
2) Owuamanam S, **Cree D**. (2020). Progress of Bio-Calcium Carbonate Waste Eggshell and Seashell Fillers in Polymer Composites: A Review. Journal of Composites Science. 4(2) (70): 1-22.
3) Pliya P, **Cree D**, Hajiloo H, Beaucour AL, Green MF, Noumowe A. (2019). High-Strength Concrete Containing Recycled Coarse Aggregates Subjected to Elevated Temperature. Fire Technology: 1-18.
4) Betancourt NG, **Cree DE**. (2017). Mechanical Properties of Poly (Lactic Acid) Composites Reinforced with $CaCO_3$ Eggshell Based Fillers. MRS Advances. 2(47): 2545-2550.
5) Pliya P, **Cree D**, Green M, Noumowé A. (2017). Thermal Behaviour of Unstressed and Stressed Concrete Containing Polypropylene Fibers at Elevated Temperature. Journal of Structural Fire Engineering. 8(4): 402-417.
6) Gales J, Parker T, **Cree D**, Green M. (2015). Fire Performance of Sustainable Recycled Concrete Aggregates: Mechanical Properties at Elevated Temperatures and Current Research Needs. Fire Technology. 52(3): 817-845.
7) **Cree D**, Rutter A. (2015). Sustainable Bio-Inspired Limestone Eggshell Powder for Potential Industrialized Applications. ACS Sustainable Chemistry & Engineering. 3(5): 941-949.
8) Pliya P, **Cree D**. (2015). Limestone Derived Eggshell Powder as a Replacement in Portland Cement Mortar. Construction & Building Materials. 95: 1-9.
9) **Cree D**, Green M, Noumowé A. (2013). Residual Strength of Concrete Containing Recycled Materials After Exposure to Fire: A Review. Construction and Building Materials. 45: 208-223.

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SELECTED CONFERENCES PUBLICATIONS

1) Leclair JP, Borges N, **Cree D**, Hof LA. (2021). Towards Circular Manufacturing: Repurposing Eggshell Waste as Filler for Poly Lactic Acid Feedstock for 3D Printing (**Won 2nd Place Prize in the CSME 2021 Best Student Paper Competition**). University of Prince Edward Island. Robertson Library. Proceedings of the Canadian Society for Mechanical Engineering International Congress 2021 (CSME Congress 2021)- Virtual meeting, Charlottetown, Canada (1-6).
2) Golakia G, **Cree D**. (2019). Development Process to Purify Waste Eggshells to Manufacture Epoxy Composites. Proceedings. 11th Canadian-International Conference on Composites (CANCOM 2019), Kelowna, Canada (1-8).
3) Pliya P, **Cree D**, Beaucour AL, Hajiloo H, Green MF, Noumowe A. (2017). Behaviour of High Strength Concretes Containing Recycled Coarse Aggregates Subjected to High Temperature. Proceedings. 2nd International Fire Safety Symposium (IFireSS-2017), Naples, Italy (1-8).
4) Gales J, Parker T, Green M, Bisby L, **Cree D**. (2014). High Temperature and Fire Performance of Sustainable Concrete with Recycled Concrete Aggregates. Eighth International Conference on Structures in Fire (SiF 2014), Shanghai, China (1-8).
5) **Cree D**, Pliya P, Green M. (2014). Behaviour of Stress and Stress-Free Concrete With and Without Polypropylene Fibres Subjected to High Temperature. Eighth International Conference on Structures in Fire (SiF 2014), Shanghai, China (1-8).
6) Benichou N, **Cree D**, Chowdhury, EU, Green MF, Bisby LA. (2011). Fire Testing of FRP Strengthened Reinforced Concrete Columns. Fourth International Conference on Durability & Sustainability of Fibre Reinforced Polymer (FRP) Composites for Construction and Rehabilitation (CDCC 2011), Quebec City, Canada (1-8).

INVITED PRESENTATIONS

1) **Cree, D.** Seminar Series (2017). Comportement a hautes temperatures de betons a hautes performances contenant des granulats recycles. Batiments et ouvrages en beton: Application en securite incendie risque, University of Cergy-Pontoise, Paris, France.
2) **Cree, D.** Seminar Series (2015). Etude experimentale du comportement a chaud du beton de fibres de polypropylene porte a une temperature elevee. Batiments et ouvrages en beton: securite incendie, University de Cergy-Pontoise, Paris, France.

COLLABORATIVE RESEARCH

International Collaboration:

- Dr. Prosper Pliya from the Department of Civil Engineering, Laboratory L2MGC, University of Cergy-Pontoise, Paris, France. Topic: Concrete/mortar and elevated temperature properties. (2012-present)

National Collaboration:

- Dr. Mark F. Green from the Department of Civil Engineering, Queen's University, Kingston, Ontario. Topic: Concrete containing recycled concrete aggregate and elevated temperature properties. (2011-present)