Preface

The first Symposium on Automated Composites Manufacturing held in Montreal April 2013 was a big success, with 122 attendees from 11 countries. The second symposium on Automated Composites Manufacturing held in Montreal in April 2015 was also a success, with similar attendance. With the augmented use of composites in many important engineering applications, the need for faster and more efficient manufacturing of structures using composites has become more and more evident. Large structures such as aircraft fuselages, wind turbine blades, bus bodies etc. may not be efficiently and effectively made using conventional composite manufacturing techniques. Many large aircraft companies such as Boeing, Airbus have introduced the use of automated composite manufacturing techniques into the production of their components. Research and Development work at different institutions such as universities and research institutes have also begun at a few locations around the world. Automated Composites Manufacturing techniques such as Automated Tape Lay Up and Automated Fiber Placement have the potential to reduce waste of materials, to provide high rate of materials deposition, and more repeatability in terms of quality of the laminates. Automated Composites Manufacturing may also provide more seamless transition from design to manufacturing, thus resulting in faster product development cycles. These techniques can also produce composite structures that are unique and that can not be made using other composite manufacturing techniques. What is probably most important is to find ways to exploit automation to reduce the cost for the manufacturing of composites structures.

The intention of this Third International Symposium on Automated Composites Manufacturing is to continue to provide a focused forum for the Composites community to share information and to exchange ideas on this new important area of development. The symposium is part of the activities of an Industrial Chair on Automated Composites Manufacturing supported by the Natural Sciences and Engineering Research Council of Canada, with the support of Bombardier Aerospace, and Bell Helicopter Textron Canada Ltd.

The proceedings of the Third International Symposium on Automated Composites Manufacturing contain 29 papers that were presented at the Symposium. A good number of papers deal with new methods for heating, and new methods for the inspection of the quality of

the laminates as they are laid. Dry fibers and special laminates and structures deriving from automation have been investigated. There are also new developments in draping, stamp forming, braiding and weaving. There is also work on simulation of the process and subsequent material behavior.

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