

Programme ERES2017

(11/05/2017)

Sunday 28 May 2017

14:30
17:00

Registration

Plenary Opening Session (Main Hall)

Chairs: Prof Ioannis PASPALIARIS (NTUA), Prof Koen BINNEMANS (KU Leuven)

17:00
17:15

Keynote Presentation 1

Mattia PELLEGRINI

EU potential in the field of rare earth elements and policy actions

DG Grow, European Commission

17:15
17:35

Keynote Presentation 2

Dimitrios BILIOURIS

EASME's role in H2020 and Raw Materials: Areas of research and project types

Executive Agency for Small and Medium-sized Enterprises (EASME), Unit B.2 H2020 Environment and Resources

17:35
17:55

Keynote Presentation 3

Steven M. FORTIER

Global REE supply chains and material flow

Director National Minerals Information Center, Geological Survey, USA

17:55
18:15

Keynote Presentation 4

Frances WALL

The geology of rare earth deposits and its influence on choosing the best routes for processing

Camborne School of Mines, University of Exeter, UK

18:15
18:35

Keynote Presentation 5

Suzanne SHAW

Changing demand for rare earths in key applications and opportunities for European manufacturers

Senior Analyst. Roskill Information Services Ltd., UK

18:35
18:55

Keynote Presentation 6

Ryan CASTILLOUX

New mines and intra-lanthanide substitutions are key to a sustainable rare earth supply chain

HBS Geo, MBA, Adamas Intelligence, Canada

18:55
19:15

Keynote Presentation 7

Jean Claude BÜNZLI

Rare earths applications: moving ahead

Swiss Federal Institute of Technology, Switzerland

19:15

Q & A

19:30
21:00

Cocktail Reception

Monday 29 May 2017

Session I 8:15 10:50	Session IA (Main Hall) REE extraction from primary sources Chairs: Srecko STOPIC (RWTH), Kurt FORESTER (Leading Edge Materials)	Session IB (Hall B) European REE resources Chairs: Daniel CASSARD (BRGM), Jouni VUOLLO (GTK)
08:15 08:30	<p>Xiaosheng YANG¹, Jukka LAUKKANEN¹, Akseli TORPPA¹, Bayarmagnai ENKHZUL², Batzorig LKHAGVASUREN² and Delgermaa MARGAI³</p> <p><i>Complex REE ores and processing</i></p> <p>¹ Geological Survey of Finland, Finland; ² Central Geological Laboratory, Mongolia; ³ Mongol Gazar LLC, Mongolia</p>	<p>Demetrios ELIOPOULOS¹, Vassiliki AGGELATOU¹, George ECONOMOU¹, Ioannis TZIFAS²</p> <p><i>REE in black sands: the case of Nea Peramos and Strymonikos Gulf, N. GREECE</i></p> <p>¹ Institute of Geology and Mineral exploration (Greece); ² Aristotle University of Thessaloniki, Greece</p>
08:30 08:45	<p>Stephen PARIRENYATWA, Sergio SANCHEZ-SEGADO, Yotamu HARA, Animesh JHA</p> <p><i>Recovery of rare earth oxides (REO) from low grade minerals</i></p> <p>¹ University of Leeds, UK</p>	<p>Martiya SADEGHI¹, Magnus RIPA¹, Ejiro O. AGBONIFO², Torbjörn BERGMAN¹</p> <p><i>Regional scale targeting for REE mineralisation: A preliminary result on Bastnäs(skarn)-type REE mineralisation in Bergslagen, Sweden</i></p> <p>¹ Geological Survey of Sweden; ² University of Gothenburg, Sweden</p>
08:45 09:00	<p>Yiğit ALTINSEL¹, Emre ALTUN², Yavuz A. Topkaya², M. Ümit ATALAY², Bülent SENTURK¹</p> <p><i>Enrichment of Scandium Contained In Serpentinite by Attrition Scrubbing Method</i></p> <p>¹ META Nikel Kobalt A.S., Turkey; ² Middle East Technical University, Ankara, Turkey,</p>	<p>Henrik SCHIELLERUP¹, Peter IHLEN¹, Sven DAHLGREN², Axel MÜLLER³, Julian SCHILLING¹</p> <p><i>REE occurrences in Norway, with special emphasis on mineralizations hosted by Apatite-rich intrusions</i></p> <p>¹ Geological Survey of Norway, Norway; ² Buskerud, Telemark, Vestfold County Council, Norway; ³ University of Oslo, Norway</p>
09:00 09:15	<p>Vassiliki ANGELATOU¹, Evangelos I.P. DROSOS¹</p> <p><i>Beneficiation of green black sands for REE recovery</i></p> <p>¹ Institute of Geology & Mineral Exploration, (IGME), Greece</p>	<p>Esa POHJOLAINEN¹, Peter SORJONEN-WARD¹, Lassi PAKKANEN¹, Mia TILJANDER¹, Kimmo KÄRENLAMPI², Asko KONTINEN¹, Hannu HUHMA¹</p> <p><i>REE mineralogy of the Katajakangas Nb-REE deposit in the Otanmäki area, central Finland</i></p> <p>¹ Geological Survey of Finland; ² University of Oulu, Finland</p>
09:15 09:25	<p>Q & A</p>	<p>Q & A</p>
09:25 09:40	<p>Tesfaye NEGERI¹ and Micheline BOISCLAIR¹</p> <p><i>Challenges in concentrating rare earth minerals</i></p> <p>¹ Natural Resources Canada, CanmetMINING, Ottawa, Canada</p>	<p>Nicola MONDILLO¹, Giuseppina BALASSONE¹, Maria BONI¹, Antonio MARINO², Giuseppe ARFE¹</p> <p><i>Evaluation of REEs in the Silius fluorite vein system (Sardinia, Italy)</i></p> <p>¹ Università degli Studi di Napoli Federico II, Italy; ² Fluorite di Silius S.p.A., Italy</p>
09:40 09:55	<p>Megan BARNETT¹, Simon GREGORY¹, Barbara PALUMBO-ROE¹</p> <p><i>Assessment of bioleach and salt leach for the extraction of rare earth elements from ion adsorption clays</i></p> <p>¹ British Geological Survey, UK</p>	<p>Christian MARIEN¹, Arjan DIJKSTRA¹ and Colin WILKINS¹</p> <p><i>New mineralogical insights into the REE potential of the Fen complex, Norway</i></p> <p>¹ Plymouth University, UK</p>

