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PLENARY SESSION

17 September

Hall № 3

Chairmen: **M. Reverdy**, EGA, UAE

P.V. Polyakov, Siberian federal university, Russia

V.Kh. Mann, RUSAL, Russia

C. Vanvoren, C2V Consulting, France

Time	Title	Company	Speaker
11.00-11.30	Technology and Product Development of UC RUSAL	RUSAL, Russia	Viktor Mann
11.30-12.00	The Use of Aluminium in Automotive Industry	Rusal Marketing GmbH, Switzerland	Eric Martinet
12.00-12.30	Challenges and Way Forward for Aluminium Industry	Hindalco Industries Limited, India	Bibhu Mishra
12.30-13.00	Historical Development of the Largest Smelter in the Middle East	Aluminium Bahrain BSC, Bahrain	Abdulla Habib
13.00-14.00	LUNCH		
14.00-14.30	Pre-Baked Anode Market and Production Overview in China	Sunstone Development, China	Joe Woo
14.30-15.00	Current Situation of Alumina Industry in China and Its Technical Demand	Zhengzhou Non-ferrous metals Research Institute of Chalco, China	Yin Zhonglin
15.00-15.30	A successful model of collaboration for innovation between University and Aluminium Industry	REGAL Aluminium Research Centre, Canada	Houshang Alamdari
15.30-16.00	An Overview of the Bauxite, Alumina and Aluminium Markets and their Costs	CRU, UK	Martin Jackson
16.00-16.30	Coffee break		
16.30-17.30	ICSoba members' meeting		

18.00-21.00 *Opening reception*

***Concert Hall of business center "Siberia",
3rd floor***

Section «ALUMINA PRODUCTION»

16 September

Hall “Alumina production”

Chairmen: **Andrey Panov**, RUSAL ETC, Russia
S. Beaulieu, RUSAL Aughinish, Ireland

9.30-10.00	Registration
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Chairmen: **Monique Morgan**, Jamalco, Jamaica
Andrey Panov, RUSAL ETC, Russia

Time	Title	Company	Speaker
10:00 - 10:20	The Quality of Bauxites from Bosnia & Herzegovina and Montenegro Processed by Alumina DOO Zvornik between 2014 and 2018	DOO Alumina, Bosnia and Herzegovina	Z. Ostojic
10:20 - 10:40	The Road to a New Bauxite – Mine and Refinery Optimisation	RUSAL Aughinish, Ireland	S. Beaulieu
10:40 - 11:00	Digestion of Boehmitic Bauxites: Problems, Challenges and Opportunities	Maaden, Saudi Arabia	A. Scarsella
11:00 - 11:20	Control of Impurities in Bayer Liquors: Learnings from the Ma'aden Alumina Refinery	Maaden, Saudi Arabia	A. Scarsella
11:20 - 11:40	Concentrating Machinery and Equipment in Alumina Refining	Gormasheexport, Russia	A.V. Bauman
11:40 - 12:00	Development of Technology for Carbonate Removal from North Urals Bauxite at RUSAL Krasnoturyinsk	RUSAL ETC, Russia	A.N. Pivovarov
12.00-13.00	LUNCH		

Chairmen: **Stephane Beaulieu**, RUSAL Aughinish, Ireland
Maxim Pechenkin, RUSAL ETC, Russia

13:00 - 13:20	Reducing Reactive Silica Content in Washed Bauxite	Nalco, USA	D. Study of Crust
13:20 - 13:40	Settling Ability of Jamaican Bauxite Residue based on Bauxite Feed Constituents and Vessel Design	Jamalco, Jamaica	M. Morgan
13:40 - 14:00	Simulation of Solids Flocculation by CFD-PBM Method	RUSAL ETC, Russia	D.S. Maiorov
14:00 - 14:20	Improvement of Digested Slurry Post-Desilication Efficiency in the Flashing Circuit at Nikolaev Alumina Refinery	RUSAL ETC, Russia	A.A. Damaskin
14:20 - 14:40	Industrial Trials of Spent Tricalcium Aluminate Recycling into Digestion Process of Timan Bauxite	RUSAL ETC, Russia	O.A. Nechaev
14.40-14.50	Break		

Chairmen: **Stephane Beaulieu**, RUSAL Aughinish, Ireland

Vyacheslav Brichkin, St. Petersburg Mining University, Russia

14:50 - 15:10	Effect of CaO on Leaching Kinetics of Boehmite from Middle Timan Deposit Bauxites	Ural Federal University named after the first President of Russia B.N. Yeltsin, Russia	I.V. Loginova
15:10 - 15:40	Alumina Tecnology Road Map	Hatch, Canada	A. Duncan
15:40 - 16:00	Effect of bauxite mineralogy on Bayer digestion process selection	SAMI, China	Zh. Zhang

