



Oral Technical Programme

Monday, September 18, 2017

Time	Abstract	Title	Presenter	Affiliation	Country
8:30	4918	OPENING KEYNOTE: Celebrating 50 Years of Diamonds in Botswana Prospecting History Leading to the Discovery of Botswana's Diamond Mines: From Artifacts to Lesedi La Rona	Michiel de Wit	Tsodilo Resources	Botswana
THEME: 1. Emplacement and Economic Geology of Kimberlites and Related Magmas					
9:00	4914	KEYNOTE: Kimberlites - from Mantle to Mine	Barbara Scott Smith	Scott-Smith Petrology	Canada
9:30	4597	Evolution of the Orapa A/K1 Geology Model – Insights from Analysis of Multi-Disciplinary Datasets	Kganetso Maphane	Debswana	Botswana
9:50	4558	Varied emplacement within adjacent kimberlite vents, Jwaneng Mine, Botswana	Major Mmualefe	Debswana	Botswana
10:10	4688	Letšeng Diamond Mine, Lesotho: A Variant of Kimberley-type Pyroclastic Kimberlite Emplacement	Casey Hetman	SRK Consulting	Canada
11:00	4589	Kelvin and Faraday Kimberlite Emplacement Geometries and Implications for Subterranean Magmatic Processes	Wayne Barnett	SRK Consulting	Canada
11:20	4565	The principal role of silicic crustal xenolith assimilation in the formation of Kimberley-type pyroclastic kimberlites – a petrographic study of the Renard 65 kimberlite pipe, Quebec, Canada	Matthew Gaudet	University of British Columbia	Canada
11:40	4572	Mineralogy of Kimberley-type Pyroclastic Kimberlite and the Transition to Hypabyssal Kimberlite	Roger Mitchell	Lakehead University	Canada
12:00	4582	Three styles of diamond resorption in a single kimberlite: Does crustal xenolith assimilation play a role?	Yana Fedortchouk	Dalhousie University	Canada
12:20	4522	Kimberlite emplacement and mantle sampling through time at A154N kimberlite volcano, Diavik Diamond Mine	Stephen Moss	Mineral Services Canada	Canada
14:10	4483	New insights into volcanic processes and diamond grades from deep mining at Argyle	Murray Rayner	Argyle Diamonds	Australia
14:30	4550	Experimental milling of olivine: Implications for ascent and eruption of kimberlite	Thomas Jones	Durham University	United Kingdom
14:40	4626	Transport and eruption of mantle xenoliths: A lagging problem	Kelly Russell	University of British Columbia	Canada
THEME: 2. The Diamond Substrate - Petrology and Geochemistry of Earth's Mantle					
15:10	4538	Super-reducing conditions in ancient and modern volcanic systems: implications for the carbon budget of the deep lithosphere	William Griffin	Macquarie University	Australia
15:30	4537	Geodynamic and geophysical consequences of stealth(y) mantle metasomatism: craton evolution and metallogeny	Suzanne O'Reilly	Macquarie University	Australia
Tuesday, September 19, 2017					
THEME: 2. The Diamond Substrate - Petrology and Geochemistry of Earth's Mantle					
8:30	4915	KEYNOTE: The birth, growth and ageing of the Kaapvaal subcratonic mantle	Gerhard Brey	Goethe University Frankfurt	Germany
9:00	4489	Age of the Lithospheric Mantle Beneath the Karowe Diamond Mine	Matthew Wudrick	University of Alberta	Canada
9:20	4640	Metasomatism of Cratonic Lithosphere by Hydrous, Silica-rich, Fluids Derived from Recycled Sediment: Experimental Insights at 5-7 GPa	Robert Rapp	Australian National University	Australia
9:40	4481	New constraints on the origins of MARID and PIC rocks based on mineral and bulk-rock geochemical data: Implications for mantle metasomatism and alkaline magmatism	Angus Fitzpayne	University of Melbourne	Australia
10:00	4683	Stability of Fe ³⁺ bearing majorite in the Earth's mantle	Yingwei Fei	Carnegie Inst. of Washington	United States
10:50	4488	Oxidation state of majoritic inclusions in diamond	Kate Kiseeva	University of Oxford	United Kingdom
11:10	4463	Multiple phases of mantle metasomatism revealed by X-ray CT scanning of Southern African diamondiferous eclogites	John Gurney	University of Cape Town	South Africa
11:30	4471	Melting of hydrous-carbonated eclogite at 4–6 GPa and 900-1200°C: implications for the sources of diamond-forming fluids	Oded Elazar	Hebrew University	Israel
11:50	4456	Origin of coarse-granular and equigranular eclogites from V. Grib kimberlite pipe, Arkhangelsk region, NW Russia	Elena Shchukina	Sobolev Inst. of Geol. and Mineral.	Russian Federation
12:10	4496	Geochemistry of Eclogite Xenoliths from Kimberlite Pipe Udachnaya: Section of Archean Oceanic crust sampled?	Alexey Agashev	Sobolev Inst. of Geol. and Mineral.	Russian Federation
12:30	4466	Relation between fluid end-members and noble gases in South African diamonds	Suzette Timmerman	Australian National University	Australia
14:20	4532	Diamond brecciation and annealing accompanying major metasomatism in eclogite xenoliths from the Sask Craton, Canada	Janina Czás	University of Alberta	Canada
THEME: 3. Geology and Gemmology of Diamond					
14:40	4544	Mineral inclusions in diamonds from Karowe Mine, Botswana: examining the mantle sources of a diamond population containing exceptionally large crystals.	Theetso Motsamai	University of Alberta	Canada
15:00	4560	Neoproterozoic Zimmi diamond formation through infiltration of recycled methane into sulphide-bearing Archean eclogite	Karen Smit	Gemmological Institute of America	United States
15:20	4453	The Victor Diamond Mine (Superior Craton, Canada) - A new paradigm for exploration in unconventional settings	Thomas Stachel	University of Alberta	Canada
15:40	4450	Stable Isotope Data and FTIR Analyses of Diamonds from Orapa Mine: A Clear Subduction Signature	Ingrid Chinn	De Beers Group	South Africa

