Tuesday, July 25, 2017
POSTER SESSION I: IMPACT PROCESSES — BITS AND PIECES
5:30 p.m. Poster Area

Genest S. Robert F.
The Mistassini-Otish Impact Structure, Northern Quebec, Canada: An Update **[#6047]**
Updates from 2015 and 2016 field works on the proposed Mistassini-Otish impact structure, Quebec, Canada.

Newman J. D. Osinski G. R.
Characterization of Breccia Dykes in the Deeply Eroded Tunnunik Impact Structure, Canada **[#6248]**
This study has identified impact glass fragments preserved within carbonate-rich breccia dykes and is the first report of impact glass at the Tunnunik impact structure.

Sungatullin R. Kh. Tselmovich V. A. Sungatullina G. M. Glukhov M. S. Bakhtin A. I. Gusev A. V. Kuzina D. M. Galiullin B. M.
Impact Origin of Rabiga Kul Lake, East of the European Part of Russia **[#6124]**
Investigated one of the similar to impact structure object is Rabiga Kul Lake, Russia. In the Quaternary sediments near lake, objects of cosmic dust were found: magnetite microspheres, fused particles, chondrules, etc.

Belhai D. Sahoui R.
Confirmation of the Talemzane Structure (Maadna) as a Meteoritic Impact Crater by New Criteria **[#6294]**
The meteorite origin of Talemzane is known for a long time but some still doubt. Here, we bring arguments for this origin, particulary the presence of pseudotachyllites for the first time reported, in addition to the marbles and breaches already known.

Kassab F. Belhai D.
The Tin Bider Impact Structure, Algeria: New Map with Field Inputs on Structural Aspect **[#6155]**
The Tin Bider impact structure is a complex type composed by sedimentary target rocks. We realized a geological map including new inputs on impact characters of a recent field investigation where we identify shatter cone and folds.

Sahoui R. Belhai D.
Tin Bider Crater (Algeria): New Field Data and Metamorphism Shock **[#6061]**
Tin Bider is a 6 km diameter crater emplaced on a sedimentary mixed target rock including sandstones, limestones, shales, gypsum...It is formed by a central pick and two circular rings; where shock effects are defined, as to kinds of breccias.

Buchner E. Schmieder M.
Shocked Quartz and Local Selective Feldpar Melting in a Lithic Breccia Dike Intersecting Shatter-Coned Target Rocks at the Santa Fe Impact Structure, New Mexico, USA **[#6015]**
Samples from a non-shattered breccia dike in shattered granitoid rocks from Santa Fe were analyzed. Up to three sets of PDFs in quartz and zones of K-feldspar melt were observed, suggesting higher peak shock pressures than priviously documented.

Yin F.
Shock Metamorphism of Plagioclase in the Xiuyan Crater, China **[#6062]**
I studied the shock effects in plagioclase from the Xiuyan impact crater, China. These shock-metamorphic features include irregular fractures, undulatory extinction, planar deformation features, diaplectic glass, and vesicular glass.

Pittarello L. Koeberl C.
Shock-Induced Planar Features in Plagioclase: A Project on Measurements and Investigations on Their Occurrence in Relation with the An Content **[#6102]**
An indexing method for shock-induced planar features in plagioclase is proposed, by combining U-Stage and EBSD measurements. Such planar features preferentially occur in albitic to andesitic terms. Lattice properties might provide an explanation.

Pickersgill A. E. Lee M. R. Daly L. Mark D. F.
Planar MicroStructures (Lamellar SubGrains) in Feldspar from the Chicxulub Impact Structure **[#6182]**
Or-rich alkali feldspar phenocrysts in granitoid rocks recovered from the peak ring of the Chicxulub impact structure contain shock-formed lamellae in multiple crystallographic orientations.

Fazio A. Mansfeld U. Langenhorst L.
Formation and Post-Shock Evolution of Coesite in Suevite from the Ries Impact Structure (Germany) **[#6084]**
In this work, we revisited the mechanism of formation of coesite and its post-shock evolution on the basis of new Raman microspectroscopy and TEM observations on coesite aggregates within diaplectic glass of suevite from the Ries impact structure.

Calogovic M. Marjanac T. Fazinic S. Sremac J. Bosnjak M. Bosak L.
Glass Spherules in Badenian Siliciclastics and Carbonates of N. Croatia, Possible Ries Crater Distal Ejecta **[#6096]**
We have found glass spherules in Badenian sediments at three locations in Northern Croatia that are good candidates for Ries Crater distal ejecta. Their chemical composition generally fits the composition of suevite glass.

Harris R. S. Jaret S. J.
Investigating the Meteoritic Component of Cretaceous-Paleogene Impact Spherules in South Carolina **[#6398]**
Impact spherules deposited at the Cretaceous-Paleogene boundary of South Carolina contain a unique assemblage of inclusions that may have originated in the asteroid.

Mohr-Westheide T. Greshake A. Wirth R. Reimold W. U. Salge T.
Platinum Group Element-Rich Micronuggets from Archean Spherule Layers in the Barberton Greenstone Belt, South Africa: TEM and HR FE-SEM/EDX Analysis **[#6127]**
We report new results of a TEM study of six sub-µm PGE metal nuggets and a FE-SEM/EDX study of additional eight PGE metal particles. Samples are from the BARB5 ICDP drill core and from the CT3 exploration core from the BGB, South Africa.