18 September

Hall “Alumina production”

Chairmen: **Denis Audet**, Audet Process Audit, Australia

Alexey Pivovarov, RUSAL ETC, Russia

Time	Title	Company	Speaker
09:00 - 09:20	Digestion-Evaporation Combined Process In Alumina Refinery	CHALIECO GAMI	Y. Xiaobing
09:20 - 09:40	Improvement of Spent Liquor Evaporation Technology at RUSAL Krasnoturyinsk	RUSAL ETC, Russia	M.N. Malofeev
09:40 - 10:00	Mechanical Vapour Recompression applied to Alumina Spent Liquor Evaporation Plants	GEA, France	F. Delannoy
10:00 - 10:20	Industrial Trials Of Belt Filter For Filtration Of Strong Evaporated Liquor At RUSAL Krasnoturyinsk	RUSAL ETC, Russia	D.V. Ovsyuchenko
10:20 - 10:40	The Use of Hydrothermal Treatment of Aluminium Hydroxide to Improve The Efficiency of Alumina Production	Ural Federal University named after the first President of Russia B.N. Yeltsin, Russia	A.A. Shoppert
10.40-11.00	Coffee break		

Chairmen: **Linus Perander**, Outotec, Norway

Daniil Rudakov, RUSAL ETC, Russia

11:00 - 11:20	Control of Product Size and Strength with Challenging Impurity Balance	RUSAL Aughinish, Ireland	M. O'Dea
11:20 - 11:40	Optimization of alumina precipitation circuit arrangement using simple modelling tool	Audet Process Audit, Australia	D. Audet
11:40 - 12:00	Statistical Analysis of Aluminate Liquor Precipitation Process with Statistica: Classic and Modern Data Mining Methods	StatSoft Russia, Russia	M.L. Milkov
12:00 - 12:20	Development of a Probabilistic Model for Water Management on a Bauxite Mining Site	Hydro Mineração Paragominas, Brazil	P. Costa
12:20 - 12:40	Development of business intelligence reports for KPI management on a bauxite mine	Hydro Mineração Paragominas, Brazil	A. Reis
12.40 - 13.40	LUNCH		

Chairmen: **Alessio Scarsella**, Outotec, Germany

Andrey Panov, RUSAL ETC, Russia

13:40 - 14:00	The Altech process to produce high purity alumina from kaolin clay	Altech, Australia	I. Tan
14:00 - 14:20	Techno-Commercial Evaluation of Chloride Based Production Routes for Technology Metals and Materials	SMS Group, Germany	H. Weissenbaeck
14:20 - 14:40	RUSAL Alumochloride Technology – Efficient and Waste-Free Alumina Production from Non-Bauxite Resource	RUSAL ETC, Russia	A.A. Smirnov
14:40 - 15:00	Research results and prospects for acid-salt processing of low quality bauxites and other alumina-containing raw materials in a closed circuit	NewChem Technology, Russia	R.Kh. Khamizov
15:00 - 15:20	Synthesis of Oxide Materials by Hydrothermal Hydrolysis of Aluminum Chloride Hexahydrate	Boreskov Institute of Catalysis, Russia	N.M. Dobrynkin
15:20 - 15:40	Dust suppressors of the FLOSET series of SNF for bauxite mines, transport roads, conveyor transport and storage of red mud	SNF Vostok LLC, Russia	M.V. Demchenko
15.40-16.00	Coffee break		

Chairmen: **Stephane Beaulieu**, RUSAL Aughinish, Ireland
Andrey Smirnov, RUSAL ETC, Russia

16:00 - 16:20	Customized Descaling Robots Still today, Descaling Robot Arms improve Health and Safety while increasing productivity	Mecfor, Canada	E. Harvey
16:20 - 16:40	State-of-the-art Bauxite Tailings Disposal Facilities and Techniques	Norsk Hydro Brasil, Brazil	B. Castilho
16:40 - 17:00	A comparison between various pump systems for high flow rate tailing pipelines	FELUWA Pumpen GmbH, Russia	R. Scherer
17:00 - 17:20	Experimental study on physical and mechanical properties of red mud from Bayer process under different compaction degree and water content	CHALIECO GAMI, China	Yu. Hu

19 September

Hall “Alumina production”

