Cold Regions Engineering 2019

Proceedings of the 18th International Conference on Cold Regions Engineering and the 8th Canadian Permafrost Conference

Quebec City, Quebec, Canada
August 18–22, 2019

Edited by

Jean-Pascal Bilodeau, Ph.D., P.Eng.
Daniel F. Nadeau, Ph.D., P.Eng.
Daniel Fortier, Ph.D.

ASCE

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SPONSORED BY
Canadian Geotechnical Society (Eastern Quebec and National)

Canadian Permafrost Association

Canadian National Committee for the International Permafrost Association

Cold Regions Engineering Division of the American Society of Civil Engineers

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Published by the American Society of Civil Engineers

Published by American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, Virginia, 20191-4382
www.asce.org/publications | ascelibrary.org

Errata: **Errata, if any, can be found at https://doi.org/10.1061/9780784482599**

ISBN 978-0-7844-8259-9 (PDF)
Manufactured in the United States of America.

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Preface

The 18th International Conference on Cold Regions Engineering and the 8th Canadian Permafrost Conference (ICCRE/CPC2019) will be held in Quebec City between August 18 and August 22, 2019. The principal objective of the conference is to provide opportunities to share technical information and for the professional development of delegates. ICCRE 2019 is the latest of a conference series organized as part of the activities of the cold regions engineering division (CRED) of ASCE. CPC 2019 is a conference promoted by the newly formed Canadian Permafrost Association.

Over the last decades, ICCRE and CPC conferences have provided a focal point on new development in cold region sciences and engineering technologies. The Quebec 2019 joint conference will perpetuate the tradition of excellence set by previous conferences. The Call for Papers has attracted 140 abstracts originating from 15 countries. The high-standard evaluation process managed by the technical committee of the conference led to the selection of 79 peer reviewed papers. Six additional presentations were solicited from speakers invited to participate in one of the two plenary session of the conference and 32 others were solicited for special sessions on specific themes. These scientific contributions were included in the 2 plenary sessions, 24 oral sessions and one poster session of the conference program. The peer-reviewed papers are included in the conference proceedings. This collection of 79 papers is articulated around five main research themes: 1) materials, structures and foundations; 2) pavements and embankments; 3) permafrost science and engineering; 4) properties assessment and monitoring; 5) water, snow and ice. Together these papers represent the current state of knowledge and a truly international view of cold regions science and engineering. This latest contribution from the international scientific and engineering community will greatly assist with the worldwide improvement of cold regions engineering practice and standards.

The conference will be held in partnership with the Canadian Geotechnical Society (CGS), the Eastern Quebec Regional Section of the Canadian Geotechnical Society (EQRS-CGS), the Canadian National Committee of the International Permafrost Association (CNC-IPA), the Canadian Permafrost Association (CPA).

The challenge for researchers is to use this new state of knowledge as a basis for new technical developments. The challenge for practitioners is to implement these new techniques in the cold regions engineering practice.

Guy Doré, Ph.D., P.Eng.
Chair of the local organizing committee

Acknowledgments

The editors would like to thank the scientific committee, Jean-Pascal Bilodeau, David Conciatori, Daniel Fortier and Daniel Nadeau, as well as all the reviewers involved for each stage of the reviewing process. Sincere gratitude is also expressed to the organizing committee, Guy Doré, Jean Côté, Brigitte Bigué, Simon Dumais, Daniel Fortier, Chantal Lemieux, Daniel Nadeau, Suzanne St-Laurent and Jean-François St-Laurent, for making this conference a great event. All those contributors are acknowledged for their tremendous contribution of their time and efforts in preparing all the content, administrative and technical, related to this conference. This international gathering of scientists and practitioners from around the world, with the objective to discuss and exchange ideas and expertise on important matters, was made possible thanks to all those volunteers and their sincere dedication. Thank you all for your help.

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