09:55 10:10	<p>Alexandra CRAWFORD^{1,3}, Steven BANWART¹, Barbara PALUMBO-ROE², Simon GREGORY², Horst MÄRTEN^{3,4}</p> <p><i>Thermodynamics of exchange in ion adsorption type rare earth ore</i></p> <p>¹ University of Leeds, UK; ² British Geological Survey, UK; ³ Umwelt-und Ingenieurtechnik GmbH Dresden, Germany; ⁴ Heathgate Resources Pty. Ltd. (Heathgate), Australia</p>	<p>Hans Kristian SCHØNWANDT¹, Thomas ULRICH², Gregory B. BARNES¹</p> <p><i>An enigmatic, fine to medium-grained rock type in the TANBREEZ REE deposit, south Greenland.</i></p> <p>¹ G.B. Barnes & Associates, Australia; ² Aarhus University, Denmark</p>
10:10 10:25	<p>Maleke M. MALEKE¹, Julio CASTILLO¹, Errol D. CASON¹, Alba GOMEZ-ARIAS¹, Karabelo MOLOANTO¹, Esta VAN HEERDEN¹</p> <p><i>New reductive interactions of REY BY THERMUS SCOTODUCTUS SA-01 and CLOSTRIDIUM SP.</i></p> <p>¹ University of the Free State, South Africa</p>	<p>Richard SHAW¹, Victoria HONOUR², Kathryn GOODENOUGH¹, Nick ROBERTS³, Matt HORSTWOOD³, and Christoph LENZ⁴</p> <p><i>Timing and source of rare earth element mineralisation in the Ditrău alkaline complex, Romania</i></p> <p>¹ British Geological Survey, UK; ² University of Cambridge, UK; ³ NERC Isotope Geosciences Laboratory, UK; ⁴ University of Vienna, Austria</p>
10:25 10:35	Q & A	Q & A
Intensified Poster Session 10:35 10:50	<p>Mikhail S. TYUMENTSEV et al.</p> <p><i>Development of polyamide solvent extraction reagents for trivalent lanthanides</i></p> <p>Chalmers University of Technology, Sweden</p> <p>Barbara PALUMBO-ROE et al.</p> <p><i>Sequential chemical extractions to inform bioleaching of low-grade REE deposits: A comparative study of REE solid partitioning in Turkish Bauxites and Madagascar Laterites</i></p> <p>British Geological Survey, UK</p> <p>Wolfgang REIMER, Mirko MARTIN et al.</p> <p><i>The FAME project: new approaches to unlock REE by-product potential of greisen, pegmatite and skarn ores</i></p> <p>Geokompetenzzentrum Freiberg, Germany; GEOS, Germany</p>	<p>Eimear DEADY et al.</p> <p><i>Rare Earth Element resources in bauxites: a case study from central Anatolia, Turkey,</i></p> <p>British Geological Survey, U.K.</p> <p>Frances WALL (for Sam BROOM-FENDLEY et al.)</p> <p><i>REE distribution of carbonate-fluorapatite from the Kovdor and Sokli carbonatites (Russia and Finland)</i></p> <p>University of Exeter, UK</p> <p>Evangelos MOUCHOS et al.</p> <p><i>Rare Earth Element-Enriched Bauxites Of Parnassus-Giona, Greece,</i></p> <p>University of Bristol, UK; University of Exeter, UK</p>
10:50 11:15	Coffee Break	
Session II 11:15 13:30	<p>Session IIA (Main Hall)</p> <p>REE separation technologies</p> <p>Chairs: Prof. Vladimiro PANGELAKIS (UoT), Prof. Yavuz TOPKAYA (METU)</p>	<p>Session IIB (Hall B)</p> <p>European REE resources (2)</p> <p>Chairs: Kathryn GOODENOUGH(BGS), Maria Isabel PAIVIA (IST)</p>
11:15 11:30	<p>Frank DIEKMANN¹, Carsten DITTRICH¹</p> <p><i>Processing of pure praseodymium and neodymium oxide from kvaneffjeld medium rare earth elements separation operation</i></p> <p>¹ MEAB Chemie Technik GmbH, Germany</p>	<p>Éimear DEADY¹, Alicja LACINSKA¹, Richard A. SHAW¹ and Kathryn GOODENOUGH¹</p> <p><i>By-product rare earth element deposits: the Çanakli REE placer deposit, Turkey</i></p> <p>¹ British Geological Survey, UK</p>
11:30 11:45	<p>Gulaim A. SEISENBAEVA¹, Elizabeth POLIDO LEGARIA¹, Vadim G. KESSLER¹</p> <p><i>Molecular recognition technology for extraction and separation of REE: influence of the ligand nature</i></p> <p>¹ SLU BioCenter, Sweden</p>	<p>Alvar SOESOO¹, Kalle KIRSIMÄE¹</p> <p><i>Estonian paleozoic shelly phosphorites as a new potential REE resource for Europe</i></p> <p>¹ University of Tartu, Estonia</p>