Chairmen: **David Davis**, Nalco, USA
Oleg Nechaev, RUSAL ETC, Russia

Time	Title	Company	Speaker
09:00 - 09:20	Experience Driven Design Improvements of Gas Suspension Calciners	FL Smidth, India	P. Jaganathan
09:20 - 09:40	Estimation and Optimization Calculations of Alumina Flash Calciner	RUSAL ETC, Russia	V.O. Golubev
09:40 - 10:00	Production of Ceramic and Smelter Grade Alumina in Outotec's Dual Purpose CFB Calciner	Outotec, Norway	L. Perander
10:00 - 10:20	Biodiversity Research Consortium (BRC): A technical and scientific partnership in search of the "State of Art" in Mining Area Recovery	Hydro Mineração Paragominas S.A., Brazil	V.M. Barbosa
10:20 - 10:40	Utilization of the Paragominas mining tailings to obtain FAU zeolite: Synthesis optimization using a factorial DOE and Response Surface Methodology	Norsk Hydro, Brazil	B. Castilho
10.40-11.00	Coffee break		

Chairmen: **Pungkuntran Jaganathan**, FLSmidth, India
Vladimir Golubev, RUSAL ETC, Russia

11:00 -	The Driverless Alumina Refinery	Worley, Australia	N.S. Salmon
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11:20			
11:20 - 11:40	Development the means of modeling the processes and the systems of alumina production	St. Petersburg Mining University, Russia	V.V. Vasilyev
11:40 - 12:00	The study of the tailings discarded at Mina Alumina Limited, a bauxite mining and processing company located in Mozambique, Southern Africa	Eduardo Mondlane University, Mozambique	Q.I. Ebicha
12:00 - 12:20	Egyptian aluminum-containing raw materials and the prospects for its integrated processing to produce alumina and by-products	St. Petersburg Mining University, Russia	A. B. ElDeeb
12:20 - 12:40	The method of calculating the ionic composition of aluminate solutions in the system $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{H}_2\text{O}$ and its close analogues	St. Petersburg Mining University	A.T. Fedorov
12.40-13.00	Valorization of Canadian Bauxite Residue for the Recovery of Strategic Materials	University of Toronto, Canada	J. Anawati
13.00-14.00	LUNCH		

Chairmen: **Breno Castilho**, Norsk Hydro Brasil, Brazil
Alexander Suss, RUSAL ETC, Russia

14:00 - 14:20	Bauxite residue safety disposal and possibilities to further utilization. II. Maize plants growth on the acidic soils (pilot and demonstration stage)	Alum, Romania	L. Cotet
14:20 - 14:40	Industrial Trials Results of Scandium Oxide Recovery from Red Mud at UC RUSAL Alumina Refineries	RUSAL ETC, Russia	O.V. Petrakova
14:40 - 15:00	Specific Features of Alkali Recovery from Bauxite Residues of Different Alumina Refineries	RUSAL ETC, Russia	A.A. Damaskin
15:00 - 15:20	A novel approach for dealkalization and comprehensive utilization of Red Mud	Central South University, China	W. Sun
15.20-15.40	Coffee break		

Chairmen: **Lucian Cotet**, Alum, Romania
Olga Petrakova, RUSAL ETC, Russia

15:40 - 16:00	Extracting alumina from coal fly ash with ammonium bisulfate leaching	Shenyang University of Technology, China	L. Laishi
16:00 - 16:20	Extraction of alumina from the coal fly ash by hydrochloric acid	IMET RAN, Russia	D.V. Valeev
16:20 - 16:40	Cementitious Activity Evaluation of Bauxite Residue and Fly ash combination on Portland Blended Cement	Norsk Hydro Brasil, Brazil	B. Castilho
16:40 - 17:00	R & D of Low-Alkaline Fine Alumina for Ceramic Industry	Borovichi Refractories plant, Russia	V.V. Skurikhin
17.00-17.20	Application of the Method of X-Ray Fluorescence Analysis for Control the Quality of Raw Materials and Finished Products in the Production of Alumina	E-Globaledge Corporation, Russia	N.N. Gerasimenko
17.20-17.40	The new methods of heavy sediment cleaning developed by Hammelmann company	"Impextorg Hammelmann" LLC, Russia	Ya. Tissen

18.00-19.00 Congress and Exhibition closing ceremony

Hall "Amphitheatre", 3rd fl.

