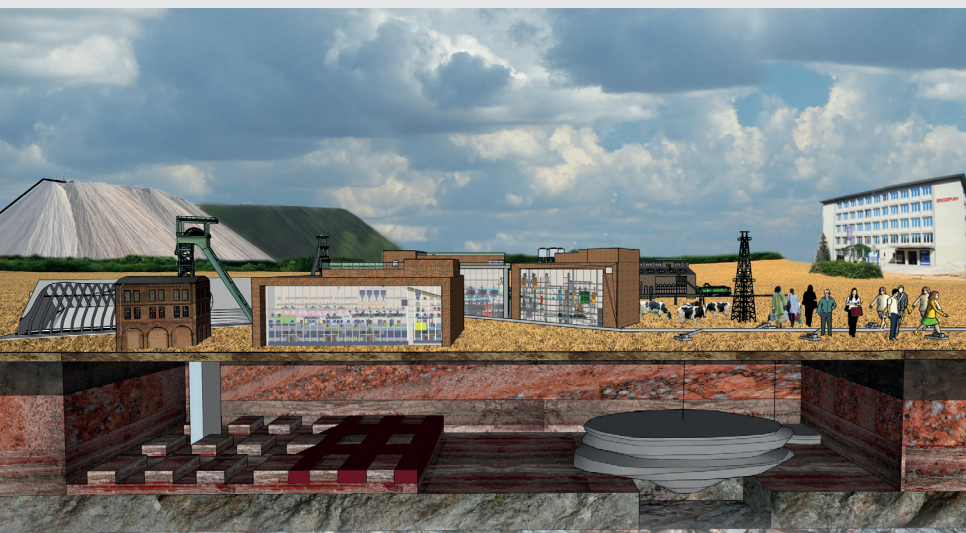


Carsten Ackermann	Mine Surveyor, Project Engineer Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)	Florian Krause	Senior Hydrogeologist; K+S AG, Kassel (Germany)
Jamal Amira	Technical Manager; Arab Potash Company (APC), Amman (Jordan)	Stanislav Y. Kvitkin	Head of Resource Base Development; PJSC URALKALI, Berezniki (Russia)
Christian Assmuth	Geological Technician Resource Geology; ERCOSPLAN, Erfurt (Germany)	Dr Christoph Lüdeling	Physicist; Institut für Gebirgsmechanik GmbH (IfG), Leipzig (Germany)
Dr Terzan Atmaca	Project Manager; Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Hanover (Germany)	Siu Ma	Executive Vice President & Chief Operating Officer; Karnalyte Resources Inc., Saskatoon (Canada)
Keith Attoe	CEO & Director; Atlantic Potash Millstream Corporation (APMC), Saint John (Canada)	Dr Heiner Marx	Managing Board; K-UTECH AG Salt Technologies, Sondershausen (Germany)
Prof. Dr Alexander A. Baryakh	Director; Mining Institute UB RAS, Perm (Russia)	Stuart Middleton	Technical Director E & C Services; Amec Foster Wheeler plc, Saskatoon (Canada)
Vera Böttge	Department for Applied Geology and Georisks (Department 23); Landesamt für Geologie und Bergwesen Sachsen-Anhalt (LAGB), Halle (Germany)	Dr Wolfgang Minkley	General Manager; Institut für Gebirgsmechanik GmbH (IfG), Leipzig (Germany)
Kathrin Brinschwitz	Division Manager Water; Fugro Consult GmbH, Berlin (Germany)	Benjamin Müller	Project Engineer Geomechanics and Mining; K-UTECH AG Salt Technologies, Sondershausen (Germany)
Jorge Carracedo	Project Engineer Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)	Lukas Nawa	Exploration Geologist Solution Mining; ERCOSPLAN, Erfurt (Germany)
Thomas Deimel	Managing Director; GHH Fahrzeuge GmbH, Gelsenkirchen (Germany)	Jana Neubert	Head of Exploration, EurGeol; ERCOSPLAN, Erfurt (Germany)
Jörg Domnowski	General Manager, Head of Remediation Division Potash-Spar-Ore; LMBV Lausitzer und Mitteldeutsche Bergbau-Verwaltungsgesellschaft mbH Potash-Spar-Ore Division, Sondershausen (Germany)	Stephan Pfeifer	Exploration Geologist Resource Geology; ERCOSPLAN, Erfurt (Germany)
Stephan Donndorf	Head of Geological Modelling; ERCOSPLAN, Erfurt (Germany)	Michael Pfeiffer	Managing Director; DEUSA International GmbH, Bleicherode (Germany)
Eduard Dorn	Head of Shaft Construction and Tunneling Technology; THYSSEN SCHACHTBAU GMBH, Mülheim a. d. R. (Germany)	Robin Phinney	President, Director and Chairman of the Board; Karnalyte Resources Inc., Saskatoon (Canada)
Sebastian Ebner	Project Engineer; Ebner GmbH & Co. KG, Eiterfeld (Germany)	Sergei G. Popov	Finance Director; FLLC SLAVKALYI, Minsk (Belarus)