11:45 12:00	Vadim G. KESSLER ¹ , Elizabeth POLIDO LEGARIA ¹ , Michail Samouchos ¹ , Gulaim A. SEISENBAEVA ¹ <i>Role of the cation in REE adsorption applying molecular recognition technology</i> ¹ SLU BioCenter, Sweden	Jose MANGAS ¹ , L. Á. QUEVEDO-GONZÁLEZ ¹ , I. MENÉNDEZ ¹ , E. TAULER ² , J. MÉNDEZ-RAMOS ³ , P. ACOSTA-MORA ³ , M. CAMPENY ² <i>“Reesearch” exploration of critical elements in Europe: REE-bearing mineral sources at oceanic intraplate volcanic islands and seamounts on the Canary Islands (Spain)</i> ¹ Universidad de Las Palmas de Gran Canaria, Spain; ² Universitat de Barcelona, Spain; ³ Universidad de La Laguna, Spain
12:00 12:15	Elizabeth POLIDO LEGARIA ¹ , Vadim G. KESSLER ¹ , Gulaim A. SEISENBAEVA ¹ <i>Magnetic nanoadsorbents for extraction and separation of REE: conventional behaviour and novel method for enhanced performance.</i> ¹ SLU BioCenter, Sweden	Martiya SADEGHI ¹ , Erik JONSSON ^{1,2} , Nikolaos ARVANITIDIS ¹ , Torbjörn BERGMAN ¹ <i>Critical minerals and metals in Sweden: a Review</i> ¹ Geological Survey of Sweden, Sweden; ² Uppsala University, Sweden
12:15 12:30	Mercedes REGADÍO ¹ , Koen BINNEMANS ¹ <i>Separation of rare earths by mixtures of an ionic liquid and a neutral extractant</i> ¹ KU Leuven, Belgium	Guillaume BERTRAND ¹ , Daniel CASSARD ¹ , Mario BILLA ¹ , Jean-Michel ANGEL ¹ , François TERTRE ¹ , Bruno TOURLIERE ¹ <i>Predictive assessment of rare earth occurrences in Europe using the database querying method</i> ¹ BRGM, France
12:30 12:45	Raquel RODRÍGUEZ VARELA ¹ , Kerstin FORSBERG ¹ , Joaquín MARTÍNEZ de la CRUZ ¹ , Åke RASMUSON ¹ <i>Comparative performance of Emulsion Pertraction Technology (EPT) and hollow fibre renewal liquid membrane (HFRLM) for REE extraction</i> ¹ KTH Royal Institute of Technology, Stockholm, Sweden	Jindrich KYNICKY ¹ , Wenlei SONG ¹ , Dalibor VŠIANSKY ¹ , Radka FRYZOVA ¹ , Martin BRTNICKY ¹ , Cheng XU ² , Martin SMITH ³ <i>REE occurrence reality in ion adsorption deposits of China - a missing information and solution for successful REE exploration of residual weathered crusts in EU</i> ¹ Mendel University, Czech Republic; ² Institute of Earth and Space Sciences, China; ³ University of Brighton, UK
12:45 13:00	Sabina MATUSKA , Anna DANCZAK, Maja WELNA, Ida CHOJNACKA, Anna LESNIEWICZ, Kamila MARCOLA, Zbigniew ADAMSKI, Leszek RYCERZ <i>Hydrothermal precipitation of lanthanide sulphates and iron compounds from leach solutions</i> Wroclaw University of Science and Technology, Poland	M. Isabel DIAS ¹ , M. Isabel PRUDENCIO ¹ , M. Isabel PAIVA ¹ , Daniela LOBARINHAS ² , Edgar CARVALHO ² <i>Material source analyses and geochemistry about two REE secondary deposits in northern Portugal</i> ¹ C2TN. Campus Tecnológico e Nuclear. Instituto Superior Técnico, Universidade de Lisboa, Portugal; ² EDM, Lisboa, Portugal
13:00 13:15	Q & A	Q & A
<i>Intensified Poster Session</i> 13:15 13:30	Ellen Cristine GIESE et al. <i>Lanthanide separation by chemically modified bacteria biomass,</i> Centre for Mineral Technology, CETEM, Brazil Hervé MUHR et al. <i>Intensification of precipitation for REE processing,</i> Laboratoire Réactions et Génie des Procédés - CNRS, Université de Lorraine, France Kirsten REMMEN et al. <i>Selective CRM recovery from acidic solutions by nanofiltration</i> University of Applied Sciences and Arts Northwestern Switzerland	Raquel VERGARA et al. <i>MATAMULAS rare earth project in Spain</i> Quantum Minería, Madrid, Spain Andreas BOERNER et al. <i>Investigations of REE-containing heavy mineral resources in marine sands of southwestern Baltic sea – the joint research project “SEESAND”</i> State Geological Survey, Germany Martiya SADEGHI et al. <i>REE mineralisation in Sweden: old, new, and future prospects</i> Geological Survey of Sweden, Sweden
13:30 14:30	Lunch Break	