Section «ALUMINIUM REDUCTION TECHNOLOGY»

18 September

Hall № 3

Chairmen: Prof., **P.V. Polyakov**, Siberian Federal University, Russia
PhD. **V.Yu. Buzunov**, RUSAL ETC, Russia
MSc. **M. Reverdy**, EGA, UAE
Dr. **V. Potocnik**, Vinko Potocnik Consultant Inc., Canada

Session 1. General principles. Environment

Chairmen: Dr., prof. **V.A. Kryukovskiy**, RUSAL Management, Russia
MSc. **M. Reverdy**, EGA, UAE

Time	Title	Company	Speaker
9:00-10:00	Analysis of scientific and technical achievements in the aluminium industry (TMS 2019 materials)	Siberian federal university, Russia	P.V. Polyakov
10:00-10:30	Linking electrochemistry, modern cell design and operating conditions, for a better understanding of anode reactions and various levels of PFC coevolution: Part 1: Changing reactions through changing Design and Materials	The University of Auckland, New Zealand	B. Welch
10:30-11:00	Coffee break		

Chairmen: PhD. **V.V. Pingin**, RUSAL ETC, Russia
Dr. **V. Potocnik**, Vinko Potocnik Consultant Inc., Canada

11:00-11:30	Linking electrochemistry, modern cell design and operating conditions, for a better understanding of anode reactions and various levels of PFC coevolution: Part2: The impact of cell design and process conditions on energy consumption and PFC emissions	The University of Auckland, New Zealand	B. Welch
11:30-12:30	Challenges & Latest Progress in IPCC Methodology for estimating the extent of Greenhouse Gases Co-evolved in the Aluminium Reduction Cell	The University of Auckland, New Zealand	D. Wong
12.30-12..50	Recycling of spent aluminum electrolyte and spent pot lining	Northeastern University, China	Zh. Wang
12.50-13.20	Environmental Benefits of Using Spent Pot Lining in Cement Production	Emirates Global Aluminium, UAE	M. Aljawi
13.20-14.20	LUNCH		

Chairmen: Dr., prof. **A.V. Proshkin**, RUSAL ETC, Russia
Dr. **Claude Vanvoren**, C2V Consulting, France

14:20-14:40	Carbon Monoxide Emissions from Electrolysis Process in EGA Smelters	Emirates Global Aluminium, UAE	M. Aljawi
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14:40-15:00	Energy Optimization and Emission Improvement in Fume Treatment in EGA Jebel Ali Smelter	Emirates Global Aluminium, UAE	V.Potocnik
15:00-15:20	The simulation of alumina feed in the reactor of 'dry' type gas treatment plant	SibVAMI JSC, Russia	A.V. Knizhnik
15:20-15:40	Catalytic decomposition & detection of per-fluorinated carbons (PFC's) during the aluminium smelting process	The University of Auckland, New Zealand	L.M. Camacho
15:40-16:00	Laboratory study of technology for aluminium smelter liquid wastes treatment with alumina	Siberian federal university, Russia	R.B. Magerramov
16:00-16:20	Coffee break		

Session 2. Design, Cell Operation and KPI

Chairmen: PhD **A.O. Gusev**, RUSAL ETC, Russia

Dr. **V. Potocnik**, Vinko Potocnik Consultant Inc., Canada

16:20-16:40	Enhancement of the RA-550 Technology: Issues and Their Solutions	RUSAL ETC, Russia	A.V. Zavadyak
16:40-17:00	Commissioning and Start-up of Alba Line 6 Project Using EGA DX+ Ultra Technology	Aluminium Bahrain B.S.C., Bahrain	Kh. Ebrahim
17:00-17:20	RUSAL Resource-Saving Technologies	RUSAL ETC, Russia	Yu.O. Avdeev
17:20-17:40	Second attempt to break the 10 kWh/kg aluminium barrier using a wide cell design	GeniSim Inc., Canada	M. Dupuis
17:40-18:00	360 kA Hall-Héroult cell retrofit using Inert Anodes and Stable Cathodes	Kan-nak SA, Switzerland	L. Bugnion

19 September

Hall № 3

Chairmen: prof., **P.V. Polyakov**, Siberian Federal University, Russia

PhD. **V.Yu. Buzunov**, UC RUSAL, Russia

Dr. **M. Reverdy**, EGA, UAE

Dr. **V. Potocnik**, Vinko Potocnik Consultant Inc., Canada

Session 3. Electrolyte Subsystem

Chairmen: PhD **G.V. Arkhipov**, RUSAL ETC, Russia

Dr. **Alexander Arkhipov**, EGA, UAE

Time	Title	Company	Speaker
9:00-9:40	Observation of dissolution of alumina and bubble behaviors in molten salts with high temperature transparent electrolytic cell	Northeastern University, China	B.Gao
9:40-10:00	The Structure of the Aluminium Smelting Cell Ledge	The University of Auckland, New Zealand	J. Liu
10:00-10:20	An automated reference-free Rietveld-method-based X-ray diffraction analysis of cryolite ratio	Siberian federal university, Russia	O.E. Bezrukova
10:20-10:40	Electrolysis of Cryolite-Alumina Melts with Solid Cathodes	LLC "Expert-Al", Russia	E.S. Gorlanov

