

Wednesday, August 7, 2013
CASE STUDY OF THE SUDBURY STRUCTURE II
8:30 a.m. Fraser Auditorium

A close look at the Sudbury Structure with views that may shape discussion during the field trip.

Chairs: Ulrich Riller
Joshua Bailey

- 8:30 a.m. Bleeker W. * Kamo S. Ames D.
[*New Field Observations and U-Pb Age Data for Footwall \(Target\) Rocks at Sudbury: Towards a Detailed Cross-Section Through the Sudbury Structure*](#) [#3112]
 To help constrain a detailed field-based cross-section through the entire Sudbury area we present new field observations and preliminary U-Pb age data on six rocks units in the footwall to the Sudbury impact structure.
- 8:50 a.m. Petrus J. A. * Ayer J. A. Long D. G. F. Lightfoot P. C. Kamber B. S.
[*Contributions to the Sudbury Igneous Complex and the Depth of Excavation: Evidence from Onaping Formation Zircon*](#) [#3056]
 U-Pb data for zircon preserved in the crater-fill sequence (Onaping Formation) of the Sudbury impact structure reveal a previously unrecognized but significant contributor to the Sudbury Igneous Complex.
- 9:10 a.m. Riller U. * Clark M. Lenauer I. Santimano T.
[*Recent Advances In Understanding Tectonically Induced Crater Floor Modification at Sudbury: Importance for the Identification of Cu-Ni Sulphide Exploration Targets*](#) [#3037]
 Individual segments of the Sudbury Igneous Complex and its respective host rocks deformed by different mechanisms. These mechanisms are delineated, along with their implications for occurrence of specific mineral deposits.
- 9:30 a.m. Smith D. A. * Bailey J. M. Pattison E. F.
[*Discovery of New Offset Dykes and Insights into the Sudbury Impact Structure*](#) [#3090]
 Wallbridge Mining Company Limited has identified significant new Offset dykes related to the Sudbury impact structure which provide insight into its formation.
- 9:50 a.m. Lafrance B. * Kamber B. S. Ames D. E.
[*Formation of Sudbury Breccia by Shock Compression and Cataclasis*](#) [#3080]
 The chemical compositions of Sudbury breccia suggest that it formed by shock compression and cataclasis during propagation of the shock wave. Additional brecciation and cataclasis occurred during modification and collapse of the transient crater.
- 10:10 a.m. *Coffee Break*
- 10:25 a.m. Pilles E. A. * Osinski G. R. Grieve R. A. F. Smith D. Bailey J.
[*Timing Relation Between Radial and Concentric Offset Dykes at Sudbury, Ontario: A Case Study of the Foy and Hess Offset Dykes*](#) [#3043]
 The Offset Dykes at Sudbury are host to some of the largest Ni-Cu-PGE deposits in the world. This research focuses on understanding better their origin, the timing of emplacement, and how the different phases relate to one another.
- 10:45 a.m. Ames D. E. * Hanley J. J. Tuba G. Bleeker W. Kamo S.
[*Primitive Source Revealed in the Sudbury Impact Structure: Implications for Cratering and Metal Sources*](#) [#3099]
 New U-Pb zircon geochronology places constraints on As-rich target strata incorporated into the melt sheet upon initial impact and melting. Epidote Sr isotope results yields a primitive non-radiogenic source not recognized previously.

- 11:05 a.m. Anders D. * Osinski G. R. Grieve R. A. F.
[*The Onaping Intrusion, Sudbury, Canada — Impact Melt and Roof Rocks of the Sudbury Igneous Complex?*](#) [#3092]
In this study we investigated petrology and geochemistry of the Onaping Intrusion to further evaluate its origin and its relationship to the SIC.
- 11:25 a.m. Coulter A. B. * Osinski G. R. Grieve R. A. F.
[*The Nature and Origin of the Enigmatic Garson Member of the Sudbury Impact Structure, Canada*](#) [#3035]
New insight into the nature and origin of the Garson Member of the Onaping Formation within the Sudbury impact structure in central Ontario, Canada.
- 11:40 a.m. Ferrière L. * Osinski G. R.
[*Shatter Cones and Associated Shock-Metamorphic Microdeformations in Minerals — The Case of the Sudbury Impact Structure, Canada*](#) [#3088]
Shatter cones are the only diagnostic evidence of hypervelocity impact that develop on a macro- to megascopic scale. We report here on new macroscopic and petrographic investigations of shatter cone samples from the Sudbury impact structure (Canada).