Dr Bodo-Carlo Ehling	Head of Geological Survey; Landesamt für Geologie und Bergwesen Sachsen-Anhalt (LAGB), Halle (Germany)	Hubert Prühl	Head of Bischofferode Mine; LMBV Lausitzer und Mitteldeutsche Bergbau-Verwaltungsgesellschaft mbH Potash-Spar-Ore Division, Holungen (Germany)
Dr Sascha Engler	Project Engineer Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)	André Radünz	Exploration Geologist Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)
Flávio Faria	Managing Director; KIB Engenharia de Potássio Ltda., Belo Horizonte (Brazil)	Bodo Ramelow	Premier of the Free State of Thuringia, Erfurt (Germany)
Dr Thomas Fliss	Project Engineer Mining International; K-UTECH AG Salt Technologies, Sondershausen (Germany)	Dr Wolfgang Ramm	Advisor for Mining, Solution Mining, Interim Management; K-UTECH AG Salt Technologies, Sondershausen (Germany)
Dr Jürgen Franz	Vice President Technical Services; Deilmann-Haniel GmbH, Dortmund (Germany)	Heidrun Rauche	Head of Abandoned Mines/Mining Impacts; ERCOSPLAN, Erfurt (Germany)
Christian Fritze	Exploration Geologist Resource Geology; ERCOSPLAN, Erfurt (Germany)	Dr Henry Rauche	Managing Director & CEO, EurGeol; ERCOSPLAN, Erfurt (Germany)
Astrid Gessert	Head of Geophysics; K-UTECH AG Salt Technologies, Sondershausen (Germany)	Patrick Rennkamp	Senior Product Manager Shafts; HERRENKNECHT AG, Schwanau (Germany)
Ivan I. Golovaty	Director General; JSC BELARUSKALI, Soligorsk (Belarus)	Dr Klaus Salzer	Senior Consultant; Institut für Gebirgsmechanik GmbH (IfG), Leipzig (Germany)
Jochen A. Greinacher	CEO; Deilmann-Haniel GmbH, Dortmund (Germany)	Abhichati Sayasinchana	Vice President; ASEAN Potash Chaiyaphum Public Company Limited (APOT), Bangkok (Thailand)
Manuela Gruber	Exploration Geologist Resource Geology; ERCOSPLAN, Erfurt (Germany)	Vladimir V. Savchenko	EuroChem Group, Moscow (Russia)
Norbert Gruschow	NGConsulting, Sondershausen (Germany)	Dr Heinz Scherzberg	Senior Engineer; K-UTECH AG Salt Technologies, Sondershausen (Germany)
Dr Sven Harms	Project Manager Process Engineering; ERCOSPLAN, Erfurt (Germany)	Günter Schönberg	Department for Applied Geology and Georisks (Department 23); Landesamt für Geologie und Bergwesen Sachsen-Anhalt (LAGB), Magdeburg (Germany)
Alexa Hergenröther	Managing Director; K+S KALI GmbH, Kassel (Germany)	Wolfgang Schreiner	Senior Advisor; Institut für Gebirgsmechanik GmbH (IfG), Leipzig (Germany)
Dr Alireza Hezarkhani	Project Engineer Solution Mining; ERCOSPLAN, Erfurt (Germany)	Dr Heiko Schulze	Managing Director; FAMAKO Anlagenexport GmbH, Berlin (Germany)