10:40-11:00	Coffee break
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Session 4. Alumina feeding and transport

Chairmen: PhD **V.Yu. Buzunov**, RUSAL ETC, Russia

Dr. **Sergey I. Akhmetov**, EGA, UAE

Time	Title	Company	Speaker
11:00-11:20	New Study and Application of Intelligent Breaking Control Device for Aluminium Reduction Pot in the MPPIC Technology	CHALIECO GAMI, China	X. Yi
11:20-11:40	Concepts for Alumina Handling in Smelters - Efficiency from Port to Pot	Claudius Peters Projects, Germany	J. Paepcke
11:40-12:00	Enriched Alumina Silos - What Is Their Purpose, Are They Still Required?	Emirates Global Aluminium, UAE	S. Akhmetov
12:00-12:30	Mathematical Modeling and Application of a Continuous Alumina Feeding to Potroom in Brazil	Trindade Criative Engineering, Brazil	P.D. Vasconcelos
12:30-13:30	LUNCH		

Session 5. Subsystem Modelling

Chairmen: PhD **Ya.A. Tretiyakov**, RUSAL ETC, Russia

Eng. **Dagoberto Schubert Severo**, CAETE Engenharia Ltda, Brazil

13:30-14:00	Mathematical modeling in aluminum production in RUSAL company: Review	RUSAL ETC, Russia	A.A. Pinykh
14:00-14:30	Electromagnetic Modeling of Aluminium Electrolysis Cells Using Magnetic Vector Potential	CAETE Engenharia Ltda., Brazil	D. Severo
14:30-14:50	Design of Smelter Magnetic Solutions Using MHD Code	Rio Tinto, France	R. Chahine

Session 6. Anode and cathode subsystems

Chairmen: PhD **S.A. Khramenko**, RUSAL ETC, Russia

Prof. **Bingliang Gao**, Northeastern University, Shenyang, China

14:50-15:10	Reliability improvement and reduction of electric energy losses in the 'rod-yoke' connections	RUSAL ETC, Russia	I.I. Puzanov
15:10-15:30	Cathode wear - Autopsy findings related to degradation mechanisms	SINTEF Industry, Norway	A.P. Ratvik
15:30-15:50	Coffee break		
15:50-16:20	AD20+: a more ecofriendly glue for aluminum pot sides with improved properties	CARBONE SAVOIE, France	B. Allard
16:20-16:50	Analysis of Cathode Lining Failure Modes in High Current Density Cells at EGA	Emirates Global Aluminium, UAE	S. Akhmetov
16:50-17:10	Laboratory evaluations of ceramic sidelining materials	SINTEF Industry, Norway	E. Skybakmoen
17:10-17:30	Cathode Life and Failure of a Large Capacity CWPB Pot	CHALIECO GAMI, China	X. Yi

17:30- 17:50	Successful Potline Operation During Reduced Power at Egyptalum	Vinko Potocnik Consultant Inc., Canada	V. Potocnik
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18.00-19.00	<i>Congress and Exhibition closing ceremony</i>	<i>Hall “Amphitheatre”, 3rd fl.</i>
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Section «CARBON MATERIALS»

18 September

Middle Hall, 3rd fl.

Chairmen: **Dr. M. Meier**, R&D Carbon Ltd., Switzerland
Yu. A. Frantsev, RUSAL ETC, Russia

Session 1. Raw Materials

Time	Title	Company	Speaker
9.00-9.15	<i>Section opening</i>		<i>M. Meier, Yu. A. Frantsev</i>
9.15-9.45	Anhydrous Carbon Pellets – An Engineered CPC Raw Material	Rain Carbon Inc., Belgium	L. Edwards
9.45-10.15	Rheological Characterization of Pitch and Binder Matrix with Different Concentrations of Fine Particles	Aluminum Research Centre REGAL, Laval University, Canada	R. Mollaabbasi
10.15-10.45	Use of petroleum components in binder pitch production for the anode paste	RUSAL ETC LLC, Russia	E.N. Marakushina
10.45-11.10	Coffee break		