Hauser N. Reimold W. U. Voll K. Chaves J. G. S. Alves de Mattos B. Dantas E. L.
Are the Impact Melt Rocks from the Araguainha Impact Structure, Brazil, Homogeneous?: Evidence from Geochemistry and Sr-Nd Isotopes **[#6215]**
We are investigating the homogeneity of the Araguainha impact melt rocks using chemical and isotopic data (Sr-Nd).

Debaille V. Randive K. R.
Lack of Stable Isotope Fractionation During High Temperature Volatilization **[#6272]**
Because of the high temperatures reached, fulgurites could be used as an analog for large impacts. They experienced a large loss of volatile elements after lightning, including elemental Zn, and yet, show no stable isotope fractionation.

Svetsov V. V. Shuvalov V. V.
Effects of Thermal Radiation from Impact Plumes **[#6132]**
Numerical simulations of impacts and calculations of radiation fluxes on the ground have been performed. Fractions of impactor kinetic energy emitted as thermal radiation, areas of potential fire ignition and melting of rocks are determined.

Morgan J. V. Artemieva N. A. Expedition 364 Scientists
Climatic Gases Released from the Chicxulub Impact **[#6071]**
We revisit the release of climatically-active gases by the Chicxulub impact using an advanced hydrocode and new data on the angle and direction of impact, and target rocks.

Schmieder M. Kring D. A. Goderis S. Claeys Ph. Coolen M. J. L.
Wittmann A. Expedition 364 Science Party
Secondary Sulfides in Hydrothermally Altered Impactites and Basement Rocks of the Chicxulub Peak Ring — A Preliminary Survey **[#6139]**
Hydrothermally altered impactites from the Chicxulub peak ring (Core M0077A) contain a variety of sulfides, including Co-Ni-Cu-rich Fe-sulfide and framboidal pyrite.

King D. T. Jr. Petruny L. W.
Stratigraphy of Breccia Hill Section, Wetumpka Impact Structure, Alabama **[#6170]**
Polymict impact breccia of the “breccia hill” section was proximal ejecta occurs within Wetumpka impact structure. This impact breccia lies above trans-crater slide deposits, and below marine resurge sediments.

De Marchi L. P. Ormö J. Adrian D. R. King D. T. Jr. Petruny L. W. Hagerty J. J. Gaither T. A.
Marine Resurge Sequences in Drill Cores from Flynn Creek Impact Structure, Tennessee, USA **[#6287]**
Line-logging and statistical analysis of drill cores located within crater moat of Flynn Creek impact structure in order to understand the crater-filling process of resurge waters and to compare with two other marine-target craters: Lockne and Tvaren.

Miura Y.
Ocean Impact Evidences on Sea-Sediment remnants on Water-Earth **[#6024]**
Wet shocked rocks of Earth surface are discarded shocked rocks and enriched elements during surface melting, which is considered to be strong indicator of global ocean water of extraterrestrial bodies, water Earth-like planet and possible exo-life.

Miura Y.
Ocean Impact Evidences of Santa Fe Impact Structure with Shocked Grains **[#6203]**
The Santa Fe impact structure shows all types of samples with remained carbon-bearing grains separated and quenched by impact process from original sedimetary carbonates of the Paleozopic shallow floors, which can be applied to other ocean impacts.

Stuchlik E. Kletetschka G. Horicka Z. Hruba J. Nabelek L. Svitavska Svobodova H. Bobek P. Kadlec J. Takac M. Vondrak D.
Could an Airburst above Canada at the Younger Dryas Onset Trigger Lake Eutrophication and Acidification in Central Europe? **[#6247]**
YDB layers in the Central European lake containing P, Nb, REEs, Ir, As, melt glass, and glassy spherules support the idea of a catastrophic airburst above Canada. Biological proxies and pyrite framboids show signs of eutrophication and acidification.

Anfinogenova Y. Anfinogenov J. Budaeva L. Kuznetsov D.
Non-Classic Impact Structures in the Epicenter Area of the 1908 Tunguska Catastrophe **[#6070]**
Data on non-classic impact structures such as grooves and pipe-like disturbances in hydric soils in the 1908 Tunguska catastrophe area are presented. These structures are compared with the impacts produced by Sikhote-Alin and Chelyabinsk meteorites.

Popova O. P. Glazachev D. O. Podobnaya E. D. Svetsov V. V. Shuvalov V. V.
Radiation of Large Meteoroids Decelerated in the Earth’s Atmosphere **[#6376]**
Analyzes of numerical simulation results permit to suggest simplified approximations, which allow to estimate radiative fluxes on the Earth’s surface based on impactor properties.

Nakamura A. M. Nagaoka H. Hasegawa S.
Fragmentation and Consolidation of Brittle Impactors due to High-Velocity Collisions with the Regolith **[#6075]**
Basalt and Allende meteorite impactors were shot onto silica sand targets. The degree of impactor fragmentation did not decrease monotonically with the initial pressure due to consolidation of impactor fragments with sand particles.