Fabian Horbert	Project Engineer; Köppern Aufbereitungstechnik GmbH & Co. KG, Freiberg (Germany)	Sergey F. Shemet	Chief Technology Manager, Mining Division; EuroChem Group, Moscow (Russia)
Dr Stefan Hotz	General Manager, Business Unit Mining; HERRENKNECHT AG, Schwanau (Germany)	Dr Felix Strassburger	Head of Product Strategy; GHH Fahrzeuge GmbH, Gelsenkirchen (Germany)
Sven Hörschkes	Vice President, Head of EMENA Region; FLSmidth, Copenhagen (Denmark)	Thomas Teichert	Head of Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)
Dzianis Iholka	Project Engineer Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)	Christian Theis	DEUSA International GmbH, Bleicherode (Germany)
Katsiaryna Iholka	Project Engineer Conventional Underground Mining; ERCOSPLAN, Erfurt (Germany)	Vongthong Thimahaxay	Director Mine Safety and Inspection Division; Department of Mines (DOM), Vientiane (Laos)
Andreas Jockel	Head of Resource Geology, EurGeol; ERCOSPLAN, Erfurt (Germany)	Dr. Holger Thoma	Supervisory Board; K-UTECH AG Salt Technologies, Sondershausen (Germany)
Gerhard Jost	Director of Mine Surveying, Head of Department for Mine Surveying and Mineral Licence Management, Abandoned Potash Mines (Department 14); Landesamt für Geologie und Bergwesen Sachsen-Anhalt (LAGB), Halle (Germany)	Vladimir I. Trofimov	Research Associate (Senior); Mining Institute UB RAS, Perm (Russia)
Dr Eike Kaps	General Manager, Head of Process Engineering; ERCOSPLAN, Erfurt (Germany)	Dr Sebastiaan van der Klauw	Head of Solution Mining, EurGeol; ERCOSPLAN, Erfurt (Germany)
Stephan Kaps	Head of Chemical Engineering; K-UTECH AG Salt Technologies, Sondershausen (Germany)	Tim van Heyden	Head of Freezing Shaft Construction Engineering; THYSSEN SCHACHTBAU GMBH, Mülheim a. d. R. (Germany)
Hartmut Kiessling	Executive Mining Director, Head of Thüringer Landesbergamt (TLBA), Gera (Germany)	Khamtanh Vongphansipaseuth	Deputy Director General; Department of Mines (DOM), Vientiane (Laos)
Ronny Köhler	Technician; K-UTECH AG Salt Technologies, Sondershausen (Germany)	Björn Wegner	Senior Engineer Freezing Technology and Shaft Lining; THYSSEN SCHACHTBAU GmbH, Mülheim a. d. R. (Germany)
Vera V. Kovalskaya	Lead Geologist; PJSC URALKALI, Berezniki (Russia)	Christoph Wehner	Head of the Werra Plant; K+S KALI GmbH, Philippsthal/Werra (Germany)
		Detlef Wolff	General Manager, Head of Mechanical Engineering; ERCOSPLAN, Erfurt (Germany)
		Andreas Wölke	Exploration Geologist Abandoned Potash Mines/Mining Impacts; ERCOSPLAN, Erfurt (Germany)
		Mihail A. Zhuravkov	EuroChem Group, Moscow (Russia)
		Dr Reiner Zimmermann	Project Manager; K-UTECH AG Salt Technologies, Sondershausen (Germany)