Session 2. Production of Anodes, Cathodes and Electrodes

11.10-11.25	Anode quality improvement methods due to efficient screening of slag during preparation of anode paste	ROTEX, Russia	A. E. Nikulkin
11.25-11.55	New insights toward the characterization of the carbon paste forming process	Aluminum Research Centre REGAL, Laval University, Canada	R. Mollaabbasi
11.55-12.15	Successful experience of prebaked anode production at the RUSAL Volgograd plant	RUSAL ETC LLC, Russia	M.V. Golubev
12.15-12.45	Major reconstruction of central casing of open top baking furnace with a view to increase its lifespan and reduce the total costs comparing to full reconstruction	Aluminium of Greece/ Mytilineos Holdings S.A., Greece	Ch. Zarganis
12.45-13.05	R & D of the JSC “BRP” for RUSAL’s projects for reconstruction of furnaces for the production of carbon materials	JSC “Borovichi Refractories Plant”, Russia	V.V. Bulin
13.05-14.05	LUNCH		
14.05-14.35	Real Anode Temperature Measuring – From Thesis to a New Standard	Riedhammer GmbH, Germany	F. Morawietz
14.35-14.55	Furnace tending assemblies smart crane	Fives ECL, France	I. Amram
14.55-15.15	3D Automated Anode Stub Inspection	STAS Inc., Canada	D. Vézina
15.15-15.45	Coffee break		

Session 3. Quality and Performance of Anodes, Cathodes and Electrodes

15.45-16.05	Performances of slotted anodes. T.T. Tomorrow Technology References	T.T. Tomorrow Technology S.p.A., Italy	G. Magarotto
16.05-16.35	Carbon Cathode Materials. The History of Advancement	Moscow State Lomonosov University, Russia	A.L. Yurkov
16.35-16.55	Carbon and graphite products precision geometry control method	EPM R&D Center LLC, Russia	A.L. Kvanin
16.55-17.15	Non-destructive control of physical and mechanical properties and quality of various kinds of materials and products used in the production of aluminum	«ZVUK», Russia	E.Z. Kovarskaya

Session 4. Aluminium Reduction Technology / Cathodes

17.15-17.35	Electrical Preheating of Cathode Blocks for Collector Bar Casting in Aluminum Electrolysis Cells	Siberian federal university, Russia	D.A. Mikhailov
17.35-17.50	Graphite foil for cell lining	SILUR LLC, Russia	O.Yu. Isaev

Section «CASTING, DEFORMATION AND RECYCLING»

18 September

Hall “Amphitheatre”, 3rd fl.

Charmen: prof., Dr. **D.G. Eskin**, Brunel Centre for Advanced Solidification Technology (BCAST), Brunel University London, UK
A.Yu. Krokhin, "RUSAL Management"
PhD **V.F. Frolov**, RUSAL ETC
Prof., Dr. **V.N. Timofeev**, Siberian federal university
Prof., Dr. **Yu.A. Gorbunov**, Siberian federal university
Prof., Dr. **S.V. Belyaev**, Siberian federal university

Session 1. New and optimized processes of melting and casting

Charmen: prof., Dr. **D.G. Eskin**, Brunel Centre for Advanced Solidification Technology (BCAST), Brunel University London, UK
A.Yu. Krokhin, "RUSAL Management"

Time	Title	Company	Speaker
10.30-11.10	Analysis of scientific and technical developments in the casting of aluminium and alloys (based on TMS 2019 materials)	Brunel Centre for Advanced Solidification Technology (BCAST), Brunel University London	D.G. Eskin
11.10-11.35	Producing Al-Ti -Nb master alloys using mechanical activation	Siberian federal university	O.V. Yushkova
11.35-12.00	Investigation of interfacial heat transfer coefficient at the metal-mold interface during casting process of an A356 aluminium alloy into steel and graphite moulds	National University of Science and Technology "MISiS"	V.E. Bazhenov
12.00-12.25	Circulation of melts in aluminum melting furnaces	«ECOMET» LTD	I.L. Fedotov
12.25-12.40	Break		
12.40-13.05	A laboratory unit for semi-continuous casting of ingots of aluminium alloys	Siberian federal university	A.I. Bezrukikh
13.05-13.35	Resource efficient processes to produce thin-walled aluminum casting in full-mould process	National University of Science and Technology "MISiS"	V.B. Deev
13.35-14.00	Porosity in large-sized flat ingots of aluminium-magnesium alloys	RUSAL ETC	N.E. Lashchukhin
14.00-15.00	LUNCH		

Charmen: Prof., Dr. **V.N. Timofeev**, Siberian federal university
PhD **V.F. Frolov**, RUSAL ETC

15.00-15.25	Magnetohydrodynamic stirrers of liquid metals with non-sinusoidal current	Siberian federal university	E.R. Vinter
15.25-15.50	Mathematical and physical modeling of an MHD-stirrer in the liquid part of a solidifying aluminium ingot	Siberian federal university	M.Yu. Kuchinskiy