Session III 14:30 16:10	Session III A (Main Hall) REE separation technologies (2) Chairs: Prof. Vadim Kessler (SLU), Prof. Teodora RETEGEN (Chalmers)	Session III B (Hall B) REE resources beyond Europe Chairs: Nikolaos ARVANITIDIS (SGU), Dimitrios ELIOPOULOS (IGME)
14:30 14:45	Guillaume MOSSAND ¹ , Damien RINSANT ¹ , Marie-Thérèse DUCHESNE ¹ , Manuel MIGUIRDITCHIAN ¹ , Eugen ANDREIADIS ¹ <i>ENHANCED Extraction of rare earth elements by novel tuned diglycolamides</i> ¹ CEA, French Alternative Energies and Atomic Energy Commission, France	Marcos Flavio DE CAMPOS ¹ <i>Rare earths: research and resources in Brazil</i> ¹ Federal Fluminense University, Brazil
14:45 15:00	Frank CHEUK ¹ , Georgiana MOLDOVEANU ¹ , Vladimiro PANGELAKIS ¹ <i>Lanthanum oxalate precipitation from sulphate solutions in the presence of aluminum impurity</i> ¹ University of Toronto, Canada	Daniel ATENCIO ¹ , Andrezza A. AZZI ¹ , Marcelo B. ANDRADE ¹ <i>Rare-earth Brazilian type-minerals</i> ¹ University of São Paulo, Brazil
15:00 15:15	Simona SOBEKOVA FOLTOVA , Tom VANDER HOOGERSTRAETE, Koen BINNEMANS <i>Samarium/Cobalt separation by solvent extraction with ionic liquids</i> KU Leuven, Department of Chemistry, Heverlee, Belgium	Eva MARQUIS ¹ , Guillaume ESTRADÉ ² , Kathryn GOODENOUGH ³ , Martin SMITH ¹ and Peter NASON ¹ <i>A natural laboratory for ion adsorption-type REE deposits: the Ambohimirahavavy alkaline complex in northwest Madagascar</i> ¹ University of Brighton, UK; ² Géosciences Environnement Toulouse, France; ³ British Geological Survey, UK
15:15 15:30	Marino GERGORIC ¹ , Christian EKBERG ¹ , Britt-Marie STEENARI ¹ , Teodora RETEGAN ¹ <i>Organic phase optimization in solvent extraction of rare earth elements from neodymium magnet leachates</i> ¹ Chalmers University of Technology, Gothenburg, Sweden	Guillaume ESTRADÉ ¹ , Eva MARQUIS ² , Peter NASON ² , Kathryn GOODENOUGH ³ and Martin SMITH ² <i>Formation of ion-adsorption deposits: a new example of REE-mineralized regolith in the Ambohimirahavavy complex, Madagascar.</i> ¹ Géosciences Environnement Toulouse, France; ² School of Environment and Technology, University of Brighton, UK; ³ British Geological Survey, Edinburgh, UK
15:30 15:45	Yiğit ALTINSEL ¹ , Emre ALTUN ² , Yavuz Ali TOPKAYA ² , M. Ümit ATALAY ² , Şerif KAYA ² <i>Loading Behaviours of Nickel, Cobalt and Scandium on Different Types of Resin</i> ¹ META Nikel Kobalt A.S. Ankara, Turkey; ² Middle East Technical University (METU), Turkey	Q & A
15:45 15:55	Q & A	Q & A
<i>Intensified Poster Session</i> 15:55 16:10	Wenzhong ZHANG et al. <i>Ion Exchange Behaviour of Scandium(III) on Crystalline Layered α-Titanium Phosphates: Effect of Sodium Nitrate Addition</i> University of Helsinki, Finland Jouko VEPSÄLÄINEN et al. <i>CH Collector, a new method for selective scandium recovery</i> University of Eastern Finland, Finland; Geological Survey of Finland	Delia CANGELOSI et al.: <i>Role of hydrothermal activity in REE mineralisation at the Okorusu alkaline igneous-carbonatite complex, Namibia</i> , University of Leeds, UK; University of Brighton, UK Andrezza A. AZZI et al.: <i>Rare earth minerals from Poços de Caldas alkaline province, Brazil</i> , University of São Paulo, Brazil Marcelo B. ANDRADE et al.: <i>Eudialyte group minerals from Poços de Caldas alkaline massif, Minas Gerais, Brazil</i> , University of Sao Paulo, Brazil

		Phillip L. HELLMAN : <i>Rare Earth Element Deposits – aspects of their evaluation, diversity, geochemistry and genesis</i> , H&S Consultants Pty Ltd, Australia
16:10 16:30	Coffee Break	
Session IV 16:30 18:30	Session IV (Main Hall) REE sustainability Chairs: Antonis POLITIS (NTUA), Bertil GRUNDFELT (KEMAKTA)	
16:30 16:45	James KENNEDY ¹ <i>Resource abundance & establishing a multi-national rare earth value chain</i> ¹ President, ThREE Consulting, USA	
16:45 17:00	Robert PELL ¹ , Frances WALL ¹ , Xiaoyu YAN ¹ <i>Incorporating criticality into life cycle sustainability assessments: a review of methods and methodological issues for its application to rare earth production</i> ¹ University of Exeter, UK	
17:00 17:15	Sotiris KAMENOPOULOS ¹ , Prof. Kostas KOMNITSAS ¹ , Prof. Zach AGIOUTANTIS ² <i>A historical comparison and two global market mechanisms to overcome Rare Earth Elements market manipulation</i> ¹ Technical University of Crete, Greece; ² University of Kentucky, USA	
17:15 17:30	Marc SCHMID ¹ <i>The race for independence in rare earths supply: Networks and evolving supply structures in Japan</i> ¹ Martin-Luther-Universität Halle-Wittenberg, Germany	
17:30 17:45	George BARAKOS ¹ , Jens GUTZMER ² , Helmut Mischo ¹ <i>Investigating the realistic perspectives of the global rare earth mining industry</i> ¹ TU Bergakademie Freiberg, Germany; ² Helmholtz- Zentrum Dresden- Rossendorf, Germany	
17:45 18:00	Rita SCHULZE ^{1,2} , Aida ABBASALIZADEH ³ , Matthias BUCHERT ¹ <i>Estimating environmental impacts associated with a one-step recycling process to extract rare earths from end-of-life Nd-Fe-B magnets</i> ¹ Öko-Institut e.V., Germany; ² Technische Universität Darmstadt, Germany; ³ Delft University of Technology, The Netherlands	
18:00 18:15	Gwendolyn BAILEY ¹ , Benjamin SPRECHER ² , Wim DEWULF ³ , Karel VAN ACKER ¹ <i>Comparative life cycle assessment of NdFeB and SmCo: a case study of permanent magnet motors</i> ¹ Department of Materials Engineering, KU Leuven, Belgium, ² School of Forestry and Environmental Sciences, New Haven, United States, ³ Department of Mechanical Engineering, KU Leuven, Belgium	

