

Preface

This volume contains a selection of papers presented at the 19th Canadian Symposium on Catalysis held on May 14–17, 2006, in Saskatoon, Saskatchewan, Canada. This biennial symposium is organized by the Catalysis Division of the Chemical Institute of Canada.

With the rapid depletion of conventional crude oil reserves, there is an increasing, worldwide interest in upgrading heavy oils to fuels and petrochemical raw materials. For example, bitumen and synthetic crude oil production from Canada's oilsands is projected to increase from about 1 million barrels per day currently to over 3 million barrels per day by the 2020s. With the second largest oil refining capacity after the United States, China depends heavily on imported oil from the Middle East to meet its growing energy requirements and wishes to diversify its sources of oil. In this context, the Ministry of Science and Technology of China sponsored the project "Fundamental Studies on Heavy Oil Upgrading and Value-Added Utilization" through the National Basic Research Program and set up the joint program "Processability of Athabasca Bitumen-Derived Streams in Chinese Refineries and Supporting Upgrading R&D" with the Government of Alberta, Canada. The programs have greatly speeded up exchanges between industry and academia in the two countries and have yielded positive results.

Catalysis may play a crucial role in improving heavy oil upgrading technology, so it is appropriate that one of the sessions at the 19th Canadian Symposium on Catalysis was devoted to "Catalysts and Processes for Heavy Oil Upgrading". Furthermore, with a strong global interest in heavy oil upgrading, the session organizers made a special effort to solicit papers internationally, from researchers in industry, academia and government laboratories, especially those from China and Canada.

Three oral sessions with four keynote speakers plus one poster session covering a wide range of issues related to heavy oil upgrading were presented at the conference. A selection of

these presentations has been compiled into this Special Issue. The papers span a wide range of topics and include new research on hydroprocessing catalysts, new fluid catalytic cracking catalysts and processes, and novel methods of catalyst preparation. The papers represent an assembly of up-to-date research results related to heavy oil upgrading from around the world.

The session would not have been possible without the hard work of the Technical Program Chair, Craig Fairbridge, and the Conference Chair, Ajay Dalai, and we are most grateful for their assistance and help in organizing the conference and assembling the technical program. Finally, we would like to express our sincere gratitude to all the participants for their valuable contributions and all the reviewers for their in-depth comments on the manuscripts.

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Available online 6 July 2007