LECTURE PROGRAMME AND LIST OF AUTHORS

International Symposium
THE POTASH INDUSTRY IN THE 21st CENTURY
Exploration, Mining, Processing and Disposal of Resulting Residues

Erfurt, 08 to 10 June 2017
 organised under the patronage of the
 Thuringian State Premier, Mr Bodo Ramelow

LECTURE PROGRAMME

9:30 – 11:00 --- PLENARY SESSION 01 in Carl-Zeiss-Hall, Ground Floor

Henry Rauche (ERCOSPLAN)
Opening Address (German)

Bodo Ramelow (Premier of the Free State of Thuringia)
Welcome Address (German)

Hartmut Kiessling (TLBA, Gera)
Welcome Address (German)

Alexa Hergenröther (K+S KALI, Kassel)
Potash – an essential nutrient to feed the world. Demand + supply outlook (English)

Coffee, Tea and Snacks

11:30 – 12:40 --- PLENARY SESSION 02 in Carl-Zeiss-Hall, Ground Floor

Ivan I. Golovaty (BELARUSKALI, Soligorsk)
Belarus Potash Industry - New Opportunities (Russian)

Jamal Amira (APC, Amman)
The APC Production Extension Program (English)

Stuart Middleton (Amec Foster Wheeler, Saskatoon)
Potash in Canada: Past, Present and Future (English)

Lunch Break

13:30 – 15:00 --- PARALLEL SESSION 03 in the Conference Rooms ...

... Heinrich Erhardt, First Floor Series A: Conventional Underground Mining	... Christian Reichart, Second Floor Series B: Solution Mining	... Ernst Abbe, Second Floor Series C: Mine Safety and Geomechanics	... Carl-Zeiss-Hall, Ground Floor Series D: Processing
Stefan Hotz & Patrick Rennkamp (HERRENKNECHT, Schwabau) Developments of Mechanized Shaft Sinking Technologies (English)	Michael Pfeiffer (DEUSA, Bleicherode) Potash Mining Without Miners? Solution Mining as an Alternative – Potential and Limits (German)	Stanislav Y. Kvitkin & Vera V. Kovalskaya (URALKALI, Berezniki), Alexander A. Baryakh & Vladimir I. Trofimov (Mining Institute UB RAS, Perm) Injection of Mineralized Waters/Brines into Post-Evaporite Rocks of the Upper Kama Deposit (Russian)	Heiko Schulze (FAMA KO, Berlin) Complex Plants in the Potash Industry - Advantages of Delivery from a Single Source (German)
Tim van Heyden, Eduard Dorn & Björn Wegner (THYSSEN SCHACHTBAU, Mülheim a. d. R.) Freeze Shaft Sinking by THYSSEN SCHACHTBAU GMBH in the Russian Federation (German)	Norbert Grüschow (NGConsulting, Sondershausen) & Christian Theis (DEUSA, Bleicherode) Optimization of Cavern and Brine Field Operation by Numerical Modelling (English)	Mihail A. Zhuravkov, Sergey F. Shemet & Vladimir V. Savchenko (EuroChem, Moscow) Geomechanical Support of Potash Projects of JSC EuroChem Group (Russian)	Sven Hörschkes (FLSmidth, Copenhagen) Extended Process Responsibility of Machine Suppliers in the Potash Industry (German)
Jochen A. Greinacher & Jürgen Franz (Deilmann-Haniel, Dortmund) Shaft Sinking for the Sirius Polyhalite Project in Yorkshire, England (English)	Siu Ma & Robin Phinney (Kamalyte, Saskatoon) The Wynyard Carnallite Project in Saskatchewan, Canada: An Innovative Design Approach to Produce High Purity Granular Potash Pellets and to Minimize Environmental Impact (English)	Wolfgang Minkley & Christoph Lüdeling (IfG, Leipzig) Longwall Caving in Potash Mining – Geomechanical Assessment of Damage and Barrier Integrity (English)	Sebastian Ebner (Ebner, Eiterfeld) Trends Towards Process- and Energy-Optimization in the Industrial Evaporation and Crystallization (English)
Felix Strassburger & Thomas Deimel (GHH Fahrzeuge, Gelsenkirchen) Productivity Increase of Diesel-Driven and Electric Large Load-Haul-Dumpers (LHDs) Through Innovative Drive Technology (English)	Sebastiaan van der Klauw, Alireza Hezarkhani & Lukas Nawa (ERCOSPLAN) Potash Solution Mining Today: Optimization of Established Operations and Innovations for New Projects (English)	Carsten Ackermann & Katsiaryna Iholka (ERCOSPLAN), Wolfgang Schreiner, Klaus Salzer (IfG, Leipzig) Mining System Design and Barrier Integrity in Conventional Potash Mining in the Light of Various National Safety Requirements (English)	Fabian Horbert (Köppers, Freiberg) Optimization of Compaction-Granulation Plants for Potassium Salts (English)

Coffee, Tea and Snacks

15:30 – 17:00 --- PARALLEL SESSION 04 in the Conference Rooms ...