18:15 18:30	Iuliana POENARU ^{1,2} , Alexandru LIXANDRU ^{1,2} , Konrad GÜTH ¹ , Roland GAUß ¹ , Oliver GUTFLEISCH ² , <i>Light rare-earths substitution in rapidly solidified Nd₂Fe₁₄B-based alloys for resource-efficient permanent magnets fabrication</i> ¹ Fraunhofer ISC, Germany; ² Technische Universität Darmstadt, Germany
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18:30	Q & A
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Tuesday 30 May 2017

Session V 08:15 10:150	Session V A (Main Hall) REE from Industrial by-products Chairs: Prof. Dimitrios PANIAS (NTUA), Prof. Viktoria FEIGL (BME)	Session V B (Hall B) REE magnet recycling Chairs: Peter Tom JONES (KU Leuven), Lourder YURRAMENDI (Technalia)
08:15 08:30	Carlos AYORA ¹ , Francisco MACÍAS ² , Carlos R. CANOVAS ² <i>Acid mine drainage: a small but sustainable source of rare earth elements</i> ¹ Institute of Environmental Assessment and Water Research, CSIC, Spain, ² University of Huelva, Spain	Oliver DIEHL ¹ , Eva BROUWER ¹ , Mario SCHÖNFELDT ¹ , Almut DIRKS ¹ , Karsten RACHUT ¹ , Jürgen GASSMANN ¹ , Konrad GÜTH ¹ , Alexander BUCKOW ¹ , Rudolf STAUBER ¹ , Oliver GUTFLEISCH ^{1,2} <i>Approaches and progress in recycling of Nd-Fe-B sintered magnets</i> ¹ Fraunhofer ISC, Germany; ² Technische Universität Darmstadt, Germany
08:30 08:45	Lev FILIPPOV ¹ , Quentin DEHAINE ¹ , Inna FILIPPOVA ¹ <i>Recovery of rare earths and rare metals minerals from the waste stream of industrial mineral processing.</i> ¹ University of Lorraine, France	Alexandru LIXANDRU ^{1,2} , Iuliana POENARU ^{1,2} , Konrad GÜTH ¹ , Roland GAUß ¹ , Oliver GUTFLEISCH ^{1,2} <i>Recycling of Nd-Fe-B scrap permanent magnets via hydrogen processing</i> ¹ Fraunhofer ISC, Germany; ² Technische Universität Darmstadt, Germany
08:45 09:00	Sable REID ¹ , Mugdha WALAWALKAR ¹ , Gisele AZIMI ¹ <i>Valorization of rare earth-containing landfilled stocks of industrial process residues: phosphogypsum and red mud</i> ¹ University of Toronto, Canada	Christian JÖNSSON ¹ , Lydia PICKERING ¹ , Andy BRADSHAW ¹ , Vicky MANN ¹ , Allan WALTON ¹ <i>Extraction of Nd-Fe-B magnets from automotive rotors using hydrogen</i> ¹ University of Birmingham, UK
09:00 09:15	Michael HASCHKE ¹ , Bernd FRIEDRICH ² , Srecko STOPIC ² , Dimitris PANIAS ³ , Petra SCHNEIDER ⁴ , Carsten DITTRICH ⁵ , Giuseppe MODOLO ⁶ <i>Phosphogypsum as source of REE and NORM</i> ¹ DMT GmbH & Co KG, Germany; ² RWTH Aachen University, Germany; ³ NTUA, Greece; ⁴ University of Applied Sciences Magdeburg-Stendal, Germany; ⁵ MEAB Chemie Technik GmbH, Germany; ⁶ Forschungszentrum Jülich GmbH, Germany	Mehmet Ali Recai ÖNAL ¹ , Emir AKTAN ² , Chenna Rao BORRA ¹ , Bart BLANPAIN ¹ , Tom Van GERVEN ¹ , Muxing GUO ¹ <i>Recycling of NdFeB magnets with nitration-calcination-water leaching</i> ¹ KU Leuven, Belgium; ² Istanbul Technical University, Turkey
09:15 09:25	Q & A	Q & A
09:25 09:40	Sebastian PEELMAN , Jilt SIETSMA, Yongxiang YANG <i>Hydrometallurgical recovery of rare earth elements from mine tailings and WEEE</i> Department of Materials Science and Engineering, Delft University of Technology, The Netherlands	Anna DANCZAK, Sabina MATUSKA, Maja WELNA, Ida CHOJNACKA, Anna LESNIEWICZ, Kamila MARCOLA, Zbigniew ADAMSKI, Pawel POHL, Leszek RYCERZ <i>Leaching of rare earth elements from NdFeB magnets</i> Department of Chemistry, Wroclaw University of Science and Technology, Poland

