

## 2017 Technical Excellence Award

### *Jitendra Paliwal, P.Eng., FEC*



Dr. Jitendra Paliwal graduated with a bachelor's degree in Agricultural Engineering from G.B. Pant University (India) in 1994 and then M.Sc. (1997) and Ph.D. (2002) degrees in Biosystems Engineering both from the University of Manitoba. He is now a Professor in the Department of Biosystems Engineering at the University of Manitoba, where his research team develops techniques to modernize and automate post-harvest handling and storage of grains, oilseeds, and pulses.

Upon joining the University of Manitoba in 2002, Jitendra initiated the establishment of an Imaging and Spectroscopy Laboratory in the Department of Biosystems Engineering with a vision to use non-destructive optical techniques to assess grain's quality post harvest. His first major project was in collaboration with a leading European instrument manufacturer to integrate visible and near infrared (NIR) imaging modalities for their next generation of grain analyzers. Since then, Jitendra's research group has developed hardware and software solutions that are widely referred to by the designers of grain quality monitoring and assessment instruments. These include low-cost NIR analyzers, integrated Raman-NIR instruments, grain bin monitoring systems, and techniques to detect precursors to spoilage and non-invasively monitor grain health. Considering 12% of Manitoba's GDP comes from agri-food operations, the economic impact of Jitendra's work is substantial.

Jitendra's engineering achievements have been published in the form of over 60 peer-reviewed technical papers in international scientific journals. In addition, he has written five book chapters. His research work has been funded through federal and provincial granting agencies as well as private corporations, which have directly benefitted from his work. He is considered a leading researcher of international fame and was thus appointed as Visiting Professor by South China University of Technology, one of China's prestigious institutions located in Guangzhou. Another important aspect of his work has been to train the next generation of highly qualified engineers. Through his research program, Jitendra has contributed to the training of over 60 undergraduate, master's, and doctoral engineering students and post-doctoral researchers.

Jitendra became a professional member of Engineers Geoscientists Manitoba in 2002 and is the current Chair of the Experience Review Committee. To recognize his service to the profession of engineering, he was inducted as a Fellow of Engineers Canada in 2016. He is also a member of the Canadian Society for Biological Engineering (CSBE) and American Society of Agricultural and Biological Engineers. He is an Associate Editor of CSBE's journal Canadian Biosystems Engineering

and the winner of its John Clark Award for 2017. Jitendra is also serving as Vice-President (Technical) of the Association's India Chapter.

In recognition of his outstanding leadership, mentorship, service to the profession and technical contributions to the field of engineering, Engineers Geoscientists Manitoba is pleased to present the 2017 Technical Excellence Award to Dr. Jitendra Paliwal, P. Eng., FEC.