Session 2. New and optimized alloys and materials

15.50-16.15	Development and investigation in the field of modification and dispersion hardening of aluminium alloys by non-metallic nanoparticles	National Research Tomsk State University	A.B. Vorozhtsov
16.15-16.40	Development of a 6XXX series alloy for high-speed extrusion	Light materials and technologies institute, LLC	A.Yu. Grabodoev
16.40-17.20	A 10-Year Outlook for the Global Scandium Market to 2028	Brunel Centre for Advanced Solidification Technology (BCAST), Brunel University London	D.G. Eskin
17.20-17.45	The effect of small Zr, Sc and Cr additions on the grain structure of the 1xxx and 3xxx series aluminium alloys	Light materials and technologies institute, LLC	D.O. Fokin

19 September

Hall "Amphitheatre", 3rd fl.

Charmen: PhD **V.F. Frolov**, RUSAL ETC
A.Yu. Krokhn, "RUSAL Management"

Time	Title	Company	Speaker
9.00-9.25	Preparation of a heat-treatable eutectic silumin and casting of car wheels from it	Casting and mechanical Plant "SKAD" Ltd.	V.R. Abalymov
9.25-9.50	New weldable corrosion resistant aluminium alloy R-1407	Light materials and technologies institute, LLC	A.Yu. Grabodoev
9.50-10.15	The effect of hot rolling temperature on the yield strength of sheets made from an Al-Mg alloy containing 0.1%Sc	Light materials and technologies institute, LLC	S.V. Valchuk
10.15-10.40	Effects of Ti additions into a base alloy on mechanical properties and corrosion resistance of 4343/3003/4343 aluminium alloy clad sheets	Vimetco ALRO	C.N. Stănică
10.40-11.05	Industrial application of molten metal purity analysis by optical emission spectroscopy (LIBS)	ALTEK	M. Bumford
11.05-11.30	Break		

Session 3. Technology and equipment for alloy processing

Charmen: Prof., Dr. **Yu.A. Gorbunov**, Siberian federal university
Prof., Dr. **S.V. Belyaev**, Siberian federal university

Time	Title	Company	Speaker
11.30-11.50	Air Liquide Oxy-fuel technologies for improved efficiency of aluminum scrap melting	Air Liquide	M.A. Misyura
11.50-12.15	Improving the dispersion of lead in an aluminum-based melt when processed in a transport ladle	Siberian federal university	V.G. Babkin
12.15-12.40	Effects of the heating rate to the ageing temperature on mechanical properties of 6082 aluminium alloy plates	Vimetco ALRO	M. Petre
12.40-13.00	Continuus-Properti: a new milestone for the cast house of an aluminium smelter – A single Line to produce	CONTINUUS-PROPERZI S.p.A.	A. Ghisetti

	simultaneously aluminium rods and ingots		
13.00-14.30	LUNCH		
14.30-14.55	Development, modeling and investigation of direct chill casting of hollow profiles from aluminum alloys	Siberian federal university	S.S. Koloskov
14.55-15.20	Department of continuous casting–extrusion of nonferrous metals	Siberian federal university	Yu.V. Gorokhov
15.20-15.45	Research in the technology of deformed semiproducts for electrical engineering from highly alloyed alloys of an Al-REM system by combined processing methods	Siberian federal university	M.M. Motkov
15.45-16.10	Solutions for heating of the launders	Rezonance Ltd.	V.A. Goremykin
16.10-16.35	Thermal conditions for continuous extrusion of metals by CONFORM method	Siberian federal university	I.S. Kosyachenko
16.35-17.00	A technological scheme for manufacturing aluminium-based solder pastes for waveguide soldering	Siberian federal university	I.Yu. Gubanov

Poster session

The application of CFD codes for the simulation of gas heating in the casting annealing furnace in cooling mode	SibVAMI JSC	A.V. Knizhnik
Simulation of Pure Gallium Solidification in a Travelling Magnetic Field	Ural Federal University named after the first President of Russia B.N.Yeltsin	E.L. Shvydkiy

18.00-19.00 Congress and Exhibition closing ceremony

Hall “Amphitheatre”, 3rd fl.

Section «ADDITIVE MANUFACTURING»

18 September

Small Hall, 2nd fl.