09:40 09:55	Simon GREGORY¹ , Megan BARNETT ¹ , Barbara PALUMBO-ROE ¹ <i>Exploring the potential of bioprocessing for the recovery of rare earth elements</i> ¹ British Geological Survey, UK	Prakash VENKATESAN¹ , Zhi SUN ² , Jilt SIETSMA ¹ , Yongxiang YANG ¹ <i>An electrochemical approach to recover valuable elements from NdFeB magnet waste</i> ¹ TU Delft, The Netherlands; ² National Engineering Laboratory for Hydrometallurgical Cleaner Production Technology, Chinese Academy of Sciences, China
09:55 10:10	Zeinab CHOUR¹ , Baptiste LAUBIE ¹ , Laurence Muhr ¹ , Marie-Odile SIMONNOT ¹ <i>Agromining of rare earth elements: the recovery from secondary resources by plants</i> ¹ Université de Lorraine, France	Sofía RIAÑO¹ , Koen BINNEMANS ¹ <i>Ionic-liquid-based processes for the recovery of neodymium and dysprosium from used NdFeB magnets</i> ¹ KU Leuven, Belgium
10:10 10:25	Mahmood ALEMRAJABI¹ , Kerstin FORSBERG ¹ , Kivanc KORKMAZ ¹ , Åke RASMUSON ¹ <i>Dephosphorization and impurity removal from rare earth phosphate concentrate</i> ¹ KTH Royal Institute of Technology, Sweden	Junhua XU¹ , Risto KOIVULA ¹ , Risto HARJULA ¹ <i>Recovery of Nd (III) and Dy(III) from a ternary Co-Nd-Dy system by amorphous zirconium phosphate</i> ¹ University of Helsinki, Finland
10:25 10:35	Q & A	Q & A
<i>Intensified Poster Session</i> 10:35 10:50	Marcus HEILMANN et al. : <i>Biosorption as a tool for preconcentration of highly diluted rare earth elements from wastewaters</i> ; Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany Ester TORRES et al. : <i>REE accumulation in residues from acid mine water treatment</i> Institute of Environmental Assessment and Water Research, Spain Denis SMYSHLIAEV et al. : <i>Recovery of rare earth elements and scandium as side products of uranium and phosphates</i> ; Institute of Physics and Technology Ural Federal University, Russia Olga SAYKINA et al. : <i>Extracting rare-earth metals from technogenic raw material – phosphogypsum and luminophor waste</i> ; State scientific-research and design Institute of rare metals "Giredmet", Russia	Luca CIACCI et al. <i>Potential for improving neodymium and europium recycling in the EU</i> University of Bologna, Italy Martina OREFICE et al. <i>Recycling of NdFeB magnets by high-temperature leaching with the ionic liquid [HBET][TF₂N]</i> KU Leuven, Belgium
10:50 11:15	Coffee Break	
Session VI 11:15 13:30	Session VI A (Main Hall) REE from bauxite residue Chairs: Prof. Maria TAXIARCOU (NTUA), Vicky VASSILIADOU (AoG)	Session VI B (Hall B) REE metal production Chairs: Prof. Bernd FRIEDRICH (RWTH), Kagya NYANNIN (LCM)
11:15 11:30	Theopisti LYMPEROPOULOU ¹ , Lamprini-Areti TSAKANIKA ¹ , Klaus-Michael OCHSENKÜHN ¹ , Maria OCHSENKÜHN-PETROPOULOU¹ <i>Optimization of mineral acids leaching process for the recovery of rare earth elements from Greek red mud</i> ¹ National Technical University of Athens, Greece	Ana Maria MARTINEZ¹ , Karen SENDE OSEN ¹ , Anne STØRE ¹ , Henrik GUDBRANDSEN ¹ , Asbjørn SOLHEIM ¹ , Ole KJOS ¹ , Thor Anders AARHAUG ¹ , Camilla SOMMERSETH ¹ <i>Sustainable electrolytic production of rare earth metals and alloys</i> ¹ SINTEF Materials and Chemistry, Norway
11:30	Éva UJACZKI ^{1,2} , Yannick S. ZIMMERMANN ^{1,3} , Christoph A. GASSER ^{1,3} , Mónika MOLNÁR ² , Viktória FEIGL ² , Markus LENZ^{1,4} <i>Potential for critical raw materials recovery from Hungarian red mud</i> ¹ University of Applied Sciences and Arts Northwestern Switzerland, Switzerland;	Ksenija MILICEVIC , Thomas MEYER, Bernd FRIEDRICH <i>Influence of the electrolyte composition on the molten salt electrolysis of didymium</i> IME Process Metallurgy and Metal Recycling, RWTH Aachen University, Germany