Wednesday, September 20, 2017

THEME: 3. Geology and Gemmology of Diamond

Time	Abstract	Title	Presenter	Affiliation	Country
8:30	4919	KEYNOTE: Fluid-rich microinclusions in diamonds open windows to large mantle processes	Yaakov Weiss	Lamont-Doherty Earth Observ.	USA
9:00	4627	The Archean sedimentary sulfur recycling under the Kaapvaal craton revisited from 4S-isotopic compositions in sulfide inclusions in diamonds from Kimberley Pool (South Africa) Jwaneng and Orapa (Botswana)	Emilie Thomassot	CRPG-CNRS Nancy	France
9:20	4479	Provenance History of Detrital Diamond Deposits, West Coast of Namaqualand, South Africa.	David Phillips	University of Melbourne	Australia
9:40	4508	Three phases of diamond growth spanning >2.0 Ga beneath Lethakane established by Re-Os and Sm-Nd systematics of individual eclogitic sulphide, garnet and clinopyroxene inclusions	Michael Gress	Vrije Universiteit Amsterdam	Netherlands
11:00	4502	Type IIb diamonds originate from the sublithospheric mantle	Evan Smith	Gemological institute of America	United States
11:20	4646	Old unradiogenic Os in deep mantle metallic liquid from large gem Iia diamonds	Stephen Richardson	University of Cape Town	South Africa
11:40	4543	The origin of Type II diamonds: Insights from contrasting mineral inclusions in Cullinan Type I and Type II stones	Nester Korolev	University of British Columbia	Canada
12:00	4531	Solid molecular nitrogen (N ₂) inclusions in Juina diamonds: exsolution at the base of the transition zone	Oded Navon	Hebrew University	Israel

THEME: 4. The Origin and Evolution of Kimberlites and Related Magmas

12:20	4562	New constraints on the origin of carbonates in kimberlites integrating petrography, mineral chemistry and in situ stable isotope analysis	Montgarri Castillo Oliver	Macquarie University	Australia
12:40	4654	The carbon cycle in the continental lithosphere and the generation of alkaline mafic melts in cratonic and rift regions	Stephen F Foley	Macquarie University	Australia

Thursday, September 21, 2017

THEME: 4. The Origin and Evolution of Kimberlites and Related Magmas

Time	Abstract	Title	Presenter	Affiliation	Country
8:50	4916	KEYNOTE: Olivine zoning and the evolution of kimberlite systems	Andrea Giuliani	University of Melbourne	Australia
9:20	4518	Insights into the petrogenesis of the West Kimberley lamproites from trace elements in olivine	Lynton Jaques	Australian National University	Australia
9:40	4612	The P3 kimberlite, Wajrakarur Kimberlite Field, India: Mineralogy, and major and trace element compositions of olivines as records of their magmatic versus xenocrystic origin	Azhar Shaikh	Indian Inst. of Technology Bombay	India
10:00	4515	Melt evolution of the Finsch orangeite, South Africa	Henrietta Farr	University of Melbourne	Australia
10:50	4542	Evolution of kimberlite magmatism on the dynamic Earth	Sebastian Tappe	University of Johannesburg	South Africa
11:10	4462	50 myr kimberlite magmatism in the Fort à la Corne field, Sask craton, recorded by zircon megacrysts	Qiao Shu	University of Alberta	Canada
11:30	4493	Punctuated, long-lived emplacement history of kimberlites from the Renard cluster, Superior Province, Canada indicated by new high precision U-Pb groundmass perovskite dating	Ilona Ranger	University of Alberta	Canada
11:50	4477	Cr-rich Megacrysts of Clinopyroxene and Garnet from Lac de Gras Kimberlites, Slave Craton, Canada – Implications for the Origin of Clinopyroxene and Garnet in Cratonic Peridotites	Yannick Bussweiler	University of Alberta	Canada
12:10	4630	Hidden reservoirs in the continental lithosphere? Evidence from Hf-Sr-Nd-Pb isotopes in southern African kimberlite megacrysts	Philip Janney	University of Cape Town	South Africa