Charmen: **A.M. Nadtochiy**, "RUSAL Management"
prof. **I.Yadroitsev**, Central University of Technology, Free State (CUT),
South Africa

Time	Title	Company	Speaker
9.00-10.00	Selective laser melting of metals: integrated approach	Central University of Technology, Free State (CUT)	I.Yadroitsev
10.00-10.30	Advantages of application of the new high strength Al-Mg-Sc with low Sc content in additive manufacturing	Light materials and technologies institute, LLC	D.K. Daubarayte
10.30-11.10	Functionalization of titanium alloy by in-situ alloying with Laser Powder Bed Fusion	Central University of Technology, Free State (CUT)	I.Yadroitsev
11.10-11.40	Prospects of the aluminum-matrix composites based on the Al-Zn-Mg-Ca(Ni) system for SLM	National University of Science and Technology "MISIS"	P.K. Shurkin
11.40-12.10	Blue Power gas atomization systems for small batches of metal powders production	"NISSA Digispace", Ltd.	P. Trusov
12.10-13.30	LUNCH		
13.30-14.00	Complex application of various size fractions of powder al-based alloys in additive technologies and in production of gas-forming agents and pigments	Light materials and technologies institute, LLC	I.Yu. Mikhailov
14.00-14.30	Overview of methods for producing titanium powders and the development of new technologies	Ural Federal University named after the first President of Russia B.N.Yeltsin	A.E. Kireev
14.30-15.00	Usage of electromagnetic crystallization technology for the production of highly alloyed aluminum wire for additive technologies	Siberian federal university	I.S. Gudkov
15.00-15.30	Adapting high-temperature-resistant aluminum materials for 3D printing technologies	Light materials and technologies institute, LLC	D.K. Ryabov

Section «BIRONT'S MEMORY READINGS»

17 September

Small Hall, 2nd fl.

Chairman: prof. Dr. **V.P. Zhereb**, Siberian federal university

Time	Title	Company	Speaker
14.00-14.20	The emergence of polymorphism in the products of solid-phase synthesis during deformation of the composite Ti-Al	Siberian federal university	P.O. Shalaev
14.20-14.40	Physical and mathematical modeling of the section rolling process for perfecting of long-dimensional deformed semi-finished products production from precious metal alloys	Siberian federal university	Yu.D. Ditkovskaya
14.40-15.00	Distortions of a crystal lattice upon plastic deformation of a titanium-aluminum composite	Siberian federal university	L.I. Kveglis
15.00-15.20	Production of hafnium carbide by the method of radiation-thermal effects	Siberian federal university	E. E. Kalimoldin
15.20-15.40	Break		
15.40-16.00	The research of the corrosion properties of sheets of aluminum alloys	Siberian federal university	T.A. Orelkina
16.00-16.20	Effect of annealing on the structure of cold-deformed cobalt-nickel alloys	Siberian federal university	A.E. Tusupzhanov
16.20-16.40	Methods of development of technological modes obtain a solder alloy based on palladium	Siberian federal university	I.V. Uskov
16.40-17.00	Determination of the resistance value to deformation of the subding mark of PSR - 2 in conditions of continuous casting - wire pressing	Siberian federal university	A.G. Ivanov

Section «METALLURGY OF SILICON»

19 September

Small Hall, 2nd fl.

Chairman: Dr. **K.S. Elkin**, RUSAL ETC

Time	Title	Company	Speaker
9.00-9.20	Theory and practice of obtaining active silicon carbide	RUSAL ETC	K.S. Elkin
9.20-9.40	Production of low impurity content reducing agents	RUSAL ETC	A.A. Kleshnin
9.40-10.20	Melting properties of quartz and their effect on industrial Si and FeSi production	SINTEF	E. Ringdalen
10.20-10.40	Silica gasification and its correlation with the surface of silica-containing raw materials	RUSAL ETC	K.S. Elkin
11.00-11.20	Studies on reduction of losses of silicon in the refining process (Report 2)	Kremny, JSC	A.A. Molyavko
11.20-11.40	Break		
11.40-12.00	Experience in casting large ingots of silicon-alloyed aluminium	Kremny, JSC	A.A. Molyavko
12.00-12.20	Ladle lining resistance improvement test	Kremny, JSC	A.A. Molyavko
12.20-12.40	Electric modes of metal silicon reduction melting in electric furnaces equipped with reactive power compensation units during the furnace heating periods following long-lasting shutdowns	Kremny, JSC	M.K. Timofeev
12.40-13.00	Determination of design parameters of ferrosilicon furnaces and characteristics of furnace transformers	Kremny, JSC	K.S. Elkin
13.00-13.20	Development of technologies for improving physical and mechanical properties of grey cast irons by using waste by-products generated during metal silicon production	RUSAL ETC	A.I. Karlina

18.00-19.00 *Congress and Exhibition closing ceremony*

Hall "Amphitheatre", 3rd fl.