	² Budapest University of Technology and Economics, Hungary; ³ RWTH Aachen University, Germany; ⁴ Wageningen University, The Netherlands	
11:45 12:00	Panagiotis DAVRIS ¹ , Danai MARINO ¹ , Efthymios BALOMENOS ^{1,2} , Alexandra ALEXANDRI ¹ , Maria GREGOU ¹ , Dimitrios PANIAS ¹ and Ioannis PASPALIARIS ¹ <i>Ionometallurgy applied on low grade European REE resources. Case study of leaching Bauxite residue from Greece and Rödberg ore from Norway with the ionic liquid HbetTf₂N.</i> ¹ National Technical University of Athens, Greece, ² Aluminium of Greece, Greece	João Batista FERREIRA NETO , Fernando José Gomez LANDGRAF, Gerhard ETT, Célia Aparecida Lino SANTOS, André Luis Nunis SILVA, João Ricardo Filipini SILVEIRA, Fabiana Yamasaki Martins, Maciel Santos LUZ <i>Reduction of Didymium oxide produced in Araxá, Brazil</i> Institute for Technological Research of Sao Paulo State - IPT, Brazil
12:00 12:15	Konstantinos HATZILYBERIS ¹ , Theopisti LYMPEROPOULOU ¹ , Lamprini-Areti TSAKANIKA ¹ , Klaus OCHSENKUEHN ¹ , Paraskevas GEORGIOU ¹ , Maria OCHSENKUEHN-PETROPOULOU ¹ <i>Design aspects of a selective leaching process for scandium recovery from bauxite residue</i> ¹ National Technical University of Athens, Greece	Evangelos BOURBOS ¹ , Ioanna GIANNOPOULOU ¹ , Antonis KARANTONIS ¹ , Ioannis PASPALIARIS ¹ , Dimitris PANIAS ¹ <i>Study of the electrodeposition of neodymium from BMPTFSI ionic liquid with the use of complexing agents.</i> ¹ National Technical University of Athens, Greece
12:15 12:30	Johannes VIND ¹ , Päärn PAISTE ² , Alan H. TKACZYK ² Vicky VASSILIADOU ¹ , Dimitrios PANIAS ³ <i>The behaviour of Scandium in the Bayer process</i> ¹ Aluminium of Greece, Greece; ² University of Tartu, Estonia; ³ National Technical University of Athens, Greece	Aida ABBASALIZADEH ¹ , Seshadri SEETHARAMAN ² , Jilt SIETSMA ¹ and Yongxiang YANG ¹ <i>Electrochemical extraction of rare earth metals from rare earth oxides using a novel reactive anode</i> ¹ Delft University of Technology, The Netherlands; ² Royal Institute of Technology, Sweden
12:30 12:45	Şerif KAYA ^{1,2} , Bengi YAGMURLU ^{1,2} , Carsten DITTRICH ² , Bernd FRIEDRICH ¹ <i>Potential of scandium supply from ores and industrial products in the near future</i> ¹ RWTH Aachen, Germany; ² MEAB Chemie Technik GmbH, Germany	Johannes ÖHL ^{1,2} <i>Challenges in electrolysis of neodymium in chloride melts at 500 °C</i> ¹ University of Stuttgart, Germany; ² Fraunhofer IPA, Germany
12:45 13:00	Alba GOMEZ-ARIAS ^{1,2} , Julio CASTILLO ¹ , Megan WELMAN-PURCHASE ³ , Maleke MALEKE ¹ , Esta VAN HEERDEN ¹ <i>Novel strategy to concentrate rare earth elements by neutralization of acid drainage from phosphogypsum stacks using carbonatites</i> ¹ Department of Microbial, Biochemical and Food Biotechnology, University of the Free State (UFS), South Africa; ² Institute for Groundwater Studies, UFS.; ³ Department of Geology, UFS.	Alexander ARNOLD, Ksenija MILICEVIC, Frederic BRINKMANN , Bernd FRIEDRICH <i>Metallothermic Scandium Production – A Thermochemical Study</i> IME Process Metallurgy and Metal Recycling, RWTH Aachen University, Germany
13:00 13:15	Q & A	Q & A
Intensified Poster Session 13:15 13:30	Éva UJACZKI et al. <i>Systematic approach to harness the potential of CRM secondary sources on the example of red mud</i> Budapest University of Technology and Economics, Hungary. Bengi YAGMURLU et al. <i>A sustainable alternative for scandium concentrate refining from redmud leachates by a selective precipitation method</i> MEAB Chemie Technik GmbH, Aachen Chiara BONOMI et al. <i>Correlation of scandium and titanium during leaching of bauxite residue (red mud) by an Imidazolium Ionic Liquid</i>	Yongxiang YANG (for Xiaoling Guo) <i>Dissolution Behaviour of Neodymium oxide Particles in Molten Fluorides</i> Delft University of Technology, The Netherlands Sander VAN ASPEREN et al. <i>Lab facilities for metallurgical and recycling research at TU Delft</i> Delft University of Technology, The Netherlands

	National Technical University of Athens, Greece Viktória FEIGL et al. <i>Re-usability of critical raw materials recovery residues from Hungarian red mud Budapest University of Technology and Economics, Hungary.</i>	
13:30 14:30	Lunch Break	
Session VII 14:30 16:30	Session VII A (Main Hall) REE from urban mining Chairs: Ben EADE (JM), Serena SGARIOTO (Relight)	Session VII B (Hall B) REE analytical techniques & thermodynamics Chairs: Prof. Maria Ochsenkuehn - Petropoulou (NTUA), Miranda KEITH-ROACH (Kemakta)
14:30 14:45	Bernd KOPACEK ¹ <i>Mobile hydrometallurgy to recover rare and precious metals from WEEE</i> ¹ Austrian Society for Systems Engineering and Automation, Austria	Sander ARNOUT ¹ , Iuliana POENARU ^{2,3} , Thu Hoai LE ⁴ , Konrad GÜTH ² , Roland GAUSS ² , Oliver GUTFLEISCH ^{2,3} , Bart BLANPAIN ⁴ , Els NAGELS ¹ <i>State of the thermodynamic knowledge of systems with rare earth elements</i> ¹ InsPyro NV, Belgium; ² Fraunhofer ISC, Germany; ³ Technical University Darmstadt, Germany; ⁴ KU Leuven, Belgium
14:45 15:00	Lourdes YURRAMENDI ¹ , Federica FORTE ² , Carmen Del Río ¹ , Rocco LAGIOIA ³ , Torsten MÜLLER ⁴ , Serena SGARIOTO ⁵ , Koen BINNEMANS ² <i>Recovery of rare earths from e-waste residues for production of high-performance REE-Mg alloys</i> ¹ TECNALIA, Parque Tecnológico de San Sebastián, Spain; ² KU Leuven, Belgium; ³ ITRB Group, Cyprus; ⁴ Fraunhofer Institute for Chemical Technology (ICT), Germany; ⁵ RELIGHT srl, Italy	Sergio. SANCHEZ-SEGADO ¹ , Sebastien LECTEZ ¹ , Stephen STACKHOUSE ¹ , John HARDING ² , Animesh JHA ¹ <i>Predictive thermodynamics of rare earth salts: enthalpy of formation</i> ¹ University of Leeds, UK; ² University of Sheffield, UK
15:00 15:15	Steff VAN LOY ¹ , Koen BINNEMANS ² , Tom VAN GERVEN ¹ <i>Recycling of rare earths from lamp phosphor waste: enhanced dissolution of LaPO₄:Ce³⁺, Tb³⁺ by mechanical activation</i> ¹ KU Leuven, Heverlee, Belgium	Christian ADAM ¹ , Oliver KRÜGER ¹ <i>Challenges in analyzing Rare Earth Elements in different waste matrices to determine recovery potentials</i> ¹ Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
15:15 15:30	Inna FILIPPOVA ¹ , Lev FILIPPOV ¹ <i>Recovery of rare earth phosphors from residual glass powders of waste fluorescent lamps</i> ¹ University of Lorraine, France	Alexandra ALEXANDRI , Maria GREGOU, Ioanna GIANNOPOULOU, Dimitrios PANIAS, Ioannis PASPALIARIS <i>Development of an analytical method for the determination of rare earth elements in ionic liquid samples by ICP-MS</i> ¹ National Technical University of Athens, Greece
15:30 15:45	Srecko STOPIC , Bernd FRIEDRICH <i>High purity Y₂O₃ recovery from spent investment cast linings</i> IME Process Metallurgy and Metal Recycling, RWTH Aachen, Germany	Zengwu ZHAO ¹ , Zhuang MA ¹ , Xuefeng ZHANG ¹ , Wenfei WU ¹ <i>Crystallization behaviors of CaO-SiO₂-CeO₂-CaF₂ system using confocal laser scanning microscopy</i> ¹ Inner Mongolia University of Science and Technology, China
15:45 15:55	Q & A	Q & A