THEME: 5. Diamond Deposits - Exploration and Mining

14:00	4917	KEYNOTE: Application of Machine Learning Techniques to Exploration: An Example Using Self-Organising Maps for Garnet Data	Alan Kobussen	Rio Tinto	Australia
14:20	4511	Robust New Statistical Approaches to the Discrimination of Mantle- and Crust-derived Low-Cr Garnets using Major and Trace Element Data	Matthew Hardman	University of Alberta	Canada
14:40	4455	Evidence for a > 200 km thick diamond-bearing root beneath the Central Mackenzie Valley, Northwest Territories, Canada? Diamond indicator mineral geochemistry from the Horn Plateau and Trout Lake regions	Stephane Poitras	University of Alberta	Canada
15:00	4501	Tracing kimberlitic indicators to their kimberlite source at Chidliak, Nunavut, Canada, re-visited: the unexpected accuracy of a simplified Mahalanobis-distance approach	Herman Grutter	Peregrine Diamonds	Canada
15:20	4555	The magnitude of termites to the future of kimberlite exploration in Botswana	Leon Daniels	Geocontracts Botswana	Botswana
15:40	4655	Kimberlite exploration under thick Kalahari cover using the new powerful SPECTREM-PLUS AEM system	David Khoza	Spectrem Air	South Africa

Friday, September 22, 2017

THEME: 5. Diamond Deposits - Exploration and Mining

Time	Abstract	Title	Presenter	Affiliation	Country
8:30	4684	Mapping heat flow from a time series of satellite temperature images as a regional exploration tool for kimberlites	Neil Pendock	Terracore	South Africa
8:50	4603	Features of Diamond and its Indicator Minerals of Kimberlites of the M.V. Lomonosov Deposit, Arkhangelsk Region, Russia	Anzhelika Bovkun	Lomonosov Moscow State Univ.	Russian Federation
9:10	4485	The suitability of micro-diamonds for local (blocked) resource estimation – opportunities and challenges	Johann Stiefenhofer	De Beers Group	South Africa
9:30	4635	Estimation of commercial diamond grades based on microdiamonds: a case study of the Koidu diamond mine, Sierra Leone	Thomas Nowicki	Mineral Services Canada	Canada
9:50	4554	The diamond size/frequency and size/quality distributions in the Argyle AK1 lamproites	Andrew Davy	Rio Tinto	United Kingdom
10:40	4681	KEYNOTE: Mining For Diamonds – History and Present	Jarek Jakubec	SRK Consulting	Canada
11:00	4677	Generation of 3D Kimberlite Pipe Models for Resource Classification and Mine Planning: Data Sources, Procedures, and Guidelines	Michael Diering	SRK Consulting	Canada
11:20	4647	Karowe Diamond Mine: A World-class source of large exceptional diamonds	John Armstrong	Lucara Diamond	Canada
11:40	4559	Slope stability challenges and solutions for mining Kimberlite resources hosted in structurally complex country rock: Dip slope mining at Jwaneng Mine, Botswana	Kabo Gabanagosi	Debswana	Botswana
12:00	4686	Vertical Pit mining – An alternative to Open Pit Mining for Massive/Shallow Orebodies	Peter Terbrugge	SRK Consulting	South Africa

THEME: 6. The Structure of Cratons

13:50	4447	The Life Cycle of Diamondiferous Cratons - A Leitmotif with Infinite Regional Variations	Herwart Helmstaedt	Queen's University	Canada
14:10	4514	The genesis and evolution of subcontinental lithospheric mantle beneath Botswana and N. South Africa	Gareth Davies	Vrije Universiteit Amsterdam	Netherlands
14:30	4533	Contrasting Thermal Structure, Melt Depletion and Metasomatism of Mantle Lithosphere Beneath Two Proterozoic Terranes West of the Kaapvaal Craton, Southern Africa	Ellwin Shiimi	University of Cape Town	South Africa
14:50	4631	Deciphering the composition and structure of Wyoming craton mantle lithosphere: insights from peridotite xenoliths	Benjamin Chilson-Parks	Brown University	United States
15:10	4449	KEYNOTE: Construction and destruction of some North American cratons	David Snyder	Geological Survey of Canada	Canada