... Heinrich Erhardt, First Floor Series A: Conventional Underground Mining	... Christian Reichart, Second Floor Series B: Solution Mining	... Ernst Abbe, Second Floor Series E: Mine Closure and Remediation	... Carl-Zeiss-Hall, Ground Floor Series F: Environmental Protection
Abhichati Sayasinchana (APOT, Bangkok) ASEAN Potash Project in Thailand: A Long History Becomes Reality (English)	Thomas Fliss, Wolfgang Ramm & Benjamin Müller (K-UTEK, Sondershausen) Selective Solution Mining Within Complex Deposit Structures at Dallol Region in Ethiopia (English)	Vera Böttge, Gerhard Jost, Günter Schönberg & Bodo-Carlo Ehling (LAGB, Halle) The Stassfurter Sattel in the Stress Field of Abandoned Potash Mines, Current Solution Mining Operations and Natural Subrosion (German)	Christoph Wehner (K+S KALI, Philippsthal) Environmental Challenges Based on the Example of the Werra Plant (German)
Sergei G. Popov (SLAVKALIJ, Minsk) The Development of the Nezhin Project (English)	Jana Neubert, Christian Assmuth & Stephan Donndorf (ERCOSPLAN) From Drilling, Sampling and Assaying to Potash Resources – Stumbling Stones Along this Journey (English)	Jörg Domnowski (LMBV, Sondershausen) Two Decades of Closing Potash Mines in the South Harz Potash District – An Assessment (German)	Florian Krause (K+S AG, Kassel) & Kathrin Brinschwitz (Fugro, Berlin) Application of Airborne Geophysics for Groundwater Exploration in Areas Surrounding Salt Tailings Piles (German)
Keith Attoe (APMC, Saint John) Competitive Cost Advantage - The Key to Successful Project Development (English)	Christian Fritze & Stephan Pfeifer (ERCOSPLAN) Resource Estimation of Natural Brines: Similarities with (Solid) Mineral Resources and Differences (English)	Astrid Gessert, Holger Thoma, Ronny Köhler (K-UTEK, Sondershausen) & Hubert Prühl (LMBV, Holungen) Seismic Monitoring of Former Potash Mines in the South Harz Potash District – Development of Technology and Activity as Mine Closure Progresses (German)	Heiner Marx, Heinz Scherzberg, Stephan Kaps & Reiner Zimmermann (K-UTEK, Sondershausen) Comprehensive Use of Waste Brines from Production and Tailings Piles of the Werra Plant (German)
Dzianis Iholka, Thomas Teichert, Sascha Engler & Jorge Carracedo (ERCOSPLAN) Present and Future Challenges for Potash Mine Engineering: Solutions Based on Experience (English)	Flávio Faria (KIB, Belo Horizonte) Optimal Process Design for an Early-Stage Greenfield Potash Project (English)	Andreas Wölke, Manuela Gruber, André Radünz & Heidrun Rauche (ERCOSPLAN) The Time After: From Shaft Closure to the Monitoring of Abandoned Potash Mines (German)	Elke Kaps & Sven Harms (ERCOSPLAN) Reduction of Processing Residues in the Potash Industry: Yesterday – Today – The Day After (German)

Coffee, Tea and Snacks

17:30 – 18:20 --- PLENARY SESSION 05 in Carl-Zeiss-Hall, Ground Floor

Terzan Atmaca (BGR, Hanover), Khamtanh Vongphansipaseut & Vongthong Thimamahaxay (DOM, Vientiane)
Lao-German Development Cooperation Project: Sustainable Development in the Mining Sector in Laos (English)

Andreas Jockel & Detlef Wolff (ERCOSPLAN)
25 Years of ERCOSPLAN: The Success Story from the Perspective of the “Grandchild” Generation (German)

Closing Remarks