<p><i>Intensified Poster Session</i> 15:55 16:10</p>	<p>Federica FORTE et al. : <i>Integrated flow sheet for the recovery of rare earths from CRTs and lamp phosphor waste</i>, KU Leuven, Belgium Kivanc KORKMAZ et al. : <i>Recovery of Rare Earth Elements from Spent NiMH HEV Batteries via Selective Roasting and Water Leaching</i>, KTH Royal Institute of Technology, Sweden Chenna Rao BORRA et al. : <i>Characterisation of glass polishing waste samples</i>, Delft University of Technology, The Netherlands</p>	<p>Sven DEWILDE et al.: <i>Characterization of end-of-life resin-bonded NdFeB magnets</i>, KU Leuven, Belgium Somayeh VEYSEH : <i>Analysis of trace and rare earth elements for soil sample from north western region of Iran by ICP-MS and discussing the distribution by geochemometrics</i>, Applied Geological Research Center of Iran, Iran Johanna STRANDH : <i>REE-dogs and above...</i>, Hundhjälpen, Sweden</p>
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<p>16:10 16:30</p>	<p>Coffee Break</p>
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<p>Plenary Closing Session (Main Hall) Chairs: Efthymios BALOMENOS (NTUA), Per KALVIG (GEUS)</p>

<p>16:30 16:50</p>	<p>Keynote presentation 8 Kathryn GOODENOUGH¹, Per KALVIG², Diogo ROSA² & the EURARE WP1 team <i>Primary European REE resources: an overview</i> ¹ British Geological Survey, UK; ² Geological Survey of Denmark and Greenland, Denmark</p>
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<p>16:50 17:10</p>	<p>Keynote Presentation 9 Daniel CASSARD¹, François TERTRE¹, Guillaume BERTRAND¹, Frands SCHJØTH², Tjerk HEIJBOER², Martin PODBOJ³ <i>Insights on the EURARE integrated knowledge management system (IKMS) on European REE data</i> ¹ Bureau de Recherches Géologiques et Minières (BRGM), France; ² Geological Survey of Denmark and Greenland (GEUS), Denmark; ³ Geological Survey of Slovenia (GeoZS), Slovenia</p>
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<p>17:10 17:30</p>	<p>Keynote Presentation 10 Bernd FRIEDRICH¹, Daniel VOSENKAUL², Srecko STOPIC¹, <i>Leaching of high Silica containing ores – preventing gel-formation by “dry-digestion of Eudialyte”</i> ¹IME Metallurgical Processing and Recycling, RWTH Aachen University, Germany, ² VACUUMSCHMELZE GmbH Hanau (VAC), Germany</p>
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<p>17:30 17:50</p>	<p>Keynote Presentations 11 Damien KREBS <i>Sustainable Production of Rare Earths in Greenland</i> Metallurgy Manager at Greenland Minerals and Energy Ltd.</p>
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<p>17:50 18:10</p>	<p>Keynote Presentation 12 Yongxiang YANG <i>REE recovery from NdFeB permanent magnet scrap: challenges and opportunities in Europe</i> Group Metals Production, Refining and Recycling - Delft University of Technology, The Netherlands</p>
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<p>18:10 18:30</p>	<p>Keynote Presentation 13 Serena SGARIOTO, Bibiana FERRARI <i>How an Italian SME can recover rare earths from E-Waste</i> RELIGHT srl, Italy</p>
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<p>18:30 18:50</p>	<p>Keynote Presentation 14 Karen HANGHØJ <i>The EIT RawMaterials KIC</i></p>
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18:50 19:00	Efthymios BALOMENOS <i>Points for discussion : A Roadmap for the European REE industry</i> National Technical University of Athens, School of Mining and Metallurgical Engineering, Greece
19:00 19:30	Round Table Discussion (All key note speakers) A Roadmap for the European REE industry
19:30 19:40	Mattia PELLEGRINI Closing Remarks DG Grow, European Commission